PHILADELPHIA WATER DEPARTMENT
STATEMENT 7

BEFORE THE
PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater, and Stormwater Rates and Related Charges	Fiscal Years 2026 – 2027

Direct Testimony

of

Black & Veatch Management Consulting, LLC

on behalf of

The Philadelphia Water Department

Dated: February 2025

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I. INTRODUCTION AND QUALIFICATIONS

Q1. PLEASE STATE YOUR NAME AND BUSINESS AFFILIATION.

A1. Our names are Ann Bui, Dave Jagt, Brian Merritt, and David Sayers. We are employed by Black & Veatch Management Consulting LLC ("Black & Veatch"), 11041 Lamar Avenue, Overland Park, Kansas. We will be presenting our collective testimony on behalf of the City of Philadelphia (the "City") Water Department ("Water Department" or "PWD") in this proceeding before the Philadelphia Water, Sewer and Storm Water Rate Board ("Rate Board") as a panel. Appended to this Direct Testimony are our respective resumes of experience.

Q2. PLEASE DESCRIBE THE FIRM OF BLACK & VEATCH MANAGEMENT CONSULTING, LLC (BLACK & VEATCH).

A2. A firm description of Black & Veatch is provided in *Schedule BV-5*.

Q3. PLEASE IDENTIFY THE MEMBERS OF THE BLACK & VEATCH TEAM PROVIDING TESTIMONY, PROVIDE THEIR RESPECTIVE PROJECT RESPONSIBILITIES AS WELL AS THEIR EDUCATIONAL AND PROFESSIONAL EXPERIENCE.

A3. The Black & Veatch team members providing testimony are Ms. Ann Bui, Mr. Dave Jagt, Mr. Brian Merritt, and Mr. David Sayers. A summary of the team's educational background and professional experience is provided in *Schedule BV-5*. The respective project responsibilities for team members are described below.

Ms. Bui is a Senior Managing Director with Black & Veatch and provided an overall technical review of the Cost of Service ("COS") Study, the design of rate schedules, and monthly bill impacts. Mr. Jagt is a Principal Consultant with Black & Veatch and served as the senior technical lead for this study's financial and cost-of-service analysis. Mr. Merritt is a Principal Consultant with Black & Veatch and served as Project Manager for this water and wastewater COS Study. Mr. David Sayers is a Manager with Black & Veatch and served as the senior technical lead on the AMI Demand Study, further referenced herein.

II. PURPOSE OF TESTIMONY

Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A4. The purpose of our testimony is to (1) provide an overview of the cost-of-service methodology; (2) describe the analytical approach and results of the COS Study; (3) outline the miscellaneous fee updates; (4) discuss the proposed adjustment to the senior citizen income threshold; and (5) present proposed updates to key factors used in the Tiered Assistance Program ("TAP") Rate Rider formula.

Q5. PLEASE DESCRIBE THE STUDY PERIOD USED IN THE COST-OF-SERVICE STUDY.

A5. The study period used in the COS Study is fiscal year ("FY") 2025 to FY 2030 (the "Study Period"). The revenue and revenue requirements projections and the associated revenue adjustment projections span these six years.

Q6. WHAT IS THE PERIOD FOR WHICH RATES ARE BEING PROPOSED?

A6. In this rate proceeding, the Water Department is proposing retail rate schedules for the following fully forecasted fiscal years (hereinafter called "Test Years"):

- 'Test Year-1' reflects FY 2026 (ending June 30, 2026); and
- 'Test Year-2' reflects FY 2027 (ending June 30, 2027).

The cost-of-service rates are proposed for two separate test years to demonstrate that the Water Department can, in each year, meet all the requirements prescribed by the General Water and Wastewater Revenue Bond Ordinance of 1989 ("General Bond Ordinance") and the Philadelphia Code, Section 13-101 ("Rate Ordinance").

The Water Department proposes rate increases that will go into effect on September 1st of each fiscal year. The Cost-of-Service Study and proposed rates described herein apply only to PWD's "Base Rates," which exclude revenue loss associated with providing TAP discounts and the TAP Rate Rider Surcharge ("TAP-R") revenues.

TAP discounts and TAP-R revenues are presented separately to show the overall Water Fund cashflow derivation and to evaluate overall performance metrics as required by the General Bond Ordinance and the Rate Ordinance.

Q7. PLEASE IDENTIFY THE SUPPORTING SCHEDULES PROVIDED WITH YOUR TESTIMONY.

A7. The supporting schedules provided with this testimony are summarized below**.**

Schedule BV-1: Summary tables relating to the comprehensive COS Study, including the projection of combined revenue and revenue requirements, customer bill impacts, and associated rate schedules for water, sanitary sewer, and stormwater service.

Schedule BV-2: Cost of Service Report presenting the detailed cost-of-service analysis, including projection of revenue and revenue requirements, underlying assumptions, allocation of costs to the water and wastewater systems, projection of stormwater billable units of services, supporting wholesale analyses, and rate design.

Schedule BV-3: Summary tables relating to the miscellaneous fees analysis.

Schedule BV-4: Supporting white papers presenting the AMI Demand Study, describing how the results of the AMI Demand Study are incorporated into the COS study and proposed rate design, detailed background on stormwater units of service projections, the methodology utilized for the miscellaneous fee study with supporting work papers, and the development of the proposed senior citizen discount income threshold.

Schedule BV-5: Black & Veatch firm description and Team Resumes.

III. COST-OF-SERVICE STUDY OVERVIEW

Q8. WAS THE COS STUDY IN THIS PROCEEDING PERFORMED CONSISTENT WITH GENERALLY ACCEPTED INDUSTRY GUIDELINES?

A8. Yes. Black & Veatch utilized the principles and guidelines from the following industry manuals in performing its COS Study in this proceeding:

- American Water Works Association's ("AWWA") *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices M1- 7th Edition* ("M1 Manual"),
- Water Environment Federation's ("WEF") *Financing and Charges for Wastewater Systems, Manual of Practice M27 – 4th Edition*, ("MoP 27"), and
- WEF's Special Publication, *User Fee Funded Stormwater Programs- 2nd Edition*.

These manuals serve as the generally accepted industry guidelines used by rate practitioners. Furthermore, the analysis and methodology used in this COS Study are consistent with that used in analogous studies performed by Black & Veatch in support of prior PWD rate proceedings.

Q9. PLEASE DESCRIBE THE VARIOUS COMPONENTS OF A COST-OF-SERVICE STUDY.

A9. Consistent with the principles and guidelines in the above-referenced manuals, the COS Study, undertaken in this proceeding, consists of three parts:

- Revenue & Revenue Requirements,
- Cost-of-Service Analysis, and
- Rate Design.

The cost-of-service analysis provides the basis for designing a rate structure that allows the utility to recover costs from its customers equitably. As a part of this analysis, the costs of providing service to various customer types are matched with their associated service demands. As it is not practical to perform this matching of costs of service at an individual customer level, the cost of service is determined by customer type. The three components of the COS Study are discussed below.

Revenue & Revenue Requirements: The first step in conducting the COS Study is to determine Revenue & Revenue Requirements. This step is necessary to establish how much money the utility needs to meet its fiscal year operating and capital obligations; this step includes a review of operations and maintenance ("O&M") expenses, debt service payments, funding for specific deposits and reserves, and the cost of capital improvement

projects that the utility does not fund via debt or contributions from third parties.

When the revenues generated from existing user rates and charges and other sources of revenue are insufficient to cover operating and capital costs, the utility may require one or more revenue adjustments as part of the revenue requirements analysis. The Water Department has legal requirements and bond covenants that prescribe the use of receipt-based[1] revenue projections (i.e., "cash-basis" or "legally enacted basis") in the revenue requirements analysis.

Black & Veatch reviewed the revenue requirements of the Water and Wastewater Systems to determine whether system revenues are sufficient to cover all the cash expenditures for the Study Period. *Schedule BV-2: Cost-of-Service Report* provides additional details regarding the development of the revenue and revenue requirement projections.

Cost-of-Service Analysis: The second step in conducting the COS study is the cost-of-service analysis. This analysis begins after determining the revenue requirements for the utility over the Study Period. The cost-of-service analysis is performed for specific prospective fiscal years (or "test years") in this rate proceeding. We use test years to illustrate the allocation of costs to customer types and the design of rate schedules to recover those costs from the various customer types.

[1] Under this basis, revenues are recorded based on receipts received, except revenues from other governments and interest, which are accrued as earned.

The term annual cost of service refers to the "net" revenue requirement (less other operating and/or non-operating revenues) that must be recovered from rates and charges. The cost-of-service analysis involves multiple levels of cost allocation, namely:

(ii) Allocation of identified costs (e.g., O&M expense debt service, reserves, cash-funded capital) to functional cost centers and then to cost components,

(iii) Calculation of unit cost for each cost component, and

(iv) Determination of the cost for each customer type by multiplying the unit cost of each component by the number of units of service associated with each customer type.

Schedule BV-2: Cost-of-Service Report provides details on the cost-of-service allocations to customer types.

Rate Design: The final step in conducting a COS Study involves developing the rate structure that allows the utility to recover its costs for a given test year. Because the Water Department uses receipts to calculate revenues, its "collection lag factor" must be evaluated. The lag factor reflects a final adjustment to the cost-of-service rates to recognize the fact that there will be a proration of billings between the existing and proposed rates during the first month following the effective date of the rate increase, as well as the fact that not all the fiscal year billings are fully collected within that fiscal year.

Per the 2023 Rate Determination, the Water Department completed a Demand Study utilizing data from the recently deployed Advanced Metering Infrastructure ("AMI") project, referred to herein as the AMI Demand Study. The AMI Demand Study is provided as *Schedule BV-4: WP-1*. With this filing, the Water Department has incorporated the

results of the Demand Study, into the COS Study and resulting Rate Design for the proposed FY 2026 and FY 2027 rates. Based on these results, the Water Department is proposing to begin phase-in of the resulting peaking factors in order to gradually incorporate the influence of the Demand Study on the rate design, as discussed further below.

Schedule BV-2: Cost-of-Service Report provides additional details on the cost-of-service rate design.

Q10. PLEASE SUMMARIZE THE OVERALL REVENUE REQUIREMENTS AND REVENUE INCREASES PROJECTED IN THE COS STUDY.

A10. Revenue and revenue requirements are projected for the combined Water and Wastewater Systems for the Study Period, including the two test years of FY 2026 and FY 2027 (the "Rate Period"), for which rates are proposed in this proceeding. The revenue requirements analysis indicates the need for an annual increase in revenues from the existing levels (based on FY 2025 base rates) of approximately 10.00% in FY 2026; and 7.30% in FY 2027. The annual revenue increase projections for FY 2026 through FY 2030 reflect only ten (10) months of additional base rate revenues each fiscal year. Table C-1A *(Schedule BV-1)* summarizes the revenue adjustments projected for the combined Water and Wastewater Systems for the Study Period. Sections 3.3 and 6.3 in the *Cost-of-Service Report (Schedule BV-2)* summarize the water and wastewater revenue adjustments for their respective systems.

The requested relief, with respect to base rate revenues, can be broken down as follows:

	FY 2026		FY 2027	
	(%)	**($000)**	**(%)**	**($000)**
Water	12.30%	36,623	6.90%	22,918
Wastewater	8.44%	37,007	7.58%	35,940
Annual Increase	10.00%	73,630	7.30%	58,858

In the context of the overall estimated revenues, including both revenues derived from base rates and TAP-R, the adjustments for the combined (Water and Wastewater) system, as presented in Table C-1 *(Schedule BV-1),* are as follows:

	FY 2026		FY 2027	
	(%)	**($000)**	**(%)**	**($000)**
Annual Increase	10.74%	$82,379	6.95%	$58,858

The requested increases and accompanying TAP-R surcharge revenues will allow the Water Department to meet target financial metrics, as further described herein, and maintain existing levels of service through FY 2026 and FY 2027. The higher overall FY 2026 adjustment, for base and TAP-R[2] rates, for the combined (Water and Wastewater) system shows the influence of limited reserves available in the rate stabilization fund balance to manage the rate relief request in a manner that would allow a request of level revenue increases.

[2] TAP-R further limits the Water Department's ability to manage rate adjustments due to ongoing under-recovery of TAP discounts related to increased enrollment and credits. The FY 2025 TAP-R rate request is addressed in the separate TAP-R Reconciliation proceeding.

Q11. PLEASE SUMMARIZE THE PROJECTION OF WATER AND WASTEWATER SYSTEM REVENUES UNDER EXISTING RATES, AND LIST THE KEY COMPONENTS OF THE REVENUES.

A11. The total revenue projections for the Study Period for the Water and Wastewater Systems include three categories of revenues, namely, "Water and Wastewater Operating Revenues," "Other Operating Revenues," and "Non-Operating Income." Table C-3 *(Schedule BV-1)* presents the projection of these three categories of revenues for the Study Period.

Water Sales Receipts:	**Sanitary Sewer Service Receipts:**	**Stormwater Service Receipts:**
FY 2026: $365.3 million	FY 2026: $320.9 million	FY 2026: $217.2 million
FY 2027: $362.9 million	FY 2027: $319.2 million	FY 2027: $217.3 million

Q12. PLEASE BRIEFLY DESCRIBE THE PROJECTIONS OF WATER AND WASTEWATER SYSTEM OPERATING REVENUES UNDER EXISTING RATES.

A12. The total **operating revenues** for the Water and Wastewater Systems include the following sources of revenue:

a. Retail Water and Sanitary Sewer Service and Quantity charges, Stormwater Management Service Charges, and Extra-Strength surcharges.
b. Wholesale contract customer water and sewer charges.

The projection of revenues under existing rates is described in detail in the *Cost-of-Service Report (Schedule BV-2).*

a. Retail Operating Revenues

The operating revenue is projected by customer type through a two-step process.

(i) **Projection of Gross Billings** – The first step projects water and wastewater *gross billings* for each fiscal year of the Study Period based upon applying the existing rate schedules for FY 2025 (effective September 1, 2024) for water, sewer, and stormwater services to a projection of the number of accounts, billed water and sewer volumes, as well as the number of accounts, billable impervious area ("IA") and billable gross area ("GA") associated with stormwater services. TAP discounts and TAP-R surcharge billings are excluded from the cost-of-service analysis.[3]

(ii) Application of Collection Factors – The second step estimates the operating retail cash receipts by applying receipt factors ("collection factors") to the corresponding gross billings.

Section 1.4.1 of the *Cost-of-Service Report (Schedule BV-2)* details the underlying assumptions utilized in developing the projected revenue under existing rates for retail customers.

b. Wholesale Operating Revenues

Currently, Aqua Pennsylvania ("Aqua") is the Water Department's only wholesale water customer. Wholesale water revenues are projected using the estimated billed water volume estimated based on the historical three-year average for Aqua.

[3] See discussion *infra* — response to Question 15.

The Water Department has ten wholesale wastewater contracts with multi-year terms for the following customers: Abington Township, Aqua Pennsylvania Wastewater, Inc., Bucks County Water and Sewer Authority ("BCWSA"), BCWSA - Bensalem, BWSCA-Springfield, Delaware County Regional Water Authority ("DELCORA"), Lower Merion Township, Lower Moreland Township, Lower Southampton Township, and Upper Darby Township. To project revenues for wholesale customers under existing rates, Black & Veatch applied the contracted rates per the latest agreements to estimated wastewater billed volumes and loadings based on the historical three-year average for each customer.

Q13. ARE THERE ANY ADJUSTMENTS TO THE PROJECTION OF OPERATING REVENUE PROJECTIONS UNDER EXISTING RATES DURING THE STUDY PERIOD?

A13. Yes. Black & Veatch adjusted the following three key areas related to the projection of operating revenues under existing rates:

(i) <u>Collection Factors</u>

(ii) <u>Billed Volume</u>

(iii) <u>Wholesale Wastewater Updates</u>

These adjustments are discussed below.

<u>Collection Factors</u> – Collection factors used in the financial plan analysis reflect the average collection factors for these periods based on historical fiscal years and represent a multi-year payment pattern. Recent year collection factors experience reflects current economic conditions, updated collections, and enforcement practices, among other factors. As presented in *PWD Statement 6 (Schedule 7) – Direct Testimony of Raftelis Financial Consultants*, the FY 2022 to FY 2024 billing year ("BY") collection factors are

an average of 1.56% lower than long-term historical average[4], while billing year plus one ("BY+1") collections are 0.97% higher. Please refer to *PWD Statement 6* for further discussion of changes in the Water Department's collection patterns and *PWD Statement 5* for discussion on billing and collection activities including enforcement efforts.

To reflect changes to collection patterns, Black & Veatch utilizes the following adjustments to the projected collection factors:

- **BY Non-Stormwater Only Collection Factors** – Reduce by 1.56% to align with FY 2022 to FY 2024 average experience.
- **BY+1 Non-Stormwater Only Collection Factors** - Increase by 0.97% to align with FY 2021 to FY 2023 average experience.

The following collection factors are used in the financial plan analysis for the Study Period and reflect the above adjustments.

	BY	**BY +1**	**BY +2 and Beyond**
Non-Stormwater Only	84.01%	10.72%	2.20%
Stormwater Only	64.57%	9.15%	7.41%

Billed Water Volume

As noted in *Statement 2A – Direct Testimony of Lawrence Yangalay, Lawrence Rich, and Patricia Rogalski (the "Finance Panel")*, the Water Department's FY 2024 revenues

[4] PWD Statement 6 (Schedule 7*) – Direct Testimony of Raftelis Financial* Consultants provides the long-term historical collection factors and historical averages. Historical BY collection factors are provided for FY 2012 to FY 2024 billings. Historical BY+1 collection factors are provided for FY 2012 to FY 2023.

were approximately $34.3 million lower than those utilized in the 2023 Rate Determination. Currently, updated FY 2025 total revenues are projected to be $36.8 million lower than those utilized in the 2023 Rate Determination. One contributing factor to the overall underperformance of revenues is the ongoing reductions in billed water usage and sewer service volumes. This overall reduction in billed volume and declines in usage per account is a trend historically exhibited in PWD's billing data.

As discussed in Section 1.4.1 of the *Cost-of-Service Report (Schedule BV-2),* to project revenues under existing rates, Black & Veatch utilizes the number of accounts and average use per account for each customer type to project overall billed volumes. The Water Department experienced a 2.67% decline in overall billed water volume from FY 2023 to FY 2024. In context of billed usage per account, this amounts to a 1.35% per year decrease over the most recent 5-years and 0.50% in the most recent 3-years. Therefore, to approximate anticipated ongoing reductions in billed water volume, the 3-year average change in usage per account by customer type is applied to all customer types, except for fire service, over the study period.

Wholesale Wastewater Updates

Black & Veatch applied the contracted rates per the latest agreements to estimated wastewater billed volumes and loadings based on the historical three-year average for each customer to project the wholesale customer revenues under existing rates. In addition, Black & Veatch adjusted revenues under existing rates to reflect the following pending changes to wholesale wastewater customers agreements during the Study Period:

- DELCORA has informed the Water Department of its intent to build its own wastewater treatment facility. They are anticipated to leave the System as a

wholesale wastewater customer beginning in FY 2029 when their agreement with the City expires.

- The resulting lost revenue associated with this change is estimated at $11.3 million per year based on the current contract rates; and
- This change in customer status for DELCORA is reflected in FY 2029 and incorporated into the revenue under existing rates presented in Table C-1 *(Schedule BV-1).*

Q14. PLEASE BRIEFLY DESCRIBE THE PROJECTIONS OF WATER AND WASTEWATER SYSTEM "OTHER OPERATING" AND "NON-OPERATING" REVENUES.

A14. The Projection of "Other Operating" and "Non-Operating" Revenues are discussed below.

a. Other Operating Revenue – Other Operating Revenue consists of penalties on overdue bills for retail service customers and other income from miscellaneous fees, fines, operating grants, permit fees, and transfers from the Debt Reserve Account to the Revenue Fund.

b. Non-operating Income – The Water Department's Non-operating Income consists primarily of interest earnings on the amounts within certain funds and accounts. In accordance with the General Bond Ordinance, the analysis credits interest earnings in the Debt Reserve Account, Revenue Fund, and Rate Stabilization Fund as revenue to the Revenue Fund. Interest Earnings in the Debt Reserve Account are first credited to the extent that they are needed to fulfill the Debt Service Reserve Requirement and then amounts in excess of fulfilling the Debt Service Reserve

Requirement are permitted to be transferred to the City's General Fund (up to $4,994,000 per annum).

Actual annual fund valuations and interest earnings are based on a mark-to-market valuation which the City performs at the end of the fiscal year. The differential between mark-to-market and the Debt Reserve Account requirement results in either a transfer from the Water Department's Operating Fund to the Debt Reserve Account if there is a deficiency in the Debt Reserve Account or a transfer from the Debt Reserve Account to the Operating Fund if there is an excess in the Debt Reserve Account. Projected transfers from the Debt Reserve Account to the Operating Fund are included as *Other Operating Revenue.* No transfers from the Debt Reserve Account are projected during the Study Period.

Q15. PLEASE BRIEFLY DESCRIBE HOW THE REVENUE LOSS ASSOCIATED WITH THE TIERED ASSISTANCE PROGRAM ("TAP") AND ASSOCIATED REVENUE FROM THE TAP RATE RIDER ARE INCORPORATED INTO THE COST-OF-SERVICE ANALYSIS.

A15. As the Rate Board is aware, there is a separate proceeding to determine surcharge rates to recover revenue loss in connection with the Tiered Assistance Program ("TAP"). For the purposes of determining Base Rates, TAP revenue loss is not included. Table C-1A: Base Rates *(Schedule BV-1)* excludes revenue loss associated with TAP discounts and revenues associated with TAP-R surcharge rates. The TAP discounts' exclusion from the Base Rates analysis is also shown on Line 13 of Table C-3: Projected Revenue Under Existing Rates *(Schedule BV-1)*.

It should be noted, however, that the key financial and performance metrics apply to the overall Water Fund. As such, to determine whether these metrics are met, Black & Veatch has included a separate Table C-1B: TAP-R Surcharge Rates Excluding Base Rates *(Schedule BV-1)* to show the derivation of the overall combined cashflow in *Schedule BV-1: Table C-1*: Base and TAP-R Surcharge Rates ("Combined") and to evaluate the Rate Stabilization Fund and Covenant Metrics Performance for the overall system as presented in *Schedule BV-1: Table C-2*.

Changes to the TAP-R Formula are proposed with this filing to align various factors with the current COS Study as discussed later in this testimony.

Q16. PLEASE BRIEFLY DESCRIBE THE PROJECTIONS OF OPERATION AND MAINTENANCE EXPENSES FOR THE STUDY PERIOD.

A16. The Water Fund's FY 2025 budget (approved as of June 2024) is used as the beginning base budget for the projections of O&M expenses for the Study Period. The base budget is then adjusted to reflect actual-to-budget spending factors. These adjusted expenditures serve as the basis for projecting O&M expenses for FY 2026 through FY 2030. Additional information regarding O&M adjustments is provided in Section 1.4.2 of the *Cost of Service Report (Schedule BV-2).*

Summary Discussion on the FY 2025 O&M Budget Adjustment

Black & Veatch used the following steps in adjusting the FY 2025 O&M Budget to reflect the actual spending levels:

- First, we evaluated the historical actual expenditures versus budgeted expenses to determine the expected spend factors for each object class, such as personal

services, pension obligations, pension, benefits, purchases of services, materials and supplies, equipment, transfers, contributions, indemnities, and taxes.

- From the above analysis, we determined the average spend factors by cost classification for each division within the Water Department and City Departments (for those costs that the Water Department funds) based on the three-year average actual spending levels of FY 2022 to FY 2024.
- The spend factors were then utilized to adjust the FY 2025 approved O&M budget cost classes to a reasonable expenditure level for FY 2025, except for the following:
    - The 3-year average historical spend factors for Human Resources Division Salaries & Wages, Human Resources Division Services, Human Resources Division Equipment, and Operations Division Chemicals are greater than 100%; therefore, a 100% spend factor is applied to these object classes.
    - The 2-year average actual to budget factor for FY 2023 and FY 2024 was 100.56% for the Finance Division - Stormwater Management Incentive Program and Greened Acres Retrofit Program ("SMIP/GARP"). The Water Department has temporarily reduced the program budget to $15 million in FY 2025 to help manage expenses and in FY 2026 to help manage the proposed revenue adjustments; as such, the budget is expected to be fully expended.
    - A 100% spend factor is applied to Pension, Pension Obligations, and Benefits to reflect FY 2025 estimated actuals as provided by City Finance.
    - The City Finance Department Indemnities budgets were reduced in FY 2023 and the 2-year average actual to budget (based on FY 2023 and FY 2024) was 102.03%; therefore, a 100% actual to budget factor is applied to the FY 2025 budget.

- In FY 2024, an additional cost center for Services was added to City Treasurer Department Budget for the Water Fund; therefore, only one year of history is available and the FY 2024 actual to budget factor is applied to the FY 2025 budget (which is the same as the FY 2024 budgeted amount).

Summary Discussion on the O&M Cost Projections

The O&M expenses for each year of the Study Period are projected as follows:

Black & Veatch assumed escalation factors for the various cost categories identified in the FY 2025 budget based upon the Water Department's historical experience and recognized cost indices; the escalation factors are applied to the projected FY 2025 expenses (for each of the respective cost categories) beginning in FY 2026. Escalation factors used in projecting the O&M expenses are discussed in Section 1.4.2 of the *Cost-of-Service Report (Schedule BV-2)*. For object classes for which the Water Department has already developed planned budget increases for FY 2026, Black & Veatch incorporated those adjustments and applied the corresponding spend factor.

PWD Statement 4A – Direct Testimony of Benjamin Jewell, Brendan Reilly, Linda Kramer, and Stephen Junod (the "Operations Panel") and *Statement 2A – Direct Testimony of the Finance Panel* provide further discussion on pressures on the Water Department's operating costs including increases in personnel costs, contracted services, materials and equipment, as well as power. In addition, staffing, regulatory compliance, plant upgrades, system improvements and ongoing maintenance needs are discussed in *PWD Statement 4A*. *PWD Statement 4B – Direct Testimony of Marc Cammarata (the "Planning & Environmental Service Panel"),* describes current and future environmental compliance

cost pressures, including:

- Ongoing efforts around the City's Consent Order and Agreement as it relates to the City's long term control plan to manage discharges from the City's combined sewer system.
- Lead and Copper Rule ("LCR") compliance requirements and immediate actions being undertaken by the Water Department (during the Rate Period); as well as
- Other environmental compliance activities.

Personal Services: The personal services costs are projected taking into consideration the following factors: (i) the actual to budget spend levels; (ii) the annual escalation factor for labor costs based on the prior average annual salary increases under recent labor agreements; (iii) the projection of Pensions, Pension Obligation, and Benefits based on the City's current projections; and (iv) additional staffing during the Study Period as projected by the Water Department.

- Per the recently announced agreement with District Council 33 ("DC33"), personnel will receive a 5% salary increase in FY 2025. This increase will apply retroactively to the beginning of the fiscal year and staff will also receive one-time bonuses. To account for this, Black & Veatch has adjusted FY 2025 labor (i.e., salary) expense to align with the 5% increase and the one-time bonuses. The adjustment for the one-time bonuses is an addition to FY 2025 expenses and not included in the projection basis for FY 2026. An annual escalation factor of 5.0% is then applied to project FY 2026 salary expenses.
    - Thereafter, an annual escalation factor of 3.5% is applied based upon the average historical annual increases for FY 2022 to FY 2025 as included in the DC33 labor agreements.

- Pension, pension obligation, and benefits, which are directly related to personal services expenses, were estimated based on current levels of such expenses and the growth rates reflected in the City's current projections. Pension and benefits expenses are estimated to increase from $151.4 million in FY 2025 to $175.8 million in FY 2030.
    - The Water Department participates in a City-wide pension program and does not have direct control over this expense.
    - PWD's portion of the overall City's pension program continues to increase.
    - Overall personal services expenses, pension, pension obligations, and benefits account for almost 54% of the total operating expenses net of liquidated encumbrances.
- Additional staffing costs in Planning & Engineering, Operations, Finance, the Water Revenue Bureau, and the Rate Board to support various activities including Consent Order Agreement ("COA") compliance, LCR compliance activities, operations including GSI maintenance, treatment, pollution control plants, lab services, etc.; and
- The Water Department continues to transition staff salaries from Capital-funded to O&M-funded positions. This ongoing transition results from a prior change in City policy, requiring that capital program personnel salaries can no longer be funded via capital financing. The phased transition of salaries continues and is expected to be completed by FY 2030. This shift in funding is reflected in the projected personal services costs as follows:
    - In FY 2026, $1.9 million of salary costs are planned to be shifted from Capital expenses to projected O&M expenses; and
    - By FY 2030, the total salary costs associated with the shift in funding will

amount to nearly $10.5 million.

Power and Gas Costs: Per estimates provided by the City's Office of Sustainability, Division of Energy & Climate Solutions ("DECS"), the following escalation factors are assumed:

- Power: 6.5% in FY 2026, 2.7% in FY 2027, 2.4% in FY 2028, 2.6% in FY 2029 and 3.2% in FY 2030.
- Gas: 1.7% in FY 2026, 4.7% in FY 2027, 3.0% in FY 2028, 2.2% in FY 2029, and 2.1% in FY 2030.

Chemical Costs: Based upon discussions with Water Department Finance and Operations staff, chemical costs are assumed to remain stable in FY 2026 and FY 2027. An escalation factor of 3.93% is applied beginning in FY 2028 and thereafter based up on the 5-year average annual Producer Price Index ("PPI") for Industrial Chemicals from the U.S. Bureau of Labor Statistics ("BLS").

SMIP/GARP Costs: The Water Department temporarily reduced the SMIP/GARP budget from $20.0 million to $15.0 million for FY 2025 to help manage expenses. For FY 2026, the Water Department plans to maintain the budget at $15.0 million and return it to full budget of $25.0 million in FY 2027. This adjustment is intended to help manage the overall level of revenue adjustments during FY 2026.

Services: The Water Department FY 2025 budget includes operational costs associated with contracted services including maintenance activities. Black & Veatch utilized planned budgetary increases in contract services as provided by the Water Department to estimate

expenses in FY 2026. This includes additional services related to Operations, Planning & Environmental Services, and the Division of Technology to support regulatory compliance, workforce development, security, customer assistance and outreach, staff augmentation, maintenance services, and replacement of the billing system. The resulting estimated increase in expenses is $10.6 million in FY 2026 to $12.4 million in FY 2030.

As noted in *PWD Statement 4 – Direct Testimony of the Operations Panel*, several of the Water Department's services contracts include contractual price adjustments, which are tied to the Consumer Price Index ("CPI") or similar indices.

Black & Veatch applied the following escalation factors for the Study Period:

- For FY 2026 and FY 2027, an escalation factor of 3.38% was applied based upon the most recent 12-month period CPI for the Philadelphia Area ("CPI-PA").
- For FY 2028 through the remainder of the Study Period, an annual escalation factor of 4.18% was applied, based upon the 5-year average annual change ins CPI for the Philadelphia Area.

Equipment: Planned increases in equipment purchases of $3.1 million in FY 2026 to $3.8 million in FY 2030 are included per planned additions by the Water Department. Black & Veatch also applied the following escalation factors to estimated FY 2025 baseline expenses for equipment purchases to account for ongoing cost increases:

- An escalation factor of 2.06% is applied in FY 2026 and FY 2027 based upon the most recent 12-month PPI for Construction Equipment and Machinery; and
- An Escalation factors of 5.64% is applied in FY 2028 and thereafter based upon the 5-year average annual PPI for Construction Equipment and Machinery.

Materials and Supplies: Escalation factors are as described in the above inset box. Based upon discussions with Water Department Finance, Black & Veatch utilized planned budgetary increases in Materials and Supplies in FY 2026 for additional costs for Fleet Management. The resulting estimated increase in expenses is $0.6 million in FY 2026 to $0.7 million in FY 2030.

Indemnities: Per discussions with the Water Department, no escalation in indemnities is assumed over the Study Period.

Transfers: Transfers account for various services provided by other City Departments not included directly in the Water Fund budget. Escalation factors are as described in the above inset box. Black & Veatch utilized planned budgetary increases in transfers as provided by the Water Department to estimate expenses in FY 2026. This includes additional services provided by other City Departments funded with interfund transfers. The resulting estimated increase in expenses is $3.8 million in FY 2026 to $4.5 million in FY 2030.

Q17. PLEASE DESCRIBE THE WATER DEPARTMENT'S PROJECTED CAPITAL IMPROVEMENT PROGRAM OVER THE STUDY PERIOD.

A17. Table C-7 *(Schedule BV-1)* summarizes the Water Department's Capital Improvement Program ("CIP") for FY 2025 through FY 2030 on an encumbrance basis. An encumbrance, as shown in the table, reflects the total cost of a given project in the year construction is scheduled to commence. Costs shown in Table C-7 *(Schedule BV-1)* reflect the estimated total costs of the various projects, which will be financed with amounts available in the Construction Fund, the annual Capital Account Deposit, amounts

transferred from the Residual Fund to the Construction Fund, proceeds from the issuance and sale of revenue bonds, proceeds from PENNVEST and Water Infrastructure Finance and Innovation Act ("WIFIA") Loans, as well as grant proceeds. See also *PWD Statement 2A – Direct Testimony of the Finance Panel.*

The allocation of CIP for the water and wastewater systems are presented in Section 3.2.3 Table 3-11 and Section 6.2.3 Table 6-18 of the *Cost-of-Service Report (Schedule BV-2).*

Projection of CIP Costs (Table C-7)

The Water Department's CIP Budget is appropriation-based. The FY 2025 CIP costs reflect the Water Department's adopted FY 2025 budget appropriation, and the FY 2026 CIP costs reflect the proposed FY 2026 budget appropriation. The figures for FY 2027 to FY 2030 reflect the Water Department's submitted capital program[5] and do not include any allowance for inflation.

To project the anticipated annual project encumbrances, Black & Veatch utilized the following approach:

- Start with the combined CIP budget for the Water and Wastewater Systems as presented on Line 10 of Table C-7 *(Schedule BV-1).*
- Apply an annual inflation allowance of 5.0% to the CIP costs beginning with FY 2027, as summarized in Line 11 of Table C-7. The inflation allowance is based upon Black & Veatch's review of industry cost indices, including the Engineering

[5] As noted previously, the Water Department continues to shift the funding source for positions from Capital to Operations as reflected Line 1 of Table C-7.

News Record ("ENR") Construction Cost Index and the Handy-Whitman Construction Cost Index.

- Project the anticipated roll forward of the annual budget appropriations (Line 13 of Table C-7 in *Schedule BV-1*).
- Add the contingency adjustment as shown (Line 15 of Table C-7 in *Schedule BV-1*). The contingency adjustment shows the removal of assumed contingencies associated with the appropriation-based budget by applying an adjustment factor of 90% to planned improvements, excluding Engineering and Administration, Vehicles, as well as WIFIA and PENNVEST funded projects and the new billing system.

Line 16 of Table C-7 *(Schedule BV-1)* shows the total anticipated additional encumbrances (or project commitments) made within a given fiscal year.

To estimate the annual drawdown of the Construction Fund, Black & Veatch utilized anticipated project durations of WIFIA and PENNVEST funded projects. For the remaining CIP commitments, the annual project expenses were estimated by adjusting the total annual encumbrances to account for anticipated program-level project durations as follows:

- Billing System – 5 years.
- Water Conveyance – 4 years.
- Sewer Collection – 4 years.
- Facilities Improvements – 6 years.

Spending levels were estimated to reflect ramp up in activity, accounting for design and planning efforts, and overall drawdown of construction funds.

Line 17 of Table C-7 *(Schedule BV-1)* summarizes the result of the above adjustments.

Q18. PLEASE DESCRIBE THE WATER DEPARTMENT'S PROPOSED CIP FINANCING APPROACH OVER THE STUDY PERIOD.

A18. The financing approach is summarized in the Capital Improvement Flow of Funds tables.

Projected Capital Improvement Flow of Funds (Table C-8)

Table C-8 *(Schedule BV-1)* presents the combined Capital Improvement Flow of Funds. Table 3-12 in Section 3.2.4 and Table 6-19 in Section 6.2.4 of the *Cost-of-Service Report (Schedule BV-2)* present an estimate of the allocated flow of funds in the Construction Fund for the Water and Wastewater Systems.

- *Bond Proceeds*: Line 1 indicates the projected total revenue bond principal amounts to be issued from 2026 through 2030 to finance the proposed capital improvements of the Combined Water and Wastewater Systems. FY 2025 reflects the actual Series 2024C Revenue Bonds issuance amount (issued in October 2024). No issuance is planned for FY 2026.
- *Debt Service Reserve*: As shown in Lines 2 through 4, in addition to funding capital construction costs, the bond issuance proceeds are also used to fund required deposits into the Debt Reserve Account as well as pay the costs of bond issuance.

Bond Issuance Projection:

FY 2026: N/A

FY 2027: $400 million

FY 2028: $575 million

FY 2029: $650 million

FY 2030: $680 million

- *Projected Debt Service:* The debt service associated with the projected revenue bond issuances is estimated based on a 30-year amortization schedule, an annual interest rate of 5.0% for FY 2026 and FY 2027, and an annual interest rate of 6.0% for FY 2028 through FY 2030. The projected debt service for each proposed bond issue (FY 2027 through FY 2030) reflects level debt service payments with interest-only payments for the first year of the bond amortization.
- *Construction Fund:* The Construction Fund is summarized on Lines 6 through 16.
    - Proceeds from revenue bonds are presented on Line 7.
    - The anticipated matching WIFIA loan proceeds and required matching funds are presented on Lines 8 and 9. Similarly, PENNVEST Loan proceeds are presented on Line 10.
        - As both WIFIA and PENNVEST work on a reimbursement basis, the Water Department intends to use a combination of available cash as well as the existing Commercial Paper ("CP") Program to provide interim financing to pay contractor invoices while awaiting reimbursement from the respective entity.
        - While no CP debt is expected to be retired with revenue bonds, the Water Department is required to cover related interest payments on any anticipated CP use as reflected in the Debt Service Schedules presented in Table C-9 *(Schedule BV-1*).
- *Grant Funding:* Table C-8 Line 11 shows that approximately $106.7 million of grant assistance is estimated to be available during the Study Period to aid in the financing of capital improvements based upon known grant agreements and approved requests.

- *Cash Funding:* In addition to funds from revenue bonds, WIFIA, PENNVEST loan proceeds, and grants, the Water Department intends to fund a portion of the CIP utilizing cash funding via the Capital Account Deposit and Transfers from the Residual Fund.
    - Table C-8 Line 12 shows that approximately $237.4 million of Capital Account Deposits will be available during the Study Period to finance capital improvements. The capital account deposit amount for FY 2025 through FY 2030 is estimated based on 1.0% of the prior year depreciated value of net plant investment (original cost less depreciation).
    - Line 13 indicates that $278.6 million will be available from the Residual Fund as another funding source for the CIP. The Residual Fund transfers are driven by the targeted Debt Service Coverage for each respective fiscal year over the Study Period.
- *Interest Income:* Interest income on annual average balances in the Construction Fund and the Debt Reserve Account are shown in Lines 14 and 23. The interest earnings in the Construction Fund, which primarily consist of bond proceeds, are not available to the Revenue Fund as a part of the overall project revenues available for meeting the annual revenue requirements of the Water Department. An interest rate of 2.0% was assumed to determine the interest income for FY 2025 through FY 2030.

Q19. ARE THERE ANY CHANGES TO THE CAPITAL FUNDING STRATEGY UTILIZED DURING THE STUDY PERIOD?

A19. Yes. As discussed in *PWD Statement 2A – Direct Testimony of the Financial Panel*, the Water Department has adjusted their capital funding approach. PWD projects are generally

large undertakings and completed over multiple years. Acknowledging the existing construction fund balance and considering the pace of current construction spending, the City anticipates financing projects in a manner that more closely aligns the progress of construction, rather than contracting projects only after all funding has been secured.

This is an adjustment from the prior funding approach and reflects spending capacity, and timing related to City procurement and contracting, among other factors. Overall CIP funding sources, including revenue from current year rates, system revenue bond proceeds, WIFIA loans, WIFIA match funding (Cash or System Revenue Bonds), PENNVEST loans, grants, and accumulated interest, are considered with respect to available funding sources and in the context of overall estimated capital spending.

As noted in the response to the previous question, the Water Department will not issue revenue bonds in FY 2026. This is as a result of the adjustment in funding policy and is consistent with bond requirements (arbitrage restrictions)[6]. This approach also helps to manage overall debt service during the Rate Period. Annual debt service requirements are further discussed in the subsequent question.

Q20. WOULD YOU PLEASE SUMMARIZE THE ANNUAL DEBT SERVICE REQUIREMENTS OF THE WATER DEPARTMENT?

A20. Table C-9 *(Schedule BV-1)* summarizes the annual debt service payments for the Combined Water and Wastewater Systems. Line 1 shows the annual debt service on existing revenue bonds, while Lines 2 through 7 show the projected debt service on the proposed revenue bond issues reflected in Table C-8 *(Schedule BV-1)*. The projected debt service on the

[6] See *PWD Statement 2A* at 11.

proposed bonds issued in each of the years FY 2027 through FY 2030 reflects interest-only payments during the first year of the bond amortization. Line 10 shows the applicable debt service on PENNVEST Loans. Line 11 presents the applicable interest payment on the CP Program usage. As noted earlier, the CP Program is used to provide interim financing to pay contractor invoices while awaiting reimbursement. Line 12 shows the projected debt service on WIFIA loans including the WIFIA matching funding.

Q21. CAN YOU PLEASE SUMMARIZE THE INTEREST EARNINGS PAYMENT AND CAPITAL ACCOUNT DEPOSIT THAT MUST BE MET FROM WATER AND WASTEWATER REVENUES?

A21. Yes, in addition to the aforementioned revenue requirements, there are two transfers permitted by the General Bond Ordinance that impact net revenue requirements.

<u>*Interest Earnings Payment*</u>: The first is interest earnings paid to the City. The payment, which is made to the City's General Fund, is in the amount that does not exceed the lowest of (i) the interest earnings in the Debt Reserve Account transferred to the Operating Fund during the fiscal year or (ii) $4,994,000. As described in the General Bond Ordinance, as amended and supplemented, this payment occurs in any fiscal year in which a balance exists in the Water Department's Operating Fund. Projected interest earnings on the Debt Service Reserve transferred to the General Fund to satisfy this ordinance requirement over the Study Period are not available to meet other system revenue requirements.

Line 35 of Table C-1 *(Schedule BV-1)* presents an estimate of the Interest Earnings Payment for the Combined System. Table 3-13 in Section 3.4 and Table 6-20 in Section

6.4 in the *Cost-of-Service Report (Schedule BV-2)* present an estimate of the interest earnings payment for the Water and Wastewater Systems.

Capital Account Deposit: The second transfer is the required Capital Account Deposit. This amount is also a revenue requirement of the Water Fund. Under the General Bond Ordinance, the City covenants to make a deposit to the Capital Account of the Construction Fund in each fiscal year, in an amount not less than 1% of the total value of the net assets of the Water Department (the "Capital Account Deposit"). The amounts accumulated in the Capital Account are to be used by the Water Department to finance capital improvements to the Water and Wastewater Systems. In accordance with the Rate Board's 2018 Rate Determination, the Capital Account Deposit is held at the 1% level.

Line 29 of Table C-1 *(Schedule BV-1)* presents an estimate of the Capital Account Deposit for the Combined System. Table 3-13 in Section 3.4 and Table 6-20 in Section 6.4 in the *Cost-of-Service Report (Schedule BV-2)* provide an estimate of the Capital Account Deposit for the Water and Wastewater Systems.

Q22. PLEASE DESCRIBE ANY ADDITIONAL REQUIREMENTS THAT MUST BE ADDRESSED IN DETERMINING THE OVERALL LEVELS OF WATER AND WASTEWATER REVENUES NEEDED.

A22. In addition to the preceding cash revenue requirements, the Water Department's annual revenues must be sufficient to satisfy the requirements prescribed by the General Bond Ordinance and Rate Ordinance. These two ordinances must be addressed in determining the overall level of water and wastewater revenues requirements.

i. *General Bond Ordinance Requirement*: In addition to meeting cash revenue requirements (effectively O&M expenses and annual capital costs), the General Bond Ordinance requires that, during any given fiscal year, the Water Department's revenues (for both water and wastewater service combined), must be sufficient to satisfy (1) debt service coverage obligations as specified by the ordinance and (2) yield Net Revenues at least equal to 90% of the Debt Service Requirements (exclusive of debt service on subordinate bond and any transfers from the Rate Stabilization Fund) in such fiscal year; referred to as the "90% Test."

Bond Coverage Minimum:	
Senior Debt Coverage:	1.2x
Total Coverage:	1.0x
Senior Coverage from Current Revenues:	0.9x

In the first instance, the General Bond Ordinance requires that during any given fiscal year, the Water Department must, at a minimum, impose, charge, and collect in each fiscal year such water and wastewater rents, rates, fees, and charges as shall yield net revenues which shall be equal to at least 1.20 times the debt service requirements for such fiscal year (excluding the principal and interest payments in respect of Subordinated Bonds). In accordance with the General Bond Ordinance, interest due on commercial paper is considered on par with senior debt and included in the determination of senior debt service coverage.

Line 4 in Table C-2 *(Schedule BV-1)* presents the projected Senior Debt Coverage[7] for the Study Period.

[7] A 1.30 senior debt service coverage ratio was approved as a reasonable target in the 2018 Rate Determination.

In addition, in each fiscal year, water and wastewater rents, rates, fees, and charges shall yield net revenues which shall be at least equal to 1.00 times the sum of the following:

- the debt service requirements[8] for such fiscal year (including debt service requirements in respect of Subordinated Bonds),
- amounts required to be deposited into the Debt Reserve Account during such fiscal year,
- the principal or redemption price of and interest on General Obligation Bonds issued to fund capital expenditures of the Water and Wastewater Systems payable during such fiscal year,
- debt service requirements on any interim debt payable during such fiscal year, and
- the Capital Account Deposit for such fiscal year (less any amounts transferred from the Residual Fund to the Capital Account during such fiscal year).

Line 5 in Table C-2 *(Schedule BV-1)* presents the projected Total Coverage for the Study Period.

In the second instance, the General Bond Ordinance requires that the City establish rates and charges for use by the Water and Wastewater Systems sufficient to yield Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during or as of the end of, such fiscal year) at least equal to 90% of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in

[8] In accordance with the General Bond Ordinance, interest due on commercial paper is considered on par with senior debt and included in the debt service requirement.

such fiscal year. Line 6 in Table C-2 *(Schedule BV-1)* presents the projected Senior Debt Coverage from current revenues, also referred to as the 90% Test, for the Study Period.

ii. *Rate Ordinance Requirements*: Section 13-101(4)(a) of the Philadelphia Code sets the "floor" for the amounts that rates and charges must generate to support the System. The rates and charges must yield to the City at least an amount equal to the sum of the following:

1. Operating expenses of the City in respect of the water, sewer, and stormwater systems,
2. Debt service on all obligations of the City in respect of the water, sewer, and stormwater systems,
3. In respect of water, sewer, and stormwater revenue obligations of the City, such additional amounts as will be required to comply with any rate covenant and sinking fund reserve requirements approved by ordinance of the City Council in connection with the authorization or issuance of water, sewer, and stormwater revenue bonds, and
4. Proportionate charges for all services performed for the Water Department by all officers, departments, boards, or commissions of the City.

The rates and charges projected for FY 2026 and FY 2027 do not exceed the Water Fund's projected appropriations for the above years. In addition, Section 13-101(4)(b) of the Philadelphia Code states that the rates and charges must not exceed ("ceiling") the total appropriations from the Water Fund and provides considerations of the elements that are to be included in the calculation of the ceiling. Line 11 in Table C-2

(Schedule BV-1) reflects the compliance with the Rate Ordinance requirement during the Study Period.

Q23. PLEASE DESCRIBE HOW THE GENERAL BOND ORDINANCE COVENANTS ARE RECOGNIZED IN THE REVENUE REQUIREMENT PROJECTIONS.

A23. The outstanding revenue bonds are combined water and wastewater bonds, thus, compliance with the debt service coverage obligations is estimated using a combined projected cash flow schedule for the Water and Wastewater Systems. In the rate filing, the Water Department is targeting the minimum senior debt service coverage of 1.21 in FY 2025[9]; senior debt service coverage of 1.27 in FY 2026 and 1.30 beginning in FY 2027, and through the remainder of the Study Period. This reflects the Water Department's intent to return to targeted metrics approved in the 2018 Rate Determination (1.30x coverage) over time, generating more cash funding for capital based, while in the interim helping to mitigate revenue adjustments. This issue is addressed in greater detail below.

Q24. CAN THE WATER DEPARTMENT MEETS ITS DEBT SERVICE COVERAGE OBLIGATIONS WITH THE REQUESTED RATE RELIEF?

A24. Yes. With the inclusion of the overall additional service revenues proposed in this rate proceeding for the Combined System, the Water Fund is projected to meet the annual debt service coverage targets, as outlined above, over the Study Period.

Q25. ARE THERE ANY OTHER FACTORS THAT WERE CONSIDERED IN EXAMINING THE OVERALL NEED FOR AN INCREASE IN WATER AND WASTEWATER REVENUES?

[9] The Rate Board approved senior debt service coverage of 1.25 for FY 2025 in the 2023 Rate Determination.

A25. Yes. The Water Department needs the requested rate relief to pay for day-to-day operating needs, support its ongoing capital improvement program, and maintain its financial position. Additionally, it is essential to meet enumerated goals and metrics related to (i) maintaining senior debt service coverage at 1.20 times or higher, (ii) meeting additional rate covenant requirements (90% Test); and (iii) maintaining reasonable liquidity levels for FY 2026 and FY 2027.

With respect to financial policy goals, the 2018 Rate Determination approved a target Rate Stabilization Fund ("RSF") balance of approximately $135 million, a senior debt service coverage ratio of 1.30, funding 20% of capital improvements via current system revenues, and a target Residual Fund balance of $15 million.

With this rate filing, the Water Department has decided to temporarily defer senior debt service coverage targets in FY 2026. Additionally, cash-funded capital targets are deferred during the Rate Period and the RSF balances are projected to remain below the target balances ($135 million) in FY 2026, even with proposed revenue adjustments. A return to the targeted financial metrics (for debt service coverage and RSF balances) is projected in FY 2027 to improve the Water Department's financial position, maintain reserves, help manage future emergencies and strains on the system, fund critical capital improvements, and well as provide potential flexibility in mitigating portions of future revenue adjustments.

As noted in the Financial Stability Plan included in *PWD Statement 2A – Direct Testimony of the Financial Panel*, the Water Department has historically leveraged available RSF balances to help cover costs and mitigate rate impacts. In this rate proceeding, the Water

Department is projected to have insufficient funds available to help mitigate revenue adjustments during the Rate Period. Moreover, without the proposed revenue increases, the projected RSF balances will remain well below the target balance.

Future lack of available Rate Stabilization Fund balance will limit the Water Department's ability to: 1) address emergencies, 2) mitigate other system risks, and 3) manage future revenue adjustments. As the primary source of short-term liquidity and reserves, the Rate Stabilization Fund will need to be fully restored over time to the target balance.

The current target was established with the 2018 Rate Determination, prior to recent inflationary pressures and based upon the operating needs of the Water Fund at the time of the corresponding rate proceeding. Considering this, the Water Department should consider increasing the RSF target balance in the future (FY 2028 and thereafter). To that end, Table C-1 *(Schedule BV-1)* considers a planned increase in the target balance in alignment with projected operating expenses increases following the rate period, to illustrate future needs.

The point of the above statement is that the proposed revenue adjustments are intended to help sustain utility operations, recognize the impacts of both escalating costs as well as increased resource needs, and move toward targeted financial metrics over time - all while balancing the overall revenue adjustment and rate impacts. As previously discussed, with minimal balances available in the RSF, there is little headroom to absorb unanticipated events or manage additional revenue requirements.

The projected performance against the 90% Test requirement further illustrates the need for future revenue adjustments. Please note, that PWD will not meet any of the General Ordinance debt service coverage requirements in FY 2027 without rate relief. Not meeting these requirements would be a clear sign that the Water Department does not have a financially sustainable income revenue stream to meet its operational and capital needs. Also, failing to meet the requirements would likely trigger a default. The proposed revenue adjustments are necessary, otherwise, the Water Department cannot meet its projected revenue requirements and associated financial metrics over the requested Rate Period.

See PWD Statement 2A - Direct Testimony of the Finance Panel, PWD Statement 4A – Direct Testimony of the Operations Panel, and *PWD Statement 4B - Direct Testimony of the Planning & Environmental Services* for a detailed discussion of the immediate cost pressures the Water Department faces related to workforce costs, O&M activities, regulatory obligations, and necessary upgrades and improvements to the system.

Please refer to *PWD Statement 2A – Direct Testimony of the Finance Panel*, for further discussion of the financial metrics and overall risks.

Q26. WOULD YOU PLEASE SUMMARIZE THE ALIGNMENT BETWEEN THE PROJECTION OF REVENUES UNDER EXISTING RATES AND REVENUE REQUIREMENTS FOR THE STUDY PERIOD?

A26. Table C-1 *(Schedule BV-1)* presents a cash flow statement of projected revenues, revenue requirements, and rate covenant requirements for the Combined System operations for the projected period of FY 2025 through FY 2030. The Water Department's current revenues are clearly inadequate to comply with General Bond Ordinance and Rate Ordinance

requirements for FY 2026 and FY 2027. As indicated in Lines 4 through 9 in Table C-1, annual increases in revenue are required beginning in FY 2026 to meet the revenue requirements.

For the proposed Rate Period, a 10.74% revenue adjustment is necessary for FY 2026, followed by an 6.95% increase in FY 2027. For this rate proceeding, the increase in these two fiscal years is proposed to be effective on September 1 of each fiscal year. As indicated in Lines 25 and 30 in Table C-1 *(Schedule BV-1)*, the debt service coverage requirements discussed previously would be met with the overall proposed levels of increased revenues. Annual cash requirements for the combined Water and Wastewater Systems would also be met with the proposed increases as indicated by the positive balances shown in Line 31 of Table C-1A and Line 34 of Table C-1 *(Schedule BV-1)*.

The percentage revenue increases presented on Lines 4 to 9 of Table C-1A reflect the overall increase in the base rates. These percentage increases are not the same as the percentage increases presented in Lines 4 to 9 of Table C-1 since Table C-1 presents the level of increase relative to the total revenues, including TAP-R surcharge revenues.

Table 3-13 in Section 3.4 and Table 6-20 in Section 6.4 in the *Cost-of-Service Report (Schedule BV-2)* show the projected cash flow of base rates for the Water and Wastewater Systems, broken down separately. The revenue requirements projected for FY 2026 and FY 2027, respectively, for the Water and Wastewater Systems, are then used in the development of the test year annual cost of service to be allocated for each system.

Table 3-13 shows that overall increases in revenue of 12.30% (or $36.62 million) in FY 2026 and 6.90% (or $22.92 million) in FY 2027 are proposed for the Water System. For the Wastewater System, an overall increase in revenue of 8.44% (or $37.01 million) in FY 2026; and 7.58% (or $35.94 million) in FY 2027 are proposed, as shown in Table 6-20.

Q27. IS THE WATER DEPARTMENT CONTINUING TO EXAMINE THE POTENTIAL FOR CHANGES TO THE STORMWATER RATE STRUCTURE AND THE STORMWATER CREDIT PROGRAM?

A27. Yes. The Water Department continues to evaluate potential options for residential customers stormwater rate structure. As identified prior to the 2023 Rate Proceeding, the Department is evaluating tiered rates based upon the Impervious Area and Gross Area components of the stormwater management service charge as well as rates based upon residential building types (twin, single, etc.). PWD's stormwater classification system relies upon data provided by the Office of Property Assessment ("OPA") to assign customers to stormwater classes. Since the last rate proceeding, OPA has updated their data schema. The Water Department's stormwater billing staff are currently working to update the mapping of the stormwater customer classification to the new schema. Staff are also exploring if additional fields can aid in refining classifications which might be leveraged in future updates.

PWD will also consider credit program updates in parallel with overall rate structure updates. Credit program changes, including potential rain barrel credits, will also be further analyzed, and discussed within the context of overall changes to the stormwater rate structure. As noted, in *PWD Statement 4B – Direct Testimony of the Planning &*

Environmental Service Panel, the Water Department continues to explore adaptation of the City's Green City, Clean Waters ("GCCW") program[10]. As the current credit program is intended to aid in the compliance efforts associated with GCCW, future program updates may also need to consider how to support implementation of the overall COA milestones.

As noted in quarterly reports to the Rate Board, any proposed updates to the stormwater rate structure are anticipated to coincide with the replacement of the Basis2 billing system. As discussed in *PWD Statement 5 – Direct Testimony of the Water Revenue Bureau Panel*, the City is in the process of issuing a request for proposals to identify a billing system vendor. The replacement of the billing system is expected to take place over several years.

In parallel with billing system replacement efforts, the Water Department expects to engage with customers and stakeholders to discuss potential rate structures updates for stormwater as well as updates to the City's water rate structure.

Q28. HAS THE WATER DEPARTMENT COMPLETED THE LOAD STUDY (OR DEMAND STUDY) AS REQUESTED BY THE RATE BOARD IN THE 2023 RATE DETERMINATION?

A28. Yes. The Rate Board directed the Department to *"perform a study of customer usage factors prior to its next base rate proceeding, and to incorporate this load study into the [Cost-of-Service Study] to ensure that it is reflective of PWD's current operating usage and characteristics.*[11]*"* To be responsive to that, the PWD engaged Black & Veatch to

[10] See *PWD Statement 4B* at 15.
[11] See *2023 General Rate Proceeding Rate Determination dated Jun 21,2023* at 38.

undertake the AMI Demand Study. The study was completed in late 2024 and the methodology and results are documented in *Schedule BV-4: WP-1*.

Q29. WOULD YOU PLEASE SUMMARIZE THE GENERAL APPROACH UTILIZED IN DEVELOPING THE DEMAND STUDY?

A29. PWD has made a significant investment to improve customer service through its AMI project. The AMI Demand Study leverages the information provided through AMI, direct measurements of hourly customer usage, to inform maximum day (max day) and maximum hour (max hour) demand estimations. Prior to the implementation of AMI, customer meters were typically read at a frequency of once per month. The AMI technology enables hourly data to be captured and analyzed for each meter and customer. Therefore, instead of twelve data points per year, each customer meter now typically generates 8,760 hourly data points per year (365 days x 24 hours). This increased data availability provides new insights into the hourly and daily peaking characteristics of customers that are applicable to the AMI Demand Study, and the COS Study. Prior estimates of hourly and daily peak demands used in COS Studies were derived using industry recognized methodologies from monthly billing data and the application of assumptions of how each type of customer's demand peaks on the system, but without the benefit of any direct measurements of the customers' hourly and daily peak usage[12]. As such, we believe the use of AMI data will result in more accurate estimations of peak usage for the different customer types, as the estimates are based on actual hourly and daily data compiled from individual customers.

[12] Without the benefit of highly granular AMI data, this was a standard industry approach as described in Appendix A of AWWA M1 Manual Principles of Water Rates, Fees, and Charges. 7th Ed.

Q30. IS THE APPROACH USED A RECOGNIZED AND STANDARD APPROACH IN THE WATER INDUSTRY?

A30. Yes. The AMI Demand Study utilizes the principles for establishing max hour and max day factors as outlined in Appendix A of the AWWA M1 Manual.

- The M1 Manual recognizes that AMI data can be used to support the development of max hour and max day peaking factors.
- These studies are not yet common due to:
    1. The small number of water utilities that have fully deployed and implemented AMI; and
    2. The complexity in managing and analyzing the vast amounts of data made available via AMI technology.

For the reasons noted in the previous answer, we believe the approach used in the AMI Demand Study is an improvement for calculating customer peaks because it relies on available hourly data. As discussed in Q29, the more granular AMI data provides a better representation and indication of customer usage.

Q31. HAVE YOU COMPLETED SIMILAR AMI DEMAND STUDIES USING THIS APPROACH?

A31. Yes. This is the fourth AMI Demand Study that Black & Veatch has completed using the same methodology and approach within the past 3 years. Each study varies in the number of customer categories examined and the amount of AMI data available. The study for PWD incorporates more customer types (twelve versus three or four) than the previous studies we have performed, and PWD also had the most complete rollout of AMI at the time of the study, meaning that the PWD AMI Demand Study used a larger sample size than our other studies.

Q32. WOULD YOU PLEASE SUMMARIZE THE KEY FINDINGS AND RESULTS OF THE AMI DEMAND STUDY?

A32. The AMI Demand Study examined the hourly and daily demand patterns on the water system of twelve different customer categories[13]. Data from over 210,000 PWD customers (approximately 41% of all customers) was used in the study. This direct measurement of hourly consumption patterns results in more confidence in the development of peaking factors as it replaces assumptions and extrapolations based on monthly billing data with direct measurement of hourly and daily consumption data for each customer category. Max Hour and Max Day peaks and peaking factors were developed for each of the twelve customer types (or categories); a summary of non-coincidental peaking factors is shown on the following page and also included in Table 4-1 of the AMI Demand Study (*Schedule BV-4: WP-1)*.

[13] Aligned with the customer types utilized in the most recent COS studies.

Customer Type	Max Day Peaking Factor (Max. Day / Avg. Day)	Max Hour Peaking Factor (Max. Hour / Avg. Hour)
Charities/Schools	1.52	2.81
PWD	1.57	1.71
Commercial	1.33	1.78
Fire Service[14]	NA	NA
Hand Bill	1.13	1.46
Hosp./Univ.	1.66	2.27
Industrial	1.35	2.18
PHA	1.22	1.66
Public Utilities	1.97	4.04
Residential	1.22	1.74
Scheduled	1.81	11.24
Senior Citizens	1.23	1.80
Total	1.33	2.02
Total Excluding Fire Service	1.28	1.77

[14] Since Fire Service is an on-call service, the COS Study reflects the system design parameters for fire service and does not use the meter-usage based peaking factors from the AMI Demand Study. Hence, it is not assigned a base or volume component the peak flows cannot be expressed in terms of a factor or ratio relative to the average day volume.

Q33. HOW WERE THE RESULTS OF THE AMI DEMAND STUDY INCORPORATED INTO THE COST-OF-SERVICE STUDY?

A33. The use of AMI data to develop peaking factors represents a shift from industry standard methodologies used to support prior PWD COS Studies. Whereas the previous approach relied on less granular data and assumptions, the new approach uses newly available actual meter data at the customer level and may generate results significantly different from those prior studies. Therefore, the implementation of new peaking factors in the COS Study requires careful consideration and a full understanding of the impacts to all customers. Although additional studies could be conducted using more AMI data (now that AMI rollout is nearly complete), we believe the new insights provided by the AMI Demand Study represent improved estimates of how different customer types place different demand patterns on the PWD system.

With this rate filing, we are proposing a phased approach to implementing the results, moving from use of the prior peaking factors towards the new peaking factors as determined by the AMI Demand Study. The phasing allows a period of adjustment for what we believe is a directionally correct movement supported by real data and fewer assumptions.

Q34. PLEASE PROVIDE MORE DETAILS ABOUT THE PHASED APPROACH.

A34. We propose to phase-in the AMI Demand Study peaking factors in linear increments. In Test Year 1, we propose moving 25% of the way towards the new peaking factors as determined by the AMI Demand Study (25% Shift), and in Test Year 2 we propose moving 50% of the way towards the AMI-based peaking factors (50% Shift). This approach is in line with prior rate structure changes adopted by the Water Department (i.e., stormwater).

More specific details about the phased approach are provided in *Schedule BV-4: WP-2 – Impact of Updated Peaking Factors*.

Q35. WHAT INFLUENCE DID THE RESULTS OF THE AMI DEMAND STUDY HAVE ON THE RATE DESIGN USED IN DEVELOPING THE PROPOSED BASE RATES IN THIS PROCEEDING?

A35. We assessed the impact of the proposed phasing of peaking factors on cost of service by customer type and quantity charge rates. To isolate the impact of the peaking factor adjustments, the impact was modeled using the COS study which supported the FY 2025 approved rates. The aforesaid approved rates and both phased scenarios (25% and 50% Shift), all demonstrate a declining block structure. However, to achieve a reasonable level of equitable cost recovery, the "shape" of the quantity charge block structure is altered to reflect the impact of the new peaking factors on the cost of service by customer type. Under the 50% Shift Scenario, the first and second blocks are much closer than in the FY 2025 approved rates and show an overall flattening of the quantity charge rates (i.e., a smaller range between the highest and lowest block). More specific details about the assessment of the proposed phased approach are provided in *Schedule BV-4: WP-2*.

Q36. WHAT ARE REASONABLE "NEXT STEPS" IN EXAMINING THE POTENTIAL FOR RATE DESIGN CHANGES?

A36. As discussed in *Schedule BV-4: WP-2*, the estimated impacts on the quantity charge rate schedule within the current rate structure due to the application of the AMI Demand Study peaking factors, implies a more uniform rate structure should be further examined. However, this examination should be conducted within the context of the overall existing water rate structure and rate design.

The Water Department's current water rate structure has been in place for nearly four decades. Therefore, potential changes should not be limited to the existing block rate structure. Other considerations for rate structure adjustments could include: redefining the block volume levels; changing the number of blocks; implementing class-based rates; consideration of alternative block rates structures (such as inclining blocks and/or uniform rates); and combinations, thereof. Beyond the water quantity block rate structure, the overall cost recovery approach within rate design would warrant exploration coupled with the Water Department's overall mission, management of customer bill impacts and also addressing ongoing affordability concerns. The types of changes mentioned above should be discussed with customers and stakeholders prior to implementation.

As AMI data has only recently become available and the AMI Demand Study was just completed ahead of the current rate filing, per the Rate Board's *2023 Determination*, there was insufficient time to engage stakeholders in discussion of the implications of the newly derived AMI peaking factors. The proposed phase-in approach outlined in prior responses, is consistent with approaches used for prior changes in rates and rate structure (i.e., stormwater parcel area-based charges), while moving toward the application of the AMI peaking factors. In addition, the phase-in allows for further exploration of rate structure changes with stakeholders, coupled with the evaluation of other rate structure changes (i.e., stormwater rate structure changes), aligned with the anticipated replacement of the City's Basis2 billing system.

With this Rate Proceeding, the Water Department is committing to continue to explore alternatives rate structures (for both the water and stormwater charges) and intends to

develop updated rate structure proposals and if warranted bring them before the Rate Board in a future rate proceeding.

Q37. ARE PLANNED BILLING SYSTEM CHANGES A SIGNIFICANT FACTOR TO BE CONSIDERED IN PLANNING ANY FUTURE RATE DESIGN CHANGES?

A37. Yes. PWD is currently limited in its ability to change the rate structure significantly due to the constraints inherent in the Basis2 billing system. As previously noted, the current Basis2 billing system is scheduled for replacement in the next few years. It is understood that due to this planned transition, PWD prefers to minimize the effort placed on updating or modifying Basis2, as it focuses efforts and resources on the implementation of a more sophisticated billing system that will serve the City better in the future. In the meantime, additional studies could be conducted using more AMI data (now that AMI rollout is nearly complete) to provide more insights into how different customer types peak on the PWD system. Such studies could examine peak water usage in 2024 and 2025 that would provide a wider range of weather conditions for comparison.

The Water Department intends that any future rate structure changes would be planned and implemented in alignment with the development and deployment of the updated billing system, avoiding disruptions to operations and allowing for adequate customer notifications.

Q38. BEYOND POTENTIAL RATE STRUCTURE CHANGES, HAS THE WATER DEPARTMENT IDENTIFIED ANY COSTS THAT MAY BENEFIT FROM THE APPLICATION OF A RATE RIDER?

A38. Yes. As discussed in *PWD Statement 4B,* the Water Department is undertaking compliance efforts related to revisions to Lead and Copper Rule ("LCR") requirements. LCR requirements have the potential to add significant costs to both operating and capital expenses over the next 10 to 15 years, as the Department undertakes the inventory and complete replacement of all lead service lines. However, once completed, the compliance efforts are likely to sunset.

While PWD currently does and will continue to pursue grant funding to support LCR related activities, it is anticipated that such funding will not be sufficient to cover the full scope of the effort that will be required. Therefore, the majority of additional funding is expected to come from customer rates[15].

Given the nature of the program and its anticipated sunset, the Water Department believes the costs associated with LCR compliance are ideal for recovery via a rate rider. The Department intends to further explore this concept and may propose a LCR rate rider in a future rate proceeding.

Q39. ARE ANY CHANGES PROPOSED TO THE WATER, SEWER, AND STORMWATER RATE STRUCTURE IN THIS PROCEEDING?

A39. No changes are proposed to the overall water, sewer, and stormwater rate structure in the current rate filing, other than the influence of the incorporation of the previously discussed peaking factors. As previously noted, the discussion of revenue and revenue requirements, cost of service analysis, and resulting rates included in this testimony apply to the Water Department's "Base Rates."

[15] See PWD Statement 4B at 15.

As with the 2023 general rate proceeding, PWD proposes rate increases that will go into effect on September 1st of each fiscal year. However, rates are designed based on 12 months. Because the proposed revenue increase will not go into effect until September 1st of each fiscal year, the proposed rates are designed based on annualizing the 10-month period for which rates are effective. Table 4-1 in Section 4.3 and Table 7-1 in Section 7.2 in the *Cost-of-Service Report (Schedule BV-2)* show the projected cash flow of base rates for the Water and Wastewater Systems based on annualizing the proposed revenue increases.

Q40. IN DESIGNING THE RETAIL WATER, SEWER, AND STORMWATER COST OF SERVICE RATE SCHEDULES, ARE THERE ANY ADDITIONAL FACTORS THAT HAVE BEEN TAKEN INTO ACCOUNT?

A40. Yes. The proposed charges for water and wastewater service applicable to general service retail customers, as shown in Table 5-1 in Section 5.1 of the *Cost-of-Service Report* and Table 8-4 in Section 8.1 *(Schedule BV-2)*, respectively, recognize that certain retail customer types, including senior citizens, charities and schools, and the Philadelphia Housing Authority ("PHA"), receive services at a discounted rate. The Water Department anticipates that the existing discounts (25% for senior citizens, charities, and schools and 5% for the PHA) will continue to be applicable during the Rate Period.

In designing proposed rates, the annual retail water, sanitary sewer, and stormwater costs of service determined for each customer type are adjusted to reflect that these customer types will not pay the full cost of service. Accordingly, we increase the proposed retail water, sewer, and stormwater rates to recover this cost-of-service revenue reduction due to

discounts. Additionally, in the case of the non-residential stormwater class, we adjust their stormwater rates to address the discounts and recover the reduction in revenue due to the existing stormwater customer assistance program ("CAP"). Anticipated revenue reductions due to stormwater CAP are described in Section 1.4 of *Schedule BV-2: Cost-of-Service Report.*

The cost recovery approach used for billing discounts, stormwater credits, incentives, and grant programs is outlined in *Schedule BV-4: WP-4 "Cost Recovery of Discounts, Credits, Grants and TAP."* Additional details regarding these items are further discussed in Section 1.4 of the *Cost-of-Service Report (Schedule BV-2).*

Q41. HAVE THERE BEEN ANY UPDATES TO THE PARAMETERS FOR TYPICAL CUSTOMER BILL COMPARISONS?

A41. Yes. The typical consumption for residential customers has decreased from 450 cubic feet to 430 cubic feet of water. In addition, the typical consumption for small commercial customers has decreased from 600 cubic feet to 550 cubic feet of water. Please see *PWD Statement 6 – Direct Testimony of Raftelis Financial Consultants* for more information.

Q42. BASED UPON THE PROPOSED SCHEDULE OF RETAIL RATES, WHAT ARE THE ASSOCIATED BILL IMPACTS ON TYPICAL CUSTOMER BILLS?

A42. Table C-4 *(Schedule BV-1)* presents a series of typical or representative combined monthly residential water, sanitary sewer, and stormwater bills under existing and proposed rates for Test Year-1 (FY 2026) and Test Year-2 (FY 2027) for the 5/8-inch meter size. Table C-5 *(Schedule BV-1)* presents a series of typical or representative combined monthly non-residential water, sanitary sewer, and stormwater bills under existing and proposed rates

for Test Year-1 (FY 2026) and Test Year-2 (FY 2027) for multiple meter sizes and various parcel characteristics (i.e., GA and IA). The bill impacts for PWD's typical residential, discount eligible senior citizen and non-residential customers are summarized in the tables below.

	Proposed FY 2026 - Monthly Bill Impacts[16]			
Customer	**FY 2025[17]**	**FY 2026[18]**	**Additional Charge**	**% Increase**
Typical Residential[19]	$81.77	$91.31	$9.54	11.7%
Senior Citizen with Discount[20]	$50.32	$55.87	$5.55	11.0%
Non-Residential[21]	$137.38	$150.49	$13.11	9.5%

[16] Typical Monthly Bill includes Quantity Charges, TAP Rider Surcharge, Service Charge, and Stormwater Charges.
[17] The FY 2025 figures reflect the existing base and current TAP-R rates, of $3.08/Mcf for water and $4.40/Mcf for sewer, effective September 1, 2024.
[18] The FY 2026 figures reflect the proposed TAP-R rates, of $3.87/Mcf for water and $5.67/Mcf for sewer, and the proposed FY 2026 base rates, effective September 1, 2025.
[19] Reflects a Typical Residential customer with a 5/8-inch meter and 430 cubic feet of water consumption.
[20] Reflects a Typical Discount Eligible Senior Citizen customer with a 5/8-inch meter and 300 cubic feet of water consumption. Estimated bills include the application of the Senior Citizen discount of 25%.
[21] Reflects a typical PWD small business customer with a 5/8-inch meter, 550 cubic feet of water consumption, and parcel with 5,500 square feet of gross area and 4,000 square feet of impervious area.

	Proposed FY 2027 - Monthly Bill[22]			
Customer	**FY 2026[23]**	**FY 2027[24]**	**Additional Charge**	**% Increase**
Typical Residential[25]	$91.31	$96.68	$5.37	5.9%
Senior Citizen with Discount[26]	$55.87	$59.35	$3.48	6.2%
Non-Residential[27]	$150.49	$160.92	$10.43	6.9%

IV. MISCELLANEOUS CHARGES

Q43. ARE ANY CHANGES BEING PROPOSED TO THE WATER DEPARTMENT'S MISCELLANEOUS WATER, SEWER, AND STORMWATER CHARGES?

A43. Yes. The Water Department is proposing to update the various miscellaneous charges contained in the following sections of PWD's Rates and Charges:

(i) Section 3.0 – Sewer Charges

(ii) Section 4.0 – Stormwater Management Service Charges

(iii) Section 6.0 – Miscellaneous Water Charges

(iv) Section 7.0 – Miscellaneous Sewer Charges

(v) Section 8.0 – Miscellaneous Plan Review and Inspection Charges

[22] Typical Monthly Bill includes Quantity Charges, TAP Rider Surcharge, Service Charge, and Stormwater Charges.
[23] The FY 2026 figures reflect the proposed base and proposed TAP-R rates, of $3.87/Mcf for water and $5.67/Mcf for sewer, effective September 1, 2025.
[24] The FY 2027 figures reflect the proposed TAP-R rates, of $3.87/Mcf for water and $5.67/Mcf for sewer and the proposed FY 2027 base rates, effective September 1, 2025, and September 1, 2026, respectively.
[25] Reflects a Typical Residential customer with a 5/8-inch meter and 430 cubic feet of water consumption.
[26] Reflects a Typical Discount Eligible Senior Citizen customer with a 5/8-inch meter and 300 cubic feet of water consumption. Estimated bills include the application of the Senior Citizen discount of 25%.
[27] Reflects a typical PWD small business customer with a 5/8-inch meter, 550 cubic feet of water consumption, and parcel with 5,500 square feet of gross area and 4,000 square feet of impervious area.

The proposed miscellaneous charges are detailed in the following tables included in *Schedule BV-3*:

- Table M-1: Summary of Miscellaneous Charges (Regular Hours)
- Table M-2: Summary of Miscellaneous Charges (Overtime Hours)

Please refer to Section 6 of *PWD Exhibit 3* for additional information regarding the Miscellaneous Charges.

Q44. PLEASE BRIEFLY DESCRIBE THE APPROACH FOR DEVELOPING THE PROPOSED MISCELLANEOUS CHARGES.

A44. As with prior miscellaneous fee updates, Black & Veatch reviewed the miscellaneous charges to determine the updated cost of service rates. The miscellaneous fees analysis was updated to reflect current cost inputs, including Labor, Equipment, Materials, and Contractor Costs. The methodology used to calculate the miscellaneous fees is consistent with the methodology from prior general rate proceedings. No changes are proposed to the fees for which the calculated cost of service was in alignment with the existing charges.

The methodology used to update the Miscellaneous Charges is outlined in *Schedule BV-4: WP-5 "Miscellaneous Fees Methodology,"* with supporting calculations in the appendix.

Generally, the proposed fees were developed using the following approach:

1. For fees with a calculated cost of service less than the existing charge, the proposed fee is transitioned in FY 2026 to reflect the calculated cost of service.

2. For fees with a calculated cost of service higher than the existing charge, the proposed fees are phased-in by 40% each fiscal year or until the cost-of-service rate is achieved.
3. Proposed miscellaneous charges are rounded to the nearest five or ten dollars except for the Stormwater Fee-In-Lieu which is rounded to the nearest dollar.

Note – No changes are proposed for fees associated with Discontinuance of Water, Pumping of Properties, Photographic and Video Inspection, or shut-off for TAP customers.

Q45. IS THE WATER DEPARTMENT PROPOSING ANY NEW MISCELLANEOUS CHARGES?

A45. Yes. The Water Department is proposing to create the following new miscellaneous charge:

(i) Section 8.1 (a)(4) – Erosion and Sediment (E&S) Control Reinspection Fees– These Fees are applicable when the reinspection of a construction site determines that a previous violation of E&S control requirements has not been corrected. Fees are proposed to be set forth for each subsequent reinspection to confirm and encourage compliance with required E&S control measures throughout earth disturbance activities in accordance with Chapter 6 Section 600.9(b) of the Water Department's Regulations.

The above new proposed FY 2026 miscellaneous charge is based upon the Water Department's policy decisions to encourage compliance with E&S control requirements and deter construction projects from further and future violations.

Q46. ARE THERE ANY OTHER PROPOSED CHANGES TO MISCELLANEOUS CHARGES?

A46. Yes. The Department is proposing to exempt Community Garden projects from the Utility Plan Review Fee, established in Section 8.3 of rates and charges pursuant to Section 19-1603 of the Philadelphia Code.

V. SENIOR DISCOUNT THRESHOLD

Q47. PLEASE DESCRIBE THE PROPOSED ADJUSTMENT TO THE SENIOR CITIZEN INCOME ELIGIBILITY THRESHOLD.

A47. Per Section 19-1901 of the Philadelphia Code, the senior citizen income eligibility threshold was established at $14,000 in FY 1987 and adjusted to reflect the net change in the Consumer Price Index (All Urban Consumers ["CPI-U"] for Philadelphia [All Items]). Based upon the 2021 Rate Determination, the current senior citizen income threshold, as stated in Section 5.2(b)(1)(iii) of the Water Department's Rates and Charges (Effective September 1, 2023), is $38,800.

Black & Veatch developed a projection of the senior citizen income threshold, per the Philadelphia Code requirements, for the proposed Rate Period of FY 2026 and FY 2027. The approach used to determine the income eligibility threshold for the senior citizen discount is the same as used in prior rate proceedings and further detailed in *Schedule BV-4: WP-6 "Senior Citizen Discount Threshold Adjustment."* Based on this analysis, the senior income threshold is proposed to be adjusted from $38,800 to $42,100 for the Rate Period.

VI. PROPOSED TAP RATE RIDER UPDATES

Q48. ARE ANY UPDATES PROPOSED TO THE TAP RATE RIDER?

A48. Yes. Two updates are proposed to the TAP Rate Rider as currently defined in Section 10.0 of the Water Department's existing Rates and Charges. Updates are proposed for the following:

- Updated allocation of TAP costs between the water and wastewater utilities; and
- Updated system-wide collection factor utilized in determining the net amount of under/over recovery of TAP-R revenues.

Q49. PLEASE SUMMARIZE THE PROPOSED UPDATES TO THE ALLOCATION OF TAP COSTS BETWEEN WATER AND WASTEWATER UTILITIES.

A49. Based upon the 2023 Rate Determination, the Total TAP Costs to be recovered via the Water TAP-R and Sewer TAP-R surcharge rates were allocated between the water and wastewater utilities based on the proportion of the water and wastewater retail net revenue requirements to the total retail net revenue requirement. This allocation, as defined in Section 10.1(a)(2)(i) and (ii) of the Water Department's Rates and Charges, is currently:

a. Water TAP Cost Allocation: 42%; and

b. Sewer TAP Cost Allocation: 58%.

Based upon the COS Study developed for this proceeding, the above allocation would be revised to reflect the current apportionment of retail net revenue requirements between the water and wastewater utilities as follows:

a. Water TAP Cost Allocation: 43%; and

b. Sewer TAP Cost Allocation: 57%.

Additional information regarding the retail net revenue requirements is presented in *Schedule BV-2*.

Q50. PLEASE SUMMARIZE THE PROPOSED UPDATES TO THE SYSTEM-WIDE COLLECTION FACTOR UTILIZED IN THE TAP RATE RIDER CALCULATION.

A50. The system-wide collection factor is used to adjust both the TAP Revenue Loss and the TAP-R billings (for the Most Recent Period) in calculating the net amount of over or under-collection of the TAP-R surcharge (or "E-Factor"), as defined in Section 10.1(b)(3) of Water Department's Rates and Charges. The system-wide collection factor for non-stormwater-only customers of 96.99% currently used in the computation of the E-Factor was adopted following the 2023 Rate Determination based on the prior COS Study.

Per the current COS Study, the updated system-wide collection factor for non-stormwater-only customers is 96.93%. This collection factor is based on historical collection data (FY 2012 through FY 2024) and reflects the previously discussed adjustments to align with recent experience. Note – the non-stormwater-only collection factor is utilized in establishing water and sewer charges because the TAP-R surcharges are included in the overall water and sewer quantity charges. *PWD Statement 6 – Direct Testimony of Raftelis Financial Consultants* provides additional details regarding the derivation of the system-wide collection factor.

Q51. WHEN WOULD THE PROPOSED CHANGES AND UPDATES TO THE TAP RATE RIDER GO INTO EFFECT?

A51. The changes are proposed to be incorporated into the Water Department's Rates and Charges beginning on September 1, 2025, with the proposed implementation of FY 2026 rates and charges. However, the specific updates to the TAP Rate Rider, as identified above, would be implemented when the FY 2026 TAP-R Surcharge Rates are reconciled.

VII. CONCLUSION

Q52. DOES THIS COMPLETE YOUR DIRECT TESTIMONY IN THIS MATTER?

A52. Yes, it does.

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges

Fiscal Years 2026-2027

Philadelphia Water Department

Black & Veatch Management Consulting, LLC

Schedule BV-1

Dated: February 2025

Schedule REF #		Schedule Name
BV-1	**Black & Veatch Schedule**	
1	**TABLE C-1**	COMBINED UTILITY: PROJECTED REVENUE AND REVENUE REQUIREMENTS - BASE AND TAP-R SURCHARGE RATES
2	**TABLE C-1A**	PROJECTED REVENUE AND REVENUE REQUIREMENTS - BASE RATES EXCLUDING TAP-R SURCHARGE RATES
3	**TABLE C-1B**	PROJECTED REVENUE AND REVENUE REQUIREMENTS - TAP-R SURCHARGE RATES EXCLUDING BASE RATES
4	**TABLE C-2**	COMBINED UTILITY: PROJECTED RATE STABILIZATION FUND AND COVENANTS METRICS PERFORMANCE
5	**TABLE C-3**	COMBINED UTILITY: PROJECTED RECEIPTS UNDER EXISTING RATES
6	**TABLE C-4**	COMBINED UTILITY: COMPARISON OF TYPICAL BILL FOR RESIDENTIAL CUSTOMERS UNDER EXISTING AND PROPOSED RATES
7	**TABLE C-5**	COMBINED UTILITY: COMPARISON OF EXAMPLE BILLS FOR NON-RESIDENTIAL CUSTOMERS UNDER EXISTING AND PROPOSED RATES
8	**TABLE C-6**	COMBINED UTILITY: PROJECTED OPERATION AND MAINTENANCE EXPENSE
9	**TABLE C-7**	COMBINED UTILITY: PROJECTED CAPITAL IMPROVEMENT PROGRAM
10	**TABLE C-8**	COMBINED UTILITY: PROJECTED FLOW OF FUNDS - CONSTRUCTION FUND & DEBT RESERVE ACCOUNT
11	**TABLE C-9**	COMBINED UTILITY: SUMMARY OF EXISTING AND PROPOSED DEBT SERVICE
12	**TABLE C-10**	WATER: PROPOSED RATES FOR GENERAL SERVICE
13	**TABLE C-11**	WATER: PROPOSED RATES FOR FIRE PROTECTION
14	**TABLE C-11A**	WATER: PROPOSED RATES FOR FIRE PROTECTION RESIDENTIAL PRIVATE FIRE PROTECTION
15	**TABLE C-12**	WASTEWATER: PROPOSED RATES FOR GENERAL SERVICE SANITARY SEWER
16	**TABLE C-13**	STORMWATER: PROPOSED RATES FOR RESIDENTIAL AND NON-RESIDENTIAL SERVICES

TABLE C-1: PROJECTED REVENUE AND REVENUE REQUIREMENTS
Base and TAP-R Surcharge Rates
(in thousands of dollars)

Line No.	Description	Year	Percent Increase	Months Effective	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
	OPERATING REVENUE									
1	Water Service - Existing Rates				372,118	380,862	378,850	375,484	373,600	371,932
2	Wastewater Service - Existing Rates				545,992	560,132	559,080	556,063	542,627	540,713
3	Total Service Revenue - Existing Rates				918,109	940,994	937,930	931,547	916,227	912,645
	Additional Service Revenue Required									
4		FY 2026	10.74%	10		82,379	100,436	99,823	98,313	97,973
5		FY 2027	6.95%	10			58,858	71,728	70,515	70,242
6		FY 2028	6.52%	10				58,668	70,771	70,497
7		FY 2029	8.87%	10					83,553	102,126
8		FY 2030	7.69%	10						78,514
9	Total Additional Service Revenue Required				-	82,379	159,294	230,219	323,151	419,354
10	Total Water & Wastewater Service Revenue				918,109	1,023,373	1,097,224	1,161,766	1,239,379	1,331,999
	Other Income (a)									
11	Other Operating Revenue				(7,941)	(10,143)	(19,640)	(19,731)	(19,779)	(19,826)
12	Debt Reserve Account Interest Income				82	394	930	1,993	3,406	4,719
13	Operating Fund Interest Income				3,650	3,926	4,043	4,132	4,242	4,376
14	Rate Stabilization Interest Income				2,619	2,659	2,772	2,870	2,987	3,105
15	Total Revenues				916,518	1,020,209	1,085,329	1,151,029	1,230,235	1,324,372
	OPERATING EXPENSES									
16	Total Operating Expenses				(638,475)	(678,707)	(713,789)	(739,978)	(767,409)	(795,504)
	NET REVENUES									
17	Transfer From/(To) Rate Stabilization Fund				12,193	(13,412)	(4,088)	(5,037)	(5,520)	(4,731)
18	NET REVENUES AFTER OPERATIONS				290,237	328,091	367,452	406,015	457,305	524,137
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
19	Outstanding Bonds				(220,303)	(231,843)	(231,844)	(218,499)	(209,623)	(210,974)
20	PENNVEST Loans				(16,412)	(24,506)	(31,321)	(36,294)	(39,100)	(40,437)
21	Projected Future Bonds				(0)	-	(16,667)	(54,771)	(100,294)	(149,015)
22	Commercial Paper				(1,349)	(1,349)	(1,349)	(1,349)	(1,349)	(1,349)
23	WIFIA				(356)	(593)	(1,407)	(1,407)	(1,407)	(1,407)
24	Total Senior Debt Service				(238,420)	(258,292)	(282,588)	(312,319)	(351,773)	(403,182)
25	TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)				1.21 x	1.27 x	1.30 x	1.30 x	1.30 x	1.30 x
26	Subordinate Debt Service				-	-	-	-	-	-
27	Transfer to Escrow				-	-	-	-	-	-
28	Total Debt Service on Bonds				(238,420)	(258,292)	(282,588)	(312,319)	(351,773)	(403,182)
29	CAPITAL ACCOUNT DEPOSIT				(34,362)	(36,290)	(38,326)	(40,477)	(42,749)	(45,147)
30	TOTAL COVERAGE (L18/(L24+L26+L29))				1.06 x	1.11 x	1.14 x	1.15 x	1.15 x	1.16 x
31	End of Year Revenue Fund Balance				17,455	33,509	46,538	53,219	62,783	75,807
	RESIDUAL FUND									
32	Beginning of Year Balance				30,847	15,018	15,031	15,052	15,096	15,072
33	Interest Income				454	298	298	298	299	298
	Plus:									
34	End of Year Revenue Fund Balance				17,455	33,509	46,538	53,219	62,783	75,807
35	Deposit for Transfer to City General Fund (b)				4,994	4,994	4,994	4,994	4,994	4,994
	Less:									
36	Transfer to Construction Fund				(29,300)	(25,700)	(40,000)	(48,500)	(60,300)	(74,800)
37	Transfer to City General Fund				(4,994)	(4,994)	(4,994)	(4,994)	(4,994)	(4,994)
38	Transfer to Debt Reserve Account				(4,438)	(8,094)	(6,815)	(4,973)	(2,806)	(1,337)
39	End of Year Balance				15,018	15,031	15,052	15,096	15,072	15,040
	RATE STABILIZATION FUND									
40	Beginning of Year Balance (c)				132,438	120,245	133,657	137,745	142,781	148,301
41	Deposit From/(To) Revenue Fund				(12,193)	13,412	4,088	5,037	5,520	4,731
42	End of Year Balance				120,245	133,657	137,745	142,781	148,301	153,033

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund and reflects projected contra revenue credits for Affordability Program Discounts (TAP Costs).

(b) Transfer of interest earnings from the Debt Reserve Account to the Residual Fund as shown in Line 35 to satisfy the requirements for the transfer to the City General Fund shown on Line 37.

(c) FY 2025 beginning balance is estimated based on preliminary FY 2024 results.

TABLE C-1A: PROJECTED REVENUE AND REVENUE REQUIREMENTS
Base Rates Excluding TAP-R Surcharge
(in thousands of dollars)

Line No.	Description	Year	Percent Increase	Months Effective	2025	2026	2027	2028	2029	2030
					Fiscal Year Ending June 30,					
	OPERATING REVENUE									
1	Water Service - Existing Rates				360,384	365,313	362,873	359,609	357,815	356,225
2	Wastewater Service - Existing Rates				529,333	538,149	536,504	533,635	520,326	518,523
3	Total Service Revenue - Existing Rates				889,717	903,462	899,377	893,245	878,141	874,748
	Additional Service Revenue Required									
4		FY 2026	10.00%	10		73,630	89,938	89,324	87,814	87,475
5		FY 2027	7.30%	10			58,858	71,728	70,515	70,242
6		FY 2028	6.83%	10				58,668	70,771	70,497
7		FY 2029	9.26%	10					83,553	102,126
8		FY 2030	7.99%	10						78,514
9	Total Additional Service Revenue Required				-	73,630	148,795	219,720	312,653	408,855
10	Total Water & Wastewater Service Revenue				889,717	977,092	1,048,172	1,112,965	1,190,794	1,283,603
	Other Income (a)									
11	Other Operating Revenue				29,644	29,726	29,624	29,533	29,486	29,438
12	Debt Reserve Account Interest Income				82	394	930	1,993	3,406	4,719
13	Operating Fund Interest Income				3,650	3,926	4,043	4,132	4,242	4,376
14	Rate Stabilization Interest Income				2,619	2,659	2,772	2,870	2,987	3,105
15	Total Revenues				925,711	1,013,797	1,085,541	1,151,493	1,230,914	1,325,240
	OPERATING EXPENSES									
16	Total Operating Expenses				(638,475)	(678,707)	(713,789)	(739,978)	(767,409)	(795,504)
	NET REVENUES									
17	Transfer From/(To) Rate Stabilization Fund				3,000	(7,000)	(4,300)	(5,500)	(6,200)	(5,600)
18	NET REVENUES AFTER OPERATIONS				290,237	328,091	367,452	406,015	457,305	524,137
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
19	Outstanding Bonds				(220,303)	(231,843)	(231,844)	(218,499)	(209,623)	(210,974)
20	PENNVEST Loans				(16,412)	(24,506)	(31,321)	(36,294)	(39,100)	(40,437)
21	Projected Future Bonds				(0)	-	(16,667)	(54,771)	(100,294)	(149,015)
22	Commercial Paper				(1,349)	(1,349)	(1,349)	(1,349)	(1,349)	(1,349)
23	WIFIA				(356)	(593)	(1,407)	(1,407)	(1,407)	(1,407)
24	Total Senior Debt Service				(238,420)	(258,292)	(282,588)	(312,319)	(351,773)	(403,182)
25	TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)				1.21 x	1.27 x	1.30 x	1.30 x	1.30 x	1.30 x
26	Subordinate Debt Service				-	-	-	-	-	-
27	Transfer to Escrow				-	-	-	-	-	-
28	Total Debt Service on Bonds				(238,420)	(258,292)	(282,588)	(312,319)	(351,773)	(403,182)
29	CAPITAL ACCOUNT DEPOSIT				(34,362)	(36,290)	(38,326)	(40,477)	(42,749)	(45,147)
30	TOTAL COVERAGE (L18/(L24+L26+L29))				1.06 x	1.11 x	1.14 x	1.15 x	1.15 x	1.16 x
31	End of Year Revenue Fund Balance				17,455	33,509	46,538	53,219	62,783	75,807

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(b) Transfer of interest earnings from the Debt Reserve Account to the Residual Fund as shown in Line 35 to satisfy the requirements for the transfer to the City General Fund shown on Line 37.

(c) FY 2025 beginning balance is estimated based on preliminary FY 2024 results.

TABLE C-1B: PROJECTED REVENUE AND REVENUE REQUIREMENTS
TAP-R Surcharge Rates Excluding Base Rates
(in thousands of dollars)

Line No.	Description			Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
	OPERATING REVENUE								
1	Water Service - Existing Rates			11,733	15,549	15,977	15,874	15,785	15,707
2	Wastewater Service - Existing Rates			16,658	21,983	22,577	22,428	22,301	22,189
3	Total Service Revenue - Existing Rates			28,392	37,532	38,554	38,302	38,086	37,897
	Additional Service Revenue Required								
		Year	Percent Increase	Months Effective					
4		FY 2026	27.82%	10	8,749	10,499	10,499	10,499	10,499
5		FY 2027	0.00%	10		-	-	-	-
6		FY 2028	0.00%	10			-	-	-
7		FY 2029	0.00%	10				-	-
8		FY 2030	0.00%	10					-
9	Total Additional Service Revenue Required				-	8,749	10,499	10,499	10,499	10,499
10	Total Water & Wastewater Service Revenue				28,392	46,281	49,052	48,801	48,584	48,396
	Other Income									
11	Other Operating Revenue (a)				(37,585)	(39,869)	(49,264)	(49,264)	(49,264)	(49,264)
12	Debt Reserve Account Interest Income				-	-	-	-	-	-
13	Operating Fund Interest Income				-	-	-	-	-	-
14	Rate Stabilization Interest Income				-	-	-	-	-	-
15	Total Revenues				(9,193)	6,412	(212)	(463)	(680)	(869)
	OPERATING EXPENSES									
16	Total Operating Expenses				-	-	-	-	-	-
	NET REVENUES									
17	Transfer From/(To) Rate Stabilization Fund (b)				9,193	(6,412)	212	463	680	869
18	NET REVENUES AFTER OPERATIONS				-	-	-	-	-	-
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
19	Outstanding Bonds				-	-	-	-	-	-
20	PENNVEST Loans				-	-	-	-	-	-
21	Projected Future Bonds				-	-	-	-	-	-
22	Commercial Paper				-	-	-	-	-	-
23	WIFIA				-	-	-	-	-	-
24	Total Senior Debt Service				-	-	-	-	-	-
25	TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)				NA	NA	NA	NA	NA	NA
26	Subordinate Debt Service				-	-	-	-	-	-
27	Transfer to Escrow				-	-	-	-	-	-
28	Total Debt Service on Bonds				-	-	-	-	-	-
29	CAPITAL ACCOUNT DEPOSIT				-	-	-	-	-	-
30	TOTAL COVERAGE (L18/(L24+L26+L29))				NA	NA	NA	NA	NA	NA
31	End of Year Revenue Fund Balance				-	-	-	-	-	-

(a) FY 2025 and FY 2026 reflect TAP Credits based on the proposed 2025 Annual TAP-R Adjustment Filing.
FY 2027 and onward reflect the TAP-R revenue reqruirement based on the proposed 2025 TAP-R Reconciliation.

(b) Rate Stabilization Fund transfers necessary to meet over or under recovery of TAP costs until recovery is reconciled via TAP-R reconciliation.

TABLE C-2
Base and TAP-R Surcharge Rates
COMBINED SYSTEM: PROJECTED RATE STABILIZATION FUND AND COVENANTS METRICS PERFORMANCE

Line #	Description	2025	2026	2027	2028	2029	2030
	Rate Stabilization Fund	in thousand dollars (1,000 dollars)					
1	Beginning Balance: Rate Stabilization Fund (a)	132,438	120,245	133,657	137,745	142,781	148,301
2	Transfers From (To) Revenue Fund (b)	(12,193)	13,412	4,088	5,037	5,520	4,731
3	Year-End Rate Stabilization Fund Balance (Line 1 + Line 2)	120,245	133,657	137,745	142,781	148,301	153,033
	General Bond Ordinance Covenants						
4	Senior Debt Coverage (c)	1.21	1.27	1.30	1.30	1.30	1.30
5	Total Debt Coverage (d)	1.06	1.11	1.14	1.15	1.15	1.16
6	90% Test - Senior Debt Coverage from Current Revenues (e)	1.16	1.27	1.30	1.30	1.30	1.30
	O&M Actual to Budget Ratio						
7	Projected O&M Budget (f)	732,773	777,712	815,837	846,032	877,609	910,060
8	O&M Actual to Budget Ratio	92.8%	92.9%	93.0%	93.0%	93.0%	93.0%
	Rate Ordinance Requirements						
9	Projected Total Revenues	916,518	1,020,209	1,085,329	1,151,029	1,230,235	1,324,372
10	Projected Total Appropriations (g)	1,023,010	1,112,803	1,187,589	1,257,547	1,341,114	1,439,797
11	Rate Ordinance Requirement Compliance (h)	Yes	Yes	Yes	Yes	Yes	Yes
	Cash Funding						
12	Cash Funded Capital (i)	63,662	61,990	78,326	88,977	103,049	119,947
13	Capital Improvement Program Annual Expenses	406,863	511,975	596,833	671,342	711,252	754,590
14	Cash Funded Capital Ratio (j)	15.6%	12.1%	13.1%	13.3%	14.5%	15.9%

(a) FY 2025 beginning balance is estimated based on FY 2024 preliminary financial results.

(b) See Line 17 in Table C-1.

(c) Senior Debt Coverage = (Total Revenues - Operating Expenses + Transfer From (to) Rate Stabilization) divided by Senior Debt. The General Bond Ordinance requires the minimum Senior Debt Service Coverage of 1.20.

(d) Total Debt Coverage = (Total Revenues - Operating Expenses + Rate Stabilization Transfer) divided by (Senior Debt + Subordinate Debt + Capital Account Deposit). The 1989 General Ordinance requires the minimum Total Debt Service Coverage of 1.00.

(e) Senior Debt Coverage from Current Revenues = (Total Revenues - Operating Expenses - Transfer to Rate Stabilization Fund) divided by Senior Debt. Transfers from Rate Stabilization are excluded from the Total Revenues. The General Bond Ordinance requires a minimum Senior Debt Service Coverage of 0.90 from Current Revenues.

(f) FY 2025 budget reflects the PWD adopted budget; FY 2026 through FY 2030 budget reflects annual cost escalation factors.

(g) Total Appropriation = Total O&M Budget + Senior Debt + Subordinate Debt + Transfer to Escrow + Capital Account Deposit + Transfer to Rate Stabilization Fund + Transfer to Residual Fund. Costs to service the City included as required by the General Bond Ordinance rate covenants.

(h) Rate Ordinance requires that Total Revenues not exceed Total Appropriations.

(i) Cash Funded Capital = Capital Account Deposit + Residual Transfer to Construction Fund

(j) Cash Funded Capital Ratio = Cash Funded Capital divided by Capital Improvement Program annual expenses.

TABLE C-3: PROJECTED RECEIPTS UNDER EXISTING RATES
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
1	Water Sales Receipts	360,384	365,313	362,873	359,609	357,815	356,225
	Wastewater Sales Receipts						
2	Sanitary Sewer	317,116	320,948	319,227	316,958	304,421	303,382
3	Stormwater	212,218	217,200	217,277	216,677	215,906	215,141
4	Subtotal Wastewater Service Receipts	529,333	538,149	536,504	533,635	520,326	518,523
5	Total Water & Wastewater Receipts	889,717	903,462	899,377	893,245	878,141	874,748
	Other Income						
6	Penalties	11,863	11,945	11,843	11,752	11,705	11,657
7	Miscellaneous City Revenue	1,291	1,291	1,291	1,291	1,291	1,291
8	Other	7,322	7,322	7,322	7,322	7,322	7,322
9	State & Federal Grants	1,429	1,429	1,429	1,429	1,429	1,429
10	Permits Issued by L&I	7,230	7,230	7,230	7,230	7,230	7,230
11	Miscellaneous (Procurement)	210	210	210	210	210	210
12	City & UESF Grants	300	300	300	300	300	300
13	Affordability Program Discount Cost (a)	-	-	-	-	-	-
14	Release from Debt Reserve Account (b)	-	-	-	-	-	-
15	Other Operating Revenues	29,644	29,726	29,624	29,533	29,486	29,438
	Interest Income						
16	Interest Income on Debt Reserve Account (c)	82	394	930	1,993	3,406	4,719
17	Operating Fund	3,650	3,926	4,043	4,132	4,242	4,376
18	Rate Stabilization Fund	2,619	2,659	2,772	2,870	2,987	3,105
19	Total Nonoperating Income	6,350	6,979	7,745	8,995	10,635	12,199
20	Total Receipts	925,711	940,167	936,746	931,773	918,261	916,385

(a) Affordability Program Discounts represent anticipated lost revenue due to the Tiered Assistance Program (TAP). Beginning in FY 2019, TAP Revenue Loss is recovered via the TAP Rate Rider Surcharge.

(b) Projected Release from Debt Reserve Account based on outstanding and proposed debt service payments.

(c) Excludes deposit into Residual Fund for Transfer to City General Fund.

TABLE C-4
COMBINED SYSTEM: COMPARISON OF TYPICAL BILL FOR RESIDENTIAL CUSTOMERS UNDER EXISTING AND PROPOSED RATES

(1)	(2)	(3)	(4)	(5)	(5)	(5)	
		FY 2025	FY 2026		FY 2027		
Meter Size	Monthly Use	Existing Rates	Proposed Rates	% Proposed of Existing	Proposed Rates	% Proposed of FY 2026	
Inches	Mcf	$	$	%	$	%	
5/8	0.00	33.22	35.67	7.4	38.64	8.3	
5/8	0.20	55.80	61.54	10.3	65.64	6.7	
5/8	0.30	67.09	74.49	11.0	79.14	6.2	Typical Senior
5/8	0.40	78.38	87.42	11.5	92.63	6.0	
5/8	0.43	81.77	91.31	11.7	96.68	5.9	Typical Residential
5/8	0.50	89.68	100.36	11.9	106.14	5.8	
5/8	0.60	100.97	113.30	12.2	119.64	5.6	
5/8	0.70	112.26	126.23	12.4	133.13	5.5	
5/8	0.80	123.55	139.18	12.7	146.63	5.3	
5/8	1.70	225.17	255.61	13.5	268.12	4.9	
5/8	2.70	333.57	379.61	13.8	399.96	5.4	
5/8	3.30	397.45	452.63	13.9	478.25	5.7	

Notes:

FY 2025 figures reflect the existing base and current TAP-R rates, of $3.08/Mcf for water and $4.40/Mcf for sewer.
FY 2026 and FY 2027 figures reflect the Rate Board Determination in the 2025 General Rate Proceeding and the Rate Board Determination in the 2025 TAP-R Reconciliation. The proposed TAP-R rates for FY 2026 are $3.87/Mcf for water and $5.67/Mcf for sewer.
The TAP-R Rates are subject to annual reconciliation.

Typical Senior Citizen is presented prior to discount. Eligible Senior Citizen's receive a 25% discount on their total bill. The associated FY 2025, FY 2026, and FY 2027 bills would be $50.32, $55.87, and $59.35, respectively.

Mcf - Thousand cubic feet

TABLE C-5
COMBINED SYSTEM: COMPARISON OF EXAMPLE BILLS FOR NON-RESIDENTIAL CUSTOMERS UNDER EXISTING AND PROPOSED RATES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
				FY 2025	FY 2026		FY 2027		
Meter Size	Monthly Use	Impervious Area	Gross Area	Existing Rates	Proposed Rates	% Proposed of Existing	Proposed Rates	% Proposed of FY 2026	
Inches	Mcf	sf	sf	$	$	%	$	%	
5/8	0.0	1,794	2,110	44.88	47.69	6.3	51.85	8.7	
5/8	0.2	1,794	2,110	67.46	73.56	9.0	78.85	7.2	
5/8	0.3	1,794	2,110	78.75	86.51	9.9	92.35	6.8	
5/8	0.4	1,794	2,110	90.04	99.44	10.4	105.84	6.4	
5/8	0.5	4,000	5,500	131.74	144.02	9.3	154.18	7.1	
5/8	0.55	4,000	5,500	137.38	150.49	9.5	160.92	6.9	Typical Small Business
5/8	0.6	4,000	5,500	143.03	156.96	9.7	167.68	6.8	
5/8	0.7	4,000	5,500	154.32	169.89	10.1	181.17	6.6	
5/8	0.8	26,000	38,000	499.24	529.97	6.2	576.78	8.8	
5/8	1.7	26,000	38,000	600.86	646.40	7.6	698.27	8.0	
5/8	2.7	4,000	5,500	375.63	423.27	12.7	448.00	5.8	
5/8	3.3	4,000	5,500	439.51	496.29	12.9	526.29	6.0	
5/8	11.0	7,000	11,000	1,306.67	1,482.62	13.5	1,585.27	6.9	
1	1.7	7,700	7,900	330.83	366.65	10.8	390.11	6.4	
1	5.0	22,500	24,000	894.65	989.28	10.6	1,062.83	7.4	
1	8.0	7,700	7,900	1,003.52	1,135.61	13.2	1,213.49	6.9	
1	17.0	22,500	24,000	2,172.29	2,449.56	12.8	2,628.59	7.3	
2	7.6	1,063	1,250	900.28	1,029.25	14.3	1,096.92	6.6	
2	16.0	22,500	24,000	2,098.39	2,366.99	12.8	2,540.29	7.3	
2	33.0	66,500	80,000	4,560.12	5,113.28	12.1	5,504.29	7.6	
2	100.0	7,700	7,900	10,831.33	12,370.21	14.2	13,259.83	7.2	
4	30.0	7,700	7,900	3,488.50	3,982.58	14.2	4,266.82	7.1	
4	170.0	10,500	12,000	17,519.94	20,037.20	14.4	21,506.37	7.3	
4	330.0	26,000	38,000	32,709.14	37,421.92	14.4	40,209.12	7.4	
4	500.0	140,000	160,000	50,241.02	57,339.91	14.1	61,673.27	7.6	
6	150.0	10,500	12,000	15,808.18	18,082.34	14.4	19,404.26	7.3	
6	500.0	41,750	45,500	48,963.90	56,036.69	14.4	60,234.26	7.5	
6	1,000.0	26,000	38,000	95,464.08	109,359.16	14.6	117,574.31	7.5	
6	1,500.0	140,000	160,000	143,827.86	164,616.85	14.5	177,044.56	7.5	
8	750.0	10,500	12,000	72,049.93	82,556.02	14.6	88,742.96	7.5	
8	1,500.0	66,500	80,000	142,946.27	163,729.80	14.5	176,063.03	7.5	
8	2,000.0	26,000	38,000	189,077.83	216,668.84	14.6	232,981.01	7.5	
8	3,000.0	140,000	160,000	282,936.61	325,471.53	15.0	350,036.26	7.5	
10	600.0	22,500	24,000	58,433.04	66,939.14	14.6	71,952.46	7.5	
10	1,700.0	41,750	45,500	161,489.16	185,032.27	14.6	198,963.23	7.5	
10	3,300.0	26,000	38,000	309,176.34	356,153.74	15.2	382,990.28	7.5	
10	6,000.0	140,000	160,000	559,792.12	647,009.43	15.6	695,834.53	7.5	

(a) Examples with gross area less than 5,000 square feet reflect an impervious area of 85% of the gross area consistent with PWD Regulations section 304.3.

(b) The FY 2025 figures reflect the existing base and current TAP-R rates, of $3.08/Mcf for water and $4.40/Mcf for sewer.

(c) FY 2026 and FY 2027 figures reflect the Rate Board Determination in the 2025 General Rate Proceeding and the Rate Board Determination in the 2025 TAP-R Reconciliation. The proposed TAP-R rates for FY 2026 are $3.87/Mcf for water and $5.67/Mcf for sewer.

The TAP-R Rates are subject to annual reconciliation.

Mcf - Thousand cubic feet

sf - square feet

TABLE C-6: PROJECTED OPERATION AND MAINTENANCE EXPENSE (in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
	Water and Wastewater Operations						
1	Personal Services	190,651	200,283	211,944	221,388	231,306	241,600
2	Pension and Benefits	151,426	157,409	162,489	166,861	171,508	175,804
3	Subtotal	342,077	357,692	374,432	388,249	402,814	417,405
	Purchase of Services						
4	Power	20,134	21,443	22,022	22,550	23,137	23,877
5	Gas	7,187	7,309	7,653	7,883	8,056	8,225
6	SMIP/GARP	15,000	15,000	25,000	25,000	25,000	25,000
7	Other	185,583	202,420	209,218	217,872	226,885	236,272
8	Subtotal	227,904	246,172	263,892	273,304	283,077	293,375
	Materials and Supplies						
9	Chemicals	54,805	54,805	54,805	56,959	59,198	61,524
10	Other	34,086	35,797	37,006	38,553	40,165	41,844
11	Subtotal	88,891	90,602	91,812	95,512	99,362	103,368
12	Equipment	5,960	9,228	9,418	9,949	10,510	11,103
13	Indemnities and Transfers	15,000	19,079	19,488	20,010	20,553	21,120
14	Subtotal Expenses	679,832	722,773	759,042	787,024	816,317	846,370
15	Liquidated Encumbrances	(41,358)	(44,067)	(45,253)	(47,046)	(48,908)	(50,866)
16	**Total Expenses**	638,475	678,707	713,789	739,978	767,409	795,504

TABLE C-7: PROJECTED CAPITAL IMPROVEMENT PROGRAM
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
1	Engineering and Administration (a)	10,100	8,000	6,000	4,000	2,000	-
2	Plant Improvements	301,000	255,000	255,000	255,000	255,000	255,000
3	Distribution System Rehabilitation	150,100	203,100	202,100	188,100	188,100	188,100
4	Large Meter Replacement	5,000	5,000	5,000	5,000	5,000	5,000
5	Billing System	-	30,000	30,000	30,000	-	-
6	Storm Flood Relief	15,000	-	-	-	-	-
7	Reconstruction of Sewers	96,000	140,500	150,500	160,500	170,500	180,500
8	Green Infrastructure	170,000	162,500	143,750	143,750	143,750	143,750
9	Vehicles	12,000	5,000	5,000	5,000	5,000	5,000
10	Total Improvements	759,200	809,100	797,350	791,350	769,350	777,350
11	Inflation Adjustment (b)	-	-	39,868	81,114	121,269	167,524
12	Inflated Total	759,200	809,100	837,218	872,464	890,619	944,874
13	Rollforward Adjustments	15,131	(181,203)	(29,568)	(36,874)	(19,975)	(56,281)
14	Total Inflated Adjusted CIP Budget	774,331	627,897	807,650	835,590	870,644	888,593
15	Contingency Adjustment	(63,003)	(61,490)	(76,610)	(79,417)	(82,947)	(88,252)
16	Annual Encumbrances	711,328	566,408	731,040	756,173	787,698	800,342
17	Project Expenses (c)	406,863	511,975	596,833	671,342	711,252	754,590

(a) Reflects shift in capital related salary costs from capital to operating budget.

(b) Allowance for inflation of 5.0 percent per year after fiscal year 2026.

(c) Reflects annual drawdown of capital budget appropriations based on project durations and annual encumbrances.

TABLE C-8: PROJECTED FLOW OF FUNDS - CONSTRUCTION FUND & DEBT RESERVE ACCOUNT (in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
	Disposition of Revenue Bond Proceeds						
1	Proceeds From Sale of Bonds	328,863	-	400,000	575,000	650,000	680,000
	Transfers:						
2	Debt Reserve Account (a)	18,692	-	38,706	55,762	77,753	49,401
3	Cost of Bond Issuance (b)	1,973	-	2,400	5,750	6,500	6,800
4	Construction Fund (c)	308,198	-	358,894	513,488	565,747	623,799
5	Total Issue	328,863	-	400,000	575,000	650,000	680,000
	Construction Fund						
6	Beginning Balance	967,386	1,047,843	716,743	673,352	711,870	745,404
7	Transfer From Revenue Bond Proceeds	308,198	-	358,894	513,488	565,747	623,799
8	WIFIA Proceeds	6,041	-	-	-	-	-
9	WIFIA Match Funding Proceeds	6,288	-	-	-	-	-
10	PENNVEST Loan	82,893	100,140	82,820	56,318	25,437	12,817
11	Grant Proceeds	285	1,275	19,638	37,364	36,124	11,989
12	Capital Account Deposit	34,362	36,290	38,326	40,477	42,749	45,147
13	Transfer from Residual Fund	29,300	25,700	40,000	48,500	60,300	74,800
14	Interest Income on Construction Fund	19,953	17,471	13,763	13,715	14,428	15,048
15	Total Available	1,454,706	1,228,718	1,270,184	1,383,213	1,456,655	1,529,003
16	Net Cash Financing Required	406,863	511,975	596,833	671,342	711,252	754,590
17	Ending Balance	1,047,843	716,743	673,352	711,870	745,404	774,414
	Debt Reserve Account						
18	Beginning Balance	242,234	265,364	273,458	318,979	379,714	460,273
19	Transfer From Bond Proceeds	18,692	-	38,706	55,762	77,753	49,401
20	Transfer From Residual Fund (d)	4,438	8,094	6,815	4,973	2,806	1,337
21	Debt Reserve Account Release	-	-	-	-	-	-
22	Ending Balance	265,364	273,458	318,979	379,714	460,273	511,011
23	Interest Income on Debt Reserve Account	5,076	5,388	5,924	6,987	8,400	9,713

(a) Amount of Debt Reserve Account estimated based on outstanding and proposed debt service payments.

(b) Cost of bonds issuance reflects average cost in FY 2022, FY 2023, and FY 2024, assumed 0.60 percent of issue amount in FY 2027, and assumed 1.0% of issuance in FY 2028 to FY 2030.

(c) Deposits equal proceeds from sale of bonds less transfers to Debt Reserve Account and Costs of Issuance.

(d) Estimated deposits to fund PENNVEST debt service reserve requirement.

TABLE C-9: SUMMARY OF EXISTING AND PROPOSED DEBT SERVICE
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
	Revenue Bonds						
1	Existing (a)	220,303	231,843	231,844	218,499	209,623	210,974
	Proposed						
2	Fiscal Year 2025 (b)	-	-	-	-	-	-
3	Fiscal Year 2026 (c)		-	-	-	-	-
4	Fiscal Year 2027 (c)			16,667	26,021	26,021	26,021
5	Fiscal Year 2028 (d)				28,750	41,773	41,773
6	Fiscal Year 2029 (d)					32,500	47,222
7	Fiscal Year 2030 (d)						34,000
8	Total Proposed	-	-	16,667	54,771	100,294	149,015
9	Total Revenue Bonds	220,303	231,843	248,511	273,269	309,917	359,989
	PENNVEST Loans						
10	PENNVEST Loans (e)	16,412	24,506	31,321	36,294	39,100	40,437
	Commercial Paper						
11	Commercial Paper	1,349	1,349	1,349	1,349	1,349	1,349
	WIFIA						
12	WIFIA	356	593	1,407	1,407	1,407	1,407
13	Total Senior Debt Service	238,420	258,292	282,588	312,319	351,773	403,182

(a) Projected debt service amounts include debt service for all Water and Wastewater Revenue Bonds and Revenue Refunding Bonds issued prior to July 1, 2024 plus the Water and Wastewater Revenue Bond Series 2024C (issued in October 2024).

(b) Projected debt service for the Water and Wastewater Revenue Bond Series 2024C (issued in October 2024) included as Existing Debt Service.

(c) Projected debt service amounts assume interest only payment for the first year of the bond authorization based on 5.00% interest rate; and assume issuance during the first quarter of the fiscal year.

(d) Projected debt service amounts assume interest only payment for the first year of the bond authorization based on 6.00% interest rate; and assume issuance during the first quarter of the fiscal year.

(e) Includes projected PENNVEST Loans.

TABLE C-10
WATER: PROPOSED RATES FOR GENERAL SERVICE

		(1)	(2)
	SERVICE CHARGE		
Line No.	**Meter Size**	**FY 2026 Monthly**	**FY 2027 Monthly**
	Inches	$	$
1	5/8	6.08	6.31
2	3/4	7.06	7.35
3	1	9.42	9.82
4	1-1/2	14.73	15.37
5	2	21.85	22.79
6	3	37.62	39.26
7	4	65.44	68.29
8	6	126.77	132.31
9	8	197.89	206.57
10	10	287.04	299.62
11	12	503.58	525.79

	QUANTITY CHARGE		
Line No.	**Monthly Water Usage**	**FY 2026 Charge per Mcf**	**FY 2027 Charge per Mcf**
		$	$
12	First 2 Mcf	72.45	74.79
13	Next 98 Mcf	64.76	70.28
14	Next 1,900 Mcf	50.16	54.97
15	Over 2,000 Mcf	50.16	54.97

Mcf - Thousand cubic feet

TABLE C-11
WATER: PROPOSED RATES FOR FIRE PROTECTION

PRIVATE FIRE PROTECTION

Line No.	Size of Meter or Connection	(1) FY 2026 Monthly Charge	(2) FY 2027 Monthly Charge
	Inches	$	$
1	4" or less	33.88	39.38
2	6	63.64	74.48
3	8	96.90	114.06
4	10	141.86	166.62
5	12	232.14	277.15

PUBLIC FIRE PROTECTION

Line No.	Description	(1) FY 2026 Annual Charge	(2) FY 2027 Annual Charge
		$	$
6	Standard Pressure	10,786,000	13,786,000

TABLE C-11A
PROPOSED RATES FOR
RESIDENTIAL FIRE PROTECTION

PRIVATE FIRE PROTECTION

Line No.	Size of Meter or Connection	(1) FY 2026 Monthly Charge	(2) FY 2027 Monthly Charge
	Inches	$	$
	Water Service Charge Including Fire Protection		
1	3/4	12.33	14.16
2	1	14.69	16.63
3	1-1/2	20.00	22.18
4	2	27.12	29.60
	Sewer Service Charge		
5	3/4	8.22	8.84
6	1	8.22	8.84
7	1-1/2	8.22	8.84
8	2	8.22	8.84

TABLE C-12
WASTEWATER: PROPOSED RATES FOR GENERAL SERVICE SANITARY SEWER

METER BASED SERVICE CHARGE			
Line No.	Meter Size	(1) FY 2026 Monthly Charge	(2) FY 2027 Monthly Charge
	Inches	$	$
1	5/8	8.22	8.84
2	3/4	10.52	11.36
3	1	15.47	16.77
4	1 1/2	27.30	29.74
5	2	42.16	45.98
6	3	76.09	83.12
7	4	129.24	141.07
8	6	254.85	278.34
9	8	403.41	440.78
10	10	582.16	636.00
11	12	1,059.17	1,158.44

QUANTITY CHARGE			
Line No.		FY 2026 Charge per Mcf	FY 2027 Charge per Mcf
		$	$
12	All billable water usage	47.39	50.66
13	Groundwater Charge	16.33	17.47

SURCHARGE RATES			
Line No.		FY 2026 Charge per lb	FY 2027 Charge per lb
		$	$
14	BOD (excess of 250 mg/l)	0.514	0.537
15	SS (excess of 350 mg/l)	0.535	0.555

SEPTIC HAULER RATE			
Line No.		FY 2026 Charge per Mgal	FY 2027 Charge per Mgal
		$	$
16	Sanitary Wastewater Delivered to WPCP (a)	76.10	79.23

Notes: (a) Based on BOD and SS Loading of 9,000 mg/l.

Mcf-Thousand cubic feet
mg/l-milligrams per liter
Mgal - Thousand gallons
WPCP - Water Pollution Control Plant

TABLE C-13
STORMWATER: PROPOSED RATES FOR RESIDENTIAL AND NON-RESIDENTIAL SERVICE

RESIDENTIAL SERVICE RATES			
Line No.	Description	(1) FY 2026 Monthly Charge	(2) FY 2027 Monthly Charge
STORMWATER MANAGEMENT SERVICE CHARGE			
1	Charge Per Parcel	$ 19.32	$ 21.27
BILLING AND COLLECTION CHARGE			
2	Charge Per Bill	$ 2.06	$ 2.22

NON-RESIDENTIAL SERVICE RATES			
Line No.	Description	(1) FY 2026 Monthly Charge	(2) FY 2027 Monthly Charge
STORMWATER MANAGEMENT SERVICE CHARGE			
1	Min Charge	$ 19.32	$ 21.27
2	GA (per 500 sf)	0.927	1.021
3	IA (per 500 sf)	6.519	7.176
BILLING AND COLLECTION CHARGE			
4	Charge Per Bill	$ 2.67	$ 2.89

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges

Fiscal Years 2026-2027

Philadelphia Water Department

Black & Veatch Management Consulting, LLC

Schedule BV-2

Dated: February 2025

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FINAL

SCHEDULE BV-2: WATER & WASTEWATER COST OF SERVICE REPORT

BLACK & VEATCH PROJECT NO. 418278

PREPARED FOR

Philadelphia Water Department

18 FEBRUARY 2025

BLACK & VEATCH

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List of Acronyms and Defined Terms

ACRONYM OR TERM	DEFINITION
90% Test	General Bond Ordinance requirement that specifies Net Revenues, excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year, must equal to at least 90% of the Debt Service Requirements (excluding debt service on any Subordinated Bonds) payable in such fiscal year.
ACFR	Annual Comprehensive Financial Report
ADD	Average daily demand
AMI	Advanced Metering Infrastructure
Aqua PA	Aqua Pennsylvania, Inc., an Essentials Utility Company
ARPA	The American Rescue Plan Act of 2021
AWWA	American Water Works Association
Base Rates	Rate revenues that exclude revenue losses associated with providing TAP discounts and the TAP-R surcharge revenues.
Base-Extra Capacity Method	A cost allocation method that considers base costs (O&M expenses and capital costs that vary with the quantity of water at average load operations), extra capacity costs (additional costs above base costs for maximum day and maximum hour demands), customer costs (customer service, meter maintenance and reading, billing, collection, accounting), and fire protection costs (hydrants, water towers, oversized mains, pumps) to determine rates for various customer types.
Billing Year Collections	All payments associated with a given fiscal year's billing and received within the 12 months following the beginning of the fiscal year.
Billing Year Plus 1 Collections	All payments associated with a given fiscal year's billing and received within 13-24 months following the beginning of the fiscal year. For this Study, the billing database reflects available data from FY 2012 to FY 2024.
Billing Year Plus 2 and Beyond Collections	All payments associated with a given fiscal year's billing and received after 24 months following the beginning of the fiscal year. For this Study, the billing database reflects available data from FY 2012 to FY 2024.
Black & Veatch	Black & Veatch Management Consulting, LLC
BOD	Biological oxygen demand
CAP	Customer Assistance Program
CARES Act	The Coronavirus Aid, Relief, and Economic Security Act of 2020
CCF	Hundred cubic feet
cfs	Cubic feet per second
CIP	Capital Improvement Program

ACRONYM OR TERM	DEFINITION
City	The City of Philadelphia
City Charter	Philadelphia Home Rule Charter
COA	Consent Order Agreement
Collection Factors	Represent the multi-year payment pattern for Billing Year, Billing Year Plus 1, and Billing Year Plus 2 and Beyond. For this Study, the billing database reflects available data from FY 2012 to FY 2024.
Combined System	The City of Philadelphia's Water and Wastewater Systems
Community Gardens	Parcels, as defined by, Section 19-1603, which receive a 100 percent discount on all stormwater management service charges once approved.
COS	Cost of Service
COVID 19	Coronavirus 19
CP	Commercial Paper
CPI	Consumer Price Index
CPI-U	Consumer Price Index for All Urban Customers
DC33	American Federation of State County and Municipal Employees District Council 33
DC37	American Federation of State County and Municipal Employees District Council 37
DECS	City of Philadelphia's Office of Sustainability, Division of Energy & Climate Solutions
DELCORA	Delaware County Regional Water Authority
ENR	Engineering News Record
FPL	Federal Poverty Level
FY	Fiscal Year ending June 30
GA	Gross Area
General Bond Ordinance	The Restated General Water and Wastewater Revenue Bond Ordinance of 1989, approved by the Mayor on June 24, 1993, as supplemented and amended.
gpm	Gallons per minute
GSI	Green Stormwater Infrastructure
Hand Bill	Hand-billed accounts are "H"-coded customers in the Basis2 billing system that receive surcharge and/or sewer credits. The adjustments to these accounts are made manually.
I/I	Infiltration/Inflow
IA	Impervious Area
IAR	Impervious Area Reduction

ACRONYM OR TERM	DEFINITION
Lag Factor	Factor that recognizes the fact that there will be a proration of billings between the existing and proposed rates during the first month following the effective date of the rate increase, as well as the fact that the fiscal year billings will not be fully collected within that fiscal year.
L&I	License and Inspection
lb	Pound
LIHWAP	Low-Income Household Water Assistance Program
LTCPU	Long-Term Control Plan Update
M1 Manual	AWWA's Principles of Water Rates, Fees, and Charges Manual of Water Supply Practices M1, 7th Edition. The M1 Manual is the utility industry's guidance manual for water rate-making
Mcf	Thousand cubic feet
mg/l	Milligrams per liter
MGD	Million gallons per day
MoP 27	WEF's Financing and Charges for Wastewater Systems Manual of Practice No. 27, 4th Edition. This is the wastewater industry's manual for sewer rate-making.
MOU	Memorandum of Understanding
MS-4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
PENNVEST	Pennsylvania Infrastructure Investment Authority
PHA	Philadelphia Housing Authority
PHDC	Philadelphia Housing Development Corporation
PPI	Producer Price Index
PWD	The City of Philadelphia Water Department
Rate Board	The Philadelphia Water, Sewer, and Storm Water Rate Board
Rate Compression Factor	Factor that recognizes impact of not receiving a full year's worth of revenues due to an effective rate implementation date that is not on the first day of the fiscal year.
Rate Ordinance	Water Rate Board Ordinance, refers to Section 13-101(4)(a) of the Philadelphia Code
R&R	Renewal and Replacement
RSF	The Rate Stabilization Fund
SMIP/GARP	Stormwater Management Incentive Program/Greened Acre Retrofit Program

ACRONYM OR TERM	DEFINITION
sq	Square feet
SS	Suspended solids
SWMS	Stormwater management service charge
TAP	Tiered Assistance Program
TAP-R	TAP Rate Rider Surcharge Rate included with the water and sewer quantity charges
The System	The City of Philadelphia's Water and Wastewater Systems
TY	Test Year
UESF	Utility Emergency Services Fund
US	United States
Utility-Basis	Restatement of annual revenue requirements in terms of O&M, depreciation, and return on rate base.
Water Department	The City of Philadelphia Water Department
Water Fund	An accounting convention established pursuant to the Charter for accounting for the assets, liabilities, revenues, expenses, and Rate Covenant compliance for the City's water and wastewater systems. The operations of the Water Department are accounted for in the Water Fund, which is an enterprise fund of the City.
WEF	Water Environment Federation
WIFIA	Water Infrastructure Finance and Innovation Act
WRB	Water Revenue Bureau

Executive Summary

Black & Veatch Management Consulting, LLC ("Black & Veatch") has prepared this Water and Wastewater Cost of Service Report (the "Report") on behalf of the City of Philadelphia (the "City") Water Department (the "Water Department") in connection with its application to increase rates and charges for water, sanitary sewer, and stormwater service for fiscal year ("FY") 2026 and FY 2027 (the "Rate Period"). The analyses presented herein include projected revenue and revenue requirements for fiscal year 2025 through fiscal year 2030 (the "Study Period") and the proposed rate schedules for water, sanitary sewer, and stormwater services for the Rate Period, as determined from the cost-of-service analysis.

The purpose of this Report is to do the following:

- Assess the Water and Wastewater Systems' (together, the "System" or "Combined System") ability to meet current and future anticipated financial obligations during the Study Period, and
- Develop a financial plan and proposes water, sanitary sewer, and stormwater rates for FY 2026 and FY 2027 sufficient to fund the Combined System's fund operations and capital financing needs.

The forecast in this Report reflects implementing annual revenue increases and leveraging available funds from the Water Department's Rate Stabilization Fund through the Rate Period. The forecast for the remainder of the Study Period reflects implementing annual revenue increases to maintain system reserves at a level to support the system's revenue requirements. Based on the assumptions detailed herein, the financial plan requires annual Combined System Service Revenue increases from Base Rates[1] ranging from 6.83% to 10.00% during the Study Period.

This Report includes a cost-of-service analysis, conducted using causative cost approaches endorsed by industry-recognized manuals of practices, which produce cost of service allocations recognizing the projected customer service requirements. The proposed rates designed by Black & Veatch follow the allocated cost of service results and local policy considerations. For the analyses defined and presented herein, FY 2026 and FY 2027 serve as the fully projected test years for allocating costs to customer types and for designing the Base Rate schedules.

The Need for Rate Relief

The Department is requesting rate relief because it will face an operating deficit in FY 2026 and FY 2027. Additional revenues are needed to address both (i) under-performing revenues and s (ii) increasing costs in FY 2026 and FY 2027. The Water Department needs additional resources to pay for increasing costs for operations (e.g., work force costs, contract services, materials/equipment), for upgrades, repairs, improvements and for maintenance activities (among other things). The combination of these two are driving the Water Department's request for revenue adjustments. In addition, PWD needs additional revenues to meet mandatory rate covenants with investors by FY 2027 (i.e., debt service coverage, 90% Test).

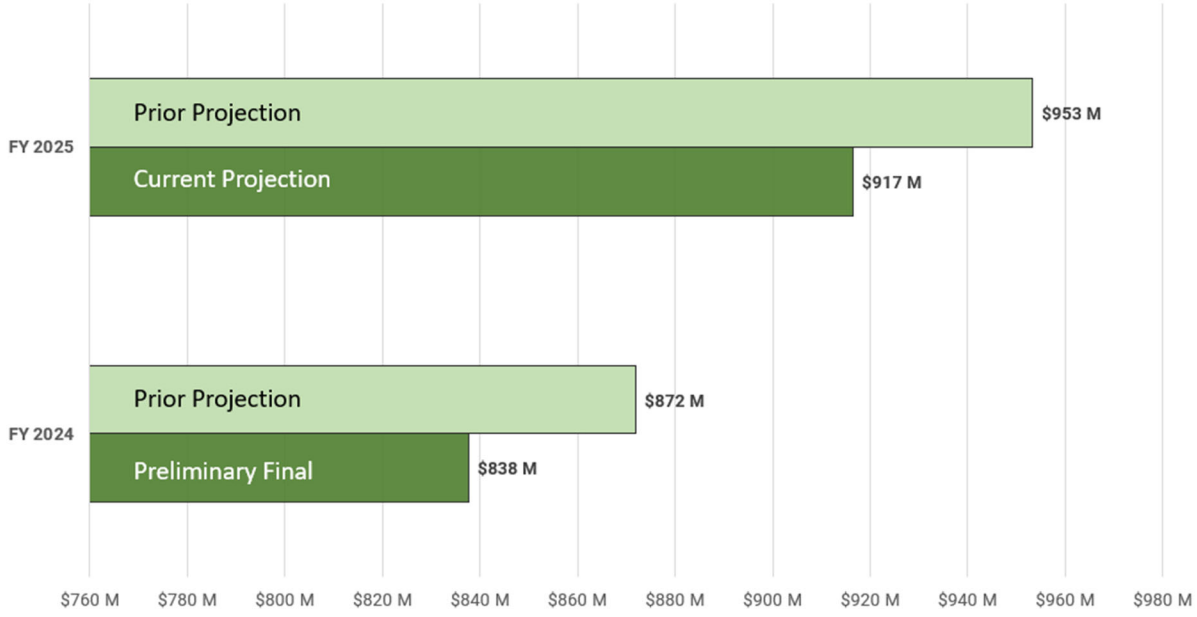
Revenue Pressures

As illustrated in Figure ES-1, the Water Department's revenues in FY 2024 were $34.3 million (or -3.93%) lower than projections utilized in establishing in the 2023 Rate Determination[2]. Further, current projections indicate that FY 2025 revenues will be $36.8 million (or 3.86%) lower than prior projections. The reduction in revenues has required budget reductions in FY 2025, close monitoring of overall expenses, reduced debt

[1] Excludes Tiered Assistance Program Rate Rider Surcharges.
[2] See PWD *Statement 2A – Direct Testimony of Lawrence Yangalay, Lawrence Rich, and Patricia Rogalski (the "Finance Panel")*

Figure ES-1 FY 2024 and FY 2025 Revenue Projection Comparisons

service coverage and use of financial reserves more than initially planned.

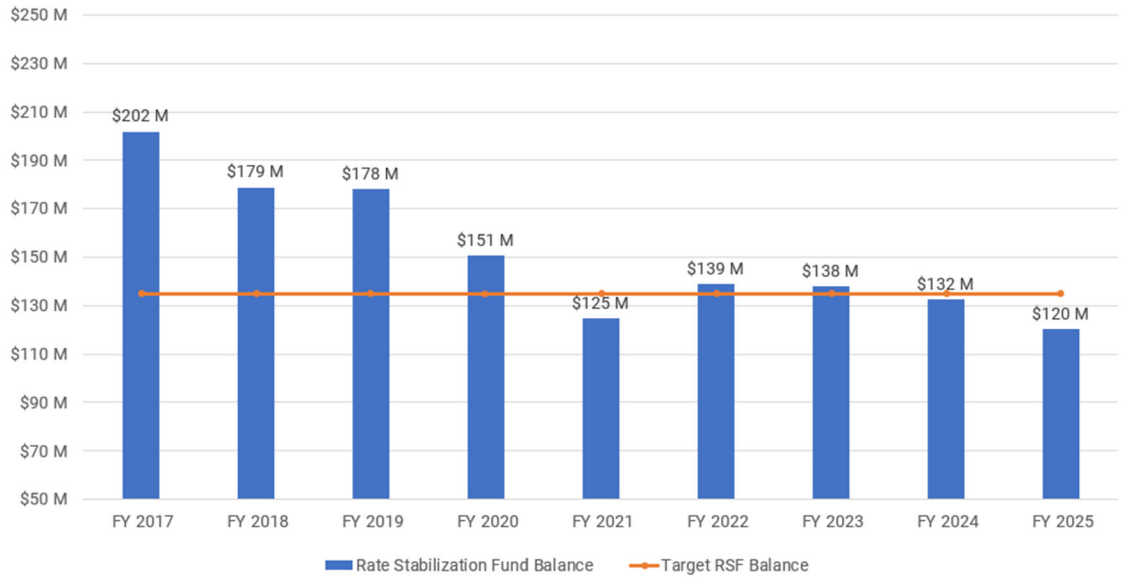


Metrics and Reserves

Rates for FY 2024 and FY 2025 were designed based upon targeted debt service coverage of 1.25x. However, in FY 2024 the Department only achieved a 1.22x debt service coverage and it is currently projected to achieve similar results in FY 2025. While the actual FY 2024 and projected FY 2025 debt service requirements are less than those reflected in the 2023 Rate Determination, the reduced coverage levels in both years still necessitate higher than planned withdrawals from the Rate Stabilization Fund ("RSF") in both years.

Historically, the Water Department has utilized the RSF to manage rates (mitigate the impact of revenue adjustments), meet financial metrics and aid in capital funding, drawing down reserves as shown in Figure ES-2. While this practice is reasonable on a limited basis, it is not a sustainable solution. The above described utilization of the RSF is not currently feasible given the Department's deteriorating financial condition. Any reserves should be held for emergencies (financial, operational, etc.). In short, the Department does not have any available funding to help mitigate revenue adjustments during the Rate Period. In fact, the projected FY 2025 RSF ending balance of $120.2 million is the lowest since 2017.

Figure ES-2 Rate Stabilization Fund Use FY 2017 to Present



Ongoing Revenue Pressures

The following factors account for a significant portion of the reduction in revenues the Water Department has recently and continues to experience:

- **Ongoing declines in billed water volume** – Reductions in billed volume is an ongoing trend that is readily observable as shown in Figure 1-3 ES-3.
    - The Water Department experienced a 2.67% decline billed volume from FY 2023 to FY 2024 (with overall billed water volume below those utilized in the 2023 Rate Determination).
    - In FY 2024, the overall trend appears to have resumed, and the risks remain for further downward pressure.
- **Reduced collections –** The Water Department continues to see a shift in customer collection patterns.
    - As illustrated in Figure ES-4, Billing year collections (i.e., the fiscal year in which a bill is first issued) have fallen and averaged 1.56% lower in FY 2022 to FY 2024 when compared to the long-term historical average (from FY 2012 to FY 2024).
    - The initial billing year is when the bulk of revenues are received from customer payments[3].
- **Increased TAP enrollment levels and a lag in the recovery of TAP discounts** - The City has made a concerted effort to enroll customers in TAP in recent years to provide assistance more widely.
    - As a result of these efforts, nearly 60,000 customers are currently enrolled in TAP as of the writing of this report. Table ES-1 shows the overall uptick in TAP enrollment and the associated increase in TAP discounts.
    - TAP-R has not kept pace with the overall level of discounts. Additional withdrawals from the RSF were needed in FY 2023 and FY 2024 and are also planned for FY 2025, in part, to

[3] As the Water Department must utilize a cash basis for the purposes of setting rates, shifts in this payment pattern not only put pressure on revenue needs, it actually creates overall cashflow pressures for the Water Department when completing fiscal year end accounting and determining required metrics.

help make up for reduced revenues as a result of TAP-R under-recovering TAP discounts. The impact of under recovery can be seen in the current financial position and metrics.

Figure ES-3 Historical Billed Water Volume

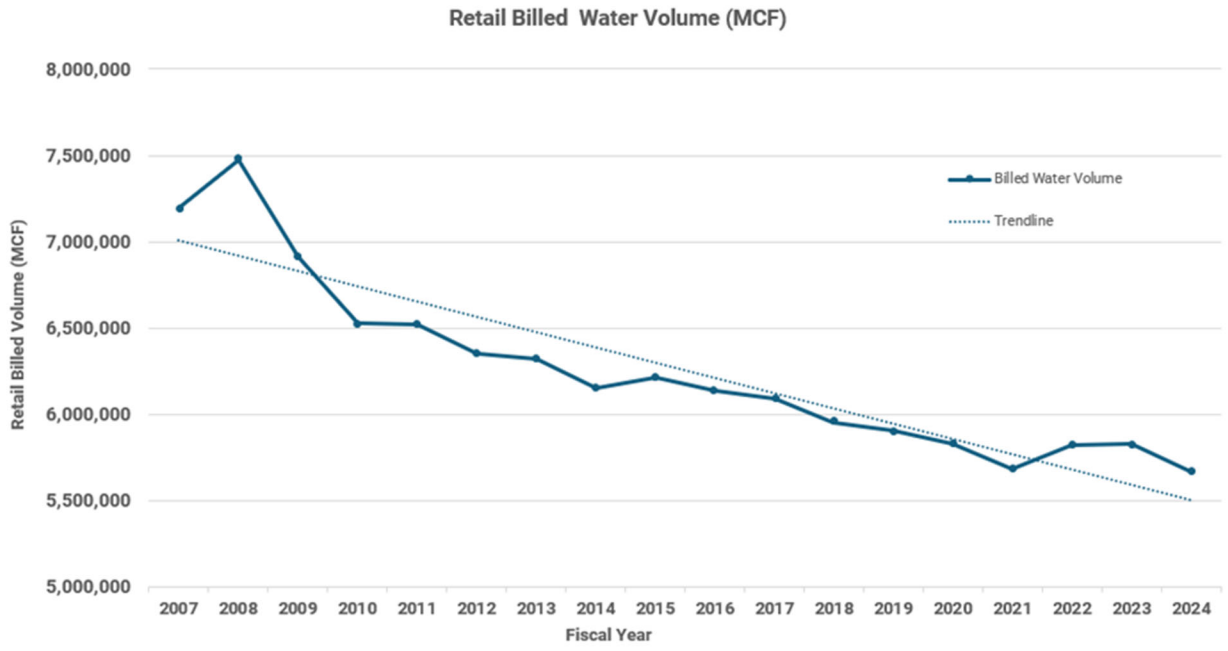


Figure ES-4 FY 2022 to FY 2024 Billing Year Collection Factors Vs. Historical Average

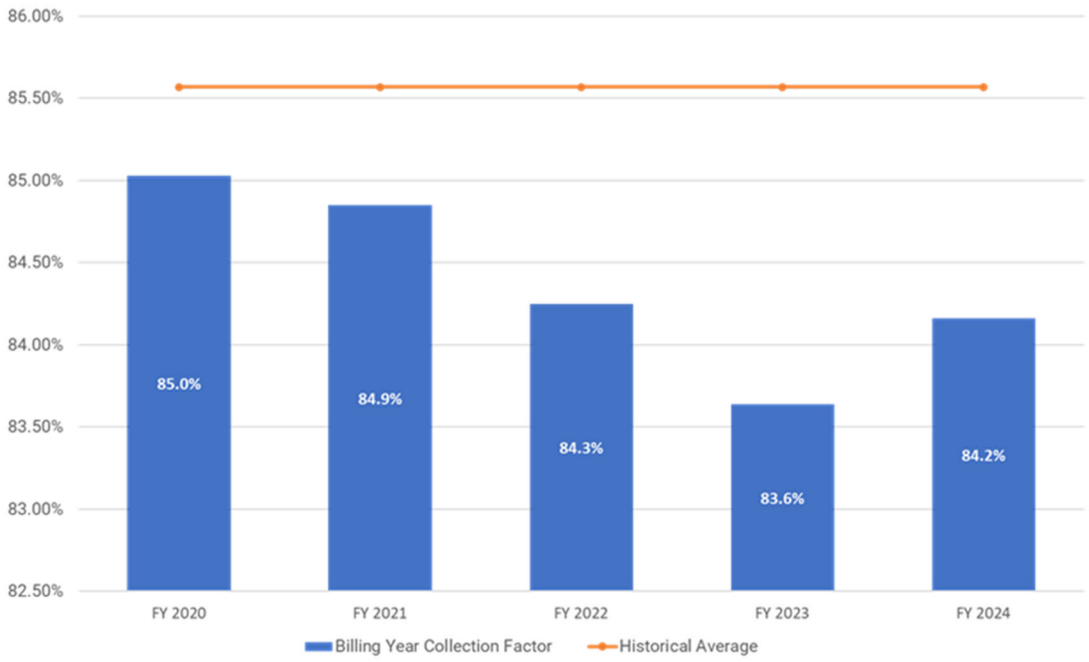


Table ES-1 Tiered Assistance Plan Enrollment and Discounts

	Average Monthly TAP Participants	Total TAP Discounts
FY 2023	14,382	$ 9,039,377
FY 2024	32,660	$ 18,803,906
FY 2025[4]	59,041	$ 37,584,004
FY 2026[5]	60,827	$ 39,900,805

Grant Funded Customer Assistance

The City has seen the end of a number of customer assistance programs since the last rate proceeding[6]. Funding for the following programs ended in FY 2024:

- Low-Income Household Water Assistance Program ("LIHWAP")
- Philadelphia Housing Development Corporation ("PHDC") Rental Assistance
- Debt Collective

From FY 2023 to FY 2024, grant funding support has fallen nearly $5.4 million, with only $3.2 million realized in FY 2024. Only $817,000 in grant funding has been received so far in FY 2025[7].

The loss of available external customer assistance programs for customers puts further financial strain on the Water Fund and presents a future risk to revenue sufficiency. Additional federal funding seems unlikely given current events.

Changes in the Customer Base

As previously discussed, billed water volume continues to decline. Potential changes in customer base over the study period add further pressure to revenues. The Delaware County Regional Water Authority ("DELCORA") previously notified the Water Department of its intention to leave the Wastewater System as a wholesale customer beginning in FY 2029. DELCORA is building its own wastewater treatment facility and expects it to be operational by the time its contract with the Water Department expires in FY 2028. The estimated revenue loss associated with this customer is $11.3 million per year based on current contract rates.

Personnel

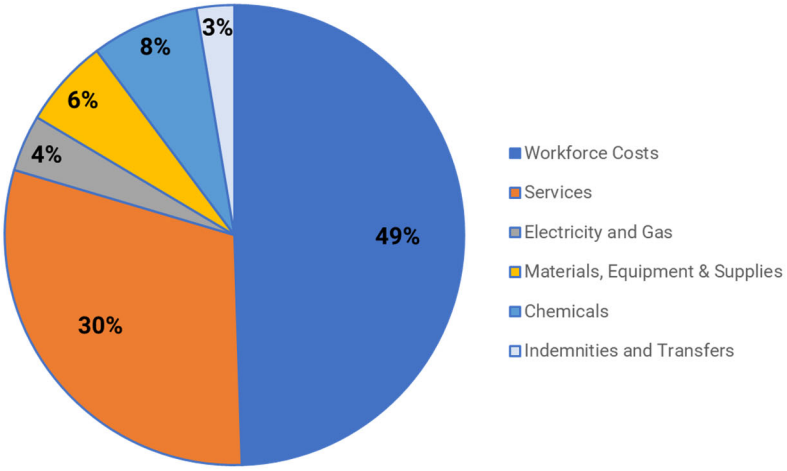
As shown in Figure 1-5, workforce costs are projected to account for 49% of the Water Department's overall operating expenses in FY 2026. These costs include the following:

- Agreed upon FY 2025 wage increases of 5.0% per labor agreement with District Council 33 ("DC33"). Similar wage increases are expected during the Study Period.
- Continuing to transition staff salaries from capital-funded to O&M-funded positions. In FY 2026, approximately $1.9 million of salary costs are expected to shift from capital to O&M.

[4] Estimated - Refer to 2025 TAP-R Annual Adjustment Filing
[5] Projected - Refer to 2025 TAP-R Annual Adjustment Filing
[6] See *PWD Statement 5 – Direct Testimony of Susan M. Crosby and Lakisha Gaymon-Foreman ("the WRB Panel"*
[7] As of November 30, 2024.

- Additional staff to support activities in Water Revenue Bureau, the Rate Board, Planning & Environmental Services, Operations, and PWD Finance. Over the Study Period, additional staffing costs increase from $2.9 million in FY 2026 to $9.6 million in FY 2030.

Figure ES-5 FY 2026 Operating Expense



Purchase of Services

Purchase of services is another significant cost for the Water Department, as it represents 30% of the overall operating expenses in FY 2026. The increase in purchase of services expenses is tied to PWD's inability to promptly fill positions for operations as well as meeting regulatory requirements such as the LTCP and the Lead and Copper Rule are driving the need for the Department to increase Purchase of Services. In addition, chronic maintenance requirements for aging plants in combination with necessary facility replacements also contribute to increasing services costs. Water Department funded purchase of services from other city departments are also increasing for costs associated with the planning and implementation for the new billing system (Department of Technology) and new budget allocations from the City Treasurer which was initiated in FY 2024.

Power and Gas

Wastewater treatment processes are energy intensive. Approximately 50% of the Water Department's power needs and 90% of gas needs are in connection with wastewater treatment. Electricity is estimated to cost the Department $21.4 million in FY 2026, a 6.5% increase over FY 2025. Electricity is expected to increase by an additional 2.7% increase in FY 2027. For gas, the FY 2026 estimates are anticipated to be 1.7% higher than FY 2025, whereas FY 2027 costs are anticipated to increase 4.7% over FY 2026 expenses.

Materials, Supplies and Equipment

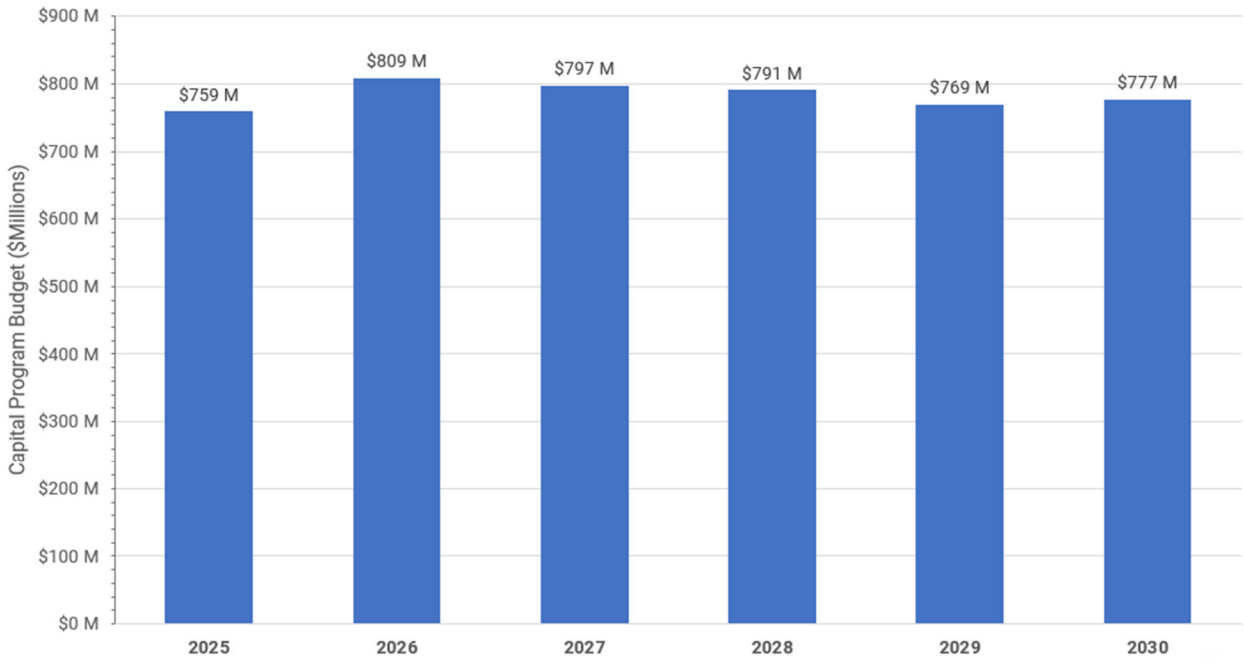
The Water Department continues to see increase in materials and supply pricing. Additional costs related to fleet management are anticipated over the Study Period, with $0.6 million estimated for FY 2026. Increases in estimated equipment purchases total $3.1 million in FY 2026 and continue annually through the Study Period.

Capital Program Needs

Similar to operating expenses, the Water Department's Capital Improvement Program ("CIP") budget has continued to grow to accommodate inflationary pressures as well as the ongoing transition from rehabilitation focused efforts to substantial system replacement and upgrades to major facilities to create resiliency and redundancy as well as the continued expansion of green infrastructure facilities to meet the City's water, sewer and stormwater needs from both a regulatory and service perspective. The current $4.70 billion CIP budget for FY 2025 to FY 2030 is presented in Figure ES-6 7below.

The continued growth of the CIP also means that the Water Department's long-term debt obligations will increase. The Water Department's total debt service payments for the Combined System are estimated to nearly double from $238.4 million in FY 2025 to $403.2 million in FY 2030. To help manage the impact of increased debt service, the Water Department has carefully examined its capital funding policy to ensure that future revenue bond issues more closely track construction spending. In addition, the Water Department continues to seek out low-cost options for funding projects including loans and wherever feasible grant funding, of which $106.7 Million is estimated to support the CIP over the Study Period. 7

Figure ES-6 Capital Improvement Program Budget



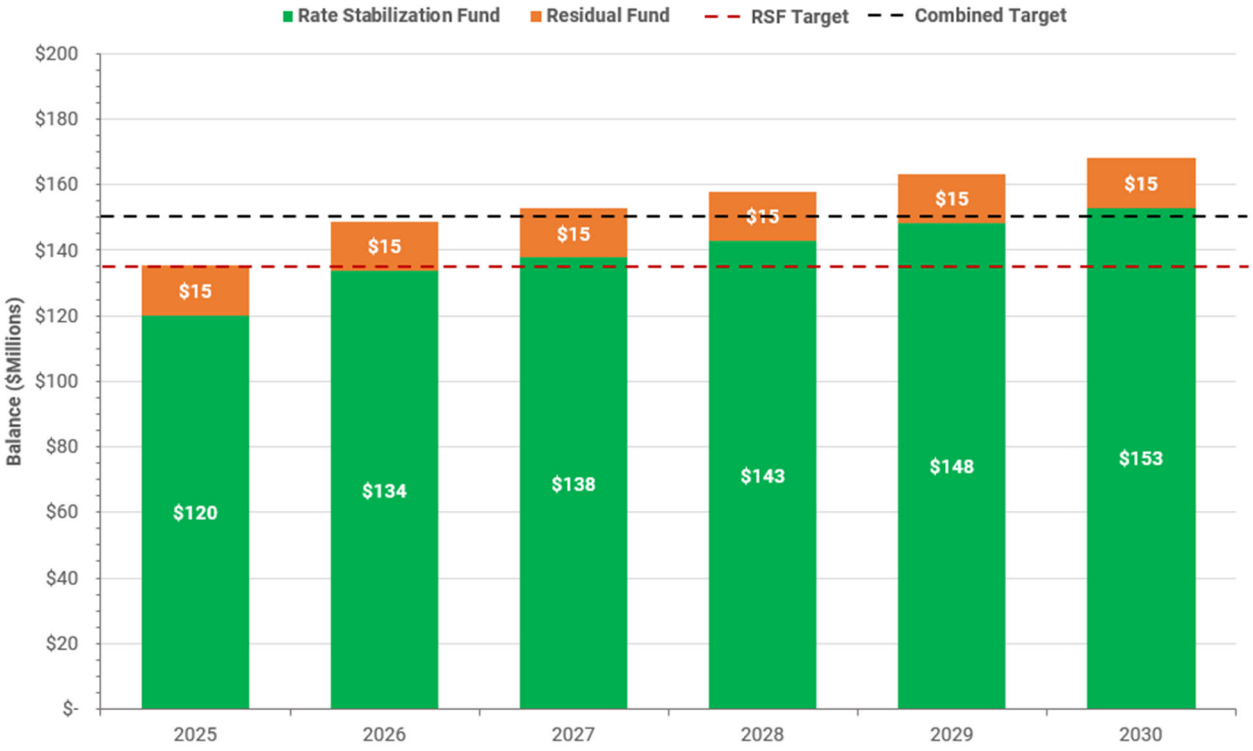
Reduced Liquidity

As previously noted, the Water Department has utilized RSF balance to mitigate rate adjustments in the past. However, PWD cannot meet working capital operational needs and address emergencies without replenishing and maintaining adequate reserves. Use of the RSF in this manner is subject to the 90% Test, meaning that the maximum withdrawal from the RSF is 30% of that year's Debt Service Requirement based on the minimum senior debt service coverage of 1.20. This practice is necessary at times on a short-term basis to assist utilities in managing revenue increases, but best management practices for enterprise fund

utilities (like PWD) require them to be self-supporting based on current revenues, and revenues should at the very least be managed to meet the required debt service coverage.

As noted earlier, PWD cannot continue to rely upon the RSF to meet financial obligations or metrics. Based upon funds currently available in the RSF and planned transfers during the Rate Period, the projected RSF balances would remain around the targeted levels adopted in the 2018 Rate Determination, assuming the proposed rate relief is granted by the Rate Board. Figure ES-8 depicts the overall fund balance performance against the combined RSF and Residual Fund target balance of $150 million.

Figure ES-7 Combined Rate Stabilization and Residual Fund Balance Performance



Proposed Combined System Adjustments

Table ES-2 summarizes the overall annual revenue increases required from Base Rates during the Study Period. The rates proposed for the Water System are based on an increase of 12.30% and 6.90% in FY 2026 and FY 2027, respectively. The rates proposed for the Wastewater System are based on an increase of 8.44% in FY 2026 and 7.58% in FY 2027. The aggregate increase for the Combined System is 10.00% in FY 2026 and 7.30% in FY 2027. As discussed below, the proposed increases are needed to meet future revenue requirements, maintain/improve System infrastructure, meet targeted debt service coverage ratios, maintain fund balances and other relevant financial metrics and ordinance obligations.

Table ES-2 Required Base Rate Service Revenue Adjustments

ADDITIONAL BASE RATE REVENUE REQUIRED			
FISCAL YEAR	WATER	WASTEWATER	COMBINED
2026	12.30%	8.44%	10.00%
2027	6.90%	7.58%	7.30%
2028	8.87%	5.39%	6.83%
2029	5.80%	11.79%	9.26%
2030	10.95%	5.95%	7.99%

Table ES-3 summarizes the additional service revenue required for the Combined System during the Study Period in the context of overall system revenues including both Base Rates and Tiered Assistance Program ("TAP") Rate Rider ("TAP-R") rates[8]. This table summarizes the overall level of total service revenue adjustments required to meet operating and capital financing needs of the Combined System as well as all other legal and financial requirements discussed herein.

[8] Overall Additional Service Revenue Required reflects estimated impact of proposed FY 2024 TAP-R revenues and estimated FY 2024 TAP discounts as presented in the 2023 TAP-R Annual Adjustment Proceeding. A reduction in TAP-R rates is anticipated in FY 2024.

Table ES-3 Required Total Service Revenue Adjustments

ADDITIONAL SERVICE REVENUE REQUIRED	
FISCAL YEAR	COMBINED
2026	10.74%
2027	6.95%
2028	6.52%
2029	8.87%
2030	7.69%

Water, Sanitary Sewer, and Stormwater Typical Bills Under Proposed Rates

The cost-of-service analysis provides the basis for the design of the water and wastewater rate schedules to recover the allocated cost of service from each respective system and service (including stormwater). The proposed rates are consistent with the existing rate structure and no rate structure changes are proposed at this time.

The proposed rates will result in increased bills for most customers. The Typical Bill impacts for Residential, Senior Citizen, and Small Business Customers are shown in Table ES-4 based on the analyses conducted, the adoption of the increased water, sewer, and stormwater rates for FY 2026 and FY 2027 is recommended, as discussed further herein.

This Report does not address the development of the updated Tiered Assistance Program Reconciliation (TAP-R) rates as they are subject to a separate proceeding before the Rate Board. However, this Report does reference the estimated impacts related to TAP discounts and TAP-R revenues, to present overall performance of metrics against the General Bond Ordinance, the Rate Ordinance and approved financial targets.

Table ES-4 Typical Bill Impacts[9]

RESIDENTIAL CUSTOMER[10]

CURRENT		PROPOSED FY2026		PROPOSED FY2027	
Water	$28.98	Water	$32.82	Water	$33.82
Wastewater	$19.57	Wastewater	$22.82	Wastewater	$24.22
Stormwater	$20.41	Stormwater	$21.37	Stormwater	$23.49
Service	$12.81	Service	$14.30	Service	$15.15
	$81.77		**$91.31**		**$96.68**
			11.7% increase		*5.9% increase*

SENIOR CITIZEN WITH DISCOUNT[11]

CURRENT		PROPOSED FY2026		PROPOSED FY2027	
Water	$20.22	Water	$22.90	Water	$23.60
Wastewater	$13.65	Wastewater	$15.92	Wastewater	$16.90
Stormwater	$20.41	Stormwater	$21.37	Stormwater	$23.49
Service	$12.81	Service	$14.30	Service	$15.15
Discount	(-$16.77)	Discount	(-$18.62)	Discount	(-$19.79)
	$50.32		**$55.87**		**$59.35**
			11.0% increase		*6.2% increase*

SMALL BUSINESS CUSTOMER[12]

CURRENT		PROPOSED FY2026		PROPOSED FY2027	
Water	$37.07	Water	$41.98	Water	$43.26
Wastewater	$25.03	Wastewater	$29.18	Wastewater	$30.98
Stormwater	$62.47	Stormwater	$65.03	Stormwater	$71.53
Service	$12.81	Service	$14.30	Service	$15.15
	$137.38		**$150.49**		**$160.92**
			9.5% increase		*6.9% increase*

[9] *Current* figures reflect the existing base and current TAP-R rates, of $*3.08*/Mcf for water and $*4.40*/Mcf for sewer. FY 2026 and FY 2027 figures reflect the proposed base rates for each respective fiscal year and the proposed TAP-R rates, of $*3.87*/Mcf for water and $*5.67*/Mcf for sewer. The TAP-R Rates are subject to annual reconciliation under a separate parallel proceeding before the Rate Board.

[10] "Typical" residential account with 5/8" meter using 4.3 hundred cubic feet of water monthly.

[11] "Typical" senior citizen discounted bill account with 5/8" meter using 3 hundred cubic feet of water monthly. Bill amounts reflect a 25% discount on all fees and charges.

[12] "Typical" small business account with 5/8" meter using 5.5 hundred cubic feet of water monthly and a parcel with a gross area of 5,500 square feet and impervious area of 4,000 square feet.

The Combined System Operating Results

Table ES-5,Table ES-6, and Table ES-7 illustrate the Combined System Projected Revenue and Revenue Requirements during the Study Period for the Base Rates excluding TAP-R Surcharge Rates, just the TAP-R Surcharge Rates, and Base Rates with TAP-R Surcharge Rates, respectively. The proposed rates, coupled with planned use of the available RSF balance in FY 2026 and FY 2027, presented in this Report allows the Combined System to meet projected revenue requirements, fulfill the bond coverage and other ordinance requirements, and maintain the target fund balance for the Residual Fund. For this analysis, an effective increase date of September 1st for each fiscal year is assumed.

Table ES-8 summarizes the Combined System performance with respect to the General Bond Ordinance requirements and presents the projected RSF balances over the Study Period. This table also summarizes performance with respect to the Rate Ordinance requirements. The proposed rates presented in this Report are necessary (i) to meet the Combined System's projected revenue requirements, (ii) transition to targeted metrics for debt service coverage, pay-go funding and RSF balances, and (iii) meet other legal/regulatory requirements.

For the Rate Period, the Water Department is proposing revenue adjustments that will allow meeting interim senior debt coverage targets to help address customer affordability impacts.

[*This spacing is intentional*]

Table ES-5 Projected Revenue and Revenue Requirements: Base Rates Only [Schedule BV-1: Table C-1A]

LINE NO.	DESCRIPTION			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)									
Operating Revenues									
1	Water Service - Existing Rates			360,384	365,313	362,873	359,609	357,815	356,225
2	Wastewater Service - Existing Rates			529,333	538,149	536,504	533,635	520,326	518,523
3	**Total Service Revenue - Existing Rates**			**889,717**	**903,462**	**899,377**	**893,245**	**878,141**	**874,748**
	Additional Service Revenue Required								
	Year	Percent Increase	Months Effective						
4	FY 2026	10.00%	10		73,630	89,938	89,324	87,814	87,475
5	FY 2027	7.30%	10			58,858	71,728	70,515	70,242
6	FY 2028	6.83%	10				58,668	70,771	70,497
7	FY 2029	9.26%	10					83,553	102,126
8	FY 2030	7.99%	10						78,514
9	**Total Additional Service Revenue Required**			**-**	**73,630**	**148,795**	**219,720**	**312,653**	**408,855**
10	**Total Water & Wastewater Service Revenue**			**889,717**	**977,092**	**1,048,172**	**1,112,965**	**1,190,794**	**1,283,603**
	Other Income (a)								
11	Other Operating Revenue			29,644	29,726	29,624	29,533	29,486	29,438
12	Debt Reserve Account Interest Income			82	394	930	1,993	3,406	4,719
13	Operating Fund Interest Income			3,650	3,926	4,043	4,132	4,242	4,376
14	Rate Stabilization Interest Income			2,619	2,659	2,772	2,870	2,987	3,105
15	**Total Revenues**			**925,711**	**1,013,797**	**1,085,541**	**1,151,493**	**1,230,914**	**1,325,240**
Operating Expenses									
16	**Total Operating Expenses**			**(638,475)**	**(678,707)**	**(713,789)**	**(739,978)**	**(767,409)**	**(795,504)**
Net Revenues									
17	Transfer From/(To) Rate Stabilization Fund			3,000	(7,000)	(4,300)	(5,500)	(6,200)	(5,600)
18	**NET REVENUES AFTER OPERATIONS**			**290,237**	**328,091**	**367,452**	**406,015**	**457,305**	**524,137**
Debt Service									
	Senior Debt Service								
19	Outstanding Bonds			(220,303)	(231,843)	(231,844)	(218,499)	(209,623)	(210,974)
20	PENNVEST Loans			(16,412)	(24,506)	(31,321)	(36,294)	(39,100)	(40,437)
21	Projected Future Bonds			(0)	-	(16,667)	(54,771)	(100,294)	(149,015)
22	Commercial Paper			(1,349)	(1,349)	(1,349)	(1,349)	(1,349)	(1,349)
23	WIFIA			(356)	(593)	(1,407)	(1,407)	(1,407)	(1,407)
24	**Total Senior Debt Service**			**(238,420)**	**(258,292)**	**(282,588)**	**(312,319)**	**(351,773)**	**(403,182)**
25	**TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)**			**1.21 x**	**1.27 x**	**1.30 x**	**1.30 x**	**1.30 x**	**1.30 x**
26	Subordinate Debt Service			-	-	-	-	-	-
27	Transfer to Escrow			-	-	-	-	-	-
28	**Total Debt Service on Bonds**			**(238,420)**	**(258,292)**	**(282,588)**	**(312,319)**	**(351,773)**	**(403,182)**
29	**CAPITAL ACCOUNT DEPOSIT**			**(34,362)**	**(36,290)**	**(38,326)**	**(40,477)**	**(42,749)**	**(45,147)**
30	**TOTAL COVERAGE (L18/(L24+L26+L29))**			**1.06 x**	**1.11 x**	**1.14 x**	**1.15 x**	**1.15 x**	**1.16 x**
31	End of Year Revenue Fund Balance			17,455	33,509	46,538	53,219	62,783	75,807

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(b) Transfer of interest earnings from the Debt Reserve Account to the Residual Fund as shown in Line 35 to satisfy the requirements for the transfer to the City General Fund shown on Line 37.

(c) FY 2025 beginning balance is estimated based on preliminary FY 2024 results.

Table ES-6 Projected Revenue and Revenue Requirements: TAP-R Rates Only [Schedule BV-1: Table C-1B]

LINE NO.	DESCRIPTION			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)									
Operating Revenues									
1	Water Service - Existing Rates			11,733	15,549	15,977	15,874	15,785	15,707
2	Wastewater Service - Existing Rates			16,658	21,983	22,577	22,428	22,301	22,189
3	**Total Service Revenue - Existing Rates**			**28,392**	**37,532**	**38,554**	**38,302**	**38,086**	**37,897**
	Additional Service Revenue Required								
	Year	Percent Increase	Months Effective						
4	FY 2026	27.82%	10		8,749	10,499	10,499	10,499	10,499
5	FY 2027	0.00%	10			-	-	-	-
6	FY 2028	0.00%	10				-	-	-
7	FY 2029	0.00%	10					-	-
8	FY 2030	0.00%	10						-
9	**Total Additional Service Revenue Required**			**-**	**8,749**	**10,499**	**10,499**	**10,499**	**10,499**
10	**Total Water & Wastewater Service Revenue**			**28,392**	**46,281**	**49,052**	**48,801**	**48,584**	**48,396**
	Other Income								
11	Other Operating Revenue (a)			(37,585)	(39,869)	(49,264)	(49,264)	(49,264)	(49,264)
12	Debt Reserve Account Interest Income			-	-	-	-	-	-
13	Operating Fund Interest Income			-	-	-	-	-	-
14	Rate Stabilization Interest Income			-	-	-	-	-	-
15	**Total Revenues**			**(9,193)**	**6,412**	**(212)**	**(463)**	**(680)**	**(869)**
Operating Expenses									
16	**Total Operating Expenses**			**-**	**-**	**-**	**-**	**-**	**-**
Net Revenues									
17	Transfer From/(To) Rate Stabilization Fund (b)			9,193	(6,412)	212	463	680	869
18	**NET REVENUES AFTER OPERATIONS**			**-**	**-**	**-**	**-**	**-**	**-**
Debt Service									
	Senior Debt Service								
19	Outstanding Bonds			-	-	-	-	-	-
20	PENNVEST Loans			-	-	-	-	-	-
21	Projected Future Bonds			-	-	-	-	-	-
22	Commercial Paper			-	-	-	-	-	-
23	WIFIA			-	-	-	-	-	-
24	**Total Senior Debt Service**			**-**	**-**	**-**	**-**	**-**	**-**
25	**TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)**			**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
26	Subordinate Debt Service			-	-	-	-	-	-
27	Transfer to Escrow			-	-	-	-	-	-
28	**Total Debt Service on Bonds**			**-**	**-**	**-**	**-**	**-**	**-**
29	**CAPITAL ACCOUNT DEPOSIT**			**-**	**-**	**-**	**-**	**-**	**-**
30	**TOTAL COVERAGE (L18/(L24+L26+L29))**			**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
31	End of Year Revenue Fund Balance			-	-	-	-	-	-

(a) FY 2025 and FY 2026 reflect TAP Credits based on the proposed 2025 Annual TAP-R Adjustment Filing.
FY 2027 and onward reflect the TAP-R revenue reqruirement based on the proposed 2025 TAP-R Reconciliation.

(b) Rate Stabilization Fund transfers necessary to meet over or under recovery of TAP costs until recovery is reconciled via TAP-R reconciliation.

Table ES-7 Projected Revenue and Revenue Requirements: Base Rates and TAP-R Rates [Schedule BV-1: Table C-1]

LINE NO.	DESCRIPTION			FY 2025	FY 2026	FY 2027	Projected FY 2028	FY 2029	FY 2030
Combined System ($000s)									
Operating Revenues									
1	Water Service - Existing Rates			372,118	380,862	378,850	375,484	373,600	371,932
2	Wastewater Service - Existing Rates			545,992	560,132	559,080	556,063	542,627	540,713
3	**Total Service Revenue - Existing Rates**			**918,109**	**940,994**	**937,930**	**931,547**	**916,227**	**912,645**
	Additional Service Revenue Required								
		Year	Percent Increase	Months Effective					
4		FY 2026	10.74%	10		82,379	100,436	99,823	98,313	97,973
5		FY 2027	6.95%	10			58,858	71,728	70,515	70,242
6		FY 2028	6.52%	10				58,668	70,771	70,497
7		FY 2029	8.87%	10					83,553	102,126
8		FY 2030	7.69%	10						78,514
9	**Total Additional Service Revenue Required**			**-**	**82,379**	**159,294**	**230,219**	**323,151**	**419,354**
10	**Total Water & Wastewater Service Revenue**			**918,109**	**1,023,373**	**1,097,224**	**1,161,766**	**1,239,379**	**1,331,999**
	Other Income (a)								
11	Other Operating Revenue			(7,941)	(10,143)	(19,640)	(19,731)	(19,779)	(19,826)
12	Debt Reserve Account Interest Income			82	394	930	1,993	3,406	4,719
13	Operating Fund Interest Income			3,650	3,926	4,043	4,132	4,242	4,376
14	Rate Stabilization Interest Income			2,619	2,659	2,772	2,870	2,987	3,105
15	**Total Revenues**			**916,518**	**1,020,209**	**1,085,329**	**1,151,029**	**1,230,235**	**1,324,372**
Operating Expenses									
16	**Total Operating Expenses**			**(638,475)**	**(678,707)**	**(713,789)**	**(739,978)**	**(767,409)**	**(795,504)**
Net Revenues									
17	Transfer From/(To) Rate Stabilization Fund			12,193	(13,412)	(4,088)	(5,037)	(5,520)	(4,731)
18	**NET REVENUES AFTER OPERATIONS**			**290,237**	**328,091**	**367,452**	**406,015**	**457,305**	**524,137**
Debt Service									
	Senior Debt Service								
	Revenue Bonds								
19	Outstanding Bonds			(220,303)	(231,843)	(231,844)	(218,499)	(209,623)	(210,974)
20	PENNVEST Loans			(16,412)	(24,506)	(31,321)	(36,294)	(39,100)	(40,437)
21	Projected Future Bonds			(0)	-	(16,667)	(54,771)	(100,294)	(149,015)
22	Commercial Paper			(1,349)	(1,349)	(1,349)	(1,349)	(1,349)	(1,349)
23	WIFIA			(356)	(593)	(1,407)	(1,407)	(1,407)	(1,407)
24	**Total Senior Debt Service**			**(238,420)**	**(258,292)**	**(282,588)**	**(312,319)**	**(351,773)**	**(403,182)**
25	**TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)**			**1.21 x**	**1.27 x**	**1.30 x**	**1.30 x**	**1.30 x**	**1.30 x**
26	Subordinate Debt Service			-	-	-	-	-	-
27	Transfer to Escrow			-	-	-	-	-	-
28	**Total Debt Service on Bonds**			**(238,420)**	**(258,292)**	**(282,588)**	**(312,319)**	**(351,773)**	**(403,182)**
29	**CAPITAL ACCOUNT DEPOSIT**			**(34,362)**	**(36,290)**	**(38,326)**	**(40,477)**	**(42,749)**	**(45,147)**
30	**TOTAL COVERAGE (L18/(L24+L26+L29))**			**1.06 x**	**1.11 x**	**1.14 x**	**1.15 x**	**1.15 x**	**1.16 x**
31	**End of Year Revenue Fund Balance**			**17,455**	**33,509**	**46,538**	**53,219**	**62,783**	**75,807**

Table ES-7 Projected Revenue and Revenue Requirements: Base Rates and TAP-R Rates (continued)

LINE NO.	DESCRIPTION	FY 2025	Projected FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)							
Residual Fund							
32	Beginning of Year Balance	30,847	15,018	15,031	15,052	15,096	15,072
33	Interest Income	454	298	298	298	299	298
	Plus:						
34	End of Year Revenue Fund Balance	17,455	33,509	46,538	53,219	62,783	75,807
35	Deposit for Transfer to City General Fund (b)	4,994	4,994	4,994	4,994	4,994	4,994
	Less:						
36	Transfer to Construction Fund	(29,300)	(25,700)	(40,000)	(48,500)	(60,300)	(74,800)
37	Transfer to City General Fund	(4,994)	(4,994)	(4,994)	(4,994)	(4,994)	(4,994)
38	Transfer to Debt Reserve Account	(4,438)	(8,094)	(6,815)	(4,973)	(2,806)	(1,337)
39	**End of Year Balance**	**15,018**	**15,031**	**15,052**	**15,096**	**15,072**	**15,040**
Rate Stabilization Fund							
40	Beginning of Year Balance (c)	132,438	120,245	133,657	137,745	142,781	148,301
41	Deposit From/(To) Revenue Fund	(12,193)	13,412	4,088	5,037	5,520	4,731
42	**End of Year Balance**	**120,245**	**133,657**	**137,745**	**142,781**	**148,301**	**153,033**

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund and reflects projected contra revenue credits for Affordability Program Discounts (TAP Costs).

(b) Transfer of interest earnings from the Debt Reserve Account to the Residual Fund as shown in Line 35 to satisfy the requirements for the transfer to the City General Fund shown on Line 37.

(c) FY 2025 beginning balance is estimated based on preliminary FY 2024 results.

[*This spacing is intentional*]

Table ES-8 Projected Rate Stabilization Fund and Covenants Metrics Performance: Base Rates and TAP-R Rates [Schedule BV-1: Table C-2]

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Rate Stabilization Fund							
1	Beginning Balance: Rate Stabilization Fund (a)	$ 132,438	$ 120,245	$ 133,657	$ 137,745	$ 142,781	$ 148,301
2	Transfers From (To) Revenue Fund (b)	(12,193)	13,412	4,088	5,037	5,520	4,731
3	Year-End Rate Stabilization Fund Balance (Line 1 + Line 2)	120,245	133,657	137,745	142,781	148,301	153,033
General Bond Ordinance Covenants							
4	Senior Debt Coverage (c)	1.21	1.27	1.30	1.30	1.30	1.30
5	Total Debt Coverage (d)	1.06	1.11	1.14	1.15	1.15	1.16
6	90% Test - Senior Debt Coverage from Current Revenues (e)	1.16	1.27	1.30	1.30	1.30	1.30
O&M Actual to Budget Ratio							
7	Projected O&M Budget (f)	732,773	777,712	815,837	846,032	877,609	910,060
8	O&M Actual to Budget Ratio	92.8%	92.9%	93.0%	93.0%	93.0%	93.0%
Rate Ordinance Requirements							
9	Projected Total Revenues	916,518	1,020,209	1,085,329	1,151,029	1,230,235	1,324,372
10	Projected Total Appropriations (g)	1,023,010	1,112,803	1,187,589	1,257,547	1,341,114	1,439,797
11	Rate Ordinance Requirement Compliance (h)	Yes	Yes	Yes	Yes	Yes	Yes
Cash Funding							
12	Cash Funded Capital (i)	63,662	61,990	78,326	88,977	103,049	119,947
13	Capital Improvement Program Annual Expenses	$ 406,863	$ 511,975	$ 596,833	$ 671,342	$ 711,252	$ 754,590
14	Cash Funded Capital Ratio (j)	15.6%	12.1%	13.1%	13.3%	14.5%	15.9%

(a) FY 2025 beginning balance is estimated based on FY 2024 preliminary financial results.
(b) See Line 17 in Table 2-11.
(c) Senior Debt Coverage = (Total Revenues - Operating Expenses + Transfer From (to) Rate Stabilization) divided by Senior Debt. The General Bond Ordinance requires the minimum Senior Debt Service Coverage of 1.20.
(d) Total Debt Coverage = (Total Revenues - Operating Expenses + Rate Stabilization Transfer) divided by (Senior Debt + Subordinate Debt + Capital Account Deposit). The 1989 General Ordinance requires the minimum Total Debt Service Coverage of 1.00.
(e) Senior Debt Coverage from Current Revenues = (Total Revenues - Operating Expenses - Transfer to Rate Stabilization Fund) divided by Senior Debt. Transfers from Rate Stabilization are excluded from the Total Revenues. The General Bond Ordinance requires a minimum Senior Debt Service Coverage of 0.90 from Current Revenues.
(f) FY 2025 budget reflects the PWD adopted budget; FY 2026 through FY 2030 budget reflects annual cost escalation factors.
(g) Total Appropriation = Total O&M Budget + Senior Debt + Subordinate Debt + Transfer to Escrow + Capital Account Deposit + Transfer to Rate Stabilization Fund + Transfer to Residual Fund. Costs to service the City included as required by the General Bond Ordinance rate covenants.
(h) Rate Ordinance requires that Total Revenues not exceed Total Appropriations.
(i) Cash Funded Capital = Capital Account Deposit + Residual Transfer to Construction Fund
(j) Cash Funded Capital Ratio = Cash Funded Capital divided by Capital Improvement Program annual expenses.

Managing Bill Impacts

To help manage customer bill impacts and still meet financial obligations, the Water Department has proposed the following actions for the Rate Period:

1. Temporarily reduce the Stormwater Management Incentive Program/Greened Acre Retrofit Program budget to $15 million for FY 2025 and FY 2026;
2. Set rates to meet interim senior debt service coverage requirement of 1.27x in FY 2026 and then meet the target requirement of 1.30x by FY 2027 in alignment with the 2018 Rate Determination;
3. Leaving Rate Stabilization Fund to just below the target $135 million target in FY 2026 as approved in the 2018 Rate Determination, and then begin to build further reserves from there;
4. Defer the 20% cash funding target for capital projects; and
5. Forego a bond issuance in FY 2026.

The Water Department along with the City continue to work on expanding access to customer assistance programs including TAP. With this filing, the Water Department is also proposing to increase the Senior Discount Income Threshold, which may increase access to reduced bills for eligible seniors.

Consequences of Inadequate Rate Relief

The above narrative highlights the Water Department's current deteriorating financial conditions. Should the proposed levels of revenue adjustments not be approved, then the Water Department will experience financial deficits in FY 2026 and FY 2027, which would negatively impact PWD's ability to pay its bills and sustain utility services. Additionally, absent rate relief PWD would likely be forced to make cost reductions that would adversely impact service levels and may impede its the ability to meet regulatory requirements.

The following is a list of potential risks that the Water Department may face absent rate relief.

1. PWD would not have sufficient resources to sustain operations and to meet rising costs. Projected total operating costs[13] are $52.3 million higher in FY 2025 compared to actual FY 2024.
    a. Personnel-related costs are $19.5 million or 6.0% higher in FY 2025 over FY 2024.
    b. Vendor and supplier pricing increases in critical areas such as power and gas, materials/supplies, and chemicals are projected to grow $15.4 million in FY 2025 over FY 2024 levels.
    c. Contract Services costs are projected to increase $20.9 million in FY 2025 over FY 2024 levels.
2. PWD would not have sufficient resources to fund capital improvements.
    a. Extending the CIP schedule further would run the risk of increasing the occurrence of infrastructure failures and not being able to meet regulatory requirements, including those in the COA.
    b. The Water Department continues to find low-cost financing options to fund the CIP. However, the growing CIP means that debt obligations are projected to increase from $238.4 million in FY 2025 to $403.2 million in FY 2030.
3. The RSF would be fully depleted by the end of FY 2027 absent rate relief. There would be no financial reserves in the event of an emergency or severe weather event.
4. Also, without rate relief, the Water Department's performance against financial metrics and targets will likely result in the following:
    a. The 90% Test would not be met beginning in FY 2027.
    b. Senior Debt Service Coverage would not be met in FY 2027; and
    c. The RSF balance targets would not be maintained in FY 2026 and would be depleted by the end of FY 2027.

[13] Prior to liquidated encumbrances.

1.0 Introduction

The City of Philadelphia ("City") owns, operates, maintains, repairs, and improves the water system ("Water System") and wastewater system ("Wastewater System") serving the City and 10 wholesale wastewater contract customers and one wholesale water contract customer, as a self-supporting enterprise fund utility. Collectively, the Water System and the Wastewater System are known as the "Water and Wastewater Systems," "the System," or the "Combined System."

On April 17, 1951, the Philadelphia Home Rule Charter (the "Charter") established the Philadelphia Water Department ("PWD" or the "Water Department") as one of the City's ten operating departments. The Water Department is responsible for the planning, construction, operation, and maintenance of the Water and Wastewater Systems; for complying with regulatory requirements; for rate setting and stakeholder engagement; budgeting and detailed cost accounting; and preparation of financial statements for the System. The City's combined Annual Comprehensive Financial Report ("ACFR") includes the data from the Water Department's annual financial statements.

Section 5-800 of the Charter conveys the authority to the Water Department to operate the Water and Wastewater System. In addition, Section 5-801 authorizes the regulation of rates and charges for utility services. In November 2012, Philadelphia voters approved an amendment to the Charter to allow Philadelphia City Council ("City Council") to establish, by ordinance, an independent ratemaking board responsible for fixing and regulating rates and charges for water, sanitary sewer, and stormwater services. Consistent with the foregoing, City Council enacted, effective January 20, 2014, Ordinance 130251-A (the "Rate Ordinance") which created the Philadelphia Water, Sewer, and Storm Water Rate Board (the "Rate Board") and prescribed certain rate-making standards.

The Water Revenue Bureau ("WRB"), which is a division within the City's Revenue Department, is responsible for billing, collection, and customer accounting for the Water and Wastewater Systems. Functions such as customer care and delinquent enforcement are joint responsibilities of the Water Department and the WRB. The City's Revenue Commissioner oversees the activities of the WRB. The City's Finance Director has the ultimate oversight of the WRB.

The Water Commissioner, who is appointed by the City's Managing Director with approval of the Mayor, leads the Water Department. In June 2019, the City appointed Mr. Randy Hayman as Water Commissioner. Mr. Hayman is an environmental attorney and prior to his appointment as Commissioner, he served as a partner at Beveridge & Diamond, and as an attorney for the District of Columbia Water and Sewer Authority and the Metropolitan St. Louis Sewer District.

Under the Rate Ordinance, the Rate Board is responsible for setting and regulating rates and charges for supplying water, sewer, and stormwater services.

1.1 Purpose

At the direction of the Water Department, Black & Veatch Management Consulting, LLC ("Black & Veatch") conducted a comprehensive rates, fees, and charges cost of service ("COS") study (the "Report"). The purpose of this Report is (1) to project and examine the future operating and capital financing requirements of the utilities and the ability of existing rates to recover the requirements, and (2) to develop rates and charges to recover these revenue requirements.

In conducting these analyses and in forming an opinion of the projection of future financial operations summarized in this Report, Black & Veatch made certain assumptions on the conditions, events, and circumstances that may occur in the future. The methodology utilized in performing the analyses follows generally accepted practices for such projections. Such assumptions and methodologies are reasonable and appropriate for the purpose for which they are used. While we believe the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that occur. Such factors may include the utilities' ability to execute the capital improvement program as scheduled and within budget, regional climate and weather conditions affecting the demand for water, discharge of wastewater flow and adverse legislative, regulatory, or legal decisions (including environmental laws and regulations) affecting the utilities' ability to manage the system and meet water quality requirements.

1.2 Scope of Work

This Report presents the results of a comprehensive study of projected revenue requirements, cost of service, and proposed rates and charges for water, sanitary sewer, and stormwater service. Revenue and revenue requirements cover the Study Period beginning July 1, 2024 and ending June 30, 2030 (the "Study Period"). The analyses recognize growth patterns and water consumption patterns throughout the Water Department's service territory. The Water Department authorized the comprehensive study to assess the Water and Wastewater Systems' ability to meet current and future anticipated financial obligations and to develop a financing plan and proposed rates sufficient to fund operations and support capital financing needs.

The cost-of-service analysis conducted herein utilizes a cost-causative approach endorsed by the American Water Works Association's ("AWWA") Principles of Water Rates, Fees, and Charges Manual of Water Supply Practices M1, 7th Edition ("M1 Manual") and Water Environment Federation's ("WEF") Financing and Charges for Wastewater Systems, 4th Edition, Manual of Practice ("MoP") No. 27; as well as WEF's User Fee Funded Stormwater Programs manual. These allocation methodologies produce cost of service allocations recognizing the projected customer service requirements for the City. Proposed rates are designed in accordance with allocated cost of service and local policy considerations.

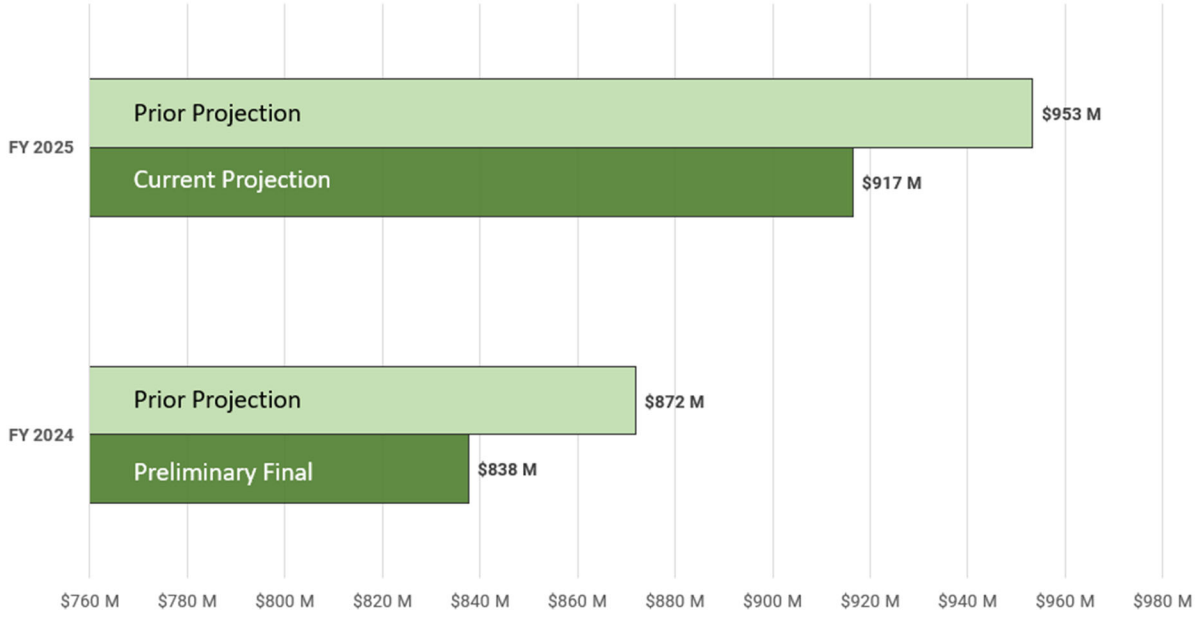
As part of the Water Department's 2025 Rate Filing ("Rate Filing"), the Water Department, Black & Veatch, and others produced several documents included as schedules and exhibits supporting the Rate Filing. This Report reflects a compilation of these documents, and cross-references to the appropriate testimony, schedules, and exhibits are noted to facilitate the review of the Rate Filing and this Report.

1.3 Revenue Pressures, Mediocre Metrics, Operating Increases and Capital Needs

1.3.1 Revenues

As illustrated in Figure 1-1, the Water Department's revenues in FY 2024 were $34.3 million (or -3.93%) lower than projections utilized in establishing in the 2023 Rate Determination[14]. Further, current projections indicate that FY 2025 revenues will be $36.8 million (or 3.86%) lower than prior projections. The reduction in revenues has required budget reductions in FY 2025, close monitoring of overall expenses, reduced debt service coverage and use of financial reserves more than initially planned.

Figure 1-1 FY 2024 and FY 2025 Revenue Projection Comparisons



1.3.2 Metrics and Reserves

Rates for FY 2024 and FY 2025 were designed based upon targeted debt service coverage of 1.25x. However, in FY 2024 debt service coverage was only 1.22x and currently projected to be 1.21x in FY 2025. Attaining only this lower target in FY 2025 is anticipated to lead to a $12.2 million withdrawal from the Rate Stabilization Fund ("RSF").

The RSF fund had a beginning year balance of $132.4 million in FY 2025 and is projected to end FY 2025 at approximately $120.2 million. Since 2017, the Water Department has utilized the RSF to manage rates, meet financial metrics and aid in capital funding, drawing down reserves as shown in Figure 1-2.

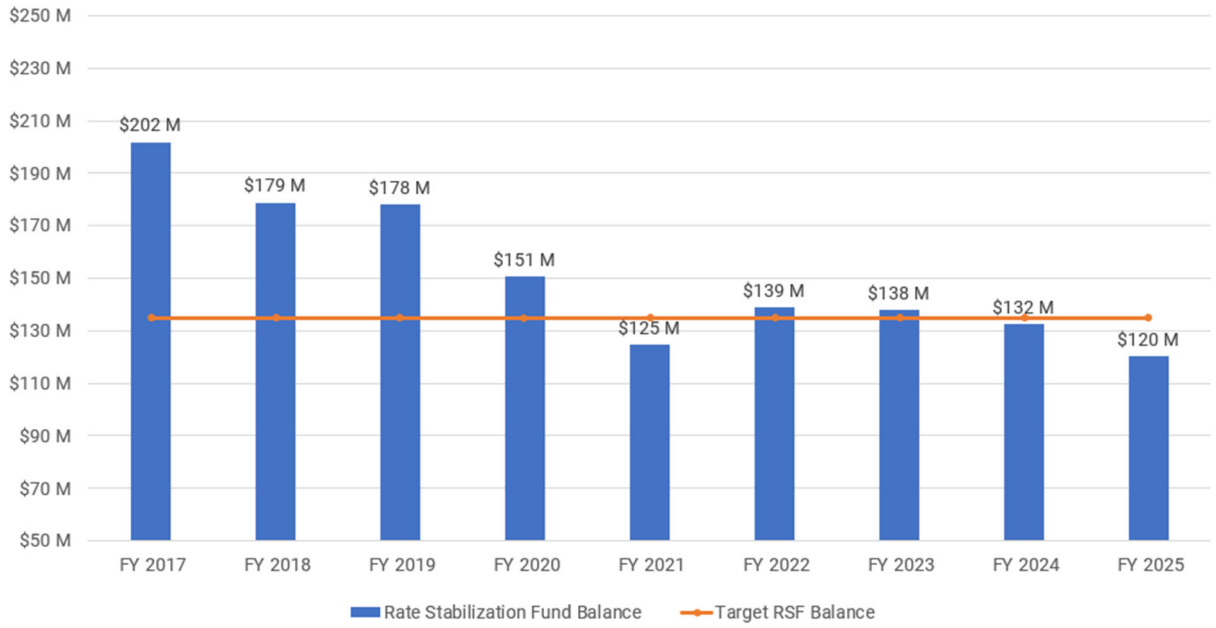
While this practice is reasonable on a limited basis, it is not a sustainable solution for maintaining a utility's financial position. Use of the RSF in this manner is subject to the 90% Test, meaning that the maximum withdrawal from the RSF is 30% of that year's Debt Service Requirement based on the minimum senior debt service coverage of 1.20. This practice is necessary at times on a short-term basis to assist utilities in managing revenue increases, but best management practices for enterprise fund

[14] See PWD *Statement 2A – Direct Testimony of Lawrence Yangalay, Lawrence Rich, and Patricia Rogalski (the "Finance Panel")*,

utilities (like PWD) require them to be self-supporting based on current revenues, and revenues should at the very least be managed to meet the required debt service coverage.

The Water Department has used RSF monies where possible to help mitigate the impact of revenue adjustments on customers in the past (when RSF balances were higher). However, based upon the current available RSF balances and the transfers projected during the Rate Period, RSF reserves are projected to remain below previously approved targeted levels during FY 2026. Given current projections, the Water Department does not anticipate having any funding available to help mitigate revenue adjustments during the Rate Period.

Figure 1-2 Rate Stabilization Fund Use FY 2017 to Present



1.3.3 Ongoing Revenue Pressures

A number of factors continue to weigh on the Department's revenues, including:

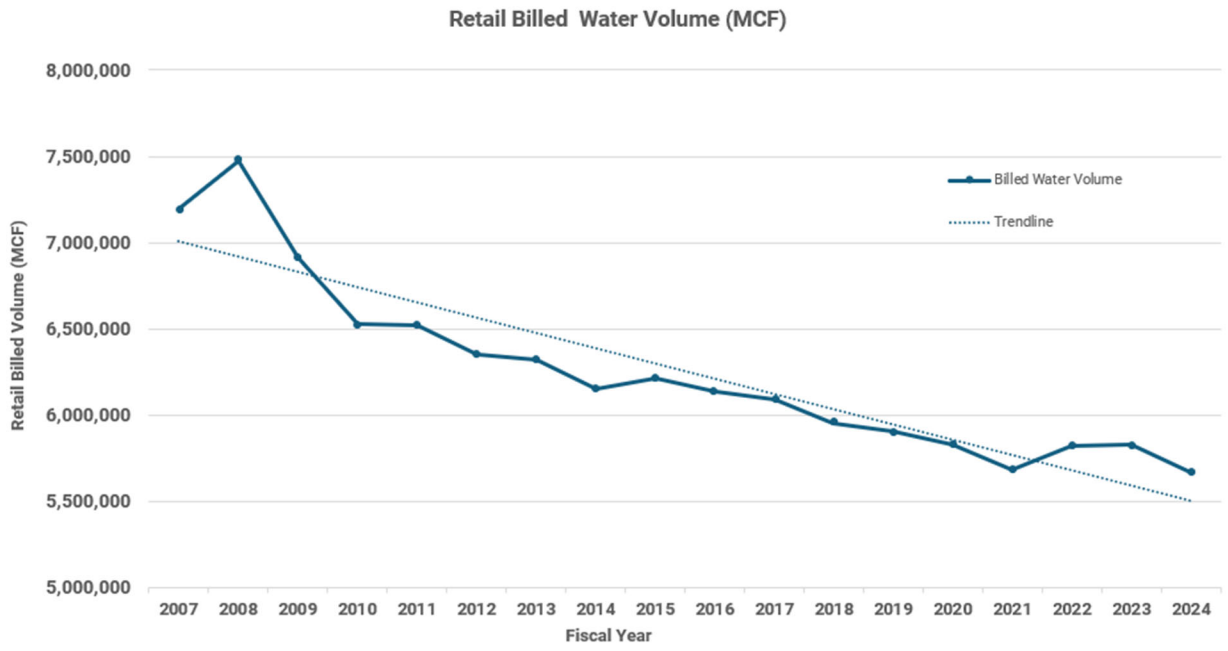
1. Continued decline in billed water volume;
2. Reduced collections; and
3. Increased TAP enrollment levels and a lag in associated recovery of TAP discounts.

The above items make up a significant portion of the reduction in revenues the Water Department has recently and continues to experience.

1.3.3.1 Billed Water Volume

Reductions in billed volume is an ongoing trend that is readily observable, as exhibited in the Water Department's billing data. Figure 1-3 provides a high-level look at the change in billed water volume from FY 2007 through FY 2024.

Figure 1-3 Historical Billed Water Volume

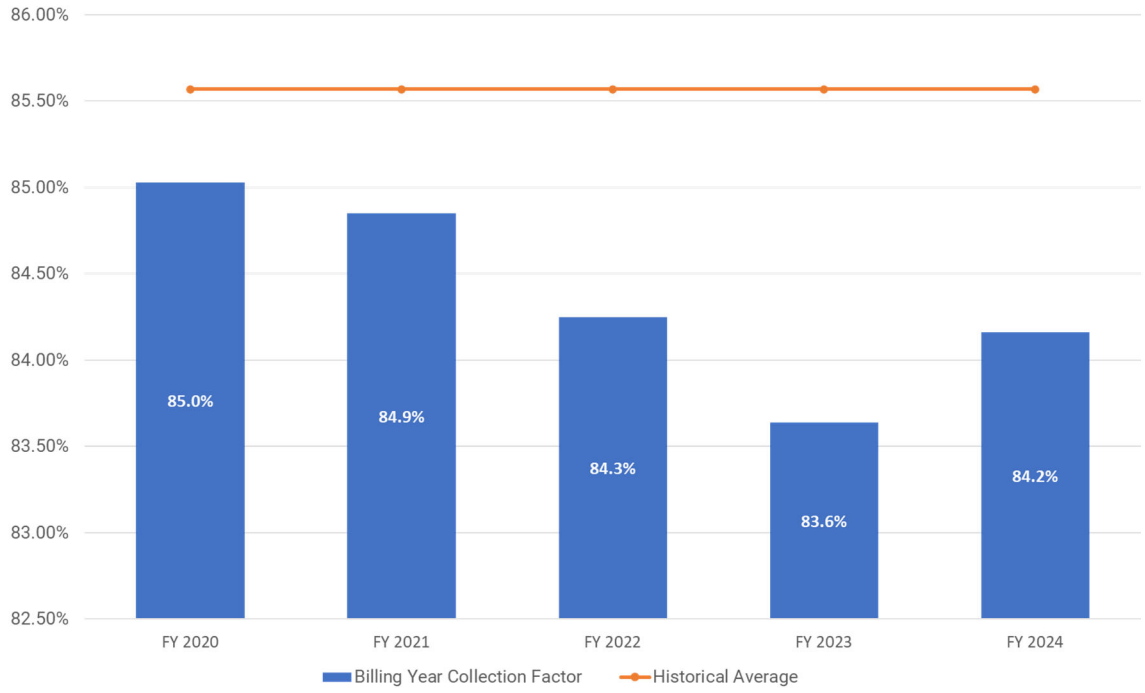


The Water Department saw a 2.67% decline billed volume from FY 2023 to FY 2024. In addition, the actual FY 2023 and FY 2024 billed water were well below those utilized in the 2023 Rate Proceeding. The projection of billed volume is an important parameter when evaluating revenue adjustment needs. In FY 2024, the overall trend appears to have resumed, and with the reduction in large commercial users, such as Vicinity during the prior proceeding, risks remain for further downward pressure. Customer behaviors are also important to monitor as they can be influenced by external factors such as environmental incidents related to source water, customer sentiment regarding the safety of tap water as compared to bottled water, among others.

1.3.3.2 Reduced Collections

Over the past several years, the Water Department has seen a shift in customer collection patterns. Billing year collections (i.e., the fiscal year in which a bill is first issued) have fallen and averaged 1.56% lower in FY 2022 to FY 2024 when compared to the long-term historical average (from FY 2012 to FY 2024), as shown in Figure 1-4. The initial billing year is when the bulk of revenues are received from customer payments. As the Water Department must utilize a cash basis for the purposes of setting rates, shifts in this payment pattern not only put pressure on revenue needs, it actually creates overall cashflow pressures for the Water Department when completing fiscal year end accounting and determining required metrics.

Figure 1-4 FY 2022 to FY 2024 Billing Year Collection Factors Vs. Historical Average



1.3.3.3 Impacts of TAP-R

Originally launched in 2017, the Water Department's Tiered Assistance Program (TAP) provides income eligible customers with fixed water bills, based upon a percentage of their monthly household income. Discounts provided by TAP have been recovered via a reconciliation surcharge based upon a TAP Rate Rider (TAP-R) since 2018. In recent years, the City has made a concerted effort to enroll customers in TAP in order to provide assistance to as many customers as feasible. As a result of these efforts, nearly 60,000 customers are currently enrolled in TAP as of the writing of this report. A summary of the increase in TAP enrollment and associated discounts are summarized in Table 1-1.

Table 1-1 Tiered Assistance Plan Enrollment and Discounts

	Average Monthly TAP Participants	Total TAP Discounts
FY 2023	14,382	$ 9,039,377
FY 2024	32,660	$ 18,803,906
FY 2025[15]	59,041	$ 37,584,004
FY 2026[16]	60,827	$ 39,900,805

[15] Estimated - Refer to 2025 TAP-R Annual Adjustment Filing
[16] Projected - Refer to 2025 TAP-R Annual Adjustment Filing

While TAP provides needed assistance to low-income customers, TAP-R has not kept pace with the overall level of discounts provided as it relates to increased enrollment and adjustments in rates. As a consequence, additional withdrawals from the RSF were needed in FY 2023 and FY 2024 and are also planned for FY 2025 to help make up for reduced revenues. While TAP-R is subject to a separate proceeding before the Rate Board, it is important to acknowledge the impact that under recovery has on the Water Department's current financial metrics and its ability to (or lack thereof) to help manage and mitigate overall rate increases for all customers.

1.3.3.4 Grant Funded Customer Assistance

As noted in *PWD Statement 5 – Direct Testimony of Susan M. Crosby and Lakisha Gaymon-Foreman ("the WRB Panel"),* the City has seen the end of a number of customer assistance programs since the last rate proceeding. Funding for the following grant programs ended in FY 2024:

- Low-Income Household Water Assistance Program ("LIHWAP")
- Philadelphia Housing Development Corporation ("PHDC") Rental Assistance
- Debt Collective

From FY 2023 to FY 2024, grant funding support has fallen nearly $5.4 million, with only $3.2 million realized in FY 2024. Only $817,000 in grant funding has been received so far in FY 2025[17].

While no direct adjustments have been made to account for the reduction in grant funding in the Cost-of-Service Study, the reduction of programs over recent years reduces available assistance programs for customers and in turn puts further financial strain on the Water Fund and presents a future risk to revenue insufficiency.

Without federal or state funding support for the aforementioned programs, the Water Department can anticipate some level of revenue reductions; however, the overall impact is uncertain at this time. As of the writing of this report, additional federal funding seems unlikely given current events at the federal level.

1.3.3.5 Changes in the Customer Base

As previously discussed, billed water volume continues to decline. Potential changes in customer base over the study period add further pressure to revenues. The Delaware County Regional Water Authority ("DELCORA") previously notified the Water Department of its intention to leave the Wastewater System as a wholesale customer beginning in FY 2029. DELCORA is building its own wastewater treatment facility and expects it to be operational by the time its contract with the Water Department expires in FY 2028. The estimated revenue loss associated with this customer is $11.3 million per year based on current contract rates.

1.3.4 Rising Costs

Non-discretionary operating costs include categories such as personnel, energy, and materials and supplies. These costs are unavoidable and represent approximately 90% of operation and maintenance ("O&M") expenses for the water system, and over 40% for the wastewater system. The Water Department's FY 2025 budget reflects recent experience with contract and purchase price from vendors and suppliers and serves as the basis for operating expense projections.

[17] As of November 30, 2024.

1.3.4.1 Personnel

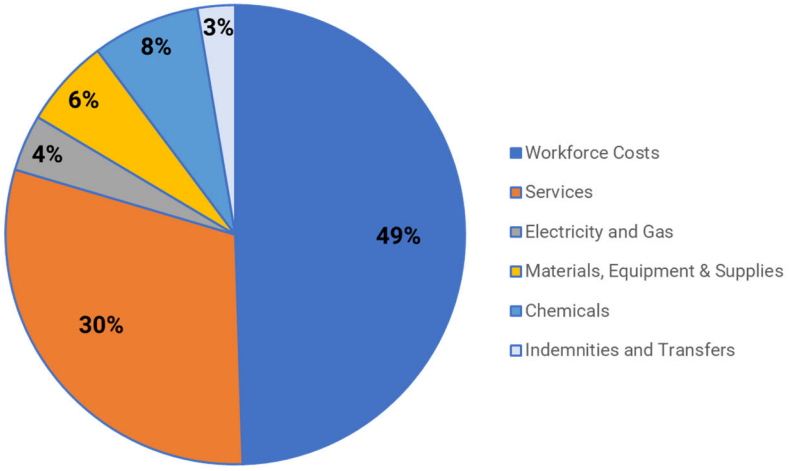
The City has agreed upon wage increases of 5.0% that will go into effect retroactively to the beginning of FY 2025 per labor agreement with District Council 33 ("DC33"). Under the agreement staff also receive one-time bonuses. The Water Department anticipates similar wage increases will be realized in the current fiscal year and beyond.

As required by City policy, the Water Department is continuing to transition staff salaries from capital-funded to O&M-funded positions. In FY 2026, approximately $1.9 million of salary costs are expected to shift from capital to O&M.

To support activities in Water Revenue Bureau, the Rate Board, Planning & Environmental Services, Operations, and PWD Finance, the Water Department is increasing staffing levels over the Study Period. Over the Study Period, additional staffing costs increase from $2.9 million in FY 2026 to $9.6 million in FY 2030 (including the ongoing ramp-up in Green Stormwater Infrastructure ["GSI"] maintenance support).

As shown in Figure 1-5, workforce costs are projected to account for 49% of the Water Department's overall operating expenses in FY 2026.

Figure 1-5 FY 2026 Operating Expenses



1.3.4.2 Purchase of Services

Purchase of services is another significant cost for the Water Department, as it represents 30% of the overall operating expenses in FY 2026. Regulatory requirements such as the LTCP and the Lead and Copper Rule are driving the need for the Department to increase Purchase of Services. In addition, chronic maintenance requirements for aging plants in combination with necessary facility replacements also contribute to increasing services costs. Water Department funded purchase of services costs from other city departments is also increasing for costs associated with the planning and implementation for the new billing system (Department of Technology) and new budget allocations from the City Treasurer which was initiated in FY 2024.

1.3.4.3 Power and Gas

Whereas water treatment operations use a lot of chemicals, wastewater treatment process are energy intensive. Approximately 50% of the Water Department's power needs and 90% of gas needs are used by wastewater treatment.

The Water Department's power and gas costs reflect estimates of anticipated increases from the City's Office of Sustainability, Division of Energy & Climate Solutions ("DECS"). For electricity, the FY 2026 estimate of $21.4 million is a 6.5% increase over FY 2025, a 2.7% increase is expected in FY 2027. For gas, the FY 2026 estimates are anticipated to be 1.7% higher than FY 2025, whereas FY 2027 costs are anticipated to increase 4.7% over FY 2026 expenses.

1.3.4.4 Materials, Supplies and Equipment

The Water Department continues to see increase in materials and supply pricing. Additional costs related to fleet management are anticipated over the Study Period, with $0.6 million estimated for FY 2026. Increases in estimated equipment purchases total $3.1 million in FY 2026 and continue annually through the study period.

1.3.5 Capital Program Needs

Similar to operating expenses, the Water Department's Capital Improvement Program ("CIP") budget has continue to grow accommodate inflationary pressures as well as the ongoing transition from rehabilitation focused efforts to substantial system replacement and upgrades to major facilities to create resiliency and redundancy as well as the continued expansion of green infrastructure facilities to meet the City's water, sewer and stormwater needs from both a regulatory and service perspective. The current $4.70 billion CIP budget for FY 2025 to FY 2030, represents an approximate 8% increase from prior estimates of 5-year period.

The continued growth of the CIP also means that the Water Department's long-term debt obligations will increase. The Water Department's total debt service payments for the Combined System are estimated to nearly double from $238.4 million in FY 2025 to $403.2 million in FY 2030. To help manage the impact of increased debt service, the Water Department has carefully examined its capital funding policy, such that future revenue bond issues will more closely track construction spending.

The Water Department continues to seek out low-cost options for funding projects and wherever feasible grant funding. The Water Department's efforts in pursuing grants are reflected in the estimated $106.7 Million in estimated CIP financing assistance over the Study Period. Overall funding sources include revenue bonds, Pennsylvania Infrastructure Investment Authority ("PENNVEST") and Water Infrastructure Finance and Innovation Act ("WIFIA") loans, the Commercial Paper ("CP") program, and grants.

1.3.6 Continuing Risks

Approval of revenue increases that are less than those proposed in this Report will necessitate cost reductions that may impact service levels and the ability to meet regulatory requirements. At a minimum, reduced rate relief will result in further deferred O&M and capital activities. The following is a list of potential risks that the Water Department may face should the proposed revenue increases not be fully approved.

- **Loss of Key Customers.** Large customers and wholesalers always present an ownership risk to the Water Department. That is, these customers are more likely to have the resources to build their own facilities and leave the System.
- **Continued Inflationary Pressures**. Despite actions of the Federal Reserve, costs within specific sectors, such as equipment, continue to exceed core CPI target levels. Further, recent actions by the federal government and the potential of tariffs, may continue to fuel inflationary pressures, especially for construction materials and equipment.
- **Workforce Cost Pressures**. The need to address workforce needs (more people) and living-wage increase remains to be a factor into the future. It should be noted that the Water Department is one of the few Departments within the City, which is still experiencing growth in terms of the number of personnel. With this increase in headcount comes the potential for additional costs related to pension and benefits as the Water Department's allocable portion of those costs grows. The performance of the pension fund itself may require additional contributions now and in the future. These impacts are not fully captured in the projections presented herein and present a potential risk to the Water Department as actual expenses may be higher.
- **Continued Reliance on Reserves.** The continued use of the RSF to reduce revenue impacts is not feasible at this time. Based upon the current available RSF balances, deposits are needed during the Rate Period to begin to replenish reserves. Further, increasing the RSF target, may become a more pressing need in the near future years to help provide sufficient reserves given overall cost increases since the establishment of the current target in 2018.

1.3.7 Mitigating Measures

To help manage customer bill impacts and still meet financial obligations, the Water Department has proposed the following actions for the Rate Period:

1. Temporarily reduce the Stormwater Management Incentive Program/Greened Acre Retrofit Program budget to $15 million for FY 2025 and FY 2026;
2. Set rates to meet interim senior debt service coverage requirement of 1.27x in FY 2026 and then meet the target requirement of 1.30x by FY 2027 in alignment with the 2018 Rate Determination;
3. Return to targeted RSF level by FY 2027 with higher reserves thereafter to better align with the future operating requirements.
4. Defer the 20% cash funding target for capital projects; and
5. Forego a bond issuance in FY 2026.

Without rate relief, the Department would likely be forced to make some combination of cost reductions, deferred maintenance and/or delayed capital activities that may negatively impact service levels and impede PWD's ability to meet regulatory requirements.

The Water Department along with the City continue to work on expanding access to customer assistance programs. TAP provides qualifying customers shelter from rate increases, as their bills are based upon their income-levels. In addition, the Water Department is proposing to increase the Senior Discount Income Threshold, which will hopefully increase access to reduced bills for eligible seniors.

1.4 General Assumptions

The following discussion summarizes the assumptions used in developing the revenue and revenue requirement projections for the Water Department's Financial Plan for the Study Period, in conjunction with the 2025 Rate Proceeding before the Rate Board and the proposed base rates for FY 2026 and FY 2027.

1.4.1 Revenue Projections

- Projected FY 2025 to 2030 service revenues under existing rates reflect the current FY 2025 rates (effective September 1, 2024).
- Customer accounts and usage are projected as follows:
    - The FY 2024 number of accounts serve as the initial basis of projections for all customer types. Customer accounts are anticipated to remain relatively stable over the Study Period.
    - The average usage per account for FY 2024 serves as the initial basis of projections for all customer types.
        1. The Water Department has experienced a 2.67% decline in billed water volume from FY 2023 to FY 2024.
        2. To approximate anticipated ongoing reductions in billed water volume, the 3-year average change in usage per account by customer type is applied to all customer types, with the exception of fire service, over the study period beginning in FY 2025[18].

Table 1-2 provides the baseline number of accounts, usage per account and summarizes the associated adjustments to the usage per account for the Study Period. Table 1-3 provides the summary of the change in residential usage from FY 2020 to FY 2024.

[18] The customer usage per account has shown continued decline, in the most recent 5 years the average usage per account dropped by an (1.35%) per year, in the most recent the 3 years the average usage declined by an average (0.50%), and in the most recent 2-years the average usage declined by an average of (1.48%). The reduction in overall billed volume coupled with the declines in usage per account is a trend historically exhibited in PWD's billing data. It is assumed these trends will continue through the Study Period.

Table 1-2 Baseline Accounts, Usage Per Account and Demand Escalation Factors by Customer Type

CUSTOMER TYPE	ACCOUNTS[1]	USAGE PER ACCOUNT (MCF)[2]	DEMAND ESCALATION FACTOR[3]
Senior Discount			
Senior Discount 5/8"	22,197	5.55	(1.00%)
Senior Discount >5/8"	15	16.32	13.85%
Residential			
Residential 5/8"	421,790	6.15	(1.0%)
Residential >5/8"	15,183	25.79	(10.06%)
Commercial			
Commercial 5/8"	27,827	9.75	(0.71%)
Commercial > 5/8"	10,381	138.85	0.30%
Industrial			
Industrial 5/8"	486	11.56	(0.91%)
Industrial > 5/8"	558	129.31	(3.68%)
Public Utilities			
Public Utilities 5/8"	86	8.42	19.67%
Public Utilities >5/8"	138	91.91	3.04%
PHA	5,444	25.52	0.14%
Charities & Schools	1,595	76.59	7.92%
Hospitals and Universities	119	827.50	7.33%
Hand Billed	223	1,671.99	(6.85%)
Scheduled	5	4.50	(16.03%)
Fire Service	6,890	0.12	0.0%[4]

Notes:

[1] Initial number of accounts are based upon FY 2024, as presented in Appendix A.

[2] Baseline Usage per Account uses the usage per account for FY 2024, as presented in Appendix A.

[3] Demand Escalation Factors are applied to reflect the ongoing reduction in overall system billed volume based upon long-term trends as represented by the changes in customer usage per account, as presented above.

[4] Fire service can vary significantly year to year. In FY 2022, FY 2023, FY 2024, the associated 3-year average change in usage per account was (80.95%), 100%, and (58.75%).

Table 1-3 Historical Usage Per Account for Residential Service Customers (5/8" Meters)

Description	Historical (Fiscal Year) 2020	2021	2022	2023	2024
Annual Billed Volume Per Account (Mcf/Account)	6.42	6.40	6.29	6.27	6.21
Annual Change	(0.00%)	(0.31%)	(1.72%)	(0.32%)	(0.96%)
3 Year Average Change			(0.68%)	(0.78%)	(1.00%)

- The wholesale water and wastewater billed volumes, and wastewater loading are estimated based on the three-year average of historical service levels. The wholesale volume and loading projections for FY 2025 to FY 2030 are shown in Appendix H.
    - DELCORA is working towards building their own treatment facility and will no longer be a wastewater customer beginning in FY 2029 when their agreement with the City expires. The loss of this wholesale customer will lead to an estimated $11.3 million loss in revenue for the City based on revenue under existing rates.
- Stormwater billable Impervious Area (IA) and Gross Area (GA) square footage:
    - The initial IA and GA stormwater billing data for the Study Period is based upon the end of FY 2024 stormwater billing data set.
    - Billing units for FY 2025 to FY 2030 are adjusted to reflect stormwater credits, resulting in reduction in billable IA and GA square footage. The reduction in square footage is primarily due to:
        1. Projected increase in IA, GA, and National Pollutant Discharge Elimination System (NPDES) Credits based upon the average 5-year growth in the number of parcels receiving credit and the associated average credit per parcel.
        2. IA and GA Credits resulting from Stormwater Management Incentive Program/Greened Acre Retrofit Program (SMIP/GARP) grants:
            a. Based upon the overall annual program budget of $15 million for FY 2025 and FY 2026; and $25 million for FY 2027 – FY 2030; and
            b. The average grant award per drainage acre, anticipated cost escalation, and average project completion time.
                i. Average Grant Award per Drainage Acre: $500,000
                ii. Anticipated Cost Escalation: 5.0%
                iii. Average Project Completion Time: 24 Months
    - Reductions are also anticipated due to appeals and other adjustments, such as community gardens discounts.
        1. Projected decreases due to appeals adjustments are based on recent 5-year trends.
        2. Projected community garden discounts are based upon the most recent 2-year annual average approvals.

Appendix B presents the historical stormwater credit program information. Further explanation of the Stormwater Units of Service Projections is provided in Schedule BV-4: WP-3 *"Stormwater Units of Service."*

- Projected revenues under existing rates reflect the anticipated cumulative receipts for water, sanitary sewer, and stormwater services (including retail and wholesale receipts) each fiscal year. The receipts for each fiscal year are estimated based on the projected system billings and the associated projected collection factors.
    - Projected collection factors for retail Non-Stormwater Only and Stormwater Only Customers are based on historical collections data for FY 2012 through FY 2024. The collection factors represent the multi-year payment pattern for the following periods:
        1. **Billing Year** – All payments associated with a given fiscal year's billing and received within the 12 months following the beginning of the fiscal year.
        2. **Billing Year Plus 1** - All payments associated with a given fiscal year's billing and received within 13-24 months following the beginning of the fiscal year.
        3. **Billing Year Plus 2 and Beyond** - All payments associated with a given fiscal year's billing and received after 24 months following the beginning of the fiscal year.
    - Collection factors used in the financial plan analysis reflect the average collection factors for these periods based upon the historical fiscal years and represent the multi-year payment pattern[19].
        1. As presented in Appendix C, the FY 2022 to FY 2024 average billing year collection factor is 1.56% lower the long-term historical average, while the average billing year plus one collection factor is 0.97% higher. Recent year collection factors experience reflects current economic conditions, updated collections and enforcement, changes in grant programs supporting customer payments amongst other factors.
        2. To reflect changes to collection patterns, the financial plan projection utilizes the following adjustments to the projected collection factors:
            a) **Billing Year Non-Stormwater Only Collection Factor** – Reduce by 1.56% to align with FY 2022 to FY 2024 average experience.
            b) **Billing Year Plus 1 Non-Stormwater Only Collection Factor -** Increase by 0.97% to align with FY 2021 to FY 2023 average experience.

Table 1-4 presents the initial collection factors utilized in the financial plan analysis for FY 2025 and beyond.

[19] The application of collection factors to projected billings results in estimated receipts used to develop projections of anticipated fiscal year revenues.

Table 1-4 Adjusted Collection Factors

	Billing Year	Billing Year Plus 1	Billing Year Plus 2 and Beyond
Non-Stormwater Only	84.01%	10.72%	2.20%
Stormwater Only	64.57%	9.15%	7.41%

- Operating Fund and Rate Stabilization Fund interest earnings are estimated based on projected fund balances and a 2.0% annual interest earnings rate.
- Miscellaneous and contra revenues are projected based on historical and budgeted levels, summarized in Table 1-5.

Table 1-5 Projected Miscellaneous and Contra Revenues

Description	Fiscal Years	Projection
Penalties[1]	2025 - 2030	$11.9 to $11.7 million / Year
Other Miscellaneous Revenue[2]	2025 - 2030	$8.8 million / Year
State and Federal Grants[2]	2025 - 2030	$1.43 million / Year
License and Inspection Permits[2]	2025 - 2030	$7.2 million / Year
UESF Grants[3]	2025 - 2030	$0.3 million / Year
Stormwater CAP[4]	2025 – 2030	($0.57) million / Year
Tiered Assistance Program (TAP) Credits[5]	2025	($37.59) million
	2026 - 2030	($39.9) to ($49.3) million / year

Notes:
1. Reflects approximately 1.39% of billings under existing rates based upon the average of actual penalties as a percentage of billings for FY 2022 and FY 2024.
2. FY 2025 to FY 2030 reflects the 2-year average for FY 2022 and FY 2024. Other Miscellaneous Revenue includes Miscellaneous City Revenues, Other Revenue, and Miscellaneous Revenue (Employee Benefit + Procurement).
3. Reflects FY 2025 Budget amount.
4. Stormwater CAP revenue loss is assumed to remain constant due to the recent transition to updated stormwater billing data for non-residential customers and estimated revenue adjustments.
5. TAP Credits are presented in Table 2-10 (also presented as Schedule BV-1 Table C-1B) in order to develop Table 2-11 (also presented as Schedule BV-1 Table C-1), which provides a complete picture of the overall

system wide cashflow and associated financial metrics, including fund balances and debt service coverage projections. The proposed TAP-R rates are subject to a separate proceeding before the Rate Board.

- Additional revenue adjustments for FY 2026 to FY 2030 are projected as necessary to meet senior debt service coverage requirements and maintain the RSF balance (see Section 1.4.5 Bond Covenants, Transfers, and Fund Balances).

1.4.2 Operating Expenses

For FY 2025, projected operating expenses:

- Are based on the Water Fund's approved FY 2025 budget; and
- Reflect the application of actual to budget factors to estimate anticipated expenses.
    - Actual-to-Budget factors by cost classification for each Water Department Division and City Department (whose budget costs are funded by the Water Fund) reflect the three-year historical average of the actual-to-budget ratio from FY 2022 to FY 2024 (see Appendix D), with the following exceptions noted in Table 1-6.
- Include an adjustment to account for recent labor agreements, which are retroactively applicable to FY 2025 (see Section 1.4.3 Other Adjustments).

Table 1-6 Actual-to-Budget Factor Exceptions

Department	Class(es)	Description	Actual to Budget Factor
Human Resources	100	Salaries & Wages	100%[1]
Human Resources	200	Services	100%[1]
Human Resources	400	Equipment	100%[1]
Finance	2XX	SMIP/GARP	100%[2]
Operations	307	Chemicals	100%[1]
City Finance	100	Pension, Pension Obligations, and Benefits	100%[3]
City Finance	500	Indemnities	100%[4]
City Treasurer	200	Services	78.35%[5]

Notes:

1. Historical actual to budget factors show greater than 100% spending compared to the historical budgets, 100% actual to budget factor applied for FY 2025.
2. The 2-year average actual to budget factor for FY 2023 and FY 2024 was 100.56%, 100% actual to budget factor applied for FY 2025 as the Water Department anticipates to fully expend the program budget.
3. Reflects actual to budget factor adjustment to reflect estimated FY 2025 expense provided by City Finance.
4. Adjusted spend factor to account for the changes in the budget levels from FY 2022 to FY 2024. The overall budget was reduced in FY 2023 and the 2-year average actual to budget factor is 102%, therefore, a 100% actual to budget factor is applied for FY 2025.

5. This is a new cost center established in FY 2024 within only one year of history. Actual to budget factor reflects FY 2024 actual to budget.

- For FY 2026 through FY 2030, projected operating expenses are based upon escalation of the FY 2025 projected operating expenses and inclusion of additional adjustments for planned increase in operating expenses.
    - Operating Expenses for FY 2026 through 2030 are projected by applying the annual escalation factors to the projected FY 2025 operating expenses by category as presented in Table 1-7.

Table 1-7 Annual Escalation Factors

		Fiscal Year – Annual Escalation Factor				
Class	**Description**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**
100	Labor Costs	5.00%	3.50%	3.50%	3.50%	3.50%
191	Pension	1.76%	0.00%	0.00%	0.00%	0.00%
190	Pension Obligations	0.00%	0.78%	0.00%	0.00%	0.00%
1xx	Benefits	4.50%	3.10%	4.91%	4.91%	4.35%
220	Power	6.5%	2.7%	2.4%	2.6%	3.2%
221	Gas	1.7%	4.7%	3.0%	2.2%	2.1%
200	Services	3.38%	3.38%	4.18%	4.18%	4.18%
200	Public Property Leases	2.60%	2.60%	2.60%	2.60%	2.60%
307	Chemical Costs	0.00%	0.00%	3.93%	3.93%	3.93%
300	Materials and Supplies	3.38%	3.38%	4.18%	4.18%	4.18%
400	Equipment	2.06%	2.06%	5.64%	5.64%	5.64%
500	Indemnities	0.00%	0.00%	0.00%	0.00%	0.00%
800	Transfers	3.38%	3.38%	4.18%	4.18%	4.18%

- The above escalation factors are based on the following:
    - **Labor Cost:** FY 2026 is based upon the recent announced labor agreement with District Council 33 (“DC33”). FY 2027 and thereafter is based upon the average annual increases for FY 2022 to FY 2025 as included in the District Council 33(“DC33”) labor agreement.
    - **Pension and Benefits:** The pension and benefits cost escalation factors incorporate the City’s current projected cost increases.
    - **Power and Gas Cost:** FY 2026 to FY 2030 escalation factors are based upon portfolio-wide averages of distribution rates and projected fixed supply rate changes as provided by the City’s Office of Sustainability, Division of Energy & Climate Solutions (“DECS”).

- **Services:** FY 2026 and FY 2027 are based upon the most recent 12-month period CPI for the Philadelphia Area. FY 2028 to FY 2030 are based upon the 5-year average annual change in CPI for the Philadelphia Area.
- **Chemicals:** FY 2026 and FY 2027 are assumed to remain stable. FY 2028 to FY 2030 are based upon the 5-year average annual PPI for Industrial Chemicals.
- **Public Property – Leases:** FY 2026 and thereafter uses the 3-year average annual increase per PWD's recent experience from FY 2021 to FY 2023, which is prior to an expansion in leased space.
- **Materials and Supplies:** FY 2026 and FY 2027 are based upon the most recent 12-month period CPI for the Philadelphia Area. FY 2028 to FY 2030 are based upon the 5-year average annual change in CPI for the Philadelphia Area.
- **Equipment:** FY 2026 and FY 2027 are based upon the most recent 12-month period PPI for Construction Equipment and Machinery. FY 2028 to FY 2030 are based upon the 5-year average annual PPI for Construction Equipment and Machinery.
- **Indemnities**: No escalation factor is applied for FY 2026 through FY 2030.
- **Transfers:** FY 2026 and FY 2027 are based upon the most recent 12-month period CPI for the Philadelphia Area. FY 2028 to FY 2030 are based upon the 5-year average annual change in CPI for the Philadelphia Area.

Appendix E presents the Water Department's long-term historical O&M costs.

Appendix F provides the relevant O&M cost industry indices discussed above.

1.4.3 Other Adjustments and Expenditures

Projected Operating Expenses also include adjustments as presented in Table 1-8. These adjustments reflect the application of the actual-to-budget and escalation factors associated with each expense based on the department division and class of costs.

Table 1-8 Additional Adjustments for Projected Operating Expenses

Class	Description	Fiscal Year(s)	Adjustment Amount	Purpose
100	Salaries & Wages	2026 to 2030	$1.9 million to $10.5 million	Shift in staffing from Capital to Operating Budget[20].
100	Salaries & Wages	2025	$6.3 million	Increased salary expenses[21] related to recently negotiated labor agreement. FY 2025 includes staff bonuses.
		2026 to 2030	$3.3 million to $3.8 million	

[20] Per City Policy, Capital related staff salaries may no longer be paid using capital funds (including debt financing). PWD is transitioning capital funded positions to operations over approximately 10 years.

[21] Per recently announced agreement with District Council 33 labor agreement, personnel will receive a 5% increase in salaries retroactively to the beginning of FY 2025. In addition, staff will receive $1,400 one-time bonuses.

100	Salaries & Wages	2026 to 2030	$1.6 million to $4.9 million	Planned FY 2026[22] additions of 47 new staff positions in Planning & Environmental Services, Operations, Finance, WRB, and the Rate Board.
100	Salaries & Wages	2028 to 2030	$0.08 million to $0.4 million	Continued addition of operations staff costs related to Green Stormwater Infrastructure (GSI) maintenance.
2xx	SMIP/GARP	2027 to 2030	$10.0 million	Offset $10.0M temporary reduction in SMIP/GARP budget in FY 2025 and FY 2026.
200	Services	2026 to 2030	$10.6 million to $12.4 million	Increase of contract support services for Operations, Planning & Environmental Services, and Division of Technology.
300	Materials & Supplies	2026 to 2030	$0.6 million to $0.7 million	Additional materials and supplies for vehicles under Fleet Management.
400	Equipment	2026 to 2030	$3.1 million to $3.8 million	Additional vehicles and equipment expenses.
800	Transfers	2026 to 2030	$3.8 million to $4.5 million	Additional transfers related to interdepartmental expenses.
1xx, 190, 191	Benefits, Pension & Pension Obligations	2026 to 2030	$1.4 million to $4.4 million	Additional pension and benefits costs associated with additional staff noted above. Costs are estimated based upon the City's estimated fringe costs as a percentage of salaries (as provided).

- Liquidated encumbrances for FY 2025 thru FY 2030 are projected to be 15.93% of projected Services (class 200) and Materials and Supplies (class 300) expenses excluding SMIP/GARP. The projection uses the average of the actual ratio of liquidated encumbrances to expenses for Services (class 200), and Materials and Supplies (class 300) experienced from FY 2022 to FY 2024. SMIP/GARP is excluded from this ratio since the budget is anticipated to be fully expended.

1.4.4 Debt Service

- Existing debt service reflects the actual debt service schedules for the following issuances:
  - All Water and Wastewater Revenue Bonds and Revenue Refunding Bonds issued prior to July 1, 2024; and
  - Water and Wastewater Revenue Bonds Series 2024C (issued during FY 2025 in October 2024).

[22] FY 2026 costs excluding Rate Board anticipate new staff will start at some point during Q3 and we assume that 35% of the expenses related to their annual salaries. Rate Board staffing FY 2026 staffing addition assumes new staff for the full year.

- Projected debt service includes the following anticipated revenue bond issues and associated interest rate assumptions as shown in Table 1-9.

Table 1-9 Anticipated Revenue Bond Issues

Fiscal Year	Anticipated Bond Issue	Interest Rate
2026	N/A	N/A
2027	$400 million	5.0%
2028	$575 million	6.0%
2029	$650 million	6.0%
2030	$680 million	6.0%

- Projected debt service for the anticipated revenue bond issues reflect:
  - Bond issuance in August of each fiscal year;
  - Level debt service payments with interest-only payments during the first fiscal year of the bond amortization; and
  - Bond issuance cost of 0.60% in FY 2027, and 1.00% each year thereafter.
- Projected debt service also includes estimated debt service projections associated existing WIFIA loans as provided by the Water Department's Financial Advisors.
- Projected debt service also reflects use of the Water Department's Commercial Paper (CP) Program[23] as authorized by City Council on November 19, 2020, and corresponding PENNVEST loans.
  - Beginning in FY 2022, the Water Department began to utilize the CP Program to aid in paying PENNVEST funded projects. CP Program funding is utilized to pay contractor invoices while PENNVEST reimbursement is sought.
  - Use of the CP in conjunction with PENNVEST Project, and the resulting debt service schedules, including both CP interest and PENNVEST debt service reflect projections provided by the Water Department.

1.4.5 Bond Covenants, Transfers, and Fund Balances

- The General Bond Ordinance rate covenant requires the following:
  - Minimum senior debt service coverage of 1.20.
  - Per the General Bond Ordinance, interest due on the CP program is considered on par with senior debt and included in senior debt service coverage determination.

[23] The Commercial Paper Program provides the Water Department the ability to temporarily fund obligations on a revolving basis, at this time the City has authorized an aggregate principal amount no greater than $400 million. A rolling balance of $38M is assumed for the Study Period. All Commercial Paper Program capacity is associated with a specific PENNVEST loan, and no additional CP issue is assumed at this time.

- WIFIA loans are also considered parity debt.
- Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) at least equal to 90% of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) payable in such fiscal year.
- Minimum total debt coverage of 1.00.

- In accordance with the 2018 Rate Determination, the Water Department has adopted target senior debt service coverage ratio of 1.30.
  - However, during FY 2025 the Water Department is projecting senior debt service coverage of 1.21.
  - For FY 2026 and FY 2027, the Water Department is proposing senior debt service coverage of 1.27 and 1.30, respectively. Coverage of 1.30 is projected for the remainder of the Study Period.
  - This reflects the Water Department's intent to increase coverage, generating more cash funding for capital while helping to mitigate revenue adjustments in the short term.
  - The Rate Board endorsed this approach by adopting base rates that support the 1.25 senior debt service coverage target for FY 2024 and FY 2025 as part of their 2023 Rate Determination. Further the Rate Board, reaffirmed the 1.30 goal for senior debt service coverage.
- Projected FY 2025 to FY 2030 Capital Account Deposits are based on the following assumptions:
  - Inflated net plant investment of 5.6% per year based on the average annual increase in net plant investment from FY 2021 to FY 2024.
  - An annual Capital Account Deposit of 1.0% of the prior year's projected net plant investment (original cost less depreciation).
- In accordance with the 2018 Rate Determination, the Water Department has a Rate Stabilization Fund (RSF) balance target of approximately $135 million through FY 2026.
  - The RSF balance is projected to reach the target by FY 2028.
  - The Rate Board affirmed the $135 million target as part of their 2023 Rate Determination and Rate Board members acknowledged that this target will need to be revisited (and likely increased) in the future.
- Residual Fund to Construction Fund transfers are made as available.
  - The end-of-year Residual Fund balance is maintained at approximately $15.0 million for the Study Period.
- The FY 2025 beginning fund balances reflect the preliminary FY 2024 financial results.

1.4.6 Capital Improvement Program

- The projected Capital Improvement Program (CIP) for the Study Period is based on the Water Department's adopted FY 2025 capital program budget and the proposed FY 2026 to FY 2031 capital program plan.
- The Water Department's CIP Budget is an appropriation-based budget and reflects the following:

- The budget for each respective fiscal year represents the total cost of the capital improvements the Water Department expects to contract;
- The Water Department's total CIP Budget does not represent expected project duration or anticipated cash flows;
- The Water Department's CIP budget includes design, planning and construction inspection support;
- The Water Department's CIP budget includes contingencies; and
- The Water Department's CIP Budget does not include inflation.

- Acknowledging the existing construction fund balance and considering the pace of current construction spending, the City anticipates financing projects in closer alignment with the timing of commencement of construction, rather than only contracting projects after all funding has been secured.
  - This is an adjustment from the prior funding approach and reflects spending capacity, and timing related to City procurement and contracting, among other factors.
  - Overall CIP funding sources, including revenue from current year rates, system revenue bond proceeds, WIFIA loans, WIFIA match funding (Cash or System Revenue Bonds), PENNVEST loans, grants and accumulated interest, are taken into account with respect to available funding sources and in context of overall estimated capital spending.
- To evaluate CIP funding, the expected project related spending for each fiscal year of the Study Period is estimated based upon the Water Department's CIP Budget and adjusted to reflect the following:
  - Anticipated roll-forward of annual budget appropriations;
  - Annual inflation of 5.0% based on industry construction cost indices for FY 2027 to FY 2030 capital program appropriations;
  - Removal of contingencies by applying an adjustment factor of 90% to planned water, sewer and facilities improvements for FY 2025 to FY 2030; and
  - No contingency adjustment is applied to existing WIFIA supported projects and PENNVEST related projects.
- To assess the overall drawdown of available CIP Funding, the Water Department's CIP Funds' drawdown is estimated based upon a projection of overall spending over the Study Period. Spending estimates reflect the following:
  - Assumed planning and design phases;
  - Anticipated program-level project durations, including PennVest and WIFIA funded projects for the remaining improvement projects, as follows:
    1. Billing System – 5 years;
    2. Water Conveyance – 4 years;
    3. Sewer Collection – 5 years; and
    4. Facilities Improvements – 6 years.
  - Spending levels are estimated to reflect ramp up in activity, accounting for design and planning efforts, and overall drawdown of construction funds.

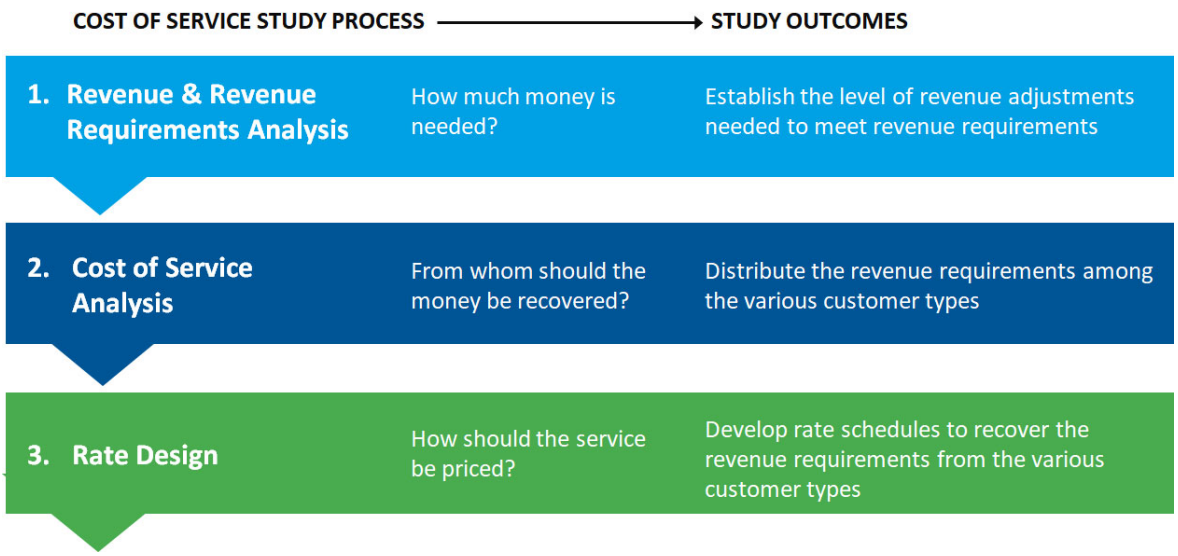
2.0 Combined System Summary

The Water Department is a self-supporting enterprise fund dedicated to providing high-quality water and wastewater services (which includes stormwater services) to the City's residents and businesses. Water operations provide potable water for its residential, commercial, and industrial water demands. Wastewater operations provide sanitary sewer treatment and collection services to its residential, commercial, and industrial customers. The Water Department performs many of the City's stormwater activities, including maintenance of the City's approximately 750 miles of separate storm sewers, 1,850 miles of combined sewers, and 71,500 stormwater inlets. Service to customers located outside the City is on a wholesale basis through contracts with various entities. The respective contracts for service to each wholesale customer set forth the present bases for charges.

2.1 Cost of Service Study

To provide these services and fulfill all its regulatory obligations, the Water Department fully funds its operations through its rates and charges imposed on its retail and wholesale customer base. Thus, the Water Department not only performs a multi-year financial plan that supports revenue sufficiency, but it also conducts retail and wholesale COS studies and goes through a rate case process which concludes with the determination by the Rate Board. A COS study serves as the foundation for establishing rates and charges. Figure 2-1 illustrates the three parts of such a study. This section presents the results for the Combined System. Specifically, it summarizes the proposed financial plan for the Combined System during the Study Period and presents the FY 2026 and FY 2027 proposed schedule of rates for water, sanitary sewer, and stormwater services.

Figure 2-1 Elements of a COS Study



To assist the reader with understanding potential customer impacts associated with the proposed rates, typical monthly bills for select customer types are included using a range of volumes at the recommended FY 2026 and FY 2027 rates. Details regarding the COS study for the Water System and Wastewater System are presented in subsequent sections of this Report. PWD Exhibit 6 includes the full model workpapers for FY 2026 in support of the Rate Filing.

2.2 Revenue

Using the assumptions discussed in Section 1.4 and the details derived for the Water System and the Wastewater System presented later in this Report, Table 2-1 presents the Projected Revenues (receipts) for the Combined System. These revenues reflect the application of the billing collection factors presented in Table 1-4 to gross billings, which are the result of applying the existing rate schedules to projections of customer accounts, consumption, billed volume, and impervious and gross areas. Specifics regarding the projection of gross billings is described later in this Report.

Table 2-1 Projected Receipts Under Existing Rates [Schedule BV-1: Table C-3]

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)							
1	Water Sales Receipts	360,384	365,313	362,873	359,609	357,815	356,225
	Wastewater Sales Receipts						
2	Sanitary Sewer	317,116	320,948	319,227	316,958	304,421	303,382
3	Stormwater	212,218	217,200	217,277	216,677	215,906	215,141
4	Subtotal Wastewater Service Receipts	**529,333**	**538,149**	**536,504**	**533,635**	**520,326**	**518,523**
5	**Total Water & Wastewater Receipts**	**889,717**	**903,462**	**899,377**	**893,245**	**878,141**	**874,748**
	Other Income						
6	Penalties	11,863	11,945	11,843	11,752	11,705	11,657
7	Miscellaneous City Revenue	1,291	1,291	1,291	1,291	1,291	1,291
8	Other	7,322	7,322	7,322	7,322	7,322	7,322
9	State & Federal Grants	1,429	1,429	1,429	1,429	1,429	1,429
10	Permits Issued by L&I	7,230	7,230	7,230	7,230	7,230	7,230
11	Miscellaneous (Procurement)	210	210	210	210	210	210
12	City & UESF Grants	300	300	300	300	300	300
13	Affordability Program Discount Cost (a)	-	-	-	-	-	-
14	Release from Debt Reserve Account (b)	-	-	-	-	-	-
15	**Other Operating Revenues**	**29,644**	**29,726**	**29,624**	**29,533**	**29,486**	**29,438**
	Interest Income						
16	Interest Income on Debt Reserve Account (c)	82	394	930	1,993	3,406	4,719
17	Operating Fund	3,650	3,926	4,043	4,132	4,242	4,376
18	Rate Stabilization Fund	2,619	2,659	2,772	2,870	2,987	3,105
19	**Total Nonoperating Income**	**6,350**	**6,979**	**7,745**	**8,995**	**10,635**	**12,199**
20	**Total Receipts**	**925,711**	**940,167**	**936,746**	**931,773**	**918,261**	**916,385**

(a) Affordability Program Discounts represent anticipated lost revenue due to the Tiered Assistance Program (TAP). Beginning in FY 2019, TAP Revenue Loss is recovered via the TAP Rate Rider Surcharge.

(b) Projected Release from Debt Reserve Account based on outstanding and proposed debt service payments.

(c) Excludes deposit into Residual Fund for Transfer to City General Fund.

In addition to rates and charges, the Water Department also has wholesale service contracts for water and wastewater service, provides private fire protection to certain customers who maintain private fire systems, and assesses surcharges for customers with high strength wastewater.

2.2.1 Other Operating Income

The Water Department has several sources of other revenues including miscellaneous fees, City and Utility Emergency Services Fund ("UESF") grants, License and Inspection ("L&I") permits, penalties, and releases from the Debt Service Reserve Fund, if available. These revenues are shown on Lines 6 through 15 of Table 2-1.

2.2.2 Non-Operating Income

The Water Department's non-operating income consists primarily of interest earnings on the amounts within certain funds and accounts. In accordance with the authorizing revenue bond ordinance, the analysis credits interest earnings in the Debt Reserve Fund, Revenue Fund, and the Rate Stabilization Fund as revenue to the Revenue Fund. Interest Earnings in the Debt Reserve Fund are first credited to the extent that they are needed to fulfill the Debt Service Reserve Requirement. Once the Debt Service Reserve Requirement is met, any remaining monies, up to a maximum of $4,994,000 is permitted to be transferred to the City's General Fund.

Actual annual fund valuations and interest earnings are based on a mark-to-market valuation which the City performs at the end of the fiscal year. The differential between mark-to-market and the Debt Reserve Fund requirement results in:

- Either a transfer from the Operating Fund of the Water Department to the Debt Reserve Fund, if there is a deficiency in the Debt Reserve Fund, or
- A transfer from the Debt Reserve Fund to the Operating Fund of the Water Department if there is an excess in the Debt Reserve Fund.

Projected transfers from the Debt Reserve Fund to the Operating Fund are included as Other Operating Revenue.

2.2.3 Tiered Assistance Program Rate Rider Surcharge

Revenue figures for the Study Period exclude current (effective as of September 1, 2024) TAP-R surcharge rates of $3.08 per Mcf for water and $4.40 per Mcf for sanitary sewer. The Water Department established TAP in 2017 to assist low-income households at or below 150% of the Federal Poverty Level ("FPL") and those experiencing special hardship. As part of the 2018 Rate Determination, the Rate Board approved the implementation of a TAP Rate Rider. This rider provides a mechanism to (i) timely reconcile actual TAP costs with estimated TAP-R revenues and (ii) update projected TAP costs for the next rate period. The TAP-R was established to recover the cost of providing discounts to TAP customers from Non-TAP customers and is subject to an annual reconciliation.

Reconciliation of TAP discounts and TAP-R billings is handled via a separate annual adjustment proceeding before the Rate Board. Consequently, the revenues developed in this COS study are referred to as the "Base Rate Revenues" because they do not include the impact of providing discounts to TAP customers and associated TAP-R surcharge revenues.

2.3 Revenue Requirements

Projections for the Water Department's revenue requirements for the Combined System make use of the assumptions discussed in Section 1.4.

2.3.1 Operation and Maintenance Expenses

The O&M expenses incurred by the Water Department are necessary for the effective operation of the Combined System. Not performing timely O&M activities may result in System inefficiencies, affects the level of service provided to customers, and puts the Water Department at risk of not meeting regulatory requirements. Table 2-2 summarizes the general O&M expense categories used by the Water Department for budgeting and reporting purposes.

Table 2-2 O&M Expense Categories

Class	Category	Description
100	Personal Services	Expenses related to salaries, fringe benefits, pension costs, overtime, and other employee-related costs
200	Purchase of Services	Expenses related to contracts or services from outside entities, including electricity and natural gas service
300	Materials and Supplies	Miscellaneous materials and supplies, including water treatment chemicals
400	Equipment	Costs of heavy equipment, trucks, vehicles, boats, trailers, and other related items.
500	Contributions, Indemnities, and Taxes	Includes payments made by the Law Department on behalf of the Water Department for liabilities, claims and property damages. This category also includes taxes and other contributions.
800	Payments to Other Funds	O&M payment to the General Fund associated with the direct interdepartmental services provided to the Water Department by other City Departments

Estimated future O&M expenses include the additional adjustments to items identified on Table 1-8.

Table 2-3 shows the operating expenses for the Combined System incorporating the adjustments to the budgeted O&M, application of the actual-to-budget spend factors, inclusion of additional operating expenses, and adjustments for escalation as discussed in Sections 1.4.2 and 1.4.3.

To help manage expenses in FY 2025 as well as to aid in managing required revenue adjustments for FY 2026, the Water Department has temporarily reduced the Stormwater Management Incentive Program/Greened Acre Retrofit Program ("SMIP/GARP") budget to $15 million. The Water Department plans restore the program to full funding levels of $25 million in FY 2027. Given the importance of this program in supporting long-term compliance under the COA, Black & Veatch understands that the Water Department will shift available funds from other activities when available.

Table 2-3 Projected Operation and Maintenance Expense [Schedule BV-1: Table C-6]

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)							
1	Personal Services	190,651	200,283	211,944	221,388	231,306	241,600
2	Pension and Benefits	151,426	157,409	162,489	166,861	171,508	175,804
3	**Subtotal**	**342,077**	**357,692**	**374,432**	**388,249**	**402,814**	**417,405**
	Purchase of Services						
4	Power	20,134	21,443	22,022	22,550	23,137	23,877
5	Gas	7,187	7,309	7,653	7,883	8,056	8,225
6	SMIP/GARP	15,000	15,000	25,000	25,000	25,000	25,000
7	Other	185,583	202,420	209,218	217,872	226,885	236,272
8	**Subtotal**	**227,904**	**246,172**	**263,892**	**273,304**	**283,077**	**293,375**
	Materials and Supplies						
9	Chemicals	54,805	54,805	54,805	56,959	59,198	61,524
10	Other	34,086	35,797	37,006	38,553	40,165	41,844
11	**Subtotal**	**88,891**	**90,602**	**91,812**	**95,512**	**99,362**	**103,368**
12	Equipment	5,960	9,228	9,418	9,949	10,510	11,103
13	Indemnities and Transfers	15,000	19,079	19,488	20,010	20,553	21,120
14	**Subtotal Expenses**	**679,832**	**722,773**	**759,042**	**787,024**	**816,317**	**846,370**
15	Liquidated Encumbrances	(41,358)	(44,067)	(45,253)	(47,046)	(48,908)	(50,866)
16	**Total Expenses**	**638,475**	**678,707**	**713,789**	**739,978**	**767,409**	**795,504**

2.3.2 Bond Covenants, Transfers, and Fund Balances

The Water Department primarily uses debt financing to pay for necessary capital improvement projects. The Water Department's flow of funds is dictated by the requirements of the General Bond Ordinance. The Water System and the Wastewater System are treated as one combined utility for the purpose of revenue bond financing, pursuant to the General Bond Ordinance.

The General Bond Ordinance establishes the funds and accounts shown in Table 2-4, which are collectively known as the "Water and Wastewater Funds" or the "Water Fund."[24]

Table 2-4 Water and Wastewater Funds

Funds and Accounts	
Revenue Fund	Rate Stabilization Fund
Sinking Fund • Debt Service Account • Debt Reserve Account • Charges Account	Construction Fund • Existing Project Account • Bond Proceeds Account • Capital Account
Subordinated Bond Fund	Residual Fund ▪ Special Water Infrastructure Account

[24] The operations of the Water Department are accounted for in the Water Fund, which is an enterprise fund of the City. The Water Fund is an accounting convention established for the purposes of accounting for the assets, liabilities, revenues, expenses of and to measure Rate Covenant compliance for the Water and Wastewater Systems.

Revenues collected by the Water Department cascade through the Revenue Fund in the priority order shown in Figure 2-2.

Figure 2-2 General Flow of Funds

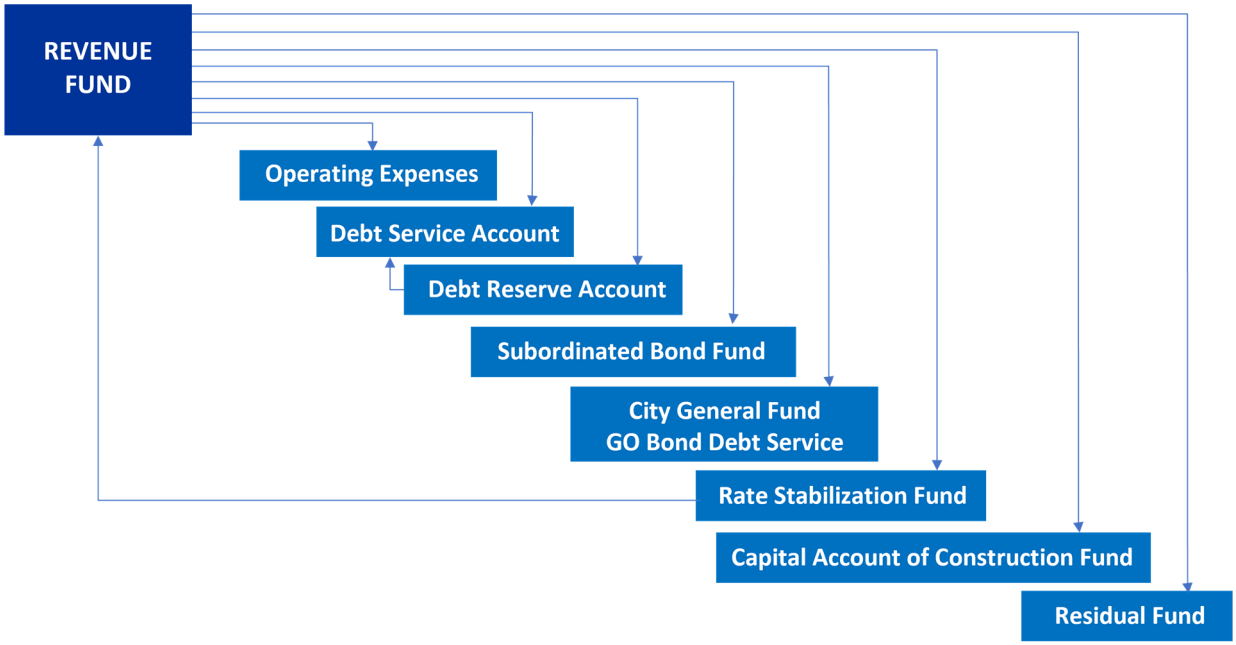


Table 2-5 summarizes the performance targets of the General Bond Ordinance and the 2018 Rate Determination described in Section 1.4.

Table 2-5 Combined System Performance Targets

Description	Performance Target
GENERAL BOND ORDINANCE PERFORMANCE TARGETS	
Debt Coverage	Minimum Senior Debt Coverage: 1.20x Senior Debt Coverage from Current Revenues: 0.90x Minimum Total Debt Coverage: 1.00x
Capital Account Deposit	1.0% of prior year net plant investment
2018 RATE DETERMINATION PERFORMANCE TARGETS	
Debt Coverage	Senior Debt Service Coverage 1.30x
Cash Funded Capital	20% of Annual Capital Expenditures
Rate Stabilization Fund Balance	$135 million
Residual Fund Balance	$15 million

2.3.3 Capital Improvements

The Water Department's CIP reflects planned improvements to the Combined System required to meet regulatory requirements and maintain existing levels of service. The CIP includes water treatment and

wastewater treatment facility improvements, distribution system rehabilitation, large meter replacement, lead service line replacement, new billing system, storm flood relief, reconstruction of the sewer collection system, and green stormwater infrastructure.

As discussed in Section 1.4.6, the Water Department's CIP is an appropriations-based projection that is not inflation-adjusted and contains contingencies (for projects other than those funded via WIFIA or PENNVEST). An appropriation-based budget means that the Water Department budgets the full amount of a proposed project in the year in which contracts for the project are expected to be let. This type of budgeting does not reflect the actual cash expenditures as the project is executed nor does it reflect the City's approach to capital funding, as previously noted. As such, the overall annual CIP project expenses are estimated and evaluated against available monies in the Construction Fund, which is discussed in Section 2.4.

The overall resulting CIP Encumbrances adjusted for inflation, roll-forward amounts (also referred to as carryforward), and removal of contingencies as well as the resulting project expenses, which account for program level project durations, are reflected in Table 2-6.

Table 2-6 Projected Capital Program Budget and Annual Expenditures [Schedule BV-1: Table C-7]

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)							
1	Engineering and Administration (a)	10,100	8,000	6,000	4,000	2,000	-
2	Plant Improvements	301,000	255,000	255,000	255,000	255,000	255,000
3	Distribution System Rehabilitation	150,100	203,100	202,100	188,100	188,100	188,100
4	Large Meter Replacement	5,000	5,000	5,000	5,000	5,000	5,000
5	Billing System	-	30,000	30,000	30,000	-	-
6	Storm Flood Relief	15,000	-	-	-	-	-
7	Reconstruction of Sewers	96,000	140,500	150,500	160,500	170,500	180,500
8	Green Infrastructure	170,000	162,500	143,750	143,750	143,750	143,750
9	Vehicles	12,000	5,000	5,000	5,000	5,000	5,000
10	**Total Improvements**	**759,200**	**809,100**	**797,350**	**791,350**	**769,350**	**777,350**
11	Inflation Adjustment (b)	-	-	39,868	81,114	121,269	167,524
12	**Inflated Total**	**759,200**	**809,100**	**837,218**	**872,464**	**890,619**	**944,874**
13	Rollforward Adjustments	15,131	(181,203)	(29,568)	(36,874)	(19,975)	(56,281)
14	**Total Inflated Adjusted CIP Budget**	**774,331**	**627,897**	**807,650**	**835,590**	**870,644**	**888,593**
15	Contingency Adjustment	(63,003)	(61,490)	(76,610)	(79,417)	(82,947)	(88,252)
16	**Annual Encumbrances**	**711,328**	**566,408**	**731,040**	**756,173**	**787,698**	**800,342**
17	Project Expenses (c)	406,863	511,975	596,833	671,342	711,252	754,590
18	Annual Net Encumbrances	304,465	54,432	134,207	84,831	76,446	45,752

(a) Reflects shift in capital related salary costs from capital to operating budget.

(b) Allowance for inflation of 5.0 percent per year after fiscal year 2026.

(c) Reflects annual drawdown of capital budget appropriations based on project durations and annual encumbrances.

2.3.4 Debt Service

Table 2-7 summarizes the existing and proposed debt service payments during the Study Period and reflects the assumptions outlined in Section 1.4.4. For the analyses conducted herein, Black & Veatch worked with the Water Department, and the City's financial advisors ("Financial Advisors") to estimate anticipated bond issue sizes, interest rates for a 30-year term, and issuance costs.

The Water Department has a goal of continuing to pursue the lowest-cost financing options for the CIP. As part of this effort, the Water Department includes PENNVEST loans as a funding source. PENNVEST provides low-interest loans and grants for new construction or improvements to publicly or privately-owned drinking water, stormwater, or sewerage treatment facilities. PENNVEST loans are considered parity debt. To cover contractor costs between the time of the invoice(s) and the PENNVEST reimbursement, the Water Department leverages its CP program along with available cash funding to pay these invoices in the interim. Debt Service also includes interest on the Water Department's CP program, which is considered part of senior debt in accordance with the General Bond Ordinance.

The Water Department is also leveraging WIFIA loans under the existing master agreement with the USEPA, when the financing options provide favorable financing and/or savings on debt service to the City. WIFIA loans also considered parity debt. Debt service projections associated with WIFIA loans, including the matching funding requirements, as provided by the Financial Advisors.

In addition to low-interest financing options provided by PENNVEST the Water Department continues to pursue grants for multiple projects form various funding sources. As discussed in the next section, approximately $106.7 million of grant assistance is estimated over the Study Period. Please refer to *PWD Statement 2A – Direct Testimony of Statement 2A – Direct Testimony of Lawrence Yangalay, Lawrence Rich, and Patricia Rogalski (the "Finance Panel"),* for further discussion of the Water Department's grant pursuits as it relates to this rate proceeding.

Existing debt service requirements include all Water and Wastewater Revenue Bonds and Revenue Refunding Bonds issued prior to July 1, 2024 as well as the Water and Wastewater Revenue Bond Series 2024C (issued during FY 2025 in October 2024).

As of the date of this Report, the Water Department has no subordinate debt.

Table 2-7 Summary of Existing and Proposed Debt Service [Schedule BV-1: Table C-9]

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)							
Revenue Bonds							
1	Existing (a)	220,303	231,843	231,844	218,499	209,623	210,974
	Proposed						
2	Fiscal Year 2025 (b)	-	-	-	-	-	-
3	Fiscal Year 2026 (c)		-	-	-	-	-
4	Fiscal Year 2027 (c)			16,667	26,021	26,021	26,021
5	Fiscal Year 2028 (d)				28,750	41,773	41,773
6	Fiscal Year 2029 (d)					32,500	47,222
7	Fiscal Year 2030 (d)						34,000
8	**Total Proposed**	**-**	**-**	**16,667**	**54,771**	**100,294**	**149,015**
9	**Total Revenue Bonds**	**220,303**	**231,843**	**248,511**	**273,269**	**309,917**	**359,989**
PENNVEST Loans							
10	PENNVEST Loans (e)	16,412	24,506	31,321	36,294	39,100	40,437
Commercial Paper							
11	Commercial Paper	1,349	1,349	1,349	1,349	1,349	1,349
WIFIA							
12	WIFIA	356	593	1,407	1,407	1,407	1,407
13	**Total Senior Debt Service**	**238,420**	**258,292**	**282,588**	**312,319**	**351,773**	**403,182**

(a) Projected debt service amounts include debt service for all Water and Wastewater Revenue Bonds and Revenue Refunding Bonds issued prior to July 1, 2024 plus the Water and Wastewater Revenue Bond Series 2024C (issued in October 2024).

(b) Projected debt service for the Water and Wastewater Revenue Bond Series 2024C (issued in October 2024) included as Existing Debt Service.

(c) Projected debt service amounts assume interest only payment for the first year of the bond authorization based on 5.00% interest rate; and assume issuance during the first quarter of the fiscal year.

(d) Projected debt service amounts assume interest only payment for the first year of the bond authorization based on 6.00% interest rate; and assume issuance during the first quarter of the fiscal year.

(e) Includes projected PENNVEST Loans.

2.4 Sources and Uses of Funds

Table 2-8 summarizes the sources and uses of funds for financing of the Combined System CIP. Line 1 of the table shows the projected total revenue bond principal amounts projected to be issued FY 2025 through FY 2030 to finance the proposed capital improvements of the Combined Water and Wastewater Systems.

As shown in Lines 2 through 4, in addition to funding capital construction costs, the bond issuance proceeds are also used to fund deposits into the Debt Reserve Account as required and pay the costs of bond issuance. As discussed previously, the projected bond issuances are consistent with the stated issuance assumptions in Section 1.4.4.

Table 2-8 Projected Flow of Funds – Construction Fund & Debt Reserve Account [Schedule BV-1: Table C-8]

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)							
Disposition of Bond Proceeds							
1	Proceeds From Sale of Bonds	328,863	-	400,000	575,000	650,000	680,000
	Transfers:						
2	Debt Reserve Account (a)	18,692	-	38,706	55,762	77,753	49,401
3	Cost of Bond Issuance (b)	1,973	-	2,400	5,750	6,500	6,800
4	Construction Fund (c)	308,198	-	358,894	513,488	565,747	623,799
5	**Total Issue**	328,863	-	400,000	575,000	650,000	680,000
Construction Fund							
6	Beginning Balance	967,386	1,047,843	716,743	673,352	711,870	745,404
7	Transfer From Revenue Bond Proceeds	308,198	-	358,894	513,488	565,747	623,799
8	WIFIA Proceeds	6,041	-	-	-	-	-
9	WIFIA Match Funding Proceeds	6,288	-	-	-	-	-
10	PENNVEST Loan Proceeds	82,893	100,140	82,820	56,318	25,437	12,817
11	Grant Proceeds	285	1,275	19,638	37,364	36,124	11,989
12	Capital Account Deposit	34,362	36,290	38,326	40,477	42,749	45,147
13	Transfer from Residual Fund	29,300	25,700	40,000	48,500	60,300	74,800
14	Interest Income on Construction Fund	19,953	17,471	13,763	13,715	14,428	15,048
15	**Total Available**	1,454,706	1,228,718	1,270,184	1,383,213	1,456,655	1,529,003
16	Net Cash Financing Required	406,863	511,975	596,833	671,342	711,252	754,590
17	**Ending Balance**	1,047,843	716,743	673,352	711,870	745,404	774,414
Debt Reserve Account							
18	Beginning Balance	242,234	265,364	273,458	318,979	379,714	460,273
19	Transfer From Bond Proceeds	18,692	-	38,706	55,762	77,753	49,401
20	Transfer From Residual Fund (d)	4,438	8,094	6,815	4,973	2,806	1,337
21	Debt Reserve Account Release	-	-	-	-	-	-
22	**Ending Balance**	265,364	273,458	318,979	379,714	460,273	511,011
23	Interest Income on Debt Reserve Account	5,076	5,388	5,924	6,987	8,400	9,713

(a) Amount of Debt Reserve Account estimated based on outstanding and proposed debt service payments.
(b) Cost of bond issuance in FY 2025 reflects actual costs. Assumed 0.60 percent of issue amount in FY 2027 based on average cost in FY 2022, FY 2023, and FY 2024, and assumed 1.0% of issuance in FY 2028 to FY 2030.
(c) Deposits equal proceeds from sale of bonds less transfers to Debt Reserve Account and Costs of Issuance.
(d) Transfer from Residual Fund to provide PENNVEST share of Debt Reserve Account requirement.

The Construction Fund is summarized on Lines 6 through 17, with proceeds from revenue bonds presented on Line 7. WIFIA loan and related matching funding are presented on Lines 8 and 9. PENNVEST Loan proceeds are presented on Line 10. Grant proceeds as shown on Line 11 reflect the estimated $106.7 million anticipated over the Study Period. The Capital Account Deposit and Transfer from the Residual Fund account for most of the Water Department's cash-funded capital and are presented on Lines 12 and 13.

As noted in Section 1.4.6, the City has adapted their funding approach in the near term, to acknowledge the existing construction fund balance and consider the pace of current construction spending. As such, the City anticipates financing projects in a manner that more closely aligns with the commencement of construction, rather than contracting projects only after all funding has been secured. This is an adjustment from the prior funding approach and reflects spending capacity, and timing related to City procurement and contracting, among other factors. As a result of the adjustment in funding policy, the Water Department will not issue revenue bonds in FY 2026.

Overall CIP funding sources, including revenue from current year rates, system revenue bond proceeds, WIFIA loans, WIFIA match funding (Cash or System Revenue Bonds), PENNVEST loans, grants, and accumulated interest, are considered with respect to available funding sources and in context of overall

estimated capital spending. The projected bond issuances are as discussed above and consistent with the general assumptions outlined in Section 1.4.

The General Bond Ordinance provides for two transfers: Interest Earnings Payment, which is transferred as a Deposit to the City General Fund, and the Capital Account Deposit. The Capital Account Deposit is shown on Line 12, and the Residual Fund Transfer is found on Line 13. Both the Interest Earnings Payment to the City General Fund Deposit and Capital Account Deposit are further discussed below.

The City covenants under the General Ordinance require the Water Department to make one deposit to the Capital Account as of June 20th of each fiscal year in an amount not less than one percent of the total net plant investment in water and wastewater facilities (the "Capital Account Deposit Amount"). As discussed in Section 1.4, the projected level of the annual Capital Account Deposit Amount reflects 1.0% of the projected net plant investment in water and wastewater facilities in the prior year. To project net plant investment over the Study Period, Black & Veatch started with the FY 2024 actual net plant investment to project FY 2025 and then applied an inflation factor of 5.6% per year thereafter for the remainder of the Study Period.

Under the General Ordinance, the Water Department may make an annual payment to the City General Fund from the Residual Fund in an amount not to exceed the lower of $4,994,000 and annual interest earnings on the Debt Reserve Account. Accordingly, the Water Department annually transfers applicable interest earnings to the Residual Fund.

Interest income on annual average balances in the Construction Fund and the Debt Reserve Account is shown in Lines 14 and 23. The interest earnings in the Construction Fund, which primarily consists of bond proceeds, are not available to the Revenue Fund as a part of the overall project revenues available for meeting the annual revenue requirements of the Water Department. An assumed interest rate of 2.0% is used to determine the interest income for FY 2025 through FY 2030.

2.5 Summary of Revenue and Revenue Requirements

In this section, three tables are presented to provide the statement of financial operations for the Combined System. The first, Table 2-9, is the Water Department's financial plan reflecting only Base Rates. That is, TAP discounts and TAP-R revenues are not included. Table 2-10 presents the cashflows for the TAP discounts and TAP-R revenues[25]. Finally, Table 2-11 combines Table 2-9 and Table 2-10 to show a cashflow for the Combined System accounting for all revenues and revenue requirements. Compliance with the requirements of the General Bond Ordinance and metrics set by the Rate Board is based on Table 2-11. For all three tables, the proposed revenue increases do not reflect any rate compression.

As indicated on Lines 4 through 9 of Table 2-9 and Table 2-11, annual increases in revenue are required beginning in FY 2026. Revenue increases presented on Lines 4 to 9 of Table 2-9 reflect the overall needed increase to the Base Rates. The resulting percentage increases on Table 2-11are higher overall in FY 2026, showing the influence of the proposed increase in TAP-R rates, needed to address ongoing under recovery of TAP discounts, as well as highlighting the lack of reserves available in the rate stabilization fund balance to aid in managing the requested rate relief.

For this analysis, an effective increase date of September 1st for each fiscal year is assumed. As indicated in Lines 25 and 30 on Table 2-11, the debt service coverage requirements discussed previously would be met with these overall levels of increase in revenues. Annual cash requirements for the Combined System would also be met with the proposed levels of increase, as shown on Line 31 of Table 2-9 and Table 2-11.

[This spacing is intentional]

[25] Black & Veatch is presenting the existing FY 2025 TAP-R revenues and associated TAP discounts in alignment with calculations submitted with the 2025 TAP-R Annual Adjustment Proceeding. Table 2-10 illustrates the anticipated increase in TAP-R rates in FY 2026. TAP-R Revenues and TAP Discounts for FY 2027 and thereafter presented the estimated TAP-R revenue requirements per the TAP-R reconciliation calculations, as FY 2027 and beyond are subject to an annual adjustment proceeding (and only FY 2026 TAP-R rates are proposed at this time).

Table 2-9 Projected Revenue and Revenue Requirements: Base Rates Only [Schedule BV-1: Table C-1A]

LINE NO.	DESCRIPTION			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)									
Operating Revenues									
1	Water Service - Existing Rates			360,384	365,313	362,873	359,609	357,815	356,225
2	Wastewater Service - Existing Rates			529,333	538,149	536,504	533,635	520,326	518,523
3	**Total Service Revenue - Existing Rates**			**889,717**	**903,462**	**899,377**	**893,245**	**878,141**	**874,748**
	Additional Service Revenue Required								
		Year	Percent Increase	Months Effective					
4		FY 2026	10.00%	10		73,630	89,938	89,324	87,814	87,475
5		FY 2027	7.30%	10			58,858	71,728	70,515	70,242
6		FY 2028	6.83%	10				58,668	70,771	70,497
7		FY 2029	9.26%	10					83,553	102,126
8		FY 2030	7.99%	10						78,514
9	**Total Additional Service Revenue Required**				**-**	**73,630**	**148,795**	**219,720**	**312,653**	**408,855**
10	**Total Water & Wastewater Service Revenue**				**889,717**	**977,092**	**1,048,172**	**1,112,965**	**1,190,794**	**1,283,603**
	Other Income (a)									
11	Other Operating Revenue				29,644	29,726	29,624	29,533	29,486	29,438
12	Debt Reserve Account Interest Income				82	394	930	1,993	3,406	4,719
13	Operating Fund Interest Income				3,650	3,926	4,043	4,132	4,242	4,376
14	Rate Stabilization Interest Income				2,619	2,659	2,772	2,870	2,987	3,105
15	**Total Revenues**				**925,711**	**1,013,797**	**1,085,541**	**1,151,493**	**1,230,914**	**1,325,240**
Operating Expenses									
16	**Total Operating Expenses**				**(638,475)**	**(678,707)**	**(713,789)**	**(739,978)**	**(767,409)**	**(795,504)**
Net Revenues									
17	Transfer From/(To) Rate Stabilization Fund				3,000	(7,000)	(4,300)	(5,500)	(6,200)	(5,600)
18	**NET REVENUES AFTER OPERATIONS**				**290,237**	**328,091**	**367,452**	**406,015**	**457,305**	**524,137**
Debt Service									
	Senior Debt Service									
19	Outstanding Bonds				(220,303)	(231,843)	(231,844)	(218,499)	(209,623)	(210,974)
20	PENNVEST Loans				(16,412)	(24,506)	(31,321)	(36,294)	(39,100)	(40,437)
21	Projected Future Bonds				(0)	-	(16,667)	(54,771)	(100,294)	(149,015)
22	Commercial Paper				(1,349)	(1,349)	(1,349)	(1,349)	(1,349)	(1,349)
23	WIFIA				(356)	(593)	(1,407)	(1,407)	(1,407)	(1,407)
24	**Total Senior Debt Service**				**(238,420)**	**(258,292)**	**(282,588)**	**(312,319)**	**(351,773)**	**(403,182)**
25	**TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)**				**1.21 x**	**1.27 x**	**1.30 x**	**1.30 x**	**1.30 x**	**1.30 x**
26	Subordinate Debt Service				-	-	-	-	-	-
27	Transfer to Escrow				-	-	-	-	-	-
28	**Total Debt Service on Bonds**				**(238,420)**	**(258,292)**	**(282,588)**	**(312,319)**	**(351,773)**	**(403,182)**
29	**CAPITAL ACCOUNT DEPOSIT**				**(34,362)**	**(36,290)**	**(38,326)**	**(40,477)**	**(42,749)**	**(45,147)**
30	**TOTAL COVERAGE (L18/(L24+L26+L29))**				**1.06 x**	**1.11 x**	**1.14 x**	**1.15 x**	**1.15 x**	**1.16 x**
31	End of Year Revenue Fund Balance				17,455	33,509	46,538	53,219	62,783	75,807

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(b) Transfer of interest earnings from the Debt Reserve Account to the Residual Fund as shown in Line 35 to satisfy the requirements for the transfer to the City General Fund shown on Line 37.

(c) FY 2025 beginning balance is estimated based on preliminary FY 2024 results.

Table 2-10 Projected Revenue and Revenue Requirements: TAP-R Rates Only [Schedule BV-1: Table C-1B]

LINE NO.	DESCRIPTION			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)									
Operating Revenues									
1	Water Service - Existing Rates			11,733	15,549	15,977	15,874	15,785	15,707
2	Wastewater Service - Existing Rates			16,658	21,983	22,577	22,428	22,301	22,189
3	**Total Service Revenue - Existing Rates**			**28,392**	**37,532**	**38,554**	**38,302**	**38,086**	**37,897**
	Additional Service Revenue Required								
	Year	Percent Increase	Months Effective						
4	FY 2026	27.82%	10		8,749	10,499	10,499	10,499	10,499
5	FY 2027	0.00%	10			-	-	-	-
6	FY 2028	0.00%	10				-	-	-
7	FY 2029	0.00%	10					-	-
8	FY 2030	0.00%	10						-
9	**Total Additional Service Revenue Required**			**-**	**8,749**	**10,499**	**10,499**	**10,499**	**10,499**
10	**Total Water & Wastewater Service Revenue**			**28,392**	**46,281**	**49,052**	**48,801**	**48,584**	**48,396**
	Other Income								
11	Other Operating Revenue (a)			(37,585)	(39,869)	(49,264)	(49,264)	(49,264)	(49,264)
12	Debt Reserve Account Interest Income			-	-	-	-	-	-
13	Operating Fund Interest Income			-	-	-	-	-	-
14	Rate Stabilization Interest Income			-	-	-	-	-	-
15	**Total Revenues**			**(9,193)**	**6,412**	**(212)**	**(463)**	**(680)**	**(869)**
Operating Expenses									
16	**Total Operating Expenses**			**-**	**-**	**-**	**-**	**-**	**-**
Net Revenues									
17	Transfer From/(To) Rate Stabilization Fund (b)			9,193	(6,412)	212	463	680	869
18	**NET REVENUES AFTER OPERATIONS**			**-**	**-**	**-**	**-**	**-**	**-**
Debt Service									
	Senior Debt Service								
19	Outstanding Bonds			-	-	-	-	-	-
20	PENNVEST Loans			-	-	-	-	-	-
21	Projected Future Bonds			-	-	-	-	-	-
22	Commercial Paper			-	-	-	-	-	-
23	WIFIA			-	-	-	-	-	-
24	**Total Senior Debt Service**			**-**	**-**	**-**	**-**	**-**	**-**
25	**TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)**			**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
26	Subordinate Debt Service			-	-	-	-	-	-
27	Transfer to Escrow			-	-	-	-	-	-
28	**Total Debt Service on Bonds**			**-**	**-**	**-**	**-**	**-**	**-**
29	**CAPITAL ACCOUNT DEPOSIT**			**-**	**-**	**-**	**-**	**-**	**-**
30	**TOTAL COVERAGE (L18/(L24+L26+L29))**			**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
31	End of Year Revenue Fund Balance			-	-	-	-	-	-

(a) FY 2025 and FY 2026 reflect TAP Credits based on the proposed 2025 Annual TAP-R Adjustment Filing.
FY 2027 and onward reflect the TAP-R revenue reqruirement based on the proposed 2025 TAP-R Reconciliation.

(b) Rate Stabilization Fund transfers necessary to meet over or under recovery of TAP costs until recovery is reconciled via TAP-R reconciliation.

Table 2-11 Projected Revenue and Revenue Requirements: Base Rates and TAP-R Rates [Schedule BV-1: Table C-1]

LINE NO.	DESCRIPTION			FY 2025	Projected FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)									
Operating Revenues									
1	Water Service - Existing Rates			372,118	380,862	378,850	375,484	373,600	371,932
2	Wastewater Service - Existing Rates			545,992	560,132	559,080	556,063	542,627	540,713
3	**Total Service Revenue - Existing Rates**			**918,109**	**940,994**	**937,930**	**931,547**	**916,227**	**912,645**
	Additional Service Revenue Required								
		Year	Percent Increase	Months Effective					
4		FY 2026	10.74%	10		82,379	100,436	99,823	98,313	97,973
5		FY 2027	6.95%	10			58,858	71,728	70,515	70,242
6		FY 2028	6.52%	10				58,668	70,771	70,497
7		FY 2029	8.87%	10					83,553	102,126
8		FY 2030	7.69%	10						78,514
9	**Total Additional Service Revenue Required**			**-**	**82,379**	**159,294**	**230,219**	**323,151**	**419,354**
10	**Total Water & Wastewater Service Revenue**			**918,109**	**1,023,373**	**1,097,224**	**1,161,766**	**1,239,379**	**1,331,999**
	Other Income (a)								
11	Other Operating Revenue			(7,941)	(10,143)	(19,640)	(19,731)	(19,779)	(19,826)
12	Debt Reserve Account Interest Income			82	394	930	1,993	3,406	4,719
13	Operating Fund Interest Income			3,650	3,926	4,043	4,132	4,242	4,376
14	Rate Stabilization Interest Income			2,619	2,659	2,772	2,870	2,987	3,105
15	**Total Revenues**			**916,518**	**1,020,209**	**1,085,329**	**1,151,029**	**1,230,235**	**1,324,372**
Operating Expenses									
16	**Total Operating Expenses**			**(638,475)**	**(678,707)**	**(713,789)**	**(739,978)**	**(767,409)**	**(795,504)**
Net Revenues									
17	Transfer From/(To) Rate Stabilization Fund			12,193	(13,412)	(4,088)	(5,037)	(5,520)	(4,731)
18	**NET REVENUES AFTER OPERATIONS**			**290,237**	**328,091**	**367,452**	**406,015**	**457,305**	**524,137**
Debt Service									
	Senior Debt Service								
	Revenue Bonds								
19	Outstanding Bonds			(220,303)	(231,843)	(231,844)	(218,499)	(209,623)	(210,974)
20	PENNVEST Loans			(16,412)	(24,506)	(31,321)	(36,294)	(39,100)	(40,437)
21	Projected Future Bonds			(0)	-	(16,667)	(54,771)	(100,294)	(149,015)
22	Commercial Paper			(1,349)	(1,349)	(1,349)	(1,349)	(1,349)	(1,349)
23	WIFIA			(356)	(593)	(1,407)	(1,407)	(1,407)	(1,407)
24	**Total Senior Debt Service**			**(238,420)**	**(258,292)**	**(282,588)**	**(312,319)**	**(351,773)**	**(403,182)**
25	**TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)**			**1.21 x**	**1.27 x**	**1.30 x**	**1.30 x**	**1.30 x**	**1.30 x**
26	Subordinate Debt Service			-	-	-	-	-	-
27	Transfer to Escrow			-	-	-	-	-	-
28	**Total Debt Service on Bonds**			**(238,420)**	**(258,292)**	**(282,588)**	**(312,319)**	**(351,773)**	**(403,182)**
29	**CAPITAL ACCOUNT DEPOSIT**			**(34,362)**	**(36,290)**	**(38,326)**	**(40,477)**	**(42,749)**	**(45,147)**
30	**TOTAL COVERAGE (L18/(L24+L26+L29))**			**1.06 x**	**1.11 x**	**1.14 x**	**1.15 x**	**1.15 x**	**1.16 x**
31	**End of Year Revenue Fund Balance**			**17,455**	**33,509**	**46,538**	**53,219**	**62,783**	**75,807**

Table 2-11 Projected Revenue and Revenue Requirements: Base Rates and TAP-R Rates (continued)

LINE NO.	DESCRIPTION	FY 2025	Projected FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Combined System ($000s)							
Residual Fund							
32	Beginning of Year Balance	30,847	15,018	15,031	15,052	15,096	15,072
33	Interest Income	454	298	298	298	299	298
	Plus:						
34	End of Year Revenue Fund Balance	17,455	33,509	46,538	53,219	62,783	75,807
35	Deposit for Transfer to City General Fund (b)	4,994	4,994	4,994	4,994	4,994	4,994
	Less:						
36	Transfer to Construction Fund	(29,300)	(25,700)	(40,000)	(48,500)	(60,300)	(74,800)
37	Transfer to City General Fund	(4,994)	(4,994)	(4,994)	(4,994)	(4,994)	(4,994)
38	Transfer to Debt Reserve Account	(4,438)	(8,094)	(6,815)	(4,973)	(2,806)	(1,337)
39	**End of Year Balance**	**15,018**	**15,031**	**15,052**	**15,096**	**15,072**	**15,040**
Rate Stabilization Fund							
40	Beginning of Year Balance (c)	132,438	120,245	133,657	137,745	142,781	148,301
41	Deposit From/(To) Revenue Fund	(12,193)	13,412	4,088	5,037	5,520	4,731
42	**End of Year Balance**	**120,245**	**133,657**	**137,745**	**142,781**	**148,301**	**153,033**

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund and reflects projected contra revenue credits for Affordability Program Discounts (TAP Costs).

(b) Transfer of interest earnings from the Debt Reserve Account to the Residual Fund as shown in Line 35 to satisfy the requirements for the transfer to the City General Fund shown on Line 37.

(c) FY 2025 beginning balance is estimated based on preliminary FY 2024 results.

2.6 Compliance with General Bond Ordinance and Rate Ordinance Requirements

As stated in the assumptions utilized for these analyses, the Water Department must establish rates and charges to meet the financial management requirements of the General Bond Ordinance with respect to, among other things, (1) maintaining the Rate Stabilization Fund at target levels; (2) financing a portion of major annual capital improvement requirements directly from annual system revenues; (3) fulfilling rate covenant requirements; and (4) making required deposits into the Residual Fund of any monies remaining after payment of all current cash obligations to further support the Water Department's goal of achieving 20% capital funding from system revenues.

The 2018 Rate Determination identified the following financial policy goals: a target Rate Stabilization Fund balance of approximately $135 million, a 1.30 senior debt service coverage ratio, 20% cash financing of capital improvements, and maintaining a target Residual Fund balance of $15 million.

To help mitigate short term rate impacts, the Water Department has decided to temporarily defer meeting senior debt service coverage targets and Rate Stabilization Fund balance targets in FY 2026. Cash funded capital funding targets are also deferred for the Rate Period. The proposed rates and charges are derived to meet interim senior debt service coverage targets and adhere to the 90% Test.

In addition to the General Bond Ordinance, under Section 13-101of the Philadelphia Code ("City Code"), the Water Rate Board Ordinance ("Rate Ordinance") sets forth the floor for the amounts that rates and charges must generate to support the Combined System. The rates and charges must yield to the City at least an amount equal to the sum of:

1. Operating expenses of the City in respect of the Water and Wastewater Systems.
2. Debt service on all obligations of the City in respect of the Water and Wastewater Systems.
3. With respect to the water, sewer and stormwater revenue obligations of the City, such additional amounts as will be required to comply with any rate covenant and sinking fund reserve

requirements approved by ordinance of the City Council in connection with the authorization or issuance of water, sewer, and stormwater revenue bonds; and

4. Proportionate charges for all services performed for the Water Department by all officers, departments, boards, or commissions of the City. See, City Code at13-101(4)(a).

Moreover, Section 13-101(4)(b) of the City Code states that the rates and charges must not exceed ("ceiling") the total appropriations from the Water Fund and provides considerations of the elements that are to be included in the calculation of the ceiling. The rates and charges projected for FY 2026 and FY 2027 do not exceed the Water Fund's projected appropriations for the above years.

Lines 4 through 6 on Table 2-12 show the calculation for compliance with the General Bond Ordinance Rate Covenant. As shown on Line 25 of Table 2-11, senior debt service coverage is projected to be 1.21 in FY 2025, 1.27 in FY 2026 and 1.30 for the remainder of the Study Period. This reflects the Water Department's intent to increase coverage, generating more cash funding for capital while helping to mitigate revenue adjustments in the short term.

Line 11 in Table 2-12 reflects the compliance with the Rate Ordinance requirement over the Study Period.

While the Water Department has decided to defer the approved financial policy goals on an interim basis, a return to these metrics in future years will be necessary to improve the Water Department's financial position, provide adequate reserves, and help manage through future emergencies and strains on the System. As shown on Line 3 of Table 2-12, in FY 2025 the RSF is projected to have an end of fiscal year balance slightly above minimal levels of $120 million. The RSF is projected to remain below the target level in FY 2026 and slightly above the target balance by the end of FY 2027. The projected balance in FY 2025 is partially attributable to TAP-R revenues under recovering TAP discounts, which will in turn be offset in the subsequent fiscal year based upon the proposed TAP-R rates.

The RSF serves as the Water Department's primary source of short-term liquidity and reserves. The Water Department has historically leveraged available RSF balances to help cover costs and mitigate rate impacts. The Water Department does not have the flexibility to rely upon the RSF to further mitigate any near-term revenue needs. Without the proposed revenue increases, the projected RSF balances would fall further below the target balance.

Lack of available Rate Stabilization Fund balance will limit the Water Department's ability to: 1) address emergencies, 2) mitigate other system risks, and 3) manage future revenue adjustments. Further, the RSF target balance may need to be increased in the future. The current RSF target balance was approved with the 2018 Rate Determination, which was prior to recent inflationary pressures and based upon the operating needs of the Water Fund at the time of the corresponding rate proceeding.

As with the Water Department's experience in FY 2024 and currently in FY 2025, the Water Department will need to closely monitor all aspects of financial performance, including the receipt of revenues, operation and maintenance expenses, capital program expenses and associated financing to meet the requirements of the General Bond Ordinance.

Without proposed increased revenues, and if all other factors remain unchanged, the RSF will be depleted by the end of FY 2027. In addition, the 90% Test and senior debt service coverage requirements would not be met in FY 2027.

Table 2-12 Projected Rate Stabilization Fund and Covenants Metrics Performance: Base Rates and TAP-R Rates [Schedule BV-1: Table C-2])

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Rate Stabilization Fund							
1	Beginning Balance: Rate Stabilization Fund (a)	$ 132,438	$ 120,245	$ 133,657	$ 137,745	$ 142,781	$ 148,301
2	Transfers From (To) Revenue Fund (b)	(12,193)	13,412	4,088	5,037	5,520	4,731
3	Year-End Rate Stabilization Fund Balance (Line 1 + Line 2)	120,245	133,657	137,745	142,781	148,301	153,033
General Bond Ordinance Covenants							
4	Senior Debt Coverage (c)	1.21	1.27	1.30	1.30	1.30	1.30
5	Total Debt Coverage (d)	1.06	1.11	1.14	1.15	1.15	1.16
6	90% Test - Senior Debt Coverage from Current Revenues (e)	1.16	1.27	1.30	1.30	1.30	1.30
O&M Actual to Budget Ratio							
7	Projected O&M Budget (f)	732,773	777,712	815,837	846,032	877,609	910,060
8	O&M Actual to Budget Ratio	92.8%	92.9%	93.0%	93.0%	93.0%	93.0%
Rate Ordinance Requirements							
9	Projected Total Revenues	916,518	1,020,209	1,085,329	1,151,029	1,230,235	1,324,372
10	Projected Total Appropriations (g)	1,023,010	1,112,803	1,187,589	1,257,547	1,341,114	1,439,797
11	Rate Ordinance Requirement Compliance (h)	Yes	Yes	Yes	Yes	Yes	Yes
Cash Funding							
12	Cash Funded Capital (i)	63,662	61,990	78,326	88,977	103,049	119,947
13	Capital Improvement Program Annual Expenses	$ 406,863	$ 511,975	$ 596,833	$ 671,342	$ 711,252	$ 754,590
14	Cash Funded Capital Ratio (j)	15.6%	12.1%	13.1%	13.3%	14.5%	15.9%

(a) FY 2025 beginning balance is estimated based on FY 2024 preliminary financial results.
(b) See Line 17 in Table 2-11.
(c) Senior Debt Coverage = (Total Revenues - Operating Expenses + Transfer From (to) Rate Stabilization) divided by Senior Debt. The General Bond Ordinance requires the minimum Senior Debt Service Coverage of 1.20.
(d) Total Debt Coverage = (Total Revenues - Operating Expenses + Rate Stabilization Transfer) divided by (Senior Debt + Subordinate Debt + Capital Account Deposit). The 1989 General Ordinance requires the minimum Total Debt Service Coverage of 1.00.
(e) Senior Debt Coverage from Current Revenues = (Total Revenues - Operating Expenses - Transfer to Rate Stabilization Fund) divided by Senior Debt. Transfers from Rate Stabilization are excluded from the Total Revenues. The General Bond Ordinance requires a minimum Senior Debt Service Coverage of 0.90 from Current Revenues.
(f) FY 2025 budget reflects the PWD adopted budget; FY 2026 through FY 2030 budget reflects annual cost escalation factors.
(g) Total Appropriation = Total O&M Budget + Senior Debt + Subordinate Debt + Transfer to Escrow + Capital Account Deposit + Transfer to Rate Stabilization Fund + Transfer to Residual Fund. Costs to service the City included as required by the General Bond Ordinance rate covenants.
(h) Rate Ordinance requires that Total Revenues not exceed Total Appropriations.
(i) Cash Funded Capital = Capital Account Deposit + Residual Transfer to Construction Fund
(j) Cash Funded Capital Ratio = Cash Funded Capital divided by Capital Improvement Program annual expenses.

2.7 Proposed Rates

The proposed charges for water and wastewater service derived in this Report are applicable to General Service retail customers and recognize that certain retail customer types, including qualifying senior citizens, charities and schools, and the Philadelphia Housing Authority (“PHA”), receive services at a discounted rate. The Water Department anticipates that the existing discounts (25% for senior citizens, charities and schools, and 5% for PHA) will continue to be applicable for the entire Study Period.

In designing the proposed rates, water, sanitary sewer, and stormwater costs of service are adjusted to reflect the fact that the above customer types are served at a discount and do not pay the full cost of service. Accordingly, the proposed retail water, sewer, and stormwater rates are adjusted to recover this COS revenue reduction due to discounts. In addition, in the case of the non-residential stormwater group, we adjust their stormwater rates to address the discounts as well as to recover the reduction in revenue due to the existing stormwater customer assistance program (“CAP”). Additional information regarding the anticipated revenue reductions due to the stormwater CAP are discussed later in this Report.

Revenue loss due to providing TAP discounts and TAP-R revenues were excluded from the analysis of Base Rates. Consequently, Table 2-13 only summarizes the proposed Base Rates for the Rate Period (FY 2026 and FY 2027). Current effective rates for FY 2025 are presented for informational purposes. Refer to Table 5-2 for proposed fire protection service charges.

Table 2-13 Proposed FY 2025 and 2026 General Service Retail Rates

Water			
	Existing	Proposed	
Description	FY 2025	FY 2026	FY 2027
Monthly Water Service Charge ($/bill)			
Meter Size (Inches)			
5/8	$5.17	$6.08	$6.31
3/4	$5.70	$7.06	$7.35
1	$7.19	$9.42	$9.82
1-1/2	$10.29	$14.73	$15.37
2	$14.75	$21.85	$22.79
3	$24.33	$37.62	$39.26
4	$43.28	$65.44	$68.29
6	$82.46	$126.77	$132.31
8	$127.03	$197.89	$206.57
10	$185.16	$287.04	$299.62
12	$313.27	$503.58	$525.79
Base Rate - Water Quantity Charges ($/Mcf)			
Monthly Water Usage			
First 2 Mcf	$64.32	$72.45	$74.79
Next 98 Mcf	$57.88	$64.76	$70.28
Next 1,900 Mcf	$44.84	$50.16	$54.97
Over 2,000 Mcf	$43.62	$50.16	$54.97

Wastewater			
	Existing	Proposed	
Description	FY 2025	FY 2026	FY 2027
Monthly Sanitary Sewer Service Charge ($/bill)			
Meter Size (Inches)			
5/8	$7.64	$8.22	$8.84
3/4	$9.79	$10.52	$11.36
1	$14.43	$15.47	$16.77
1-1/2	$25.53	$27.30	$29.74
2	$39.44	$42.16	$45.98
3	$71.26	$76.09	$83.12
4	$120.98	$129.24	$141.07
6	$238.64	$254.85	$278.34
8	$377.82	$403.41	$440.78
10	$545.20	$582.16	$636.00
12	$992.49	$1,059.17	$1,158.44
Base Rate - Sanitary Sewer Quantity Charges ($/Mcf)			
Monthly Usage			
All Billable Water Usage	$41.11	$47.39	$50.66
Groundwater Charge	$14.81	$16.33	$17.47
Sanitary - Surcharge Rates ($/lb)			
BOD ($/lb in excess of 250 mg/l)	$0.450	$0.514	$0.537
SS ($/lb in excess of 350 mg/l)	$0.458	$0.535	$0.555
Residential Stormwater Charges			
Monthly Stormwater Management Service Charge			
Charge Per Parcel	$18.47	$19.32	$21.27
Monthly Billing & Collection Charge			
Charge Per Bill	$1.94	$2.06	$2.22
Non-Residential Stormwater Charges			
Monthly Stormwater Management Service Charge			
Gross Area ($/500 sf)	$0.862	$0.927	$1.021
Impervious Area ($/500 sf)	$6.309	$6.519	$7.176
Monthly Billing & Collection Charge			
Charge Per Bill	$2.52	$2.67	$2.89

Mcf - Thousand cubic feet
sf - square feet
BOD - Biochemical Oxygen Demand
SS - Suspended Solids
lb - pounds
mg/l - milligrams per liter

Notes:
All charges (existing and proposed) are effective September 1st of the respective Fiscal Year.
Non-Residential Stormwater Charges includes Condominiums.
Non-Residential Stormwater Customers (including Condominiums) are subject to a minimum Stormwater Management Service Charge equal to the residential charge per parcel.

2.7.1 Residential and Senior Citizen Typical Bills

Table 2-14 presents a series of typical or representative combined residential water, sanitary sewer, and stormwater monthly bills under existing and proposed rates for FY 2026 and FY 2027 for the 5/8-inch meter size. A typical PWD residential customer has a 5/8-inch meter and uses about 0.43 Mcf, or approximately 430 cubic feet, monthly. Under the proposed schedules of water, sanitary sewer, and stormwater rates for FY 2026, this customer's monthly bill would increase from $81.77 to $91.31, an increase of $9.54 or about 11.7%. In FY 2027, the bill increases to $96.68, an increase of $5.37 over FY 2026 rates, or about 5.9%.

Table 2-14 Comparison of Typical Bill for Residential Customers Under Existing and Proposed Rates [Schedule BV-1: Table C-4]

		FY 2025	FY 2026		FY 2027	
METER SIZE	MONTHLY USE	EXISTING RATES	PROPOSED RATES	% PROPOSED OF EXISTING	PROPOSED RATES	% PROPOSED OF FY 2026
Inches	Mcf	$	$	%	$	%
5/8	0.00	33.22	35.67	7.4	38.64	8.3
5/8	0.20	55.80	61.54	10.3	65.64	6.7
5/8	0.30	67.09	74.49	11.0	79.14	6.2
5/8	0.40	78.38	87.42	11.5	92.63	6.0
5/8	0.43	81.77	91.31	11.7	96.68	5.9
5/8	0.50	89.68	100.36	11.9	106.14	5.8
5/8	0.60	100.97	113.30	12.2	119.64	5.6
5/8	0.70	112.26	126.23	12.4	133.13	5.5
5/8	0.80	123.55	139.18	12.7	146.63	5.3
5/8	1.70	225.17	255.61	13.5	268.12	4.9
5/8	2.70	333.57	379.61	13.8	399.96	5.4
5/8	3.30	397.45	452.63	13.9	478.25	5.7

Notes:
FY 2025 figures reflect the existing base and current TAP-R rates, of $3.08/Mcf for water and $4.40/Mcf for sewer.
FY 2026 and FY 2027 figures reflect the proposed base and TAP-R rates, of $3.87/Mcf for water and $5.67/Mcf for sewer.
The FY 2026 TAP-R rates are subject to the Rate Board's Determination in the 2025 TAP-R Reconciliation Proceeding.
The TAP-R Rates are subject to annual reconciliation.

A typical PWD senior residential customer has a 5/8-inch meter and uses about 0.3 Mcf monthly. Under the proposed schedules of water, sanitary sewer, and stormwater rates for FY 2026, this customer's monthly bill would increase from $67.09 to $74.49, an increase of $7.40 or about 11.0%. In FY 2027, the bill increases to $79.14, an increase of $4.65 over FY 2026 rates, or about 6.2%. Qualifying senior citizens may receive a 25% discount on their entire bill. The total monthly bills presented in Table 2-14 do not reflect this discount. The typical qualifying senior residential customer’s monthly bill (based upon the previously stated billing parameters) would increase from $50.32 to $55.87, an increase of $5.55 or about 11.0%. In FY 2027, the bill increases to $59.35, an increase of $3.48 over FY 2026 rates, or about 6.2%.

2.7.2 Non-Residential Typical Bills

Table 2-15 presents a series of typical or representative combined non-residential water, sanitary sewer, and stormwater monthly bills under existing and proposed rates for FY 2026 and FY 2027 for multiple meter sizes and various parcel characteristics (i.e., GA and IA). A PWD small commercial business customer has a 5/8-inch meter and uses about 0.55 Mcf or approximately 550 cubic feet, monthly. A parcel with gross area of 5,500 square feet and impervious area of 4,000 square feet was assumed for development of the typical bill comparison.

Under the proposed schedules of water, sanitary sewer, and stormwater rates for FY 2026, this customer's monthly bill would increase from $137.38 to $150.49, an increase of $13.11 or about 9.5%. In FY 2027, the bill increases to $160.92, an increase of $10.43 over FY 2026 rates, or about 6.9%.

[This spacing is intentional]

Table 2-15 Comparison of Typical Bill for Non-Residential Customers Under Existing and Proposed Rates [Schedule BV-1: Table C-5]

				FY 2025	FY 2026		FY 2027	
METER SIZE	MONTHLY USE	IMPERVIOUS AREA	GROSS AREA	EXISTING RATES	PROPOSED RATES	% PROPOSED OF EXISTING	PROPOSED RATES	% PROPOSED OF FY 2026
Inches	Mcf	sf	sf	$	$	%	$	%
5/8	0.0	1,794	2,110	44.88	47.69	6.3	51.85	8.7
5/8	0.2	1,794	2,110	67.46	73.56	9.0	78.85	7.2
5/8	0.3	1,794	2,110	78.75	86.51	9.9	92.35	6.8
5/8	0.4	1,794	2,110	90.04	99.44	10.4	105.84	6.4
5/8	0.5	4,000	5,500	131.74	144.02	9.3	154.18	7.1
5/8	0.55	4,000	5,500	137.38	150.49	9.5	160.92	6.9
5/8	0.6	4,000	5,500	143.03	156.96	9.7	167.68	6.8
5/8	0.7	4,000	5,500	154.32	169.89	10.1	181.17	6.6
5/8	0.8	26,000	38,000	499.24	529.97	6.2	576.78	8.8
5/8	1.7	26,000	38,000	600.86	646.40	7.6	698.27	8.0
5/8	2.7	4,000	5,500	375.63	423.27	12.7	448.00	5.8
5/8	3.3	4,000	5,500	439.51	496.29	12.9	526.29	6.0
5/8	11.0	7,000	11,000	1,306.67	1,482.62	13.5	1,585.27	6.9
1	1.7	7,700	7,900	330.83	366.65	10.8	390.11	6.4
1	5.0	22,500	24,000	894.65	989.28	10.6	1,062.83	7.4
1	8.0	7,700	7,900	1,003.52	1,135.61	13.2	1,213.49	6.9
1	17.0	22,500	24,000	2,172.29	2,449.56	12.8	2,628.59	7.3
2	7.6	1,063	1,250	900.28	1,029.25	14.3	1,096.92	6.6
2	16.0	22,500	24,000	2,098.39	2,366.99	12.8	2,540.29	7.3
2	33.0	66,500	80,000	4,560.12	5,113.28	12.1	5,504.29	7.6
2	100.0	7,700	7,900	10,831.33	12,370.21	14.2	13,259.83	7.2
4	30.0	7,700	7,900	3,488.50	3,982.58	14.2	4,266.82	7.1
4	170.0	10,500	12,000	17,519.94	20,037.20	14.4	21,506.37	7.3
4	330.0	26,000	38,000	32,709.14	37,421.92	14.4	40,209.12	7.4
4	500.0	140,000	160,000	50,241.02	57,339.91	14.1	61,673.27	7.6
6	150.0	10,500	12,000	15,808.18	18,082.34	14.4	19,404.26	7.3
6	500.0	41,750	45,500	48,963.90	56,036.69	14.4	60,234.26	7.5
6	1,000.0	26,000	38,000	95,464.08	109,359.16	14.6	117,574.31	7.5
6	1,500.0	140,000	160,000	143,827.86	164,616.85	14.5	177,044.56	7.5
8	750.0	10,500	12,000	72,049.93	82,556.02	14.6	88,742.96	7.5
8	1,500.0	66,500	80,000	142,946.27	163,729.80	14.5	176,063.03	7.5
8	2,000.0	26,000	38,000	189,077.83	216,668.84	14.6	232,981.01	7.5
8	3,000.0	140,000	160,000	282,936.61	325,471.53	15.0	350,036.26	7.5
10	600.0	22,500	24,000	58,433.04	66,939.14	14.6	71,952.46	7.5
10	1,700.0	41,750	45,500	161,489.16	185,032.27	14.6	198,963.23	7.5
10	3,300.0	26,000	38,000	309,176.34	356,153.74	15.2	382,990.28	7.5
10	6,000.0	140,000	160,000	559,792.12	647,009.43	15.6	695,834.53	7.5

(a) Examples with gross area less than 5,000 square feet reflect an impervious area of 85% of the gross area consistent with PWD Regulations section 304.3.
(b) The FY 2025 figures reflect the existing base and current TAP-R rates, of $3.08/Mcf for water and $4.40/Mcf for sewer.
(c) FY 2026 and FY 2027 figures reflect the proposed base and TAP-R rates, of $3.87/Mcf for water and $5.67/Mcf for sewer.
(d) The FY 2026 TAP-R rates are subject to the Rate Board's Determination in the 2025 TAP-R Reconciliation Proceeding.
The TAP-R Rates are subject to annual reconciliation.

3.0 Water System Revenue and Revenue Requirements

The major elements of the water system include three river supply intakes, three treatment plants, storage facilities and a conveyance network. Based on the 2023 U.S. Census Bureau estimate, the Water System served 1,550,542 individuals.

This section of the report focuses on the Revenue and Revenue Requirements component of the COS study for the Water System. These requirements establish how much money the Water System needs to meet its fiscal year operating and capital obligations. In the following discussion, we review O&M expenses, debt service payments, funding for specific deposits and reserves, and the cost of capital improvement projects that the Water Department does not fund via debt or contributions from third parties.

3.1 Water Revenue

The City's Water System derives revenue primarily from charges for water service. During the Study Period, future levels of revenue are projected based on an analysis of historical and future system growth in terms of the number of accounts and water consumption.

3.1.1 Customers and Growth

Table 3-1 summarizes the Water Department's customer account classifications. Customer types are based on a combination of service type, customer type, and installation type designations in Basis2.

Table 3-1 Water System Customer Types

CUSTOMER TYPES		
General Service	Other	Fire Service
- Residential	- PHA	- Public (Hydrants)
- Senior Citizens	- Charities & Schools	- Private
- Commercial	- Hospitals & Universities	Wholesale
- Industrial	- Hand Billed	
- Public Utilities	- Scheduled (Flat Rate)	

As noted above, the population served by the Water System is approximately 1,550,542 based on the 2023 Census Bureau estimate. Overall, this indicates only slight population growth within the City compared to the 2010 Census (1,526,006). As noted in Section 1.4, customer account projections for FY 2025 to FY 2030 are based upon the number of accounts in FY 2024 and assumed to remain relatively constant over the Study Period. The customer accounts for the Water System over the Study Period are presented in Table 3-2.

Table 3-2 Number of Customer Accounts

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System							
1	Residential	436,973	436,973	436,973	436,973	436,973	436,973
2	Senior Citizens	22,212	22,212	22,212	22,212	22,212	22,212
3	Commercial	38,208	38,208	38,208	38,208	38,208	38,208
4	Industrial	1,042	1,040	1,038	1,036	1,036	1,036
5	Public Utilities	224	224	224	224	224	224
6	**Subtotal General Service**	**498,659**	**498,657**	**498,655**	**498,653**	**498,653**	**498,653**
7	PHA	5,444	5,444	5,444	5,444	5,444	5,444
8	Charities and Schools	1,595	1,595	1,595	1,595	1,595	1,595
9	Hospitals and Universities	119	119	119	119	119	119
10	Hand Billed	223	223	223	223	223	223
11	Scheduled (Flat Rate)	5	5	5	5	5	5
12	Private Fire Protection	6,890	6,890	6,890	6,890	6,890	6,890
13	**Subtotal Retail Customers**	**512,935**	**512,933**	**512,931**	**512,929**	**512,929**	**512,929**
14	Aqua Pennsylvania	1	1	1	1	1	1
15	**Total Water System**	**512,936**	**512,934**	**512,932**	**512,930**	**512,930**	**512,930**

3.1.2 Billed Volume

Section 1.4 discussed the assumptions underlying the billed volumes projections and noted that the Water Department saw an average annual decrease in overall billed water volume of 2.67% from FY 2023 to FY 2024. Table 1-2 provides the baseline number and usage per account and summarizes the associated demand escalation factors for the Study Period. For all customer types, the FY 2024 usage per account serves as the initial basis for the projection of billed volume. To approximate anticipated ongoing reductions in billed water volume, the 3-year average change in usage per account by customer type is applied to all customer types, with the exception of fire service, over the Study Period beginning in FY 2025[26].

Table 3-3 presents the projected billed volume in Mcf for the Study Period. The bases of the projected water usage is the current number of accounts and the usage per account based on historical demands, as presented in Appendix A.

[26] The customer usage per account has shown continued decline, in the most recent 5 years the average usage per account dropped by an (1.35%) per year, in the most recent the 3 years the average usage declined by an average (0.50%), and in the most recent 2-years the average usage declined by an average of (1.48%). The reduction in overall billed volume coupled with the declines in usage per account is a trend historically exhibited in PWD's billing data. It is assumed these trends will continue through the Study Period.

Table 3-3 Projected Billed Volume

LINE NO.	DESCRIPTION	FY 2025	Projected FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System (Mcf)							
1	Residential	2,946,255	2,885,570	2,828,379	2,774,375	2,749,068	2,723,761
2	Senior Citizens	122,141	121,069	120,003	118,943	118,943	118,943
3	Commercial	1,715,127	1,717,539	1,720,056	1,722,572	1,722,572	1,722,572
4	Industrial	75,616	73,511	71,458	69,454	69,454	69,454
5	Public Utilities	13,936	14,503	15,116	15,780	15,780	15,780
6	**Subtotal General Service**	**4,873,075**	**4,812,192**	**4,755,012**	**4,701,124**	**4,675,817**	**4,650,510**
7	PHA	139,149	139,366	139,584	139,802	139,802	139,802
8	Charities and Schools	131,827	142,258	153,519	165,673	165,673	165,673
9	Hospitals and Universities	105,692	113,442	121,758	130,686	130,686	130,686
10	Hand Billed	347,305	323,506	301,338	280,688	280,688	280,688
11	Scheduled (Flat Rate)	19	16	13	11	11	11
12	Private Fire Protection	827	827	827	827	827	827
13	**Total Retail Customers**	**5,597,894**	**5,531,607**	**5,472,051**	**5,418,811**	**5,393,504**	**5,368,197**
14	Aqua Pennsylvania	69,985	69,985	69,985	69,985	69,985	69,985
15	**Total Water System**	**5,667,879**	**5,601,592**	**5,542,036**	**5,488,796**	**5,463,489**	**5,438,182**

3.1.3 Bill Tabulation

In addition to analyzing the historical usage per account trends, the bill-frequency distribution (more commonly known as a bill tabulation) was also examined. Specifically, the bill tabulation presents the number of customer bills issued at different meter sizes and water usage levels for each customer type served by the utility. The bill tabulation of customer bills provides information on customer type meter distributions and usage patterns. For the analysis conducted herein, the bill tabulation results provide data on the number of accounts by meter size and how much volume passes through each block of the Water Department's quantity charge structure.

3.1.4 Water Revenue

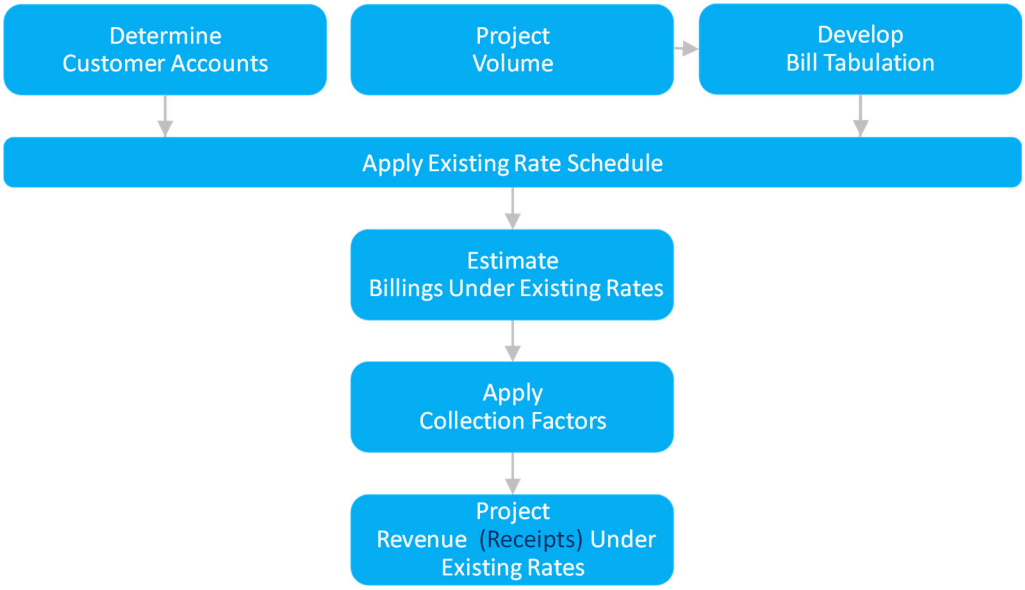
The total operating revenues for the Water Department include the following:

- Retail (i.e., all customers excluding wholesale) Water Service and Quantity charges;
- Private Fire Protection – A monthly charge based on meter size to recover a portion of the Water System costs related to serving certain customers with private fire systems;
- Public Fire Protection – An annual charge assessed to the City based on the annual cost of service to recover a portion of the Water System costs related to providing public fire protection; and
- Wholesale customer water charges.

3.1.4.1 Retail Operating Revenues

Retail operating revenues were developed following the process described below and illustrated in Figure 3-1.

Figure 3-1 Projecting Revenues Under Existing Rates



3.1.4.2 Projection of Gross Billings

To project the FY 2025 water gross billings, the FY 2024 rates (effective September 1, 2023) and current FY 2025 (effective September 1, 2024) schedules of water rates were applied to the projected FY 2025 annual water sales, number of customer accounts and bill tabulation results, to reflect the September 1, 2025 implementation of the FY 2025 rate schedule. To project FY 2026 to FY 2030 water gross billings, the FY 2025 schedule of water rates shown on Table 3-4 were applied to the projections of annual water sales, number of customer accounts, and bill tabulation results.

Table 3-4 Existing FY 2025 Water Rates

DESCRIPTION	WATER	PRIVATE FIRE RESIDENTIAL	PRIVATE FIRE OTHER
Monthly Water Service Charge ($/bill)			
Meter Size (Inches)			
5/8	$5.17		
3/4	$5.70	$9.27	
1	$7.19	$10.76	
1-1/2	$10.29	$13.86	
2	$14.75	$18.32	
3	$24.33		
4	$43.28		$28.06
6	$82.46		$52.02
8	$127.03		$78.31
10	$185.16		$115.13
12	$313.27		$182.34
Base Rate - Water Quantity Charges ($/Mcf)			
Monthly Water Usage			
First 2 Mcf	$64.32		
Next 98 Mcf	$57.88		
Next 1,900 Mcf	$44.84		
Over 2,000 Mcf	$43.62		

Notes:

Quantity Charges presented above exclude TAP-R rates.

Where applicable, discounts were applied for eligible customer types. Table 3-5 summarizes the current discounts available.

Table 3-5 Current Customer Discounts

	Senior Citizens	PHA	Charities/Hospitals/Education
Discount Rate	25%	5%	25%

Applying the appropriate rates and discounts to the number of accounts and billed volumes by customer type, billings for water services under existing rates were calculated, as shown in Table 3-6.

As shown on Line 14, the projected Water System billings generated reflect the combined effect of the account and volume escalation factor assumptions outlined in Section 1.4.

Table 3-6 Billings Under Existing Rates

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System ($000s)							
Water Non-Discount							
1	Residential	$ 210,960	$ 210,200	$ 206,588	$ 203,176	$ 201,577	$ 199,979
2	Commercial	99,343	101,067	101,209	101,350	101,350	101,350
3	Industrial	4,264	4,216	4,102	3,991	3,991	3,991
4	Public Utilities	806	851	885	922	922	922
5	Private Fire Protection	5,491	5,495	5,495	5,495	5,495	5,495
6	Public Fire Protection	8,248	8,248	8,248	8,248	8,248	8,248
7	Wholesale	4,317	4,376	4,376	4,376	4,376	4,376
8	Other (Hand-Billed and Scheduled)	16,806	15,921	14,838	13,830	13,830	13,830
9	**Subtotal Water Non-Discount Billings**	**350,236**	**350,374**	**345,741**	**341,389**	**339,790**	**338,192**
Water Discount							
10	Residential (Senior Citizens)	6,744	6,790	6,739	6,688	6,688	6,688
11	PHA	7,917	8,055	8,067	8,079	8,079	8,079
12	Charity/Schools/Hospital/University	10,881	11,882	12,769	13,725	13,725	13,725
13	**Subtotal Water Discount Billings**	**25,543**	**26,726**	**27,575**	**28,492**	**28,492**	**28,492**
14	**Total Water Service Billings**	**$ 375,779**	**$ 377,100**	**$ 373,316**	**$ 369,882**	**$ 368,283**	**$ 366,684**

3.1.4.3 Application of Collection Factors

The second step in the process of calculating revenues involves applying receipt factors (i.e., collection factors) to the corresponding gross billings to determine the operating retail cash receipts. The historical collection factors are based on thirteen fiscal years (FY 2012 through FY 2024) of billing and associated collections.

The collection factors represent the multi-year payment pattern, as described below. Table 1-4 in Section 1.4.1 presents the historical collection factors[27] used in the Study. Appendix C provides the data used to determine the projected collection factors used in this analysis. The collection factors represent the multi-year payment pattern as described in Section 1.4.1.

As noted in Section 1.4.1, the following adjustments to the projected collection factors are utilized based upon the Water Department's recent experience:

- **Billing Year Non-Stormwater Only Collection Factor** – Reduce by 1.56% to align with FY 2022 to FY 2024 average experience.
- **Billing Year Plus 1 Non-Stormwater Only Collection Factor** – Increase by 0.97% to align with FY 2021 to FY 2023 average experience.

Figure 3-2 presents an illustration of how the billing year collection factors were applied to determine the projected revenues (receipts).

[27] As previously discussed in Section 1.4.1 collection factors used in the financial plan analysis reflect the average collection factors for FY 2012 through FY 2024. Collection factors do not represent all historical billings and receipts, as they are limited by available data and derived from historical collection data.

Figure 3-2 Sample Calculation for Application of Collection Factors to Billings for Derivation of Receipts

1. To determine the FY 2025 projected receipts for Residential customers, we use the following information:
   a. Identify the Billing Years and Collection Factors (Table 1-3) for each Collection Period relative to the FY 2025 receipts and accounting for the billing year collection factor adjustments as applicable:
      i. **Billing Year** is FY 2025 with a collection factor of 85.57% - 1.56% = 84.01%
      ii. **Billing Year Plus 1** is FY 2024 with a collection factor of 9.75% + 0.97% = 10.72%
      iii. **Billing Year Plus 2 and Beyond** is FY 2023 with a collection factor of 2.20%
   b. Identify Projected Billings (in $000s) for each Collection Period from Table 3-6 (Line 1)
      i. **Billing Year:** FY 2025 = $210,960
      ii. **Billing Year Plus 1:** FY 2024 = $196,533
      iii. **Billing Year Plus 2 and Beyond:** FY 2023 = $170,544
2. Calculate the projected FY 2025 receipts (in $000s) for each Collection Period:
   a. **Billing Year receipts** = $210,960 x 84.01% = $177,227
   b. **Billing Year Plus 1 receipts** = $196,533 x 10.72% = $21,068
   c. **Billing Year Plus 2 and Beyond receipts** = $170,544 x 2.20% = $3,752
3. Sum the projected FY 2025 receipts by Collection Period to arrive at the total FY 2025 receipts: $177,227 + $21,068 + $3,752 = $202,048 (Matches Line 1 of Table 3-7 for FY 2025)

Note: Above presentation of calculated receipts reflects modeling results which varies due to rounding.

3.1.4.4 Wholesale Operating Revenues

Currently, Aqua PA is the Water Department's only wholesale water customer. The Water Department's service to Aqua PA commenced in Fiscal Year 2002. Water charges for this service include a commodity charge designed to recover power and chemical costs and a fixed charge designed to recover allocated capital costs and all other allocated operation and maintenance expenses, excluding power and chemical costs.

3.1.4.5 Projected Operating Revenues

Table 3-7 summarizes the projected revenues (receipts) for the Study Period.

Table 3-7 Projected Water Receipts Under Existing Rates

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Water System ($000s)						
1	Residential	$ 202,048	$ 203,528	$ 200,729	$ 197,459	$ 195,671	$ 194,081
2	Senior Citizens	6,453	6,564	6,538	6,491	6,484	6,483
3	Commercial	94,836	97,538	98,045	98,218	98,236	98,239
4	Industrial	4,084	4,086	3,992	3,885	3,871	3,868
5	Public Utilities	764	817	853	889	893	894
6	**Subtotal General Customers**	**308,185**	**312,534**	**310,156**	**306,941**	**305,155**	**303,566**
7	Housing Authority	7,590	7,774	7,815	7,829	7,830	7,831
8	Charities and Schools	5,592	6,159	6,652	7,163	7,231	7,243
9	Hospitals and Universities	4,717	5,191	5,589	5,998	6,052	6,061
10	Hand Billed	16,243	15,535	14,541	13,558	13,426	13,404
11	Scheduled (Flat Rate)	1	1	1	1	1	1
	Fire Protection						
12	Private	5,491	5,495	5,495	5,495	5,495	5,495
13	Public	8,248	8,248	8,248	8,248	8,248	8,248
14	**Subtotal Retail Customers**	**356,067**	**360,937**	**358,497**	**355,233**	**353,439**	**351,849**
15	Aqua Pennsylvania	4,317	4,376	4,376	4,376	4,376	4,376
16	**Total Water Sales**	**360,384**	**365,313**	**362,873**	**359,609**	**357,815**	**356,225**
17	Other Operating Revenues	14,211	14,229	14,176	14,129	14,106	14,084
	Interest Income						
18	Interest Income on Debt Reserve Account (a)	33	161	383	829	1,428	1,985
19	Operating Fund	1,429	1,579	1,635	1,684	1,713	1,785
20	Rate Stabilization Fund	1,012	991	1,036	1,078	1,128	1,177
21	**Total Interest Income**	**2,474**	**2,730**	**3,054**	**3,591**	**4,269**	**4,948**
22	**Total Receipts**	**$ 377,069**	**$ 382,273**	**$ 380,103**	**$ 377,329**	**$ 376,190**	**$ 375,257**

(a) Excludes deposit into Residual Fund for Transfer to City General Fund.

3.1.5 Tiered Assistance Program Rate Rider Surcharge

As, previously noted, revenue figures for the Study Period exclude the current TAP-R rate of $3.08/Mcf for water. The TAP-R was established to recover the cost of providing discounts to TAP customers from Non-TAP customers and is subject to an annual reconciliation.

3.1.6 Other Operating Revenues

The Water Department has several sources of other revenues including miscellaneous fees, City and UESF grants, L&I permits, penalties, and releases from the Debt Service Reserve Fund (if available). As noted above, no revenue losses associated with TAP discounts are included under Other Operating Revenues for the development of the Base Rates. Table 3-8 summarizes the other operating revenues for the Water System.

Table 3-8 Other Projected Receipts

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System ($000s)							
1	Penalties	$ 4,972	$ 4,990	$ 4,937	$ 4,889	$ 4,867	$ 4,845
2	Miscellaneous City Revenue	430	430	430	430	430	430
3	Other	3,661	3,661	3,661	3,661	3,661	3,661
4	State & Federal Grants	1,429	1,429	1,429	1,429	1,429	1,429
5	Permits Issued by L&I	3,615	3,615	3,615	3,615	3,615	3,615
6	Miscellaneous (Procurement)	105	105	105	105	105	105
7	City & UESF Grants	0	0	0	0	0	0
8	Affordability Program Discount Cost (a)	0	0	0	0	0	0
9	Release from Debt Service Reserve (b)	0	0	0	0	0	0
10	**Total Water Other Income**	**14,211**	**14,229**	**14,176**	**14,129**	**14,106**	**14,084**
	Interest Income						
11	Debt Reserve Fund (c)	33	161	383	829	1,428	1,985
12	Operating Fund	1,429	1,579	1,635	1,684	1,713	1,785
13	Rate Stabilization Fund	1,012	991	1,036	1,078	1,128	1,177
14	**Total Water System**	**$ 16,685**	**$ 16,959**	**$ 17,231**	**$ 17,719**	**$ 18,375**	**$ 19,032**

3.2 Water Revenue Requirements

3.2.1 Operation and Maintenance Expenses

Operating expenses consist of all costs of the Water Department necessary and appropriate for the operation, maintenance, and administration of the Water System during each year. Projections of operating expenses include expenses such as personal services, purchased services including power, materials and supplies, equipment, pensions and benefits, as well as indemnities and liquidated encumbrances. Capital and reserve fund transfers required by the General Bond Ordinance are also revenue requirements, but are handled separately from O&M.

Table 3-9 summarizes the results of applying the assumptions described in Section 1.4, as well as after making budget adjustments, applying actual-to-budget factors, escalation factors, and incorporating known future O&M expenses described in Section 1.4.3.

Table 3-9 Projected O&M Expense

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System ($000s)							
1	Personal Services	76,290	80,160	84,776	88,521	92,423	96,490
2	Pension and Benefits	60,594	63,000	64,994	66,718	68,529	70,213
3	**Subtotal**	**136,884**	**143,161**	**149,770**	**155,239**	**160,952**	**166,703**
	Purchase of Services						
4	Power	10,389	11,064	11,363	11,636	11,938	12,321
5	Gas	906	921	964	993	1,015	1,036
6	Other	62,459	68,682	70,987	73,922	76,978	80,161
7	**Subtotal**	**73,753**	**80,667**	**83,315**	**86,551**	**89,931**	**93,518**
	Materials and Supplies						
8	Chemicals	28,211	28,211	28,211	29,319	30,471	31,669
9	Other	14,869	15,573	16,099	16,772	17,473	18,204
10	**Subtotal**	**43,080**	**43,783**	**44,310**	**46,091**	**47,945**	**49,873**
11	Equipment	2,515	4,139	4,224	4,462	4,714	4,980
12	Indemnities and Transfers	5,535	7,004	7,151	7,338	7,534	7,738
13	**Subtotal Expenses**	**261,766**	**278,753**	**288,769**	**299,681**	**311,076**	**322,811**
14	Liquidated Encumbrances	(15,602)	(16,600)	(16,999)	(17,664)	(18,358)	(19,092)
15	**Total Expenses**	**246,164**	**262,154**	**271,770**	**282,017**	**292,718**	**303,720**

3.2.2 Debt Service

As discussed earlier in this Report, the General Bond Ordinance views the Water and Wastewater Systems as one combined system for the purposes of the Rate Covenant. As a result, bond issuances are allocated between water and wastewater based on system needs.

The existing and proposed debt service were previously discussed in Sections 1.4.4 and 2.3.4 of this Report. Table 3-10 summarizes the Water System's share of the total existing and proposed debt financing for the Water System CIP.

Table 3-10 Summary of Existing and Proposed Water System Debt Service

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System ($000s)							
Revenue Bonds							
1	Existing (a)	$ 88,474	$ 93,324	$ 93,237	$ 90,828	$ 80,167	$ 85,362
	Proposed						
2	Fiscal Year 2025 (b)	-	-	-	-	-	-
3	Fiscal Year 2026 (c)		-	-	-	-	-
4	Fiscal Year 2027 (c)			7,083	11,059	11,059	11,059
5	Fiscal Year 2028 (d)				12,250	17,799	17,799
6	Fiscal Year 2029 (d)					14,250	20,705
7	Fiscal Year 2030 (d)						14,250
8	**Total Proposed**	**0**	**-**	**7,083**	**23,309**	**43,108**	**63,813**
9	**Total Revenue Bonds**	**88,474**	**93,324**	**100,321**	**114,137**	**123,275**	**149,174**
PENNVEST Loans							
10	PENNVEST Loans (e)	8,392	11,925	16,079	18,477	20,154	20,896
Commercial Paper							
11	Commercial Paper	256	471	563	583	746	1,349
WIFIA							
12	WIFIA	356	593	1,407	1,407	1,407	1,407
13	**Total Senior Debt Service**	**$ 97,477**	**$ 106,313**	**$ 118,369**	**$ 134,603**	**$ 145,581**	**$ 172,826**

(a) Projected debt service amounts include debt service for all Water and Wastewater Revenue Bonds and Revenue Refunding Bonds issued prior to July 1, 2024 plus the Water and Wastewater Revenue Bond Series 2024C (issued in October 2024).

(b) Projected debt service for the Water and Wastewater Revenue Bond Series 2024C (issued in October 2024) included as Existing Debt Service.

(c) Projected debt service amounts assume interest only payment for the first year of the bond authorization based on 5.00% interest rate; and assume issuance during the first quarter of the fiscal year.

(d) Projected debt service amounts assume interest only payment for the first year of the bond authorization based on 6.00% interest rate; and assume issuance during the first quarter of the fiscal year.

(e) Includes projected PENNVEST Loans.

3.2.3 Capital Improvements

The Water Department's CIP reflects planned improvements to the Water System required to meet regulatory requirements and maintain existing levels of service. The CIP includes engineering and administrative support, improvements to the water treatment plants, distribution system rehabilitation, large meter replacement, billing system replacement and equipment vehicle purchases.

As discussed in Sections 1.4.6 and 2.3.3, Black & Veatch adjusted the Water Department's appropriations-based CIP budget to develop the projected annual encumbrances and anticipated project expenses. Following the steps outlined in Section 1.4.6 produces the CIP shown in Table 3-11.

Table 3-11 Projected Water System CIP

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System ($000s)							
1	Engineering and Administration (a)	4,646	3,680	2,760	1,840	920	-
2	Water Treatment Plant Improvements	130,000	130,000	130,000	130,000	130,000	130,000
3	Distribution System Rehabilitation	150,100	203,100	202,100	188,100	188,100	188,100
4	Large Meter Replacement	5,000	5,000	5,000	5,000	5,000	5,000
5	Billing System	-	15,000	15,000	15,000	-	-
6	Vehicles	6,000	2,500	2,500	2,500	2,500	2,500
7	**Total CIP Budget**	**295,746**	**359,280**	**357,360**	**342,440**	**326,520**	**325,600**
8	Inflation Adjustment (b)	-	-	17,868	35,100	51,468	70,169
9	**Total Inflated CIP Budget**	**295,746**	**359,280**	**375,228**	**377,540**	**377,988**	**395,769**
10	Rollforward Adjustments	54,790	(104,326)	(16,605)	(3,050)	(1,273)	(18,701)
11	**Total Inflated Adjusted CIP Budget**	**350,536**	**254,954**	**358,623**	**374,490**	**376,714**	**377,068**
12	Contingency Adjustment	(30,356)	(24,877)	(33,810)	(35,396)	(35,622)	(37,403)
13	**Annual Encumbrances**	**320,180**	**230,077**	**324,813**	**339,094**	**341,093**	**339,665**
14	Project Expenses (c)	183,135	207,966	265,183	301,053	307,990	320,248
15	Annual Net Encumbrances	137,044	22,111	59,630	38,041	33,103	19,417

(a) Reflects shift in capital related salary costs from capital to operating budget.

(b) Allowance for inflation of 5.0 percent per year after fiscal year 2026.

(c) Reflects annual drawdown of capital budget appropriations based on project durations and annual encumbrances.

3.2.4 Capital Flow of Funds

The Water Department meets its projected capital needs by using several sources for funding, including internally generated funds (cash), grants, and debt. As defined by the General Bond Ordinance, the Construction Fund is where the Water Department draws funds to pay for the CIP. The Water Department may deposit bond proceeds, loan proceeds, commercial paper proceeds, grant proceeds, and cash transfers from the Revenue Fund and the Residual Fund into the Construction Fund to pay for capital projects.

Table 3-12 presents the proposed sources and uses for the Water System CIP. As shown on Line 6, the Construction Fund has an estimated beginning balance of $394 million on July 1, 2025. Over the course of the Study Period, the Water Department anticipates issuing debt and the proceeds for these transactions are shown on Line 1. The level of debt financing increases during the Study Period as the Water Department's CIP starts to ramp up. The Water System's share of bond proceeds totals $1.12 Billion during the Study Period.

Lines 8 and 9 show the anticipated WIFIA loan and related matching funding proceeds. Line 10 shows the anticipated PENNVEST loan proceeds. Line 11 shows anticipated grant proceeds, estimated at $52.8 million over the Study Period. Line 16 shows the estimated level of total annual capital expenditures the Water Department will fund. Lines 12 and 13 show the estimated level of annual pay-go (i.e., cash-funded) the Water Department will fund.

Table 3-12 Projected Flow of Funds – Water: Construction Fund & Debt Reserve Account

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System ($000s)							
Disposition of Bond Proceeds							
1	Proceeds From Sale of Bonds	139,000	-	170,000	245,000	285,000	285,000
	Transfers:						
2	Debt Reserve Account (a)	7,900	-	16,450	23,760	34,092	20,705
3	Cost of Bond Issuance (b)	834	-	1,020	2,450	2,850	2,850
4	Construction Fund (c)	130,266	-	152,530	218,790	248,058	261,445
5	**Total Issue**	139,000	-	170,000	245,000	285,000	285,000
Construction Fund							
6	Beginning Balance	393,972	435,413	318,948	286,538	303,942	321,510
7	Transfer From Revenue Bond Proceeds	130,266	-	152,530	218,790	248,058	261,445
8	WIFIA Proceeds	6,041	-	-	-	-	-
9	WIFIA Match Funding Proceeds	6,288	-	-	-	-	-
10	PENNVEST Loan Proceeds	48,772	58,607	40,911	36,159	9,628	-
11	Grant Proceeds	250	-	1,690	19,450	19,450	11,989
12	Capital Account Deposit	13,848	14,625	15,446	16,312	17,228	18,194
13	Transfer from Residual Fund	10,900	10,800	16,200	21,900	25,000	33,650
14	Interest Income on Construction Fund	8,212	7,469	5,995	5,846	6,193	6,481
15	**Total Available**	618,548	526,914	551,720	604,996	629,499	653,269
16	Net Cash Financing Required	183,135	207,966	265,183	301,053	307,990	320,248
17	**Ending Balance**	435,413	318,948	286,538	303,942	321,510	333,021
Debt Reserve Account							
18	Beginning Balance	97,545	108,154	111,666	132,195	158,295	193,896
19	Transfer From Bond Proceeds	7,900	-	16,450	23,760	34,092	20,705
20	Transfer From Residual Fund (d)	2,709	3,512	4,079	2,340	1,509	128
21	Debt Reserve Account Release	-	-	-	-	-	-
22	**Ending Balance**	108,154	111,666	132,195	158,295	193,896	214,729
23	Interest Income on Debt Reserve Account	2,057	2,198	2,439	2,905	3,522	4,086

(a) Amount of Debt Reserve Account estimated based on outstanding and proposed debt service payments.

(b) Cost of bonds issuance reflects actual cost in FY 2023, assumed 0.61 percent of issue amount in FY 2024 to 2025, and assumed 1.0% of issuance in FY 2026 to FY 2028.

(c) Deposits equal proceeds from sale of bonds less transfers to Debt Reserve Account and Costs of Issuance.

(d) Transfer from Residual Fund to provide PENNVEST share of Debt Reserve Account requirement.

3.3 Water System Summary of Revenues and Revenue Requirements

The Water System's financial performance during the Study Period is presented in Table 3-13. As seen in Table 3-13, the Water System will need a series of revenue increases, of 12.30% in FY 2026, 6.90% in FY 2027, followed by 8.87%, 5.80%, and 10.95% over the remaining three years of the Study Period. These revenue adjustments are necessary to meet O&M, debt service, Capital Account deposit requirements, and provide additional coverage per the Rate Covenant.

Table 3-13 presents the Water System operating results for Base Rates. The proposed revenue increases in the table do not reflect any rate compression as discussed in Section 2.5.

As previously mentioned, the Water Department is addressing the reconciliation of TAP discounts and TAP-R revenues in a separate proceeding.

3.4 Projected Water System Operating Results

Line 1 on Table 3-13 is the consolidated total for water retail and wholesale receipts from Table 3-7. These represent receipts under existing rates. Lines 2 through 6 present the additional revenues from proposed revenue increases. Line 9 presents other operating receipts as detailed on Table 3-8. Interest income from the Debt Reserve Account, Operating Fund, and Rate Stabilization Funds is shown on Lines 10 through 12. Line 13 summarizes the projected Total Revenues for the Water System.

Operating expenses are summarized on Lines 14 and 15. Line 15 represents the Water System's share of costs to process water treatment sludge at the wastewater treatment plants. Refer to Section 4.6.1 of this Report for further explanation of these costs.

During the Study Period, it is assumed that the Water Department will make a series of deposits to and transfers from the Rate Stabilization Fund as shown on Line 17. Line 18 presents the Net Revenues after Operations. Existing and proposed senior debt service obligations, including those related to the CP program, PENNVEST and WIFIA are shown on Lines 19 through 23. Debt service coverage on senior debt is calculated on Line 25 and indicates that coverage meets the minimum 1.20x requirement. The Capital Account deposit is on Line 29. Line 30 then shows results of the total debt service coverage requirement and indicates that total coverage requirements meet the 1.00 minimum coverage required by the General Bond Ordinance.

As established in the General Bond Ordinance and Rate Covenant, debt service coverage requirements are for the Combined System. The calculations shown in Table 3-13 are presented to demonstrate that the Water System's proposed financial plan provides sufficient resources for the Water System to be financially stable on its own.

Table 3-13 Projected Water System Revenue and Revenue Requirements: Base Rates

LINE NO.	DESCRIPTION			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water System ($000s)									
Operating Revenues									
1	Water Service - Existing Rates (a)			$ 360,384	$ 365,313	$ 362,873	$ 359,609	$ 357,815	$ 356,225
	Additional Service Revenue Required								
	Year	Percent Increase	Months Effective						
2	FY 2026	12.30%	10		36,623	44,633	44,232	44,011	43,816
3	FY 2027	6.90%	10			22,918	27,865	27,726	27,603
4	FY 2028	8.87%	10				31,198	38,086	37,917
5	FY 2029	5.80%	10					22,102	26,997
6	FY 2030	10.95%	10						43,962
7	**Total Additional Service Revenue Required**			**-**	**36,623**	**67,551**	**103,295**	**131,925**	**180,294**
8	**Total Water Service Revenue**			**360,384**	**401,937**	**430,424**	**462,904**	**489,740**	**536,519**
	Other Income (b)								
9	Other Operating Revenue			14,211	14,229	14,176	14,129	14,106	14,084
10	Debt Reserve Account Interest Income			33	161	383	829	1,428	1,985
11	Operating Fund Interest Income			1,429	1,579	1,635	1,684	1,713	1,785
12	Rate Stabilization Interest Income			1,012	991	1,036	1,078	1,128	1,177
13	**Total Revenues**			**377,069**	**418,896**	**447,655**	**480,624**	**508,115**	**555,551**
Operating Expenses									
14	Water Operations			(246,164)	(262,154)	(271,770)	(282,017)	(292,718)	(303,720)
15	Water Treatment Plant Sludge (c)			(17,030)	(18,947)	(20,112)	(21,222)	(23,542)	(24,857)
16	**Total Operating Expenses**			**(263,194)**	**(281,100)**	**(291,882)**	**(303,239)**	**(316,260)**	**(328,577)**
17	Transfer From/(To) Rate Stabilization Fund			4,800	(2,720)	(1,810)	(2,400)	(2,600)	(2,300)
18	**NET REVENUES AFTER OPERATIONS**			**118,675**	**135,076**	**153,962**	**174,984**	**189,256**	**224,674**
Debt Service									
	Senior Debt Service								
	Revenue Bonds								
19	Outstanding Bonds			(88,474)	(93,324)	(93,237)	(90,828)	(80,167)	(85,362)
20	PENNVEST Loans			(8,392)	(11,925)	(16,079)	(18,477)	(20,154)	(20,896)
21	Projected Future Bonds			(0)	-	(7,083)	(23,309)	(43,108)	(63,813)
22	Commercial Paper			(256)	(471)	(563)	(583)	(746)	(1,349)
23	WIFIA			(356)	(593)	(1,407)	(1,407)	(1,407)	(1,407)
24	**Total Senior Debt Service**			**(97,477)**	**(106,313)**	**(118,369)**	**(134,603)**	**(145,581)**	**(172,826)**
25	**TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L24)**			**1.21 x**	**1.27 x**	**1.30 x**	**1.30 x**	**1.30 x**	**1.30 x**
26	Subordinate Debt Service			-	-	-	-	-	-
27	Transfer to Escrow			-	-	-	-	-	-
28	**Total Debt Service on Bonds**			**(97,477)**	**(106,313)**	**(118,369)**	**(134,603)**	**(145,581)**	**(172,826)**
29	**CAPITAL ACCOUNT DEPOSIT**			**(13,848)**	**(14,625)**	**(15,446)**	**(16,312)**	**(17,228)**	**(18,194)**
30	**TOTAL COVERAGE (L18/(L24+L26+L29))**			**1.07 x**	**1.12 x**	**1.15 x**	**1.16 x**	**1.16 x**	**1.18 x**
31	**End of Year Revenue Fund Balance**			**$ 7,350**	**$ 14,138**	**$ 20,148**	**$ 24,069**	**$ 26,447**	**$ 33,653**

(a) Revenue from rates effective September 1, 2024.
(b) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.
(c) Cost to process the Water Treatment Sludge at the wastewater treatment plants based on wastewater cost of service analysis.

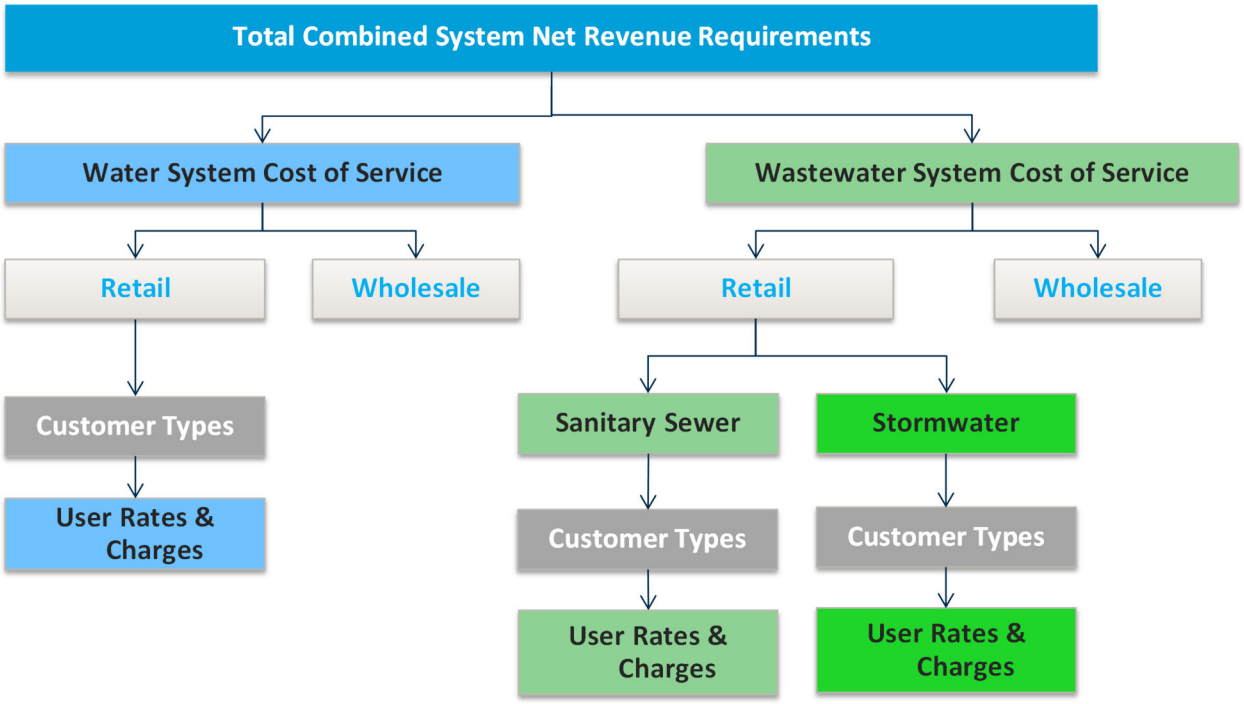
4.0 Water System Cost of Service Allocations

The cost-of-service analysis is the middle step of three depicted in Figure 2-1 Figure 2-1 Elements of a COS Studythat form the basis for how a utility sets its rates and charges. At the cost-of-service stage, we identify how different customer types are using the Water System. As such, each customer type potentially places a different level of demands on the system – requirements that the Water Department must meet. The types of demand are cost drivers and the cost-of-service step is where we develop the nexus between how the system is designed and operated and how customers are using the system.

4.1 General

The cost-of-service process involves a multi-level allocation, where the net revenue requirements for the Combined System are first allocated between water and wastewater, then between customer category (Retail versus Wholesale), and then finally among customer types to determine each type's cost responsibility. This process is illustrated in Figure 4-1.

Figure 4-1 Multi-Layer Allocation of Costs



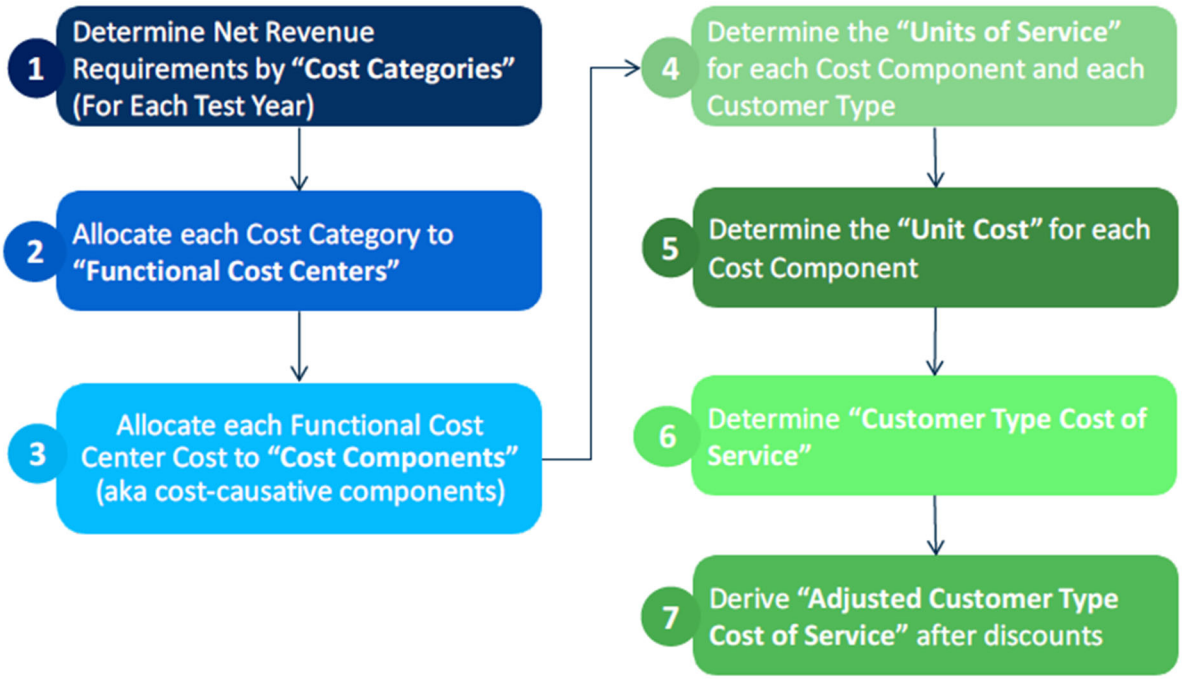
Cost of service is the process by which total net revenue requirements (O&M and capital costs) are allocated to the customer types of the system in proportion to the services received by the customer types. The process typically follows the following steps:

- Identification of net revenue requirements by cost category;
- Allocation of functional cost to appropriate cost centers;
- Allocate functional cost center costs to cost components or drivers;
- Determination of units of service by customer and by cost component;
- Development of unit cost for each cost component;

- Determine the cost of service by each customer type; and
- Apply any appropriate discounts and / or adjustments and derive the Adjusted COS by customer type.

Figure shows the typical analytical steps performed as part of a COS study.

Figure 4-2 Seven Analytical Steps for Determining the Cost of Service



4.2 Identification of Net Revenue Requirements by Cost Category

The cash-needs revenue requirements for a utility consist mainly of O&M, debt service, and capital expenditures. These revenue requirements should be identified by cost category or center (function) as best as possible. A function represents the type of operational activity that the costs are used for such as source of supply, pumping, treatment, etc. for water systems. The operational costs can be attributable directly or indirectly to a function. Costs such as engineering, administration, finance, etc. are indirectly allocated based on other costs. The debt service and capital expenditure costs can be attributable to functions based on existing fixed asset records. Figure 4-3 illustrates the Water System cost centers examined in this Report.

Figure 4-3 Functional Cost Centers

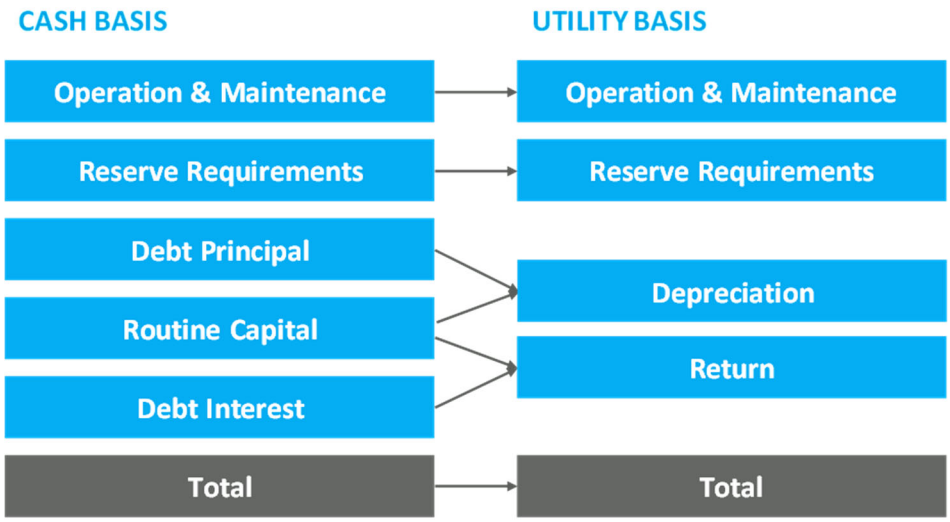
FUNCTIONAL COST CENTERS

- Water Supply
- Raw Water Pumping
- Treatment
- Treated Water Pumping
- Treated Water Storage
- Transmission & Distribution
- Water Meters
- Hydrants
- Customer Accounting & Collection
- Administration & General

O&M, debt service and capital are cost categories used under the cash-needs approach to cost of service. Because the Water Department also provides water services to a wholesale customer, these cost categories are translated into categories used under the

utility-basis approach. Under the utility-basis, the relevant cost categories are O&M, depreciation, and return on rate base. Return on rate base recognizes the recovery of return on the Water Department's capital investment. Because the Water Department provides water service to wholesale customers (non-system owners), the Water Department is entitled to a higher rate of return from these customers. Figure 4-4 illustrates how the cash-needs basis cost categories relate to utility-basis cost categories.

Figure 4-4 Relationship Between Cash-Needs Basis and Utility-Basis



The process of allocating the net revenue requirements to the system's users allows recognition of issues such as:

- Differences between service levels
- Differences in user characteristics
- Regulations and covenants that affect user rates and charges
- Nexus between charges and service demands

In the analysis described herein, the cost of the service provided serves as the allocation basis for the Test Year ("TY") revenue requirements to the various customer types. Since the Water Department's Rate Proposal is for two fully projected fiscal years, we are using the naming convention of "Test Year 1" to refer to FY 2026 and "Test Year 2" to refer to FY 2027. Allocations of revenue requirements to customer types account for the quantity of water used relative to peak capacity requirements placed on the system, the number and size of services to customers, proprietary interest in the system investment, and other relevant factors.

4.3 Cost of Service to be Allocated

4.3.1 Overall Water System

The projected annual revenue requirements for FY 2026 serve as the Test Year 1 requirements for the analyses conducted herein. The proposed rate increases will go into effect on September 1st of each respective fiscal year. However, rates are designed based upon a 12-month period. Because the proposed revenue increase will not go into effect until September 1st of each fiscal year, the proposed rates are designed based on annualizing the 10-month period for which rates are effective.

Table 4-1 shows the projected Test Year 1 cash flow of base rates for the Water System based on the annualizing the proposed revenue increase.

Table 4-1 Test Year 1 Annualized Revenue and Revenue Requirements

LINE NO.	DESCRIPTION			FY 2026
Water System ($000s)				
Operating Revenues				
1	Water Service - Existing Rates (a)			$ 365,313
	Additional Service Revenue Required			
	Year	Percent Increase	Months Effective	
2	FY 2026	12.30%	12	44,934
3	**Total Additional Service Revenue Required**			**44,934**
4	**Total Water Service Revenue**			**410,247**
	Other Income (b)			
5	Other Operating Revenue			14,229
6	Debt Reserve Fund Interest Income			161
7	Operating Fund Interest Income			1,579
8	Rate Stabilization Interest Income			991
9	**Total Revenues**			**427,206**
Operating Expenses				
10	Water Operations			(262,154)
11	Water Treatment Plant Sludge (c)			(18,947)
12	**Total Operating Expenses**			**(281,100)**
13	Transfer From/(To) Rate Stabilization Fund			(11,030)
14	**NET REVENUES AFTER OPERATIONS**			**135,076**
Debt Service				
	Senior Debt Service			
	Revenue Bonds			
15	Outstanding Bonds			(93,324)
16	PENNVEST Loans			(11,925)
17	Projected Future Bonds			-
18	Commercial Paper			(471)
19	WIFIA			(593)
20	**Total Senior Debt Service**			**(106,313)**
21	**TOTAL SENIOR DEBT SERVICE COVERAGE (L14/L20)**			**1.27 x**
22	Subordinate Debt Service			-
23	Transfer to Escrow			-
24	**Total Debt Service on Bonds**			**(106,313)**
25	**CAPITAL ACCOUNT DEPOSIT**			**(14,625)**
26	**TOTAL COVERAGE (L14/(L20+L22+L25))**			**1.12 x**
27	**End of Year Revenue Fund Balance**			**$ 14,138**

(a) Revenue from rates effective September 1, 2024.

(b) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(c) Cost to process the Water Treatment Sludge at the wastewater treatment plants based on wastewater cost of service analysis.

Table 4-2 presents the cost of service to be recovered from rates for Test Year 1. The net COS recovered from water service charges is the total revenue requirements less revenues received from other sources. The TY net COS of $410.2 million (Column 3, Line 13), represents the total revenue requirements of $427.2 (Column 3, Line 10) minus other revenues and transfers received of $16.9 million (Column 3, Lines 11 and 12). The cost of service to be recovered from rates consists of $282.6 million of net operating expenses (Column 1, Line 13) and $127.7 million of net capital-related costs (Column 2, Line 13).

Table 4-2 Water Estimated Test Year 1 COS

LINE NO.	DESCRIPTION	(1) OPERATING EXPENSE	(2) CAPITAL COSTS	(3) TOTAL
Water System ($000s)				
Revenue Requirements				
1	Operations & Maintenance Expense	164,705		164,705
2	Direct Interdepartmental Charges	97,448		97,448
3	Water Treatment Plant Sludge	18,947		18,947
	Existing Bond Debt Service			
4	Revenue Bonds (a)		105,249	105,249
5	Subordinate Bonds		-	-
6	Proposed Bond Debt Service (b)		1,064	1,064
7	Capital Account Deposit		14,625	14,625
8	Residual Fund Deposit	9,885	4,253	14,138
9	Deposit (From)/To Rate Stabilization Fund	7,712	3,318	11,030
10	**Total**	**298,697**	**128,509**	**427,206**
Deductions of Funds from Other Sources				
11	Other Operating Revenue	(14,229)	-	(14,229)
12	Interest Income	(1,909)	(821)	(2,730)
13	**COST OF SERVICE TO BE DERIVED FROM RATES**	**282,559**	**127,688**	**410,247**

(a) Includes PENNVEST Loans.
(b) Includes Commercial Paper and WIFIA

4.3.2 Wholesale Water

The cost of service allocable to Aqua PA and the rates developed to recover the allocated costs, reflect consideration of the contract demands for service as set forth in the contract between Aqua PA and the City, as well as the projected annual water consumption, and the maximum day and hour demands for Aqua PA. The Water Department allocates O&M expenses to Aqua PA in the same manner as for its retail customers. The annual capital costs allocable to Aqua PA recognize annual depreciation expense and return on investment, with the allocable investment based upon the contract maximum day demands versus the design capacity of the various facilities used in the provision of service to Aqua PA. The Water Department uses original cost to allocate plant investment for determining the applicable rate base. This approach is consistent with the methodology applied in previous rate filings and is consistent with the derivation of Aqua PA's existing rates. The rate of return for service to the City's wholesale water and wastewater customers used in this COS Study is 7.5%, which is consistent with the rate of return used in the development of Aqua PA's existing rates. The specific maximum day contract demands for Aqua PA used in the COS analysis amount to 8.0 million gallons per day ("MGD") for the period of July 1, 2025 through June 30, 2026.

As established under the contract, the rates applicable to Aqua PA include a commodity or usage charge, a fixed charge, and a management fee. The commodity charge includes only the costs associated with power and chemicals and applies to Aqua PA's metered consumption. As agreed to by both the City and Aqua PA, the COS analysis limits water loss percentage applied to Aqua PA to 20%. The fixed charge includes the allocated return on investment and depreciation expense, as described above, and the balance of O&M expenses allocated to Aqua PA, excluding power and chemical costs. The O&M expenses allocable to Aqua PA reflect the relationship of the projected annual consumption, the maximum day demands, and the maximum hour demands from Aqua PA relative to the projected annual usage or production and total maximum day and hour demands of the facilities used by Aqua PA. The management fee amounts to 10% and is applied to the sum of the usage charge and fixed charge.

4.4 Functional Cost Components

The costs derived in revenue requirements are incurred as a result of cost drivers placed on the system by its customers. Many utilities are designed and sized to meet the cost drivers; therefore, the operational and capital costs (depreciation and return on rate base) are linked to these cost drivers. The principal cost drivers for water are volume of water consumed, peak water demands, number of customers, and the number of fire services.

Figure 4-5 Functional Cost Components

The various cost elements of water service are assigned to functional cost components as the first step in the subsequent distribution of the cost of service to the customer types. For the analyses conducted herein, the Base-Extra Capacity Method[28] as outlined in the AWWA M1 Manual is used. This COS allocation methodology uses base, extra-capacity, customer, and fire protection functional cost centers as listed in Figure 4-5.

- **Base costs** are those which vary directly with the quantity of water used, as well as those costs associated with serving customers under average load conditions without the elements necessary to meet peak demands. Base costs include purchased treatment chemicals, and other operating and capital costs of the water system associated with serving customers to the extent required for a constant, or average annual rate of use.
- **Extra capacity costs** represent those operating costs incurred due to demands in excess of average, and capital-related costs for additional plant and system capacity beyond that required for the average rate of use. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demands.
- **Customer costs** are defined as costs that tend to vary in proportion to the number of customers connected to the system. These include meter reading, billing, collection and accounting costs, and maintenance and capital charges associated with meters and services.
- **Fire Protection costs** assigned to fire protection include operating expenses and capital costs associated with public and private fire protection.

[28] Per the AWWA M1 Manual, the Base-Extra Capacity Method is one of the "two most widely used methods" of allocating annual cost of service to cost components. Black & Veatch employs this methodology as appropriate in other cost of service studies and it has been used for allocating the Water Department's retail cost to the various cost components for years.

The separation of costs of service into these principal categories provides the means of further allocating such costs to the various customer types based on the respective base, extra capacity, customer, and fire service requirements of each customer type.

4.5 Allocation to Cost Components

Under Step 4 of the process, we determine units of service for each cost component and each customer type.

The Water System is comprised of various facilities, each designed and operated to fulfill a given function. To provide adequate service to its customers, the Water System must be capable of providing not only the total amount of water used but also supplying water at the maximum rates of demand.

4.5.1 Base, Maximum Day, and Maximum Hour

Since all customers do not exert their maximum demand for water at the same time, capacities of the various water system components are designed to meet the peak coincidental demands that all types of customers place on the system. For every water service facility on the system, there is an underlying average demand, or uniform rate of usage exerted by the customers for which the base cost component is applicable. For those facilities designed solely to meet average day demand, costs are allocated 100% to the base cost component. Extra capacity requirements associated with coincidental demands in excess of average use are further related to maximum daily ("max day") and maximum hourly ("max hour") demands.

For volume-related cost allocations, the first step in determining the allocation percentages is to assign system peaking factors. The base element is equal to the average daily demand ("ADD") and assigned a value of 1.0. For the Water System, max day and max hour ratios by Water System Facilities were reviewed.

As an example of how to interpret peaking factors and their relationship with base-extra capacity, we will use for illustrative purposes, the Water System's raw water pumping max day demand factor of 1.39 times the ADD for max day allocations. The costs associated with facilities required to meet maximum day demand are allocable to base and maximum day extra capacity as follows:

Base = (1.0/1.39) x 100 = 72%

Max Day = (1.39 – 1.0)/1.4 x 100 = 28%

These calculations indicate that the average or base use requires 72% of the capacity of facilities designed and generated to meet average day demand and the remaining 28% meets maximum day extra capacity requirements.

The Water System's treated water delivered max hour demand factor of 2.09 times the ADD and max day demand factor of 1.30 times the ADD for max hour allocations. The costs associated with facilities required to meet maximum hour demand are allocable to base, maximum day extra capacity and maximum hour extra capacity as follows:

Base = (1.0/2.09) x 100 = 48%

Max Day = (1.3 – 1.0)/2.09 x 100 = 14%

Max Hour = (2.09 – 1.3)/2.09 x 100 = 38%

4.5.2 Units of Service

The estimated Test Year 1 value of Water System facilities is allocated to appropriate cost functions as the basis for further distribution to the various customer types.

Base costs vary with the volume of water used and distributed to customer types on that basis. Extra Capacity costs are those associated with meeting peak rates of water use and distributed to customer types based on the respective customer type capacity requirements in excess of average rates of use. The number of bills for each customer type serves as the basis for distributing customer billing requirements. Customer meter and fire protection requirements are allocated based on the number of equivalent meters. The estimated number of equivalent meters for each customer type is based on the total number of various sizes of meters serving respective types and the capacity ratio of the meters for the various sizes to the cost of 5/8-inch meters. Table 4-3 summarizes the equivalent meter ratios and billing ratios used in this Report.

Table 4-3 Equivalent Meter and Bill Ratios

		(1) EQUIVALENT FACTORS	(2)
LINE NO.	METER SIZE (INCHES)	METERS CAPACITY BASIS	BILLS
1	5/8	1.0	1.0
2	3/4	1.5	1.0
3	1	2.5	1.1
4	1-1/4	3.8	1.2
5	1-1/2	5.0	1.2
6	2	8.0	1.5
7	3	15.0	2.0
8	4	25.0	4.0
9	6	50.0	7.0
10	8	80.0	10.0
11	10	115.0	15.0
12	12	215.0	20.0

With respect to Fire Protection, Fire Protection Extra Capacity requirements are based on peak fire flow requirements reflected in previous COS studies and rate proceedings. The system wide fire protection demands reflect two simultaneous fires, one requiring 10,000 gallons per minute ("gpm") fire flow demand for 10 hours and the second requiring 5,000 gpm for 8 hours. Fire protection capacity requirements are allocated between Public Fire Protection and Private Fire Protection in proportion to the relative total number of equivalent fire connections in each type.

Table 4-4 summarizes the estimated Test Year 1 units of service for the Water System's retail customers. Estimates of test year annual water requirements, shown in Column 1, are based on the projections of total water sales developed in this Report. Column 2 presents the average daily use of all water sales. Columns 3 through 8 show the estimated maximum day and maximum hour capacity factors for each customer type, the resulting demands, and extra capacity requirements, respectively. Per the 2023 Rate Determination, the Water Department completed a Demand Study utilizing data from the recently deployed Advanced Metering Infrastructure ("AMI") project, referred to herein as the AMI Demand Study and provided as Schedule BV-4: WP-1. The Water Department evaluated the impact of the AMI Demand Study customer type peaking factors on the FY 2025 adjusted cost of service and water quantity charge rate schedule utilizing the COS Study supporting the 2023 Rate Determination, which is summarized in Schedule BV4: WP-2. Based on the level of impacts to cost of service identified by the evaluation, the Water Department is proposing a phased approach to implementing the AMI Demand Study results. The

proposed phase-in moves from the peaking factors reflected in prior cost of service studies towards the new AMI Demand Study peaking factors over four years. The customer type extra capacity factors utilized in this COS Study are the Year 1 Factors (25% Shift) and Year 2 Factors (50% shift) as presented in Table 2-4 of Schedule BV4: WP-2.

In the following sections, we discuss the results of conducting Steps 5 through 7 of the COS process. The purpose of each of these remaining steps is outlined in Figure 4-6.

Figure 4-6 COS Steps 5 through 7

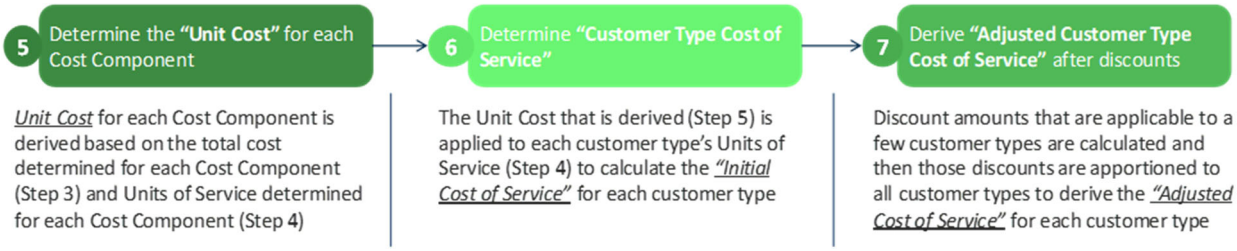


Table 4-4 Test Year 1 Retail Units of Service

LINE NO.	CUSTOMER TYPE	(1) TOTAL TEST YEAR WATER USE	(2) AVERAGE DAILY WATER USE (BASE)	(3) MAXIMUM DAY EXTRA CAPACITY CAPACITY FACTOR	(4) MAXIMUM DAY EXTRA CAPACITY TOTAL CAPACITY	(5) MAXIMUM DAY EXTRA CAPACITY EXTRA CAPACITY (a)	(6) MAXIMUM HOUR EXTR CAPACITY CAPACITY FACTOR	(7) MAXIMUM HOUR EXTR CAPACITY TOTAL CAPACITY	(8) MAXIMUM HOUR EXTR CAPACITY EXTRA CAPACITY (b)	(9) CUSTOMER COSTS METERS	(10) CUSTOMER COSTS BILLS
		Mcf	Mcf/day	%	Mcf/day	Mcf/day	%	Mcf/day	Mcf/day	Equiv. Meters	Equiv. Bills
			(1) / 365		(2) x (3) /100	(4) - (2)		(2) x (6) / 100	(7) - (4)		
1	Residential	2,885,600	7,910	181	14,320	6,410	314	24,840	10,520	484,915	5,289,310
2	Senior Citizens	121,100	330	181	600	270	315	1,040	440	22,234	266,561
3	Commercial	1,717,500	4,710	168	7,910	3,200	243	11,450	3,540	144,604	584,690
4	Industrial	73,500	200	154	310	110	205	410	100	6,006	18,121
5	Public Utilities	14,500	40	169	70	30	251	100	30	1,722	4,352
6	**Total General Service**	**4,812,200**	**13,190**		**23,210**	**10,020**		**37,840**	**14,630**	**659,481**	**6,163,034**
7	Housing Authority	139,400	380	173	660	280	276	1,050	390	9,069	69,137
8	Charities & Schools	142,300	390	173	670	280	273	1,060	390	13,137	33,437
9	Hospital/University	113,400	310	177	550	240	232	720	170	2,639	4,764
10	Hand Billed	323,500	890	163	1,450	560	239	2,130	680	6,220	8
11	Scheduled (Flat Rate)	0	0	195	0	0	551	0	0	5	60
	Fire Protection (c)										
12	Public		0		820	820		2,140	1,320		
13	Private	800	0		290	290		750	460	8,876	802,493
14	**Total Retail Customers**	**5,531,600**	**15,160**		**27,650**	**12,490**		**45,690**	**18,040**	**699,427**	**7,072,933**

(a) Capacity in excess of average daily use.
(b) Capacity in excess of maximum day.
(c) System wide fire protection demands reflect two simultaneous fires, one requiring 10,000 gallons per minute (gpm) fire flow demand for 10 hours and the second requiring 5,000 gpm for 8 hours. These demands are allocated between standard pressure public fire service and private fire service based upon equivalent 6-inch connections for each of the two fire service classes.

Mcf - thousand cubic feet

4.6 Allocation of O&M Expense

4.6.1 Retail

Table 4-5 shows the allocation of Test Year 1 O&M expenses for the Water System to the identified functional cost components by cost center. The four key components of the Water System's portion of the Operating expenses are: (i) the O&M expense, (ii) the deposit to the Rate Stabilization Fund, (iii) the year-end Revenue Fund balance which is deposited into the Residual Fund and (iv) the cost of treating and disposing water treatment plant sludge that is discharged into the City's Wastewater System. The water treatment plant sludge expense of $18.9 million is shown in Line 3 of Table 4-2. A corresponding credit for this amount is shown in the wastewater COS in Table 7-2.

The projected net O&M expense for Test Year 1 is $282.6 million. Operation and Maintenance expense is allocated to water cost components generally in the same proportion as the plant investment and depreciation expense allocations.

The Test Year 1 O&M costs are allocated to the cost components using a two-step process.

- First, a portion of O&M costs are allocated to wholesale water contract customers.
- Then the retail portion of the total O&M (which is the total O&M expense less the proportionate share allocated to wholesale contract customers), is allocated to the cost components.

The O&M expenses that are directly allocable to Aqua PA are deducted from the total expenses shown in Column 1 of Table 4-5. The remaining expenses are allocated to the retail customer types as follows:

- Source of Supply: Raw water pumping expense, other than purchased power, is allocated 72% to Base and 28% to Maximum Day cost components. The power costs associated with raw water pumping is allocated 95% to Base and 5% to Maximum Day cost components in recognition of the operating characteristics of pumps and the demand structure of electric rates.
- Water Treatment Costs: Different expense items within the water treatment costs are allocated differently to the cost components.
    - Projected test year operating expense, exclusive of power, chemical costs, and sludge treatment and disposal costs, for the Baxter, Queen Lane, and Belmont treatment plants is allocated 72% to Base and 28% to Maximum Day Extra Capacity.
    - Chemical costs and sludge treatment and disposal costs, which generally vary directly with the quantity of water treated, are assigned 100% to the Base cost component.
    - Test year treated water pumping operating expenses, exclusive of power costs, are allocated 48% to Base, 14% to Maximum Day Extra Capacity, and 38% to Maximum Hour Extra Capacity cost components.
    - Treatment plant power costs are allocated 90% to Base, 5% to Maximum Day Extra Capacity and 5% to Maximum Hour Extra Capacity in recognition of the effect of the demand structure of electric rates.

Table 4-5 Allocation of Test Year 1 O&M Expense

LINE NO.	CUSTOMER TYPE	(1) TEST YEAR O&M EXPENSE	(2) BASE	(3) EXTRA CAPACITY MAX DAY IN EXCESS OF BASE	(4) EXTRA CAPACITY MAX HOUR IN EXCESS OF MAX DAY	(5) CUSTOMER COSTS METERS	(6) CUSTOMER COSTS BILLING	(7) PUBLIC FIRE PROTECTION - DIRECT STANDARD PRESSSURE	(8) WHOLESALE DIRECT
WATER SYSTEM ($)									
	Raw Water Pumping								
1	Purchased Power	$ 3,977,000	$ 3,740,000	$ 197,000					$ 40,000
2	Purchased Gas	1,000	1,000	-					-
3	Other	6,337,000	4,488,000	1,745,000					104,000
4	**Total Raw Water Pumping**	**10,315,000**	**8,229,000**	**1,942,000**	**-**	**-**	**-**	**-**	**144,000**
	Purification and Treatment								
	Power and Pumping (a)								
5	Purchased Power	5,235,000	4,665,000	259,000	259,000				52,000
6	Purchased Gas	608,000	289,000	84,000	229,000				6,000
7	Other	11,538,000	5,448,000	1,589,000	4,312,000				189,000
	Treatment								
8	Purchased Power	-	-	-	-				-
9	Purchased Gas	37,000	27,000	10,000	-				-
10	Chemicals	23,688,000	23,451,000						237,000
	Other								
11	Other	62,350,000	44,158,000	17,172,000					1,020,000
12	Water Treatment Plant Sludge	18,947,000	18,710,000						237,000
13	Subtotal Other (b)	81,297,000	62,868,000	17,172,000	-	-	-	-	1,257,000
14	**Total Purification and Treatment**	**122,403,000**	**96,748,000**	**19,114,000**	**4,800,000**	**-**	**-**	**-**	**1,741,000**
	Transmission and Distribution								
15	Mains	68,586,000	32,695,000	9,536,000	25,883,000				472,000
16	Meters	4,591,000				4,591,000			
17	Hydrants	530,000						530,000	
18	Filtered Water Storage	8,238,000	3,853,000	1,124,000	3,050,000				211,000
19	**Total Transmission and Distribution**	**$ 81,945,000**	**$ 36,548,000**	**$ 10,660,000**	**$ 28,933,000**	**$ 4,591,000**	**$ -**	**$ 530,000**	**$ 683,000**
20	Customer Accounting and Collection	$ 21,738,000					$ 21,738,000		$ -
21	**Subtotal**	**236,401,000**	**141,525,000**	**31,716,000**	**33,733,000**	**4,591,000**	**21,738,000**	**530,000**	**2,568,000**
22	Administrative and General	44,701,000	22,031,000	7,575,000	8,081,000	1,116,000	5,284,000	129,000	485,000
23	Subtotal Water Operating Expense	281,102,000	163,556,000	39,291,000	41,814,000	5,707,000	27,022,000	659,000	3,053,000
24	Residual Fund Deposit	9,885,000	5,752,000	1,382,000	1,470,000	201,000	950,000	23,000	107,000
25	Deposit (from) to RSF	7,712,000	4,487,000	1,078,000	1,147,000	157,000	741,000	18,000	84,000
26	**Total Water Operating Expense**	**298,699,000**	**173,795,000**	**41,751,000**	**44,431,000**	**6,065,000**	**28,713,000**	**700,000**	**3,244,000**
27	Other Operating Revenue	14,229,000	8,336,000	2,003,000	2,132,000	291,000	1,377,000	34,000	56,000
28	Non-Operating Income	1,909,000	1,110,000	267,000	284,000	39,000	184,000	4,000	21,000
29	**Total Net Operating Expense**	**$ 282,561,000**	**$ 164,349,000**	**$ 39,481,000**	**$ 42,015,000**	**$ 5,735,000**	**$ 27,152,000**	**$ 662,000**	**$ 3,167,000**

(a) Includes booster pumping.
(b) Includes Wastewater System cost of treating water treatment plant sludge of $18,947,000.

- **Water Treatment Sludge Costs**: As shown in Line 12 in Table 4-5, the water treatment sludge O&M cost for FY 2026 is determined to be $18.9 million. This cost represents the cost of treating the water treatment plant sludge. The water treatment sludge, which is discharged into the Wastewater System, is ultimately treated in the wastewater treatment facility, and thereby becomes a wastewater treatment cost. This wastewater treatment cost is appropriately charged back to the Water System.
- **Transmission and Distribution**: Transmission and distribution test year operating expenses associated with mains and reservoirs are allocated to Base, Maximum Day Extra Capacity, and Maximum Hour Extra Capacity cost components, with factors identical to that of the Treated Water Pumping operation and maintenance expense allocation, discussed above.
- **Customer Meters and Public Fire Protection**: Meter maintenance expense is allocated 100% to the Meter component of Customer costs. Projected fire hydrant maintenance expense is allocated 100% to Direct Public Fire Protection cost component. Test year customer accounting and collection is allocated 100% to the Billing component of Customer costs.
- **Administrative and General**: Administrative and general expense is allocated to cost components in proportion to the total allocation of all other expenses to the cost components, excluding expenses for power, chemicals, and water treatment sludge.
- **Residual Fund and Rate Stabilization Fund Transfers:** The deposit into the Residual Fund (Line 24) and the deposit from the Rate Stabilization Fund (Line 25), each of which is allocable to O&M expense, are allocated to the various cost components in proportion to the allocation of the Subtotal Water Operating Expense (Line 23).
- **Net Operating Expense:** The net operating expense to be recovered from all customers through charges for water service is derived by deducting the "Other Operating Revenue" and the non-operating "Interest Income" from the total operating expense.
    - Other operating revenue (Line 27) is allocated to the various O&M cost components, in proportion to the allocation of the Subtotal Water Operating Expense (Line 23).
    - The non-operating interest income (Line 28) is allocated to the various O&M cost components, in proportion to the allocation of the Subtotal Water Operating Expense (Line 23).
    - The total net operation and maintenance expense of $282.6 million to be recovered from water rates is shown on Line 29.

4.6.2 Wholesale

Currently, Aqua Pennsylvania is the only wholesale water customer. O&M expenses are allocated to Aqua Pennsylvania taking into considerations their projected annual usage and maximum day demands for service relative to the annual production and maximum day demand of the overall Water System, excluding costs associated with mains less than 24 inches in diameter. As shown in Column 8 of Table 4-5 , a total of $3.17 million of Test Year 1 O&M expense has been allocated to Aqua PA.

4.7 Allocation of Net Plant Investment

Table 4-6 summarizes the test year investment in the Water System used in the allocation of test year capital related costs of service. The total Test Year 1 investment of $2.03 Billion is the total original cost investment in facilities as of June 30, 2024.

4.7.1 Retail

The Test Year 1 plant investment is allocated to the cost components using a two-step process.

- First, a portion of the Water System plant investment costs are allocated to wholesale water customers.
- Then the retail portion of the total plant investment costs (which is the total plant investment less the proportionate share allocated to wholesale customers), are allocated to the other five cost components (Base, Extra Capacity (Max Day and Max Hour), Customer, and Public Fire Protection).

After deducting the investment directly allocable to Aqua PA, the balance of the plant investment is allocated to retail customers as follows:

- **Source of Supply (Raw Water):** The investment in the source of supply facilities shown in Lines 1 and 2 includes the Fairmont Dam and associated structures and equipment. These facilities are designed to meet average annual water supply requirements and are allocated 100% to the Base cost component.
- **Raw Water Pumping**: Lines 3 and 4 reflect investment in the Baxter, Queen Lane, and Belmont raw water intakes, buildings, structures, and raw water pumping equipment. These facilities not only supply the average annual volume needs but are also designed to meet the capacity needs of maximum day requirements. Hence, investment in these facilities is allocated 72% to Base cost component and 28% to Maximum Day Extra Capacity cost component.

Table 4-6 Allocation of Test Year 1 Net Plant Investment to Functional Cost Components

LINE NO.	CUSTOMER TYPE	(1) ESTIMATED PLANT INVESTMENT	(2) BASE	(3) EXTRA CAPACITY MAX DAY IN EXCESS OF BASE	(4) EXTRA CAPACITY MAX HOUR IN EXCESS OF MAX DAY	(5) CUSTOMER METERS	(6) PUBLIC FIRE PROTECTION DIRECT STANDARD PRESSURE	(7) WHOLESALE DIRECT
WATER SYSTEM ($)								
	Raw Water Supply and Pumping							
	Source of Supply							
1	Land	$ 200,000	$ 200,000					
2	Buildings and Equipment	4,212,000	4,212,000					
	Power and Pumping							
3	Land	31,000	22,000	9,000				-
4	Buildings and Equipment	51,994,000	37,074,000	14,417,000				503,000
5	**Total Raw Water Supply and Pumping**	**56,437,000**	**41,508,000**	**14,426,000**	**-**	**-**	**-**	**503,000**
	Purification and Treatment							
	Power and Pumping (a)							
6	Land	71,000	34,000	10,000	26,000			1,000
7	Buildings and Equipment	94,656,000	44,795,000	13,065,000	35,462,000			1,334,000
	Treatment							
8	Land	1,325,000	940,000	366,000				19,000
9	Buildings and Equipment	451,891,000	320,594,000	124,676,000				6,621,000
10	**Total Purification and Treatment**	**547,943,000**	**366,363,000**	**138,117,000**	**35,488,000**	**-**	**-**	**7,975,000**
	Transmission and Distribution							
11	Mains	1,101,554,000	526,669,000	153,612,000	416,947,000			4,326,000
12	Meters	86,400,000				86,400,000		-
13	Hydrants	9,200,000					9,200,000	-
	Filtered Water Storage							
14	Land	182,000	86,000	25,000	68,000			3,000
15	Buildings and Equipment	143,379,000	67,813,000	19,779,000	53,686,000			2,101,000
16	**Total Transmission and Distribution**	**1,340,715,000**	**594,568,000**	**173,416,000**	**470,701,000**	**86,400,000**	**9,200,000**	**6,430,000**
17	**Subtotal**	**1,945,095,000**	**1,002,439,000**	**325,959,000**	**506,189,000**	**86,400,000**	**9,200,000**	**14,908,000**
	Administrative and General (b)							
18	Land	205,000	106,000	34,000	53,000	9,000	1,000	2,000
19	Buildings and Equipment	88,680,000	45,702,000	14,861,000	23,078,000	3,939,000	419,000	681,000
20	**Total Administrative and General**	**88,885,000**	**45,808,000**	**14,895,000**	**23,131,000**	**3,948,000**	**420,000**	**683,000**
21	**Total Water Plant Investment**	**$ 2,033,980,000**	**$ 1,048,247,000**	**$ 340,854,000**	**$ 529,320,000**	**$ 90,348,000**	**$ 9,620,000**	**$ 15,591,000**

(a) Includes booster pumping

(b) Administrative and General allocated based on allocation of system investment.

- **Treated Water Pumping**: The investment in treated water pumping facilities at all three treatment plants, as well as the booster pumping stations in the distribution system, is included in Lines 6 and 7. These facilities are designed to fulfill maximum hour capacity needs in addition to meeting the Base and Maximum Day requirements. Hence, the retail portion of the plant investment costs of these facilities are allocated 48% to Base, 14% to Maximum Day Extra Capacity, and 38% to Maximum Hour Extra Capacity cost components.
- **Water Treatment**: The water purification and treatment facilities at the Baxter, Queen Lane, and Belmont treatment plants are designed to provide maximum day capacity needs. Hence, 72% of these costs are allocated to the Base cost component and 28% to the Maximum Day Extra Capacity cost component. The investment for Treatment is shown in Lines 8 and 9.
- **Transmission and Distribution**: Transmission and distribution investment, including transmission and distribution mains, and filtered water storage facilities are designed to meet maximum hour requirements of the system. Investment in these facilities is therefore allocated to Base, Maximum Day Extra Capacity, and Maximum Hour Extra Capacity cost components, with factors identical to that of the Treated Water Pumping allocation, discussed above.
- **Customer Meters and Public Fire Protection**: Investments in customer meters are entirely allocable to the Customer Meters cost component. Public fire protection service is comprised of the standard pressure fire system. Investment in public fire protection facilities is allocated 100% to the Public Fire Protection component.
- **General Plant and Equipment**: Other general plant and equipment investments are allocated to all the cost components based on the proportion of the total non-general plant and equipment component cost to the total plant investment cost.

4.7.2 Wholesale

Aqua PA is allocated a share of total Water System investment in large transmission mains, defined as 24 inch and larger mains, as well as raw water and treated water storage and pumping facilities, and a share of the investment in the Baxter, Queen Lane, and Belmont treatment facilities.

The plant investment costs are allocated to Aqua PA based on the proportionate share of their contract capacity in the various facilities relative to the total design capacity of the various facilities. Aqua PA's contract capacity in the various classes of facilities is in the range of 0.97% to 1.47% of the total design capacity of the facilities.

As shown in Column 7 of Table 4-6, a total of $15.59 million of test year net plant investment has been allocated to Aqua PA. The associated return on investment at 7.50% is $1,169,000.

4.8 Allocation of Depreciation Expense

Table 4-7 shows the estimated annual depreciation expense of the Water System and it is estimated to be $48.8 million for the Test Year 1. As shown on Line 14, the total depreciation expense allocated to Aqua PA is $373,000.

The annual depreciation expense to be distributed to Water System cost components is based on the application of appropriate depreciation expense rates to the various categories of Water System facilities. The various items of depreciation expense are allocated to cost components on the same basis as the proportion of plant investment costs allocated to each of those cost components.

[This spacing is intentional]

Table 4-7 Allocation of Test Year 1 Depreciation Expense

LINE NO.	CUSTOMER TYPE	(1) ESTIMATED PLANT INVESTMENT	(2) BASE	(3) EXTRA CAPACITY MAX DAY IN EXCESS OF BASE	(4) EXTRA CAPACITY MAX HOUR IN EXCESS OF MAX DAY	(5) CUSTOMER METERS	(6) PUBLIC FIRE PROTECTION DIRECT STANDARD PRESSURE	(7) WHOLESALE DIRECT
WATER SYSTEM ($)								
	Raw Water Supply and Pumping							
1	Source of Supply	$ 105,000	$ 105,000	$ -				
2	Power and Pumping	1,084,000	773,000	301,000				10,000
3	**Total Supply and Pumping**	**1,189,000**	**878,000**	**301,000**	**-**	**-**	**-**	**10,000**
	Purification and Treatment							
4	Power and Pumping (a)	1,877,000	888,000	259,000	704,000			26,000
5	Treatment	10,366,000	7,354,000	2,860,000				152,000
6	**Total Purification and Treatment**	**12,243,000**	**8,242,000**	**3,119,000**	**704,000**	**-**	**-**	**178,000**
	Transmission and Distribution							
7	Mains	20,795,000	9,942,000	2,900,000	7,871,000			82,000
8	Meters	6,048,000				6,048,000		-
9	Hydrants	230,000					230,000	-
10	Filtered Water Storage	5,665,000	2,679,000	781,000	2,122,000			83,000
11	**Total Transmission and Distribution**	**32,738,000**	**12,621,000**	**3,681,000**	**9,993,000**	**6,048,000**	**230,000**	**165,000**
12	**Subtotal**	**46,170,000**	**21,741,000**	**7,101,000**	**10,697,000**	**6,048,000**	**230,000**	**353,000**
13	Administrative and General	2,624,000	1,352,000	440,000	683,000	117,000	12,000	20,000
14	**Total Water Plant Depreciation Expense**	**$ 48,794,000**	**$ 23,093,000**	**$ 7,541,000**	**$ 11,380,000**	**$ 6,165,000**	**$ 242,000**	**$ 373,000**

(a) Includes booster pumping

4.9 Wholesale Cost of Service Allocations

Table 4-8 summarizes the COS allocations for Aqua PA based on the discussions presented above.

Table 4-8 Summary of Test Year 1 COS Allocated to Aqua PA

LINE NO.	DESCRIPTION	(1) ALLOCATED INVESTMENT	(2) COST OF SERVICE
1	Operating Expense		$ 3,167,000
2	Depreciation Expense		373,000
3	Return on Investment		
4	Allocated Investment	15,591,000	
5	Return @ 7.50%		1,169,000
6	**Total Allocated Cost of Service**		**$ 4,709,000**

Mg - Thousand gallons

4.10 Distribution of Costs to Customer Types

The cost of service is distributed to customer types by applying the unit costs to the individual customer types' units of service. Applying the unit costs of service to the number of units for which the customer type is responsible produces the customer type responsibility. The costs attributable to each customer type are based on the functional cost components described in earlier in this Report. Each customer type places a burden on the system in different ways and thus the allocation of the units is representative of this burden.

Table 4-9 presents the derivation of the unit costs of service for the Retail customers. Table 4-10 summarizes the distribution of the costs to the different customer types utilizing these unit costs. The total COS for each customer type is the sum of each type's units of service multiplied by the unit costs for the functional cost component.

As discussed earlier, the Water Department provides discounts to select customers. The cost of these discounts is not directly charged to customers. Instead, these costs are reallocated to the other retail customers in proportion to their allocated COS, as shown in Columns 2 to 4 of Table 4-11. The test year adjusted COS, reflecting the reallocation of these costs, is shown in Column 5.

Table 4-12 compares the total adjusted COS for each customer type to their respective revenues under existing rates. The indicated increase or decrease in the revenue required to meet the adjusted COS is shown in Column 3.

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Table 4-9 Test Year 1 Retail Unit Costs of Service

LINE NO.	CUSTOMER TYPE	(1) TOTAL ALLOCATED COST OF SERVICE	(2) BASE	(3) EXTRA CAPACITY MAX DAY	(4) EXTRA CAPACITY MAX HOUR IN EXCESS OF MAX DAY	(5) CUSTOMER COSTS METERS	(6) CUSTOMER COSTS BILLING	(7) Direct Public Fire Protection
Water System ($)								
	Total Retail Customer Units of Service							
1	Number		5,531,600	12,490	18,040	699,427	7,072,933	
2	Units		Mcf	Mcf/day	Mcf/day	Equiv. Meters	Equiv. Bills	Total
	Operating Expense							
3	Total Expense - $	279,394,000	164,349,000	39,481,000	42,015,000	5,735,000	27,152,000	662,000
4	Unit Expense - $/Unit		29.7109	3,161.0088	2,328.9911	8.1996	3.8389	
	Depreciation Expense							
5	Total Expense - $	48,421,000	23,093,000	7,541,000	11,380,000	6,165,000		242,000
6	Unit Expense - $/Unit		4.1747	603.7630	630.8204	8.8144		
	Plant Investment							
7	Total Investment - $	2,018,389,000	1,048,247,000	340,854,000	529,320,000	90,348,000		9,620,000
8	Unit Investment - $/Unit		189.5016	27,290.1521	29,341.4634	129.1743		
	Unit Return on Investment							
9	Total Return - $	77,254,000	40,122,000	13,046,000	20,260,000	3,458,000		368,000
10	Inside City - $/Unit (a)		7.2532	1,044.5306	1,123.0445	4.9441		
	Total Unit Costs of Service							
11	Inside City - $/Unit		41.1388	4,809.3024	4,082.8560	21.9581	3.8389	

(a) Retail rate of return = Retail allocation of Return on Investment / Retail Allocation of System Plant Investment = $77,254,000 / $2,018,389,000 = 3.8275%
Mcf - thousand cubic feet

Table 4-10 Test Year 1 Distribution of Costs of Service by Functional Cost Component to Customer Types

LINE NO.	CUSTOMER TYPE	(1) TOTAL ALLOCATED COST OF SERVICE	(2)	(3) EXTRA CAPACITY	(4)	(5) CUSTOMER COSTS	(6)	(7) DIRECT PUBLIC FIRE PROTECTION
			BASE	MAX DAY	MAX HOUR IN EXCESS OF MAX DAY	METERS	BILLING	
Water System ($)								
	Retail							
	General Service							
1	Senior Citizens	$ 9,588,000	$ 4,982,000	$ 1,299,000	$ 1,796,000	$ 488,000	$ 1,023,000	0
2	Residential	223,444,000	118,711,000	30,828,000	42,952,000	10,648,000	20,305,000	0
3	Commercial	105,919,000	70,656,000	15,390,000	14,453,000	3,175,000	2,245,000	0
4	Industrial	4,163,000	3,024,000	529,000	408,000	132,000	70,000	0
5	Public Utilities	918,000	597,000	144,000	122,000	38,000	17,000	0
6	**Subtotal General Service**	**344,032,000**	**197,970,000**	**48,190,000**	**59,731,000**	**14,481,000**	**23,660,000**	**0**
7	PHA	9,138,000	5,735,000	1,347,000	1,592,000	199,000	265,000	0
8	Charities & Schools	9,209,000	5,854,000	1,347,000	1,592,000	288,000	128,000	0
9	Hospitals & University	6,589,000	4,665,000	1,154,000	694,000	58,000	18,000	0
10	Hand Billed	18,914,000	13,308,000	2,693,000	2,776,000	137,000	-	0
11	Scheduled (Flat Rate)	-	-	-	-	-	-	0
	Fire Protection							
12	Private	6,582,000	33,000	1,395,000	1,878,000	195,000	3,081,000	0
	Public							
13	Standard Pressure	10,605,000	-	3,944,000	5,389,000	-	-	1,272,000
14	**Subtotal Public Fire Protection**	**10,605,000**	**-**	**3,944,000**	**5,389,000**	**-**	**-**	**1,272,000**
15	**Total Retail Service**	**$ 405,069,000**	**$ 227,565,000**	**$ 60,070,000**	**$ 73,652,000**	**$ 15,358,000**	**$ 27,152,000**	**$ 1,272,000**

Table 4-11 Test Year 1 Adjusted COS

LINE NO.	CUSTOMER TYPE	(1) ALLOCATED COST OF SERVICE	(2) DISCOUNT	(3) COST OF SERVICE WITH DISCOUNT	(4) RECOVERY OF DISCOUNT	(5) ADJUSTED COST OF SERVICE
Water System ($000s)						
1	Residential	$ 223,444,000	$ -	$ 223,444,000	$ 3,818,000	$ 227,262,000
2	Senior Citizens	9,588,000	2,397,000	7,191,000	123,000	7,314,000
3	Commercial	105,919,000	-	105,919,000	1,809,000	107,728,000
4	Industrial	4,163,000	-	4,163,000	71,000	4,234,000
5	Public Utilities	918,000	-	918,000	16,000	934,000
6	PHA	9,138,000	457,000	8,681,000	148,000	8,829,000
	Charities, Schools, & Universities					
7	Charities & Schools	9,209,000	2,302,000	6,907,000	118,000	7,025,000
8	Hospital/University	6,589,000	1,647,000	4,942,000	84,000	5,026,000
9	**Subtotal**	**15,798,000**	**3,949,000**	**11,849,000**	**202,000**	**12,051,000**
10	Hand Billed	18,914,000	-	18,914,000	323,000	19,237,000
11	Scheduled (Flat Rate)	-	-	-	-	-
	Fire Protection					
12	Private	6,582,000	-	6,582,000	112,000	6,694,000
	Public					
13	Standard Pressure	10,605,000	-	10,605,000	181,000	10,786,000
14	**Subtotal Public Fire Protection**	**10,605,000**	**-**	**10,605,000**	**181,000**	**10,786,000**
15	**Subtotal Retail Service**	**405,069,000**	**6,803,000**	**398,266,000**	**6,803,000**	**405,069,000**
16	Wholesale	5,180,000	-	5,180,000	-	5,180,000
17	**Total System**	**$ 410,249,000**	**$ 6,803,000**	**$ 403,446,000**	**$ 6,803,000**	**$ 410,249,000**

Table 4-12 Comparison of Test Year 1 COS and Adjusted COS with Revenues Under Existing Rates

LINE NO.	CUSTOMER TYPE	(1) REVENUE UNDER EXISTING RATES	(2) ADJUSTED COST OF SERVICE	(3) INDICATED INCREASE (DECREASE) REQUIRED
		$	$	%
	Retail			
	General Service			
1	Senior Citizens	$ 6,564,039	$ 7,314,000	11.4%
2	Residential	203,528,025	227,262,000	11.7%
3	Commercial	97,538,448	107,728,000	10.4%
4	Industrial	4,086,294	4,234,000	3.6%
5	Public Utilities	816,983	934,000	14.3%
6	**Subtotal General Service**	**312,533,790**	**347,472,000**	**11.2%**
7	PHA	7,773,622	8,829,000	13.6%
8	Charities & Schools	6,159,164	7,025,000	14.1%
9	Hospitals & University	5,191,157	5,026,000	-3.2%
10	Hand Billed	15,535,039	19,237,000	23.8%
11	Scheduled (Flat Rate)	1,322	-	-100.0%
	Fire Protection			
12	Private	5,495,056	6,694,000	21.8%
	Public			
13	Standard Pressure	8,248,000	10,786,000	30.8%
14	**Subtotal**	**8,248,000**	**10,786,000**	**30.8%**
15	**Total Retail Service**	**360,937,150**	**405,069,000**	**12.2%**
16	Total Wholesale	4,376,350	5,180,000	18.4%
17	**Total System**	**$ 365,313,499**	**$ 410,249,000**	**12.3%**

5.0 Water System Rate Design

The revenue requirement and COS analyses described in the preceding sections of this Report provide a basis for the review and update of a schedule of water rates that recover allocated cost of service. These studies are the results of engineering estimates, consideration of historical data and, to some extent, judgment, and experience. Judgment must enter the final choice of rates, and factors such as public reaction to the extent of changes and adjustments, previous rate levels, contractual agreements, and past local practice are recognized in making rate adjustments.

Rates should be reasonably simple in application and subject to as few misinterpretations as possible. Considerations regarding the proposed rate adjustments reflect discussions with the Water Department staff and include the above considerations and the desire of the Water Department to maintain the existing structure for the Rate Period. This Report proposes water user rates in accordance with these considerations.

The cost-of-service analysis described in the preceding section of this Report provides the basis for the design of water rate schedules to cover the allocated cost for service for the Water System.

5.1 General Service

The proposed charges for water service derived in this Report are applicable to General Service retail customers and recognize that certain retail customer types, including senior citizens, charities and schools, and the PHA, receive services at a discounted rate. The Water Department anticipates that the existing discounts (25% for senior citizens, charities and schools, and 5% for PHA) will continue to be applicable for the entire Study Period.

In designing the proposed rates, we adjust the retail water costs of service determined for each customer type to reflect the fact that these customer types will not pay full cost of service. Accordingly, we increase the proposed retail water, sewer, and stormwater rates to recover this cost-of-service revenue reduction due to discounts.

Additionally, the cost-of-service water rates that are designed for each Test Year require the application of a “lag factor.” The lag factor reflects a final adjustment to the cost-of-service rates to recognize the fact that there will be a proration of quantity charge billings between the existing and proposed rates during the first month following the effective date of the rate increase, as well as the fact that the fiscal year billings will not be fully collected within that fiscal year. The lag factor is calculated to recover only the anticipated receipts of the prorated revenue increase projected for the test year, recognizing the normally expected historical payment patterns. A lag factor of 1.053 is applied to the FY 2026 water COS rates.

Table 5-1 presents the proposed water rates for General Service customers applicable for Test Year 1 (FY 2026) and Test Year 2 (FY 2027). The proposed rates reflect a continuation of the existing rate structure, including a service charge which varies by meter size and a declining block quantity charge. The proposed rates designed for each fiscal year, are designed to recover the water revenue increase indicated in Table 3-13, taking into consideration the collection factor patterns as applied to billings from current and prior fiscal years.

Table 5-1 Proposed FY 2026 and FY 2027 General Service Water Rates [Schedule BV-1: Table C-10]

Description	Proposed FY 2026	Proposed FY 2027
Monthly Water Service Charge ($/bill)		
Meter Size (Inches)		
5/8	$6.08	$6.31
3/4	$7.06	$7.35
1	$9.42	$9.82
1-1/2	$14.73	$15.37
2	$21.85	$22.79
3	$37.62	$39.26
4	$65.44	$68.29
6	$126.77	$132.31
8	$197.89	$206.57
10	$287.04	$299.62
12	$503.58	$525.79
Base Rate - Water Quantity Charges ($/Mcf)		
Monthly Water Usage		
First 2 Mcf	$72.45	$74.79
Next 98 Mcf	$64.76	$70.28
Next 1,900 Mcf	$50.16	$54.97
Over 2,000 Mcf	$50.16	$54.97

5.2 Fire Protection

Table 5-2 presents the proposed rates for fire connections for Test Year 1 and Test Year 2.

Table 5-2 Proposed Rates for Fire Protection [Schedule BV-1: Table C-11 and C-11A]

Size of Meter Or Connection	(1) FY 2026	(2) FY 2027
Private Fire Protection Monthly Service Charge ($/bill)		
4" or less	$33.88	$39.38
6	$63.64	$74.48
8	$96.90	$114.06
10	$141.86	$166.62
12	$232.14	$277.15

Description	(1) FY 2026	(2) FY 2027
Public Fire Protection Annual Charge ($)		
Standard Pressure	$10,786,000	$13,786,000

Size of Meter Or Connection (inches)	(1) FY 2026	(2) FY 2027
Monthly Residential Private Fire Protection Water Service Charge including Fire Protection ($/Bill)		
3/4	$12.33	$14.16
1	$14.69	$16.63
1-1/2	$20.00	$22.18
2	$27.12	$29.60
Public Fire Protection Annual Charge ($)		
3/4	$8.22	$8.84
1	$8.22	$8.84
1-1/2	$8.22	$8.84
2	$8.22	$8.84

6.0 Wastewater System Revenue and Revenue Requirements

The Wastewater System currently serves the City of Philadelphia, and parts of Bucks, Montgomery, and Delaware Counties, a service area that is over 364 square miles, with 230 square miles in suburban communities and 134 square miles in the City.

The wastewater collection system consists of approximately 3,700 miles of total collector system piping, 29 pumping stations, 95,220 manholes, 25 storm relief structures, and 71,500 stormwater inlets. The collection system is approximately 55% combined sewer system comprised of 770 miles of sanitary, 750 miles of storm, and 1,850 combined sanitary/storm sewers. Sewers range in size from 8-inch diameter to 21 feet by 24 feet arch-shaped conduits primarily constructed of brick, vitrified clay, or reinforced concrete.

This section focuses on the Revenue and Revenue Requirements part of the COS study for the Wastewater System. In the following discussion, we review O&M expenses, debt service payments, funding for specific deposits and reserves, and the cost of capital improvement projects that the Water Department does not fund via debt or contributions from third parties.

6.1 Wastewater Revenue

The Wastewater System derives revenue primarily from charges for sanitary sewer and stormwater services. During the Study Period, future levels of sanitary sewer revenues were projected based on an analysis of historical and future system growth in terms of the number of accounts and water consumption for sewer customers. For stormwater, trends for billable parcels and estimates of billable GA and IA were examined.

6.1.1 Stormwater Services Background

The Water Department has been responsible for providing stormwater services to the City of Philadelphia since its creation. Historically, stormwater costs were recovered from customers through the Water Department's rates and charges.

The Water Department fully transitioned the Stormwater Management Service Charge ("SWMS Charge") to a parcel area-based SWMS Charge, as of July 1, 2013. Prior to the transition to the parcel area-based SWMS Charge, stormwater costs were recovered from customers via a meter-based stormwater charge with the customers sanitary service fees. Under this approach, equivalent meter sizes were used as a proxy for the demand a customer places on stormwater services. While customers were charged on the same basis, water meter size (or water use) does not directly correlate to the generation of stormwater, or the demand placed on the Water Department's system and/or services. In addition, the use of equivalent meter as the basis for the stormwater charged did not capture properties without water meters, such as parking lots, which generate stormwater runoff and may place a demand on the system and/or services.

Based upon prior rate proceedings as well as discussions with City stakeholders, the Water Department undertook a process in the 1990s to develop and implement a more acceptable and technically appropriate methodology for stormwater cost recovery. The underlying change in cost recovery recognizes that stormwater costs of service are not related to sanitary service requirements, which are generally related to customers' water use, and that a more appropriate basis would be a measure of (or surrogate for) the generation of stormwater runoff. As a result of this process, the Water Department chose a methodology that considered (1) the overall area of customer properties (i.e., gross area), and (2) stormwater runoff potential, including the impervious area of the property was identified as a more appropriate basis for recovery of stormwater costs. These two elements are recognized in the two

primary components which make up the SWMS Charge, namely the GA and IA charges. The parcel area-based fee is far more equitable, compared to an equivalent meter basis, as it better recognizes the generation of stormwater runoff from both pervious and impervious surfaces, associated demands placed on systems or services, and includes customers without a water meter, who previously did not contribute to cost recovery.

While this change in cost recovery approach was initially identified in the 1990s, billing data development and billing system updates to enable the use of a parcel area-based fee took several years. The Water Department began to transition customers to the current SWMS rate structure in July 2010.

In the past, it was not unusual for stormwater costs to be recovered from customers via charges based upon water or sewer system attributes (such as water meter size). However, with improved data availability and technology, recovering stormwater costs via area-based fees has become far more widely used and publicly accepted nationwide. Further, WEF's User Fee Funded Stormwater Programs manual provides guidance on the development and implementation of such stormwater fees, and recognizes the methodology employed by the Water Department as one of the five named "Property Characteristics-Based Stormwater User Fee Methods,[29]" which provide an equitable and defensible basis for establishing a stormwater rate structure and estimating units of service by customer class.

6.1.2 Customers and Growth

Table 6-1 summarizes the Water Department's wastewater customer account classifications.

For the most part, the sanitary sewer customer types are like those for water customers, except for sewer-only accounts, groundwater accounts, and hand-billed accounts. Hand-billed accounts are "H"-coded customers in the Basis2 billing system that receive surcharge and/or sewer credits. The adjustments to these accounts are made manually.

[29] See Section 5.4 of WEF's "User-Fee-Funded Stormwater Programs" Manual.

Table 6-1 Wastewater System Customer Types

Customer Types			
Sanitary Sewer			**Stormwater**
General Service - Residential - Senior Citizens - Commercial - Industrial - Public Utilities - Sewer Only - Groundwater	Other - PHA - Charities & Schools - Hospitals & Universities - Hand Bill - Scheduled (Flat Rate) - Surcharge	Fire Service Wholesale	Residential Condominiums Non-Residential Note: Stormwater also recognizes discounts as applicable to elderly, PHA and charities and schools.

As noted in Section 1.4, customer account projections for FY 2025 to FY 2030 are based upon the number of accounts in FY 2024 and projected to remain relatively stable across the Study Period. The number of billable stormwater accounts and parcels are projected to decline during the Study period due to new community gardens. Table 6-2 and Table 6-3 present the projection for number of accounts and billable parcels during the Study Period.

Table 6-2 Number of Customer Accounts

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Sanitary Sewer							
1	Residential	434,656	434,656	434,656	434,656	434,656	434,656
2	Senior Citizens	22,191	22,191	22,191	22,191	22,191	22,191
3	Commercial	37,231	37,231	37,231	37,231	37,231	37,231
4	Industrial	1,001	999	997	995	995	995
5	Public Utilities	219	219	219	219	219	219
6	**Subtotal General Service**	**495,298**	**495,296**	**495,294**	**495,292**	**495,292**	**495,292**
7	PHA	5,443	5,443	5,443	5,443	5,443	5,443
8	Charities and Schools	1,569	1,569	1,569	1,569	1,569	1,569
9	Hospitals and University	116	116	116	116	116	116
10	Hand Billed	198	198	198	198	198	198
11	Scheduled	5	5	5	5	5	5
12	Fire Service	10	10	10	10	10	10
13	Sewer Only	73	73	73	73	73	73
14	Groundwater	5	5	5	5	5	5
15	**Subtotal Retail Customers**	**502,717**	**502,715**	**502,713**	**502,711**	**502,711**	**502,711**
16	Wholesale	10	10	10	10	10	10
17	**Total Sanitary Sewer**	**502,727**	**502,725**	**502,723**	**502,721**	**502,721**	**502,721**
Stormwater							
18	Residential	466,910	466,910	466,910	466,910	466,910	466,910
19	Non-Residential	77,769	77,762	77,755	77,748	77,741	77,734
20	Condominium	5,582	5,582	5,582	5,582	5,582	5,582
21	**Subtotal Stormwater**	**550,261**	**550,254**	**550,247**	**550,240**	**550,233**	**550,226**

Table 6-3 Number of Billable Parcels

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater							
	Residential						
1	Initial Parcel Count	464,592	464,592	464,592	464,592	464,592	464,592
2	Less Residential Zero Rate[1]	-	-	-	-	-	-
3	Subtotal Residential	464,592	464,592	464,592	464,592	464,592	464,592
	Non-Residential						
4	Initial Parcel Count	68,528	68,528	68,528	68,528	68,528	68,528
5	Less Non-Residential Zero Rate[2]	7	14	21	28	35	42
6	Subtotal Non Residential	68,521	68,514	68,507	68,500	68,493	68,486
	Condominium						
7	Initial Parcel Count	2,420	2,420	2,420	2,420	2,420	2,420
8	Less Stormwater Appeals Adjustments	0	0	0	0	0	0
9	Subtotal Condominium	2,420	2,420	2,420	2,420	2,420	2,420
10	**TOTAL: System Billable Parcels**	**535,533**	**535,526**	**535,519**	**535,512**	**535,505**	**535,498**

1: Comprises Community Gardens under Residential Category
2: Comprises Community Gardens under Non-Residential Category

6.1.3 Sanitary Sewer Retail Billed Volume

Table 6-4 presents the projected billed volume for retail sanitary sewer customers. Section 1.4 discussed the assumptions underlying the billed volumes projections.

Table 6-4 Retail Billed Volumes

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System (Mcf)							
1	Residential	2,934,977	2,874,292	2,817,101	2,763,097	2,737,790	2,712,483
2	Senior Citizens	122,063	120,991	119,925	118,865	118,865	118,865
3	Commercial	1,696,788	1,699,200	1,701,717	1,704,233	1,704,233	1,704,233
4	Industrial	75,207	73,102	71,049	69,045	69,045	69,045
5	Public Utilities	13,761	14,328	14,941	15,605	15,605	15,605
6	**Subtotal General Service**	**4,842,796**	**4,781,913**	**4,724,733**	**4,670,845**	**4,645,538**	**4,620,231**
7	PHA	139,106	139,323	139,541	139,759	139,759	139,759
8	Charities and Schools	131,296	141,727	152,988	165,142	165,142	165,142
9	Hospitals and University	105,639	113,389	121,705	130,633	130,633	130,633
10	Hand Billed	254,124	230,325	208,157	187,507	187,507	187,507
11	Scheduled	19	16	13	11	11	11
12	Fire Service	1,393	1,393	1,393	1,393	1,393	1,393
13	Sewer Only	64,765	64,765	64,765	64,765	64,765	64,765
14	Groundwater	204,843	204,843	204,843	204,843	204,843	204,843
15	**Subtotal Retail Customers**	**5,743,981**	**5,677,694**	**5,618,138**	**5,564,898**	**5,539,591**	**5,514,284**
16	Wholesale	3,786,343	3,786,343	3,786,343	3,786,343	2,723,258	2,723,258
17	**Total Sanitary Sewer System**	**9,530,324**	**9,464,037**	**9,404,481**	**9,351,241**	**8,262,849**	**8,237,542**

6.1.4 Wholesale Volume, Capacity, and Strength Loadings

Table 6-5 summarizes projections of billed volume, capacity, and biological oxygen demand (“BOD”) and suspended solids (“SS”) loadings for the wholesale customers. As previously noted in Section 1.4.1, projected wastewater wholesale billed volumes and loadings are estimated based on the three-year average of historical service levels, and DELCORA is anticipated to leave the City as a customer by FY 2029.

Table 6-5 Projections for Wholesale Customer Volumes, Capacities, and Strength Loadings

LINE NO.	DESCRIPTION	FY 2025	Projected FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System							
	Abington						
1	Volume (Mcf)	106,423	106,423	106,423	106,423	106,423	106,423
2	Capacity (Mcf/day)	824	824	824	824	824	824
3	SS (1,000 lbs)	1,198	1,198	1,198	1,198	1,198	1,198
4	BOD (1,000 lbs)	1,426	1,426	1,426	1,426	1,426	1,426
	Bucks County (Bensalem)						
5	Volume (Mcf)	143,084	143,084	143,084	143,084	143,084	143,084
6	Capacity (Mcf/day)	1,014	1,014	1,014	1,014	1,014	1,014
7	SS (1,000 lbs)	1,875	1,875	1,875	1,875	1,875	1,875
8	BOD (1,000 lbs)	1,956	1,956	1,956	1,956	1,956	1,956
	Bucks County						
9	Volume (Mcf)	894,044	894,044	894,044	894,044	894,044	894,044
10	Capacity (Mcf/day)	6,416	6,416	6,416	6,416	6,416	6,416
11	SS (1,000 lbs)	10,048	10,048	10,048	10,048	10,048	10,048
12	BOD (1,000 lbs)	9,470	9,470	9,470	9,470	9,470	9,470
	Cheltenham						
13	Volume (Mcf)	379,171	379,171	379,171	379,171	379,171	379,171
14	Capacity (Mcf/day)	2,743	2,743	2,743	2,743	2,743	2,743
15	SS (1,000 lbs)	2,562	2,562	2,562	2,562	2,562	2,562
16	BOD (1,000 lbs)	2,253	2,253	2,253	2,253	2,253	2,253
	Lower Moreland						
17	Volume (Mcf)	68,159	68,159	68,159	68,159	68,159	68,159
18	Capacity (Mcf/day)	508	508	508	508	508	508
19	SS (1,000 lbs)	694	694	694	694	694	694
20	BOD (1,000 lbs)	522	522	522	522	522	522
	Lower Southampton						
21	Volume (Mcf)	264,709	264,709	264,709	264,709	264,709	264,709
22	Capacity (Mcf/day)	1,364	1,364	1,364	1,364	1,364	1,364
23	SS (1,000 lbs)	1,482	1,482	1,482	1,482	1,482	1,482
24	BOD (1,000 lbs)	1,431	1,431	1,431	1,431	1,431	1,431
	DELCORA						
25	Volume (Mcf)	1,063,085	1,063,085	1,063,085	1,063,085	0	0
26	Capacity (Mcf/day)	13,392	13,392	13,392	13,392	0	0
27	SS (1,000 lbs)	12,207	12,207	12,207	12,207	0	0
28	BOD (1,000 lbs)	10,636	10,636	10,636	10,636	0	0
	Lower Merion						
29	Volume (Mcf)	284,757	284,757	284,757	284,757	284,757	284,757
30	Capacity (Mcf/day)	2,728	2,728	2,728	2,728	2,728	2,728
31	SS (1,000 lbs)	2,975	2,975	2,975	2,975	2,975	2,975
32	BOD (1,000 lbs)	2,541	2,541	2,541	2,541	2,541	2,541
	Springfield (less Wyndmoor)						
33	Volume (Mcf)	126,465	126,465	126,465	126,465	126,465	126,465
34	Capacity (Mcf/day)	397	397	397	397	397	397
35	SS (1,000 lbs)	2,088	2,088	2,088	2,088	2,088	2,088
36	BOD (1,000 lbs)	2,033	2,033	2,033	2,033	2,033	2,033
	Upper Darby						
37	Volume (Mcf)	438,724	438,724	438,724	438,724	438,724	438,724
38	Capacity (Mcf/day)	3,024	3,024	3,024	3,024	3,024	3,024
39	SS (1,000 lbs)	5,328	5,328	5,328	5,328	5,328	5,328
40	BOD (1,000 lbs)	3,856	3,856	3,856	3,856	3,856	3,856
	Springfield (Wyndmoor)						
41	Volume (Mcf)	17,722	17,722	17,722	17,722	17,722	17,722
42	Capacity (Mcf/day)	167	167	167	167	167	167
43	SS (1,000 lbs)	180	180	180	180	180	180
44	BOD (1,000 lbs)	151	151	151	151	151	151

6.1.5 Stormwater Impervious and Gross Areas

A stormwater units of service analysis was performed to develop estimates of the billable GA and IA units of service for the Study Period and is provided as Schedule BV-4: WP-3. The billable units of service are utilized in projecting the stormwater revenues under existing rates, as well as in developing the proposed GA and IA rates discussed later in this Report.

As discussed, in Section 1.4.1, the initial GA and IA stormwater billing data for the Study Period (beginning FY 2025) is based upon the end of FY 2024 stormwater billing data set. Table 6-6 summarizes the mean GA and IA square footage for each customer class. These values were used to project the initial GA and IA for each customer class based upon the associated number of parcels for each customer class beginning in FY 2025. Further discussion is provided in Schedule BV-4: WP-3.

Based upon the FY 2024 data set, the mean residential GA square footage remains 2,100 square feet, the same as the prior rate proceeding. The mean residential IA also has not changed, remaining at 1,190 square feet, the same as the prior rate proceeding.

Table 6-6 FY 2025 Mean GA and Mean IA

Line No.	Description	FY 2025 MEAN GA	FY 2025 MEAN IA
	Stormwater (square feet)		
1	**All Residential Parcels**	**2,100**	**1,190**
	Non-Residential Sub-Classes		
	Non-Discount		
2	Water & Sewer	28,872	16,269
3	SW Only	9,208	2,763
	Discount: Senior, Education & Charities		
4	Water & Sewer	100,441	55,171
5	SW Only	33,444	17,975
	Discount: PHA		
6	Water & Sewer	62,878	34,342
7	SW Only	3,280	1,338
	Condominiums Sub-Classes		
	Non-Discount		
8	Water & Sewer	15,994	11,325
9	SW Only	14,332	9,196
	Discount: Senior, Education & Charities		
10	Water & Sewer	38,736	20,172
11	SW Only	-	-
	Discount: PHA		
12	Water & Sewer	9,358	6,158
13	SW Only	-	-

FY 2025 Mean GA and Mean IA is based on the end of FY 2024 stormwater billing dataset.

With this COS study, projected billable units of service reflect:

- For FY 2025 – Initial GA and IA square footage as reflected in the Water Department's stormwater billing data as of June 2024.
- Reduction in billable GA and IA square footage as a result of credits, based upon:
    - Projected increase in Impervious Area Reduction ("IAR") credits based upon the average 5-year growth and average IAR loss per parcel;
    - Projected increase in GA, IA, and National Pollutant Discharge Elimination System ("NPDES") Credits based upon the average 5-year growth in the number of parcels receiving credit and the associated average credit per parcel; and
    - Credits resulting from SMIP/GARP grants:
        1. Based upon the overall annual program budget of $15 million in FY 2025 and FY 2026, and $25 million thereafter; and
        2. Average grant award per drainage acre, anticipated cost escalation and average project completion time.
- Reduction in billable GA and IA square footage due to appeals and other adjustments:
    - Adjustment appeals, include reductions in GA and IA billable square footage resulting from customers who seek clarification for and take exception to GA and IA billing data.
    - Other adjustments include reductions in GA and IA billable square footage resulting from a property's designation as a "Community Garden," which provides customers with a 100% discount on their stormwater bill and as referred to as a "Zero Rate Adjustment" in the tables below. This discount also applies to billing and collection charges associated with the subject parcel(s).

Additional information regarding the derivation of the billable GA and IA units of service, including the basis for above mentioned projections, are provided in Schedule BV-4: WP-3.

Table 6-7 summarizes the development of the billable GA for the Study Period, while Table 6-8 summarizes the development of the billable IA for the Study Period.

Table 6-7 Determination of Billable Gross Area

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater (thousand square feet)							
	Residential						
1	Initial GA	975,643	975,643	975,643	975,643	975,643	975,643
2	Less Residential Zero Rate[1]	0	1	1	1	2	2
3	Subtotal Residential Billable GA (sf)	975,643	975,643	975,642	975,642	975,642	975,641
	Non-Residential						
4	Initial GA	1,422,273	1,422,273	1,422,273	1,422,273	1,422,273	1,422,273
5	Less Credits Adjustments	354,968	364,391	373,050	380,548	388,587	396,555
6	Less Stormwater Appeals	129	258	386	515	644	773
7	Less Non-Residential Zero Rate[2]	67	135	202	269	337	404
8	Subtotal Non Residential Billable GA (sf)	1,067,109	1,057,490	1,048,634	1,040,940	1,032,705	1,024,541
	Condominium						
9	Initial GA	39,726	39,726	39,726	39,726	39,726	39,726
10	Less Credits Adjustments	8,595	8,823	9,033	9,214	9,409	9,602
11	Subtotal Condominium Billable GA (sf)	31,131	30,903	30,693	30,512	30,317	30,124
12	**TOTAL: System Billable GA (sf)**	**2,073,883**	**2,064,036**	**2,054,970**	**2,047,094**	**2,038,663**	**2,030,307**

1: Comprises Community Gardens under Residential Category
2: Comprises Community Gardens in the Non-Residential Category.

Table 6-8 Determination of Billable Impervious Area

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater (thousand square feet)							
	Residential						
1	Initial IA	552,865	552,865	552,865	552,865	552,865	552,865
2	Less Residential Zero Rate[1]	0	0	0	0	0	0
3	Subtotal Residential Billable IA (sf)	552,865	552,865	552,865	552,865	552,865	552,865
	Non-Residential						
4	Initial IA	721,913	721,913	721,913	721,913	721,913	721,913
5	Less Credits Adjustments	116,014	120,787	124,814	127,704	131,123	134,472
6	Less Stormwater Appeals	752	1,505	2,257	3,010	3,762	4,515
7	Less Non-Residential Zero Rate[2]	2	3	5	6	8	9
8	Subtotal Non Residential Billable IA (sf)	605,145	599,618	594,837	591,193	587,020	582,916
	Condominium						
9	Initial IA	27,742	27,742	27,742	27,742	27,742	27,742
10	Less Credits Adjustments	5,392	5,614	5,801	5,935	6,094	6,250
11	Subtotal Condominium Billable IA (sf)	22,350	22,128	21,941	21,807	21,648	21,492
12	**TOTAL: System Billable IA (sf)**	**1,180,360**	**1,174,611**	**1,169,643**	**1,165,865**	**1,161,533**	**1,157,274**

1: Comprises Community Gardens under Residential Category
2: Comprises Community Gardens in the Non-Residential Category.

Revenue Under Existing Rates projections utilize the number of billable residential parcels, since residential properties are billed a uniform charge per parcel. The influence of the IA and GA billing data is more evident in the allocation of stormwater cost of service (see Section 7.10). The distribution of projected credits, appeals, and community garden adjustments are based on current distributions within the stormwater billing data.

6.1.6 Bill Tabulation

Similar to our process for calculating water revenues, we used the bill tabulation results generated in Section 3.1.3 for the sewer revenue calculations as well. However, it is only necessary to utilize the

distribution of accounts by meter size. The billed volume distribution is not required for sanitary sewer billings since the sanitary sewer quantity charge is a uniform volume charge for all billed volume.

6.1.7 Wastewater Revenue

The total operating revenues for the Water Department include the following:

- Retail (i.e., all customers excluding wholesale) Sanitary Sewer Service and Quantity charges and Stormwater charges
- Additional charges for high-strength customers (surcharges)
- Wholesale wastewater charges

6.1.7.1 Retail Operating Revenues

In developing projections for retail operating revenues, the process described in the following paragraphs and illustrated in Figure 3-1 was followed.

6.1.7.2 Projection of Gross Billings

To project the FY 2025 sewer gross billings, the FY 2024 rates (effective September 1, 2023) and current FY 2025 (effective September 1, 2024) schedules of sewer rates were applied to the projected FY 2025 annual sewer billed volumes, number of customer accounts and bill tabulation results, to reflect the September 1, 2024 implementation of the FY 2025 rate schedule. For stormwater, the method is like the sanitary sewer billing projections, the FY 2024 rates (effective September 1, 2023) and current FY 2025 (effective September 1, 2024) schedules of stormwater rates are applied to the projected FY 2025 billable residential parcels and accounts, and non-residential billable GA and IA, as well as accounts.

To project the FY 2026 to FY 2030 sewer gross billings, the FY 2025 schedule of sewer rates shown Table 6-9 were applied to the projections of annual billed water volume, number of customer accounts and bill tabulation results. For stormwater, we apply the FY 2025 GA and IA rates to the projected billable residential parcels and accounts, and non-residential billable GA and IA, and the projected number of billable accounts.

Table 6-9 Existing Sanitary Sewer and Stormwater Rates

Sanitary Sewer	
Monthly Sanitary Sewer Service Charge ($/bill)	
Meter Size (Inches)	
5/8	$7.64
3/4	$9.79
1	$14.43
1-1/2	$25.53
2	$39.44
3	$71.26
4	$120.98
6	$238.64
8	$377.82
10	$545.20
12	$992.49
Base Rate - Sanitary Sewer Quantity Charges ($/Mcf)	
Monthly Usage	
All Billable Water Usage	$41.11
Groundwater Charge	$14.81
Sanitary - Surcharge Rates ($/lb)	
BOD ($/lb in excess of 250 mg/l)	$0.450
SS ($/lb in excess of 350 mg/l)	$0.458

Stormwater		
Residential Stormwater Charges		
Monthly Stormwater Management Service Charge		
Charge Per Parcel		$18.47
Monthly Billing & Collection Charge		
Charge Per Bill		$1.94
Non-Residential Stormwater Charges		
Monthly Stormwater Management Service Charge		
Gross Area	($/500 sf)	$0.862
Impervious Area	($/500 sf)	$6.309
Monthly Billing & Collection Charge		
Charge Per Bill		$2.52

Notes:

Non-Residential Stormwater Charges includes Condominiums. Non-Residential Stormwater Customers are subject to a minimum Stormwater Management Service Charge equal to the residential charge per parcel.

Mcf - Thousand cubic feet

mg/l - milligrams per liter

Where applicable, for all customer types that are eligible for discounts, the appropriate discounts previously shown on Table 3-5 were applied. Moreover, like to our analysis for the Water System, TAP discounts and TAP-R surcharge billings are excluded from this analysis. Thus, the proposed revenue adjustments and rates developed will reflect the Base Rates for sanitary sewer and stormwater.

6.1.7.3 Projection of Projected Billings

Table 6-10 presents the projected billings under existing rates for the Wastewater System.

Table 6-10 Billings Under Existing Rates

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)							
Sewer Non-Discount							
1	Residential	$ 159,709	$ 159,505	$ 157,154	$ 154,934	$ 153,894	$ 152,853
2	Commercial	75,785	77,078	77,182	77,285	77,285	77,285
3	Industrial	3,298	3,264	3,179	3,096	3,096	3,096
4	Public Utilities	649	683	708	735	735	735
5	Fire Protection	56	57	57	57	57	57
6	Wholesale	46,176	46,849	46,849	46,849	35,501	35,501
7	Surcharge	7,066	7,162	7,162	7,162	7,162	7,162
8	Other (Hand-Billed and Groundwater)	13,510	12,760	11,848	10,999	10,999	10,999
9	Sewer Only	2,652	2,695	2,695	2,695	2,695	2,695
10	**Subtotal Sewer Non-Discount Billings**	**308,902**	**310,053**	**306,834**	**303,813**	**291,424**	**290,384**
Sewer Discount							
11	Residential (Senior Citizens)	5,217	5,257	5,224	5,191	5,191	5,191
12	PHA	5,999	6,101	6,110	6,118	6,118	6,118
13	Charity/Schools/Hospital/University	7,844	8,529	9,133	9,783	9,783	9,783
14	**Subtotal Sewer Discount Billings**	**19,060**	**19,887**	**20,467**	**21,092**	**21,092**	**21,092**
15	**Subtotal Sewer Service Billings**	**327,962**	**329,941**	**327,301**	**324,906**	**312,516**	**311,476**
Stormwater							
Stormwater General Service							
16	Residential	105,477	107,558	107,558	107,558	107,558	107,558
17	Non Residential	104,910	106,064	105,176	104,481	103,696	102,922
18	**Subtotal Stormwater Non-Discount**	**210,387**	**213,622**	**212,734**	**212,039**	**211,253**	**210,480**
Stormwater Discount							
19	Residential (Senior Citizens)	3,953	4,031	4,031	4,031	4,031	4,031
20	PHA	2,438	2,486	2,486	2,486	2,486	2,485
21	Charity/Schools/Hospital/University	8,424	8,555	8,517	8,487	8,453	8,420
22	**Subtotal Stormwater Discount**	**14,815**	**15,073**	**15,034**	**15,004**	**14,970**	**14,936**
23	**Subtotal Stormwater Service Billings**	**225,201**	**228,695**	**227,768**	**227,042**	**226,223**	**225,416**
24	**Subtotal Wastewater Billings**	**$ 553,163**	**$ 558,635**	**$ 555,069**	**$ 551,948**	**$ 538,739**	**$ 536,892**

6.1.7.4 Application of Collection Factors

As shown in Figure 3-2, the second step in the process of calculating revenues involves applying receipt factors (i.e., collection factors) to the corresponding gross billings to determine the operating retail cash receipts. Table 1-4 in Section 1.4.1 presents the collection factors used in determining the revenues for sanitary sewer and stormwater in the Study.

Table 6-11 and Table 6-12 summarize the projected revenues (receipts) during the Study Period for the Retail and Wholesale customers of the Wastewater System.

Table 6-11 Projected Receipts Under Existing Sanitary Sewer Rates

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Sanitary Sewer ($000s)							
1	Residential	$ 153,517	$ 154,446	$ 152,638	$ 150,516	$ 149,352	$ 148,318
2	Senior Citizens	5,010	5,083	5,067	5,037	5,033	5,032
3	Commercial	72,597	74,416	74,770	74,897	74,910	74,912
4	Industrial	3,169	3,164	3,093	3,013	3,003	3,001
5	Public Utilities	617	656	682	708	712	713
6	Sewer Only	2,555	2,606	2,612	2,612	2,612	2,612
7	Groundwater	2,850	2,928	2,939	2,941	2,941	2,941
8	**Subtotal General Customers**	**240,315**	**243,300**	**241,801**	**239,725**	**238,563**	**237,529**
9	Housing Authority	5,773	5,891	5,919	5,929	5,930	5,930
10	Charities and Schools	4,322	4,716	5,063	5,424	5,472	5,480
11	Hospitals and University	3,140	3,439	3,696	3,961	3,996	4,002
12	Hand Billed	10,266	9,533	8,678	7,850	7,739	7,720
13	Scheduled	1	1	1	1	1	1
14	Fire Service	56	57	57	57	57	57
15	Contract Service	46,176	46,849	46,849	46,849	35,501	35,501
16	Surcharge	7,066	7,162	7,162	7,162	7,162	7,162
17	**Total Sanitary Sewer Service Receipts**	**$ 317,116**	**$ 320,948**	**$ 319,227**	**$ 316,958**	**$ 304,421**	**$ 303,382**

Table 6-12 Projected Receipts Under Existing Stormwater Rates

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Stormwater ($000s)							
	Residential						
1	Non Discount	$ 100,758	$ 103,479	$ 103,896	$ 103,944	$ 103,944	$ 103,944
2	Discount: Senior, Education & Charities	3,787	3,890	3,905	3,907	3,907	3,907
3	Discount PHA	807	828	832	832	832	832
	Non Residential						
4	Non Discount	93,579	95,422	95,072	94,469	93,756	93,049
5	Discount: Senior, Education & Charities	7,908	8,091	8,089	8,064	8,033	8,002
6	Discount PHA	1,477	1,520	1,527	1,528	1,528	1,527
	Condominium						
7	Non Discount	3,788	3,854	3,839	3,818	3,792	3,767
8	Discount: Senior, Education & Charities	113	115	115	114	113	112
9	Discount PHA	1	1	1	1	1	1
10	**Total Stormwater Receipts**	**$ 212,218**	**$ 217,200**	**$ 217,277**	**$ 216,677**	**$ 215,906**	**$ 215,141**

6.1.7.5 Wholesale Operating Revenues

The Water Department provides wholesale wastewater service to ten (10) suburban customers on a contractual basis. Based upon the most current wholesale customer contracts, only Lower Merion makes capital contributions to the Water Department for their allocated share of investment in treatment and collection system facilities used in providing wastewater service to the customer. Contract rates for wastewater service apply monthly and generally consist of charges for O&M expense, applicable capital costs associated with the collection and treatment facilities used in providing the service, customer

related costs, and a management fee. Bensalem, Upper Darby, Cheltenham, Lower Southampton, Springfield, Abington, and Lower Moreland Townships, and DELCORA contract rates consist of charges for O&M expense and capital costs associated with the Long-Term Control Plan Update ("LTCPU") and COA in accordance with their contract terms. The Water Department actively manages the wholesale service agreements to recover the costs associated with the wholesale service.

FY 2029 reflects the anticipated loss of DELCORA as a wholesale customer which will lead to an estimated $11.3 million loss in revenue for the City.

Table 6-13 presents the projected revenues under existing rates from the wholesale customers based on their respective contract terms.

Table 6-13 Projected Receipts for Wholesale Contract Customers

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)							
1	Abington	$ 2,023	$ 2,049	$ 2,049	$ 2,049	$ 2,049	$ 2,049
2	Bucks County (Bensalem)	1,957	1,994	1,994	1,994	1,994	1,994
3	Bucks County	10,771	10,968	10,968	10,968	10,968	10,968
4	Cheltenham	4,924	4,985	4,985	4,985	4,985	4,985
5	Lower Moreland	1,067	1,082	1,082	1,082	1,082	1,082
6	Lower Southampton	4,786	4,835	4,835	4,835	4,835	4,835
7	DELCORA	11,189	11,349	11,349	11,349	0	0
8	Lower Merion	2,550	2,590	2,590	2,590	2,590	2,590
9	Springfield (less Wyndmoor)	2,329	2,351	2,351	2,351	2,351	2,351
10	Upper Darby	4,194	4,256	4,256	4,256	4,256	4,256
11	Springfield (Wyndmoor)	385	390	390	390	390	390
12	**Total Wastewater Wholesale**	**$ 46,176**	**$ 46,849**	**$ 46,849**	**$ 46,849**	**$ 35,501**	**$ 35,501**

6.1.7.6 Projected Wastewater System Operating Revenues

Table 6-14 summarizes the projected receipts for the Wastewater System during the Study Period.

Table 6-14 Projected Receipts Under Existing Rates

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)							
1	Sanitary Sewer Receipts	317,116	320,948	319,227	316,958	304,421	303,382
2	Stormwater Receipts	212,218	217,200	217,277	216,677	215,906	215,141
3	**Total Wastewater Service Receipts**	**529,333**	**538,149**	**536,504**	**533,635**	**520,326**	**518,523**
4	Other Operating Revenues	15,432	15,497	15,448	15,405	15,379	15,354
	Interest Income						
5	Interest Income on Debt Service Reserve Account	49	233	547	1,164	1,978	2,734
6	Operating Fund	2,221	2,347	2,408	2,448	2,529	2,591
7	Rate Stabilization Fund	1,607	1,668	1,736	1,792	1,859	1,928
8	**Total Interest Income**	**3,877**	**4,249**	**4,691**	**5,404**	**6,366**	**7,252**
9	**Total Receipts**	**548,642**	**557,895**	**556,643**	**554,444**	**542,071**	**541,129**

(a) Excludes deposit into Residual Fund for Transfer to City General Fund.

6.1.8 Tiered Assistance Program Rate Rider Surcharge

The projected revenues do not include the current TAP-R rate of $4.40/Mcf for sanitary sewer. Similar to our methodology for the Water System, the revenues developed in for the Wastewater COS analysis are referred to as the "Base Rates" (corresponding with Table 2-9) because they do not include the impact of providing discounts to TAP customers nor do they reflect the impact of TAP-R revenues.

6.1.9 Other Revenues and Adjustments

The Water Department has several sources of other revenues including miscellaneous fees, UESF grants, L&I permit fees, penalties, and releases from the Debt Reserve Account (if available). As noted above, no revenue losses associated with TAP discounts are included under Other Operating Revenues for the development of the Base Rates. Table 6-15 summarizes the other operating revenues for the Wastewater System.

Table 6-15 Other Revenue Projected Receipts

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)							
1	Penalties	6,890	6,955	6,906	6,863	6,837	6,812
2	Miscellaneous City Revenues	861	861	861	861	861	861
3	Other	3,661	3,661	3,661	3,661	3,661	3,661
4	State & Federal Grants	-	-	-	-	-	-
5	Permits Issued by Licenses & Inspections	3,615	3,615	3,615	3,615	3,615	3,615
6	Miscellaneous (Procurement)	105	105	105	105	105	105
7	City & UESF Grants	300	300	300	300	300	300
8	Affordability Program Discount Cost (a)	-	-	-	-	-	-
9	Release from Debt Reserve Account (b)	-	-	-	-	-	-
10	**Total Wastewater Other Income**	**15,432**	**15,497**	**15,448**	**15,405**	**15,379**	**15,354**
	Interest Income						
11	Debt Reserve Account (c)	49	233	547	1,164	1,978	2,734
12	Operating Fund	2,221	2,347	2,408	2,448	2,529	2,591
13	Rate Stabilization Fund	1,607	1,668	1,736	1,792	1,859	1,928
14	**Total Wastewater Operations**	**19,309**	**19,746**	**20,139**	**20,809**	**21,745**	**22,606**

(a) Beginning in FY 2019, TAP Revenue Loss is recovered via the TAP Rate Rider Surcharge.

(b) Projected Release from Debt Reserve Account based on outstanding and proposed debt service payments.

(c) Excludes deposit into Residual Fund for Transfer to City General Fund.

6.2 Wastewater Revenue Requirements

6.2.1 Operation and Maintenance Expenses

Operating expenses consist of all costs of the Water Department necessary and appropriate for the operation, maintenance, and administration of the Wastewater System during each year. Projections of operating expenses include expenses such as personal services, purchased services including power, materials and supplies, equipment, pensions and benefits, as well as indemnities and liquidated encumbrances.

Table 6-16 summarizes the projected O&M expenses reflecting the assumptions and adjustments described in Sections 1.4.2 and 1.4.3.

Table 6-16 Projected O&M Expenses

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)							
1	Personal Services	114,361	120,123	127,168	132,868	138,883	145,110
2	Pension and Benefits	90,832	94,409	97,494	100,143	102,979	105,592
3	**Subtotal**	**205,193**	**214,532**	**224,662**	**233,010**	**241,862**	**250,701**
	Purchase of Services						
4	Power	9,745	10,378	10,659	10,914	11,198	11,556
5	Gas	6,282	6,388	6,689	6,889	7,041	7,189
6	SMIP/GARP	15,000	15,000	25,000	25,000	25,000	25,000
7	Other	123,125	133,738	138,230	143,950	149,907	156,111
8	**Subtotal**	**154,151**	**165,505**	**180,578**	**186,754**	**193,146**	**199,857**
	Materials and Supplies						
9	Chemicals	26,595	26,595	26,595	27,640	28,726	29,855
10	Other	19,217	20,224	20,907	21,781	22,692	23,640
11	**Subtotal**	**45,811**	**46,819**	**47,502**	**49,421**	**51,418**	**53,495**
12	Equipment	3,446	5,089	5,194	5,487	5,796	6,123
13	Indemnities and Transfers	9,465	12,076	12,337	12,671	13,019	13,382
14	**Subtotal Expenses**	**418,066**	**444,020**	**470,273**	**487,343**	**505,241**	**523,558**
15	Liquidated Encumbrances	(25,756)	(27,467)	(28,254)	(29,382)	(30,550)	(31,774)
16	**Total Expenses**	**392,310**	**416,553**	**442,018**	**457,961**	**474,691**	**491,784**

6.2.2 Debt Service

As discussed earlier in this Report, the General Bond Ordinance views the Water and Wastewater Systems as one combined system for the purposes of the Rate Covenant. Accordingly, bond issuances are allocated between water and wastewater based on System needs.

The existing and proposed debt service were previously discussed in Sections 1.4.4 and 2.3.4 of this Report.

Table 6-17 summarizes the Wastewater System's share of the total existing and proposed debt financing for the Wastewater System CIP.

Table 6-17 Summary of Existing and Proposed Debt Service

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)							
Revenue Bonds							
1	Existing (a)	$ 131,829	$ 138,520	$ 138,607	$ 127,671	$ 129,456	$ 125,612
	Proposed						
2	Fiscal Year 2025 (b)	-	-	-	-	-	-
3	Fiscal Year 2026 (c)		-	-	-	-	-
4	Fiscal Year 2027 (c)			9,583	14,962	14,962	14,962
5	Fiscal Year 2028 (d)				16,500	23,974	23,974
6	Fiscal Year 2029 (d)					18,250	26,517
7	Fiscal Year 2030 (d)						19,750
8	**Total Proposed**	**0**	**-**	**9,583**	**31,462**	**57,186**	**85,203**
9	**Total Revenue Bonds**	**131,829**	**138,520**	**148,190**	**159,133**	**186,642**	**210,815**
PENNVEST Loans							
10	PENNVEST Loans (e)	8,021	12,582	15,243	17,817	18,946	19,541
Commercial Water							
11	Commercial Paper	1,093	878	786	766	603	-
WIFIA							
12	WIFIA	-	-	-	-	-	-
13	**Total Debt Service**	**$ 140,943**	**$ 151,979**	**$ 164,219**	**$ 177,716**	**$ 206,192**	**$ 230,356**

(a) Projected debt service amounts include debt service for all Water and Wastewater Revenue Bonds and Revenue Refunding Bonds issued prior to July 1, 2024 plus the Water and Wastewater Revenue Bond Series 2024C (issued in October 2024).
(b) Projected debt service for the Water and Wastewater Revenue Bond Series 2024C (issued in October 2024) included as Existing Debt Service.
(c) Projected debt service amounts assume interest only payment for the first year of the bond authorization based on 5.00% interest rate; and assume issuance during the first quarter of the fiscal year.
(d) Projected debt service amounts assume interest only payment for the first year of the bond authorization based on 6.00% interest rate; and assume issuance during the first quarter of the fiscal year.
(e) Includes projected PENNVEST Loans.

6.2.3 Capital Improvements

The Water Department's CIP reflects planned improvements to the Wastewater System required to meet regulatory requirements and maintain existing levels of service. The Wastewater System CIP includes major capital projects required for implementing the LTCPU and complying with the COA. The Water Department currently estimates that executing the 25-year LTCPU program will cost about $4.5 Billion, of which $3.5 Billion is related to anticipated capital expenditures. The Wastewater System CIP reflects an ongoing ramp-up of COA-related projects associated with increasing compliance criteria over the life of the LTCPU.

As discussed in Sections 1.4.6 and 2.3.3, several adjustments were made to the Water Department's appropriations-based CIP budget to develop the projected anticipated annual encumbrances and project expenses. Following the steps outlined in Section 1.4.6 produces the CIP shown in Table 6-18.

Table 6-18 Projected Wastewater System CIP

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)							
1	Engineering and Administration (a)	5,454	4,320	3,240	2,160	1,080	-
2	Water Pollution Control Plant	171,000	125,000	125,000	125,000	125,000	125,000
3	Storm Flood Relief	15,000	-	-	-	-	-
4	Reconstruction of Sewers	96,000	140,500	150,500	160,500	170,500	180,500
5	Green Infrastructure	170,000	162,500	143,750	143,750	143,750	143,750
6	Billing System	-	15,000	15,000	15,000	-	-
7	Vehicles	6,000	2,500	2,500	2,500	2,500	2,500
8	**Total Improvements**	**463,454**	**449,820**	**439,990**	**448,910**	**442,830**	**451,750**
9	Inflation Adjustment (b)	-	-	22,000	46,013	69,801	97,355
10	**Inflated Total**	**463,454**	**449,820**	**461,990**	**494,923**	**512,631**	**549,105**
11	Rollforward Adjustments	(39,659)	(76,877)	(12,963)	(33,823)	(18,701)	(37,579)
12	**Total Inflated Adjusted CIP Budget**	**423,795**	**372,943**	**449,027**	**461,100**	**493,930**	**511,526**
13	Contingency Adjustment	(32,646)	(36,612)	(42,800)	(44,021)	(47,325)	(50,849)
14	**Annual Encumbrances**	**391,148**	**336,331**	**406,227**	**417,079**	**446,605**	**460,677**
15	Project Expenses (c)	223,728	304,009	331,650	370,289	403,262	434,342
16	Annual Net Encumbrances	167,421	32,322	74,577	46,790	43,343	26,335

(a) Reflects shift in capital related salary costs from capital to operating budget.
(b) Allowance for inflation of 5.0 percent per year after fiscal year 2026.
(c) Reflects annual drawdown of capital budget appropriations based on project durations and annual encumbrances.

6.2.4 Capital Flow of Funds

The Water Department meets its projected capital needs by using several sources for funding, including internally generated funds (cash), grants, and debt. As defined by the General Bond Ordinance, the Construction Fund is where the Water Department draws funds to pay for the CIP. The Water Department may deposit bond proceeds, loan proceeds, CP proceeds, grant proceeds, and cash transfers from the Revenue Fund and the Residual Fund into the Construction Fund to pay for capital projects.

Table 6-19 presents the proposed sources and uses for the Wastewater System CIP. As shown on Line 6, the Construction Fund has an estimated beginning balance of $573.4 million on July 1, 2024. Over the course of the Study Period, the Water Department anticipates issuing debt and the proceeds for these transactions are shown on Line 1. The level of debt financing increases during the Study Period as the Water Department's CIP starts to ramp up. The Wastewater System's bond proceeds total $1.5 Billion during the Study Period. Line 10 shows the anticipated PENNVEST loan proceeds. Line 11 shows anticipated grant proceeds, estimated at $52.8 million over the Study Period. Lines 12 and 13 show the estimated level of annual pay-go (i.e., cash-funded) the Water Department will fund.

Per the City's updated CIP funding policy, total outstanding project encumbrances may need exceed available funds; therefore, the Target Balance on Line 22, which represents the Water Departments estimated outstanding encumbrances (or project commitments) excluding PENNVEST and WIFIA funded projects, should not exceed the ending Construction Fund balance shown on Line 16.

Table 6-19 Projected Flow of Funds – Wastewater: Construction Fund & Debt Reserve Account

LINE NO.	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)							
Disposition of Bond Proceeds							
1	Proceeds From Sale of Bonds	$ 189,863	$ -	$ 230,000	$ 330,000	$ 365,000	$ 395,000
	Transfers:						
2	Debt Reserve Account (a)	10,791	-	22,256	32,003	43,661	28,696
3	Cost of Bond Issuance (b)	1,139	-	1,380	3,300	3,650	3,950
4	Construction Fund (c)	177,933	-	206,364	294,697	317,689	362,354
5	**Total Issue**	**189,863**	**-**	**230,000**	**330,000**	**365,000**	**395,000**
Construction Fund							
6	Beginning Balance	573,414	612,430	397,795	386,814	407,928	423,894
7	Transfer From Revenue Bond Proceeds	177,933	-	206,364	294,697	317,689	362,354
8	WIFIA Proceeds	-	-	-	-	-	-
9	WIFIA Match Funding Proceeds	-	-	-	-	-	-
10	PENNVEST Loan	34,120	41,532	41,908	20,159	15,809	12,817
11	Grant Proceeds	35	1,275	17,948	17,914	16,674	-
12	Capital Account Deposit	20,514	21,665	22,881	24,165	25,521	26,953
13	Transfer from Residual Fund	18,400	14,900	23,800	26,600	35,300	41,150
14	Interest Income on Construction Fund	11,741	10,002	7,768	7,869	8,236	8,567
15	**Total Available**	**836,157**	**701,804**	**718,464**	**778,217**	**827,156**	**875,735**
16	Net Cash Financing Required	223,728	304,009	331,650	370,289	403,262	434,342
17	**Ending Balance**	**612,430**	**397,795**	**386,814**	**407,928**	**423,894**	**441,392**
Debt Reserve Account							
18	Beginning Balance	144,688	157,209	161,791	186,783	221,419	266,377
19	Transfer From Bond Proceeds	10,791	-	22,256	32,003	43,661	28,696
20	Transfer From Residual Fund	1,730	4,582	2,736	2,633	1,297	1,209
21	Debt Reserve Account Release	-	-	-	-	-	-
22	**Ending Balance**	**$ 157,209**	**$ 161,791**	**$ 186,783**	**$ 221,419**	**$ 266,377**	**$ 296,282**
23	Interest Income on Debt Reserve Account	$ 3,019	$ 3,190	$ 3,486	$ 4,082	$ 4,878	$ 5,627

(a) Amount of Debt Reserve Account estimated based on outstanding and proposed debt service payments.
(b) Cost of bond issuance in FY 2025 reflects actual costs. Assumed 0.60 percent of issue amount in FY 2027 based on average cost in FY 2022, FY 2023, and FY 2024, and assumed 1.0% of issuance in FY 2028 to FY 2030.
(c) Deposits equal proceeds from sale of bonds less transfers to Debt Reserve Account and Costs of Issuance.

6.3 Wastewater System Summary of Revenue and Revenue Requirements

The Wastewater System's estimated financial performance during the Study Period is presented in Table 6-20. As shown in the table below, the Wastewater System will need a series of revenue increases, starting at 8.44% in FY 2026 and 7.58% in FY 2027, followed by increases of 5.39%, 11.79%, and then 5.95% for each subsequent year. These revenue adjustments are necessary to meet O&M, debt service, Capital Account deposit requirements, and provide additional coverage per the Rate Covenant.

Table 6-20 presents the Wastewater System operating results for Base Rates. The proposed revenue increases in the table do not reflect any rate compression as discussed in Section 2.5.

As previously mentioned, the Water Department is addressing the reconciliation of TAP discounts and TAP-R revenues in a separate proceeding.

6.4 Projected Wastewater System Operating Results

Line 1 of Table 6-20 is the consolidated total for wastewater retail and wholesale receipts from Table 6-11, Table 6-12, Table 6-13. These represent receipts under existing rates. Lines 2 through 6 present the additional revenues from proposed revenue increases. Line 9 presents other operating receipts as detailed on Lines 1 to 9 of Table 6-15. Interest income from the Debt Reserve, Operating Fund, and Rate

Stabilization Funds is shown on Lines 10 through 12. Line 13 summarizes the projected Total Revenues for the Wastewater System.

Operating expenses are summarized on Lines 14 and 15. Line 15 represents the Wastewater System's share of costs to process water treatment sludge at the wastewater treatment plants. As noted in Section 3.4, a portion of the cost to process this sludge is allocated back to the Water System as well. During the Study Period, it is estimated that the Water Department will make a series of transfers from and deposits to the RSF as shown on Line 17. Line 18 presents the Net Revenues after Operations. Existing and proposed senior debt service obligations, including those related to the CP program, PENNVEST and WIFIA are shown on Lines 19 through 23. Debt service coverage on senior debt is calculated on Line 25 and indicates that coverage meets the minimum 1.20x requirement. The Capital Account deposit is on Line 29. Line 30 then shows results of the total debt service coverage requirement and indicates that total coverage requirements meet the 1.00 minimum coverage required by the General Bond Ordinance.

As established in the General Bond Ordinance and Rate Covenant, debt service coverage requirements are for the Combined System. The calculations shown in Table 6-20 are presented to demonstrate that the Wastewater System's proposed financial plan provides sufficient resources for the Wastewater System to be financially stable on its own.

Table 6-20 Projected Revenue and Revenue Requirements: Base Rates

LINE NO.	DESCRIPTION			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Wastewater System ($000s)									
Operating Revenues									
1	Wastewater Service - Existing Rates (a)			$ 529,333	$ 538,149	$ 536,504	$ 533,635	$ 520,326	$ 518,523
	Additional Service Revenue Required								
		Year	Percent Increase	Months Effective					
2		FY 2026	8.44%	10	37,007	45,304	45,092	43,803	43,659
3		FY 2027	7.58%	10		35,940	43,862	42,789	42,639
4		FY 2028	5.39%	10			27,471	32,685	32,581
5		FY 2029	11.79%	10				61,451	75,129
6		FY 2030	5.95%	10					34,552
7	**Total Additional Service Revenue Required**			**-**	**37,007**	**81,244**	**116,426**	**180,727**	**228,561**
8	**Total Wastewater Service Revenue**			**529,333**	**575,156**	**617,748**	**650,061**	**701,054**	**747,084**
	Other Income (b)								
9	Other Operating Revenue			15,432	15,497	15,448	15,405	15,379	15,354
10	Debt Reserve Account Interest Income			49	233	547	1,164	1,978	2,734
11	Operating Fund Interest Income			2,221	2,347	2,408	2,448	2,529	2,591
12	Rate Stabilization Interest Income			1,607	1,668	1,736	1,792	1,859	1,928
13	**Total Revenues**			**548,642**	**594,901**	**637,887**	**670,869**	**722,799**	**769,689**
Operating Expenses									
14	Wastewater Operations			(392,310)	(416,553)	(442,018)	(457,961)	(474,691)	(491,784)
15	Water Treatment Plant Sludge (c)			17,030	18,947	20,112	21,222	23,542	24,857
16	**Total Operating Expenses**			**(375,280)**	**(397,606)**	**(421,907)**	**(436,739)**	**(451,150)**	**(466,926)**
17	Transfer From/(To) Rate Stabilization Fund			(1,800)	(4,280)	(2,490)	(3,100)	(3,600)	(3,300)
18	**NET REVENUES AFTER OPERATIONS**			**171,562**	**193,015**	**213,490**	**231,030**	**268,049**	**299,463**
Debt Service									
	Senior Debt Service								
	Revenue Bonds								
19	Outstanding Bonds			(131,829)	(138,520)	(138,607)	(127,671)	(129,456)	(125,612)
20	PENNVEST Loans			(8,021)	(12,582)	(15,243)	(17,817)	(18,946)	(19,541)
21	Projected Future Bonds			(0)	-	(9,583)	(31,462)	(57,186)	(85,203)
22	Commercial Paper			(1,093)	(878)	(786)	(766)	(603)	-
23	WIFIA			-	-	-	-	-	-
24	**Total Senior Debt Service**			**(140,943)**	**(151,979)**	**(164,219)**	**(177,716)**	**(206,192)**	**(230,356)**
25	**TOTAL SENIOR DEBT SERVICE COVERAGE L18/L24)**			**1.21 x**	**1.27 x**	**1.30 x**	**1.30 x**	**1.30 x**	**1.30 x**
26	Subordinate Debt Service			-	-	-	-	-	-
27	Transfer to Escrow			-	-	-	-	-	-
28	**Total Debt Service on Bonds**			**(140,943)**	**(151,979)**	**(164,219)**	**(177,716)**	**(206,192)**	**(230,356)**
29	**CAPITAL ACCOUNT DEPOSIT**			**(20,514)**	**(21,665)**	**(22,881)**	**(24,165)**	**(25,521)**	**(26,953)**
30	**TOTAL COVERAGE (L18/(L24+L26+L29))**			**1.06 x**	**1.11 x**	**1.14 x**	**1.14 x**	**1.16 x**	**1.16 x**
31	**End of Year Revenue Fund Balance**			**$ 10,105**	**$ 19,371**	**$ 26,391**	**$ 29,150**	**$ 36,337**	**$ 42,154**

(a) Revenue from rates effective September 1, 2024.

(b) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(c) Cost to process the Water Treatment Sludge at the wastewater treatment plants based on wastewater cost of service analysis.

7.0 Wastewater System of Cost of Service Allocations

The cost-of-service analysis is the middle step of three depicted in Figure 2-1 that forms the basis for how a utility sets its rates and charges. At the cost-of-service stage, we identify how different customer types are using the sanitary sewer and stormwater systems. As such, each customer type potentially places a different level of demands on the system – requirements that the Water Department must meet. The types of demand are cost drivers and the cost-of-service step is where we develop the nexus between how the systems are designed and operated and how customers are using the systems.

7.1 General

As indicated previously for the Water System, in allocating the test year COS, we apportion revenue requirements between wholesale customers and retail customer types on a utility basis, per the industry accepted guidelines provided in WEF MoP 27. The tasks illustrated in Figure 7-1 to conduct the wastewater COS analysis presented herein.

Figure 7-1 Wastewater COS Steps

Wastewater Cost of Service Analytical Tasks	1. Categorize	2. Functionalize	3. Allocate	4. Distribute
	Determine net revenue requirements by *cost categories*	Assign revenue requirements to *functional cost centers*	Allocate functional costs to *cost components*	Distribute costs to *customer types*
Subcomponent Costs	• O&M Costs • Capital Costs	• Collection & Pumping • Water Pollution Control Plants • Customer Costs • Administrative & General	• Volume • Capacity • Strength (Suspended Solids & BOD) • Direct Stormwater	• Residential • Senior Citizens • Commercial • Industrial • Public Utilities • Housing Authority • Charities / Schools • Retail Infiltration/Inflow • Contract Services

7.2 Costs of Service to be Allocated

7.2.1 Overall Wastewater System

The projected annual revenue requirements for FY 2026 serve as the Test Year 1 requirements for the analyses conducted herein. The proposed rate increases will go into effect on September 1st of each respective fiscal year. However, rates are designed based upon a 12-month period. Because the proposed revenue increase will not go into effect until September 1st of each fiscal year, the proposed rates are designed based on annualizing the 10-month period for which rates are effective. Table 7-1 shows the projected Test Year 1 cash flow of base rates for the Wastewater System based on the annualizing the proposed revenue increase.

Table 7-1 Test Year 1 Annualized Revenue and Revenue Requirements

LINE NO.	DESCRIPTION			FY 2026
Wastewater System ($000s)				
Operating Revenues				
1	Wastewater Service - Existing Rates (a)			$ 538,149
	Additional Service Revenue Required			
	Year	Percent Increase	Months Effective	
2	FY 2026	8.44%	12	45,413
3	**Total Additional Service Revenue Required**			**45,413**
4	**Total Wastewater Service Revenue**			**583,562**
	Other Income (b)			
5	Other Operating Revenue			15,497
6	Debt Reserve Account Interest Income			233
7	Operating Fund Interest Income			2,347
8	Rate Stabilization Interest Income			1,668
9	**Total Revenues**			**603,307**
Operating Expenses				
10	Wastewater Operations			(416,553)
11	Water Treatment Plant Sludge (c)			18,947
12	**Total Operating Expenses**			**(397,606)**
13	Transfer From/(To) Rate Stabilization Fund			(12,686)
14	**NET REVENUES AFTER OPERATIONS**			**193,015**
Debt Service				
	Senior Debt Service			
	Revenue Bonds			
15	Outstanding Bonds			(138,520)
16	PENNVEST Loans			(12,582)
17	Projected Future Bonds			-
18	Commercial Paper			(878)
19	WIFIA			-
20	**Total Senior Debt Service**			**(151,979)**
21	**TOTAL SENIOR DEBT SERVICE COVERAGE L14/L20)**			**1.27 x**
22	Subordinate Debt Service			-
23	Transfer to Escrow			-
24	**Total Debt Service on Bonds**			**(151,979)**
25	**CAPITAL ACCOUNT DEPOSIT**			**(21,665)**
26	**TOTAL COVERAGE (L14/(L20+L22+L25))**			**1.11 x**
27	**End of Year Revenue Fund Balance**			**$ 19,371**

(a) Revenue from rates effective September 1, 2024.

(b) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(c) Cost to process the Water Treatment Sludge at the wastewater treatment plants based on wastewater cost of service analysis.

The net COS recovered from wastewater service charges is the total revenue requirements less revenues received from other sources. Table 7-2 presents the COS to be recovered from sanitary sewer and stormwater rates for Test Year 1. The TY net COS of $583.6 million (Column 3, Line 13), represents the total revenue requirements of $603.3 million (Column 3, Line 10) minus other revenues and transfers received of $19.7 million (Column 3, Lines 11 and 12). The COS to be recovered from rates consists of $406.0 million of net operating expenses (Column 1, Line 13) and $177.6 million of net capital-related costs (Column 2, Line 13).

Table 7-2 Estimated Wastewater System Test Year 1 COS

LINE NO.	DESCRIPTION	(1) OPERATING EXPENSE	(2) CAPITAL COSTS	(3) TOTAL
Wastewater System ($000s)				
Revenue Requirements				
1	Operations & Maintenance Expense	$ 277,131		$ 277,131
2	Direct Interdepartmental Charges	139,422		139,422
3	Water Treatment Plant Sludge	(14,588)	(4,359)	(18,947)
	Existing Bond Debt Service			
4	Revenue Bonds (a)		151,101	151,101
5	Subordinate Bonds		-	-
6	Proposed Bond Debt Service (b)		878	878
7	Capital Account Deposit		21,665	21,665
8	Residual Fund Deposit	13,630	5,741	19,371
9	Deposit (From)/To Rate Stabilization Fund	8,927	3,759	12,686
10	**Total**	**424,522**	**178,785**	**603,307**
Deductions of Funds from Other Sources				
11	Other Operating Revenue	(15,497)	-	(15,497)
12	Interest Income	(3,037)	(1,212)	(4,249)
13	**COST OF SERVICE TO BE DERIVED FROM RATES**	**$ 405,988**	**$ 177,573**	**$ 583,562**

(a) Includes PENNVEST Loans.

(b) Includes Commercial Paper and WIFIA

7.2.2 Wholesale Wastewater

The cost of service allocable to the 10 wholesale wastewater customers and the rates developed to recover these allocated costs, reflect consideration of the contract demands for service as set forth in each customer's contract with the City. Contract rates for wastewater service apply monthly and generally consist of charges for O&M expense, applicable capital costs associated with the collection and treatment facilities used in providing the service, customer related costs, and a management fee ranging from 10 to 12% applied to the sum of the unit and fixed charges.

For Test Year 1, the O&M expense of $406.0 million from Table 7-2 is allocated between wholesale and retail customers based on service demand characteristics. With respect to capital costs, to allocate the $177.6 million (Column 2, Line 13 of Table 7-2) of Capital Costs using the utility-basis approach, typically we delineate the annual Capital Costs into two components, namely, the Depreciation Expense and the Return on Investment. Under the utility-basis approach, the restatement of Capital Costs into these two components is necessary as the Water Department provides service to wholesale customers outside the City, and hence is entitled to obtaining a return on investment from those wholesale customers.

To restate the Capital Costs in terms of depreciation and return, we determine the depreciation expense for the Wastewater System and subtract this amount from the Total Capital Costs. The resulting figure corresponds to the return on investment for the Wastewater System, which is recovered from both the inside City retail and outside City wholesale customers. As noted earlier, the rate of return for service to the City's wholesale wastewater customers used in the COS Study is 7.5%, which is consistent with the rate of return used in the development of the wastewater wholesale existing rates.

7.3 Functional Cost Components

The costs derived in revenue requirements are incurred as a result of cost drivers placed on the system by its customers. Many systems are designed and sized to meet the cost drivers; therefore, the operational and capital costs (depreciation and return on rate base) are linked to these cost drivers.

The various cost elements of wastewater service are assigned to functional cost components as the first step in the subsequent distribution of the cost of service to the customer types. For a wastewater system, the functional cost centers include collection system, pumping, treatment, pollutant loadings (strength), customer costs, and general administration. For the analyses conducted herein, the Design Basis COS methodology proposed in WEF MoP 27 was followed.

7.3.1 Wastewater System Facilities

A wastewater system includes different facilities each designed and operated to fulfill a given function. The sewage collection system in the City of Philadelphia consists of both separate sanitary and storm sewers as well as combined sanitary and storm sewers designed to convey sanitary and stormwater flows. In addition, these conveyance systems transport a large part of these flows to one of the three wastewater treatment plants for treatment prior to discharge into the rivers.

The wastewater treatment plants consist of different facilities as well. The sizing of certain facilities, such as the sedimentation basins, is based on the average annual volume of wastewater received at the plant. The sizing of other facilities, such as the aeration basins, use the measurable pollutant, BOD, since these facilities are required to reduce this pollutant prior to discharge into the river. The sizing of other facilities is based on SS loading, another readily measurable pollutant, contained in the influent wastewater. Finally, certain other facilities, such as sludge disposal facilities, are designed to manage both BOD and SS.

7.3.2 Wastewater System Design Basis

The Design Basis method uses volume, capacity, strengths, and customer. Volume represents costs incurred for the quantity of sewerage volume treated. Capacity represents costs incurred with meeting peak flows. Strengths represents costs incurred with treating and handling specific constituents in the sewer flow such as BOD, SS, nitrogen, and ammonia. Customer represents the costs associated with meter reading, billing, collecting, and accounting costs related to the provision of wastewater service.

7.3.3 Units of Service

Table 7-3 summarizes the Test Year 1 units of service for the sanitary sewer customers. Table 7-4 presents the Test Year 1 units of service for the wholesale customers and Table 7-5 summarizes the estimated average wastewater loadings applied for the wholesale customer contracts.

Table 7-3 Test Year 1 Sanitary Sewer Units of Service

LINE NO.	CUSTOMER TYPE	(1) TY 2026 VOLUME (Mcf)	(2) CAPACITY FLOW RATE (Mcf/day) COLLECTION SYSTEM	(3) CAPACITY FLOW RATE (Mcf/day) PUMPING & TREATMENT	(4) STRENGTH (1,000 lbs) SUSPENDED SOLIDS	(5) STRENGTH (1,000 lbs) BOD	(6) CUSTOMER COSTS EQUIV. METERS	(7) CUSTOMER COSTS EQUIV. BILLS	(8) CUSTOMER COSTS BILLS
Sanitary Sewer									
1	Residential	2,730,626	29,923	11,222	51,117	51,117	468,409	5,244,033	5,215,872
2	Commercial	1,614,240	17,690	6,634	30,219	30,219	110,466	526,614	446,772
3	Industrial	69,447	761	285	1,300	1,300	4,182	15,079	11,988
4	Public Utilities	13,612	149	56	255	255	1,552	4,181	2,628
5	Senior Citizens	114,941	1,260	472	2,152	2,152	22,214	266,310	266,292
6	Sewer Only	61,527	674	253	1,152	1,152	505	1,527	876
7	Groundwater	204,843	4,490	1,403	895	128	0	0	0
8	Surcharge	0	0	0	2,171	13,708	0	0	0
9	Water Treatment Plant Sludge	292,800	3,209	1,203	24,770	0	0	0	0
10	Housing Authority	132,357	1,450	544	2,478	2,478	9,041	69,092	65,316
11	Charities & Schools	134,641	1,476	553	2,520	2,520	12,479	32,183	18,828
12	Hospital/University	107,720	1,180	443	2,017	2,017	2,412	4,300	1,392
13	Hand Billed	218,809	2,398	899	4,096	4,096	4,459	7,985	2,376
14	Fire Meters	1,323	15	5	25	25	10	120	120
15	Scheduled (Flat Rate)	15	0	0	0	0	5	60	60
16	**Subtotal Retail Service**	**5,696,900**	**64,675**	**23,972**	**125,167**	**111,167**	**635,734**	**6,171,484**	**6,032,520**
17	Infiltration/Inflow	11,508,100	252,233	78,823	50,254	7,179	0	0	0
18	**Total Retail Service**	**17,205,000**	**316,908**	**102,795**	**175,421**	**118,346**	**635,734**	**6,171,484**	**6,032,520**
	Contract Service								
19	Sanitary	3,786,000	32,755	32,755	40,637	36,275			
20	Infiltration/Inflow	106,000	420	420	463	66			
21	**Total Contract Service**	**3,892,000**	**33,175**	**33,175**	**41,100**	**36,341**			
22	**Total System**	**21,097,000**	**350,083**	**135,970**	**216,521**	**154,687**	**635,734**	**6,171,484**	**6,032,520**

Table 7-4 Test Year 1 Wholesale Customer Units of Service

LINE NO.		UNITS	NORTHEAST WPC PLANT						
			ABINGTON	BENSALEM	BUCKS COUNTY	CHELTENHAM	LOWER MORELAND	LOWER SOUTHAMPTON	TOTAL NORTHEAST
Wholesale Customers									
	Volume								
1	Sanitary Wastewater	(Mcf)	106,000	143,000	894,000	379,000	68,000	265,000	1,855,000
2	Infiltration	(Mcf)	4,500	5,600	35,100	15,000	2,800	7,500	70,500
3	Total	(Mcf)	110,500	148,600	929,100	394,000	70,800	272,500	1,925,500
	Suspended Solids								
4	Sanitary Wastewater	(1,000 lbs)	1,198	1,875	10,048	2,562	694	1,482	17,860
5	Infiltration	(1,000 lbs)	20	24	153	66	12	33	308
6	Total	(1,000 lbs)	1,218	1,899	10,201	2,628	706	1,515	18,168
	BOD								
7	Sanitary Wastewater	(1,000 lbs)	1,426	1,956	9,470	2,253	522	1,431	17,058
8	Infiltration	(1,000 lbs)	3	3	22	9	2	5	44
9	Total	(1,000 lbs)	1,429	1,959	9,492	2,262	524	1,436	17,102
	Contract Maximum Units								
	Capacity								
10	Sanitary Wastewater	(Mcf/day)	824	1,014	6,416	2,743	508	1,364	12,869
11	Infiltration	(Mcf/day)	20	20	140	60	10	30	280
12	Total	(Mcf/day)	844	1,034	6,556	2,803	518	1,394	13,149
	Volume								
13	Sanitary Wastewater	(Mcf)	217,292	299,271	1,171,123	654,370	92,714	348,409	2,783,179
14	Infiltration	(Mcf)	4,500	5,600	35,100	15,000	2,800	7,500	70,500
15	Total	(Mcf)	221,792	304,871	1,206,223	669,370	95,514	355,909	2,853,679
	Suspended Solids								
16	Sanitary Wastewater	(1,000 lbs)	2,481	3,734	13,400	5,635	966	6,000	32,216
17	Infiltration	(1,000 lbs)	20	24	153	66	12	33	308
18	Total	(1,000 lbs)	2,501	3,758	13,553	5,701	978	6,033	32,524
	BOD								
19	Sanitary Wastewater	(1,000 lbs)	2,102	5,340	13,400	4,900	729	5,500	31,971
20	Infiltration	(1,000 lbs)	3	3	22	9	2	5	44
21	Total	(1,000 lbs)	2,105	5,343	13,422	4,909	731	5,505	32,015

Table 7-4 Test Year 1 Wholesale Customer Units of Service (continued)

LINE NO.		UNITS	SOUTHWEST WPC PLANT DELCORA	LOWER MERION	SPRINGFIELD (EXCLUDING WYNDMOOR)	UPPER DARBY	TOTAL SOUTHWEST	SOUTHEAST WPC PLANT SPRINGFIELD (WYNDMOOR)	TOTAL
Wholesale Customers									
	Volume								
1	Sanitary Wastewater	(Mcf)	1,063,000	285,000	126,000	439,000	1,913,000	18,000	3,786,000
2	Infiltration	(Mcf)	0	14,900	3,100	16,600	34,600	900	106,000
3	Total	(Mcf)	1,063,000	299,900	129,100	455,600	1,947,600	18,900	3,892,000
	Suspended Solids								
4	Sanitary Wastewater	(1,000 lbs)	12,207	2,975	2,088	5,328	22,597	180	40,637
5	Infiltration	(1,000 lbs)	0	65	14	73	152	4	464
6	Total	(1,000 lbs)	12,207	3,040	2,102	5,401	22,749	184	41,101
	BOD								
7	Sanitary Wastewater	(1,000 lbs)	10,636	2,541	2,033	3,856	19,066	151	36,275
8	Infiltration	(1,000 lbs)	0	9	2	10	21	1	66
9	Total	(1,000 lbs)	10,636	2,550	2,035	3,866	19,087	152	36,341
	Contract Maximum Units								
	Capacity								
10	Sanitary Wastewater	(Mcf/day)	13,392	2,728	575	3,024	19,719	167	32,755
11	Infiltration	(Mcf/day)	0	60	10	70	140	0	420
12	Total	(Mcf/day)	13,392	2,788	585	3,094	19,859	167	33,175
	Volume								
13	Sanitary Wastewater	(Mcf)	2,439,840	707,553	156,150	829,545	4,133,088	48,797	6,965,064
14	Infiltration	(Mcf)	0	14,900	3,100	16,600	34,600	900	106,000
15	Total	(Mcf)	2,439,840	722,453	159,250	846,145	4,167,688	49,697	7,071,064
	Suspended Solids								
16	Sanitary Wastewater	(1,000 lbs)	19,487	7,250	3,300	7,349	37,386	400	70,002
17	Infiltration	(1,000 lbs)	0	65	14	73	152	4	464
18	Total	(1,000 lbs)	19,487	7,315	3,314	7,422	37,538	404	70,466
	BOD								
19	Sanitary Wastewater	(1,000 lbs)	21,771	6,871	3,100	6,831	38,573	300	70,844
20	Infiltration	(1,000 lbs)	0	9	2	10	21	1	66
21	Total	(1,000 lbs)	21,771	6,880	3,102	6,841	38,594	301	70,910

Table 7-5 Estimated Average Wastewater Loadings for Wholesale Customers

CUSTOMER	(1) WASTEWATER POLLUTANT LOADING (1,000 lbs) SUSPENDED SOLIDS	(2) WASTEWATER POLLUTANT LOADING (1,000 lbs) BOD
Abington	1,198	1,426
Bensalem	1,875	1,956
Bucks County	10,048	9,470
Cheltenham	2,562	2,253
DELCORA	12,207	10,636
Lower Merion	2,975	2,541
Lower Moreland	694	522
Lower Southhampton	1,482	1,431
Springfield (excluding Wyndmoor)	2,088	2,033
Springfield (Wyndmoor)	180	151
Upper Darby	5,328	3,856

7.3.3.1 Retail Service

The units of service for the retail customer types of the Wastewater System are determined as follows:

- **Volume:** For the retail customer types, we estimate the sanitary wastewater quantities by applying a 95% return factor to the projected test year water sales from each customer type. The return factor reflects an allowance for water consumption which is not discharged into the Wastewater System. In addition, we also apportion the test year infiltration/inflow ("I/I") in the Wastewater System to the retail customer types based upon the total projected test year flow at all three treatment plants, less the estimated annual sanitary sewage contribution from the retail customers and the total annual flow projected for the wholesale customers.
- **Collection System – Capacity:** The sanitary wastewater peak (capacity) flow rate, exclusive of I/I, for each retail customer type is estimated to be approximately four times (4 times) the average daily flow rate, computed from the annual volumes shown in Column 1 of Table 7-3. These estimated capacity requirements reflect the system-wide ratio of maximum to average sanitary wastewater flow rates. The capacity flow rate of I/I in the collection system is estimated to be eight times (8 times) the average daily flow rate. Retail customers' I/I is largely due to leakage into sewers and direct extraneous inflows.
- **Treatment – Capacity:** The peak sanitary wastewater capacity flow rate, exclusive of I/I is estimated to be 1.5 times the average daily flow rate. The capacity flow rate of I/I at the water pollution control plants is estimated to be 2.5 times the average daily flow rate.
- **Strengths (BOD and Suspended Solids):** The estimated strength units for each customer type are shown in Columns 4 and 5 of Table 7-3. Based upon an analysis of historical data, the wastewater reaching the water pollution control plants is estimated to have a weighted average suspended solids concentration of approximately 175 milligrams per liter ("mg/l"), and a weighted average BOD concentration of approximately 128 mg/l. These weighted averages are based on estimated influent concentrations at the three treatment plants. Infiltration/ inflow is assumed to have a suspended solids and BOD concentration of 70 mg/l and 10 mg/l, respectively. The estimates of strength units for customers with excess strength wastewater are based upon an analysis of surcharge bills.

Additional wastewater strength loadings at the treatment plants are attributable to water plant sludge from the Belmont and Queen Lane treatment plants. An estimate of the volume and pounds of sludge from the water treatment plants has been included in the units of service shown in Table 7-3 in Line 9.

The retail loadings for suspended solids and BOD are determined as the difference between the total influent wastewater loadings at the plant less the sum of I&I and water plant sludge loadings for those two components respectively. The resulting retail suspended solids and BOD concentrations are 300 mg/l and 300 mg/l, respectively.

- **Customer:** Units of service applicable for the allocation of customer costs are summarized in Columns 6 to 8 of Table 7-3. The number of accounts and bills for each customer type and meter size are derived from billing information prepared by the Water Department. Equivalent meters are based upon capacity factors determined for various size meters relative to the capacity associated with a 5/8-inch meter.

7.3.3.2 Wholesale Customers

Table 7-4 and Table 7-5 present a summary of the test year units of service for volume, capacity, strength, and customer units of service for each of the wholesale customers. The strength units from wholesale customers are estimated for each customer based on historical measured wastewater strength loadings, as measured at the point of their discharge to the City's sewers.

7.4 Allocation to Cost Components

We allocate the Test Year 1 cost to the functional cost components using a two-step process.

1. First, a portion of the Wastewater System costs (O&M, depreciation, and net plant investment) are allocated to wholesale wastewater customers.
2. Then the retail portion of the remaining costs are allocated to the various wastewater cost components, including direct charges to stormwater.

7.5 Allocation of O&M Expense

7.5.1 Retail

Table 7-6 shows the allocation of Test Year 1 O&M expenses for the Wastewater System to the identified functional cost components by cost center. O&M expense is allocated to wastewater cost components generally in the same proportion as the plant investment and depreciation expense allocations.

Table 7-6 Test Year 1 Allocation of O&M to Functional Cost Components

LINE NO.	COST COMPONENT	(1) NET O&M	(2) LESS O&M ALLOCATED TO CONTRACT SERVICE	(3) O&M ALLOCATED TO RETAIL SERVICE	(4) LESS RETAIL O&M DEDUCTIONS: OTHER OPERATING REVENUE	(5) NET O&M TO BE ALLOCATED TO RETAIL SERVICE
	Wastewater System ($000s)					
	COLLECTION SYSTEM					
	Sewer Maintenance					
1	All Customers - Capacity	$ 86,390	$ 951	$ 85,439	$ 2,562	$ 82,877
	Inlet Cleaning					
2	Retail - Storm Capacity	23,070	-	23,070	692	22,378
	GSI Maintenance (LTCP O&M)					
3	All Customers - Capacity	47,642	369	47,273	1,418	45,855
	Neill Drive Pumping Station					
	Retail and Lower Merion					
4	Total Volume	13	2	11	-	11
5	Total Capacity	204	64	140	4	136
	Central Schuylkill Pumping Station					
	Retail and Springfield (excl. Wyndmoor)					
6	Total Volume	51	2	49	1	48
7	Total Capacity	621	16	605	18	587
	All Other Pumping Stations					
	Retail					
8	Total Volume	4,655	-	4,655	140	4,515
9	Total Capacity	22,837	-	22,837	685	22,152
10	**Total Collection Systems**	**185,483**	**1,404**	**184,079**	**5,520**	**178,559**
	WATER POLLUTION CONTROL PLANTS					
	Northeast Plant:					
	Retail and Cheltenham					
11	Volume	-	-	-	-	-
12	Capacity	-	-	-	-	-
	Retail, Abington, Bensalem, Bucks County, Lower Moreland, and Lower Southampton					
13	Volume	746	188	558	17	541
14	Capacity	4,759	1,259	3,500	105	3,395
	Retail, Abington, Bensalem, Bucks County, Cheltenham, Lower Moreland, and Lower Southampton					
15	Volume	17,344	4,074	13,270	398	12,872
16	Capacity	8,805	2,191	6,614	198	6,416
17	Suspended Solids	32,343	5,537	26,806	804	26,002
18	BOD	26,707	5,514	21,193	636	20,557
	Southwest Plant:					
	Retail					
19	Volume	82	-	82	2	80
20	Capacity	790	-	790	24	766
	Retail, DELCORA, Lower Merion, Springfield (Excluding Wyndmoor), and Upper Darby					
21	Volume	18,079	3,914	14,165	425	13,740
22	Capacity	7,412	2,539	4,873	146	4,727
23	Suspended Solids	23,469	6,659	16,810	504	16,306
24	BOD	15,951	5,806	10,145	304	9,841
	Southeast Plant:					
	Retail and Springfield (Wyndmoor)					
25	Volume	12,855	62	12,793	384	12,409
26	Capacity	9,022	60	8,962	269	8,693
27	Suspended Solids	15,590	95	15,495	465	15,030
28	BOD	5,775	45	5,730	172	5,558
29	**Total Water Pollution Control Plants**	**199,729**	**37,943**	**161,786**	**4,853**	**156,933**
	CUSTOMER COSTS					
	All Customers					
30	Equivalent Bills	35,483	228	35,255	1,057	34,198
	Equivalent Meters					
31	Industrial Waste Unit	4,293	68	4,225	127	4,098
32	Other	5,249	-	5,249	157	5,092
33	Stormwater - Direct	-	-	-	-	-
34	Excess Strength Wastewater - Direct	2,115	-	2,115	63	2,052
35	**Total Customer Costs**	**47,140**	**296**	**46,844**	**1,404**	**45,440**
36	**Total O&M**	**$ 432,353**	**$ 39,643**	**$ 392,710**	**$ 11,777**	**$ 380,933**

The net O&M expenses are allocated to the retail customer types as follows:

- **Collection System**: The various functional cost centers of the wastewater collection system are designed based on different wastewater parameters. Therefore, those functional O&M expenses are allocated to respective wastewater parameter (cost component). The allocation of the operation and maintenance expense for each collection system component is presented in Table 7-7 and is summarized in Lines 1 to 10 on Table 7-6.
    - **Wastewater Collection System - Sewers**: The operation and maintenance costs of the wastewater collection system sewers are shown in Line 1 of Table 7-7. These facilities are designed to carry maximum rates of wastewater flows and are allocated 100% to the capacity cost component.

      We further delineate the test year collection system O&M between sanitary sewer related costs and stormwater costs. Based on an analysis of system-wide ratio of peak wet weather flows to peak dry weather flows, 60% of the sewer maintenance cost is allocated to stormwater and 40% to sanitary sewer. The rationale for using the peak flow ratio as the basis for apportioning sewer maintenance costs is that those costs would normally be incurred in proportional to the quantity of flow.
    - **Wastewater Collection System – Inlet Cleaning**: The inlet cleaning related operation and maintenance expenses are shown on Line 2 of Table 7-7. These expenses are allocated 100% to the stormwater related capacity cost component.
    - **GSI Maintenance (LTCPU O&M):** The operation and maintenance costs of the GSI Maintenance are shown in Line 3 of Table 7-7. These facilities are designed manage maximum rates of wastewater flows and are allocated 100% to the capacity cost component.

      In the same manner as the Wastewater Collection Costs, we further delineate the test year GSI Maintenance O&M between sanitary sewer related costs (40%) and stormwater costs (60%).
    - **Wastewater Collection System – Pumping**: The power costs of the pumping stations located in the collection system, shown on Lines 4, 7, and 10 of Table 7-7, are allocated 85% to the volume cost component and 15% to the capacity cost component. The other operation and maintenance expense of the pumping stations located in the collection system, shown on Lines 6, 9, and 12 of Table 7-7 is allocated 100% to the capacity cost component.
- **Wastewater Treatment**: The various functional facilities of the water pollution control plants are designed to process different wastewater parameters. Therefore, those functional O&M expenses are allocated to respective wastewater parameter (cost component). The allocation of the operation and maintenance expense for each of the water pollution control plants is presented in Table 7-8, Table 7-9, and Table 7-10 and is summarized in Lines 11 to 29 on Table 7-6.
    - **Volume**: Wastewater treatment related power costs are allocated 85% to the volume cost component. Water pollution control plant facilities such as primary and secondary sedimentation basins, recirculation pumping and chlorination, are designed largely based on total average flow projected for the plant. Therefore, most of the operation and maintenance expense excluding power costs, associated with these functions, is allocated largely to the volume cost component.

Table 7-7 Test Year 1 Allocation of O&M for the Collection System

LINE NO.	DESCRIPTION	(1) TOTAL	(2) ALL CUSTOMERS CAPACITY	(3) RETAIL VOLUME	(4) RETAIL CAPACITY	(5) STORM CAPACITY	(6) RETAIL AND LOWER MERION VOLUME	(7) RETAIL AND LOWER MERION CAPACITY	(8) RETAIL AND SPRINGFIELD (EXCLUDING WYNDMOOR) Volume	(9) RETAIL AND SPRINGFIELD (EXCLUDING WYNDMOOR) Capacity
Wastewater System ($000s)										
1	Sewer Maintenance	$ 33,497	$ 33,497	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	Inlet Cleaning	14,756	-	-	-	14,756	-	-	-	-
3	GSI Maintenance	14,210	14,210	-	-	-	-	-	-	-
	Pump Stations									
	Neill Drive									
4	Power	15	-	-	-	-	13	2	-	-
5	Gas	-	-	-	-	-	-	-	-	-
6	Other	133	-	-	-	-	-	133	-	-
	Central Schuylkill									
7	Power	60	-	-	-	-	-	-	51	9
8	Gas	-	-	-	-	-	-	-	-	-
9	Other	400	-	-	-	-	-	-	-	400
	All Other Pumping Stations									
10	Power	5,514	-	4,687	827	-	-	-	-	-
11	Gas	-	-	-	-					
12	Other	15,087	-	-	15,087	-	-	-	-	-
13	**Total Collection System**	**$ 83,672**	**$ 47,707**	**$ 4,687**	**$ 15,914**	**$ 14,756**	**$ 13**	**$ 135**	**$ 51**	**$ 409**

Table 7-8 Test Year 1 Allocation of O&M for the Northeast WPC Plant

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL, ABINGTON BENSALEM, BUCKS COUNTY, LOWER MORELAND, & LOWER SOUTHAMPTON VOLUME	(3) CAPACITY	(4) RETAIL, CHELTENHAM, ABINGTON BENSALEM, BUCKS COUNTY, LOWER MORELAND & LOWER SOUTHAMPTON VOLUME	(5) CAPACITY	(6) SUSPENDED SOLIDS	(7) BOD
Wastewater System ($000s)								
	Personal Services:							
1	Raw Wastewater Pumping	$ 938,492	$ -	$ 938,492	$ -	$ -	$ -	$ -
2	Preliminary Treatment	1,824,845	-	-	1,295,640	529,205	-	-
3	Primary Sedimentation	736,455	-	-	736,455	-	-	-
4	Aeration	3,043,581	-	-	-	-	-	3,043,581
5	Secondary Sedimentation	742,973	-	-	742,973	-	-	-
6	Recirculating Pumping	547,454	-	-	547,454	-	-	-
7	Chlorination	514,867	-	-	314,069	200,798	-	-
8	Primary Sludge Pumping	149,898	-	-	-	-	149,898	-
9	Secondary Sludge Thickening	364,969	-	-	-	-	182,485	182,484
10	Sludge Digestion	2,867,614	-	-	-	-	2,150,711	716,903
11	Sludge Holding Tanks	208,554	-	-	-	-	156,416	52,138
12	Sludge Dewatering	527,902	-	-	-	-	395,927	131,975
13	Grit and Screening Incineration	1,173,115	-	-	785,987	387,128	-	-
14	Scum and Grease Incineration	280,244	-	-	-	-	280,244	-
15	Laboratory	971,078	-	-	-	-	485,539	485,539
16	**Subtotal Personal Services**	**14,892,041**	**-**	**938,492**	**4,422,578**	**1,117,131**	**3,801,220**	**4,612,620**
	Purchase of Services, Materials, Supplies, and Equipment:							
17	Raw Wastewater Pumping	1,712,170	-	1,712,170	-	-	-	-
18	Preliminary Treatment	2,705,652	-	-	-	2,705,652	-	-
19	Primary Sedimentation	1,268,274	-	-	1,268,274	-	-	-
20	Aeration	1,902,412	-	-	-	-	-	1,902,412
21	Secondary Sedimentation	1,458,516	-	-	1,458,516	-	-	-
22	Recirculating Pumping	549,586	-	-	549,586	-	-	-
23	Chlorination	1,829,763	-	-	1,829,763	-	-	-

Table 7-8 Test Year 1 Allocation of O&M for the Northeast WPC Plant (continued)

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL, ABINGTON BENSALEM, BUCKS COUNTY, LOWER MORELAND, & LOWER SOUTHAMPTON VOLUME	(3) CAPACITY	(4) RETAIL, CHELTENHAM, ABINGTON BENSALEM, BUCKS COUNTY, LOWER MORELAND & LOWER SOUTHAMPTON VOLUME	(5) CAPACITY	(6) SUSPENDED SOLIDS	(7) BOD
Wastewater System ($000s)								
24	Primary Sludge Pumping	232,517	-	-	-	-	232,517	-
25	Secondary Sludge Thickening	274,793	-	-	-	-	137,397	137,396
26	Sludge Digestion	3,572,306	-	-	-	-	2,679,230	893,076
27	Sludge Holding Tanks	507,310	-	-	-	-	380,483	126,827
28	Sludge Dewatering	401,620	-	-	-	-	301,215	100,405
29	Grit and Screening Incineration	1,141,447	-	-	-	1,141,447	-	-
30	Scum and Grease Incineration	317,069	-	-	-	-	317,069	-
31	Laboratory	2,451,997	-	-	-	-	1,225,999	1,225,998
32	**Subtotal Purchase of Services, Materials, Supplies & Equipment**	**20,325,432**	**-**	**1,712,170**	**5,106,139**	**3,847,099**	**5,273,910**	**4,386,114**
33	**Subtotal All Above**	**35,217,473**	**-**	**2,650,662**	**9,528,717**	**4,964,230**	**9,075,130**	**8,998,734**
	Administrative and General:							
34	Personal Services	3,832,176	-	241,503	1,138,064	287,472	978,170	1,186,967
35	Other	2,915,593	-	245,603	732,453	551,849	756,519	629,169
36	**Subtotal Administration & General**	**6,747,769**	**-**	**487,106**	**1,870,517**	**839,321**	**1,734,689**	**1,816,136**
	Power Requirements:							
37	Raw Wastewater Pumping	899,617	764,674	134,943	-	-	-	-
38	Preliminary Treatment	7,435	-	-	6,320	1,115	-	-
39	Primary Sedimentation	59,479	-	-	50,557	8,922	-	-
40	Aeration	4,929,305	-	-	-	-	-	4,929,305
41	Secondary Sedimentation	59,479	-	-	50,557	8,922	-	-
42	Recirculating Pumping	208,176	-	-	176,950	31,226	-	-
43	Chlorination	14,870	-	-	12,640	2,230	-	-
44	Primary Sludge Pumping	7,435	-	-	-	-	7,435	-
45	Secondary Sludge Thickening	557,614	-	-	-	-	278,807	278,807
46	Sludge Digestion	126,392	-	-	-	-	94,794	31,598
47	Sludge Dewatering	133,827	-	-	-	-	100,370	33,457
48	Grit and Screening Incineration	118,958	-	-	101,114	17,844	-	-
49	Scum and Grease Incineration	7,435	-	-	-	-	7,435	-
50	**Subtotal Power Requirements**	**7,130,022**	**764,674**	**134,943**	**398,138**	**70,259**	**488,841**	**5,273,167**

Table 7-8 Test Year 1 Allocation of O&M for the Northeast WPC Plant (continued)

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL, ABINGTON BENSALEM, BUCKS COUNTY, LOWER MORELAND, & LOWER SOUTHAMPTON VOLUME	(3) CAPACITY	(4) RETAIL, CHELTENHAM, ABINGTON BENSALEM, BUCKS COUNTY, LOWER MORELAND & LOWER SOUTHAMPTON VOLUME	(5) CAPACITY	(6) SUSPENDED SOLIDS	(7) BOD
Wastewater System ($000s)								
	Gas Requirements:							
51	Raw Wastewater Pumping	142,847	-	142,847	-	-	-	-
52	Preliminary Treatment	225,733	-	-	-	225,733	-	-
53	Primary Sedimentation	105,812	-	-	105,812	-	-	-
54	Aeration	158,718	-	-	-	-	-	158,718
55	Secondary Sedimentation	121,684	-	-	121,684	-	-	-
56	Recirculating Pumping	45,852	-	-	45,852	-	-	-
57	Chlorination	19,399	-	-	19,399	-	-	-
58	Primary Sludge Pumping	19,399	-	-	-	-	19,399	-
59	Secondary Sludge Thickening	22,926	-	-	-	-	11,463	11,463
60	Sludge Digestion	298,038	-	-	-	-	223,529	74,509
61	Sludge Holding Tanks	42,325	-	-	-	-	31,744	10,581
62	Sludge Dewatering	33,507	-	-	-	-	25,130	8,377
63	Grit and Screening Incineration	95,231	-	-	-	95,231	-	-
64	Scum and Grease Incineration	26,453	-	-	-	-	26,453	-
65	Laboratory	204,570	-	-	-	-	102,285	102,285
66	**Subtotal Gas Requirements**	**1,562,494**	**-**	**142,847**	**292,747**	**320,964**	**440,003**	**365,933**
67	Sludge Disposal	13,991,304	-	-	-	-	10,493,478	3,497,826
68	**Total Northeast WPC Plant Expense**	**$ 64,649,062**	**$ 764,674**	**$ 3,415,558**	**$ 12,090,119**	**$ 6,194,774**	**$ 22,232,141**	**$ 19,951,796**

Table 7-9 Test Year 1 Allocation of O&M for the Southwest WPC Plant

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL VOLUME	(3) RETAIL CAPACITY	(4) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY VOLUME	(5) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY CAPACITY	(6) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY SUSPENDED SOLIDS	(7) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY BOD
Wastewater System ($000s)								
	Personal Services							
1	Raw Wastewater Pumping	$ 172,906	$ -	$ 172,906	$ -	$ -	$ -	$ -
2	Preliminary Treatment	2,282,361	-	-	1,666,124	616,237	-	-
3	Flocculation	414,975	-	-	414,975	-	-	-
4	Primary Sedimentation	601,713	-	-	601,713	-	-	-
5	Aeration	1,224,176	-	-	-	-	-	1,224,176
6	Secondary Sedimentation	1,037,437	-	-	1,037,437	-	-	-
7	Recirculating Pumping	387,310	-	-	387,310	-	-	-
8	Chlorination	587,881	-	-	346,850	241,031	-	-
9	Effluent Pumping	484,137	-	-	-	484,137	-	-
10	Primary Sludge Pumping	442,640	-	-	-	-	442,640	-
11	Secondary Sludge Thickening	366,561	-	-	-	-	179,615	186,946
12	Sludge Digestion	1,400,540	-	-	-	-	1,050,405	350,135
13	Sludge Holding Tanks	238,610	-	-	-	-	178,958	59,652
14	Sludge Dewatering	1,089,309	-	-	-	-	816,982	272,327
15	Sludge Lagoon	10,374	-	-	-	-	7,781	2,593
16	Grit and Screening Incineration	959,629	-	-	652,548	307,081	-	-
17	Scum and Grease Incineration	243,798	-	-	-	-	243,798	-
18	Laboratory	885,280	-	-	-	-	442,640	442,640
19	**Subtotal Personal Services**	**12,829,637**	**-**	**172,906**	**5,106,957**	**1,648,486**	**3,362,819**	**2,538,469**

Table 7-9 Test Year 1 Allocation of O&M for the Southwest WPC Plant (continued)

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL VOLUME	(3) RETAIL CAPACITY	(4) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY VOLUME	(5) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY CAPACITY	(6) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY SUSPENDED SOLIDS	(7) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY BOD
Wastewater System ($000s)								
	Purchase of Services, Materials, Supplies, and Equipment:							
20	Raw Wastewater Pumping	161,899	-	161,899	-	-	-	-
21	Preliminary Treatment	1,853,358	-	-	-	1,853,358	-	-
22	Flocculation	960,600	-	-	960,600	-	-	-
23	Primary Sedimentation	541,205	-	-	541,205	-	-	-
24	Aeration	1,054,656	-	-	-	-	-	1,054,656
25	Secondary Sedimentation	1,136,376	-	-	1,136,376	-	-	-
26	Recirculating Pumping	473,362	-	-	473,362	-	-	-
27	Chlorination	1,460,712	-	-	1,460,712	-	-	-
28	Effluent Pumping	53,966	-	-	-	53,966	-	-
29	Primary Sludge Pumping	609,048	-	-	-	-	609,048	-
30	Secondary Sludge Thickening	107,933	-	-	-	-	52,887	55,046
31	Sludge Digestion	1,065,064	-	-	-	-	798,798	266,266
32	Sludge Holding Tanks	375,837	-	-	-	-	281,878	93,959
33	Sludge Dewatering	2,251,552	-	-	-	-	1,688,664	562,888
34	Sludge Lagoon	20,815	-	-	-	-	15,611	5,204
35	Grit and Screening Incineration	476,446	-	-	-	476,446	-	-
36	Scum and Grease Incineration	152,647	-	-	-	-	152,647	-
37	Laboratory	1,216,555	-	-	-	-	608,278	608,277
38	**Subtotal Purchase of Services, Materials, Supplies & Equipment**	**13,972,031**	**-**	**161,899**	**4,572,255**	**2,383,770**	**4,207,811**	**2,646,296**
39	**Subtotal All Above**	**26,801,668**	**-**	**334,805**	**9,679,212**	**4,032,256**	**7,570,630**	**5,184,765**

Table 7-9 Test Year 1 Allocation of O&M for the Southwest WPC Plant (continued)

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL VOLUME	(3) RETAIL CAPACITY	(4) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY VOLUME	(5) CAPACITY	(6) SUSPENDED SOLIDS	(7) BOD
Wastewater System ($000s)								
	Administrative & General							
40	Personal Services	3,091,200	-	41,660	1,230,481	397,190	810,245	611,624
41	Other	1,591,000	-	18,435	520,644	271,441	479,145	301,335
42	**Subtotal Administration & General**	**4,682,200**	**-**	**60,095**	**1,751,125**	**668,631**	**1,289,390**	**912,959**
	Power Requirements							
43	Raw Wastewater Pumping	100,315	85,268	15,047	-	-	-	-
44	Preliminary Treatment	6,688	-	-	5,685	1,003	-	-
45	Flocculation	321,485	-	-	273,262	48,223	-	-
46	Primary Sedimentation	25,318	-	-	21,520	3,798	-	-
47	Aeration	3,132,208	-	-	-	-	-	3,132,208
48	Secondary Sedimentation	64,488	-	-	54,815	9,673	-	-
49	Recirculating Pumping	171,013	-	-	145,361	25,652	-	-
50	Chlorination	13,853	-	-	11,775	2,078	-	-
51	Effluent Pumping	42,037	-	-	35,731	6,306	-	-
52	Primary Sludge Pumping	3,822	-	-	-	-	3,822	-
53	Secondary Sludge Thickening	418,456	-	-	-	-	205,043	213,413
54	Sludge Digestion	97,807	-	-	-	-	73,355	24,452
55	Sludge Dewatering	71,653	-	-	-	-	53,740	17,913
56	Grit and Screening Incineration	44,425	-	-	37,761	6,664	-	-
57	Scum and Grease Incineration	6,807	-	-	-	-	6,807	-
58	**Subtotal Power Requirements**	**4,520,375**	**85,268**	**15,047**	**585,910**	**103,397**	**342,767**	**3,387,986**

Table 7-9 Test Year 1 Allocation of O&M for the Southwest WPC Plant (continued)

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL VOLUME	(3) RETAIL CAPACITY	(4) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY VOLUME	(5) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY CAPACITY	(6) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY SUSPENDED SOLIDS	(7) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR) AND UPPER DARBY BOD
Wastewater System ($000s)								
	Gas Requirements							
59	Raw Wastewater Pumping	34,131	-	34,131	-	-	-	-
60	Preliminary Treatment	390,718	-	-	-	390,718	-	-
61	Flocculation	202,510	-	-	202,510	-	-	-
62	Primary Sedimentation	114,095	-	-	114,095	-	-	-
63	Aeration	222,339	-	-	-	-	-	222,339
64	Secondary Sedimentation	239,567	-	-	239,567	-	-	-
65	Recirculating Pumping	99,792	-	-	99,792	-	-	-
66	Chlorination	34,131	-	-	34,131	-	-	-
67	Effluent Pumping	11,377	-	-	-	11,377	-	-
68	Primary Sludge Pumping	128,397	-	-	-	-	128,397	-
69	Secondary Sludge Thickening	22,754	-	-	-	-	11,149	11,605
70	Sludge Digestion	224,533	-	-	-	-	168,400	56,133
71	Sludge Holding Tanks	79,232	-	-	-	-	59,424	19,808
72	Sludge Dewatering	474,664	-	-	-	-	355,998	118,666
73	Sludge Lagoon	4,388	-	-	-	-	3,291	1,097
74	Grit and Screening Incineration	100,442	-	-	-	100,442	-	-
75	Scum and Grease Incineration	32,180	-	-	-	-	32,180	-
76	Laboratory	256,469	-	-	-	-	128,235	128,234
77	**Subtotal Gas Requirements**	**2,671,719**	**-**	**34,131**	**690,095**	**502,537**	**887,074**	**557,882**
78	Sludge Disposal	8,474,983	-	-	-	-	6,356,237	2,118,746
79	**Total Southwest WPC Plant Expense**	**$ 47,150,945**	**$ 85,268**	**$ 444,078**	**$ 12,706,342**	**$ 5,306,821**	**$ 16,446,098**	**$ 12,162,338**

Table 7-10 Test Year 1 Allocation of O&M for the Southeast WPC Plant

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL AND SPRINGFIELD (WYNDMOOR) VOLUME	(3) CAPACITY	(4) SUSPENDED SOLIDS	(5) BOD
Wastewater System ($000s)						
	Personal Services					
1	Raw Wastewater Pumping	$ 1,091,360	$ -	$ 1,091,360	$ -	$ -
2	Preliminary Treatment	1,550,047	1,116,034	434,013	-	-
3	Flocculation	474,504	474,504	-	-	-
4	Primary Sedimentation	553,588	553,588	-	-	-
5	Aeration	553,588	-	-	-	553,588
6	Secondary Sedimentation	688,031	688,031	-	-	-
7	Recirculating Pumping	332,153	332,153	-	-	-
8	Chlorination	529,863	333,814	196,049	-	-
9	Effluent Pumping	419,145	-	419,145	-	-
10	Primary Sludge Pumping	442,871	-	-	442,871	-
11	Waste Sludge Pumping	324,245	-	-	275,608	48,637
12	Sludge Digestion	466,847	-	-	396,820	70,027
13	Sludge Holding Tanks	308,881	-	-	262,549	46,332
14	Sludge Dewatering	363,103	-	-	308,638	54,465
15	Sludge Lagoon	3,458	-	-	2,939	519
16	Grit and Screening Incineration	319,877	217,516	102,361	-	-
17	Scum and Grease Incineration	81,266	-	-	81,266	-
18	Scum Pumping	442,871	-	-	442,871	-
19	Primary Sludge Transfer Pumping	229,344	-	-	229,344	-
20	Waste Activated Sludge Xfer Pumping	213,527	-	-	181,498	32,029
21	Laboratory	759,207	-	-	379,604	379,603
22	**Subtotal Personal Services**	**10,147,776**	**3,715,640**	**2,242,928**	**3,004,008**	**1,185,200**

Table 7-10 Test Year 1 Allocation of O&M for the Southeast WPC Plant (continued)

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL AND SPRINGFIELD (WYNDMOOR) VOLUME	(3) RETAIL AND SPRINGFIELD (WYNDMOOR) CAPACITY	(4) RETAIL AND SPRINGFIELD (WYNDMOOR) SUSPENDED SOLIDS	(5) RETAIL AND SPRINGFIELD (WYNDMOOR) BOD
Wastewater System ($000s)						
	Purchase of Services, Materials, Supplies, and Equipment:					
23	Raw Wastewater Pumping	585,150	-	585,150	-	-
24	Preliminary Treatment	1,708,259	-	1,708,259	-	-
25	Flocculation	717,280	717,280	-	-	-
26	Primary Sedimentation	462,457	462,457	-	-	-
27	Aeration	717,280	-	-	-	717,280
28	Secondary Sedimentation	585,150	585,150	-	-	-
29	Recirculating Pumping	349,202	349,202	-	-	-
30	Chlorination	937,932	937,932	-	-	-
31	Effluent Pumping	302,013	-	302,013	-	-
32	Primary Sludge Pumping	547,398	-	-	547,398	-
33	Waste Sludge Pumping	349,202	-	-	296,822	52,380
34	Sludge Digestion	355,021	-	-	301,768	53,253
35	Sludge Holding Tanks	398,978	-	-	339,131	59,847
36	Sludge Dewatering	750,517	-	-	637,939	112,578
37	Sludge Lagoon	6,939	-	-	5,898	1,041
38	Grit and Screening Incineration	158,815	-	158,815	-	-
39	Scum and Grease Incineration	50,883	-	-	50,883	-
40	Scum Pumping	547,398	-	-	547,398	-
41	Primary Sludge Transfer Pumping	198,196	-	-	198,196	-
42	Waste Activated Sludge Xfer Pumping	188,758	-	-	160,444	28,314
43	Laboratory	764,470	-	-	382,235	382,235
44	**Subtotal Purchase of Services, Materials, Supplies & Equipment**	**10,681,298**	**3,052,021**	**2,754,237**	**3,468,112**	**1,406,928**
45	**Subtotal All Above**	**20,829,074**	**6,767,661**	**4,997,165**	**6,472,120**	**2,592,128**

Table 7-10 Test Year 1 Allocation of O&M for the Southeast WPC Plant (continued)

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL AND SPRINGFIELD (WYNDMOOR) VOLUME	(3) CAPACITY	(4) SUSPENDED SOLIDS	(5) BOD
Wastewater System ($000s)						
	Administrative & General					
46	Personal Services	2,865,016	1,049,034	633,245	848,120	334,617
47	Other	1,164,341	332,693	300,232	378,050	153,366
48	Gas	22,147	2,248	4,094	12,826	2,979
49	**Subtotal Administration & General**	**4,051,504**	**1,383,975**	**937,571**	**1,238,996**	**490,962**
	Power Requirements					
50	Raw Wastewater Pumping	308,245	262,008	46,237	-	-
51	Flocculation	474,535	403,355	71,180	-	-
52	Primary Sedimentation	18,927	16,088	2,839	-	-
53	Aeration	410,993	-	-	-	410,993
54	Secondary Sedimentation	13,520	11,492	2,028	-	-
55	Recirculating Pumping	32,447	27,580	4,867	-	-
56	Chlorination	4,056	3,448	608	-	-
57	Effluent Pumping	36,503	31,028	5,475	-	-
58	Primary Sludge Pumping	1,352	-	-	1,352	-
59	Waste Sludge Pumping	4,056	-	-	3,448	608
60	Sludge Digestion	32,602	-	-	27,712	4,890
61	Sludge Dewatering	23,885	-	-	20,302	3,583
62	Grit and Screening Incineration	14,808	12,587	2,221	-	-
63	Scum and Grease Incineration	2,269	-	-	2,269	-
64	Scum Pumping	4,056	-	-	4,056	-
65	Primary Sludge Transfer Pumping	28,391	-	-	28,391	-
66	Waste Activated Sludge Xfer Pumping	14,871	-	-	12,640	2,231
67	**Subtotal Power Requirements**	**1,425,516**	**767,586**	**135,455**	**100,170**	**422,305**

Table 7-10 Test Year 1 Allocation of O&M for the Southeast WPC Plant (continued)

LINE NO.	DESCRIPTION	(1) TOTAL O&M	(2) RETAIL AND SPRINGFIELD (WYNDMOOR) VOLUME	(3) RETAIL AND SPRINGFIELD (WYNDMOOR) CAPACITY	(4) RETAIL AND SPRINGFIELD (WYNDMOOR) SUSPENDED SOLIDS	(5) RETAIL AND SPRINGFIELD (WYNDMOOR) BOD
Wastewater System ($000s)						
	Gas Requirements					
68	Raw Wastewater Pumping	12,953	-	12,953	-	-
69	Preliminary Treatment	37,815	-	37,815	-	-
70	Flocculation	15,878	15,878	-	-	-
71	Primary Sedimentation	10,237	10,237	-	-	-
72	Aeration	15,878	-	-	-	15,878
73	Secondary Sedimentation	12,953	12,953	-	-	-
74	Recirculating Pumping	7,730	7,730	-	-	-
75	Chlorination	3,134	3,134	-	-	-
76	Effluent Pumping	6,685	-	6,685	-	-
77	Primary Sludge Pumping	12,117	-	-	12,117	-
78	Waste Sludge Pumping	7,730	-	-	6,571	1,159
79	Sludge Digestion	74,844	-	-	63,617	11,227
80	Sludge Holding Tanks	32,470	-	-	27,600	4,870
81	Sludge Dewatering	158,221	-	-	134,488	23,733
82	Sludge Lagoon	1,463	-	-	1,244	219
83	Grit and Screening Incineration	33,481	-	33,481	-	-
84	Scum and Grease Incineration	10,727	-	-	10,727	-
85	Scum Pumping	12,117	-	-	12,117	-
86	Primary Sludge Transfer Pumping	4,387	-	-	4,387	-
87	Waste Activated Sludge Xfer Pumping	4,178	-	-	3,551	627
88	Laboratory	16,923	-	-	8,462	8,461
89	**Subtotal Gas Requirements**	**491,921**	**49,932**	**90,934**	**284,881**	**66,174**
90	Sludge Disposal	3,184,324	-	-	2,706,675	477,649
91	**Total Southeast WPC Plant Expense**	**$ 29,982,339**	**$ 8,969,154**	**$ 6,161,125**	**$ 10,802,842**	**$ 4,049,218**

- **Capacity**: Wastewater treatment related power costs are allocated 15% to the capacity cost component. Most of the operation and maintenance expenses, excluding power, which is associated with facilities such as raw wastewater pumps, preliminary treatment, and effluent pumping vary according to peak wastewater flow rates. Therefore, the O&M costs of those functions are largely allocated to the capacity functional cost component.

  The raw wastewater pumping facilities at the Southwest plant are not used by the wholesale contract customers whose flow is tributary to the plant. Consequently, the operation and maintenance expense of raw wastewater pumping facilities at the Southwest plant is allocated entirely to the Retail customer group.

- **Strength (BOD and Suspended Solids):** Aeration basins and oxygen, or air supply, facilities are designed principally on the basis of BOD, and the related O&M expense is assigned to the BOD functional cost component.

  - The operation and maintenance expense of sludge conditioning and disposal facilities pertains to both the suspended solids and BOD parameters and is allocated to those two cost components. The design of facilities handling only sludge from the primary sedimentation basins, such as the primary sludge pumps and scum disposal facilities, reflects the suspended solids content of the raw wastewater, and the related operating expense is therefore allocated to that cost component.

  - The O&M expense of certain other facilities handling both primary and waste activated sludge, such as digesters and sludge dewatering and composting facilities, is allocated to the suspended solids functional cost component and to the BOD functional cost component. The percentage allocation to these cost components is derived from an analysis of the relative quantities of sludge from the two sources and reflects the relative difficulty of treating waste activated sludge as compared with primary sludge. The resulting allocation percentages are 75% to the suspended solids functional cost component and 25% to the BOD functional cost component. The O&M expense of the sludge force main at the Southeast plant is allocated 85% to suspended solids and 15% to BOD functional cost components, based on design flows.

  - Some of the treatment and sludge related facilities in the Wastewater System service multiple treatment facilities. The digesters and the sludge processing and distribution facilities provide treatment and disposal of sludge from both the Southwest treatment plant and the Southeast treatment plant and provide disposal of sludge from the Northeast treatment plant. To properly recognize cost responsibility for these joint use facilities, a portion of the operations and maintenance expense associated with these facilities is allocated to the Southeast and Northeast plants.

- **Customer:** The allocation of customer related O&M costs is summarized on Lines 30 to 35 of Table 7-6. Test year customer accounting and collection is allocated 100% to the equivalent bills component of Customer costs. Meter maintenance expense is allocated 100% to the meter component of Customer costs. The operation and maintenance costs of the Industrial Waste Unit are allocated 33% to the excess strength component and 67% to the meter component of Customer costs.

- **Administrative and General:** Administrative and general expenses are allocated to cost components using the following allocation bases:

- **Direct Allocation.** Portions of the Administrative and General costs are assigned to specific cost components based on the nature of the expense as shown on Column 1 of Table 7-11. These administrative and general costs include the PWD Finance division's SMIP/GARP expenses which are allocated directly to Sewer Maintenance – All Customers Capacity.
- **Distribution of All Other Expenses.** Portions of the Administrative and General costs are allocated to cost components in proportion to the total allocation of all other expenses to the cost components, excluding expenses for power. These allocations are presented on Column 2 of Table 7-11.
- **Distribution of Volume.** Portions of the Administrative and General costs are allocated to cost components in proportion to the total allocation of Volume component expenses. These allocations are presented on Column 3 of Table 7-11.
- **Distribution of Plant Investment.** Portions of the Administrative and General costs are allocated to cost components in proportion to the total allocation of plant investment. These allocations are presented on Column 4 of Table 7-11.

- **Residual Fund and Rate Stabilization Fund Transfers:** The deposit into the Residual Fund (Line 8 of Table 7-2) and the deposit from the Rate Stabilization Fund (Line 9 of Table 7-2), each of which is allocable O&M expense, are allocated to the various cost components in proportion to the direct O&M expense. The allocation of Residual Fund and Rate Stabilization Fund transfers are included with the allocation of Administrative & General Costs as presented on Column 2 of Table 7-11.
- **Net Operating Expense – All Customers:** The net operating expense to be recovered from all customers through charges for wastewater service (including wholesale) is derived by deducting the "Other Operating Revenue" related to all customer service and the non-operating "Interest Income" from the total operating expense.
  - The grants included in "Other Operating Revenue," which is related to all customer service, is allocated to the various cost components, as shown on Column 5 of Table 7-12.
  - The non-operating interest income which is assigned to operation and maintenance expense (Line 12 of Table 7-2) is allocated in proportion to the distribution of the O&M expenses allocable to all customers (Column 3 of Table 7-12), as shown on Column 4 of Table 7-12.
- **Net Operating Expense – Retail Customers:** The net operating expense to be recovered from retail customers through charges for wastewater service is derived by deducting the "Other Operating Revenue" excluding grants from the net operating expense for all customers. Since these revenues are generated from retail customers, no credit is applicable to wholesale service. "Other Revenue" net of grants is allocated to the various cost components applicable to retail customers, as shown on Column 4 of Table 7-6.

Table 7-11 Test Year 1 Allocation of Administrative & General to Functional Cost Components

Line No.	Cost Component	(1) DIRECT ASSIGNMENT	(2) ALLOCATION OF ADMINISTRATIVE & GENERAL ALL OTHER EXPENSES	(3) VOLUME	(4) PLANT INVESTMENT	(5) TOTAL
	Wastewater System ($000s)					
	COLLECTION SYSTEM					
	Sewer Maintenance					
1	All Customers - Capacity	15,388	19,603	2,847	15,657	53,495
	Inlet Cleaning					
2	Retail - Storm Capacity	1,164	6,384	927	0	8,475
	Green Stormwater Infrastructure Maintenance					
3	All Customers - Capacity	16,359	12,258	1,780	3,367	33,764
	Neill Drive Pumping Station					
	Retail and Lower Merion					
4	Total Volume	0	0	0	0	0
5	Total Capacity	0	53	8	9	70
	Central Schuykill Pumping Station					
	Retail and Springfield (excl. Wyndmoor)					
6	Total Volume	0	0	0	0	0
7	Total Capacity	0	160	23	33	216
	All Other Pumping Stations					
	Retail					
8	Total Volume	0	0	0	0	0
9	Total Capacity	0	6,050	879	153	7,082
10	**Total Collection Systems**	**32,911**	**44,508**	**6,464**	**19,219**	**103,102**
	WATER POLLUTION CONTROL PLANTS					
	Northeast Plant:					
	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland & Lower Southampton					
11	Volume	0	0	0	0	0
12	Capacity	0	1,241	180	45	1,466
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton					
13	Volume	0	4,520	656	524	5,700
14	Capacity	0	2,289	332	215	2,836
15	Suspended Solids	98	8,529	1,239	1,076	10,942
16	BOD	0	5,696	827	918	7,441
	Southwest Plant:					
	Retail					
17	Volume	0	0	0	0	0
18	Capacity	0	156	23	188	367
	Retail, DELCORA, Lower Merion, Springfield (Excluding Wyndmoor), and Upper Darby					
19	Volume	0	4,529	658	651	5,838
20	Capacity	0	1,857	270	169	2,296
21	Suspended Solids	100	6,094	885	548	7,627
22	BOD	0	3,263	474	462	4,199
	Southeast Plant:					
	Retail and Springfield (Wyndmoor)					
23	Volume	0	3,265	474	477	4,216
24	Capacity	0	2,376	345	372	3,093
25	Suspended Solids	98	4,208	611	271	5,188
26	BOD	0	1,426	207	242	1,875
27	**Total WPC Plants**	**296**	**49,449**	**7,181**	**6,158**	**63,084**
	CUSTOMER COSTS					
	All Customers					
28	Equivalent Bills	0	10,227	0	0	10,227
	Equivalent Meters					
29	Industrial Waste Unit	0	1,237	0	0	1,237
30	Other	0	1,513	0	0	1,513
	Warranty Program (Retail Customers with ≤ 2"	0	0	0	0	0
31	Excess Strength Wastewater	0	610	0	0	610
32	Stormwater Incentive Programs	0	0	0	0	0
33	**Total Customer Costs**	**0**	**13,587**	**0**	**0**	**13,587**
34	**Total O&M Expense**	**33,207**	**107,544**	**13,645**	**25,377**	**179,773**

Table 7-12 Test Year 1 Allocation of Net Operating Expense – All Customers by Functional Cost Components

Line No.	Cost Component	(1) DIRECT O&M	(2) ADMIN & GENERAL	(3) TOTAL O&M	(4) O&M DEDUCTIONS INTEREST INCOME	(5) GRANTS	(6) NET O&M
	Wastewater System ($000s)						
	COLLECTION SYSTEM						
	Sewer Maintenance						
1	All Customers - Capacity	33,497	53,495	86,992	602	0	86,390
	Inlet Cleaning						
2	Retail - Storm Capacity	14,756	8,475	23,231	161	0	23,070
	Green Stormwater Infrastructure Maintenance						
3	All Customers - Capacity	14,210	33,764	47,974	332	0	47,642
	Neill Drive Pumping Station						
	Retail and Lower Merion						
4	Total Volume	13	0	13	0	0	13
5	Total Capacity	135	70	205	1	0	204
	Central Schuykill Pumping Station						
	Retail and Springfield (excl. Wyndmoor)						
6	Total Volume	51	0	51	0	0	51
7	Total Capacity	409	216	625	4	0	621
	All Other Pumping Stations						
	Retail						
8	Total Volume	4,687	0	4,687	32	0	4,655
9	Total Capacity	15,914	7,082	22,996	159	0	22,837
10	**Total Collection Systems**	**83,672**	**103,102**	**186,774**	**1,291**	**0**	**185,483**
	WATER POLLUTION CONTROL PLANTS						
	Northeast Plant:						
	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland & Lower Southampton						
11	Volume	765	0	765	5	14	746
12	Capacity	3,416	1,466	4,882	34	89	4,759
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton						
13	Volume	12,090	5,700	17,790	123	323	17,344
14	Capacity	6,195	2,836	9,031	62	164	8,805
15	Suspended Solids	22,232	10,942	33,174	229	602	32,343
16	BOD	19,952	7,441	27,393	189	497	26,707
	Southwest Plant:						
	Retail						
17	Volume	85	0	85	1	2	82
18	Capacity	444	367	811	6	15	790
	Retail, DELCORA, Lower Merion, Springfield (Excluding Wyndmoor), and Upper Darby						
19	Volume	12,706	5,838	18,544	128	337	18,079
20	Capacity	5,307	2,296	7,603	53	138	7,412
21	Suspended Solids	16,446	7,627	24,073	167	437	23,469
22	BOD	12,162	4,199	16,361	113	297	15,951
	Southeast Plant:						
	Retail and Springfield (Wyndmoor)						
23	Volume	8,969	4,216	13,185	91	239	12,855
24	Capacity	6,161	3,093	9,254	64	168	9,022
25	Suspended Solids	10,803	5,188	15,991	111	290	15,590
26	BOD	4,049	1,875	5,924	41	108	5,775
27	**Total WPC Plants**	**141,782**	**63,084**	**204,866**	**1,417**	**3,720**	**199,729**
	CUSTOMER COSTS						
	All Customers						
28	Equivalent Bills	25,503	10,227	35,730	247	0	35,483
	Equivalent Meters						
29	Industrial Waste Unit	3,086	1,237	4,323	30	0	4,293
30	Other	3,773	1,513	5,286	37	0	5,249
	Warranty Program (Retail Customers with ≤ 2"	0	0	0	0	0	0
31	Excess Strength Wastewater	1,520	610	2,130	15	0	2,115
32	Stormwater Incentive Programs	0	0	0	0	0	0
33	**Total Customer Costs**	**33,882**	**13,587**	**47,469**	**329**	**0**	**47,140**
34	**Total O&M Expense**	**259,337**	**179,773**	**439,110**	**3,037**	**3,720**	**432,353**

7.5.2 Wholesale

The process of allocating O&M expenses to the Wholesale customers follows the analytical steps outlined below. The tables for these steps are provided in Appendix I.

The following four categories of O&M costs are allocated to wholesale contract service customers, as applicable:

- Pumping and Treatment;
- Collection System;
- LTCPU; and
- Customer.

The following analytical steps are used to allocate the applicable O&M costs to each wholesale contract service customer:

1. Determine O&M Unit cost by cost component for each "Pumping Station" and each "Water Pollution Control (Treatment) Plant" (Appendix I: Table 13).
2. Allocate Pumping & Treatment O&M Cost to each wholesale contract service customer based on contract customer's units of service and applicable O&M unit cost (Appendix I: Table 14 through Table 24). Only costs associated with facilities used directly by a customer are allocated to that customer.
3. Allocate Collection System O&M Cost to each wholesale contract service customer based on the allocation of applicable capital investments in sewer collection system which serves that specific contract service customer and the ratio of the total O&M expense associated with collection system maintenance to the total plant investment of the collection system (Appendix I: Table 14 through Table 24).
    a. Sewer Maintenance O&M costs are not applicable to DELCORA contract service customer since they pump their wastewater directly to the Southwest WPCP and do not utilize the Water Department's collection system.
4. Allocate LTCPU O&M Cost to applicable wholesale contract service customers in accordance with their contractual agreements (Appendix I: Table 14 through Table 24). Test year Green infrastructure maintenance expense is estimated based on 3.5% of the total estimated test year LTCPU investment. Wholesale customers are allocated a portion of the sewer maintenance expense on the basis of 3.5% of their respective allocated share of LTCPU investment. In lieu of recovering the annual SMIP and GARP O&M costs in the year the expenses are incurred, the Water Department allocates SMIP/GARP costs based on amortized costs determined recognizing expected project completion.
5. Allocate customer costs to the wholesale customers based on estimates of costs of billing for wastewater service, including allowances for flow and strength monitoring, bill preparation, and calibration of the flow meters.

7.6 Allocation of Net Plant Investment

Table 7-13 summarizes the Test Year 1 (FY 2026) investment in the Wastewater System used in the allocation of test year capital related costs of service. The total test year investment of $3.01 Billion is the total original cost investment in facilities as of June 30, 2024. Contributed plant investments from Federal grants on the three wastewater treatment plants are deducted in arriving at the plant investment for cost allocation and rate design purposes.

Table 7-13 Summary of Test Year 1 Allocation of Plant Investment to Functional Cost Components

LINE NO.	COST COMPONENT	(1) TOTAL DIRECT INVESTMENT	(2) INVESTMENT ALLOCATED TO CONTRACT SERVICE	(3) INVESTMENT ALLOCATED TO RETAIL SERVICE
Wastewater System ($)				
	COLLECTION SYSTEM			
1	Sewers-Capacity	$ 1,857,132,000	$ 17,991,000	$ 1,839,141,000
2	Pumping Stations Capacity	23,170,000	252,000	22,918,000
3	LTCP Investment	399,336,000	10,543,000	388,793,000
4	**Total Collection System**	**2,279,638,000**	**28,786,000**	**2,250,852,000**
	WATER POLLUTION CONTROL PLANTS			
	Northeast Plant			
	Retail, Abington, Bensalem, Bucks County			
	Cheltenham, Lower Moreland, & Lower Southampton			
5	Volume	62,171,000	17,314,000	44,857,000
6	Capacity	30,763,000	7,072,000	23,691,000
7	Suspended Solids	127,597,000	23,955,000	103,642,000
8	BOD	108,916,000	27,137,000	81,779,000
9	**Total Northeast Plant**	**329,447,000**	**75,478,000**	**253,969,000**
	Southwest Plant			
	Retail, DELCORA, Lower Merion, Springfield (excluding Wyndmoor), & Upper Darby			
10	Volume	77,173,000	32,957,000	44,216,000
11	Capacity	42,328,000	7,457,000	34,871,000
12	Suspended Solids	65,148,000	18,741,000	46,407,000
13	BOD	54,772,000	27,002,000	27,770,000
14	**Total Southwest Plant**	**239,421,000**	**86,157,000**	**153,264,000**
	Southeast Plant			
	Retail & Springfield (Wyndmoor)			
15	Volume	56,555,000	514,000	56,041,000
16	Capacity	44,177,000	246,000	43,931,000
17	Suspended Solids	32,157,000	197,000	31,960,000
18	BOD	28,762,000	152,000	28,610,000
19	**Total Southeast Plant**	**161,651,000**	**1,109,000**	**160,542,000**
20	**Total Allocated Treatment Plants**	**730,519,000**	**162,744,000**	**567,775,000**
21	**Total Allocated System Investment**	**$ 3,010,157,000**	**$ 191,530,000**	**$ 2,818,627,000**

(a) Plant Investment as of 6/30/2024. Includes Administration & General Costs

7.6.1 Retail

Similar to our treatment of O&M expenses, the net plant investment allocable to Retail customers is the difference between the net plant investment on Line 21, Column 1 on Table 7-13 and the amount allocated to Wholesale customers on Line 21, Column 2. After deducting the investment directly allocable to Wholesale customers, the balance of the plant investment is allocated to Retail customers as follows:

- **Collection System**: The various functional cost centers of the wastewater collection system are designed based on different wastewater parameters. Therefore, the net plant investment allocable to Retail customers is allocated to the respective wastewater parameter (cost component). The allocation of net plant investment allocable to retail customers for each collection system component is summarized in Lines 1 to 4 of Table 7-13.
    - **Wastewater Collection System - Sewers**: The collection system is designed to carry maximum rates of wastewater flow and as such, 100% of the collection system costs are allocated to the capacity cost component.

      As the combined sewer system also conveys stormwater, the test year retail customer plant investment associated with the collection system is apportioned between sanitary sewer-related costs and stormwater-related costs. Consistent with the allocation factor presented in prior rate proceedings, 64% of the collection system retail plant investment costs were allocated to stormwater. This factor was determined based on an "inch-foot" analysis (the inch (diameter) of pipes times the number of feet of the sewer system), and then further adjusted to reflect the trenching cost savings typically associated with the construction of separate sanitary and storm sewers. As explained in prior rate proceedings, during construction, the sanitary sewer is buried deeper, and a storm sewer is placed in the same trench above the sanitary sewer. Our analysis indicates that it is reasonable to allocate 36% of the capacity of the system for conveyance of sanitary flows and 64% for stormwater drainage.
    - **Wastewater Collection System - Pumping**: These facilities are designed to meet the maximum rates of wastewater flows and are allocated 100% to the capacity cost component.
    - **Wastewater Collection System - Long-Term Control Plan**: The LTCPU investments reduce the maximum rates of wastewater flows and are allocated 100% to the capacity cost component.

      In the same manner as the Wastewater Collection Costs, we further delineate the test year GSI investments between sanitary sewer related costs (36%) and stormwater costs (64%).
- **Wastewater Treatment**: The various functional facilities of the water pollution control plants are designed to manage different wastewater parameters including average and peak flows, BOD, and suspended solids. Hence, the treatment plant investments in each functional facility are allocated across the key wastewater parameters, as shown in Table 7-14, Table 7-15, and Table 7-16 for each of the three water pollution control plants and summarized in Lines 5 to 20 of Table 7-13.
    - **Volume**: The water pollution control plant facilities such as flocculation, sedimentation basins, and recirculation pumping, are designed primarily to handle the total average flow projected for the plant. Therefore, investments in such facilities are allocated to the volume cost component.
    - **Capacity**: The investment in facilities such as raw wastewater pumps, preliminary treatment, chlorine contact basins, wastewater conduits, and outfall lines varies according to peak wastewater flow rates, and therefore is allocated to the capacity functional cost component.

Wholesale customers whose flow is tributary to the plant do not use the raw wastewater pumping facilities at the Southwest plant. Consequently, the investment in raw wastewater pumping facilities at the Southwest plant is allocated entirely to the Retail customer group.

Table 7-14 Test Year 1 Allocation of Plant Investment for the Northeast WPC Plant

LINE NO.	DESCRIPTION	(1) TOTAL INVESTMENT (a)	(2) RETAIL, ABINGTON BENSALEM, BUCKS COUNTY, & LOWER SOUTHAMPTON CAPACITY	(3) RETAIL, ABINGTON, BENSALEM, BUCKS COUNTY, CHELTENHAM, LOWER MORELAND & LOWER SOUTHAMPTON VOLUME	(4) CAPACITY	(5) SUSPENDED SOLIDS	(6) BOD
Wastewater System ($000s)							
	NON-WATER POLLUTION ABATEMENT PROGRAM FACILITIES						
1	Primary Sedimentation Basins	$ 5,614	$ -	$ 5,614	$ -	$ -	$ -
2	Pumping Station	1,389	-	-	1,389	-	-
3	Aeration Facilities	18,549	-	-	-	-	18,549
4	Primary Sludge Pumps	1,245	-	-	-	1,245	-
5	Scum Ejectors	195	-	-	-	195	-
6	Effluent Conduit	-	-	-	-	-	-
7	Final Sedimentation Basins	9,763	-	9,763	-	-	-
8	Recirculation Pumps	1,757	-	1,757	-	-	-
9	Digesters	19,110	-	-	-	14,333	4,777
10	Sludge Dewatering	50,372	-	-	-	37,779	12,593
11	Frankford Grit Chamber	-	-	-	-	-	-
12	Chlorination Facilities	5,228	-	-	5,228	-	-
13	Aeration Tank No. 1	2,703	-	-	-	-	2,703
14	Sludge Thickener Building	10,710	-	-	-	5,355	5,355
15	Sludge Transfer Station	289	-	-	-	217	72
16	Loading Terminal/Barges	6,795	-	-	-	5,096	1,699
17	**Subtotal All Above**	**133,719**	**-**	**17,134**	**6,617**	**64,220**	**45,748**
	Administrative and General Facilities						
18	Administrative and General Plant	68,493					
19	Land	957					
20	**Subtotal**	**69,450**	**1,616**	**15,009**	**6,237**	**23,961**	**22,627**
21	**Total**	**203,169**	**1,616**	**32,143**	**12,854**	**88,181**	**68,375**
	WATER POLLUTION ABATEMENT PROGRAM FACILITIES						
22	New Preliminary Treatment Building	41,567	10,392	-	31,175	-	-
23	Primary Sedimentation Tanks	53,482	-	53,482	-	-	-
24	Blower Building	16,771	-	-	-	-	16,771
25	Aeration Tank No. 1	39,103	-	-	-	-	39,103
26	Chlorination Facilities	-	-	-	-	-	-
27	New Sludge Thickener Building	41,796	-	-	-	20,898	20,898
28	Effluent Conduits	2,322	-	-	2,322	-	-
29	New Final Sedimentation Tanks	25,913	-	25,913	-	-	-
30	Sludge Digestion System	34,896	-	-	-	26,172	8,724
31	Composting Facilities	-	-	-	-	-	-
32	Sludge Dewatering	26,749	-	-	-	20,062	6,687
33	Sludge Transfer Station	24,782	-	-	-	18,587	6,195
34	Loading Terminal/Barges	5,547	-	-	-	4,160	1,387
35	**Subtotal**	**312,928**	**10,392**	**79,395**	**33,497**	**89,879**	**99,765**
36	Admin. and General Facilities	48,176	1,121	10,412	4,327	16,621	15,695
37	Adjustment for Joint Use Facilities	3,558	-	-	-	2,668	890
38	**Total**	**364,662**	**11,513**	**89,807**	**37,824**	**109,168**	**116,350**
39	**Total Northeast WPC Plant Book Cost**	**567,831**	**13,129**	**121,950**	**50,678**	**197,349**	**184,725**
40	Less Federal Grants	238,384	7,824	59,779	25,220	69,752	75,809
41	**Adjusted Total Northeast WPC Plant**	**$ 329,447**	**$ 5,305**	**$ 62,171**	**$ 25,458**	**$ 127,597**	**$ 108,916**

(a) Plant Investment as of 6/30/2024.

Table 7-15 Test Year 1 Allocation of Plant Investment for the Southwest WPC Plant

LINE NO.	DESCRIPTION	(1) TOTAL INVESTMENT (a)	(2) RETAIL CAPACITY	(3) RETAIL, DELCORA, LOWER MERION, SPRINGFIELD (EXCLUDING WYNDMOOR), & UPPER DARBY VOLUME	(4) CAPACITY	(5) SUSPENDED SOLIDS	(6) BOD
Wastewater System ($000s)							
	NON-WATER POLLUTION ABATEMENT PROGRAM FACILITIES						
1	Raw Wastewater Pumping Station	$ 12,665	$ 12,665	$ -	$ -	$ -	$ -
2	Sludge Digestion Facilities	12,020	-	-	-	8,770	3,250
3	Scum Incineration	-	-	-	-	-	-
4	Settling Tanks	35,665	-	35,665	-	-	-
5	Sludge Handling	7,495	-	-	-	5,621	1,874
6	Chlorination Facilities	782	-	-	782	-	-
7	Aeration Tanks	710	-	-	-	-	710
8	Oxygen Supply	3,685	-	-	-	-	3,685
9	Effluent Pump Station	1,587	-	-	1,587	-	-
10	Sludge Thickener Building	1,636	-	-	-	818	818
11	Composting Facilities	726	-	-	-	545	181
12	Sludge Gas Facilities	12,241	-	-	-	9,181	3,060
13	**Subtotal**	**89,212**	**12,665**	**35,665**	**2,369**	**24,935**	**13,578**
	Administrative and General Facilities						
14	Administrative and General Plant	86,319					
15	Land	696					
16	**Subtotal**	**87,015**	**5,969**	**23,994**	**9,068**	**25,394**	**22,590**
17	Adjustment for Joint Use Facilities	(5,314)	-	-	-	(4,210)	(1,104)
18	**Total**	**170,913**	**18,634**	**59,659**	**11,437**	**46,119**	**35,064**
	WATER POLLUTION ABATEMENT PROGRAM FACILITIES						
19	Influent Pumping Station	6,412	6,412	-	-	-	-
20	Preliminary Treatment Building	20,600	-	-	20,600	-	-
21	Primary Sedimentation Tanks	11,290	-	11,290	-	-	-
22	Aeration Tanks	16,634	-	-	-	-	16,634
23	Oxygen Supply System	14,306	-	-	-	-	14,306
24	Compressor Building	3,786	-	-	-	-	3,786
25	Final Tanks	29,727	-	29,727	-	-	-
26	Scum Concentration Building	1,111	-	-	-	1,111	-
27	Sludge Thickener Building	12,734	-	-	-	6,367	6,367
28	Sludge Digestion Facilities	31,570	-	-	-	23,035	8,535
29	Effluent Pumping Station	6,011	-	-	6,011	-	-
30	New Centrifuges	8,078	-	-	-	5,894	2,184
31	Composting Facilities	-	-	-	-	-	-
32	Sludge Dewatering	19,268	-	-	-	14,451	4,817
33	Sludge Gas Facilities	7,353	-	-	-	5,365	1,988
34	**Subtotal**	**188,880**	**6,412**	**41,017**	**26,611**	**56,223**	**58,617**
35	Admin. and Gen'l. Facilities	34,487	2,366	9,510	3,594	10,065	8,952
36	Adjust. for Joint Use Facilities	(8,922)	-	-	(466)	(6,312)	(2,144)
37	**Total**	**214,445**	**8,778**	**50,527**	**29,739**	**59,976**	**65,425**
38	**Total Southwest WPC Plant**	**385,358**	**27,412**	**110,186**	**41,176**	**106,095**	**100,489**
39	Less Federal Grants	145,937	5,161	33,013	21,099	40,947	45,717
40	**Adjusted Total Southwest WPC Plant**	**$ 239,421**	**$ 22,251**	**$ 77,173**	**$ 20,077**	**$ 65,148**	**$ 54,772**

(a) Plant Investment as of 6/30/2024.

Table 7-16 Test Year 1 Allocation of Plant Investment for Southeast WPC Plant

LINE NO.	DESCRIPTION	(1) TOTAL INVESTMENT (a)	(2) RETAIL AND SPRINGFIELD (WYNDMOOR) VOLUME	(3) CAPACITY	(4) SUSPENDED SOLIDS	(5) BOD
Wastewater System ($000s)						
	NON-WATER POLLUTION ABATEMENT PROGRAM FACILITIES					
1	Main Pumping Station	$ 1,123	$ -	$ 1,123	$ -	$ -
2	Grit Chambers	12,610	-	12,610	-	-
3	Outfall Line	578	-	578	-	-
4	Sludge Digestion Facilities	5,803	-	-	4,597	1,206
5	Settling Tanks & Floc. Channel	24,201	24,201	-	-	-
6	Sludge Force Main	5,088	-	-	3,816	1,272
7	**Subtotal**	**50,816**	**24,201**	**14,311**	**8,413**	**3,891**
	Administrative and General Facilities					
8	Administrative and General Plant	26,246				
9	Land	7,680				
10	**Subtotal**	**33,926**	**10,968**	**9,646**	**6,103**	**7,209**
11	Adjustment for Joint Use Facilities	5,314	-	-	4,210	1,104
12	**Total**	**90,056**	**35,169**	**23,957**	**18,726**	**12,204**
	WATER POLLUTION ABATEMENT PROGRAM FACILITIES					
13	Influent Pump. Stat. and Screen & Grit Chamber	22,163	-	22,163	-	-
14	Primary Sedimentation Tanks	21,464	21,464	-	-	-
15	Compressor Building	10,071	-	-	-	10,071
16	Air Supply Facilities	23,524	-	-	-	23,524
17	Final Sedimentation	26,464	26,464	-	-	-
18	Effluent Pumping Station	11,685	-	11,685	-	-
19	Effluent Conduit	11,774	-	11,774	-	-
20	Scum Concentration Facilities	2,860	-	-	2,860	-
21	Sludge Force Main	1,971	-	-	1,478	493
22	Preliminary Treatment Bldg.	3,505	-	3,505	-	-
23	Sludge Thickeners	4,730	-	-	2,365	2,365
24	Sludge Digesters	15,242	-	-	12,074	3,168
25	Sludge Disposal Facilities	3,899	-	-	3,089	810
26	Composting Facilities	-	-	-	-	-
27	Sludge Dewatering	9,399	-	-	7,049	2,350
28	Sludge Gas Facilities	3,550	-	-	2,812	738
29	**Subtotal**	**172,301**	**47,928**	**49,127**	**31,727**	**43,519**
30	Admin. and Gen'l. Facilities	37,656	12,173	10,707	6,775	8,001
31	Adjustment for Joint Use Facilities	5,364	-	466	3,644	1,254
32	**Total**	**215,321**	**60,101**	**60,300**	**42,146**	**52,774**
33	**Total Southeast WPC Plant**	**305,377**	**95,270**	**84,257**	**60,872**	**64,978**
34	Less Federal Grants	143,726	38,715	40,080	28,715	36,216
35	**Adjusted Total Southeast WPC Plant**	**$ 161,651**	**$ 56,555**	**$ 44,177**	**$ 32,157**	**$ 28,762**

(a) Plant Investment as of 6/30/2024.

- **Strength (BOD and Suspended Solids)**: The aeration basins and oxygen, or air blower facilities are designed to handle BOD, and investments in these facilities are allocated to the BOD functional cost component.
  - The investment in sludge conditioning and disposal facilities depends upon both the suspended solids and BOD parameters and is allocated to those two components of cost. The design of facilities handling only sludge from the primary sedimentation basins, such as the primary sludge pumps and scum disposal facilities, reflects the suspended solids content of the raw wastewater, and the related investment is therefore allocated to that cost component. The investment in facilities handling waste activated sludge, such as waste activated sludge thickeners, is allocated 50%

to the suspended solids and 50% to the BOD functional cost components based upon the design loadings and degree of treatment provided.

- Likewise, the investment in other facilities such as digesters and sludge dewatering and composting facilities, that handle both primary and waste activated sludge, is allocated to the suspended solids functional cost component and to the BOD functional cost component. We determined the allocation of cost between SS and BOD based on the relative quantities of sludge generated from BOD and SS components, and the relative difficulty of treating waste activated sludge as compared with primary sludge. The resulting allocation percentages are 75% to the suspended solids functional cost component and 25% to the BOD functional cost component. The investment in the sludge force main at the Southeast plant is allocated 75% to suspended solids and 25% to BOD functional cost components, based on design flows.
- Some of the treatment and sludge related facilities in the Wastewater System service multiple treatment facilities. The digesters and the sludge processing and distribution facilities provide treatment and disposal of sludge from both the Southwest treatment plant and the Southeast treatment plant and provide disposal of sludge from the Northeast treatment plant. To properly recognize cost responsibility for these joint use facilities, a portion of the investment in both existing and expanded plant joint use facilities is allocated to the Southeast and Northeast plants.

- **General Plant and Equipment**: Other general plant and equipment includes investment allocable to all the above and is allocated to cost components in proportion to the total of the preceding items of the direct plant investment allocation to those cost components.

7.6.2 Wholesale

For the Wholesale customers, the various contracts typically provide for maximum short-term flow rates expressed in cubic feet per second (“cfs”), maximum average daily flow rates expressed in MGD, and maximum annual suspended solids and BOD loadings expressed in pounds (“lbs”). The COS analysis recognizes the City’s obligation to provide service to its wholesale customers through the allocation of plant investment and operating expenses. Since installed capacity is the primary concern of the contracts, the basis for wholesale customer allocations uses the relationship of the contract service requirements to the total installed capacity of the respective facilities. Only plant investment associated with facilities used directly by a customer are allocated to that customer.

As presented earlier, Table 7-4 and Table 7-5 summarize the units of service applicable to wholesale customers used in the cost-of-service analysis. In Table 7-4, the section titled "Contract Maximum Units," is based upon the contractual rate of flow for each customer, including an allowance for I/I that can occur downstream from the wholesale customer’s discharge point into the City's Wastewater System. To determine the contract maximum units for suspended solids and BOD, contractual strength loadings for those customers that have such provisions in their contracts were used. For those customers that do not have specific loadings in their contracts, the estimated measured strength for each customer as applied to their contract maximum daily flow rate, expressed in MGD was used. The contract maximum units serve as the basis for allocation of capital investment related costs to the wholesale customers.

Each wholesale customer is allocated a share of the Wastewater System investment in the wastewater collection system (mains, pumping, and LTCPU) and treatment facilities serving them. The plant investment costs are allocated to the wholesale customers based on the proportionate share of their

contract capacity in the various facilities relative to the total design capacity of the various facilities. Please refer to Appendix I Tables 1 through 12 for details regarding the allocation of plant investment for each wholesale customer.

7.7 Allocation of Depreciation Expense

The allocation of depreciation expenses for Retail and Wholesale customers follows the steps used for the allocation of plant investment described above. The annual depreciation expense to be distributed to Wastewater System cost components is based on the application of appropriate depreciation expense rates to the various categories of Wastewater System facilities. The various items of depreciation expense are allocated to cost components on the same basis as the proportion of plant investment costs allocated to each of those cost components.

7.8 Wholesale Cost of Service Allocations

Table 7-17 summarizes the Test Year 1 COS allocated to the wholesale customers. Specifically, the table presents the total allocated plant investment, depreciable investment, depreciation expense, return on rate base, and operation and maintenance expense for the wholesale customers. The total COS allocable to wholesale customers, for Test Year 1 is estimated at $47.8 million. This amount includes a return-on-investment requirement of $6.2 million, which reflects a 7.50% rate of return on allocated investment.

It should be noted, that six of the wholesale customers have made front-end capital contributions related to the investment in plant which provides them service. These customers include Bucks County (Bensalem), Bucks County, DELCORA, Lower Merion, Lower Southampton, and Upper Darby.

Table 7-17 Summary of Test Year 1 Allocated COS for Wholesale Customers

LINE NO.	CUSTOMER	(1) INVESTMENT (a) ALLOCATED	(2) INVESTMENT (a) ALLOCATED DEPRECIABLE	(3) O&M	(4) DEPR'N	(5) RETURN	(6) ALLOCATED COST OF SERVICE
Wholesale Customers ($000S)							
1	Abington	$ 6,335	$ 6,319	$ 1,379	$ 154	$ 475	$ 2,008
2	Bucks County (Bensalem) (b)	11,316	11,288	1,961	13	46	2,020
3	Bucks County (c)	33,918	33,824	10,216	239	718	11,173
4	Cheltenham	18,687	18,647	3,150	441	1,402	4,993
5	DELCORA (d)	50,122	49,978	10,750	250	762	11,762
6	Lower Merion	17,034	16,990	2,813	(a)	(a)	2,813
7	Lower Moreland	3,156	3,150	754	74	237	1,065
8	Lower Southampton (e)	22,909	22,874	2,379	518	1,718	4,615
9	Springfield (less Wyndmoor)	7,110	7,095	1,705	169	533	2,407
10	Springfield (Wyndmoor)	1,440	1,387	282	33	108	423
11	Upper Darby (b)	19,503	19,456	4,254	53	195	4,501
12	Total	$ 191,530	$ 191,008	$ 39,643	$ 1,943	$ 6,193	$ 47,779

(a) It is assumed that Bensalem, Lower Merion and Upper Darby contribute their entire allocated plant investment, and therefore, are not allocated any depreciation expense or return on investment.
(b) Bensalem and Upper Darby allocated Return on Investment and Depreciation Expense based on assets in service after 6/30/2023.
(c) Bucks County allocated Return on Investment and Depreciation Expense based on assets in service after 6/30/2007.
(d) DELCORA allocated Return on Investment and Depreciation Expense based on assets in service after 7/1/2011.
(e) Lower Southampton phased into Return on Investment and Depreciation Expense on total rate base uniformly over18 years staring in FY 2007.

As of the beginning of FY 2025, Lower Merion is the only wholesale customer providing upfront annual capital contributions associated with applicable plant improvements. Therefore, there is no cost-of-service allocation of depreciation or return on rate base for Lower Merion.

Bucks County, DELCORA, Bucks County (Bensalem), Upper Darby, and Lower Southampton were initially capital contribution-based customers. However, their current contracts reflect the utility basis for the recovery of allocated capital investment.

The allocation of return and depreciation, presented in Table 7-17, reflects the terms of the current contracts for these customers. The depreciation expense presented in Column 4 reflects 2% of the depreciable investment in the collection system and 2.5% of the depreciable investment in treatment and pumping facilities. The corresponding table for Test Year 2 (FY 2027) is provided as Appendix I Table 25.

7.9 Distribution of Costs to Customer Types

As a basis for estimating the cost of providing wastewater service to each customer type, we distribute each functional component cost among the customer types in proportion to their respective service requirements for each of those cost components.

We perform the following key steps to allocate the Sanitary Sewer Retail Capital and O&M Costs to the various customer types:

- **Retail: Determination of Sanitary Sewer Unit Costs of Cost Components**
    - The retail test year unit cost, for each of the cost components, is summarized on Table 7-18 and derived as follows:
        - Divide the operational and capital costs allocated to each cost component by the respective retail units of service.
    - Derive the total Retail unit cost for each cost component as follows:
        - Total Retail Unit Cost = Operation Expense unit cost + Depreciation Expense unit cost + Inside City Return on Plant Investment unit cost.
- **Retail: Distribution of Sanitary Sewer Costs to Customer Types**
    - The Wastewater test year COS is distributed to each customer type as follows:
        - Applying the total unit cost of each cost component to the corresponding units of service of each customer type as presented on Table 7-19; and
        - Reapportioning the Pumping & Treatment related I&I Costs between Sanitary Sewer and Stormwater as shown on Table 7-20.

7.9.1 Infiltration/Inflow Adjustments

The cost of service allocable to I/I must be distributed among the retail service customer types. As in the case of the allocation of stormwater costs, the relative customer type responsibility for I/I cost can neither be precisely measured, nor can it be directly associated with the parameters of sanitary wastewater service.

Table 7-18 Test Year 1 Retail Unit Costs of Service

LINE NO.	DESCRIPTION	(1) TOTAL	(2) COLLECTION SYSTEM PUMPING STATION VOLUME	(3) COLLECTION SYSTEM PUMPING STATION CAPACITY	(4) SANITARY SEWERS CAPACITY	(5) STORMWATER	(6) WATER POLLUTION CONTROL PLANTS VOLUME	(7) WATER POLLUTION CONTROL PLANTS CAPACITY	(8) WATER POLLUTION CONTROL PLANTS SUSPENDED SOLIDS	(9) WATER POLLUTION CONTROL PLANTS BOD
Retail Sanitary Sewer										
	Total Units of Service									
1	Units	$000s	Mcf	Mcf/day	Mcf/day		Mcf	Mcf/day	1,000 lbs.	1,000 lbs.
2	Quantity		17,205,000	102,795	316,908		17,205,000	102,795	175,421	118,346
	Operation and Maintenance Expense									
3	Total Expense - $000s	$ 335,492	$ 4,574	$ 22,875	$ 51,493	$ 99,617	$ 39,642	$ 23,997	$ 57,338	$ 35,956
4	Unit Expense - $/unit		0.2659	222.5342	162.4850		2.3041	233.4452	326.8594	303.8222
	Capital Costs									
5	Total Plant Investment - $000s	2,818,627		22,918	802,056	1,425,878	145,114	102,493	182,009	138,159
6	Unit Plant Investment - $/unit			222.9486	2,530.8803		8.4344	997.0621	1,037.5560	1,167.4206
7	Depreciable Plant Investment - $000s	2,808,000		22,918	801,403	1,424,716	142,186	100,259	180,086	136,433
8	Unit Depreciable Plant Investment - $/unit			222.9486	2,528.8175		8.2642	975.3295	1,026.5938	1,152.8362
9	Depreciation Expense - $000s	59,069		573	16,028	28,494	3,555	2,507	4,502	3,411
10	Unit Depreciation Expense - $/unit			5.5737	50.5764		0.2066	24.3832	25.6648	28.8209
	Unit Return on Investment									
11	Total Return - $000s (a)	109,312		889	31,105	55,298	5,628	3,975	7,059	5,358
12	Inside City - $/Unit (a)			8.6464	98.1524		0.3271	38.6680	40.2384	45.2748
	Total Unit Capital Costs									
13	(Line 10 + Line 12) - $/unit			14.2201	148.7288		0.5337	63.0512	65.9032	74.0957
	Total Unit Costs of Service									
14	Inside City (Line 4 + Line 13) - $/unit		$ 0.2659	$ 236.7543	$ 311.2138		$ 2.8378	$ 296.4964	$ 392.7626	$ 377.9179

(a) Retail rate of return = Retail allocation of Return on Investment / Retail Allocation of System Plant Investment = $109,311,900 / $2,818,627,000 = 3.8782 %.

Table 7-18 Test Year 1 Retail Unit Costs of Service (continued)

LINE NO.	DESCRIPTION	(10)	(11)	(12)	(13)	(14)	(15)
		CUSTOMER COSTS			INDUSTRIAL WASTE UNIT		
		METER	BILLING		RETAIL	DIRECT EXTRA STRENGTH	DIRECT
		COSTS	SANITARY	STORMWATER	CUSTOMERS	WASTEWATER	STORMWATER
Retail Sanitary Sewer							
	Total Units of Service						
1	Units	Eq. Meters	Eq. Bills		Eq. Meters		
2	Quantity	635,734	6,171,484		635,734		
	Operation and Maintenance Expense						
3	Total Expense - $000s	$ 5,092	$ 20,967	$ 13,231	$ 4,098	$ 2,052	$ -
4	Unit Expense - $/unit	8.0096	3.3974		6.4461		
	Capital Costs						
5	Total Plant Investment - $000s						
6	Unit Plant Investment - $/unit						
7	Depreciable Plant Investment - $						
8	Unit Depreciable Plant Investment - $/unit						
9	Depreciation Expense - $000s						
10	Unit Depreciation Expense - $/unit						
	Unit Return on Investment						
11	Total Return - $000s						
12	Inside City - $/Unit (a)						
	Total Unit Capital Costs						
13	(Line 10 + Line 12) - $/unit						
	Total Unit Costs of Service						
14	Inside City (Line 4 + Line 13) - $/unit	$ 8.0096	$ 3.3974		$ 6.4461	$ -	

(a) Retail rate of return = Retail allocation of Return on Investment / Retail Allocation of System Plant Investment = $109,311,900 / $2,818,627,000 = 3.8782 %.

Table 7-19 Test Year 1 Wastewater Retail Costs of Service

LINE NO.	CUSTOMER TYPE	(1) ALLOCATED COST OF SERVICE	(2) COLLECTION SYSTEM PUMPING VOLUME	(3) COLLECTION SYSTEM PUMING CAPACITY	(4) COLLECTION SYSTEM SEWER CAPACITY	(5) TREATMENT VOLUME	(6) TREATMENT CAPACITY	(7) TREATMENT SUSPENDED SOLIDS	(8) TREATMENT BOD	(9) CUSTOMER METER	(10) CUSTOMER BILLING & COLLECTION	(11) INDUSTRIAL WASTE SURCHARGE	(12) INDUSTRIAL WASTE METER
	Retail Service ($000s)												
1	Residential	$ 87,754	$ 726	$ 2,657	$ 9,312	$ 7,749	$ 3,327	$ 20,077	$ 19,318	$ 3,752	$ 17,816	$ -	$ 3,019
2	Commercial	40,728	429	1,571	5,505	4,581	1,967	11,869	11,420	885	1,789	-	712
3	Industrial	1,718	18	67	237	197	85	511	491	33	51	-	27
4	Public Utilities	352	4	13	46	39	17	100	96	12	14	-	10
5	Senior Citizens	3,885	31	112	392	326	140	845	813	178	905	-	143
6	Wastewater Only	1,436	16	60	210	175	75	452	435	4	5	-	3
7	Groundwater	3,181	54	332	1,397	581	416	352	48	-	-	-	-
8	Surcharge	8,085	-	-	-	-	-	853	5,180	-	-	2,052	-
9	Housing Authority	3,427	35	129	451	376	161	973	936	72	235	-	58
10	Charities & Schools	3,404	36	131	459	382	164	990	952	100	109	-	80
11	Hospital/University	2,542	29	105	367	306	131	792	762	19	15	-	16
12	Hand Billed	5,153	58	213	746	621	267	1,609	1,548	36	27	-	29
13	Water Treatment Plant Sludge	12,278	78	285	999	831	357	9,729	-	-	-	-	-
14	Private Fire	31	0	1	5	4	1	10	9	0	0	-	0
15	Scheduled (Flat Rate)	0	0	-	-	0	-	-	-	0	0	-	0
16	Conveyance	78,498	-	-	78,498	-	-	-	-	-	-	-	-
17	Pumping & Treatment	100,201	3,059	18,662	-	32,658	23,370	19,738	2,713	-	-	-	-
18	**Total**	**$ 352,673**	**$ 4,574**	**$ 24,337**	**$ 98,626**	**$ 48,825**	**$ 30,478**	**$ 68,899**	**$ 44,725**	**$ 5,092**	**$ 20,967**	**$ 2,052**	**$ 4,098**

(a) Annual Cost of Service by component for each customer type based on the customer type units of service (Table 7-3) and the total unit cost for each component (Tables 7-16).

Table 7-20 Test Year 1 Wastewater Adjusted Costs of Service

LINE NO.	CUSTOMER TYPE	(1) ALLOCATED COST OF SERVICE	(2) RE-ALLOCATION OF I/I (a) SANITARY SEWER	(3) RE-ALLOCATION OF I/I (a) STORMWATER	(4) ADJUSTED COST OF SERVICE	(5) DISCOUNTS	(6) ADJUSTED COST OF SERVICE W/ DISCOUNTS	(7) RECOVERY OF DISCOUNTS (b)	(8) ADJUSTED COST OF SERVICE
	Retail Service ($000s)								
1	Residential	$ 87,754	$ 79,545	$ -	$ 167,299	$ -	$ 167,299	$ 2,900	$ 170,199
2	Commercial	40,728	40,859		81,587		81,587	1,414	83,001
3	Industrial	1,718	1,737		3,455		3,455	60	3,514
4	Public Utilities	352	368		719		719	12	732
5	Senior Citizens	3,885	3,441		7,326	(1,831)	5,494	95	5,590
6	Wastewater Only	1,436	1,420		2,856		2,856	50	2,906
7	Groundwater	3,181	-		3,181		3,181	55	3,236
8	Surcharge	8,085	-		8,085		8,085	140	8,225
9	Housing Authority	3,427	3,350		6,777	(339)	6,438	112	6,550
10	Charities & Schools	3,404	3,529		6,933	(1,733)	5,200	90	5,290
11	Hospital/University	2,542	2,543		5,085	(1,271)	3,813	66	3,880
12	Hand Billed	5,153	5,149		10,302		10,302	179	10,481
13	Water Treatment Plant Sludge	12,278	6,669		18,947		18,947	-	18,947
14	Private Fire	31	31		62		62	1	63
15	Scheduled	0	1		1		1	0	1
16	Conveyance	78,498	(78,498)						
17	Pumping & Treatment	100,201	(70,141)	(30,060)	-	-	-	-	-
18	**Total**	**352,673**	**-**	**(30,060)**	**322,613**	**(5,175)**	**317,438**	**5,175**	**322,613**
	Allocation of I/I								
19	Sanitary Sewer	352,673		(30,060)	322,613				
20	Stormwater	-	-	30,060	30,060	-	-	-	-
21	**Total**	**$ 352,673**	**$ -**	**$ -**	**$ 352,673**	**$ -**	**$ -**	**$ -**	**$ -**

(a) 70% of allocated I/I costs are recovered by sanitary sewer rates and charges. 30% of allocated I/I costs are recovered by stormwater rates and charges.

(b) Reflects current policy of recovering discounts from all customer types.

In general, I/I due to leakage in lateral sewers of individual residences would be expected to be less than in the services of individual large commercial or industrial establishments. The greater length, due to larger lot frontage, and greater size of main sewer required for the larger customers would also contribute to potential increased I/I with the size of customer. The number of equivalent meters of each customer type, discussed previously in this report, provides a reasonable means of recognizing both numbers and relative sizes of customers and provides a measure of customer type responsibility for I/I cost.

Columns 3 and 4 of Table 7-20 reflect the redistribution of the cost of I/I to the other customer types based upon equivalent meters and volume. In accordance with the prior rate proceeding decisions, the COS and rate design for the current study reflects a 30% recovery of pumping and treatment related I/I costs through the service charge and 70% through the volume charge.

7.9.2 Discounts

The proposed COS reflects the continuation of the current practice of providing discounts to the following customer types:

- Senior Citizens, and Charities and Schools customer types are billed at 75% of the general customer rate levels.
- The PHA is billed at 95% of general customer rate levels.

The revenue reduction resulting from the discounts is recovered from all inside City retail customer types to recover the total test year COS for retail customers.

Column 8 of Table 7-20 presents the adjusted COS of the inside City customer types. This adjusted COS recognizes the fee reduction due to discounts and the recovery of those discounts from all customer types.

7.10 Stormwater Cost of Service Allocations

Stormwater management and related costs are an integral component of the Water Department's Wastewater System costs. We have already discussed in detail the Wastewater System COS allocations between sanitary sewer and stormwater, and the associated rationale for each allocation.

7.10.1 Test Year Revenue Requirements

The following is a summary of the key allocation factors used in determining the stormwater revenue requirements.

- **Conveyance O&M Cost Allocation**: As discussed earlier in Section 7.5.1, 60% of the sewer collection system maintenance and GSI maintenance costs are allocated to stormwater and 40% to sanitary sewer.
- **Conveyance Capital Cost Allocation**: As discussed in Section 7.6.1, 64% of the sewer collection system capital cost is allocated to stormwater and 36% to sanitary sewer based on a cost weighted pipe capacity analysis.
- **Pumping & Treatment O&M and Capital Cost**: A portion of the retail pumping and treatment component cost is allocated to Infiltration and Inflow. Affirmed in prior rate proceedings, the Infiltration and Inflow cost is allocated 70% to sanitary sewage and 30% to stormwater services based on the ratio of average dry weather flow to average wet weather flow.

- **Customer Costs**: The allocation approach used in allocating customer costs to stormwater is consistent with the method used in the previous general rate proceeding. The customer costs are first allocated one-third to water service and two-thirds to the wastewater service (as wastewater includes sanitary sewer and stormwater). The wastewater customer costs less the metering costs are further allocated 61% to sanitary sewer and 39% to stormwater services based on the relative revenue requirement levels between the two services.

Table 7-21 presents the total FY 2026 stormwater revenue requirements. Based on the detailed technical cost allocations, the estimated FY 2026 stormwater revenue requirements are $226.7 million excluding stormwater Customer Assistance Program (CAP) costs.

Table 7-21 Summary of Test Year 1 Stormwater Costs

LINE NO.	COST COMPONENT	(1) ALLOCATED COST OF SERVICE
Stormwater ($000s)		
1	Billing & Collection Costs	13,231
2	Impervious Area and Gross Area Costs *(Excluding CAP Costs)*	213,470
3	**Total**	**226,701**

7.10.2 Allocation to Customer Types

To delineate the stormwater management costs from the balance of annual wastewater costs, a multi-step cost allocation approach was used to allocate the Test Year 1 stormwater costs to various customer types. The framework we used is outlined below:

- Allocate SWMS costs (i.e., impervious area and gross area costs) presented in Table 7-22, to their respective charge components.
    - As established in the 2009 Rate Determination, the SWMS charge costs are allocated 20% to GA and 80% to IA.
    - The GA and IA costs are divided by the total GA and IA units of service to determine the System Wide Unit Costs for GA and IA. The resulting System Wide Unit Costs for GA and IA are summarized on Line 3, Table 7-22.
    - System-Wide Unit Costs for GA and IA reflect overall reductions in billable GA and IA, resulting from credits and other adjustments; therefore, the recovery of these reductions is shared by all stormwater customers as reflected in the System-Wide Units Costs for GA and IA. Refer to Schedule BV-4: WP-4 Cost Recovery Approach of various customer assistance programs (including stormwater credits).
- Distribute GA and IA costs to Residential and Non-Residential Customer Types.
    - Residential GA and IA costs of service are calculated by applying the system-wide unit costs presented in Table 7-22 to the estimated residential billable GA and IA units of service (Table 6-7 and Table 6-8).
    - The initial Non-residential GA and IA costs of service are calculated as the total GA and IA COS less residential GA and IA costs of service. The resulting Non-Residential costs

are then adjusted to account for the Stormwater CAP costs, which are also assigned to 20% to GA and 80% to IA.

    - Table 7-23 shows the results of this step.

- Determine the GA and IA COS rates prior to discount and lag factor adjustments.
    - Residential Monthly GA and IA Unit rates are then calculated to reflect:
        - Residential customers are billed a uniform fee per parcel based upon the mean residential IA and GA.
        - As previously noted, based upon the updated Stormwater Billing Data the mean residential GA square footage is 2,100 square feet and the mean residential IA is 1,190 square feet.
        - The System-Wide GA and IA unit costs are applied to the mean residential GA and IA respectively and then summed to calculate the resulting stormwater management service charge per parcel.
    - Non-residential customers GA and IA unit costs are calculated to account for the recovery of stormwater CAP costs (presented in Table 7-23) by dividing the Adjusted Non-Residential COS by the respective GA and IA billable units of service.
    - Table 7-24 shows the results of the above steps.
- Allocate Billing & Collection costs to Residential and Non-Residential Customers.
    - Billing & Collection costs are allocated to Residential and Non-Residential customers based on the weighted number of billable accounts.
    - As with prior rate determinations, a cost weighting factor of 1.3 is assigned to calculate the billing & collection charges for non-residential accounts due to the additional time and effort needed to address billing issues and parcel data issues for non-residential class, as the charges are individually calculated for each parcel and the corresponding billing and collection unit costs.
    - The resulting monthly billing & collection unit cost by customer type are presented in Table 7-25.
- Determine “Adjusted Stormwater Cost of Service” by Customer Type after re-apportioning revenue reduction due to discounts to customer types. Table 7-26 illustrates the recovery of discounts.

The adjusted Stormwater COS determined for each retail customer type provides the basis for the design of the Stormwater Rates and Charges for the test year. Schedule BV-4: WP-3 provides additional information regarding the development of the stormwater units of service for the analysis conducted herein.

Table 7-22 Test Year 1 Estimate of GA and IA Unit Costs Adjusted for CAP

LINE NO.	DESCRIPTION		(1) GA		(2) IA		(3) TOTAL
			20%		80%		
1	Annual Cost of Service ($ 1000) from GA & IA **(Excluding CAP)**	$	42,694	$	170,776	$	213,470
2	Stormwater Units of Service (500 Square Feet)		4,128,071		2,349,222		
3	System **Annual** Unit Cost ($/500 Square Feet)		10.34		72.70		
4	System **Monthly** Unit Cost ($/500 Square Feet)	$	0.862	$	6.058		

Table 7-23 Test Year 1 Estimate of Customer Type GA and IA COS Adjusted for CAP

LINE NO.	DESCRIPTION		(1) GA		(2) IA		(3) TOTAL
Stormwater ($000s)							
	RESIDENTIAL						
1	Residential Cost of Service (a)	$	20,179	$	80,381	$	100,560
	NON-RESIDENTIAL						
2	Initial Non-Residential Cost of Service (b)		22,515		90,395		112,910
3	Adjustment for CAP (c)		113		452		565
4	Adjusted Non-Residential Cost of Service		22,628		90,847		113,475
5	Total GA & IA Cost of Service	$	42,807	$	171,228	$	214,035

(a) Calculated as Residential GA and IA square footage times the GA and IA unit cost.
(b) Total GA and IA Cost of Service LESS Residential cost of service.
(c) To recover Non-residential CAP Loss from the Non-residential stormwater customer class.

Table 7-24 Test Year 1 Estimate of Customer Type GA and IA COS Rates Prior to Discount and Lag Factor Adjustments

Line No.	DESCRIPTION		(1) GA		(2) IA		(3) Total
GA and IA Cost of Service Rates							
1	Residential **Monthly** GA & IA Charge (a)	$	3.62	$	14.42	$	18.04
2	Non-Residential **Monthly** GA & IA Unit Cost (Adjusted for CAP)		0.866		6.088		
3	Impact of CAP on Non-Residential GA & IA Rate	$	0.004	$	0.030		

(a) Calculated based on Residential Mean GA (2,100 sf) and Mean IA (1,190 sf).

Table 7-25 Test Year 1 Stormwater Billing and Collection Unit Costs

LINE NO.	DESCRIPTION	UNITS	(1) TEST YEAR
1	Stormwater Billing & Collection Annual Revenue Requirements	$	13,231,301
2	Monthly Billable Accounts: Residential	# Accounts	466,910
3	Non-Residential Cost Weighting Factor (a)		1.3
4	Weighted Monthly Billable Accounts: Non-Residential	# Accounts	108,347
5	Total Weighted Monthly Billable Accounts (Line 2+ Line 4)	# Accounts	575,257
6	Annual Billable Accounts: Residential (Line 2 x 12)	# Accounts	5,602,920
7	Weighted Annual Billable Accounts: Non-Residential (Line 4 x 12)	# Accounts	1,300,166
8	Total Weighted Annual Billable Accounts (Line 6 + Line 7)	# Accounts	6,903,086
9	Residential Billing & Collection Unit Cost per Billing Cycle	$/Unit	1.92
10	Non-Residential Billing & Collection Unit Cost per Billing Cycle (Line 9 x Line 3)	$/Unit	2.50

(a) A higher weighting factor is assigned to non-residential due to the additional time and effort needed to address billing issues and parcel data issues for non-residential class, as the charges are individually calculated for each parcel.

Table 7-26 Test Year 1 Stormwater Adjusted Costs of Service After Discounts

LINE NO.	CUSTOMER TYPE	(1) ALLOCATED COST OF SERVICE (a)	(2) DISCOUNTS	(3) ADJUSTED COST OF SERVICE WITH DISCOUNTS	(4) RECOVERY OF DISCOUNTS ALL (b)	(5) ADJUSTED COST OF SERVICE
Stormwater ($)						
	Residential					
1	Non-Discount	$ 105,186,821	$ -	$ 105,186,821	$ 1,987,016	$ 107,173,838
2	Discount - Non-PHA	5,256,207	(1,314,052)	3,942,155	74,469	4,016,624
3	Discount - PHA	889,454	(44,473)	844,982	15,962	860,944
	Non-Residential					
4	Non-Discount	99,322,414		99,322,414	1,876,236	101,198,650
5	Discount - Non-PHA	10,934,642	(2,733,661)	8,200,982	154,919	8,355,901
6	Discount - PHA	1,662,271	(83,114)	1,579,157	29,831	1,608,988
	Condominiums					
7	Non-Discount	3,886,726		3,886,726	73,422	3,960,147
8	Discount - Non-PHA	154,856	(38,714)	116,142	2,194	118,336
9	Discount - PHA	1,124	(56)	1,068	20	1,088
10	Total	**$ 227,294,515**	**$ (4,214,069)**	**$ 223,080,447**	**$ 4,214,069**	**$ 227,294,515**

Notes:
(a) Non-Residential Customer cost of service includes the cost of CAP.
(b) Reflects current policy of recovering discounts from all customer classes.

Table 7-27 and Table 7-28 compare the total adjusted COS for each customer type to their respective revenues under existing rates for sanitary sewer and stormwater, respectively. The indicated increase or decrease in the revenue required to meet the adjusted COS is shown in Column 3 of each table.

Table 7-27 Test Year 1 Distribution of Sanitary Sewer COS to Customer Types

LINE NO.	CUSTOMER TYPE	(1) REVENUE UNDER EXISTING RATES	(2) ADJUSTED COST OF SERVICE	(3) INDICATED INCREASE (DECREASE) REQUIRED
	Retail Service ($000s)			
1	Residential	142,578	170,199	19.4%
2	Commercial	60,458	83,001	37.3%
3	Industrial	2,199	3,514	59.8%
4	Public Utilities	438	732	67.2%
5	Senior Citizens	4,408	5,590	26.8%
6	Wastewater Only	4,687	2,906	-38.0%
7	Groundwater	2,576	3,236	25.6%
8	Surcharge	6,286	8,225	30.8%
9	Housing Authority	5,496	6,550	19.2%
10	Charities & Schools	3,695	5,290	43.2%
11	Hospital/University	1,465	3,880	164.8%
12	Hand Billed	14,451	10,481	-27.5%
13	Private Fire	3	63	1717.8%
14	Scheduled	3	1	-69.4%
15	**Total Retail Service**	**248,743**	**303,666**	22.1%
16	Total Wholesale	35,924	53,208	48.1%
17	**Total System**	**284,667**	**356,874**	25.4%

Table 7-28 Test Year 1 Distribution of Stormwater COS to Customer Types

LINE NO.	CUSTOMER TYPE	(1) REVENUE UNDER EXISTING RATES	(2) ADJUSTED COST OF SERVICE	(3) INDICATED INCREASE (DECREASE) REQUIRED
Stormwater ($000)				
	Residential			
1	Non-Discount	$ 91,491	$ 107,174	17.1%
2	Discount - Non-PHA	3,385	4,017	18.7%
3	Discount - PHA	782	861	10.1%
	Non-Residential			
4	Non-Discount	83,922	101,199	20.6%
5	Discount - Non-PHA	7,736	8,356	8.0%
6	Discount - PHA	1,303	1,609	23.4%
	Condominiums			
7	Non-Discount	3,248	3,960	21.9%
8	Discount - Non-PHA	102	118	16.5%
9	Discount - PHA	1	1	17.2%
10	Total	$ 191,970	$ 227,295	18.4%

8.0 Wastewater System Rate Design

The revenue requirement and COS analyses described in the preceding sections of this Report provide a basis for the review and update of a schedule of sanitary sewer and stormwater rates that recover allocated COS. These studies are the results of engineering estimates, consideration of historical data and, to some extent, judgment, and experience. Judgment must enter the final choice of rates, and factors such as public reaction to the extent of changes and adjustments, previous rate levels, contractual agreements, and past local practice are recognized in making rate adjustments.

Rates should be reasonably simple in application and subject to as few misinterpretations as possible. Considerations regarding the proposed rate adjustments reflect discussions with the Water Department staff and include the above considerations and the desire of the Water Department to maintain the existing structure for the Rate Period. This Report proposes sanitary sewer and stormwater user rates in accordance with these considerations.

The cost-of-service analysis described in the preceding section of this Report provides the basis for the design of sanitary sewer and stormwater rate schedules to cover the allocated cost for service for the Wastewater System.

The proposed charges for sanitary sewer service derived in this Report are applicable to General Service retail customers and recognize that certain retail customer types, including senior citizens, charities and schools, and the PHA, receive services at a discounted rate. Similarly, the proposed charges for stormwater derived in this Report are applicable to Retail Residential, Non-residential and Condominium stormwater customers and recognize these same discounts. The Water Department anticipates that the existing discounts (25% for senior citizens, charities and schools, and 5% for PHA) will continue to be applicable for the entire Study Period.

In designing the proposed rates, we adjust the wastewater costs of service determined for each customer type to reflect the fact that these customer types will not pay full COS. Accordingly, we increase the proposed retail sanitary sewer and stormwater rates to recover this cost-of-service revenue reduction due to discounts.

Similar to the situation for water rates, the cost-of-service wastewater rates that are designed for Test Year-1 requires the application of a lag factor. The lag factor is calculated to recover only the anticipated receipts of the prorated revenue increase projected for FY 2026, recognizing the normally expected historical payment patterns. A lag factor of 1.051 is applied to the FY 2026 sanitary sewer and stormwater COS rates.

8.1 Proposed Sanitary Sewer Rates

The proposed sanitary sewer rates are designed based on the unit costs of service developed for the cost-of-service analysis. Since the sanitary sewer quantity charges are based on the water consumption volume, the unit costs of service are adjusted to eliminate the return factor reflected in the cost-of-service analysis. Table 8-1 presents the Unit Costs of Service adjusted for the basis of rate design. Column 2 of Table 8-1 presents the Unit Costs of Service developed for the wastewater cost-of-service analysis (Line 14 of Table 7-18). Columns 3 to 5 present the adjustment factors to account for discounts and billed water consumption. Column 6 presents the adjusted unit costs of service for rate design.

Table 8-1 Test Year 1 Inside City Retail Service Unit COS for Rate Design

LINE NO.	COST COMPONENT	(1) UNITS	(2) UNADJUSTED UNIT COST	(3) COS DEFICIT RECOVERY FACTOR	(4) BILLING UNITS CONVERSION FACTOR	(5) TOTAL ADJUSTMENT FACTOR	(6) ADJUSTED UNIT COST
	Inside City Retail Service		$/Unit				$/Unit
	Collection System						
	Pumping Station						
1	Volume	Mcf	0.2659	1.0173	0.95	0.9664	0.2570
2	Capacity	Mcf/day	236.7543	1.0173	0.95	0.9664	228.7994
3	Sanitary Sewers - Capacity	Mcf/day	311.2138	1.0173	0.95	0.9664	300.7570
	WPC Plants						
4	Volume	Mcf	2.8378	1.0173	0.95	0.9664	2.7424
5	Capacity	Mcf/day	296.4964	1.0173	0.95	0.9664	286.5341
6	Suspended Solids	1,000 lbs	392.7626	1.0173	1.00	1.0173	399.5574
7	BOD	1,000 lbs	377.9179	1.0173	1.00	1.0173	384.4559
	Customer Costs						
8	Meter Costs	Eq. Meters	8.0096	1.0173	1.00	1.0173	8.1482
	Billing Costs						
9	Sanitary	Eq. Bills	3.3974	1.0173	1.00	1.0173	3.4562
10	Industrial Waste Unit - Retail	Eq. Meters	6.4461	1.0173	1.00	1.0173	6.5576
11	Infiltration/Inflow - Customer Related	Eq. Meters	37.0429	1.0173	1.00	1.0173	37.6837
12	Infiltration/Inflow - Volume Related	Volume	22.7764	1.0173	0.95	0.9664	22.0111

Mcf - Thousand cubic feet
lbs - pounds

Table 8-2 and Table 8-3 illustrate the development of the cost-of-service monthly service charge for customers with a 5/8-inch meter and the quantity charge for normal strength sanitary wastewater. Table 8-4 presents the proposed sanitary sewer rates for General Service customers applicable for Test Year 1 and Test Year 2. The proposed rates reflect a continuation of the existing rate structure, including a service charge which varies by meter size and a uniform quantity charge.

Table 8-2 Test Year 1 Development of Cost-of-Service Monthly Service Charge for 5/8-inch Meter Customer

LINE NO.	COST COMPONENT	(1) UNITS	(2) ADJUSTED UNIT COST ($/unit)	(3) NUMBER OF UNITS		(4) TOTAL COST ($)
	Sanitary Sewer					
	Customer Costs					
1	Meter Costs	Eq. Meter	0.6790	1.0	$	0.6790
2	Billing Costs	Eq. Bills	3.4562	1.0		3.4562
3	Industrial Waste Unit	Eq. Meter	0.5465	1.0		0.5465
4	Infiltration/Inflow Costs - Sanitary	Eq. Meter	3.1403	1.0		3.1403
5	**Total Service Charge (a)**					**7.8220**
6	**Total Service Charge - Rounded (a)**				**$**	**7.82**

(a) Prior to lag factor.

Table 8-3 Test Year 1 Development of Cost-of-Service Quantity Charge for Normal Strength Sanitary Wastewater

LINE NO.	COST COMPONENT	(1) UNITS	(2) ADJUSTED UNIT COST ($/unit)	(3) NUMBER OF UNITS	(4) TOTAL COST ($)
Sanitary Sewer					
	Collection System				
	Pumping Stations				
1	Volume	Mcf	0.2570	1.0000	$ 0.2570
2	Capacity (a)	Mcf/day/mo.	19.0666	0.0493	0.9400
3	Sanitary Sewers: Capacity (b)	Mcf/day/mo.	25.0631	0.1316	3.2983
	Water Pollution Control Plants				
4	Volume	Mcf	2.7424	1.0000	2.7424
5	Capacity (a)	Mcf/day/mo.	23.8778	0.0493	1.1772
6	Suspended Solids (c)	1,000 lbs	399.5574	0.0187	7.4717
7	BOD (d)	1,000 lbs	384.4559	0.0187	7.1893
8	**Total Cost per Mcf**				**23.0759**
9	Infiltration/Inflow Cost	Mcf	22.0111	1.0000	22.0111
10	**Total Cost + Infiltration/Inflow per Mcf (e)**				**45.0870**
11	**Total Cost per Mcf - Rounded (e)**				**$ 45.09**

(a) (1.0 Mcf * 1 month/30.4 days) * 1.5
(b) (1.0 Mcf * 1 month/30.4 days) * 4.0
(c) 1.0 Mcf @ 300 mg/l
(d) 1.0 Mcf @ 300 mg/l
(e) Prior to lag factor.

[This spacing is intentional]

Table 8-4 Proposed Test Year 1 (FY 2026) and Test Year 2 (FY 2027) General Service Sanitary Sewer Rates [Schedule BV-1: Table C-12]

LINE NO.	METER SIZE (inches)	(1) FY 2026 MONTHLY CHARGE	(2) FY 2027 MONTHLY CHARGE
	METER BASED SERVICE CHARGE ($/month)		
1	5/8	8.22	8.84
2	3/4	10.52	11.36
3	1	15.47	16.77
4	1 1/2	27.30	29.74
5	2	42.16	45.98
6	3	76.09	83.12
7	4	129.24	141.07
8	6	254.85	278.34
9	8	403.41	440.78
10	10	582.16	636.00
11	12	1,059.17	1,158.44

LINE NO.	DESCRIPTION	FY 2026 CHARGE	FY 2027 CHARGE
	QUANTITY CHARGE ($/Mcf)		
12	All billable water usage	47.39	50.66
13	Groundwater Charge	16.33	17.47
	SURCHARGE RATES ($/lb)		
14	BOD (excess of 250 mg/l)	0.514	0.537
15	SS (excess of 350 mg/l)	0.535	0.555
	SEPTIC HAULER RATES ($/1,000 gallons)		
16	Sanitary Wastewater Delivered to WPCP (a)	76.10	79.23

Notes: (a) Based on BOD and SS Loading of 9,000 mg/l.

8.2 Proposed Stormwater Rates

Table 8-5 illustrates the development of the Test Year 1 proposed rates for stormwater service. The proposed rates include recovery of provided discounts and application of the lag factor based upon the adjusted COS presented in Table 7-26.

Table 8-6 and Table 8-7 summarize the FY 2026 and FY 2027 proposed stormwater rates for residential and non-residential customers respectively.

Table 8-5 Development of Test Year 1 Stormwater COS Rates

LINE NO.	SERVICE TYPE	(1) COST OF SERVICE RATE	(2) DISCOUNT RECOVERY FACTOR	(3) COST OF SERVICE RATE	(4) LAG FACTOR ADJUSTMENT	(5) PROPOSED RATE
Stormwater ($)						
	Billing & Collection Charge					
1	Residential	$ 1.92	1.019	$ 1.96	1.051	$ 2.06
2	Non-Residential	2.50	1.019	2.54	1.051	2.67
3	Condominiums	2.50	1.019	2.54	1.051	2.67
	IA/GA Charge					
4	Residential	18.04	1.019	18.38	1.051	19.32
	Non-Residential					
5	IA Charge	6.088	1.019	6.203	1.051	6.519
6	GA Charge	0.866	1.019	0.882	1.051	0.927
	Condominiums					
7	IA Charge	6.088	1.019	6.203	1.051	6.519
8	GA Charge	$ 0.866	1.019	$ 0.882	1.051	$ 0.927

Notes: Non-Residential and Condominium have the same Billing & Collection and GA/IA rate

Table 8-6 Proposed Test Year 1 (FY 2026) and Test Year 2 (FY 2027) Residential Stormwater Rates [Schedule BV-1: Table C-13]

LINE NO.	DESCRIPTION	(1) FY 2026 MONTHLY CHARGE	(2) FY 2027 MONTHLY CHARGE
Residential Stormwater Service			
Stormwater Mangement Service Charge ($/month/parcel)			
1	Charge Per Parcel	$ 19.32	$ 21.27
Billing and Collection Charge ($/bill)			
2	Charge Per Bill	$ 2.06	$ 2.22

Table 8-7 Proposed Test Year 1 (FY 2026) and Test Year 2 (FY 2027) Non-Residential Stormwater Rates [Schedule BV-1: Table C-13]

LINE NO.	DESCRIPTION	(1) FY 2026 MONTHLY CHARGE	(2) FY 2027 MONTHLY CHARGE
Non-Residential Stormwater Service			
Stormwater Mangement Service Charge			
1	Min Charge	$ 19.32	$ 21.27
2	GA (per 500 sf)	$0.927	$1.021
3	IA (per 500 sf)	$6.519	$7.176
Billing and Collection Charge ($/bill)			
4	Charge Per Bill	$2.67	$ 2.89

9.0 Findings and Conclusions

Based on the analyses presented in this Report, adjustments in PWD rates are needed in FY 2026 and FY 2027. Simply put, the Water Department faces an operating deficit in FY 2026 and FY 2027. Additional revenues are needed to address both (i) under-performing revenues and (ii) increasing costs in FY 2026 and FY 2027. The combination of these two issues is driving the Water Department's request for revenue adjustments.

More specifically, as demonstrated by this Report, the following findings are presented for the Rate Board's consideration:

1. FY 2024 revenues and FY 2025 projected revenues do not allow the Water Department to meet targeted debt service coverage recognized in the 2023 Rate Determination (which are already below the overall goal from the 2018 Rate Determination).

2. RSF balances are below those reflected in the 2023 Rate Determination. This shortfall leaves the Water Department no flexibility to manage revenue adjustments during the Rate Period of FY 2026 and FY 2027.

3. The data assessed in this Report clearly show that the Water Department faces a deficit in FY 2026 and FY 2027.

4. Revenues under existing rates will be insufficient to fund the Combined System needs over the Rate Period and action is needed to offset anticipated reductions in revenues resulting from:

    a. Ongoing reductions in billed water volume;

    b. Continued shifts in system-wide collection rates; and

    c. Influence of TAP credits on near term revenues and available fund balances.

5. The total projected expenses will exceed revenues under existing rates during the Rate Period and will require additional service revenues as recommended in this Report.

    a. Continued investment into the system is needed to upgrade aging infrastructure, meet regulatory requirements, and maintain the system requiring additional revenues.

    b. The Department projects increasing costs for operations (e.g., work force costs, contract services, materials/equipment), for upgrades, repairs, improvements and for maintenance activities (among other things). The majority of these cost increases are unavoidable and involve non-discretionary spending.

6. The Water Department's CIP is budgeted to invest $4.70 Billion into the combined system between now and FY 2030 prior to accounting for inflation.

    a. The Water Department has made significant efforts to obtain the lowest cost financing possible (including grant funding as well as WIFIA and PENNVEST loans).

    b. Revenue bonds will still be the primary funding source for the CIP along with some cash funding.

    c. The majority of the costs included in the Rate Period are related to existing debt.

d. The Department needs additional revenues to meet ongoing capital obligations and debt covenant requirements.

7. To help manage customer bill impacts, and meet the financial obligations and metrics of the Combined System the Water Department proposes the following for the Rate Period:

    a. Temporarily reduce the SMIP/GARP budget by $10 million/year in FY 2025 and FY 2026.

    b. Setting rates to meet the interim senior debt service coverage requirement of 1.27x in FY 2026, instead of the target 1.30 set forth under the 2018 Rate Determination.

    c. Leaving the Rate Stabilization Fund slightly below the $135 million in FY 2026 target under the 2018 Rate Determination.

    d. Deferring the 20% cash funding target for capital projects.

    e. Foregoing a revenue bond issuance in FY 2026, to help manage debt service payments.

8. The Rate Stabilization Fund is projected to achieve the target level by the end of the Rate Period. As the Rate Stabilization Fund target was established in 2018, the Water Department may need to consider proposing an increase in the target level in the future, to recognize the Department's current level of operating expense and provide necessary reserve funding capacity in the event of an emergency or manage future revenue increases.

9. The need for rate action is further illustrated by the Water Department's performance against the financial metrics and targets, if projections hold and rate relief is not granted:

    a. "90% Test" – Would not be met beginning in FY 2027

    b. Senior Debt Service Coverage – Would not be met in FY 2027

    c. The Rate Stabilization Fund balance targets would not be maintained in FY 2026 and would be depleted by the end of FY 2027.

10. Moving forward, lack of sufficient rate revenues may require the Water Department to reduce the existing level of service below current levels and further delay implementation of the capital improvement program. In both instances, this may lead to a lower overall level of service for customers as well as impact overall system performance and potentially jeopardize compliance efforts.

Based on the above, among other factors, explained herein, it is recommended that the proposed water, sanitary sewer and stormwater rates for FY 2026 and FY 2027 be adopted to become effective September 1st of each fiscal year.

Appendices

Appendix A: Accounts and Billed Volume per Account

Number of Accounts and Account Growth

Customer Type	Average Annual Growth			Historical Number of Accounts			
	1 Year	2 Year	3 Year	FY 2021	FY 2022	FY 2023	FY 2024
Senior Citizens (Special Customer Group II)							
5/8" Meter	1.99%	0.33%	-0.03%	22,215	22,052	21,764	22,197
> 5/8" Meter	0.00%	16.77%	23.31%	8	11	15	15
General Service (Residential)							
5/8" Meter	0.79%	-0.10%	0.10%	420,516	422,630	418,466	421,790
> 5/8" Meter	10.01%	10.03%	11.47%	10,962	12,542	13,802	15,183
General Service (Commercial)							
5/8" Meter	0.23%	-0.36%	-0.29%	28,074	28,028	27,762	27,827
> 5/8" Meter	2.64%	3.30%	4.19%	9,177	9,729	10,114	10,381
General Service (Industrial)							
5/8" Meter	-0.21%	-1.51%	-1.53%	509	501	487	486
> 5/8" Meter	1.45%	0.18%	0.91%	543	556	550	558
General Service (Public Utilities)							
5/8" Meter	4.88%	4.34%	4.67%	75	79	82	86
> 5/8" Meter	10.40%	7.69%	9.19%	106	119	125	138
General Service (Excluding Senior Citizens)							
5/8" Meter	0.76%	-0.12%	0.08%	449,174	451,238	446,797	450,189
> 5/8" Meter	6.79%	6.98%	8.10%	20,788	22,946	24,591	26,260
General Service (Including Senior Citizens)							
5/8" Meter	0.82%	-0.10%	0.07%	471,389	473,290	468,561	472,386
> 5/8" Meter	6.78%	6.98%	8.11%	20,796	22,957	24,606	26,275
PHA (Special Customer Group IV)	-1.45%	-1.98%	-1.62%	5,718	5,666	5,524	5,444
Charities & Schools (Special Customer Group I)	-5.73%	-6.74%	-4.96%	1,858	1,834	1,692	1,595
Hospital/University (Special Customer Group III)	3.48%	-7.14%	-5.27%	140	138	115	119
Hand Billed	-2.19%	-1.96%	-1.02%	230	232	228	223
Scheduled	-16.67%	-8.71%	0.00%	5	6	6	5
Fire Service	-1.25%	0.39%	5.55%	5,860	6,837	6,977	6,890
TOTAL	1.03%	0.19%	0.46%	505,996	510,960	507,709	512,937

Appendix B: Stormwater Credit Historical Data

CREDITS FOR NON SURFACE DISCHARGE ELIGIBLE PROPERTIES

Line #	Fiscal Year Ending June 30,	Number of Parcels	Gross Area	Impervious Area	Total Gross Credit	Total Impervious Credit	Open Space GA Credit	IA Managed Credit	GA Managed Credit	IA NPDES Credit	GA NPDES Credit	Parcel Growth/ Change	Open Space GA Credit (Per Parcel)	IA Managed Credit (Avg Per parcel)	GA Managed Credit (Avg per parcel)	IA NPDES Credit (Avg per parcel)	GA NPDES Credit (Avg per parcel)
1	2013	604	223,367,443	61,793,808	84,520,414	17,965,807	67,429,822	11,563,893	10,305,605	-	-		111,639	19,146	17,062	-	-
2	2014	653	257,321,475	76,969,015	94,009,369	20,633,398	55,499,304	12,668,858	11,410,570	-	-	49	84,991	19,401	17,474	-	-
3	2015	670	264,384,894	83,734,431	100,305,627	25,029,525	54,712,505	13,777,050	12,373,766	-	-	17	81,660	20,563	18,468	-	-
4	2016	695	308,606,388	110,633,550	119,638,164	33,170,833	60,658,419	16,434,037	15,025,143	-	-	25	87,278	23,646	21,619	-	-
5	2017	767	348,805,332	118,146,821	138,022,843	33,920,101	72,445,173	15,539,131	14,141,507	-	-	72	94,453	20,260	18,437	-	-
6	2018	823	314,434,590	113,476,770	144,822,988	39,742,752	72,337,150	19,141,871	17,744,247	-	-	56	87,894	23,259	21,560	-	-
7	2019	782	310,134,440	115,126,357	149,679,885	41,344,307	62,542,914	16,212,413	15,425,254	-	-	(41)	79,978	20,732	19,725	-	-
8	2020	813	322,039,967	120,201,957	160,913,257	45,539,961	59,748,724	19,565,431	19,223,758	-	-	31	73,492	24,066	23,645	-	-
9	2021	881	305,691,545	120,195,540	150,962,635	47,627,283	57,891,589	22,690,285	22,031,291	-	-	68	65,711	25,755	25,007	-	-
10	2022	906	347,944,545	132,702,256	188,575,144	54,098,147	56,231,742	22,534,000	21,612,322	-	-	25	62,066	24,872	23,855	-	-
11	2023	902	364,477,381	139,102,824	198,288,318	54,365,813	56,205,913	23,052,224	22,273,964	-	-	(4)	62,313	25,557	24,694	-	-
12	2024	915	344,382,757	121,789,842	193,116,572	55,221,624	55,722,786	24,845,351	23,932,704	-	-	13	60,899	27,153	26,156	-	-
13	5-Yr Average	883	336,907,239	126,798,484	178,371,185	51,370,566	57,160,151	22,537,458	21,814,808	-	-	27	64,896	25,481	24,671	-	-

CREDITS FOR SURFACE DISCHARGE ELIGIBLE PROPERTIES

Line #	Fiscal Year Ending June 30,	Number of Parcels	Gross Area	Impervious Area	Total Gross Credit	Total Impervious Credit	Open Space GA Credit	IA Managed Credit	GA Managed Credit	IA NPDES Credit	GA NPDES Credit	Parcel Growth/ Change	Open Space GA Credit (Per Parcel)	IA Managed Credit (Avg Per parcel)	GA Managed Credit (Avg per parcel)	IA NPDES Credit (Avg Per parcel)	GA NPDES Credit (Avg per parcel)
14	2013	152	220,024,320	79,752,423	129,107,867	47,612,306	80,471,840	43,703,240	43,717,412	1,500,062	2,575,193		529,420	287,521	287,615	9,869	16,942
15	2014	212	272,919,261	91,624,837	170,699,769	53,693,207	114,259,551	49,493,761	49,668,409	1,580,879	2,681,653	60	538,960	233,461	234,285	7,457	12,649
16	2015	246	283,413,656	98,224,301	176,930,329	60,226,500	122,127,335	55,736,478	47,311,404	1,524,473	2,590,089	34	496,453	226,571	192,323	6,197	10,529
17	2016	273	253,507,206	84,881,856	192,946,835	61,024,331	127,568,199	58,166,690	58,101,140	250,387	428,721	27	467,283	213,065	212,825	917	1,570
18	2017	312	289,520,162	88,550,428	223,008,811	63,952,942	151,024,452	61,284,210	61,338,258	242,176	423,291	39	484,053	196,424	196,597	776	1,357
19	2018	318	331,071,935	98,430,878	227,585,196	66,195,369	149,779,130	62,881,606	62,901,801	726,596	3,097,451	6	471,004	197,741	197,804	2,285	9,740
20	2019	308	340,151,826	95,665,431	241,876,061	65,118,503	165,977,231	62,023,047	62,089,933	621,466	2,942,661	(10)	538,887	201,374	201,591	2,018	9,554
21	2020	312	330,347,932	93,855,746	236,698,310	64,145,133	161,182,489	60,896,113	61,152,874	531,051	2,759,029	4	516,611	195,180	196,003	1,702	8,843
22	2021	313	316,186,603	99,071,024	220,700,957	66,765,983	140,515,959	63,039,153	63,232,852	531,051	2,759,029	1	448,933	201,403	202,022	1,697	8,815
23	2022	315	330,769,306	117,900,742	247,940,370	72,828,442	160,917,033	69,639,017	69,547,325	17,490	45,949	2	510,848	221,076	220,785	56	146
24	2023	331	349,000,872	117,602,193	260,003,777	72,142,784	175,911,588	68,183,039	68,429,384	24,690	74,888	16	531,455	205,991	206,735	75	226
25	2024	339	325,876,551	102,125,022	253,430,010	71,736,310	172,097,026	67,576,740	67,755,519	116,084	206,221	8	507,661	199,341	199,869	342	608
26	5-Yr Average	322	330,436,253	106,110,945	243,754,685	69,523,730	162,124,819	65,866,812	66,023,591	244,073	1,169,023	6	503,101	204,598	205,083	774	3,728

CREDITS FOR PROPERTIES RECEIVING SMIP/GARP GRANTS

	Fiscal Year Ending June 30,	Number of Parcels	Gross Area	Impervious Area	Total Gross Credit	Total Impervious Credit	Open Space GA Credit	IA Managed Credit	GA Managed Credit	IA NPDES Credit	GA NPDES Credit	Parcel Growth/ Change	Open Space GA Credit (Per Parcel)	IA Managed Credit (Avg Per parcel)	GA Managed Credit (Avg per parcel)
27	2013	-	-	-	-	-	-	-	-	-	-				
28	2014	1	55,200	31,107	23,176	8,721	14,455	8,721	8,721	-	-	1	14,455	8,721	8,721
29	2015	10	6,634,034	4,522,112	2,564,644	3,813,527	1,070,554	3,778,379	1,494,090	-	-	9	107,055	377,838	149,409
30	2016	26	12,539,266	7,907,711	5,346,848	5,709,958	2,128,113	5,600,316	3,326,415	-	-	16	81,851	215,397	127,939
31	2017	50	23,040,962	13,228,000	11,342,572	9,138,988	4,724,492	8,848,391	6,516,302	-	-	24	94,490	176,968	130,326
32	2018	59	24,855,602	14,444,874	12,497,771	10,178,890	4,925,563	9,904,203	7,572,208	-	-	9	83,484	167,868	128,343
33	2019	106	35,717,801	21,226,658	19,007,315	15,138,098	6,531,348	14,759,336	12,476,267	-	-	47	61,616	139,239	117,701
34	2020	121	41,782,758	21,669,430	22,855,597	15,906,007	9,727,821	15,465,284	13,126,719	-	-	15	80,395	127,812	108,485
35	2021	133	52,164,844	28,064,938	26,831,310	17,189,958	12,412,895	16,394,454	14,450,023	-	-	12	93,330	123,267	108,647
36	2022	146	72,595,964	31,924,087	43,961,621	20,279,665	26,390,970	19,528,322	17,602,259	-	-	13	180,760	133,756	120,563
37	2023	152	67,313,620	32,861,461	38,676,271	20,533,447	21,255,176	19,849,953	17,453,017	-	-	6	139,837	130,592	114,822
38	2024	151	61,419,629	32,849,465	35,913,180	20,231,029	18,411,966	19,735,371	17,501,211	-	-	(1)	121,934	130,698	115,902
39	5-Yr Average	141	59,055,363	29,473,876	33,647,596	18,828,021	17,639,766	18,194,677	16,026,646	-	-	9	123,251	129,225	113,684
	Final Use	141	59,055,363	29,473,876	33,647,596	18,828,021	17,639,766	18,194,677	16,026,646	0	0	9	123,251	129,225	113,684

Note: The above tables summarize the historical IA, GA, and NPDES credits granted to parcels meeting eligibility requirements for Non-Surface and Surface Discharge as described under PWD Rates and Charges Section 4.5(c); Non-Surface are properties not eligible under surface discharge requirements. Credits resulting from properties that have received the award of SMIP/GARP grants are listed separately. Historical growth in the number of parcels receiving credit and average credit per parcel are not utilized in developing for SMIP/GARP projections. SMIP/GARP Projections are based upon program budget, average grant award amount per drainage acre, and estimated completion timeline.

Appendix C: Historical Retail Non-Stormwater Only and Stormwater Only Collection Factor Calculations Prior to Adjustments

Non-Stormwater Only Customers	Collection Factors		
	Billing Year (Payments within 12 months)	Billing Year Plus 1 (Payments w/in 13-24 months)	Billing Year Plus 2 and Beyond (Payment after 24 months)
FY 2012	*84.82%*	*9.54%*	*2.95%*
FY 2013	*84.93%*	*9.70%*	*2.98%*
FY 2014	*85.28%*	*9.52%*	*2.80%*
FY 2015	*86.42%*	*8.97%*	*2.58%*
FY 2016	*87.09%*	*8.89%*	*2.31%*
FY 2017	*87.69%*	*8.64%*	*2.19%*
FY 2018	*87.12%*	*9.20%*	*2.03%*
FY 2019	*87.10%*	*9.83%*	*1.58%*
FY 2020	*85.03%*	*10.56%*	*1.99%*
FY 2021	*84.85%*	*10.48%*	*1.76%*
FY 2022	*84.25%*	*10.81%*	*1.06%*
FY 2023	*83.64%*	*10.86%*	
FY 2024	*84.16%*		
Average	**85.57%**	**9.75%**	**2.20%**

Stormwater Only Customers	Collection Factors Billing Year (Payments within 12 months)	Billing Year Plus 1 (Payments w/in 13-24 months)	Billing Year Plus 2 and Beyond (Payment after 24 months)
FY 2012	*59.14%*	*9.15%*	*10.16%*
FY 2013	*60.77%*	*7.39%*	*10.02%*
FY 2014	*58.24%*	*6.63%*	*10.62%*
FY 2015	*58.89%*	*8.55%*	*9.39%*
FY 2016	*63.25%*	*8.94%*	*8.96%*
FY 2017	*65.70%*	*8.76%*	*7.08%*
FY 2018	*66.37%*	*8.89%*	*6.47%*
FY 2019	*68.05%*	*9.77%*	*6.23%*
FY 2020	*68.95%*	*11.28%*	*5.95%*
FY 2021	*66.14%*	*10.47%*	*3.92%*
FY 2022	*68.64%*	*10.29%*	*2.68%*
FY 2023	*68.50%*	*9.67%*	
FY 2024	*66.82%*		
Average	**64.57%**	**9.15%**	**7.41%**

Source: Schedule RFC-7

Appendix D: Actual-to-Budget Factors

		Factor	Historical Average			Actual to Budget Factor			Actual O&M Expense			Budgeted O&M Expense		
		Used	2 Year	3 Year	5 Year	2024	2023	2022	2024	2023	2022	2024	2023	2022
Human Resources and Administration														
Salaries & Wages	100	100.00%	94.91%	104.85%	104.47%	102.93%	87.87%	128.91%	$ 12,147,086	$ 11,801,201	$ 13,430,518	$ 11,801,201	$ 13,430,518	$ 10,418,185
Services	200	100.00%	129.87%	122.13%	123.33%	124.84%	136.75%	103.20%	$ 9,237,302	$ 7,399,292	$ 5,411,000	$ 7,399,292	$ 5,411,000	$ 5,243,000
Materials and Supplies	300	98.50%	97.99%	98.50%	105.27%	84.98%	112.65%	99.59%	$ 1,168,840	$ 1,375,470	$ 1,221,000	$ 1,375,470	$ 1,221,000	$ 1,226,000
Equipment	400	100.00%	128.06%	130.06%	140.75%	163.26%	94.72%	135.34%	$ 1,462,920	$ 896,095	$ 946,000	$ 896,095	$ 946,000	$ 699,000
Indemnities	500	0.00%			0.00%				$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Human Resources and Administration			107.08%	110.70%	111.19%	111.85%	102.21%	119.46%	$ 24,016,148	$ 21,472,058	$ 21,008,518	$ 21,472,058	$ 21,008,518	$ 17,586,185
Finance														
Salaries & Wages	100	71.82%	71.71%	71.82%	77.31%	72.26%	71.14%	72.05%	$ 6,107,811	$ 5,910,873	$ 5,784,838	$ 8,452,000	$ 8,308,758	$ 8,029,177
Services	200	91.51%	83.04%	91.51%	97.04%	59.24%	106.72%	112.21%	$ 5,512,306	$ 9,979,495	$ 8,568,116	$ 9,304,750	$ 9,351,000	$ 7,635,974
SMIP/GARP	2xx	100.00%	100.56%	93.39%	111.19%	100.63%	100.50%	80.50%	$ 20,125,000	$ 25,125,000	$ 20,125,000	$ 20,000,000	$ 25,000,000	$ 25,000,000
Materials and Supplies	300	3.51%	4.64%	3.51%	22.20%	2.99%	6.65%	1.26%	$ 1,897	$ 3,457	$ 733	$ 63,500	$ 52,000	$ 58,000
Equipment	400	0.00%	0.00%	0.00%	12.00%	0.00%	0.00%	0.00%	$ -	$ -	$ -	$ 1,000	$ 1,000	$ 38,000
Indemnities	500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$ -	$ -	$ -	$ 10,000	$ 10,000	$ 10,000
Transfers	800	95.23%	100.41%	95.23%	74.72%	140.36%	57.93%	84.28%	$ 11,789,850	$ 4,576,382	$ 6,489,730	$ 8,400,000	$ 7,900,000	$ 7,700,000
Subtotal Finance			92.03%	89.52%	95.93%	94.17%	90.07%	84.52%	$ 43,536,864	$ 45,595,207	$ 40,968,417	$ 46,231,250	$ 50,622,758	$ 48,471,151
Construction and Engineering														
Salaries & Wages	100	89.21%	90.28%	89.21%	91.76%	93.00%	86.81%	86.11%	$ 9,774,513	$ 7,114,906	$ 5,587,116	$ 10,510,688	$ 8,196,392	$ 6,488,450
Services	200	61.89%	58.29%	61.89%	68.08%	55.12%	62.07%	69.87%	$ 1,173,608	$ 1,108,581	$ 1,232,124	$ 2,129,000	$ 1,786,000	$ 1,763,500
Materials and Supplies	300	32.77%	36.44%	32.77%	35.68%	40.65%	32.50%	25.18%	$ 41,950	$ 35,748	$ 25,933	$ 103,200	$ 110,000	$ 103,000
Equipment	400	9.70%	14.39%	9.70%	23.77%	29.82%	0.00%	0.00%	$ 61,424	$ -	$ -	$ 206,000	$ 221,000	$ 206,000
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Construction and Engineering			83.01%	82.19%	84.88%	85.35%	80.08%	79.96%	$ 11,051,495	$ 8,259,235	$ 6,845,173	$ 12,948,888	$ 10,313,392	$ 8,560,950

Note: Spend factors using 3-year average highlighted yellow and exceptions are highlighted in blue.

		Factor Used	Historical Average			Actual to Budget Factor			Actual O&M Expense			Budgeted O&M Expense		
			2 Year	3 Year	5 Year	2024	2023	2022	2024	2023	2022	2024	2023	2022
Operations														
Salaries & Wages	100	95.24%	95.37%	95.24%	94.85%	98.59%	92.12%	94.96%	$ 98,527,486	$ 91,082,539	$ 88,799,038	$ 99,931,945	$ 98,878,657	$ 93,513,321
Services	200	88.80%	88.20%	88.80%	86.26%	85.80%	90.53%	90.05%	$ 87,152,336	$ 94,469,697	$ 88,611,437	$ 101,570,822	$ 104,346,502	$ 98,407,422
Power	220	83.63%	85.58%	83.63%	84.04%	67.17%	105.97%	78.91%	$ 16,170,644	$ 23,037,127	$ 14,915,470	$ 24,075,000	$ 21,739,000	$ 18,903,000
Gas	221	70.12%	66.99%	70.12%	73.01%	47.32%	90.39%	81.11%	$ 4,850,000	$ 7,786,596	$ 4,363,923	$ 10,250,000	$ 8,614,800	$ 5,380,200
Materials and Supplies	300	82.76%	87.54%	82.76%	81.74%	84.82%	90.42%	72.90%	$ 19,782,764	$ 19,962,494	$ 16,067,708	$ 23,323,329	$ 22,077,500	$ 22,040,500
Chemicals	307	100.00%	99.35%	102.27%	99.87%	97.21%	102.34%	112.11%	$ 49,817,692	$ 37,788,333	$ 29,339,822	$ 51,249,166	$ 36,925,830	$ 26,171,000
Equipment	400	73.63%	89.45%	73.63%	74.14%	94.16%	84.24%	58.61%	$ 4,816,176	$ 3,887,873	$ 6,010,373	$ 5,115,000	$ 4,615,500	$ 10,254,500
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Operations			91.26%	90.97%	89.64%	89.10%	93.55%	90.33%	$ 281,117,098	$ 278,014,659	$ 248,107,771	$ 315,515,262	$ 297,197,789	$ 274,669,943
Planning & Environmental Services														
Salaries & Wages	100	92.80%	93.45%	92.80%	94.57%	92.40%	94.62%	91.40%	$ 22,725,496	$ 20,972,324	$ 19,744,663	$ 24,594,999	$ 22,165,097	$ 21,602,592
Services	200	95.45%	97.16%	95.45%	96.22%	97.30%	97.03%	91.63%	$ 18,416,172	$ 17,773,237	$ 15,260,309	$ 18,928,000	$ 18,318,000	$ 16,654,600
Materials and Supplies	300	78.90%	76.85%	78.90%	82.53%	87.64%	65.65%	83.26%	$ 1,685,409	$ 1,215,842	$ 1,477,792	$ 1,923,000	$ 1,852,000	$ 1,775,000
Equipment	400	62.31%	55.48%	62.31%	68.79%	66.86%	40.41%	88.18%	$ 785,636	$ 358,444	$ 479,539	$ 1,175,000	$ 887,000	$ 543,800
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Planning & Environmental Services			93.42%	92.70%	94.32%	93.55%	93.29%	91.09%	$ 43,612,713	$ 40,319,847	$ 36,962,303	$ 46,620,999	$ 43,222,097	$ 40,575,992
Public Affairs														
Salaries & Wages	100	89.52%	88.41%	89.52%	92.85%	85.61%	91.44%	91.86%	$ 5,787,566	$ 5,711,047	$ 5,644,716	$ 6,760,418	$ 6,245,368	$ 6,145,116
Services	200	90.13%	86.29%	90.13%	93.33%	84.92%	87.72%	98.98%	$ 6,313,831	$ 6,285,835	$ 6,257,065	$ 7,435,000	$ 7,166,000	$ 6,321,527
Materials and Supplies	300	57.42%	62.92%	57.42%	60.38%	63.42%	62.42%	46.42%	$ 353,242	$ 347,675	$ 258,576	$ 557,000	$ 557,000	$ 557,000
Equipment	400	36.05%	4.55%	36.05%	38.63%	0.00%	9.10%	99.06%	$ -	$ 819	$ 8,915	$ 9,000	$ 9,000	$ 9,000
Indemnities	500	100.00%	100.00%	100.00%	99.80%	100.00%	100.00%	100.00%	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Public Affairs			86.76%	88.90%	92.08%	84.88%	88.73%	93.62%	$ 12,954,639	$ 12,845,376	$ 12,669,272	$ 15,261,418	$ 14,477,368	$ 13,532,643

Note: Spend factors using 3-year average highlighted yellow and exceptions are highlighted in blue.

		Factor	Historical Average			Actual to Budget Factor			Actual O&M Expense			Budgeted O&M Expense		
		Used	2 Year	3 Year	5 Year	2024	2023	2022	2024	2023	2022	2024	2023	2022
Division of Technology														
Salaries & Wages	100	77.03%	75.27%	77.03%	77.95%	75.61%	74.88%	81.33%	$ 9,062,072	$ 7,970,247	$ 7,538,568	$ 11,984,930	$ 10,644,369	$ 9,268,937
Services	200	75.56%	77.10%	75.56%	75.26%	74.93%	79.57%	72.04%	$ 19,729,175	$ 18,341,276	$ 15,557,123	$ 26,330,084	$ 23,049,397	$ 21,594,698
Materials and Supplies	300	77.90%	77.95%	77.90%	73.28%	71.57%	85.43%	77.81%	$ 1,296,128	$ 1,316,986	$ 1,233,200	$ 1,810,893	$ 1,541,613	$ 1,584,850
Equipment	400	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Division of Technology			76.59%	76.10%	75.93%	74.98%	78.41%	74.98%	$ 30,087,375	$ 27,628,509	$ 24,328,891	$ 40,125,907	$ 35,235,379	$ 32,448,485
Mayor's Office of Transportation & Utilities and Office of Sustainability														
Salaries & Wages	100	42.53%	44.45%	42.53%	63.16%	49.51%	38.26%	38.26%	$ 135,874	$ 85,874	$ 85,874	$ 274,424	$ 224,424	$ 224,424
Services	200	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	$ 47,000	$ 47,000	$ 47,000	$ 47,000	$ 47,000	$ 47,000
Materials and Supplies	300	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Equipment	400	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Mayor's Office of Transportation & Utilities			53.26%	51.91%	68.73%	56.89%	48.95%	48.95%	$ 182,874	$ 132,874	$ 132,874	$ 321,424	$ 271,424	$ 271,424
Philadelphia Water, Sewer and Storm Water Rate Board														
Salaries & Wages	100	93.15%	91.03%	93.15%	94.57%	103.83%	77.59%	97.66%	$ 52,288	$ 37,187	$ 44,899	$ 50,361	$ 47,926	$ 45,973
Services	200	53.13%	57.76%	53.13%	47.18%	54.78%	60.89%	44.09%	$ 408,502	$ 432,442	$ 328,591	$ 745,700	$ 710,200	$ 745,200
Materials and Supplies	300	0.00%			0.00%				$ -	$ -	$ -	$ -	$ -	$ -
Equipment	400	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Philadelphia Water, Sewer and Storm Water Rate Board						57.88%	61.95%	47.21%	$ 460,790	$ 469,629	$ 373,490	$ 796,061	$ 758,126	$ 791,173

Note: Spend factors using 3-year average highlighted yellow and exceptions are highlighted in blue.

		Factor	Historical Average			Actual to Budget Factor			Actual O&M Expense			Budgeted O&M Expense		
		Used	2 Year	3 Year	5 Year	2024	2023	2022	2024	2023	2022	2024	2023	2022
City Treasurer														
Salaries & Wages	100	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Benefits	100	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Pension	191	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Pension Obligations	190	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Services	200	78.35%				78.35%			$ 2,076,218	$ -	$ -	$ 2,650,000	$ -	$ -
Materials and Supplies	300	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Equipment	400	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%				0.00%	0.00%	0.00%	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal City Treasurer							100.00%		$ 2,076,218	$ -	$ -	$ 2,650,000	$ -	$ -
Revenue														
Salaries & Wages	100	88.53%	90.58%	88.53%	89.38%	94.10%	87.01%	84.45%	$ 10,154,821	$ 9,255,027	$ 9,070,937	$ 10,791,338	$ 10,637,180	$ 10,741,609
Services	200	44.70%	57.86%	44.70%	58.63%	76.35%	42.45%	15.83%	$ 3,935,008	$ 2,623,944	$ 817,369	$ 5,154,000	$ 6,181,745	$ 5,165,000
Materials and Supplies	300	93.70%	105.16%	93.70%	77.47%	86.34%	132.54%	65.55%	$ 1,800,531	$ 1,901,231	$ 940,371	$ 2,085,500	$ 1,434,500	$ 1,434,500
Equipment	400	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Indemnities	500	0.00%			0.00%				$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Revenue			81.77%	75.52%	79.03%	88.13%	75.49%	62.45%	$ 15,890,360	$ 13,780,202	$ 10,828,677	$ 18,030,838	$ 18,253,425	$ 17,341,109
Procurement														
Salaries & Wages	100	55.72%	34.84%	55.72%	65.04%	0.00%	73.74%	99.29%	$ -	$ 83,862	$ 114,475	$ 126,961	$ 113,720	$ 115,290
Services	200	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Materials and Supplies	300	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Equipment	400	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Procurement			34.84%	55.72%	65.04%	0.00%	73.74%	99.29%	$ -	$ 83,862	$ 114,475	$ 126,961	$ 113,720	$ 115,290
Law														
Salaries & Wages	100	96.02%	96.37%	96.02%	97.35%	95.04%	97.75%	95.29%	$ 3,308,293	$ 3,319,523	$ 3,189,335	$ 3,481,095	$ 3,396,095	$ 3,346,838
Services	200	99.98%	99.98%	99.98%	99.99%	99.96%	99.99%	99.99%	$ 691,339	$ 691,578	$ 691,536	$ 691,614	$ 691,614	$ 691,614
Materials and Supplies	300	99.30%	99.03%	99.30%	90.92%	99.82%	98.24%	99.86%	$ 42,932	$ 42,251	$ 42,950	$ 43,010	$ 43,010	$ 43,010
Equipment	400	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Indemnities	500	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Transfers	800	0.00%							$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Law			97.00%	96.72%	97.76%	95.89%	98.13%	96.14%	$ 4,042,564	$ 4,053,352	$ 3,923,821	$ 4,215,719	$ 4,130,719	$ 4,081,462
Total Water Fund			91.55%	91.41%	91.69%	91.25%	91.86%	91.10%	$ 632,560,091	$ 605,540,438	$ 555,058,133	$ 693,225,257	$ 659,216,348	$ 609,313,421

Note: Spend factors using 3-year average highlighted yellow and exceptions are highlighted in blue.

Appendix E: Water Fund Historical O&M Costs

	Description	Historical 2019	2020	2021	2022	2023	2024
PWD Operating and Maintenance Expenses Summary							
100	Salaries & Wages	$ 137,155,996	$ 149,776,460	$ 147,364,285	$ 158,297,211	$ 164,531,956	$ 179,054,648
1xx	Benefits	54,912,153	57,760,775	58,250,740	63,161,240	65,209,456	70,164,023
191	Pension	64,686,954	71,612,808	81,201,619	58,970,176	57,818,973	60,819,644
190	Pension Obligations	14,170,375	15,686,125	4,514,537	8,541,319	10,794,659	12,561,187
200	Services	138,073,835	136,371,779	137,384,999	141,553,293	157,297,014	152,319,849
220	Power	13,854,363	15,046,774	15,737,655	14,915,470	23,037,127	16,170,644
221	Gas	4,652,000	3,991,800	3,870,000	4,363,923	7,786,596	4,850,000
2xx	Services - Property Leases	4,265,847	4,270,347	4,368,565	4,490,292	4,612,167	5,494,744
2xx	SMIP/GARP	25,000,000	25,000,000	31,932,618	20,125,000	25,125,000	20,125,000
300	Materials and Supplies	25,953,178	25,095,689	23,354,841	24,717,326	29,809,760	29,923,570
307	Chemicals	22,115,310	22,886,203	23,842,156	29,339,822	37,788,333	49,817,692
400	Equipment	4,839,384	5,695,771	2,671,765	6,700,132	5,727,327	5,991,332
500	Indemnities	3,816,246	4,409,860	3,037,590	6,368,696	6,743,930	6,499,687
800	Transfers	8,052,752	4,423,296	7,838,707	6,489,730	4,576,382	11,789,850
Total PWD Operating and Maintenance Expenses Summary		**$ 521,548,393**	**$ 542,027,687**	**$ 545,370,077**	**$ 548,033,630**	**$ 600,858,680**	**$ 625,581,870**

	PWD Operating and Maintenance Expenses Summary - Annual Increase	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
100	Salaries & Wages		-1.61%	7.42%	3.94%	8.83%
1xx	Benefits		0.85%	8.43%	3.24%	7.60%
191	Pension		13.39%	-27.38%	-1.95%	5.19%
190	Pension Obligations		-71.22%	89.20%	26.38%	16.36%
200	Services		0.74%	3.03%	11.12%	-3.16%
220	Power		4.59%	-5.22%	54.45%	-29.81%
221	Gas		-3.05%	12.76%	78.43%	-37.71%
2xx	Services - Property Leases		2.30%	2.79%	2.71%	19.14%
2xx	SMIP/GARP		27.73%	-36.98%	24.84%	-19.90%
300	Materials and Supplies		-6.94%	5.83%	20.60%	0.38%
307	Chemicals		4.18%	23.06%	28.80%	31.83%
400	Equipment		-53.09%	150.78%	-14.52%	4.61%
500	Indemnities		-31.12%	109.66%	5.89%	-3.62%
800	Transfers		77.21%	-17.21%	-29.48%	157.62%
Total PWD Operating and Maintenance Expenses Summary - Annual Increase			0.62%	0.49%	9.64%	4.11%

	PWD Operating and Maintenance Expenses Summary - 3 Year Average Increase						
100	Salaries & Wages					3.18%	6.71%
1xx	Benefits					4.13%	6.40%
191	Pension					-6.88%	-9.18%
190	Pension Obligations					-11.71%	40.65%
200	Services					4.87%	3.50%
220	Power					15.26%	0.91%
221	Gas					24.95%	7.81%
2xx	Services - Property Leases					2.60%	7.95%
2xx	SMIP/GARP					0.17%	-14.26%
300	Materials and Supplies					5.91%	8.61%
307	Chemicals					18.19%	27.84%
400	Equipment					0.18%	30.89%
500	Indemnities					15.21%	28.86%
800	Transfers					1.14%	14.57%
Total PWD Operating and Maintenance Expenses Summary - 3 Year Average Increase						**3.49%**	**4.68%**

Appendix F: O&M Cost Industry Indices Data

Month	CPI All Urban Consumers Philadelphia Area	PPI Construction Machinery & Equipment
	Raw Number	Raw Number
Oct-23	306.3	301.3
Oct-24	316.6	307.5
12 Month Annual Change	**3.38%**	**2.06%**

Notes: All consumer and producer price indexes are from the Bureau of Labor Statistics. References are provided below.

Indexes are not seasonally adjusted.

Index	Series Id (s)	Area	Items	Base Period
CPI - All Urban Consumers - Philadelphia	CUURA102SA0,CUUSA102SA0	Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD	All Items	1982-84=100

Index	Series Id	Group	Items	Base Date
PPI - Construction Machinery & Equipmen	WPU112	Machinery and equipment	Construction machinery and equipment	198200

Fiscal Year	CPI All Urban Consumers Philadelphia Area		PPI Construction Machinery & Equipment		PPI Industrial Chemicals	
	Raw Number	% Change	Raw Number	% Change	Raw Number	% Change
2015	243.7	-0.51%	217.3	1.31%	235.2	-17.36%
2016	247.0	1.34%	219.2	0.87%	232.7	-1.06%
2017	249.0	0.81%	221.1	0.87%	258.5	11.09%
2018	253.0	1.64%	228.7	3.44%	286.3	10.75%
2019	258.0	1.95%	233.7	2.19%	252.3	-11.88%
2020	260.0	0.78%	236.7	1.28%	227.7	-9.75%
2021	274.6	5.64%	257.3	8.71%	332.8	46.17%
2022	296.0	7.77%	282.8	9.90%	341.7	2.66%
2023	306.3	3.48%	301.3	6.55%	315.7	-7.59%
2024	316.6	3.38%	307.5	2.06%	305.9	-3.12%
Avg.	-	2.38%	-	3.46%	-	2.00%
5 Yr Avg						
2015	-	1.29%	-	2.51%	-	-2.62%
2016	-	0.96%	-	1.92%	-	-6.47%
2017	-	0.69%	-	1.40%	-	-2.95%
2018	-	0.97%	-	1.60%	-	-0.56%
2019	-	1.04%	-	1.73%	-	-2.38%
2020	-	1.30%	-	1.73%	-	-0.65%
2021	-	2.15%	-	3.26%	-	7.42%
2022	-	3.52%	-	5.04%	-	5.74%
2023	-	3.89%	-	5.67%	-	1.98%
2024	-	4.18%	-	5.64%	-	3.93%

Index	Series Id (s)	Area	Items	Base Period
CPI - All Urban Consumers - Philadelphia	CUURA102SA0,CUUSA102SA0	Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD	All Items	1982-84=100

Index	Series Id	Group	Items	Base Date
PPI - Industrial Chemicals	WPU061	Chemicals and allied products	Industrial chemicals	198200
PPI - Construction Machinery & Equipmen	WPU112	Machinery and equipment	Construction machinery and equipment	198200

Appendix G: Capital Cost Industry Indices

Fiscal Year	H.W. Index Cost of Construction Pump Plant - Equipment		H.W. Index Cost of Construction Treatment Plant - Equipment		H.W. Index Cost of Construction Transmission Plant - Steel Mains		H.W. Index Cost of Construction Distribution Plant - Mains		H.W. Index Cost of Construction Distribution Plant - Meters		McGraw-Hill (ENR) Construction Cost Index	
	Raw Number	% Change	Raw Number	% Change	Raw Number	% Change	Raw Number	% Change	Raw Number	% Change	Raw Number	% Change
2015	931	3.44%	737	1.66%	713	0.71%	738	0.68%	616	1.82%	10,128.0	2.45%
2016	1,013	8.81%	758	2.85%	705	-1.12%	750	1.63%	617	0.16%	10,434.0	3.02%
2017	1,135	12.04%	785	3.56%	726	2.98%	772	2.93%	651	5.51%	10,817.0	3.67%
2018	1,216	7.14%	812	3.44%	770	6.06%	801	3.76%	667	2.46%	11,183.0	3.38%
2019	1,346	10.69%	842	3.69%	785	1.95%	826	3.12%	684	2.55%	11,326.0	1.28%
2020	1,454	8.02%	890	5.70%	830	5.73%	850	2.91%	701	2.49%	11,539.0	1.88%
2021	1,465	0.76%	946	6.29%	962	15.90%	911	7.18%	739	5.42%	12,464.0	8.02%
2022	1,787	21.98%	1,065	12.58%	1,057	9.88%	1,021	12.07%	797	7.85%	13,174.9	5.70%
2023	1,841	3.02%	1,138	6.85%	1,282	21.29%	1,087	6.46%	851	6.78%	13,498.0	2.45%
2024	2,027	10.10%	1,218	7.03%	1,305	1.79%	1,160	6.72%	887	4.23%	13,632.3	1.00%
Avg.	-	8.35%	-	5.01%	-	5.43%	-	4.47%	-	3.34%	-	3.19%
2 Yr Avg												
2015	-	5.03%	-	2.83%	-	0.64%	-	3.20%	-	1.16%	-	2.24%
2016	-	6.09%	-	2.25%	-	-0.21%	-	1.15%	-	0.99%	-	2.73%
2017	-	10.41%	-	3.21%	-	0.91%	-	2.28%	-	2.80%	-	3.35%
2018	-	9.56%	-	3.50%	-	4.51%	-	3.34%	-	3.97%	-	3.53%
2019	-	8.90%	-	3.57%	-	3.98%	-	3.44%	-	2.50%	-	2.33%
2020	-	9.35%	-	4.69%	-	3.82%	-	3.01%	-	2.52%	-	1.58%
2021	-	4.33%	-	6.00%	-	10.70%	-	5.02%	-	3.94%	-	4.90%
2022	-	10.86%	-	9.39%	-	12.85%	-	9.60%	-	6.63%	-	6.85%
2023	-	12.10%	-	9.68%	-	15.44%	-	9.23%	-	7.31%	-	4.07%
2024	-	6.50%	-	6.94%	-	11.11%	-	6.59%	-	5.50%	-	1.72%
3 Yr Avg												
2015	-	5.85%	-	2.72%	-	0.23%	-	2.27%	-	0.88%	-	2.61%
2016	-	6.27%	-	2.84%	-	0.05%	-	2.67%	-	0.82%	-	2.50%
2017	-	8.04%	-	2.69%	-	0.84%	-	1.74%	-	2.47%	-	3.05%
2018	-	9.31%	-	3.28%	-	2.60%	-	2.77%	-	2.69%	-	3.36%
2019	-	9.94%	-	3.57%	-	3.65%	-	3.27%	-	3.50%	-	2.77%
2020	-	8.61%	-	4.27%	-	4.56%	-	3.26%	-	2.50%	-	2.18%
2021	-	6.41%	-	5.22%	-	7.70%	-	4.38%	-	3.48%	-	3.68%
2022	-	9.91%	-	8.15%	-	10.43%	-	7.32%	-	5.23%	-	5.17%
2023	-	8.18%	-	8.54%	-	15.59%	-	8.54%	-	6.68%	-	5.37%
2024	-	11.43%	-	8.79%	-	10.70%	-	8.39%	-	6.27%	-	3.03%
5 Yr Avg												
2015	-	5.84%	-	2.93%	-	3.20%	-	3.45%	-	2.42%	-	2.57%
2016	-	5.92%	-	3.03%	-	1.37%	-	3.09%	-	2.21%	-	2.67%
2017	-	7.65%	-	2.91%	-	0.50%	-	2.27%	-	1.72%	-	2.90%
2018	-	7.58%	-	3.10%	-	1.81%	-	2.94%	-	2.07%	-	2.91%
2019	-	8.38%	-	3.04%	-	2.09%	-	2.42%	-	2.33%	-	2.76%
2020	-	9.33%	-	3.84%	-	3.09%	-	2.87%	-	2.57%	-	2.64%
2021	-	7.66%	-	4.53%	-	6.41%	-	3.97%	-	3.41%	-	3.62%
2022	-	9.50%	-	6.29%	-	7.80%	-	5.75%	-	4.14%	-	4.02%
2023	-	8.65%	-	6.98%	-	10.73%	-	6.30%	-	4.71%	-	3.83%
2024	-	8.53%	-	7.66%	-	10.70%	-	7.03%	-	4.61%	-	3.78%

Notes:
H.W. = Handy Whitman
The Handy Whitman Indices are a product of WRA Associates.
Values for the Mc Graw-Hill (Engineering News Record) Construction Index are as published for the period ending October 2024.

Appendix H: Stormwater Tables

Appendix H – Table 1 Stormwater Credit Projections

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater							
	Parcels (#)						
1	IAR Practices	677	691	704	718	731	744
2	GA/IA Management Practices [1]	1,287	1,320	1,353	1,386	1,419	1,452
3	SMIP/GARP	168	189	207	222	231	240
4	Subtotal	2,132	2,200	2,264	2,326	2,381	2,436
	Impervious Area (thousand square feet)						
5	IAR Practices	5,966	6,080	6,194	6,308	6,422	6,536
6	GA/IA Management Practices [1]	94,338	96,253	98,169	100,084	102,000	103,916
7	SMIP/GARP	20,981	23,942	26,122	27,112	28,655	30,126
8	Subtotal	121,285	126,275	130,485	133,504	137,077	140,578
	Gross Area (thousand square feet)						
9	IAR Practices	-	-	-	-	-	-
10	GA/IA Management Practices [1]	232,591	237,361	242,132	246,903	251,674	256,445
11	SMIP/GARP	18,747	21,708	23,888	24,877	26,421	27,892
12	Subtotal	251,338	259,070	266,020	271,781	278,095	284,336

Notes

1: GA/IA Management Practices Credits include Surface and Non-Surface Discharge credits for IA managed and open space.

Appendix H – Table 2 SMIP/GARP Program – Annual Cost Estimates

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater							
1	Annual Grant Budget (a)	$ 15,000,000	$ 15,000,000	$ 25,000,000	$ 25,000,000	$ 25,000,000	$ 25,000,000
2	PIDC Annual Administration Fee (b)	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
3	Service Fee % (c)	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
4	PIDC Estimated Service Fee Cost (Line 1 - Line 2) X Line 3	$ -	$ -	$ 498,000	$ 498,000	$ 498,000	$ 498,000
5	TOTAL PIDC SMIP/GARP FEE (Line 2 + Line 4)	$ 100,000	$ 100,000	$ 598,000	$ 598,000	$ 598,000	$ 598,000
6	Available Award Amount (Line 1 - Line 5)	$ 14,900,000	$ 14,900,000	$ 24,402,000	$ 24,402,000	$ 24,402,000	$ 24,402,000

Notes:

(a) Amount available in each fiscal year for new projects after accounting for amendments to previously awarded projects.

(b) Annual Administration Fee for SMIP/GARP Program is $100K. Paid to PIDC each fiscal year.

(c) Service Fee is calculated as 2% of annual grant budget less the annual administration fee paid to PIDC.

Appendix H – Table 3 SMIP/GARP Program – Awarded Project Projections

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater							
	INPUT PARAMETERS						
1	SMIP/GARP Grant Budget (a)	$ 14,900,000	$ 14,900,000	$ 24,402,000	$ 24,402,000	$ 24,402,000	$ 24,402,000
2	$/Drainage Acre	$ 500,000	$ 525,000	$ 551,250	$ 578,813	$ 607,753	$ 638,141
3	% of Award Amount	100%	100%	100%	100%	100%	100%
4	Acre conversion to square feet	43,560	43,560	$ 43,560	$ 43,560	$ 43,560	$ 43,560
Stormwater GA/IA Managed Area Projections - Anticipated Awards							
	Anticipated SMIP/ GARP Projects (b)						
5	Anticipated Award Amount (Line 1 x Line 4)	$ 14,900,000	$ 14,900,000	$ 24,402,000	$ 24,402,000	$ 24,402,000	$ 24,402,000
6	Drainage Acres (Line 6 / Line 2)	29.8	28.4	44.3	42.2	40.2	38.2
7	Gross Area to be Managed (sf)	1,298,088	1,237,104	1,929,708	1,838,232	1,751,112	1,663,992
8	Impervious Area to be Managed (sf)	1,298,088	1,237,104	1,929,708	1,838,232	1,751,112	1,663,992
	Annual Totals						
9	GA to be Managed (sf)	1,298,088	1,237,104	1,929,708	1,838,232	1,751,112	1,663,992
10	IA to be Managed (sf)	1,298,088	1,237,104	1,929,708	1,838,232	1,751,112	1,663,992
11	Total Drainage Acres	29.8	28.4	44.3	42.2	40.2	38.2

Notes:

(a) See Line 6 - Appendix H - Table 2: SMIP/GARP Program - Annual Cost Estimates

(b) Anticipated SMIP/GARP projects with an estimated award amount ($500,000 in FY 2025 and escalated at 5% thereafter) and within 24 months average project completion time.

Appendix H – Table 4 SMIP/GARP Program As-built & Verified Project Projections

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater							
Awarded Projects Pre-FY 2025 (a)		**8.0**	**12.0**				
1	Drainage Acres	35.8	85.0				
2	Gross Area Managed (sf)	1,557,306	3,701,350				
3	Impervious Area Managed (sf)	1,557,306	3,701,350				
Estimated Awarded Projects Post FY 2023							
	Anticipated New Projects (b)						
4	Drainage Acres	-	-	29.8	28.4	44.3	42.2
5	Gross Area Managed (sf)	-	-	1,298,088	1,237,104	1,929,708	1,838,232
6	Impervious Area Managed (sf)	-	-	1,298,088	1,237,104	1,929,708	1,838,232
	Annual Totals						
7	Drainage Acres (Line 1 + Line 4)	35.8	85.0	62.5	37.5	44.3	42.2
8	Gross Area Managed (sf) (Line 2 + Line 5)	1,557,306	3,701,350	2,724,596	1,237,104	1,929,708	1,838,232
9	Impervious Area Managed (sf) (Line 3 + Line 6)	1,557,306	3,701,350	2,724,596	1,237,104	1,929,708	1,838,232
10	Cummulative Drainage Acres	35.8	120.7	183.3	220.8	265.1	307.3

Notes:

(a) Completed Drainage Acres based upon actuals from PWD's SMIP/GARP Grant Tracking.
FY2025 - FY 2027 estimated based upon projects awarded prior to FY 2025 but not yet completed/verified.

(b) From Appendix H - Table 3: SMIP/GARP Program - Project Projections. Projects are expected to be completed and verified within 24 months.

Appendix H – Table 5 SMIP/GARP Program Projected Credit Impacts

Line No.	Description	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater							
INPUT PARAMETERS							
1	% of GA and IA Credits (a)	80%	80%	80%	80%	80%	80%
	Annual Total Credits						
2	GA Managed Credit (sf) (Line 1 X Appendix H Table 4: Line 8)	1,245,845	2,961,080	2,179,677	989,683	1,543,766	1,470,586
3	IA Managed Credit (sf) (Line 1 X Appendix H Table 4: Line 9)	1,245,845	2,961,080	2,179,677	989,683	1,543,766	1,470,586
	Cumulative Total Credits						
4	GA Managed Credit (sf)	1,245,845	4,206,925	6,386,602	7,376,285	8,920,051	10,390,637
5	IA Managed Credit (sf)	1,245,845	4,206,925	6,386,602	7,376,285	8,920,051	10,390,637

Notes:
(a) Assumes all SMIP/GARP projects will be granted Non-Surface Discharge Credit based upon 80% of managed IA and 80% of managed GA.

Appendix H – Table 6 Projections of Billable Parcels, Gross Area, and Impervious Area

Line No.	Customer Type	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater							
	Projected number of Billable Parcels						
1	Residential	464,592	464,592	464,592	464,592	464,592	464,592
2	Non-Residential	68,521	68,514	68,507	68,500	68,493	68,486
3	Condominium	2,420	2,420	2,420	2,420	2,420	2,420
4	**Total: Number of Billable Parcels**	**535,533**	**535,526**	**535,519**	**535,512**	**535,505**	**535,498**
	Projected Billable Gross Area (thousand of square feet)						
5	Residential	975,643	975,643	975,642	975,642	975,642	975,641
6	Non-Residential	1,067,109	1,057,490	1,048,634	1,040,940	1,032,705	1,024,541
7	Condominium	31,131	30,903	30,693	30,512	30,317	30,124
8	**Total: Billable Gross Area**	**2,073,883**	**2,064,036**	**2,054,970**	**2,047,094**	**2,038,663**	**2,030,307**
	Projected Billable Impervious Area (thousand of square feet)						
9	Residential	552,865	552,865	552,865	552,865	552,865	552,865
10	Non-Residential	605,145	599,618	594,837	591,193	587,020	582,916
11	Condominium	22,350	22,128	21,941	21,807	21,648	21,492
12	**Total: Billable Impervious Area**	**1,180,360**	**1,174,611**	**1,169,643**	**1,165,865**	**1,161,533**	**1,157,274**

Appendix H – Table 7 GA/IA Management Credit Projection Factors

Line No.	Description	Annual Increase in Parcels	Annual Average GA Credit	Annual Average IA Credit
Stormwater				
	Credit Type- IAR		**(sf)**	**(sf)**
1	Impervious Area Reduction	29		9,342
	Credit Type-Non Surface Discharge		**(sf)**	**(sf)**
2	Area Managed	28	22,759	23,737
3	Open Space		73,828	
4	NPDES		0	
	Credit Type		**(sf)**	**(sf)**
5	Area Managed	1	203,641	203,355
6	Open Space		427,871	
7	NPDES		7,420	1,551

Annual Increase in parcels is applied to the annual average IA and GA credit to project credits for the Study Period. Annual Increase in parcels and the annual average IA and GA credit are based on 5-year average (FY 2019-FY 2023) historical data provided by PWD.

Line No.	Description	Annual Increase in Parcels	Annual Average GA Credit	Annual Average IA Credit
Stormwater				
	Credit Type- IAR		**(sf)**	**(sf)**
1	Impervious Area Reduction	29		9,342
	Credit Type-Non Surface Discharge		**(sf)**	**(sf)**
2	Area Managed	28	22,759	23,737
3	Open Space		73,828	
4	NPDES		0	
	Credit Type		**(sf)**	**(sf)**
5	Area Managed	1	203,641	203,355
6	Open Space		427,871	
7	NPDES		7,420	1,551

Annual Increase in parcels is applied to the annual average IA and GA credit to project credits for the Study Period. Annual Increase in parcels and the annual average IA and GA credit are based on 5-year average (FY 2019-FY 2023) historical data provided by PWD.

Appendix H – Table 8 Stormwater Projected Number of Billable Accounts

Line No.	CUSTOMER TYPE	Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030
Stormwater							
1	Residential	466,910	466,910	466,910	466,910	466,910	466,910
2	Non-Residential	77,769	77,762	77,755	77,748	77,741	77,734
3	Condominium	5,582	5,582	5,582	5,582	5,582	5,582
4	Total	550,261	550,254	550,247	550,240	550,233	550,226

Appendix I: Wholesale Tables

Appendix I – Table 1 Wastewater Wholesale: Water Pollution Control Plant Investment Per Unit of Capacity

Line No.	Cost Component	(1) Direct Investment (a)	(2) Units of Capacity	(3) Unit Investment (a)	
	Wholesale	$		$	
	Northeast Water Pollution Control Plant				
	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton				
1	- Capacity	5,305,000	370 mgd = 49,470 Mcf/day	107.2367	/Mcf/day
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton				
2	Volume	62,171,000	76,650 mg = 10,247,000 Mcf	6.0672	/Mcf
3	Capacity	25,458,000	420 mgd = 56,150 Mcf/day	453.3927	/Mcf/day
4	Suspended Solids	127,597,000	173,240,000 lbs	736.5331	/1,000 lbs
5	BOD	108,916,000	128,491,000 lbs	847.6547	/1,000 lbs
	Southwest Water Pollution Control Plant				
6	Retail - Capacity	22,251,000	50 mgd = 6,684 Mcf/day	3,328.9946	/Mcf/day
	Retail, DELCORA, Lower Merion, Springfield, (excluding Wyndmoor), and Upper Darby				
7	Volume	77,173,000	73,000 mg = 9,759,000 Mcf	7.9079	/Mcf
8	Capacity	20,077,000	400 mgd = 53,476 Mcf/day	375.4394	/Mcf/day
9	Suspended Solids	65,148,000	130,490,000 lbs	499.2568	/1,000 lbs
10	BOD	54,772,000	78,285,000 lbs	699.6517	/1,000 lbs
	Southeast Water Pollution Control Plant				
	Retail and Springfield (Wyndmoor)				
11	Volume	56,555,000	40,880 mg = 5,465,000 Mcf	10.3486	/Mcf
12	Capacity	44,177,000	224 mgd = 29,947 Mcf/day	1,475.1728	/Mcf/day
13	Suspended Solids	32,157,000	66,065,000 lbs	486.7479	/1,000 lbs
14	BOD	28,762,000	56,940,000 lbs	505.1282	/1,000 lbs

mg - million gallons
mgd - million gallons per day
Mcf - thousand cubic feet
Mcf/day - thousand cubic feet per day
lbs - pounds

Appendix I – Table 2 Wastewater Wholesale: System Investment Allocated to Abington Township - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
Wholesale			$			$	$
	Treatment						
1	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton Capacity	Mcf/day	107.2367	844	-	90,508	91,000
2	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton Volume	Mcf	6.0672	221,792	-	1,345,656	1,346,000
3	Capacity	Mcf/day	453.3927	844	-	382,663	383,000
4	SS	1,000 lbs	736.5331	2,501	-	1,842,069	1,842,000
5	BOD	1,000 lbs	847.6547	2,105	-	1,784,313	1,784,000
6	Total Treatment					5,445,209	5,446,000
	Conveyance						
7	Shady Lane & City Line	cfs	58,421	1.3680	1.0225	81,718	82,000
8	Pennypack & City Line	cfs	49,045	7.6940	1.0225	385,843	386,000
9	Cottman and Orville	cfs	45,328	0.4800	1.0225	22,247	22,000
10	Total Conveyance					489,808	490,000
	Long Term Control Plan (LTCP)						

Line No.	Cost Component	System Investment		Allocation	Allocated Investment (a)	Allocated Investment Rounded (a)
		$			$	$
11	LTCP Infrastructure Investment	399,336,000	-	0.10000%	399,336	399,000
12	Total Allocated System Investment				$ 6,334,353	$ 6,335,000

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 3 Wastewater Wholesale: System Investment Allocated to Bensalem Township - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
Wholesale			$			$	$
	Treatment						
1	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton Capacity	Mcf/day	107.2367	1,034	-	110,883	111,000
2	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton Volume	Mcf	6.0672	304,871	-	1,849,713	1,850,000
3	Capacity	Mcf/day	453.3927	1,034	-	468,808	469,000
4	SS	1,000 lbs	736.5331	3,758	-	2,767,891	2,768,000
5	BOD	1,000 lbs	847.6547	5,343	-	4,529,019	4,529,000
6	Total Treatment					9,726,314	9,727,000
	Conveyance						
7	A-1	cfs	84,833	0.3700	1.02250	32,094	32,000
8	A-2	cfs	105,688	0.8800	1.02250	95,098	95,000
9	A-3	cfs	117,743	0.1200	1.02250	14,447	14,000
10	A-4	cfs	115,847	0.0800	1.02250	9,476	9,000
11	B	cfs	131,354	0.8400	1.02250	112,820	113,000
12	C	cfs	72,634	0.7500	1.02250	55,701	56,000
13	D	cfs	67,910	0.4600	1.02250	31,941	32,000
14	E	cfs	204,911	0.3800	1.02250	79,618	80,000
15	F	cfs	49,726	0.5800	1.02250	29,490	29,000
16	G-1	cfs	48,680	0.2700	1.02250	13,439	13,000
17	G-2	cfs	48,680	0.5100	1.02250	25,385	25,000
18	H	cfs	64,044	2.7200	1.02250	178,119	178,000
19	J-1	cfs	133,427	0.6760	1.02250	92,226	92,000
20	J-2	cfs	38,820	0.1610	1.02250	6,391	6,000
21	J-3	cfs	258,008	0.3830	1.02250	101,040	101,000
22	K-1	cfs	204,907	0.4300	1.02250	90,092	90,000
23	K-2	cfs	66,776	2.1300	1.02250	145,433	145,000
24	Total Conveyance					1,112,810	1,110,000
	Long Term Control Plan (LTCP)						
Line No.	**Cost Component**	**System Investment**		**Allocation**		**Allocated Investment (a)**	**Allocated Investment Rounded (a)**
		$				$	$
25	LTCP Infrastructure Investment	399,336,000		0.1200%		479,203	479,000
26	Total Allocated System Investment					$ 11,318,327	$ 11,316,000

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 4 Wastewater Wholesale: System Investment Allocated to Bucks County - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
Wholesale			$			$	$
	Treatment						
1	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton Capacity	Mcf/day	107.2367	6,556	-	703,044	703,000
2	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton Volume	Mcf	6.0672	1,206,223	-	7,318,396	7,318,000
3	Capacity	Mcf/day	453.3927	6,556	-	2,972,443	2,972,000
4	SS	1,000 lbs	736.5331	13,553	-	9,982,233	9,982,000
5	BOD	1,000 lbs	847.6547	13,422	-	11,377,221	11,377,000
6	Total Treatment					32,353,337	32,352,000
	Conveyance						
7	Large Sewers	cfs	18,000	85.08	1.02250	1,565,897	1,566,000
8	Total Conveyance					1,565,897	1,566,000
	Long Term Control Plan (LTCP)						
Line No.	**Cost Component**	**System Investment**		**Allocation**		**Allocated Investment (a)**	**Allocated Investment Rounded (a)**
		$				$	$
9	LTCP Infrastructure Investment	399,336,000		0.00000%		-	-
10	Total Allocated System Investment					**33,919,234**	**33,918,000**

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 5 Wastewater Wholesale: System Investment Allocated to Cheltenham Township - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
Wholesale			$			$	$
	Treatment						
1	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton Capacity	Mcf/day	107.2367	NA	-	-	-
2	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton Volume	Mcf	6.0672	669,370	-	4,061,202	4,061,000
3	Capacity	Mcf/day	453.3927	2,803	-	1,270,860	1,271,000
4	SS	1,000 lbs	736.5331	5,701	-	4,198,975	4,199,000
5	BOD	1,000 lbs	847.6547	4,909	-	4,161,137	4,161,000
6	Total Treatment					13,692,174	13,692,000
	Conveyance						
7	Cheltenham and Tacony Creek	cfs	15,378	29.00	1.02250	455,996	456,000
8	Bouvier Street	cfs	23,315	2.75	1.02250	65,559	66,000
9	Total Conveyance					521,555	522,000
	Long Term Control Plan (LTCP)						
Line No.	**Cost Component**	**System Investment**		**Allocation**		**Allocated Investment (a)**	**Allocated Investment Rounded (a)**
		$				$	$
10	LTCP Infrastructure Investment	399,336,000		1.12000%		4,472,563	4,473,000
11	Total Allocated System Investment					**18,686,292**	**18,687,000**

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 6 Wastewater Wholesale: System Investment Allocated to DELCORA - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Allocated Investment (a)	(5) Allocated Investment Rounded (a)
Wholesale			$		$	$
	Treatment					
	SW Treatment Plant: Retail, DELCORA, Lower Merion, Springfield, (excluding Wyndmoor), and Upper Darby					
1	Volume	Mcf	7.9079	2,439,840	19,294,011	19,294,000
2	Capacity	Mcf/day	375.4394	13,392	5,027,884	5,028,000
3	SS	1,000 lbs	499.2568	19,487	9,729,017	9,729,000
4	BOD	1,000 lbs	699.6517	21,771	15,232,117	15,232,000
5	Total Treatment				49,283,029	49,283,000
	Long Term Control Plan (LTCP)					

Line No.		System Investment	Allocation	Allocated Investment (a)	Allocated Investment Rounded (a)
		$		$	$
6	LTCP Infrastructure Investment	399,336,000	0.21000%	838,606	839,000
7	Total Allocated System Investment			**$ 50,121,635**	**$ 50,122,000**

(a) Estimated Plant Investment as of 6/30/2024. Includes Administration and General costs.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 7 Wastewater Wholesale: System Investment Allocated to Lower Merion Township - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
Wholesale			$			$	$
	Treatment						
	Retail, DELCORA, Lower Merion, Springfield, (excluding Wyndmoor), and Upper Darby						
1	Volume	Mcf	7.9079	722,453	-	5,713,086	5,713,000
2	Capacity	Mcf/day	375.4394	2,788	-	1,046,725	1,047,000
3	SS	1,000 lbs	499.2568	7,315	-	3,652,063	3,652,000
4	BOD	1,000 lbs	699.6517	6,880	-	4,813,604	4,814,000
5	Total Treatment					15,225,478	15,226,000
	Conveyance						
6	City Avenue & 73rd Street	cfs	30,189	2.860	1.0225	88,283	88,000
7	City Avenue & 66th Street	cfs	35,407	15.880	1.0225	574,914	575,000
8	City Avenue & Overbrook Station	cfs	69,259	2.290	1.0225	162,172	162,000
9	City Avenue & 59th Street	cfs	132,481	0.330	1.0225	44,702	45,000
10	City Avenue & 54th Street	cfs	57,917	0.050	1.0225	2,961	3,000
11	City Avenue & 51st Street	cfs	60,355	8.470	1.0225	522,709	523,000
12	City Avenue & Conshohocken Avenue	cfs	103,583	0.390	1.0225	41,306	41,000
	City Avenue & Presidential Boulevard						
13	Sewers and Meter Station	cfs	134,831	1.300	1.0225	179,224	179,000
14	Neill Drive Pump Station	cfs	143,297	1.300	1.0225	190,478	190,000
	Barclay Building & Friends Central School						
15	Charged Inside Rates	cfs	43,227	0.052	1.0225	2,298	2,000
16	Total Conveyance					1,809,047	1,808,000
	Long Term Control Plan (LTCP):						
Line No.	**Cost Component**	**System Investment**		**Allocation**		**Allocated Investment (a)**	**Allocated Investment Rounded (a)**
		$				$	$
17	LTCP Infrastructure Investment	399,336,000		0.00000%		-	-
18	Total Allocated System Investment					**17,034,525**	**17,034,000**

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 8 Wastewater Wholesale: System Investment Allocated to Lower Moreland Township - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
Wholesale			$			$	$
	Treatment						
1	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton Capacity	Mcf/day	107.2367	518	-	55,549	56,000
2	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton Volume	Mcf	6.0672	95,514	-	579,503	580,000
3	Capacity	Mcf/day	453.3927	518	-	234,857	235,000
4	SS	1,000 lbs	736.5331	978	-	720,329	720,000
5	BOD	1,000 lbs	847.6547	731	-	619,636	620,000
6	Total Treatment					2,209,874	2,211,000
	Conveyance						
7	Woodhaven Road and City Line	cfs	195,719	0.4140	1.0225	82,851	83,000
8	Erwin Street and County Line	cfs	94,589	0.0650	1.0225	6,287	6,000
9	Moreland Road and Pine Road	cfs	64,910	0.0350	1.0225	2,323	2,000
10	Pine Road and Radburn Road	cfs	66,406	0.0380	1.0225	2,580	3,000
11	Welsh Road and County Line	cfs	66,860	0.6060	1.0225	41,429	41,000
12	City Line and Red Lion	cfs	66,860	0.0170	1.0225	1,162	1,000
13	Conveyance Line	cfs	62,555	7.7960	1.0225	498,652	499,000
14	PC-30 Improvements (b)					70,102	70,000
15	Total Conveyance					705,386	705,000
	Long Term Control Plan (LTCP):						

Line No.	Cost Component	System Investment	Allocation	Allocated Investment (a)	Allocated Investment Rounded (a)
		$		$	$
16	LTCP Infrastructure Investment	399,336,000	0.06000%	239,602	240,000
17	Total Allocated System Investment			3,154,862	3,156,000

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.
(b) Allocated 0.15 percent of the Sewer Fund's share of the project funding ($46,734,645).

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 9 Wastewater Wholesale: System Investment Allocated to Lower Southampton Township - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
Wholesale			$			$	$
	Treatment						
1	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton Capacity	Mcf/day	107.2367	1,394	-	149,488	149,000
2	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton Volume	Mcf	6.0672	355,909	-	2,159,371	2,159,000
3	Capacity	Mcf/day	453.3927	1,394	-	632,029	632,000
4	SS	1,000 lbs	736.5331	6,033	-	4,443,504	4,444,000
5	BOD	1,000 lbs	847.6547	5,505	-	4,666,339	4,666,000
6	Total Treatment					12,050,731	12,050,000
	Conveyance						
7	Trevose and City Line	cfs	92,315	15.79	1.0225	1,490,451	1,490,000
8	PC-30 Improvements (b)					8,730,032	8,730,000
9	Total Conveyance					10,220,483	10,220,000
	Long Term Control Plan (LTCP)						
Line No.	Cost Component	System Investment		Allocation		Allocated Investment (a)	Allocated Investment Rounded (a)
		$				$	$
10	LTCP Infrastructure Investment	399,336,000		0.16000%		638,938	639,000
11	Total Allocated System Investment					**22,910,151**	**22,909,000**

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.
(b) Allocated 18.68 percent of the Sewer Fund's share of the project funding ($46,734,645).

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 10 Wastewater Wholesale: System Investment Allocated to Springfield (excl. Wyndmoor) Township - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
Wholesale			$			$	$
	Treatment						
	Retail, DELCORA, Lower Merion, Springfield, (excluding Wyndmoor), and Upper Darby						
1	Volume	Mcf	7.9079	159,250	-	1,259,333	1,259,000
2	Capacity	Mcf/day	375.4394	585	-	219,632	220,000
3	SS	1,000 lbs	499.2568	3,314	-	1,654,537	1,655,000
4	BOD	1,000 lbs	699.6517	3,102	-	2,170,320	2,170,000
5	Total Treatment					5,303,822	5,304,000
	Conveyance (b)						
	Erdenheim and Stenton						
6	Sewers	cfs	139,780	2.00	1.0225	285,850	286,000
7	Central Schuylkill Pump Station	cfs	13,211	2.00	1.0225	27,016	27,000
8	Meter Station	ea	35,702	1.00	1.0225	36,505	37,000
9	Total					349,371	350,000
	Northwestern and Stenton						
10	Sewers	cfs	139,780	2.60	1.0225	371,605	372,000
11	Central Schuylkill Pump Station	cfs	13,211	2.60	1.0225	35,121	35,000
12	Meter Station	ea	10,270	1.00	1.0225	10,501	11,000
13	Total					417,227	418,000
14	Total Conveyance					766,598	768,000

Long Term Control Plan (LTCP)

Line No.	Cost Component	System Investment	Allocation	Allocated Investment (a)	Allocated Investment Rounded (a)
		$		$	$
15	LTCP Infrastructure Investment	399,336,000	0.26000%	1,038,274	1,038,000
16	Total Allocated System Investment			**7,108,694**	**7,110,000**

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.
(b) Excludes connection at Northwestern and Thomas which accounts for less than one half of one percent of township flow.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 11 Wastewater Wholesale: System Investment Allocated to Springfield (Wyndmoor) Township - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
			$			$	$
	Treatment						
	Retail and Springfield (Wyndmoor)						
1	Volume	Mcf	10.3486	49,697	-	514,294	514,000
2	Capacity	Mcf/day	1,475.1728	167	-	246,354	246,000
3	SS	1,000 lbs	486.7479	404	-	196,646	197,000
4	BOD	1,000 lbs	505.1282	301	-	152,044	152,000
5	Total Treatment					1,109,338	1,109,000
	Conveyance						
6		cfs	167,854	1.93	1.0225	331,247	331,000
7	Total Conveyance					331,247	331,000
8	Total Allocated System Investment					**1,440,585**	**1,440,000**

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 12 Wastewater Wholesale: System Investment Allocated to Upper Darby - Test Year 2026

Line No.	Cost Component	(1) Units	(2) Investment Per Unit (a)	(3) Number of Contract Units	(4) Infiltration/Inflow Capacity Allocation Factor	(5) Allocated Investment (a)	(6) Allocated Investment Rounded (a)
			$			$	$
	Treatment						
	Retail, DELCORA, Lower Merion, Springfield, (excluding Wyndmoor), and Upper Darby						
1	Volume	Mcf	7.9079	846,145	-	6,691,230	6,691,000
2	Capacity	Mcf/day	375.4394	3,094	-	1,161,610	1,162,000
3	SS	1,000 lbs	499.2568	7,422	-	3,705,234	3,705,000
4	BOD	1,000 lbs	699.6517	6,841	-	4,786,317	4,786,000
5	Total Treatment					16,344,391	16,344,000
	Conveyance						
6	60th Street and Cobbs Creek Parkway	cfs	20,191	35.00	1.0225	722,585	723,000
7	Total Conveyance					722,585	723,000
	Long Term Control Plan (LTCP)						
Line No.	Cost Component	System Investment		Allocation		Allocated Investment (a)	Allocated Investment Rounded (a)
		$				$	$
8	LTCP Infrastructure Investment	399,336,000		0.61%		2,435,950	2,436,000
9	Total Allocated System Investment					**19,502,926**	**19,503,000**

(a) Plant Investment as of 6/30/2024. Includes Administration and General costs.

cfs - cubic feet per second
Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 13 Wastewater Wholesale: Unit Pumping and Treatment Operation and Maintenance Expense Applicable to Contract Service

Line No.	Cost Component	(1) Net Operating Expense	(2) Projected TY Units of Service		(3) Unit Operating Expense
		$			$/Unit
	PUMPING STATIONS				
	Neill Drive Pumping Station				
	Retail and Lower Merion				
1	Total Volume	13,000	61,250	Mcf	0.2122
2	Total Capacity	204,400	370	Mcf/day	552.4324
	Central Schuykill Pumping Station				
	Retail and Springfield (excl. Wyndmoor)				
3	Total Volume	51,000	3,425,000	Mcf	0.0149
4	Total Capacity	621,000	22,110	Mcf/day	28.0868
	WATER POLLUTION CONTROL PLANTS				
	Northeast Plant:				
	Retail and Cheltenham				
5	Volume	-	NA	Mcf	-
6	Capacity	-	NA	Mcf/day	-
	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton				
7	Volume	746,000	6,067,000	Mcf	0.1230
8	Capacity	4,759,000	39,100	Mcf/day	121.7136
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton				
9	Volume	17,344,000	8,198,000	Mcf	2.1156
10	Capacity	8,805,000	52,836	Mcf/day	166.6477
11	Suspended Solids	32,343,000	106,124	1,000 lbs	304.7666
12	BOD	26,707,000	82,827	1,000 lbs	322.4434
	Southwest Plant:				
	Retail, DELCORA, Lower Merion, Springfield (Excluding Wyndmoor), and Upper Darby				
13	Volume	18,079,000	8,995,000	Mcf	2.0099
14	Capacity	7,412,000	57,973	Mcf/day	127.8526
15	Suspended Solids	23,468,968	80,174	1,000 lbs	292.7254
16	BOD	15,951,000	52,440	1,000 lbs	304.1762
	Southeast Plant:				
	Retail and Springfield (Wyndmoor)				
17	Volume	12,855,000	3,904,000	Mcf	3.2928
18	Capacity	9,022,000	25,161	Mcf/day	358.5708
19	Suspended Solids	15,590,000	30,223	1,000 lbs	515.8323
20	BOD	5,775,000	19,420	1,000 lbs	297.3738

NA - Not Applicable
Mcf - thousand cubic feet
Mcf/day - thousand cubic feet per day
lbs - pounds

Appendix I – Table 14 Wastewater Wholesale: Operating Expense Allocated to Abington Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	Cost Component	Allocated Investment				Allocated Operating Expense
		$				$
1	Sewer Maintenance (a)	490,000	x	3.80%		18,620

	Treatment:					
Line No.	Cost Component	Operating Expense Per Unit		Test Yr. No. of Units		Allocated Operating Expense
		$				$
	NE Treatment Plants: Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton					
2	Volume	0.1230	$/Mcf	110,500	Mcf	13,592
3	Capacity	121.7136	$/Mcf/day	844	Mcf/day	102,726
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton					
4	Volume	2.1156	$/Mcf	110,500	Mcf	233,774
5	Capacity	166.6477	$/Mcf/day	844	Mcf/day	140,651
6	Suspended Solids	304.7666	$/1,000 lbs	1,218	1,000 lbs	371,346
7	BOD	322.4434	$/1,000 lbs	1,429	1,000 lbs	460,889
8	Customer Costs					13,800
9	Total Treatment					1,355,398

	Long Term Control Plan (LTCP)			
Line No.	LTCP O&M Costs	System Annual Cost	Allocation	Allocated Operating Expense
		$		$
10	Amortization of SMIP/GARP Expenses (b)	9,787,788	0.1000%	9,788
11	LTCP O&M Costs	13,976,760	0.1000%	13,977
12	Total Annual Operating Expense			1,379,163
13	Total - Rounded			1,379,000

(a) Based on investment in sewers serving Abington.
(b) Reflects amortization of SMIP/GARP costs over 20 years at 5.5% long term bond interest rate.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 15 Wastewater Wholesale: Operating Expense Allocated to Bensalem Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	Cost Component	Allocated Investment				Allocated Operating Expense
		$				$
1	Sewer Maintenance (a)	1,110,000	x	3.80%		42,180
	Treatment:					
Line No.	Cost Component	Operating Expense Per Unit		Test Yr. No. of Units		Allocated Operating Expense
		$				$
	NE Treatment Plants:					
	Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton					
2	Volume	0.1230	$/Mcf	148,600	Mcf	18,278
3	Capacity	121.7136	$/Mcf/day	1,034	Mcf/day	125,852
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton					
4	Volume	2.1156	$/Mcf	148,600	Mcf	314,378
5	Capacity	166.6477	$/Mcf/day	1,034	Mcf/day	172,314
6	Suspended Solids	304.7666	$/1,000 lbs	1,899	1,000 lbs	578,740
7	BOD	322.4434	$/1,000 lbs	1,959	1,000 lbs	631,599
8	Customer Costs					49,400
9	Total Treatment					1,932,741
	Long Term Control Plan (LTCP):					
Line No.	LTCP O&M Costs	System Annual Cost		Allocation		Allocated Operating Expense
		$				$
10	Amortization of SMIP/GARP Expenses (b)	9,787,788		0.1200%		11,745
11	LTCP O&M Costs	13,976,760		0.1200%		16,772
12	Total					1,961,258
13	Total - Rounded					1,961,000

(a) Based on investment in sewers serving Bensalem.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 16 Wastewater Wholesale: Operating Expense Allocated to Bucks County W&SA - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	**Cost Component**	**Allocated Investment**				**Allocated Operating Expense**
		$				$
1	Sewer Maintenance (a)	1,566,000	x	3.80%		59,508
	Treatment:					
Line No.	**Cost Component**	**Operating Expense Per Unit**		**Test Yr. No. of Units**		**Allocated Operating Expense**
		$				$
	NE Treatment Plants: Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton					
2	Volume	0.1230	$/Mcf	929,100	Mcf	114,279
3	Capacity	121.7136	$/Mcf/day	6,556	Mcf/day	797,954
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton					
4	Volume	2.1156	$/Mcf	929,100	Mcf	1,965,604
5	Capacity	166.6477	$/Mcf/day	6,556	Mcf/day	1,092,542
6	Suspended Solids	304.7666	$/1,000 lbs	10,201	1,000 lbs	3,108,994
7	BOD	322.4434	$/1,000 lbs	9,492	1,000 lbs	3,060,678
8	Customer Costs					16,200
9	Total Treatment					10,215,759
	Long Term Control Plan (LTCP):					
Line No.	**LTCP O&M Costs**	**System Annual Cost**		**Allocation**		**Allocated Operating Expense**
		$				$
10	Amortization of SMIP/GARP Expenses (b)	9,787,788		0.0000%		-
11	LTCP O&M Costs	13,976,760		0.0000%		-
12	Total					10,215,759
13	Total - Rounded					10,216,000

(a) Based on investment in sewers serving Bucks County W&SA.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 17 Wastewater Wholesale: Operating Expense Allocated to Cheltenham Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	Cost Component	Allocated Investment				Allocated Operating Expense
		$				$
1	Sewer Maintenance (a)	522,000	x	3.80%		19,836
	Treatment:					
Line No.	Cost Component	Operating Expense Per Unit		Test Yr. No. of Units		Allocated Operating Expense
		$				$
	NE Treatment Plants: Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton					
2	Volume	0.1230	$/Mcf	NA	Mcf	-
3	Capacity	121.7136	$/Mcf/day	NA	Mcf/day	-
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton					
4	Volume	2.1156	$/Mcf	394,000	Mcf	833,546
5	Capacity	166.6477	$/Mcf/day	2,803	Mcf/day	467,114
6	Suspended Solids	304.7666	$/1,000 lbs	2,628	1,000 lbs	800,848
7	BOD	322.4434	$/1,000 lbs	2,262	1,000 lbs	729,281
8	Customer Costs					33,700
9	Total Treatment					2,884,325
	Long Term Control Plan (LTCP):					
Line No.	LTCP O&M Costs	System Annual Cost		Allocation		Allocated Operating Expense
		$				$
10	Amortization of SMIP/GARP Expenses (b)	9,787,788		1.1200%		109,623
11	LTCP O&M	13,976,760		1.1200%		156,540
12	Total					3,150,488
13	Total - Rounded					3,150,000

(a) Based on investment in sewers serving Cheltenham.
(b) Reflects amortization of SMIP/GARP costs over 20 years at 5.5% long term bond interest rate.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 18 Wastewater Wholesale: Operating Expense Allocated to DELCORA - Test Year 2026

		(1)		(2)		(3)
	Treatment:					
Line No.	Cost Component	Operating Expense Per Unit		Test Yr. No. of Units		Allocated Operating Expense
		$				$
	SW Treatment Plant: Retail, DELCORA, Lower Merion, Springfield (Excluding Wyndmoor), and Upper Darby					
1	Volume	2.0099	$/Mcf	1,063,000	Mcf	2,136,524
2	Capacity	127.8526	$/Mcf/day	13,392	Mcf/day	1,712,202
3	Suspended Solids	292.7254	$/1,000 lbs	12,207	1,000 lbs	3,573,183
4	BOD	304.1762	$/1,000 lbs	10,636	1,000 lbs	3,235,337
5	Customer Costs					43,000
6	Total Treatment					10,700,246

	Long Term Control Plan (LTCP):			
Line No.	LTCP O&M Costs	System Annual Cost	Allocation	Allocated Operating Expense
		$		$
7	Amortization of SMIP/GARP Expenses (a)	9,787,788	0.21000%	20,554
8	LTCP O&M	13,976,760	0.21000%	29,351
9	Total Annual Operating Expense			10,750,151
10	Total - Rounded			10,750,000

(a) Reflects amortization of SMIP/GARP costs over 20 years at 5.5% long term bond interest rate.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 19 Wastewater Wholesale: Operating Expense Allocated to Lower Merion Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	Cost Component	Allocated Investment				Allocated Operating Expense
		$				$
1	Sewer Maintenance (a)	1,808,000	x	3.80%		68,704
	Treatment:					
Line No.	Cost Component	Operating Expense Per Unit		Test Yr. No. of Units		Allocated Operating Expense
		$				$
	Neill Drive Pump Station					
	Retail and Lower Merion					
2	Volume	0.2122	$/Mcf	11,700	Mcf	2,483
3	Capacity	552.4324	$/Mcf/day	115	Mcf/day	63,530
	SW Treatment Plants:					
	Retail, DELCORA, Lower Merion, Springfield (Excluding Wyndmoor), and Upper Darby					
4	Volume	2.0099	$/Mcf	299,900	Mcf	602,769
5	Capacity	127.8526	$/Mcf/day	2,788	Mcf/day	356,453
6	Suspended Solids	292.7254	$/1,000 lbs	3,040	1,000 lbs	889,951
7	BOD	304.1762	$/1,000 lbs	2,550	1,000 lbs	775,614
8	Customer Costs					53,900
9	Total Treatment					2,813,404
	Long Term Control Plan (LTCP):					
Line No.	Cost Component	System Annual Cost		Allocation		Allocated Operating Expense
		$				$
10	Amortization of SMIP/GARP Expenses (a)	9,787,788		0.00000%		-
11	LTCP O&M	13,976,760		0.00000%		-
12	Total Annual Operating Expense					2,813,404
13	Total - Rounded					2,813,000

(a) Based on investment in sewers serving Lower Merion.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 20 Wastewater Wholesale: Operating Expense Allocated to Lower Moreland Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	**Cost Component**	**Allocated Investment**				**Allocated Operating Expense**
		$				$
1	Sewer Maintenance (a)	705,000	x	3.80%		26,790
	Treatment:					
Line No.	**Cost Component**	**Operating Expense Per Unit**		**Test Yr. No. of Units**		**Allocated Operating Expense**
		$				$
	NE Treatment Plants: Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton					
2	Volume	0.1230	$/Mcf	70,800	Mcf	8,708
3	Capacity	121.7136	$/Mcf/day	518	Mcf/day	63,048
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton					
4	Volume	2.1156	$/Mcf	70,800	Mcf	149,784
5	Capacity	166.6477	$/Mcf/day	518	Mcf/day	86,324
6	Suspended Solids	304.7666	$/1,000 lbs	706	1,000 lbs	215,286
7	BOD	322.4434	$/1,000 lbs	524	1,000 lbs	169,005
8	Customer Costs					20,700
9	Total Treatment					739,645
	Long Term Control Plan (LTCP):					
Line No.	**LTCP O&M Costs**	**System Annual Cost**		**Allocation**		**Allocated Operating Expense**
		$				$
10	Amortization of SMIP/GARP Expenses (b)	9,787,788		0.06000%		5,873
11	LTCP O&M Costs	13,976,760		0.06000%		8,386
12	Total Annual Operating Expense					753,904
13	Total - Rounded					754,000

(a) Based on investment in sewers serving Lower Moreland.
(b) Reflects amortization of SMIP/GARP costs over 20 years at 5.5% long term bond interest rate.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 21 Wastewater Wholesale: Operating Expense Allocated to Lower Southampton Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	**Cost Component**	**Allocated Investment**				**Allocated Operating Expense**
		$				$
1	Sewer Maintenance (a)	10,220,000	x	3.80%		388,360
	Treatment:					
Line No.	**Cost Component**	**Operating Expense Per Unit**		**Test Yr. No. of Units**		**Allocated Operating Expense**
		$				$
	NE Treatment Plants: Retail, Abington, Bensalem, Bucks County W&SA, Lower Moreland, and Lower Southampton					
2	Volume	0.1230	$/Mcf	272,500	Mcf	33,518
3	Capacity	121.7136	$/Mcf/day	1,394	Mcf/day	169,669
	Retail, Abington, Bensalem, Bucks County W&SA, Cheltenham, Lower Moreland, and Lower Southampton					
4	Volume	2.1156	$/Mcf	272,500	Mcf	576,501
5	Capacity	166.6477	$/Mcf/day	1,394	Mcf/day	232,307
6	Suspended Solids	304.7666	$/1,000 lbs	1,515	1,000 lbs	461,742
7	BOD	322.4434	$/1,000 lbs	1,436	1,000 lbs	463,024
8	Customer Costs					16,200
9	Total Treatment					2,341,321
	Long Term Control Plan (LTCP):					
Line No.	**LTCP O&M Costs**	**System Annual Cost**		**Allocation**		**Allocated Operating Expense**
		$				$
10	Amortization of SMIP/GARP Expenses (b)	9,787,788		0.16000%		15,660
11	LTCP O&M Costs	13,976,760		0.16000%		22,363
12	Total Annual Operating Expense					2,379,344
13	Total - Rounded					2,379,000

(a) Based on investment in sewers serving Lower Southampton.
(b) Reflects amortization of SMIP/GARP costs over 20 years at 5.5% long term bond interest rate.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 22 Wastewater Wholesale: Operating Expense Allocated to Springfield (Excl. Wyndmoor) Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	Cost Component	Allocated Investment				Allocated Operating Expense
		$				$
1	Sewer Maintenance (a)	768,000	x	3.80%		29,184
	Treatment:					
Line No.	Cost Component	Operating Expense Per Unit		Test Yr. No. of Units		Allocated Operating Expense
		$				$
	Central Schuylkill Pump Station					
	Retail and Springfield (excluding Wyndmoor)					
2	Volume	0.0149	$/Mcf	129,100	Mcf	1,924
3	Capacity	28.0868	$/Mcf/day	585	Mcf/day	16,431
	SW Treatment Plants:					
	Retail, DELCORA, Lower Merion, Springfield					
	(Excluding Wyndmoor), and Upper Darby					
4	Volume	2.0099	$/Mcf	129,100	Mcf	259,478
5	Capacity	127.8526	$/Mcf/day	585	Mcf/day	74,794
6	Suspended Solids	292.7254	$/1,000 lbs	2,102	1,000 lbs	615,218
7	BOD	304.1762	$/1,000 lbs	2,035	1,000 lbs	618,955
8	Customer Costs					27,200
9	Total Treatment					1,643,184
	Long Term Control Plan (LTCP):					
Line No.	LTCP O&M Costs	System Annual Cost		Allocation		Allocated Operating Expense
		$				$
10	Amortization of SMIP/GARP Expenses (b)	9,787,788		0.26000%		25,448
11	LTCP O&M Costs	13,976,760		0.26000%		36,340
12	Total Annual Operating Expense					1,704,972
13	Total - Rounded					1,705,000

(a) Based on investment in sewers serving Springfield (excluding Wyndmoor).
(b) Reflects amortization of SMIP/GARP costs over 20 years at 5.5% long term bond interest rate.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 23 Wastewater Wholesale: Operating Expense Allocated to Springfield (Wyndmoor) Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	**Cost Component**	**Allocated Investment**				**Allocated Operating Expense**
		$				**$**
1	Sewer Maintenance (a)	331,000	x	3.80%		12,578

	Treatment:					
Line No.	**Cost Component**	**Operating Expense Per Unit**		**Test Yr. No. of Units**		**Allocated Operating Expense**
		$				**$**
	SE Treatment Plants:					
	Retail, Springfield (Wyndmoor)					
2	Volume	3.2928	$/Mcf	18,900	Mcf	62,234
3	Capacity	358.5708	$/Mcf/day	167	Mcf/day	59,881
4	Suspended Solids	515.8323	$/1,000 lbs	184	1,000 lbs	94,777
5	BOD	297.3738	$/1,000 lbs	152	1,000 lbs	45,250
6	Customer Costs					7,700
7	Total					282,420
8	Total - Rounded					282,000

(a) Based on investment in sewers serving Springfield (Wyndmoor).

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 24 Wastewater Wholesale: Operating Expense Allocated to Upper Darby Township - Test Year 2026

		(1)		(2)		(3)
	Collection System:					
Line No.	Cost Component	Allocated Investment				Allocated Operating Expense
		$				$
1	Sewer Maintenance (a)	723,000	x	3.80%		27,474
	Treatment:					
Line No.	Cost Component	Operating Expense Per Unit		Test Yr. No. of Units		Allocated Operating Expense
		$				$
	SW Treatment Plants: Retail, DELCORA, Lower Merion, Springfield (Excluding Wyndmoor), and Upper Darby					
2	Volume	2.0099	$/Mcf	455,600	Mcf	915,710
3	Capacity	127.8526	$/Mcf/day	3,094	Mcf/day	395,576
4	Suspended Solids	292.7254	$/1,000 lbs	5,401	1,000 lbs	1,580,962
5	BOD	304.1762	$/1,000 lbs	3,866	1,000 lbs	1,175,936
6	Customer Costs					13,800
7	Total Treatment					4,109,458
	Long Term Control Plan (LTCP):					
Line No.	LTCP O&M Costs	System Annual Cost		Allocation		Allocated Operating Expense
		$				$
8	Amortization of SMIP/GARP Expenses (b)	9,787,788		0.61000%		59,706
9	LTCP O&M Costs	13,976,760		0.61000%		85,258
10	Total Annual Operating Expense					4,254,422
11	Total - Rounded					4,254,000

(a) Based on investment in sewers serving Upper Darby.

Mcf - Thousand cubic feet
lbs - pounds

Appendix I – Table 25 Wastewater Wholesale: Summary of Allocated Cost of Service for Contract Customers - Test Year 2027

LINE NO.	CUSTOMER	(1) INVESTMENT (a) ALLOCATED	(2) INVESTMENT (a) ALLOCATED DEPRECIABLE	(3) O&M	(4) DEPR'N	(5) RETURN	(6) ALLOCATED COST OF SERVICE
Wholesale Customers ($000S)							
1	Abington	$ 6,335	$ 6,319	$ 1,424	$ 154	$ 475	$ 2,053
2	Bucks County (Bensalem) (b)	11,316	11,288	2,026	13	46	2,085
3	Bucks County (c)	33,918	33,824	10,546	239	718	11,503
4	Cheltenham	18,687	18,647	3,241	441	1,402	5,084
5	DELCORA (d)	50,122	49,978	11,034	250	762	12,046
6	Lower Merion	17,034	16,990	2,892	(a)	(a)	2,892
7	Lower Moreland	3,156	3,150	778	74	237	1,089
8	Lower Southampton (e)	22,909	22,874	2,480	518	1,718	4,716
9	Springfield (less Wyndmoor)	7,110	7,095	1,753	169	533	2,455
10	Springfield (Wyndmoor)	1,440	1,387	290	33	108	431
11	Upper Darby (b)	19,503	19,456	4,367	53	195	4,614
12	Total	$ 191,530	$ 191,008	$ 40,831	$ 1,943	$ 6,193	$ 48,967

(a) It is assumed that Bensalem, Lower Merion and Upper Darby contribute their entire allocated plant investment, and therefore, are not allocated any depreciation expense or return on investment.
(b) Bensalem and Upper Darby allocated Return on Investment and Depreciation Expense based on assets in service after 6/30/2023.
(c) Bucks County allocated Return on Investment and Depreciation Expense based on assets in service after 6/30/2007.
(d) DELCORA allocated Return on Investment and Depreciation Expense based on assets in service after 7/1/2011.
(e) Lower Southampton phased into Return on Investment and Depreciation Expense on total rate base uniformly over18 years staring in FY 2007.

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges

Fiscal Years 2026-2027

Philadelphia Water Department

Black & Veatch Management Consulting, LLC

Schedule BV-3

Dated: February 2025

Schedule REF #		Schedule Name
BV-3	**Black & Veatch Schedules**	
1	**TABLE M-1**	Summary of Miscellaneous Charges (Regular Hours)
4	**TABLE M-2**	Summary of Miscellaneous Charges (Overtime Hours)

Philadelphia Water Department

TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)

			1	2	3	4	5
				Calculated Charges		PWD Miscellaneous Charges	
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027
Section 6- Miscellaneous Water Charges							
1	Meter Test Charges	6.1					
	5/8"	6.1 (e)	$140.00	$159.58	$165.53	$160.00	$170.00
	1",1.5",2"	6.1 (e)	$190.00	$220.44	$228.71	$225.00	$230.00
	3",4",6",8",10",12"	6.1 (e)	$400.00	$424.00	$439.21	$425.00	$440.00
	Field Tests 3" and above	6.1 (e)	$400.00	$424.00	$439.21	$425.00	$440.00
2	Charges for Furnishing and Installation of Water Meters	6.2					
a	Setting both Meter and Meter Interface Unit (MIU)	6.2 (a)					
	5/8"	6.2 (a)	$230.00	$295.25	$358.63	$300.00	$360.00
	3/4 RFSS	6.2 (a)	$435.00	$539.68	$609.91	$540.00	$610.00
	1"	6.2 (a)	$395.00	$453.64	$505.15	$455.00	$510.00
	1" RFSS	6.2 (a)	$490.00	$561.77	$629.50	$565.00	$630.00
	1 1/2	6.2 (a)	$875.00	$1,217.61	$1,383.72	$1,220.00	$1,385.00
	1 1/2 RFSS	6.2 (a)	$825.00	$1,037.18	$1,176.22	$1,040.00	$1,180.00
	2"	6.2 (a)	$1,055.00	$1,217.61	$1,383.72	$1,220.00	$1,385.00
	2" RFSS	6.2 (a)	$1,070.00	$1,255.96	$1,427.82	$1,260.00	$1,430.00
	3" Compound	6.2 (a)	$3,485.00	$4,142.80	$4,725.51	$4,145.00	$4,730.00
	3" Turbine	6.2 (a)	$1,910.00	$2,043.82	$2,311.68	$2,045.00	$2,315.00
	3" Fire Series	6.2 (a)	$3,820.00	$4,100.02	$4,676.31	$4,105.00	$4,680.00
	4" Compound	6.2 (a)	$4,830.00	$5,491.63	$6,276.66	$5,495.00	$6,280.00
	4" Turbine	6.2 (a)	$2,760.00	$3,266.92	$3,718.25	$3,270.00	$3,720.00
	4" Fire Series	6.2 (a)	$4,725.00	$5,412.66	$6,185.85	$5,415.00	$6,190.00
	4" Fire Assembly	6.2 (a)	$6,385.00	$7,612.95	$8,716.18	$7,615.00	$8,720.00
	6" Compound	6.2 (a)	$6,760.00	$8,214.14	$9,407.55	$8,215.00	$9,410.00
	6" Turbine	6.2 (a)	$5,200.00	$6,177.52	$7,065.44	$6,180.00	$7,070.00
	6" Fire Series	6.2 (a)	$6,255.00	$7,202.61	$8,244.29	$7,205.00	$8,245.00
	6" Fire Assembly	6.2 (a)	$9,120.00	$11,971.51	$13,728.53	$11,975.00	$13,730.00
	8" Turbine	6.2 (a)	$6,175.00	$7,360.30	$8,425.64	$7,365.00	$8,430.00
	8" Fire Series	6.2 (a)	$7,925.00	$9,430.55	$10,806.42	$9,435.00	$10,810.00
	8" Fire Assembly	6.2 (a)	$12,890.00	$15,422.21	$17,696.83	$15,425.00	$17,700.00
	10" Turbine	6.2 (a)	$8,960.00	$10,585.64	$12,134.78	$10,590.00	$12,135.00
	10" Fire Series	6.2 (a)	$9,760.00	$11,644.08	$13,351.98	$11,645.00	$13,355.00
	10" Fire Assembly	6.2 (a)	$18,630.00	$22,338.21	$25,650.23	$22,340.00	$25,655.00
	12" Turbine	6.2 (a)	$9,490.00	$11,321.27	$12,980.75	$11,325.00	$12,985.00
	12" Fire Series	6.2 (a)	$10,975.00	$14,786.65	$16,965.94	$14,790.00	$16,970.00
	12" Fire Assembly	6.2 (a)	$19,845.00	$23,803.32	$27,335.11	$23,805.00	$27,340.00

Philadelphia Water Department

TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)

			1	2	3	4	5
				Calculated Charges		PWD Miscellaneous Charges	
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027
b	Furnishing and Setting Meter Interface Unit (MIU)	6.2 (b)					
	5/8"	6.2 (b)	$75.00	$96.47	$100.22	$100.00	$105.00
	3/4 RFSS	6.2 (b)	$75.00	$96.47	$100.22	$100.00	$105.00
	1"	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00
	1" RFSS	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00
	1 1/2	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00
	1 1/2 RFSS	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00
	2"	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00
	2" RFSS	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00
	3" Compound	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00
	3" Turbine	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00
	4" Compound	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00
	4" Turbine	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00
	6" Compound	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00
	6" Turbine	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00
	8"	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00
	10"	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00
3	Tampering of Meter	6.3					
	5/8" or 3/4"	6.3 (a)	$90.00	$96.47	$100.22	$110.00	$120.00
	1", 1.5" or 2"	6.3 (a)	$140.00	$146.96	$152.47	$170.00	$170.00
	3" and larger	6.3 (a)	$350.00	$339.20	$351.37	$380.00	$390.00
4	Shut-Off and Restoration of Water Service	6.4					
a	Site Visit for Non-payment	6.4 (a)	$75.00	$96.47	$100.22	$100.00	$105.00
b	Non-compliance with Notice of Defect and/or Metering No	6.4 (b)	$75.00	$96.47	$100.22	$100.00	$105.00
c	Restoration of Water Service	6.4 (c)					
	Operating service valve 2" and smaller service lines	6.4 (c) (1) (i)	$75.00	$96.47	$100.22	$100.00	$105.00
	Operating service valve larger than 2" service lines	6.4 (c) (1) (ii)	$370.00	$381.88	$396.41	$385.00	$400.00
	Obstructed curb stop, missing access box, requires excavation	6.4 (c) (2)	$725.00	$788.69	$821.96	$790.00	$825.00
	Curb stop inoperable, requires installation of new curb stop	6.4 (c) (3)	$765.00	$826.14	$862.03	$830.00	$865.00
	Obstructed curb stop, missing access box, requires excavation and footway paving	6.4 (c) (4)	$735.00	$800.67	$834.78	$805.00	$835.00
	Curb stop inoperable, requires installation of new curb stop and footway paving	6.4 (c) (5)	$775.00	$838.12	$874.85	$840.00	$875.00
	Excavation and shutoff of ferrule at the water main	6.4 (c) (6)	$1,505.00	$1,614.84	$1,677.92	$1,615.00	$1,680.00
	TAP Customers -Shut-off and Restoration of Water Service	*6.4 (e)*					
	Shut off service for non-payment; and, payment is tendered at the time of the shut-off	*6.4 (e) (1)*	NA	NA	NA	$12.00	$12.00
	Restore water service after termination for non-payment or violation of service requirements	*6.4 (e) (2)*	NA	NA	NA	$12.00	$12.00
5	Pumping of Properties	6.5	Actual Cost	$155.43	$160.96	Actual Cost	Actual Cost

Philadelphia Water Department

TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)

			1	2	3	4	5
				Calculated Charges		PWD Miscellaneous Charges	
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027
6	Charges for Water Main Shutdown Service	6.6	$360.00	$358.89	$372.43	$360.00	$375.00
7	Water Connection Charges	6.7					
b	Ferrule Connections	6.7 (b)					
	3/4"	6.7 (b) (2)	$190.00	$230.24	$240.66	$235.00	$245.00
	1"	6.7 (b) (2)	$220.00	$264.84	$277.69	$265.00	$280.00
	1.5"	6.7 (b) (2)	$265.00	$325.47	$342.56	$330.00	$345.00
	2"	6.7 (b) (2)	$335.00	$426.09	$450.22	$430.00	$455.00
c	Valve Connections	6.7 (c)					
	3" & 4"	6.7 (c) (1)	$13,235.00	$14,328.52	$14,945.56	$14,330.00	$14,950.00
	6" & 8"	6.7 (c) (1)	$14,160.00	$15,502.62	$16,201.84	$15,505.00	$16,205.00
	10" & 12"	6.7 (c) (1)	$16,990.00	$18,948.19	$19,888.61	$18,950.00	$19,890.00
d	Attachment to a Transmission Main	6.7 (d)					
	3" & 4" Sleeve	6.7 (d) (2)					
	16" Main	6.7 (d) (2)	$21,665.00	$24,804.84	$26,058.72	$24,805.00	$26,060.00
	20" Main	6.7 (d) (2)	$23,970.00	$27,896.07	$29,366.33	$27,900.00	$29,370.00
	24" Main	6.7 (d) (2)	$26,430.00	$30,907.16	$32,588.20	$30,910.00	$32,590.00
	30" Main	6.7 (d) (2)	$39,465.00	$47,281.20	$50,108.42	$47,285.00	$50,110.00
	36" Main	6.7 (d) (2)	$46,870.00	$56,693.42	$60,179.50	$56,695.00	$60,180.00
	6" & 8" Sleeve	6.7 (d) (2)					
	16" Main	6.7 (d) (2)	$21,895.00	$25,091.07	$26,364.98	$25,095.00	$26,365.00
	20" Main	6.7 (d) (2)	$23,660.00	$27,438.11	$28,876.32	$27,440.00	$28,880.00
	24" Main	6.7 (d) (2)	$26,430.00	$30,907.16	$32,588.20	$30,910.00	$32,590.00
	30" Main	6.7 (d) (2)	$41,595.00	$49,987.09	$53,003.72	$49,990.00	$53,005.00
	36" Main	6.7 (d) (2)	$51,775.00	$62,929.33	$66,851.92	$62,930.00	$66,855.00
	10" & 12" Sleeve	6.7 (d) (2)					
	16" Main	6.7 (d) (2)	$21,970.00	$25,148.31	$26,426.23	$25,150.00	$26,430.00
	20" Main	6.7 (d) (2)	$24,045.00	$28,697.50	$30,223.86	$28,700.00	$30,225.00
	24" Main	6.7 (d) (2)	$26,430.00	$30,907.16	$32,588.20	$30,910.00	$32,590.00
	30" Main	6.7 (d) (2)	$42,275.00	$50,986.83	$54,073.45	$50,990.00	$54,075.00
	36" Main	6.7 (d) (2)	$54,680.00	$66,807.79	$71,001.87	$66,810.00	$71,005.00
8	Discontinuance of Water	6.8	$100.00	$1,548.52	$1,628.33	$100.00	$100.00
9	Hydrant Permits	6.9					
	One Week	6.9 (b) (1)	$1,690.00	$2,242.59	$2,297.65	$2,245.00	$2,300.00
	Six Month	6.9 (b) (2)	$8,815.00	$22,964.03	$23,019.09	$12,345.00	$17,285.00
10	Flow Tests	6.10	$585.00	$660.20	$680.56	$665.00	$685.00
11	Water Service Line Investigations and/or Inspections	6.11	$140.00	$164.53	$170.66	$165.00	$175.00

Philadelphia Water Department

TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)

			1	2	3	4	5
				Calculated Charges		PWD Miscellaneous Charges	
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027
Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater	7.1	$14.81	TBD-Rate Study			
2	Charges for Wastewater Service	7.2	$65.88	TBD-Rate Study			
3	Wastewater Discharge Permit	7.3	$3,845.00	$5,821.14	$6,024.88	$5,385.00	$6,025.00
4	Groundwater Discharge Permit	7.4	$2,860.00	$3,246.40	$3,360.03	$3,250.00	$3,365.00
5	Manhole Pump-out Permit	7.5	$2,950.00	$3,174.04	$3,285.13	$3,175.00	$3,290.00
6	Trucked or Hauled Wastewater Permit	7.6	$1,610.00	$2,493.12	$2,580.38	$2,255.00	$2,585.00
7	Photographic & Video Inspection	7.7	$275.00	$275.00	$275.00	$275.00	$275.00
Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees	8.1					
	Conceptual Stormwater Plan Approval	8.1 (a) (1)	$1,515.00	$1,763.68	$1,793.56	$1,765.00	$1,795.00
	Post Construction Stormwater Plan Approval (Additional Re	8.1 (a) (2)	$225.00	$252.03	$257.80	$255.00	$260.00
	Final Inspection of Development Project	8.1 (a) (3)	$385.00	$403.80	$418.20	$405.00	$420.00
	E&S Second Reinspection	New Fee 8.1 (a) (4) (i)	$0.00	$104.52	$108.28	$105.00	$110.00
	E&S Third Reinspection	New Fee 8.1 (a) (4) (ii)	$0.00	$104.52	$108.28	$210.00	$220.00
	E&S Fourth/Subsequent Reinspection	New Fee 8.1 (a) (4) (iii)	$0.00	$104.52	$108.28	$315.00	$325.00
	Utility Plan Review Fee	8.3 (a)	$320.00	$348.36	$360.55	$350.00	$365.00
2	Stormwater Management Fee in Lieu	8.2					
	Exemption to Water Quality Requirement	8.2 (a)	$36.00	$39.69	$39.69	$40.00	$40.00
Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee	3.5 (c)	$1,150.00	$1,638.28	$1,695.62	$1,610.00	$1,700.00
2	Sewer Credit Failure to Inform PWD about increase	3.5 (f)	$540.00	$594.85	$615.67	$595.00	$620.00
Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal	4.5 (f) (4)	$395.00	$896.70	$928.09	$555.00	$780.00

Philadelphia Water Department

TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)

			1	2	3	4	5
				Calculated Charges		PWD Miscellaneous Charges	
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027

Column Notes

1 From the PWD Regulations Chapter 3-Rates and Charges Effective September 1, 2024 (FY 2025 Charges)

2,3 Calculated charges for work performed during Water Department's regular business hours (9:00 a.m. to 4:45 p.m.) (i.e. not including overtime)

FY 2026 Labor costs assume an escalation of 5% from FY 2025 budgeted salary costs .

FY 2027 labor costs assume an escalation of 3.5% from FY 2026 escalated salary costs.

Equipment costs based on FY 2023 FEMA rates.

Since FEMA costs are a lagging indicator, annual escalation applied to project FY 2026 and FY 2027 equipment costs.

Material costs provided by PWD. Small meter (5/8 Inch) costs escalated by 30%, for large meters (>5/8 Inch) costs escalated by 15% and 7% for all other materials each year in FY 2026 and FY 2027.

4,5 Proposed FY 2026 -FY 2027 Miscellaneous charges.

Row Notes

Section 6.2 (b) ERT material costs are excluded because ERTs are under warranty. Removed ERTs are sent to ITRON and ITRON sends a replacement. The cost of ERT is built into the ITRON contract and is recovered through the meter based charges.

Section 6.8 City Code (Chapter 19-1600 Water Sewer Rents) stipulates the Discontinuance Permit fee at $100 (allocated $30 for water department use and $70 for general fund use).

Section 7.7 Per PWD Staff the customer is billed the amount that is charged by the contractor, which is $275.

Section 8.1 (a) Development Services Unit has proposed new fees for reinspections.

Section 8.2 (a) Fee per square foot of Drainage area. Based on FY 2024 design, construction and maintenance costs provided by PWD.

Philadelphia Water Department

TABLE M-2- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING NON BUSINESS HOURS)

			1	2	3	4	5
				Calculated Charges		PWD Miscellaneous Charges	
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges (Non Business Hours)	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027
Section 6- Miscellaneous Water Charges							
1	Meter Test Charges	6.1					
	5/8"		Cost during regular business hours + Overtime + Addl expenses incurred	$190.55	$197.59	$ 160 Plus Addl Expenses for Overtime	$ 170 Plus Addl Expenses for Overtime
	1",1.5",2"		Cost during regular business hours + Overtime + Addl expenses incurred	$261.73	$271.45	$ 225 Plus Addl Expenses for Overtime	$ 230 Plus Addl Expenses for Overtime
	3",4",6",8",10",12"		Cost during regular business hours + Overtime + Addl expenses incurred	$527.24	$546.05	$ 425 Plus Addl Expenses for Overtime	$ 440 Plus Addl Expenses for Overtime
	Field Tests 3" and above		Cost during regular business hours + Overtime + Addl expenses incurred	$527.24	$546.05	$ 425 Plus Addl Expenses for Overtime	$ 440 Plus Addl Expenses for Overtime
7	Water Connection Charges						
	Ferrule Connections	6.7 (b)					
	3/4"	6.7 (b) (3)	$215.00	$255.49	$266.79	$260.00	$270.00
	1"	6.7 (b) (3)	$245.00	$290.09	$303.82	$295.00	$305.00
	1.5"	6.7 (b) (3)	$290.00	$350.72	$368.69	$355.00	$370.00
	2"	6.7 (b) (3)	$360.00	$451.34	$476.35	$455.00	$480.00
	Valve Connections	6.7 (c)					
	3" & 4"	6.7 (c) (2)	$15,290.00	$16,421.58	$17,111.87	$16,425.00	$17,115.00
	6" & 8"	6.7 (c) (2)	$16,215.00	$17,595.68	$18,368.15	$17,600.00	$18,370.00
	10" & 12"	6.7 (c) (2)	$19,040.00	$21,041.25	$22,054.92	$21,045.00	$22,055.00
	Attachment to a Transmission Main	6.7 (d)					
	3" & 4" Sleeve	6.7 (d) (3)					
	16" Main	6.7 (d) (3)	$24,230.00	$27,421.16	$28,766.61	$27,425.00	$28,770.00
	20" Main	6.7 (d) (3)	$26,535.00	$30,512.39	$32,074.22	$30,515.00	$32,075.00
	24" Main	6.7 (d) (3)	$28,995.00	$33,523.48	$35,296.09	$33,525.00	$35,300.00
	30" Main	6.7 (d) (3)	$42,030.00	$49,897.52	$52,816.31	$49,900.00	$52,820.00
	36" Main	6.7 (d) (3)	$49,440.00	$59,309.74	$62,887.39	$59,310.00	$62,890.00
	6" & 8" Sleeve						
	16" Main	6.7 (d) (3)	$24,460.00	$27,707.39	$29,072.87	$27,710.00	$29,075.00
	20" Main	6.7 (d) (3)	$26,230.00	$30,054.43	$31,584.21	$30,055.00	$31,585.00
	24" Main	6.7 (d) (3)	$28,995.00	$33,523.48	$35,296.09	$33,525.00	$35,300.00
	30" Main	6.7 (d) (3)	$44,160.00	$52,603.41	$55,711.61	$52,605.00	$55,715.00
	36" Main	6.7 (d) (3)	$54,345.00	$65,545.65	$69,559.81	$65,550.00	$69,560.00
	10" & 12" Sleeve						
	16" Main	6.7 (d) (3)	$24,540.00	$27,764.63	$29,134.12	$27,765.00	$29,135.00
	20" Main	6.7 (d) (3)	$26,615.00	$31,313.82	$32,931.75	$31,315.00	$32,935.00
	24" Main	6.7 (d) (3)	$28,995.00	$33,523.48	$35,296.09	$33,525.00	$35,300.00
	30" Main	6.7 (d) (3)	$44,845.00	$53,603.15	$56,781.34	$53,605.00	$56,785.00

Philadelphia Water Department

TABLE M-2- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING NON BUSINESS HOURS)

			1	2	3	4	5
				Calculated Charges		PWD Miscellaneous Charges	
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges (Non Business Hours)	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027
	36" Main	6.7 (d) (3)	$57,245.00	$69,424.11	$73,709.76	$69,425.00	$73,710.00

Column Notes

1 From the PWD Regulations Chapter 3-Rates and Charges Effective September 1, 2024 (FY 2025 Charges)

2,3 Calculated charges for work performed outside of Water Department's business hours (business hours are from 9:00 a.m. to 4:45 p.m.)

Includes overtime costs.

FY 2026 Labor costs assume an escalation of 5% from FY 2025 budgeted salary costs . FY 2027 labor costs assume an escalation of 3.5% from FY 2026 escalated salary costs.

Equipment costs based on FY 2023 FEMA rates. Since FEMA costs are a lagging indicator, annual escalation applied to project FY 2026 and FY 2027 equipment costs.

Material costs provided by PWD and escalated at 7% for all materials.

Percentage variance between existing and calculated charges.

4,5 Proposed FY 2026 - FY 2027 Miscellaneous charges for work performed during non-business hours.

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges

Fiscal Years 2026-2027

Philadelphia Water Department

Black & Veatch Management Consulting, LLC

Schedule BV-4

Dated: February 2025

Schedule REF #		Schedule Name
BV-4	**Black & Veatch Schedules**	
1	**WP-1**	AMI DEMAND STUDY
2	**WP-2**	APPLICATION OF UPDATED PEAKING FACTORS
3	**WP-3**	STORMWATER UNITS OF SERVICE
4	**WP-4**	COST RECOVERY OF DISCOUNTS, CREDITS, GRANTS, AND TAP
5	**WP-5**	MISCELLANEOUS FEE METHODOLOGY
6	**WP-6**	SENIOR CITIZEN DISCOUNT THRESHOLD ADJUSTMENT

SCHEDULE BV-4: WP-1

PHILADELPHIA WATER DEPARTMENT

AMI Demand Study

BLACK & VEATCH PROJECT NO. 418278

PREPARED FOR

Philadelphia Water Department

JANUARY 24, 2025

BLACK & VEATCH

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Executive Summary

Study Context

As part of the Cost-of-Service Study (COSS) update, Philadelphia Water Department ("PWD" or "Client") requested Black & Veatch to perform a Demand Study (also referred to as Load Study, or AMI Demand Study) to provide calculated maximum-day ("max-day" or "MD") and maximum-hour ("max-hour" or "MH") factors by customer category.

A common approach to developing MD and MH customer category factors is to use the methodology outlined in Appendix A of the American Water Works Association's ("AWWA") Manual M1: Principles of Water Rates, Fees, and Charges[1]. This study utilizes these principles, but also leverages the Water Department's investment in Advanced Metering Infrastructure ("AMI") by utilizing AMI meters to provide data in hourly increments to inform max-day and max-hour estimations in a way that will provide more granular data and insights than reliance upon monthly billing data and estimates of customer category weekly usage adjustment and MD/MH factors.

Data Availability, Analysis, & Limitations

The AMI Demand Study is data-intensive, utilizing records from system production and storage data, customer billing data, available AMI data, and Geographical Information System ("GIS") data[2]. Approximately 800 million AMI meter readings were managed and analyzed as part of the study. PWD's rollout of AMI was not complete at the time of the study, but over 200,000 AMI meters (representing approximately 41% of all customers) were included in the study. The data were used to identify:

- **The appropriate MD and MH timeframe.** July 1st, 2023 – September 6th, 2023, was identified as an appropriate timeframe for detailed analysis. The selection of this timeframe is:
    - based on a review of historical system distribution trends and weather data that indicates this is typically the period in which peak use occurs; and
    - maximizes the AMI data available at the time the study was conducted.
- **Representative AMI accounts for each customer category.** As not all PWD customers have AMI data (at the time of the study), it was necessary to ensure that the AMI meters selected for analysis were representative of the individual customer categories. This was achieved by looking at average month and peak month water use metrics (based on monthly billing information) for both AMI-only customers and all-customers to make sure the selected AMI accounts were representative of the complete customer base.

Once an appropriate timeframe and representative AMI meters were identified, the analysis was performed to determine MD and MH peaking factors for each of the twelve customer-categories historically used in the COSS, using hourly consumption data collected by the AMI system.

[1] Currently in its Seventh Edition, published in 2017.

[2] The information in this report was provided by PWD and not within Black & Veatch's control. Black & Veatch believes that the data is reliable under the conditions and subject to the limitations set forth in this report. Black & Veatch has assumed that the information provided by others, both verbal and written, is complete and correct.

Non-Coincident Peaking Factors

Non-Coincident Peaks are measured for each customer category independently of the overall system peak. Table ES-1 shows the non-coincident MD and MH peaks for each of the twelve customer-categories. The non-coincident MD may occur on a different day for each category, and the non-coincident MH may also occur on a different hour (and different day) for each category.

Table ES-1 Non-Coincident Demand Peaks and Peaking Factors (Volumes in Cubic Feet)

	(1)	(2)	(3)=(2)/(1)	(4)	(5)	(6)=(5)/(4)
CUSTOMER CATEGORY	AVG. DAY (CF/DAY)	MAX. DAY (CF/DAY)	MD PEAKING FACTOR	AVG. HOUR (CF/HR)	MAX. HOUR (CF/HR)	MH PEAKING FACTOR
Charities/Schools	334,687.81	508,471.62	1.52	13,945.33	39,152.68	2.81
PWD	770,298.36	1,208,250.27	1.57	32,095.76	54,875.36	1.71
Commercial	4,692,779.84	6,255,624.67	1.33	195,532.49	347,770.84	1.78
Fire Service	2,265.21	738,637.63	326.08	94.38	165,285.91	1,751.22
Hand Bill	1,021,517.18	1,155,269.73	1.13	42,563.22	62,341.10	1.46
Hosp./Univ.	269,787.67	447,234.06	1.66	11,241.15	25,532.11	2.27
Industrial	213,090.41	286,820.00	1.35	8,878.77	19,331.60	2.18
PHA	380,632.55	465,719.67	1.22	15,859.69	26,377.82	1.66
Public Utilities	36,736.00	72,407.61	1.97	1,530.67	6,181.63	4.04
Residential	8,248,613.62	10,072,567.95	1.22	343,692.23	597,047.17	1.74
Scheduled	61.64	111.87	1.81	2.57	28.88	11.24
Senior Citizens	338,352.66	415,529.89	1.23	14,098.03	25,368.06	1.80
Total	**16,308,822.93**	**21,626,644.99**	**1.33**	**679,534.29**	**1,369,293.18**	**2.02**

Coincident Peaking Factors

Based on a review of the available data, and coordination with PWD's Load Control Unit, max-day demand conditions occurred on July 28th, 2023, and the max-hour occurred on July 28th, 2023, at 5:00PM. These coincident demands (i.e., the customer-category demands occurring at the above date and time) are shown in Table ES-2.

Table ES-2 Coincident Demand Peaks and Peaking Factors (Volumes in Cubic Feet)

	(1)	(2)	(3)=(2)/(1)	(4)	(5)	(6)=(5)/(4)
CUSTOMER CATEGORY	AVG. DAY (CF/DAY)	MAX. DAY (CF/DAY)	MD PEAKING FACTOR	AVG. HOUR (CF/HR)	MAX. HOUR (CF/HR)	MH PEAKING FACTOR
Charities/Schools	334,687.81	395,118.23	1.18	13,945.33	16,103.90	1.15
PWD	770,298.36	946,955.36	1.23	32,095.76	34,970.91	1.09
Commercial	4,692,779.84	6,255,624.67	1.33	195,532.49	316,311.37	1.62
Fire Service	2,265.21	488,152.80	215.50	94.38	13,187.31	139.72
Hand Bill	1,021,517.18	1,086,459.88	1.06	42,563.22	54,358.67	1.28
Hosp./Univ.	269,787.67	447,234.06	1.66	11,241.15	20,570.47	1.83
Industrial	213,090.41	258,976.40	1.22	8,878.77	10,704.00	1.21
PHA	380,632.55	454,564.34	1.19	15,859.69	24,191.17	1.53

	(1)	(2)	(3)=(2)/(1)	(4)	(5)	(6)=(5)/(4)
CUSTOMER CATEGORY	AVG. DAY (CF/DAY)	MAX. DAY (CF/DAY)	MD PEAKING FACTOR	AVG. HOUR (CF/HR)	MAX. HOUR (CF/HR)	MH PEAKING FACTOR
Public Utilities	36,736.00	54,636.69	1.49	1,530.67	2,393.32	1.56
Residential	8,248,613.62	8,817,208.86	1.07	343,692.23	423,364.47	1.23
Scheduled	61.64	28.37	0.46	2.57	1.25	0.49
Senior Citizens	338,352.66	395,635.21	1.17	14,098.03	18,326.65	1.30
Total	**16,308,822.93**	**19,600,594.88**	**1.20**	**679,534.29**	**934,483.50**	**1.38**

System Diversity Factors

The relationship of the non-coincident to coincident demands is referred to as the measure of the system's diversity of demand[3]. Table ES-3 shows the system diversity factors for the PWD system. The values shown represent the combined demands of all customer categories. The system diversity ratio is often in the range of 1.1 to 1.4, though different system diversity factors may arise. For example, a system that consists almost entirely of residential customers would have a diversity factor very close to 1.0, because the non-coincident demand of the residential customer category would be approximately equal to the coincident demand of the system.

Table ES-3 System Diversity Factors (Volumes in Cubic Feet)

	(1)	(2)	(3)=(2)/(1)	(4)	(5)	(6)=(5)/(4)
PEAKING TYPE	AVG. DAY (CF/DAY)	MAX. DAY (CF/DAY)	MD Peaking Factor	AVG. HOUR (CF/HR)	Max. Hour (CF/HR)	MH Peaking Factor
Non-Coincident	16,308,822.93	21,626,644.99	1.33	679,534.29	1,369,293.18	2.02
Coincident	16,308,822.93	19,600,594.88	1.20	679,534.29	934,483.50	1.38
System Diversity Factor (Non-coincident / Coincident)			**1.11**			**1.46**

Application of Demand Study Findings

The AMI Demand Study has enabled the development of Max-Day and Max-Hour demands for customer categories using direct measurements from customers' meters. The availability of hourly data, coupled with a review of available data to confirm representation from all customer categories has generated results that may be used to support the Cost of Service Study. This use of AMI data represents a step forward compared to prior available methods to estimate customers' Max-Day and Max-Hour demands which generally relied on interpolating monthly billing data and applying assumptions. The study leverages the Water Department's investments in AMI technology to provide more insights into customer demand patterns and more reliable information for Cost-of-Service allocations and other purposes, such as supporting operational analytics, system modeling, and customer leak detection.

[3] Principles of Water Rates, Fees, and Charges. AWWA Manual M1 7th Edition. p. 377.

1.0 Background & Purpose

In the Philadelphia Water, Sewer and Storm Water Rate Board's ("the Rate Board") determination for the 2023 General Rate Proceeding, the Philadelphia Water Department ("PWD" or "the Water Department") was directed to "*perform a study of customer usage factors prior to its next base rate proceeding, and to incorporate this load study into the Cost of Service Study ("COSS") to ensure that it is reflective of PWD's current operating usage and characteristics.*" To that end, Black & Veatch has undertaken this AMI Demand Study (also referred to as a Load Study) to further evaluate the peaking factors by customer category utilized in the base-extra capacity method, which underpins the COSS and the associated allocation of water system revenue requirements to customer categories.

This study leverages PWD's investments in Advanced Metering Infrastructure ("AMI") by utilizing data from AMI meters to provide hourly usage data by customer category to inform maximum day ("max-day") and maximum hour ("max-hour") estimations in a way that will provide better insight into customer demands than reliance upon estimations from monthly billing data. Prior to the implementation of AMI, customer meters were typically read at a frequency of once per month. The AMI technology enables hourly data to be captured and analyzed for each meter and customer. Therefore, instead of twelve data points per year, each customer meter now typically generates 8,760 hourly data points per year (365 days x 24 hours). This increased data availability provides new insights that are applicable to the Demand Study as discussed in this report. There are also other benefits and potential applications of the more granular data that are discussed in Section 4.2.6.

1.1 Study Objectives & Approach

This study is guided by the principles defined in the American Water Works Association's ("AWWA") Manual M1: Principles of Water Rates, Fees, and Charges (Seventh Edition), hereinafter referred to as AWWA Manual M1. AWWA Manual M1 states that "*…the determination of appropriate peaking factors by customer class for use in cost-of-service allocations and/or rate design is a significant challenge in rate-making. One means for determining peaking factors by customer class is to undertake a formal demand study. Formal demand studies involve daily and hourly consumption records of samples of customers from each class of service and are analyzed over a period of weeks or months. With the increasing availability of automated meter-reading equipment, enhanced billing software, and data processing capabilities, these formal design studies, although still costly, are not as difficult or costly as they were in the past. However, they are not without costs, and there are less sophisticated though adequate calculations that may be employed to estimate customer class peaking factors using readily available data in the utility's records*."

This study for PWD is a formal demand study as described by AWWA Manual M1 and leverages hourly and daily consumption measurements for PWD's customers, made possible by the investments in AMI.

Studies using AMI data are relatively uncommon within the water utility sector as AMI is not yet prevalent. Still, they can provide much greater granularity of data than the use of monthly billing records and offer an opportunity to improve understanding of customer usage patterns.

The AMI Demand Study is data-intensive, utilizing records from system production data, water storage data, customer billing data, AMI data (for those customers with AMI meters), and meter inventory data. Over 800 million AMI data points were managed and analyzed as part of the study.

1.2 Selection of PWD Customer Categories

A key step in the demand study is establishing the appropriate Customer Categories for further evaluation. A detailed description of the way the Water Department has categorized its customers is provided in Appendix A. The customer categories utilized in the most recent COSS are as follows:

- General Service – Residential
- Senior Citizens Discount - Residential
- General Service – Commercial
- General Service – Industrial
- General Service – Utilities
- Philadelphia Housing Authority (PHA)
- Charities and Schools
- Hospital/University
- Hand Bill
- Scheduled
- Fire Service
- Philadelphia Water Department

More broadly, these categories have been used historically for the Water Department's COSS, with minor adjustments. Customer categories are used in the context of the COSS primarily to group customers with similar characteristics, including usage patterns and demands placed upon the City's water and sewer systems. Black & Veatch reviewed the above categories with PWD's Finance Division and collectively determined that these customer categories were appropriate for analysis within the Demand Study. A total of twelve separate customer categories were evaluated in the Demand Study and coincident and non-coincident maximum day and maximum hour values were determined for each of the categories from the available AMI data.

It is worth keeping in mind that the demand study results may influence future COSS and associated rate filings before the Rate Board. In addition, the customer categories may potentially serve as the basis for exploring customer class-based rate options as part of ongoing alternative rate structure evaluation efforts.

1.3 Availability of AMI Data

Black & Veatch reviewed the distribution of AMI accounts across the existing customer categories. In addition, Black & Veatch compared the distribution of AMI accounts against the distribution of all PWD customer accounts and summarized this information in Table 1-1. Based on the provided data, approximately 52.9% of all PWD customers were on AMI in July 2023. As of the writing of this report, PWD is substantially complete (approximately 95%) in the rollout of AMI meters.

Black & Veatch checked the distribution of AMI customers' meter sizes and usage profiles to confirm they represent the overall customer category. However, meter size is not used in the assignment of customer categories.

Table 1-1 Comparison of AMI Accounts and Total PWD Customer Accounts (as of Sept 2023)

(a)	(b)	(c)	(d)	(e)	(f)
Customer Categories	FY23 PWD Accounts	AMI Accounts	AMI % (c) ÷ (b)	Distribution Of PWD Accounts	Distribution Of AMI Accounts
General Service - Residential	432,268	231,140	53.5%	85.13%	85.98%
Senior Citizens Discount	21,779	13,457	61.8%	4.29%	5.01%
General Service - Commercial	37,876	18,735	49.5%	7.46%	6.97%
General Service - Industrial	1,037	421	40.6%	0.20%	0.16%
General Service - Public Utilities	207	112	54.1%	0.04%	0.04%
PHA	5,524	3,898	70.6%	1.09%	1.45%
Charities & Schools	1,692	785	46.4%	0.33%	0.29%
Hospital/University	115	51	44.3%	0.02%	0.02%
Hand Bill	228	101	44.3%	0.04%	0.04%
Scheduled	6	4	66.7%	0.00%	0.00%
Fire Service	6,977	93	1.3%	1.37%	0.03%
PWD	55	31	56.4%	0.01%	0.01%
Grand Total	**507,764**	**268,828**	**52.9%**	**100%**	**100%**

Based upon Black & Veatch's experience, the PWD AMI has been sufficiently deployed to provide a representative sample set of customers by category. In addition, the categories utilized in the COSS, and the more granular categories available within the Water Revenue Bureau ("WRB") basis2 billing system ("basis2" or "the billing system") provide a sufficient level of detail and disaggregation to support the AMI Demand Study.

1.4 PWD's AMI Rollout

PWD began rolling out AMI meters to customers in 2020. Due to the large number of customers, the rollout is a multi-year program. As of the time of writing, it is reported that approximately 95% of all customers now have AMI meters. As with most utilities, there are some customer installations that are difficult due to infrastructure issues and other challenges and will take extra time to complete.

The rollout of meters has progressed steadily and based on discussions with PWD staff, it was understood that sufficient meters had been installed, such that the data generated could be considered for use in the Demand Study (data for 2024 was not available to support the study due to the time required for data analysis). In mid-2022 there were approximately 170,000 AMI meters installed (35% of all customers) and by mid-2023 there were approximately 300,000 AMI meters installed (60% of all customers).

Although not all PWD customers have AMI-capable meters, the amount of available AMI data is significant and can be used to support the Demand Study. The steps taken to ensure that consumption from customers on AMI meters is representative of consumption for all customers are documented in section 3.0.

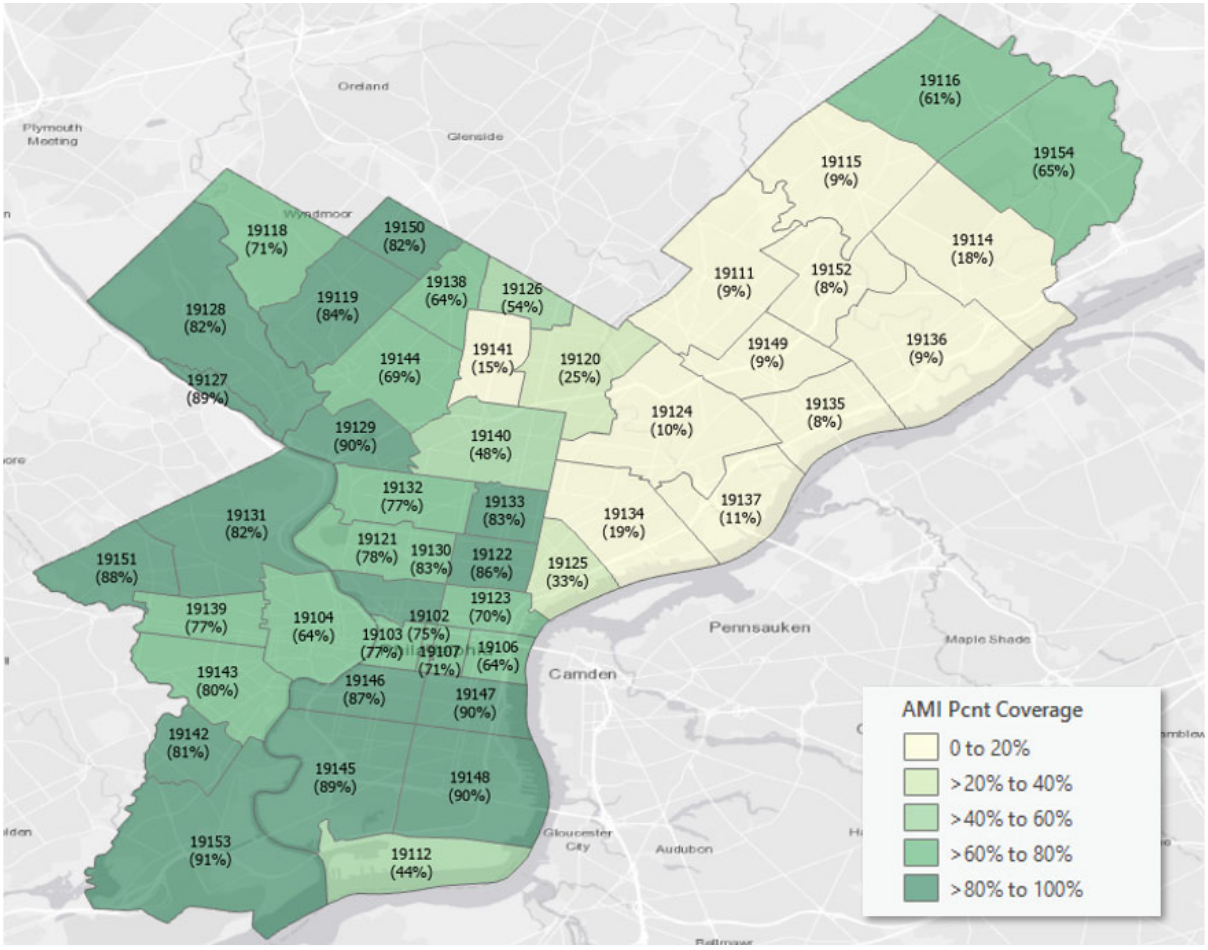
1.5 AMI Data Requirements

Black & Veatch worked with the PWD team to coordinate a data request to supply raw AMI meter readings to support the analysis. Due to the amount of data generated by AMI, specialized data sharing and data

analysis solutions were required for this study. In all, hourly data for 131 days was provided to Black & Veatch for analysis, generating approximately 800 million records for analysis.

Based on Table 1-1, is it evident that not all customers have AMI meters. Therefore, it's important to understand the distribution of AMI meters across the City. Each customer was identified with the zip code of the service address to enable a geographic representation of the AMI rollout (based on mid-2023). Figure 1-1 shows the percent of PWD customers with AMI meters, as of mid-2023, by Zip Code. It indicates that every zip code had AMI meters installed at that time, however there are some areas of the City with a greater proportion of AMI meters than others. Additional analysis was performed to look at the proportion of residential AMI meters in conjunction with U.S. Census statistics on median household income (see Appendices B1 and B2). Although AMI meters are not uniformly distributed, a review of median household income by zip code, indicates there are likely sufficient AMI meters deployed to reasonably represent residential customers across a wide range of income levels[4]. Additional analysis that considers whether AMI meters are representative of the broader customer categories, based on a comparison of usage characteristics, is described in section 3.0.

Figure 1-1 Percent of AMI Coverage by Zip Code (as of Sept-2023)



[4] For example, the annual median household income in those zip codes with low AMI coverage (less than 20%) is predominately $50,000-70,000. However, there are zip codes with similar income levels that have 60%-90% AMI coverage, demonstrating customers at this income level are represented in the analysis (see Appendices B1 and B2 for additional details).

2.0 Identification of Max Day and Max Hour Timeframes

2.1 System Max Day & Max Hour

One of the initial study tasks was to identify the appropriate maximum-day ("MD") and maximum-hour ("MH") periods for the system. AWWA Manual M1 Appendix A[5] suggests using system-wide data to identify the highest system MD to system average-day ("AD") demand over a representative number of recent years.

Figure 2-1 Daily Withdrawal Data for PWD, 2013-2023

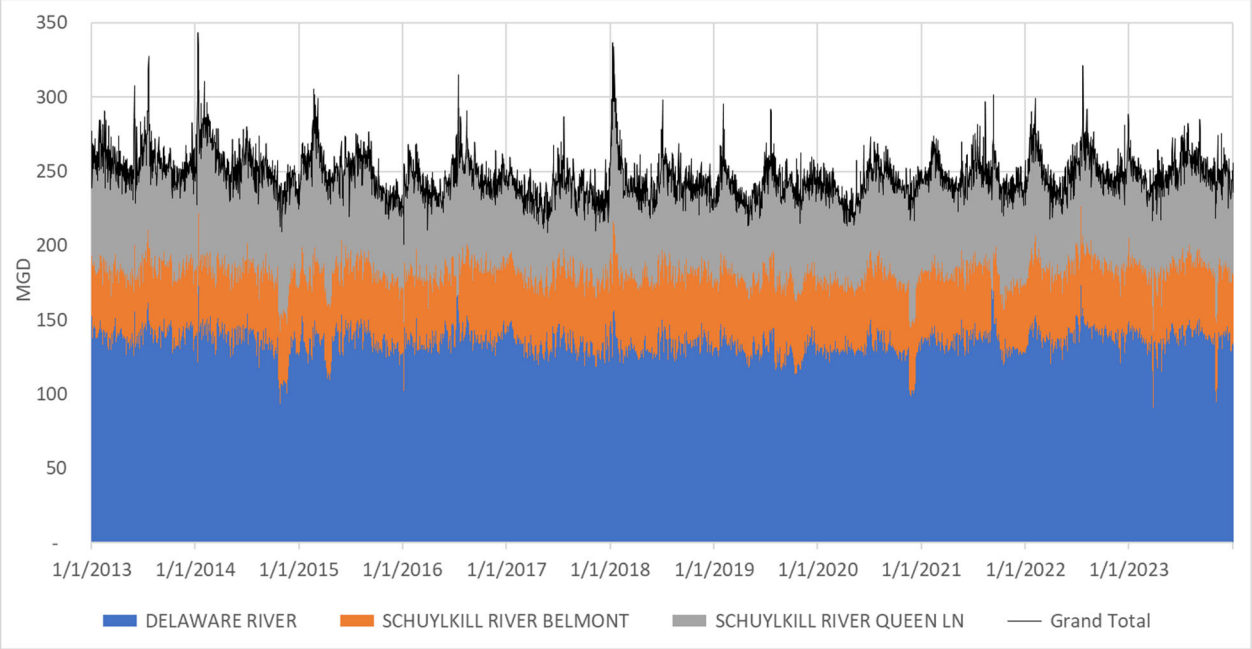


Figure 2-1 shows daily withdrawal data, or raw water pumping data, for PWD from 2013 – 2023 and is used to provide an overview of high-level trends in water use patterns. Overall, water withdrawal patterns indicate relatively consistent demands over time and limited seasonal variation. Typically, suburban systems will demonstrate a much larger seasonal variation in water use (higher peaks) than is seen within the PWD system as suburban systems typically contain larger lot sizes with more opportunity for irrigation compared to the relatively higher density development (smaller lot sizes) within the City's service area.

After review of the daily data trends and considering the availability of AMI data to support the Demand Study, calendar year ("CY") 2023 was selected for a detailed analysis to determine MD and MH peaking factors. The calendar year was chosen rather than the Fiscal Year as it avoids splitting what are typically the peak usage months (June through September). Other factors supporting the selection of CY2023 included:

- Most recent complete year of data available as the study was initiated and data requested.
- 2023 is less impacted by COVID-19 than 2022.
- More AMI data is available for analysis in 2023 compared to earlier years due to the ongoing expansion of AMI coverage throughout the PWD system.

[5] Appendix A: Development of Peaking Factors by Customer Class

- The calendar year, rather than fiscal year, was selected to avoid splitting the summer months in the most recent data available, providing a clearer picture of customer demands on the system.

The PWD Load Control Unit issues an Annual Report that documents the Maximum Day and Maximum Hour each year based on the operation of the distribution system, including inputs from pumpage and changes in storage. The report is based on a Fiscal Year ending on June 30th. Black & Veatch coordinated with the Load Control Unit and obtained additional data that included hourly historical data for approximately ten years and extended through October 2024[6].

Table 2-1 indicates the Average Day ("AD"), Maximum Day ("Max Day" or "MD"), and Maximum Hour ("Max Hour" or "MH") for the past ten fiscal years, along with associated MD and MH peaking ratios. The trend in peaking ratios shows a slight decline over this timeframe.

Table 2-1 Average Day, Max Day, Max Hour by Fiscal Year

FY	AD (MGD)	MD (MGD)	MH (MGD)	MD/AD	MH/AD
2015	227.33	296.39	403.40	1.30	1.77
2016	221.70	256.13	414.40	1.16	1.87
2017	210.21	263.03	316.70	1.25	1.51
2018	222.71	307.17	343.80	1.38	1.54
2019	227.32	262.14	328.10	1.15	1.44
2020	219.39	259.99	324.20	1.19	1.48
2021	222.70	258.45	386.70	1.16	1.74
2022	224.35	262.72	351.10	1.17	1.56
2023	225.47	270.86	330.80	1.20	1.47
2024	229.31	255.17	316.30	1.11	1.38

The data indicated that the max day (highest production day) recorded for the system in FY2024 occurred on 7/28/2023 with a recorded volume of 255.17 MGD. This information establishes the system Max Day value for the Demand Study. For the purposes of establishing a system Max Hour, the hourly volume data includes both pumpage and the use of reservoir and tank storage reflecting filling and releasing from storage as these facilities are necessary to meet system peak demands. This information was used to help select a timeframe for reviewing customer AMI data in detail to determine non-coincident peaking factors for each of the twelve customer categories.

2.2 Determining a Timeframe for AMI Analysis

As AMI data is used in the Demand Study to determine customer category-based MD and MH values, it is necessary to identify a plausible timeframe that will contain the MD and MH periods for non-coincidental peaks and then process the raw AMI data to prepare it for analysis within that timeframe. It would not be practical, and would expend unnecessary effort, to analyze *all* the raw AMI data for every hour of the year due to the vast scale of the data and the validation that needs to be applied to the raw data. For example, meter changeouts, rollovers, missing data, and other data anomalies that typically occur in raw data need to be screened out so as not to distort the results.

[6] The FY2024 and FY2025 Annual Load Control reports had not been published at the time of the analysis.

2.2.1 Production Data Review: Max Day

Based on a review of Figure 2-2 and Figure 2-3, it was determined that the period of 07/01/2023 – 09/06/2023 would define the 'analytical window' for detailed AMI analysis as it covers approximately 10 weeks in which demands were at their highest for the year, including the system max-day and max-hour periods.

Figure 2-2 Daily Input to the PWD Distribution System

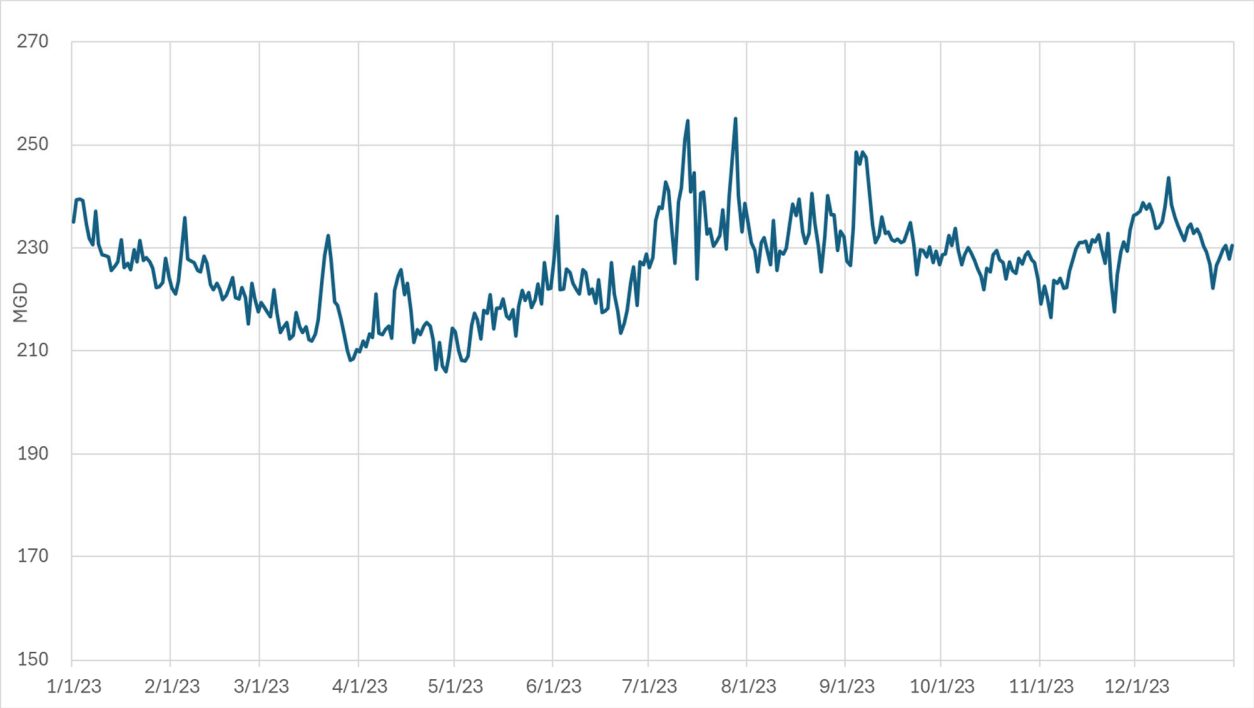
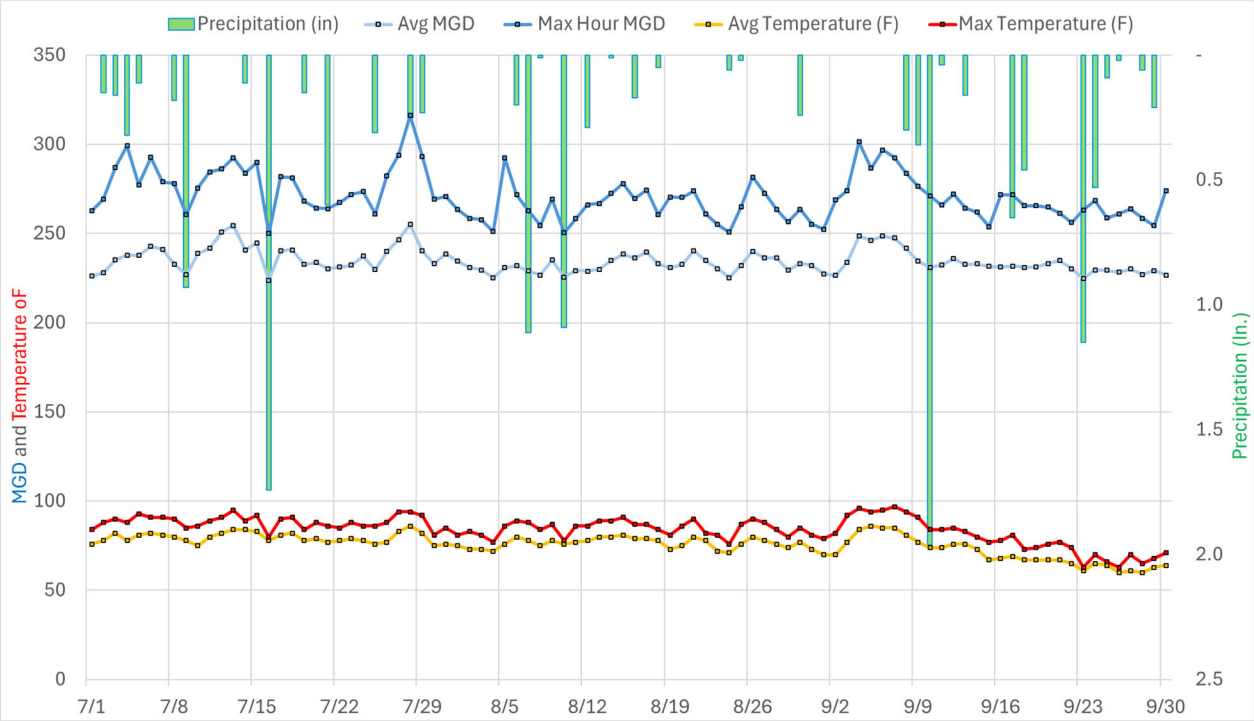


Figure 2-3 combines 2023 daily system distribution data with daily weather data (average temperature maximum temperature, and precipitation) to provide additional insights and explanations of water use patterns to support the selected timeframe. The maximum system distribution input (July 28, 2023) occurred when temperatures were elevated, and a second peak is notable in early September when temperatures were also elevated and following a period of minimal rainfall. Although irrigation demand is not a large driver of demand in the City (due to high density development and overall limited need for irrigation), it is reasonable to expect that water demand will generally increase to some extent during hot, dry conditions. Figure 2-3 also indicates that demand generally drops in response to relatively cooler temperatures and increased rainfall.

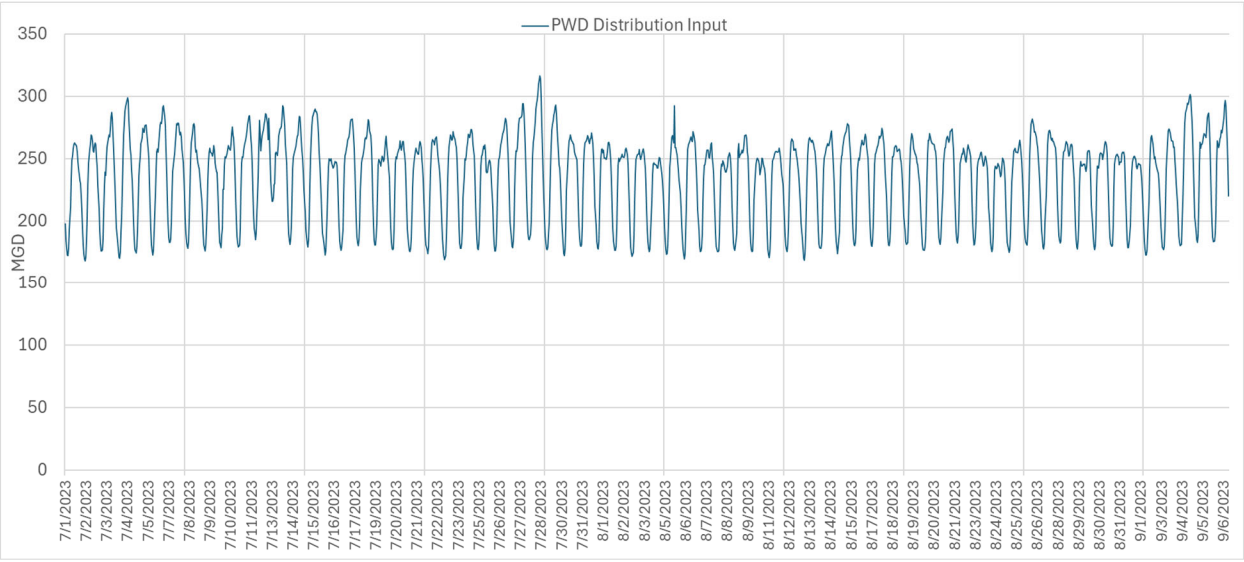
Figure 2-3 PWD Daily Distribution Input (MGD) and Weather Trends (July – Sept 2023)



2.2.2 Distribution Data Review: Max Hour

System max hour data was reviewed and Figure 2-4 shows hourly PWD distribution data, inclusive of adjustments related to storage changes, for the period 7/1/23 – 9/6/23. As expected, the timing of the peak hourly data mimics the peak daily trends to a large degree. The diurnal cycle of low water use during the night and higher water use during the day is also evident in the hourly data presented in Figure 2-4. The system max hour value reported by the Load Control Unit occurred on 7/28/2023 at 17:00 with a recorded volume rate for the hour of 316.30 MGD. Therefore, the system Max Day and Max Hour occurred on the same day.

Figure 2-4 PWD Hourly Distribution Input (July – September 2023)



3.0 Selection of Representative Customer Data

Not all PWD customers have AMI meters that collect hourly consumption data. Therefore, it is necessary to take steps to confirm that the AMI data selected for analysis is representative of the entire customer category because the AMI data is used to extrapolate peaking profiles and factors for the customer category as a whole. Based on a review of the available AMI data (see section 1.0), it was determined that twelve separate customer categories would be examined in the Demand Study AMI analysis (Table 3-1).

Table 3-1 Customer Categories for Analysis in the Demand Study

	CUSTOMER CATEGORIES
1	Charities & Schools
2	PWD
3	Commercial
4	Fire Service
5	Hand Bill
6	Hospital/University
7	Industrial
8	PHA
9	Public Utilities
10	Residential
11	Scheduled
12	Senior Citizens Discount

3.1 Methodology to Select Representative Customers and AMI Consumption Data

The methodology to select representative AMI meters and associated consumption data on which to base the Demand Study findings was a multi-step process and is summarized in Table 3-2 along with more detailed explanation of the steps below.

Table 3-2 Key Steps to Select Representative Customers and Data from AMI

STEP	ACTIVITY	BRIEF DESCRIPTION
1	Review Available AMI Meters & Consumption Data	PWD AMI Implementation was not fully complete at the time of study. Black & Veatch worked to identify the extent of AMI rollout and determine the maximum amount of data available for analysis.
2	Connect AMI to Billing Accounts and Customer Category	The AMI hourly data structure contains no information to identify a customer directly. Therefore, Black & Veatch worked to connect each AMI Receiver ID to a basis2 account and then to customer category.
3	Compare 'Water Use Profile' of AMI accounts to all accounts	Using monthly billing data as a common denominator, billed water usage for AMI accounts was compared to billed water usage for all accounts, within each customer category.
4	Select AMI Meters that match the customer category water use profile	Remove AMI meters from further analysis if it helps to align the comparison of AMI customers to all customers, within each customer category.

STEP	ACTIVITY	BRIEF DESCRIPTION
5	Use Selected AMI meters in Demand Study analysis	Use consumption data from only the selected AMI meters to develop max day and max hour estimations for each customer category. Run QAQC on consumption data to improve data quality, e.g., resolve data gaps.

3.1.1 Step 1: Review Available AMI Meters & Consumption Data

As discussed in Section 1.0, AMI rollout was not complete at the time of this study. Black & Veatch determined that, for the study timeframe (July – September 2023), there were a maximum of 268,828 AMI meters available for inclusion in the analysis. This number of meters reflects the exclusion of meters that did not report consumption for at least 90% of the hourly intervals during the study timeframe[7]. This process eliminated the inclusion of meters that were initially installed during the study timeframe, as this avoids measuring an increase in AMI consumption because of increasing AMI deployment.

3.1.2 Step 2: Connect AMI to Billing Accounts and Customer Category

The AMI hourly data structure contains no information to identify a customer directly. It was necessary for Black & Veatch to obtain data tables to cross-reference each AMI Receiver ID to its basis2 Account ID and associated customer category information such that each AMI meter could be assigned to one of the twelve customer categories. Black & Veatch had no access to information that could directly identify a customer other than with an ID number; no customer name, billing information, or address details (other than zip code) was provided in any of the datasets. The provision of the cross-reference data allowed Black & Veatch to determine how many customers had AMI meters vs non-AMI meters, for each customer category.

3.1.3 Step 3: Compare 'Water Use Profile' of AMI accounts to All Accounts

Monthly billing data for 2023 was reviewed and analyzed to determine if the consumption data from customers with AMI meters was representative of the respective customer category. The comparison utilized the following metrics:

- Calculate the average monthly usage per bill and the peak month average usage per bill for *all customers* within the customer category based on the monthly billing data.
- Identify AMI-only customers and their respective customer category.
- Compare results for AMI-only customers against all customers, by customer category.

The above metrics were developed and Table 3-3 shows the *initial* comparison of All-Customers to AMI-only customers, by customer category.

[7] Small reporting gaps in AMI data are not uncommon – a gap means that there is no record for the hourly interval and the application of a 90% filter avoids including any meters with extensive consumption reporting gaps that could impact the analysis.

Table 3-3 Billing Data Comparison: All Customers vs AMI-only, by Customer Category

CUSTOMER CATEGORY	AVG. MONTHLY USAGE (CCF)			PEAK MONTH USAGE (CCF)		
	All Customers	AMI-only	% Difference	All Customers	AMI-only	% Difference
Charities/Schools	71.33	71.48	0.2%	82.72	82.95	0.3%
PWD	4,888.55	2,518.30	-48.5%	6,799.56	2,786.48	-59.0%
Commercial	42.17	37.52	-11.0%	50.75	43.93	-13.4%
Fire Service	9.77	12.43	27.2%	51.16	60.47	18.2%
Hand Bill	1,270.42	1,491.32	17.4%	1,678.09	1,778.51	6.0%
Hosp./Uni.	802.75	982.95	22.4%	1,059.93	1,186.45	11.9%
Industrial	68.93	96.86	40.5%	79.12	126.57	60.0%
PHA	24.17	21.12	-12.6%	27.24	25.97	-4.7%
Public Utilities	44.42	32.79	-26.2%	82.61	38.25	-53.7%
Residential	6.36	5.91	-7.1%	6.79	6.60	-2.8%
Scheduled	3.85	3.02	-21.6%	5.25	5.00	-4.8%
Senior Citizens	5.25	4.75	-9.6%	5.77	5.36	-7.1%

The percentage difference columns in Table 3-3 provide an indication of how closely the monthly billing data for AMI-only customers matches all customers, for the respective category. For example, Residential AMI-only customers have an average monthly usage of 5.91 CCF whereas all customers in the Residential category have an average monthly usage of 6.36 CCF. Residential customers with AMI have an average usage that is 7.1% less than the average of all Residential customers. Conversely, for the Hospitals/University category, customers with AMI have an average use that is 22.4% higher than the average of all customers in that category. These variations are addressed and minimized in Step 4.

3.1.4 Step 4: Select AMI Meters that Match the Customer Category Water Use Profile

Although at the time AMI data was captured for this study, the rollout of AMI was over 50% complete, the comparisons shown in Table 3-3 indicate some differences between the consumption of AMI customers compared to all customers. The goal of actively selecting AMI meters for inclusion in the study was to match All-Customers to AMI-only Customers consumption within ±2.0% for both average and peak metrics. Therefore, it was necessary to refine the selection of AMI meters such that the sample would more closely reflect the characteristics of the respective customer category to ensure representative results in the AMI Demand Study. To adjust the sample, the direction of skew in the data was determined for each customer group. Records were then removed for customers skewing the data until the AMI-only subset of customers more closely matched the respective overall customer group, based on a comparison to the billing data. For example, if the average usage for AMI-only customers was lower than the All-Customer group, then meters with lower-than-average usage were identified and then a portion of those meters were randomly removed. This was an iterative process using a randomized and automated analysis to derive a subset of AMI meters with usage characteristics more representative of All-Customers for each customer category.

The usage characteristics for the selected AMI customers are shown in Table 3-4. The table shows that the usage characteristics for the selected AMI customers (subset) matches more closely to *All-Customers* for each customer category compared to those in Table 3-3. For average use, the goal to match within ±2.0% of consumption was achieved for eight of the twelve categories; it was not achieved for Fire Service, Hand Bill, Public Utilities, and Scheduled. For peak usage, the goal to match within ±2.0% of consumption was achieved for six of the categories; it was not achieved for PWD, Fire Service, Hand Bill, Hosp/Univ, Public Utilities, and Scheduled.[8]

Table 3-4 Billing Data Comparison: All Customers vs Selected AMI-only, by Customer Category

CUSTOMER CATEGORY	AVG. MONTHLY USAGE (CCF)			PEAK MONTH USAGE (CCF)		
	All Customers	AMI-only	% Difference	All Customers	AMI-only	% Difference
Charities/Schools	71.33	72.19	1.2%	82.72	82.26	-0.6%
PWD	4,888.55	4,825.30	-1.3%	6,799.56	5,890.64	-13.4%
Commercial	42.17	42.57	1.0%	50.75	50.99	0.5%
Fire Service	9.77	12.43	27.2%	51.16	60.47	18.2%
Hand Bill	1,270.42	1,386.38	9.1%	1,678.09	1,442.71	-14.0%
Hosp./Univ.	802.75	811.71	1.1%	1,059.93	1,028.53	-3.0%
Industrial	68.93	69.60	1.0%	79.12	78.44	-0.9%
PHA	24.17	24.08	-0.4%	27.24	27.15	-0.3%
Public Utilities	44.42	51.94	16.9%	82.61	58.33	-29.4%
Residential	6.36	6.31	-0.7%	6.79	6.80	0.1%
Scheduled	3.85	3.02	-21.6%	5.25	5.00	-4.8%
Senior Citizens	5.25	5.30	0.9%	5.77	5.81	0.7%

A total of 210,694 AMI accounts are included in the AMI subset of the 268,828 AMI meters available for inclusion in the study. As described above, the reason for reducing the sample size is to make the AMI data more representative of the customer category populations. At a future time, when the full AMI rollout is complete, the need for sampling and comparison of AMI to All-Customers may be reduced or eliminated. As indicated in Table 3-5, the 210,694 accounts used in the study represent 41% of the total PWD customer accounts, however the proportion at an individual category level ranges from 1% (Fire Service) to 67% (Scheduled). Fire Service is included in the analysis as it is a Customer Category, however, since Fire Service is an on-call service, the COSS reflects the system design parameters for Fire Service and does not use the meter-usage based peaking factors.

[8] The ±2.0% difference goal was an analytical target and does not represent an industry standard, as no such standard exists. The customer categories that did not meet the goal represent a relatively small proportion of the system's overall customer demand by volume and those categories contain relatively fewer customers. The six customer categories for which the selected AMI accounts matched All-Customer accounts within ±2.0% (for both average and peak usage) represent 87.1% of total customer demand by volume, and 98.5% by customer count.

Table 3-5 Summary of Accounts and AMI Data for Inclusion in the Study

	CUSTOMER CATEGORIES	FY 2023 PWD ACCOUNTS	AVAILABLE AMI ACCOUNTS	SELECTED AMI ACCOUNTS	SELECTED AMI AS % OF ALL ACCOUNTS
1	Charities/Schools	1,692	785	722	43%
2	PWD	55	31	11	20%
3	Commercial	37,876	18,735	15,749	42%
4	Fire Service	6,977	93	93	1%
5	Hand Bill	228	101	46	20%
6	Hosp./Univ.	115	51	36	31%
7	Industrial	1,037	421	261	25%
8	PHA	5,524	3,898	3,078	56%
9	Public Utilities	207	112	58	28%
10	Residential	432,268	231,140	180,695	42%
11	Scheduled	6	4	4	67%
12	Senior Citizens	21,779	13,457	9,941	46%
13	**Total**	**507,764**	**268,828**	**210,694**	**41%**

3.1.5 Step 5: Use Selected AMI Meters in Demand Study Analysis

The consumption data for the subset of selected AMI meters was used to develop max day and max hour estimations for each customer category. This analysis utilized approximately 350 million hourly AMI consumption records within the analysis. A data quality review of the consumption data was conducted to improve data quality prior to preparing the representative hourly data, including the following checks:

- Negative Consumption: The review ensured no negative consumption values were included.
- Completeness of record: As noted in section 3.1.1, gaps in the AMI record do exist. When this occurs, consumption for the missing time periods is included in the next available hourly timestep. To avoid this causing artificial spikes in consumption, the volume of consumption in the next available timestep was apportioned to the missing hours in a unform distribution. Any meter that had less than 90% of the hourly interval readings available was excluded from the analysis.
- Meter size was considered in evaluating if a consumption value was plausible. Small meters have lower potential flow rates than larger meters and checks were applied to ensure that the meter size stated could measure the flow recorded as a means of screening out any anomalous data.

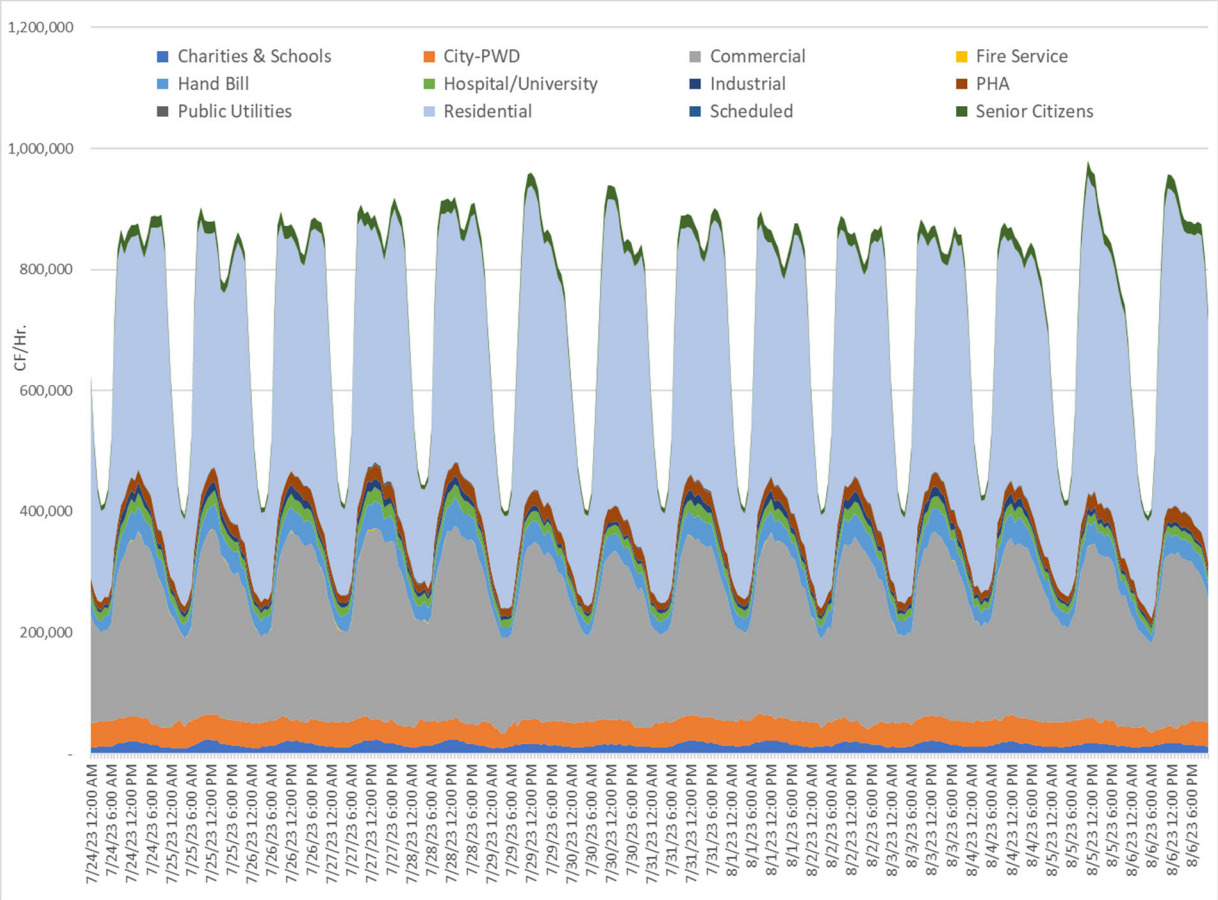
4.0 Development of Peaking Factors

Based on the identification of a suitable timeframe that captures system and customer peaks (as discussed in section 2.0), and the identification of a subset of AMI meters that are representative of the respective customer category (as discussed in section 3.0), the peaking factors were developed for the customer categories using the AMI consumption data.

The subset of selected AMI meters was used to develop estimations of Max Day and Max Hour for the twelve customer categories. An average hourly usage profile was developed for each customer category. This average usage profile was multiplied by the total number of meters in the respective category to estimate the total average hourly and daily water usage for each customer category.

Figure 4-1 shows estimated hourly usage patterns developed from AMI meters for fourteen days covering the system max day and max hour periods in 2023[9]. The chart is dominated by residential (light blue) and commercial (grey) consumption as these two categories account for approximately 80% of total consumption. Additional figures are provided in Appendix C1- Appendix C4 with each category shown using the most appropriate scale.

Figure 4-1 Hourly AMI Consumption by Customer Category: Monday July 24, 2023 - Sunday August 6th, 2023



[9] As noted in section 2.0, approximately ten weeks of hourly data was included in the analysis but a smaller snapshot is provided in Figure 4-1.

4.1 Diurnal Demand Trends

Figure 4-1 shows the diurnal patterns of hourly AMI data for each customer category. The use of customer AMI data provides new insights into customer usage patterns that were not available prior to AMI. Certain water use trends and patterns are predictable and logical, and these are demonstrated in the AMI data. The diurnal patterns for the two largest customer categories are described below:

Residential: Each day of the standard working week (Mon-Fri) exhibits two peaks. Usage typically accelerates after a low at around 3:00 AM, up to a morning peak around 8:00 AM. Demand then reduces slightly during the middle of the day, increasing again with the second peak (often higher than the morning peak) around 6:00 PM, with demand then falling again towards the overnight low. Residential usage patterns are different on the weekend, with often a higher peak slightly later in the morning and the absence of a clear secondary peak later in the day.

Commercial: The hourly profile looks similar for each day of the week for commercial customers with consumption rising from a low around 3:00 AM to a peak around 12:00 PM, then falling back to the overnight low. Consumption on Saturdays and Sundays follows a similar pattern as during the standard working week, however the overall level of consumption is lower, as some commercial activity is curtailed on the weekend.

Although the above usage patterns are logical and intuitive (and could reasonably be predicted without AMI), the AMI data allows much greater insights into the timing and magnitude of the peaks and troughs in consumption for each customer category. The data enables quantification of more granular usage patterns which supports cost allocation efforts with data that is more precise compared to estimations made previously based on monthly billing data.

4.2 Peaking Factors

4.2.1 Peaking Factors from AMI

Peaking factors for twelve customer categories were developed from the AMI data. As demonstrated in Figure 4-1, the AMI provides hourly data which enables the direct measurement of water use at any given hourly interval and therefore can be used to measure usage at the max hour of the system. The data can also be rolled up to measure usage at the daily timestep to generate max day estimates.

4.2.2 Non-Coincident Peaking Factors

Non-Coincident Peaks are measured for each customer category independently of the overall system peak. Table 4-1 shows the non-coincident Max Day and Max Hour peaks for each of the twelve customer categories. The non-coincident Max Day may occur on a different day for each category, and the non-coincident Max Hour may also occur on a different hour (and different day) for each category. The timing of individual category peaks is shown in Table 4-2.

Table 4-1 Non-Coincident Demand Peaks and Peaking Factors (Volumes in Cubic Feet)

	(1)	(2)	(3)=(2)/(1)	(4)	(5)	(6)=(5)/(4)
CUSTOMER CATEGORY	AVG. DAY (CF/DAY)	MAX. DAY (CF/DAY)	MD PEAKING FACTOR	AVG. HOUR (CF/HR)	MAX. HOUR (CF/HR)	MH PEAKING FACTOR
Charities/Schools	334,687.81	508,471.62	1.52	13,945.33	39,152.68	2.81
City-PWD	770,298.36	1,208,250.27	1.57	32,095.76	54,875.36	1.71
Commercial	4,692,779.84	6,255,624.67	1.33	195,532.49	347,770.84	1.78
Fire Service	2,265.21	738,637.63	326.08	94.38	165,285.91	1,751.22
Hand Bill	1,021,517.18	1,155,269.73	1.13	42,563.22	62,341.10	1.46
Hosp./Univ.	269,787.67	447,234.06	1.66	11,241.15	25,532.11	2.27
Industrial	213,090.41	286,820.00	1.35	8,878.77	19,331.60	2.18
PHA	380,632.55	465,719.67	1.22	15,859.69	26,377.82	1.66
Public Utilities	36,736.00	72,407.61	1.97	1,530.67	6,181.63	4.04
Residential	8,248,613.62	10,072,567.95	1.22	343,692.23	597,047.17	1.74
Scheduled	61.64	111.87	1.81	2.57	28.88	11.24
Senior Citizens	338,352.66	415,529.89	1.23	14,098.03	25,368.06	1.80
Total	**16,308,822.93**	**21,626,644.99**	**1.33**	**679,534.29**	**1,369,293.18**	**2.02**

Table 4-2 Timing of Non-Coincident Peaks (Volumes in Cubic Feet)

CUSTOMER CATEGORY	MAX. DAY (CF/DAY)	MD DATE	MAX. HOUR (CF/HR)	MH DATE/TIME
Charities/Schools	508,471.62	9/7/2023	39,152.68	9/7/23 12:00 PM
PWD	1,208,250.27	8/28/2023	54,875.36	8/29/23 2:00 AM
Commercial	6,255,624.67	7/28/2023	347,770.84	7/18/23 1:00 PM
Fire Service	738,637.63	7/27/2023	165,285.91	8/1/23 10:00 AM
Hand Bill	1,155,269.73	8/15/2023	62,341.10	8/15/23 10:00 AM
Hosp./Univ.	447,234.06	7/28/2023	25,532.11	8/21/23 1:00 PM
Industrial	286,820.00	9/6/2023	19,331.60	8/22/23 11:00 AM
PHA	465,719.67	9/4/2023	26,377.82	7/15/23 3:00 PM
Public Utilities	72,407.61	7/27/2023	6,181.63	7/3/23 11:00 AM
Residential	10,072,567.95	9/4/2023	597,047.17	9/4/23 12:00 PM
Scheduled	111.87	7/30/2023	28.88	8/1/23 11:00 PM
Senior Citizens	415,529.89	9/4/2023	25,368.06	9/4/23 11:00 AM

4.2.3 Coincident Peaking Factors

Based on a review of the available data, and as documented in Section 2.0, the system max day occurred on 7/28/2023 and the system max hour occurred on 7/28/23 at 5:00 PM. The coincident demands (i.e., the customer demands occurring at the same time as when the system as a whole peaks) are shown in Table 4-3.

Table 4-3 Coincident Demand Peaks and Peaking Factors (Volumes in Cubic Feet)

	(1)	(2)	(3)=(2)/(1)	(4)	(5)	(6)=(5)/(4)
CUSTOMER CATEGORY	AVG. DAY (CF/DAY)	MAX. DAY (CF/DAY)	MD PEAKING FACTOR	AVG. HOUR (CF/HR)	MAX. HOUR (CF/HR)	MH PEAKING FACTOR
Charities/Schools	334,687.81	395,118.23	1.18	13,945.33	16,103.90	1.15
PWD	770,298.36	946,955.36	1.23	32,095.76	34,970.91	1.09
Commercial	4,692,779.84	6,255,624.67	1.33	195,532.49	316,311.37	1.62
Fire Service	2,265.21	488,152.80	215.50	94.38	13,187.31	139.72
Hand Bill	1,021,517.18	1,086,459.88	1.06	42,563.22	54,358.67	1.28
Hosp./Univ.	269,787.67	447,234.06	1.66	11,241.15	20,570.47	1.83
Industrial	213,090.41	258,976.40	1.22	8,878.77	10,704.00	1.21
PHA	380,632.55	454,564.34	1.19	15,859.69	24,191.17	1.53
Public Utilities	36,736.00	54,636.69	1.49	1,530.67	2,393.32	1.56
Residential	8,248,613.62	8,817,208.86	1.07	343,692.23	423,364.47	1.23
Scheduled	61.64	28.37	0.46	2.57	1.25	0.49
Senior Citizens	338,352.66	395,635.21	1.17	14,098.03	18,326.65	1.30
Total	**16,308,822.93**	**19,600,594.88**	**1.20**	**679,534.29**	**934,483.50**	**1.38**

4.2.4 System Diversity Factors

The relationship of the non-coincident to coincident demands is referred to as the measure of the system diversity of demand (AWWA Manual M1). Table 4-4 shows the system diversity factors for the system. The values shown represent the combined demands of the customer categories. The system diversity ratio is often in the range of 1.1 to 1.4, though different system diversity factor may arise. For example, a system that consists almost entirely of residential customers would have a diversity factor very close to 1.0, because the non-coincident demand of the residential customer category would be approximately equal to the coincident demand of the system.

Table 4-4 System Diversity Factors (Volumes in Cubic Feet)

	(1)	(2)	(3)=(2)/(1)	(4)	(5)	(6)=(5)/(4)
PEAKING TYPE	AVG. DAY (CF/DAY)	Max. Day (CF/DAY)	MD Peaking Factor	Avg. Hour (CF/HR)	Max. Hour (CF/HR)	MH Peaking Factor
Non-Coincident	16,308,822.93	21,626,644.99	1.33	679,534.29	1,369,293.18	2.02
Coincident	16,308,822.93	19,600,594.88	1.20	679,534.29	934,483.50	1.38
System Diversity Factor (Non-coincident / Coincident)			**1.11**			**1.46**

4.2.5 Study Conclusions

This AMI Demand Study provides a more refined perspective based on more granular data into the demand patterns on the water system of twelve different customer categories peak on an hourly and daily basis. This information may be considered to support the COSS.

Prior to this demand study, the daily and hourly peaking factors for each category were estimated from monthly billing data in conjunction with assumptions on how each customer category may peak on the max day and max hour, but without any direct measurement of such peaks. This approach has been widely applied in the water industry for many years and is in accordance with standard recommended practice (i.e., Appendix A of AWWA Manual M1).

Due to PWD's investment in AMI over the last few years, this Demand Study was able to utilize hourly consumption data from over 200,000 AMI meters, representing over 40% of the Water Department's customers. This direct measurement of hourly (and therefore daily) consumption patterns results in more confidence in the development of peaking factors as it replaces assumptions and extrapolations based on monthly billing data with direct measurement of hourly and daily consumption data for each customer category.

The rollout of AMI meters to PWD customers was not complete at the time the study was conducted and therefore future studies of AMI data will capture more information as AMI implementation is completed system wide. Although the study could benefit from additional data to strengthen confidence in the findings, it is very likely that it provides valuable new insights and more accurate peaking factors for the twelve customer categories. It is also not overstating to say that the approach and data used to develop the peaking factors represents a shift from prior methodologies and therefore may generate results that are significantly different from prior studies. Therefore, the implementation of new peaking factors in the COSS will require careful consideration and a full understanding of the impacts to all customers. How the peaking factors are ultimately applied is beyond the scope of this AMI Demand Study and will be addressed in other documents.

4.2.6 Other Considerations for Demand Study Findings

The Demand Study has enabled the development of Max-Day and Max-Hour demands for twelve customer categories using direct measurement of hourly consumption data from customers' meters. The study leverages the Water Department's investments in AMI technology to provide insights into customer demand patterns. Other potential uses of this data include:

- Load modeling
- Operational analytics
- Hydraulic modeling.
- Classification of customers
- Appropriate meter sizing
- Identifying customer leaks
- Benchmarking customer efficiency

Appendix A: Selection of Customer Categories

A key step in the demand study is establishing the appropriate Customer Categories for further evaluation. The customer categories utilized in the most recent COS study are as follows:

- General Service – Residential
- Senior Citizens Discount - Residential
- General Service – Commercial
- General Service – Industrial
- General Service – Utilities
- PHA (i.e., Philadelphia Housing Authority)
- Public and Private Schools
- Hospital/University
- Hand Bill
- Scheduled
- Fire Service
- Philadelphia Water Department

More broadly, these categories have been used historically for the Water Department's COSS, with minor adjustments. The categories are based upon combinations of the Customer Type and Installation Type code designations within the Water Revenue Bureau ("WRB") basis2 billing system ("basis2" or "the billing system"). Primarily, the Customer Type is utilized to identify the customer category, but Customer Type 4 Regular (General Service) utilizes the Installation Type to identify the appropriate customer category. Table A-1 and Table A-2 below, provide the respective Customer Type and Installation Type codes currently existing within basis2.

Table A-1 basis2 – Customer Type Code

Customer Type	Description
4	Regular
A	PHA
C	Charity
D	Senior Citizens
E	Board of Education
G	Federal Government
H	Special Handling
L	City Property - Leased
N	Hospitals and Universities
P	Commonwealth of PA
S	Schedule
W	Well
Y	Fire Meter
Z	City of Philadelphia

Table A-2 basis2 – Installation Type Code

Inst_Type_Code	Installation Type Description	Inst_Type_Code	Installation Type Description
08	Condominiums Residential	18	Laundries
09	Condominiums/Fraternity/OO	19	Industry/ Industrials
10	Single Family/ Tenant	20	Public Utilities Septa/Conrail
11	Single Family/ Owner	21	Churches Charity Rate
12	Multi-Family Less Than 4	22	2 Or More Tent Occ
13	Commercial and Residential	23	Hosp. Nursing Home
14	Hotels, Motels, Boarding	24	Vacant Lots / Torn Down
15	Office Buildings	25	Schools Without Charity Rate
16	Commercial/General Property	26	Commercial/Residential/4
17	Gas Stations	33	Com and Res - Tenanted

Customer categories are used in the context of the COSS to group customers with similar characteristics, including usage patterns and demands placed upon the City's water and sewer systems. Table A-3 provides the combination of Customer and Installation Type Code that maps customer accounts to the current COSS-based customer categories.

Table A-3 COSS Customer Categories – Customer and Installation Type Code Mapping

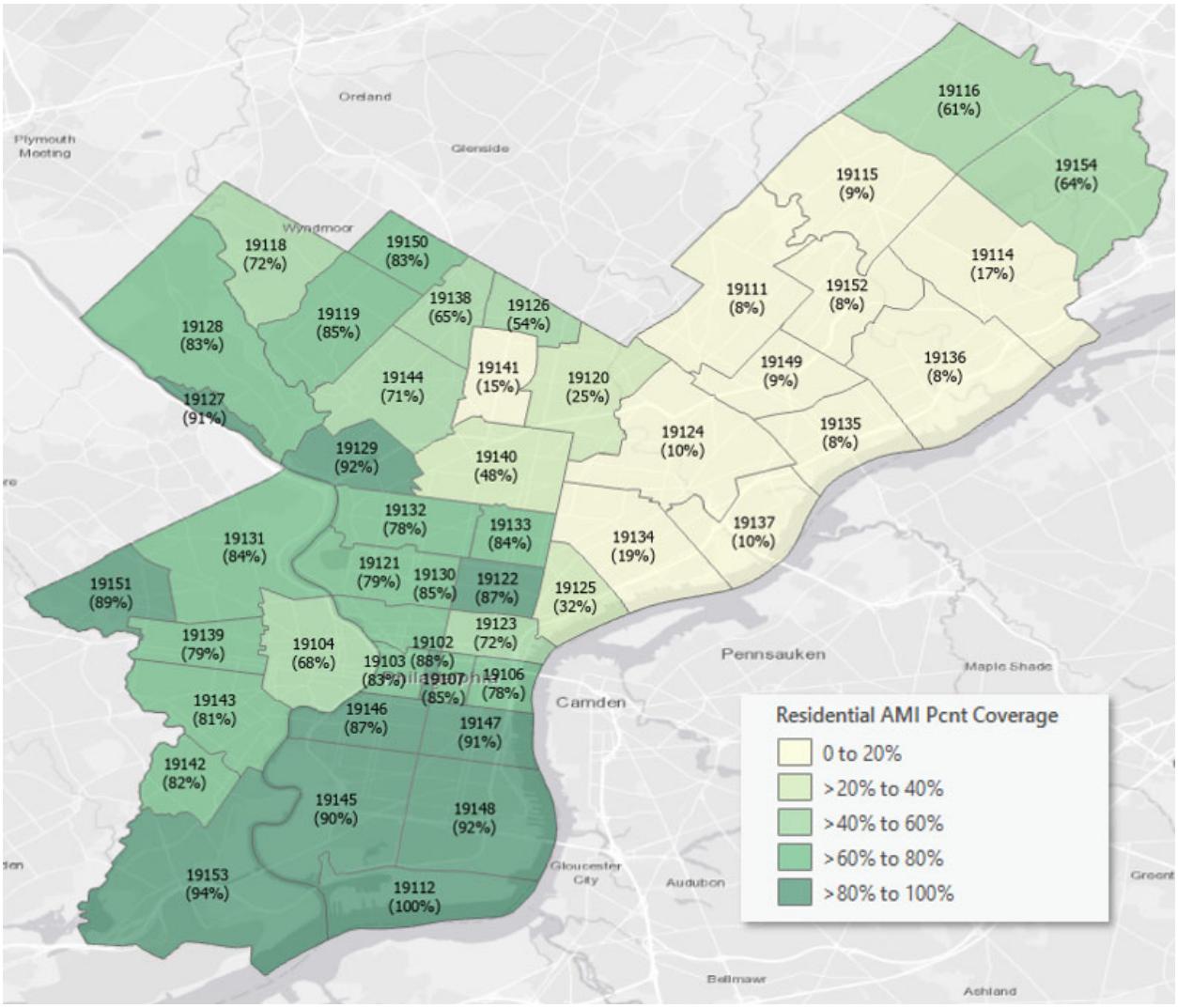
Customer Categories	Customer Type(s)	Installation Type(s)
Residential[1]	4	08, 10, 11, 12
Commercial[1]	4, G, P, L, Z[2]	09, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 33
Industrial[1]	4	19
Public Utilities[1]	4	20
Wells	W	20
PHA	A	
Charities & Schools	C, E	
Senior Citizens	D	
Hand Bill	H	
Hospital/University	N	
Scheduled	S	
Fire Service	Y	

[1] General Service Customer Type Code 4 is distributed based on the Installation Type.

2 Philadelphia Water Department accounts were separated into a stand-alone customer category (based on a list of accounts provided by the City) for the purposes of the AMI Demand Study.

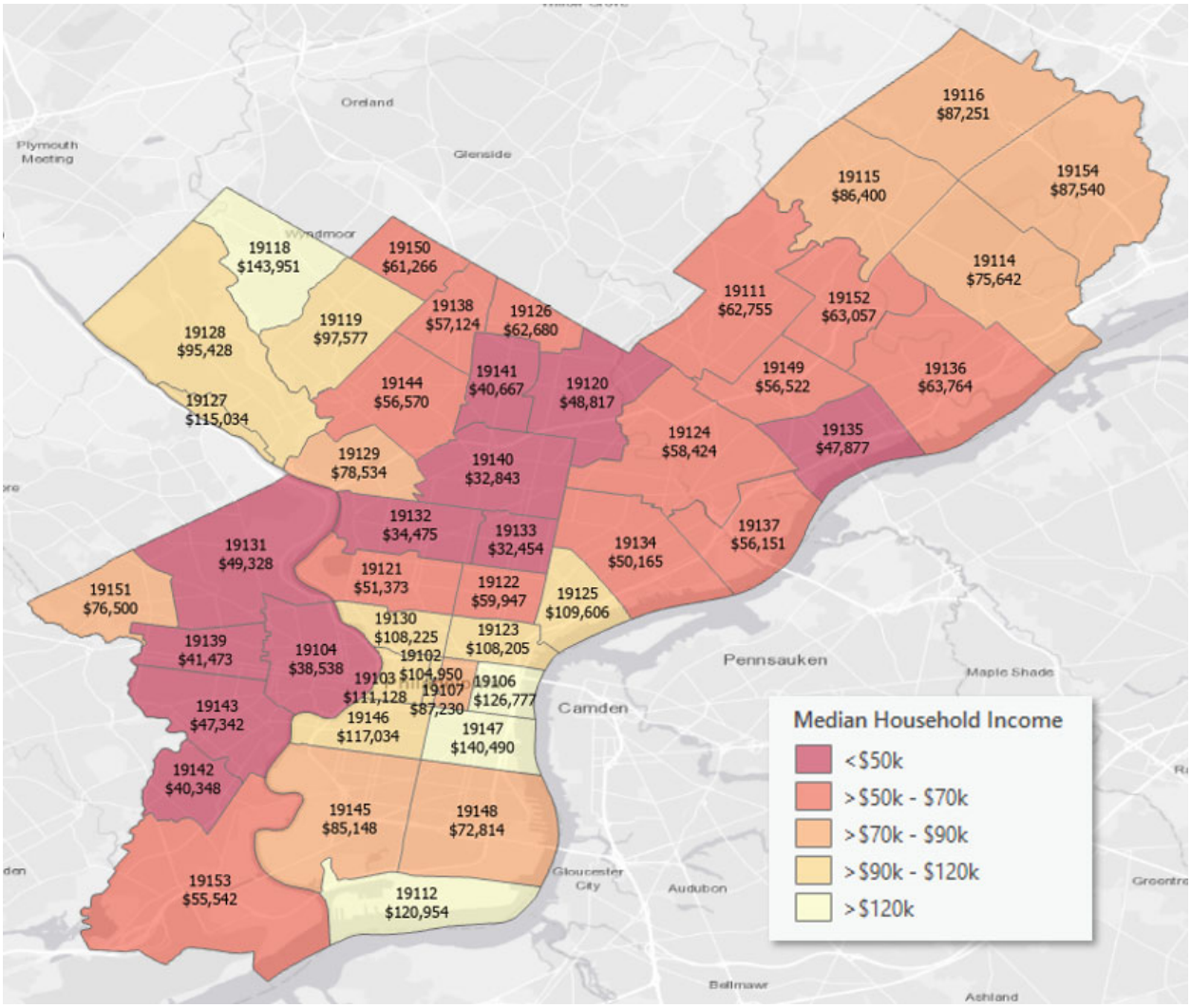
Appendix B1

Distribution of Residential AMI meters by Zip Code (based on zip code of service address for July 2023 bills contained in the basis2 billing system).



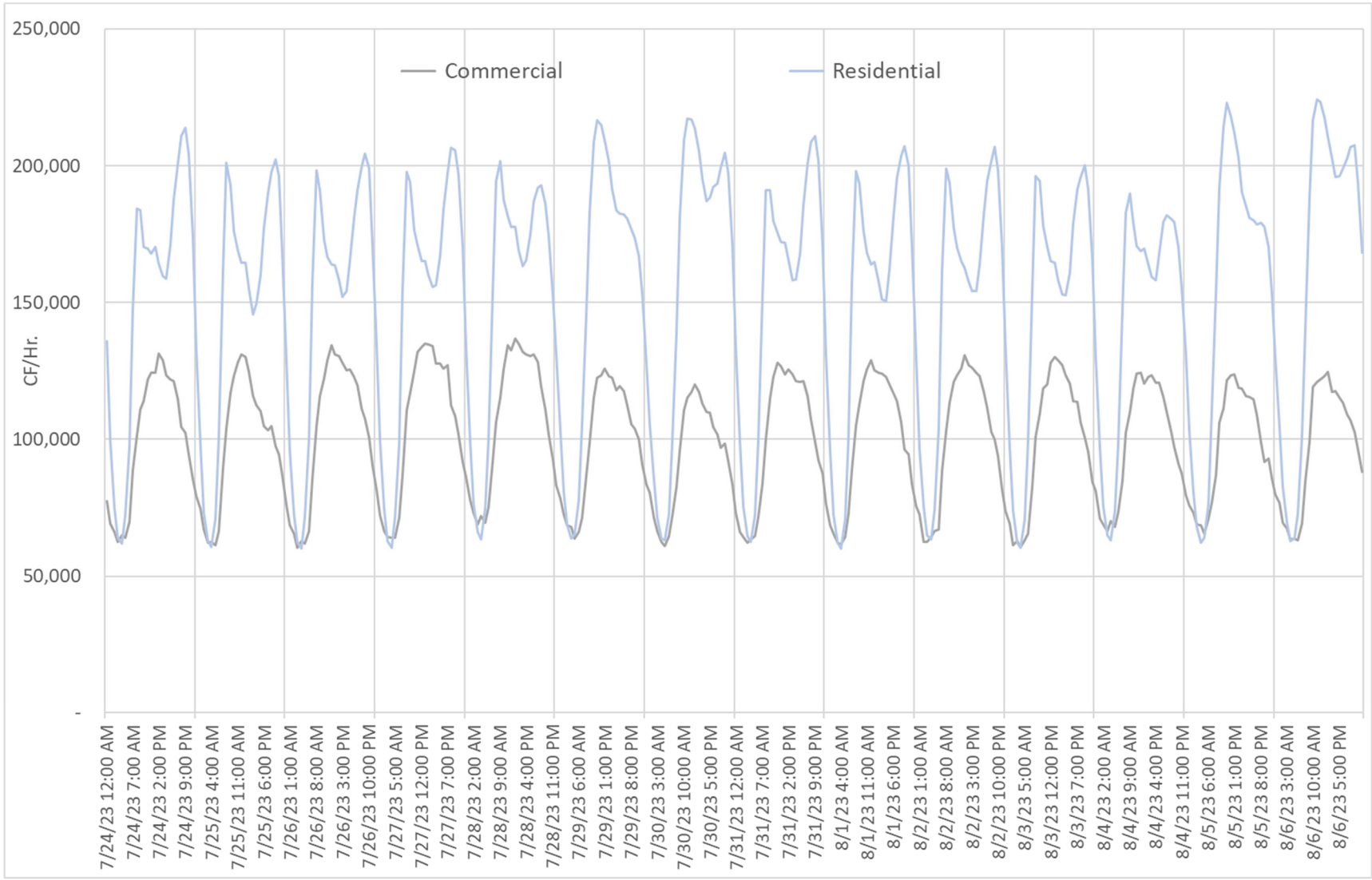
Appendix B2

Median Household Income by Zip Code. This information was generated from the U.S. Census using 2022 Block Group data and aggregated by zip code.



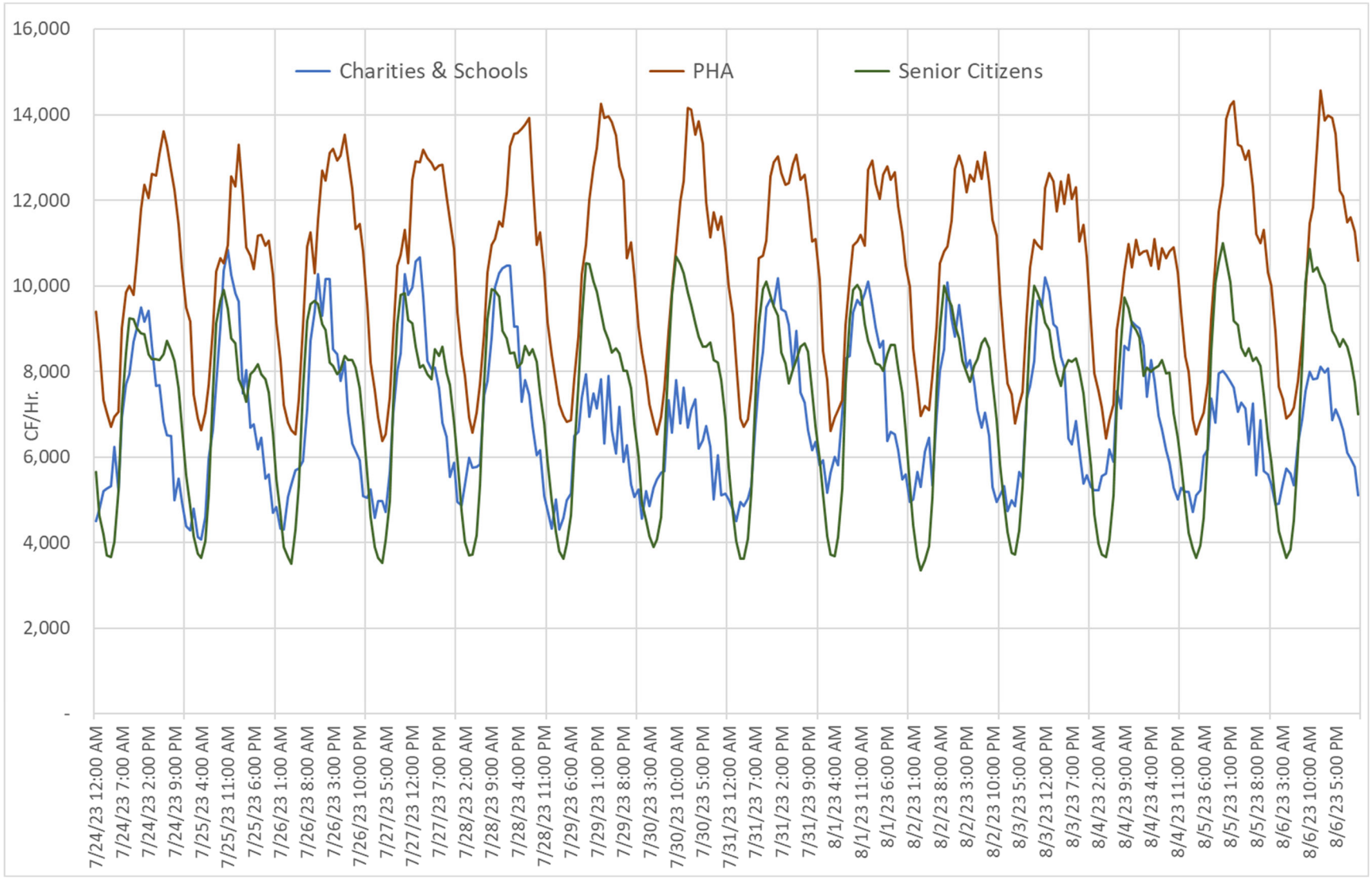
Appendix C1

Residential and Commercial Categories: Example of Hourly Consumption: Monday 7/24/23 00:00AM - Sunday 8/6/2023 11:00PM



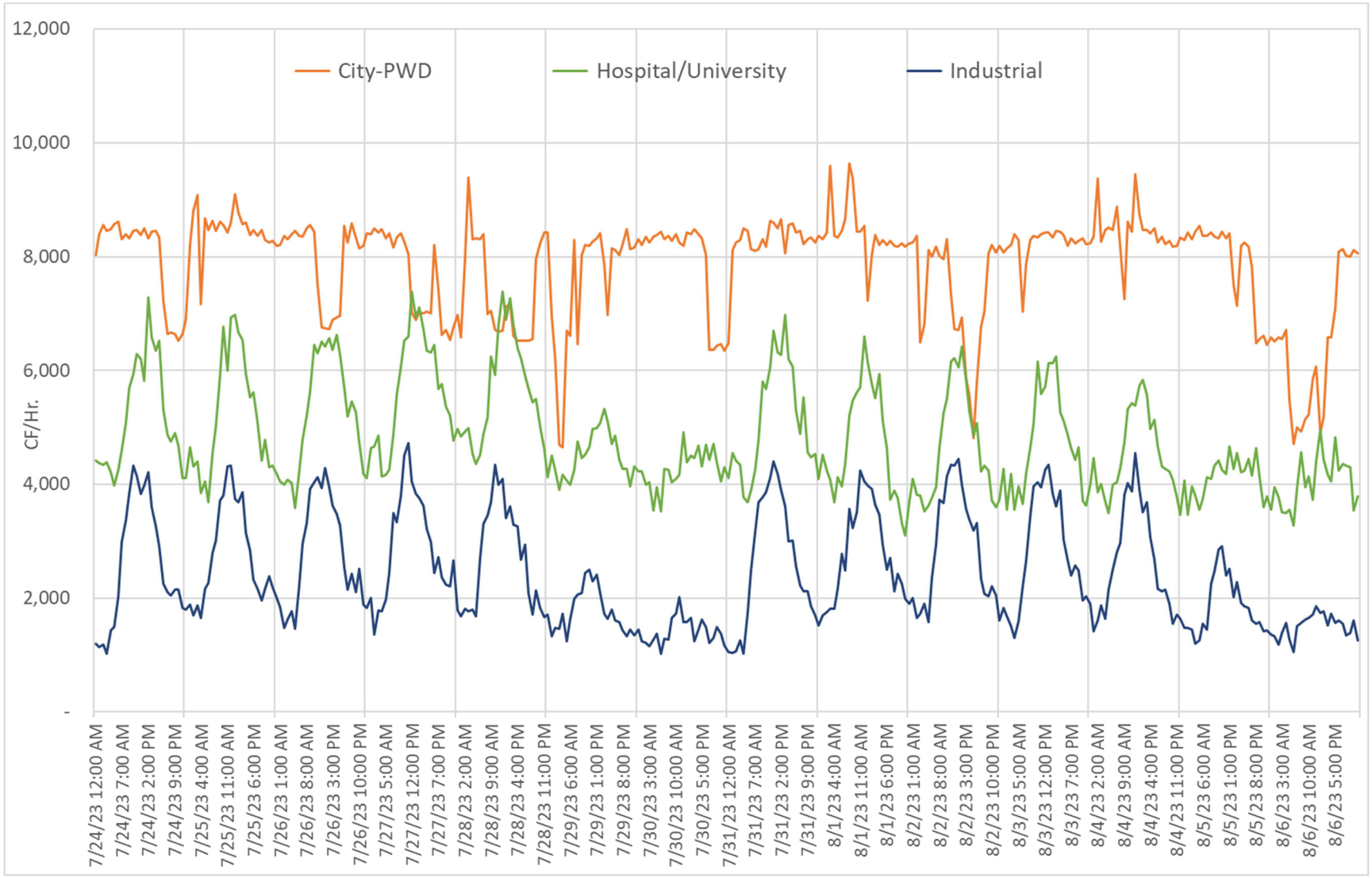
Appendix C2

Charities & Schools, PHA, Senior Citizens Categories: Example of Hourly Consumption: Monday 7/24/23 00:00AM - Sunday 8/6/2023 11:00PM



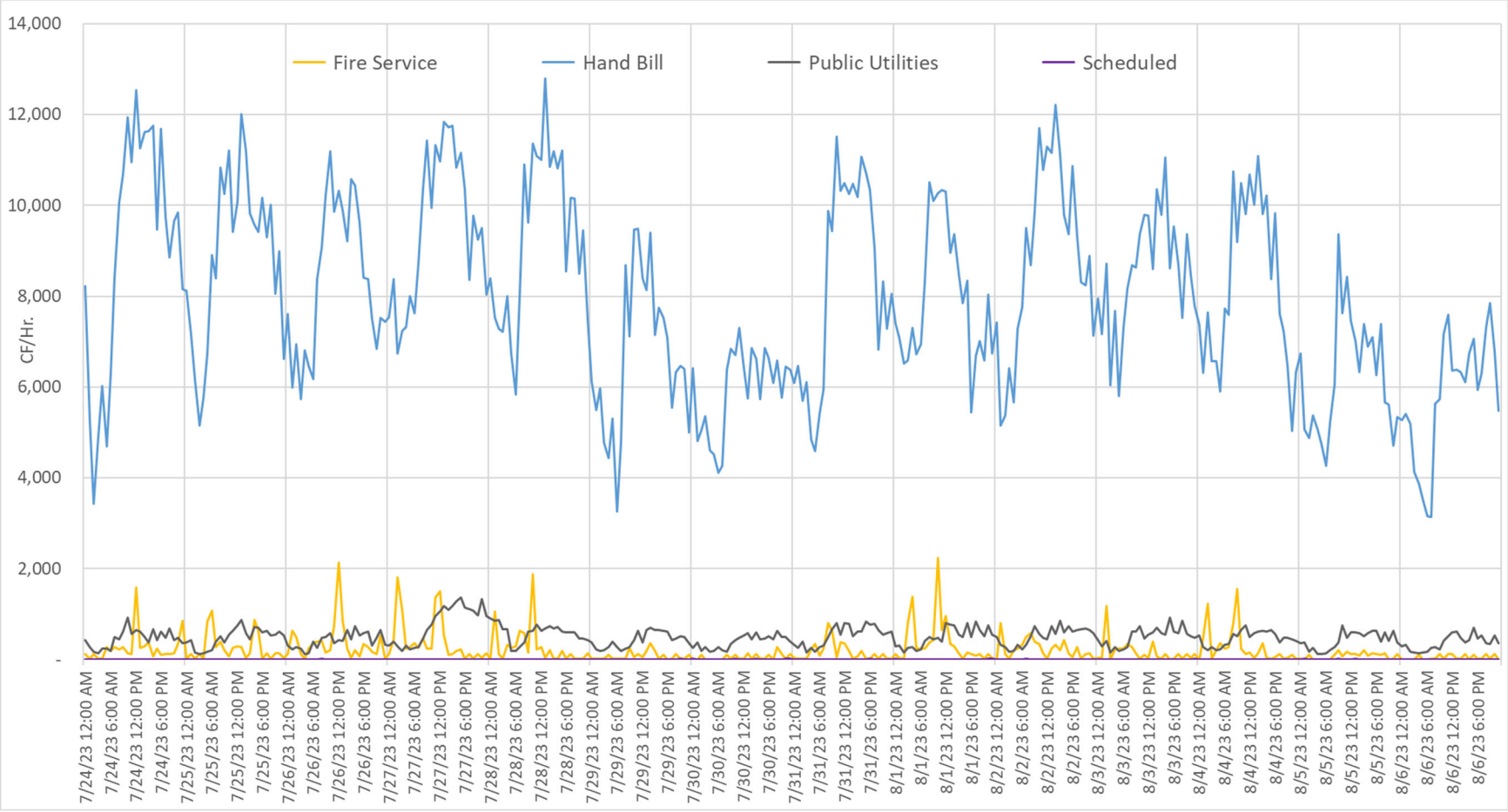
Appendix C3

City-PWD, Hospitals/Universities, Industrial Categories: Example of Hourly Consumption: Monday 7/24/23 00:00AM - Sunday 8/6/2023 11:00PM



Appendix C4

Fire Service, Hand Bill, Public Utilities, Scheduled Categories: Example of Hourly Consumption: Monday 7/24/23 00:00AM - Sunday 8/6/2023 11:00PM



SCHEDULE BV-4: WP-2 - IMPACT OF UPDATED PEAKING FACTORS

This document outlines the potential impacts associated with the implementation of applying updated peaking factors for the customer categories used in the Philadelphia Water Department's ("PWD" or "the Water Department") Cost of Service (COS) Study. The updated peaking factors were developed from the Advanced Metering Infrastructure ("AMI") Demand Study described in Schedule BV-4: WP-1. This white paper presents the impacts of incorporating the updated peaking factors based on the 2023 Rate Determination and proposes a phase-in scenario for the incorporation of the updated peaking factors.

1.0 Background

At the direction of the Philadelphia Water, Sewer and Storm Water Rate Board ("the Rate Board"), PWD conducted an AMI Demand Study ("Study"). The Study was completed by Black & Veatch Management Consulting, LLC ("Black & Veatch") and is summarized in Schedule BV-4: WP-1. The Study leverages PWD's investments in AMI by utilizing data from customers' AMI meters to provide hourly usage data by twelve different customer categories to inform maximum day ("max day" or "MD") and maximum hour ("max hour" or "MH") estimations.

Prior to the implementation of AMI, customer meters were typically read at a frequency of once per month and from this limited information (in conjunction with system-wide hourly and daily peaking factors), hourly and daily peaking factors were developed for each customer category using assumptions. This approach has been widely applied in the water industry for many years and is in accordance with standard recommended practice (i.e., Appendix A of AWWA Manual M1).

With the availability of AMI data, instead of twelve data points per year, each customer meter now typically generates 8,760 hourly data points per year (365 days x 24 hours). This shift in data availability enables the analysis to move away from the use of the assumptions inferred from system peaks applied to monthly data, to the use of actual measured hourly data for each customer category. This analysis has yielded new insights into how the different customer categories use water, and specifically how they place peaking demands on the system. For the purposes of the cost of service ("COS") Study and the AMI Demand Study, hourly and daily peaking factors were developed for the customer categories shown in Table 1-1. Customer categories are used in the context of the COS Study to group customers with similar characteristics, including usage patterns and demands placed upon the City's water and sewer systems.

Table 1-1 Customer Categories Used in COS Study and AMI Demand Study

CUSTOMER CATEGORIES	
Charities & Schools	Industrial
PWD	PHA
Commercial	Public Utilities
Fire Service	Residential
Hand Bill	Scheduled
Hospital/University	Senior Citizens Discount

2.0 Findings and Application

The AMI Demand Study provides a more refined perspective, based on more granular data, of how twelve different customer categories peak on an hourly and daily basis. This information is an important input in the COS Study supporting the allocation of extra-capacity costs to customer categories and the design of the retail quantity charges.

The AMI Demand Study utilizes hourly consumption data from over 200,000 AMI meters, representing over 40% of the Water Department's customers. As a result, Max Day and Max Hour Non-Coincident[1] extra capacity peaking factors were generated for each customer category. Table 2-1 presents the resulting peaking factors along with those used in the last COS Study.

Table 2-1 Non-Coincident Peaking Factors by Customer Category

	CUSTOMER CATEGORY	RATE DETERMINATION EXTRA CAPACITY FACTORS (LEGACY)		AMI DEMAND STUDY EXTRA CAPACITY FACTORS	
		MAX DAY	MAX HOUR	MAX DAY	MAX HOUR
		%	%	%	%
1	Residential	200	360	122	174
2	Senior Citizens	200	360	123	180
3	Commercial	180	265	133	178
4	Industrial	160	200	135	218
5	Public Utilities	160	200	197	404
6	PHA	190	313	122	166
7	Charities & Schools	180	270	152	281
8	Hospital/University	180	233	166	227
9	Hand Bill	180	270	113	146
10	Scheduled	200	360	181	1,124
11	Fire Service[2]	NA	NA	NA	NA
12	PWD	160	200	157	171

The use of AMI data to develop peaking factors represents a shift from industry standard methodologies used to support prior PWD COS Studies. Whereas the previous approach relied on less granular data and assumptions, the new approach uses newly available actual meter data at the customer level and may generate results significantly different from those prior studies.

As can be observed in Table 2-1, there are some significant differences between the peaking factors used in the prior COS Study and the peaking factors as determined by the AMI Demand Study. Therefore, the implementation of new peaking factors in the proposed COS Study requires careful consideration and a full understanding of the impacts to all customers. As with prior COS Studies, the incorporation of any data sets or changes in rate structure that may result in significant shifts in cost recovery and/or influence on

[1] The AMI Demand Study develops the non-coincidental extra-capacity peaking factors to support the cost-of-service allocations in accordance with American Water Works Association's ("AWWA") Manual M1: Principles of Water Rates, Fees, and Charges (AWWA M1 Manual, Seventh Edition, pages 374-375).

[2] Since Fire Service is an on-call service, the COS Study reflects the system design parameters for fire service and does not use the meter-usage based peaking factors from the AMI Demand Study. Hence, it is not assigned a base or volume component the peak flows cannot be expressed in terms of a factor or ratio relative to the average day volume.

rate design, the Water Department has generally applied a gradual approach in order to phase-in proposed changes and help to manage customer bill impacts.

With AMI rollout nearly complete, future studies could be conducted to refine peaking factors and account for customer demands over additional years. While future studies may yield slightly different results, the current AMI Study findings indicate the direction in which peaking factors should be adjusted in order to more reasonably represent the demands placed on the system by the twelve customer categories.

To better understand the potential influence of the new peaking factors on cost recovery and rate design, Black & Veatch modeled the impact of applying the AMI Demand Study generated peaking factors by comparing the 2023 Rate Determination COS Study FY 2025 customer class adjusted costs of service (based on peaking factors used in the 2023 COS study) against the FY 2025 customer class adjusted costs of service based on AMI Demand Study Peaking Factors. The results of this comparison are shown in Table 2-2 which illustrates the impact the AMI demand factors would have on the FY 2025 COS results if directly applied. These impacts on the adjusted cost of service, as presented in Table 2-2, reflect the changes in allocations to the extra-capacity cost components for each customer category based on the revised peaking factors from the AMI Demand Study.

Table 2-2 FY 2025 Cost of Service Impact Comparison - Impact of AMI Demand Study Peaking Factors

CUSTOMER CATEGORY	ADJUSTED COST OF SERVICE - 2023 RATE DETERMINATION	ADJUSTED COST OF SERVICE - AMI DEMAND STUDY FACTORS	IMPACT	PERCENT CHANGE
Residential	$218,858,000	$202,246,000	$(16,612,000)	-7.6%
Senior Citizens	6,349,000	5,933,000	(416,000)	-6.6%
Commercial	85,898,000	93,671,000	7,773,000	9.0%
Industrial	2,602,000	3,410,000	808,000	31.1%
Public Utilities	576,000	1,027,000	451,000	78.3%
PHA	7,980,000	7,769,000	(211,000)	-2.6%
Charities & Schools	4,506,000	5,903,000	1,397,000	31.0%
Hospital/University	1,361,000	1,840,000	479,000	35.2%
Hand Billed	28,404,000	27,847,000	(557,000)	-2.0%
Scheduled (Flat Rate)	5,000	5,000	-	0.0%
Private Fire Protection[3]	6,393,000	7,970,000	1,577,000	24.7%
Public Fire Protection[3]	8,248,000	12,312,000	4,064,000	49.3%
Wholesale	4,686,000	5,933,000	1,247,000	26.6%
Total	$375,866,000	$375,866,000	$-	0.0%

[3] Although the Fire Protection peaking factors continue to reflect the system design parameters for fire service, the allocations are revised based on their proportion if the total system extra capacities reflecting the AMI demand factors for all other customer categories.

Under the Water Department's current rate structure, the schedule of quantity charges recovers the volume and extra-capacity related retail customer costs. The Water Department currently uses a single rate structure of quantity charges consisting of four rate blocks which is applied to all customer categories excluding public and unmetered private fire protection[4]. The schedule of quantity charge rates is designed to provide reasonable cost recovery by customer class by adjusting the four rates within the four- block rate structure.[5]

Using the adjusted cost of service based on the direct application of the AMI Demand Study peaking factors, Black & Veatch developed a revised schedule of quantity charges to provide reasonable cost recovery by customer class.[5] Table 2-3 and Figure 2-1 compare the FY 2025 Approved Quantity Charge Rates (based on peaking factors used in the 2023 COS study) against the FY 2025 Quantity Charge Rates based on AMI Demand Study Peaking Factors.

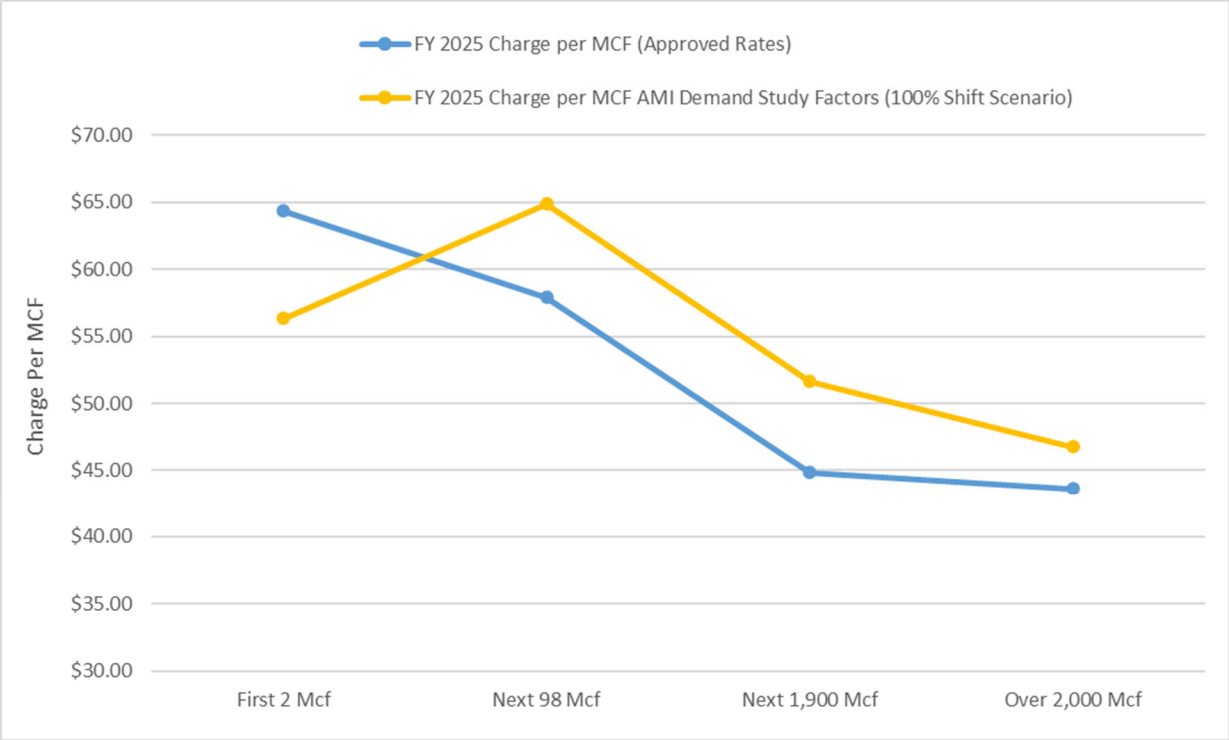
Table 2-3 Rate Impact Comparison - Impact of AMI Demand Study Peaking Factors

MONTHLY WATER USAGE	FY25 CHARGE PER MCF (APPROVED RATES)	FY25 CHARGE PER MCF (AMI DEMAND STUDY FACTORS)
First 2 Mcf	$64.32	$56.31
Next 98 Mcf	$57.88	$64.88
Next 1,900 Mcf	$44.84	$51.62
Over 2,000 Mcf	$43.62	$46.75

[4] Public and unmetered private fire protection do not have metered usage.

[5] With the diversity of customer usage patterns, it is not practical to achieve 100% cost recovery by customer category with a single quantity charge rate schedule. However, the quantity charge rate schedule is developed to provide equivalent cost recovery for the total residential and non-residential customer categories and provide reasonable recovery by each category.

Figure 2-1 Rate Impact Comparison - Impact of AMI Demand Study Peaking Factors (Chart)



These results illustrate that current declining block structure of the FY 2025 Approved Rates would significantly change as there would be an increase in the 2nd block, with a declining rate in the 3rd and 4th blocks. This analysis assumes no change to the number of existing blocks and their break points.[6]

2.1 Phasing In of Peaking Factors

Based on the significant impacts to cost of service based on the AMI Demand Study results, as presented in Table 2-2, we are proposing a phased approach to implementing the AMI Demand Study results, moving from use of the prior peaking factors reflected in prior cost of service studies towards the new peaking factors as determined by the AMI Demand Study. The phased peaking factor values are shown in Table 2-4.

We propose to phase-in the new AMI Demand Study peaking factors in linear increments over a period of four years. In Year 1 of the rate period, we propose moving 25% of the way towards the new AMI Demand Study peaking factors, as reflected in the Year 1 Factors (25% Shift) presented in Table 2-4. In Year 2 of the rate period, we propose moving 50% of the way towards the AMI Demand Study peaking factors as reflected in the Year 2 Factors (50% Shift) presented in Table 2-4.

[6] Adjusting the rate block break points, such as establish a lower upper limit for the first rate block, may result in different results. The proposed phase-in of the AMI Demand Study based peaking factors will allow time for additional analysis and evaluation of such adjustments. In addition, the existing Basis2 billing system cannot accommodate changes in the volumes for each rate block.

Table 2-4 Proposed Phase-in of Peaking Factors

	CUSTOMER CATEGORY	YEAR 1 FACTORS (25% SHIFT)		YEAR 2 FACTORS (50% SHIFT)	
		MAX DAY %	MAX HOUR %	MAX DAY %	MAX HOUR %
1	Residential	181	314	161	267
2	Senior Citizens	181	315	162	270
3	Commercial	168	243	157	222
4	Industrial	154	205	148	209
5	Public Utilities	169	251	179	302
6	PHA	173	276	156	240
7	Charities & Schools	173	273	166	276
8	Hospital/University	177	232	173	230
9	Hand Bill	163	239	147	208
10	Scheduled	195	551	191	742
11	Fire Service[7]	NA	NA	NA	NA
12	PWD	159	193	159	186

Key points and considerations regarding the choice of this approach are as follows:

- It shifts peaking factors in a way that we believe is a directionally correct move to align COS parameters more closely with the actual peaking factors caused by each customer category.
- It stops short of directly implementing the peaking factors as determined by the AMI Demand Study because these new peaking factors are, in many cases, significantly different from the prior factors used (due to the new insights provided by AMI data).
- Proposed peaking factors are based upon an assumed phase in period of four years; however, only the initial two years of phase-in are proposed at this time. We believe a gradual process of implementation is prudent to avoid a significant impact to rates and customer bills. Further adjustments to the peaking factors would be the subject of a future rate proceeding.
- This is consistent with approaches used for prior changes in rates and rate structure (i.e., stormwater parcel area-based charges).
- The proposed phase-in will allow for the collection of additional years of data and analysis using the hourly data provided by the Water Department's AMI system; and
- Allows for further exploration of rate structure changes with stakeholders, coupled with the evaluation of other rate structure changes (i.e., stormwater rate structure changes), and in alignment with the anticipated replacement of the City's Basis2 billing system.[8]

Over the proposed implementation timeframe, if desired, it would be feasible to conduct additional analysis on the AMI data to determine the appropriate path for any continued peaking factor adjustments beyond those proposed and outlined herein. It is our expectation that additional AMI analysis will generally support the peaking factors that were determined in the AMI Demand Study, but the additional analysis would also

[7] Fire Protection peaking factors continue to reflect the system design parameters for fire service. See footnote 2.
[8] See PWD Statement 5 at 15.

provide more confidence in those findings, as it can draw on data from a more complete AMI rollout. Such studies could examine peak water usage in 2024 and 2025 to provide a wider range of weather conditions for comparison.

2.2 Impact of Peaking Factors on Rates

Black & Veatch assessed the impact that the proposed phase-in of AMI Demand Study peaking factors would have on the 2025 cost of service and quantity charge rate schedule. To isolate the impact of the peaking factor adjustments on the cost of service and rates, the impact was modeled based on the FY 2025 approved rates from the 2023 Rate Determination.

Table 2-5 presents the impact of the proposed phase-in of the AMI Demand Study demand factors on the cost of service by customer category. This demonstrates that the proposed phase-in results in incremental steps towards the overall revised cost of service associated with the AMI Demand Study demand factors.

Table 2-5 FY 2025 Cost of Service Impact of Proposed Phase-in of AMI Demand Study Peaking Factors

CUSTOMER CATEGORY	ADJUSTED COST OF SERVICE (2023 RATE DETERMINATION)	ADJUSTED COST OF SERVICE YEAR 1 (25% SHIFT)	PERCENT CHANGE	ADJUSTED COST OF SERVICE YEAR 2 (50% SHIFT)	PERCENT CHANGE
Residential	$218,858,000	$215,564,000	-1.5%	$212,324,000	-1.5%
Senior Citizens	6,349,000	6,258,000	-1.4%	6,179,000	-1.3%
Commercial	85,898,000	88,122,000	2.6%	88,985,000	1.0%
Industrial	2,602,000	2,813,000	8.1%	2,922,000	3.9%
Public Utilities	576,000	676,000	17.4%	748,000	10.7%
PHA	7,980,000	7,980,000	0.0%	7,916,000	-0.8%
Charities & Schools	4,506,000	4,797,000	6.5%	5,092,000	6.1%
Hospital/University	1,361,000	1,464,000	7.6%	1,533,000	4.7%
Hand Billed	28,404,000	28,690,000	1.0%	28,307,000	-1.3%
Scheduled (Flat Rate)	5,000	5,000	0.0%	5,000	0.0%
Private Fire Protection[9]	6,393,000	6,385,000	-0.1%	6,965,000	9.1%
Public Fire Protection[9]	8,248,000	8,214,000	-0.4%	9,724,000	18.4%
Wholesale	4,686,000	4,898,000	4.5%	5,166,000	5.5%
Total	**$375,866,000**	**$375,866,000**	**0.0%**	**$375,866,000**	**0.0%**

Table 2-6 shows the impact of the proposed AMI Demand Study demand factors on the FY 2025 quantity charge rate schedules. The current (FY 2025) approved rates, and both Year 1 and Year 2 phase-in scenarios, all demonstrate a declining block structure. However, to achieve reasonable cost recovery among the customer classes, the "shape" of the block structure is altered by the impact of the new peaking factors. In Year 2 of the proposed phase-in (50% Shift Scenario), the rates for the first and second rate blocks are much closer than those in the Adopted Rates and an overall flattening of quantity charge block rate schedule can be seen as presented in Table 2-6.

[9] Although the Fire Protection peaking factors remain unchanged, as they reflect the system design parameters for fire service, their allocations are revised based on their proportion of the system total extra capacities reflecting the revised demand factors for all other customer categories.

Although only the initial two years of phase-in are proposed at this time, we have also modeled the full impact of the peaking factors developed in the AMI Demand Study (100% shift) on the block rates. This is the fifth column in Table 2-6 and shown in Figure 2-1 by the yellow line. It is evident from Figure 2-2 that if the AMI Demand Study peaking factors were implemented directly, it would change the shape of the existing rate structure in that instead of having a declining block structure in which each larger volume block has a lower rate, the second block has a higher unit cost rate than the first block, with the third and fourth blocks declining. As noted previously, this analysis assumes no change to the number of existing blocks and their break points.[10]

Table 2-6 FY 2025 Rates Under Proposed Phase-in of AMI Demand Study Peaking Factors

MONTHLY WATER USAGE	ADOPTED RATES ($/MCF)	YEAR 1 - 25% SHIFT ($/MCF)	YEAR 2 – 50% SHIFT ($/MCF)	100% SHIFT ($/MCF)
First 2 Mcf	$64.32	$62.64	$61.20	$56.31
Next 98 Mcf	$57.88	$59.64	$60.54	$64.88
Next 1,900 Mcf	$44.84	$46.89	$47.68	$51.62
Over 2,000 Mcf	$43.62	$46.89	$46.39	$46.75

Table 2-7 shows the impact of the AMI Demand Study demand factors on the FY 2025 typical or representative combined residential water, sanitary sewer, and stormwater monthly bills under the existing rate structure. A typical PWD residential customer has a 5/8-inch meter and uses about 0.43 Mcf, or approximately 430 cubic feet, monthly. Under the Year 1 (25% Shift) scenario, this customer's monthly bill would decrease from $81.77 to $81.05, a decrease of $0.72 or about 0.9%. In the Year 2 (50% Shift) scenario, the bill decreases to $80.44, a decrease of $0.61 or about 0.8%.

A typical senior discount customer has a 5/8-inch meter and uses about 0.3 Mcf monthly. Under the AMI Demand Study demand factor Year 1 (25% Shift) scenario adjustments, this customer's FY 2025 monthly bill would decrease from $50.32 to $49.94, a decrease of $0.38 or about 0.7%. Under Year 2 (50% Shift) scenario adjustments, the bill decreases to $49.62, a decrease $0.32, or about 0.6%.

A PWD small commercial business customer has a 5/8-inch meter and uses about 0.55 Mcf or approximately 550 cubic feet, monthly. Under the AMI Demand Study demand factor Year 1 (25% Shift) scenario adjustments, this customer's monthly bill would decrease from $137.38 to $136.46, a decrease of $0.92 or about 0.7%. Under Year 2 (50% Shift) scenario adjustments, the bill decreases to $135.68, a decrease of $0.78, or about 0.6%.

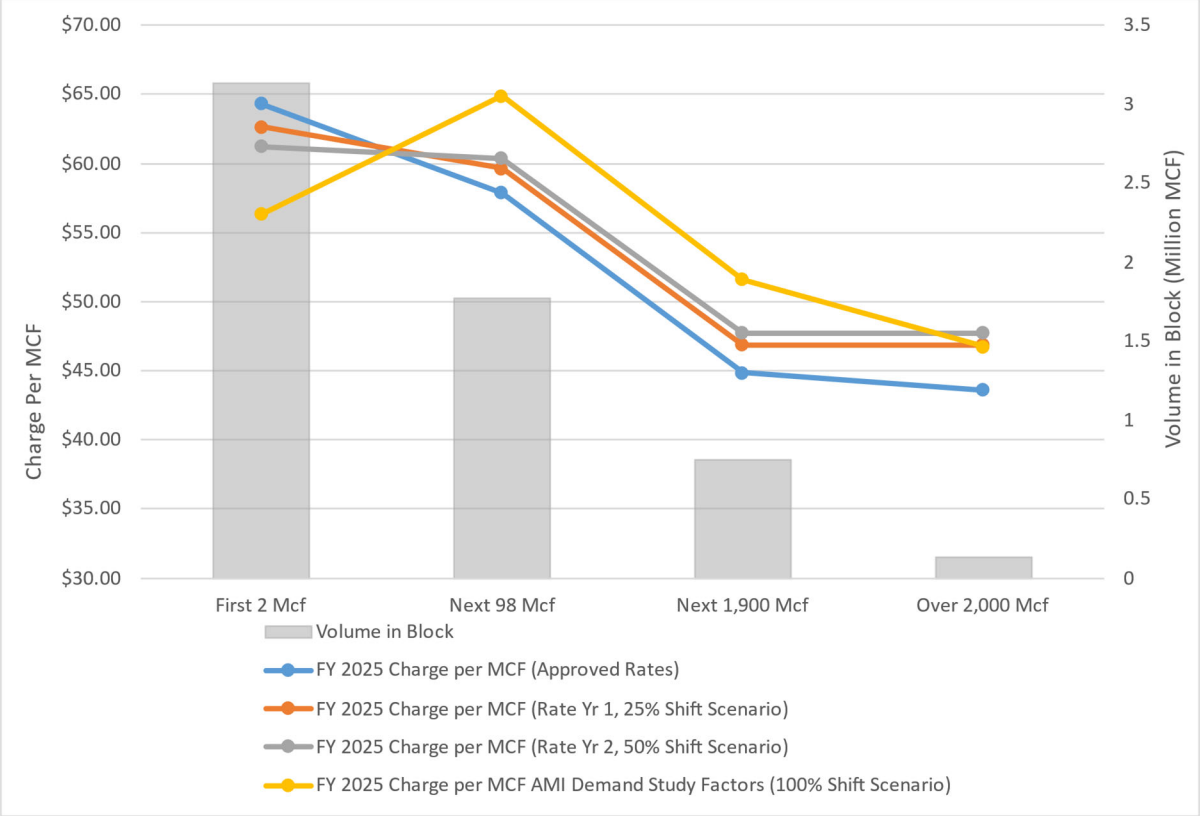
Larger volume customers can expect to see an approximate increase of as much as 3% in Year 1 and an additional 1% in Year 2.

[10] Adjusting the rate block break points, such as establish a lower upper limit for the first rate block, may result in different results. The proposed phase-in of the AMI Demand Study based peaking factors will allow time for additional analysis and evaluation of such adjustments.

Table 2-7 Typical Bill Impact from FY 2025 Rates Under Proposed Phase-in of AMI Demand Study Peaking Factors

CUSTOMER CATEGORY	Existing Rates $	YEAR 1 - (25% SHIFT) Adjusted Rates $	YEAR 1 - (25% SHIFT) Change of Existing %	YEAR 2 - (50% SHIFT) Adjusted Rates $	YEAR 2 - (50% SHIFT) Change of Year1 %
Typical Residential[11]	81.77	81.05	-0.9	80.44	-0.8
Typical Senior Citizen[12]	50.32	49.94	-0.7	49.62	-0.6
Typical Small Business[13]	137.38	136.46	-0.7	135.68	-0.6

Figure 2-2 Rate Impact of Proposed Peaking Factor Adjustments (Chart)



The COS study supporting the 2025 Rate Proceeding filing reflects the proposed phase-in of the AMI Demand Study peaking factors. The proposed rates are also impacted by other factors including changes

[11] "Typical" residential account with 5/8" meter using 4.3 hundred cubic feet of water monthly.
[12] "Typical" senior citizen discounted bill account with 5/8" meter using 3 hundred cubic feet of water monthly. Bill amounts reflect a 25% discount on all fees and charges.
[13] "Typical" small business account with 5/8" meter using 5.5 hundred cubic feet of water monthly and a parcel with a gross area of 5,500 square feet and impervious area of 4,000 square feet.

in distributions of customer category accounts and demands, plant investment, and operating expenses. Refer to *Schedule BV-1* and *BV-2: WP-2: Water & Wastewater Cost of Service Report* proposed rates and additional information on the COS Study associated with the 2025 Rate Proceeding.

2.3 Other Rate Impact Considerations

The above analysis minimizes other potential rate variables to isolate the impact of the proposed peaking factor changes on the existing rate structure. Other considerations for rate structure adjustments could include:

- Redefining the block volumes;
- Changing the number of blocks;
- Implementing Class-based Rates;
- Consideration of Alternative Block Rates Structures (such as inclining blocks and/or uniform rates); and
- Combinations thereof.

However, PWD is currently limited in its ability to change the rate structure significantly due to the constraints inherent in the Basis2 billing system. All of the above noted potential adjustments to rates are currently not feasible within the existing billing system.

As noted earlier, the current Basis2 billing system is scheduled for replacement in the next few years. It is understood that due to this planned transition, the City prefers to minimize the effort placed on updating or modifying Basis2, as the current focus is on efforts and resources related to the implementation of a more modern and sophisticated billing system that will serve the City better in the future. It is anticipated that the new billing system will offer increased flexibility with respect to rate structure.

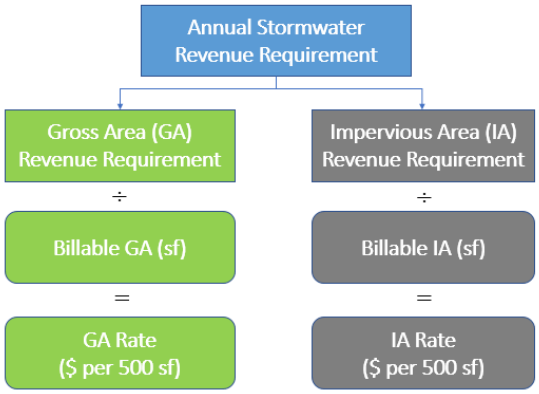
SCHEDULE BV-4: WP-3 - STORMWATER UNITS OF SERVICE ANALYSIS

This memorandum outlines the methodology used in developing the projections of the Billable Gross Area (GA) and Impervious Area (IA), collectively referred to as the "Stormwater Units of Service," for the Water and Wastewater Cost of Service (COS) Study (Study) for the study period of FY 2025 through FY 2030 (Study Period).

Introduction

The Philadelphia Water Department (PWD or the Water Department) stormwater charge is comprised of a Billing and Collection charge and the Stormwater Management Services (SWMS) charge. The Billing and Collection charge is a fixed charge per account, whereas the SWMS charge is parcel area based. The SWMS Charge consists of two components: a Gross Area Charge and an Impervious Area Charge. These two charges are calculated based on the GA and IA square footage of a property and the associated GA and IA Rates. As illustrated in Figure 1, the system-wide GA and IA rates are determined based on the estimated GA and IA revenue requirements for a given fiscal year and the billable GA and IA square footage. *The Billable GA and IA Square Footage (sf) is also referred to as "Stormwater Units of Service".*

Figure 1 Determination of GA and IA Rates



As part of the Study performed, the GA and IA units of service over the Study Period were estimated to support the development of the GA and IA rates for stormwater services provided under the Water Department's wastewater utility. This memorandum explains the methods used in developing the projected billable GA and IA units of service and discusses the results of the units of service analysis.

Definitions

The following key terms are used throughout this memorandum.

1. **Gross Area (GA)** - Includes all of the property area within the legally described boundaries except streets, medians and sidewalks in the public right-of-way.
2. **Impervious Area (IA)** - Includes surfaces which are compacted or covered with material that restricts infiltration of water, including semi-pervious surfaces such as compacted clay, most conventionally hardscaped surfaces such as streets, driveways, roofs, sidewalks, parking lots, attached and detached structures, and other similar surfaces.
3. **Stormwater Management Incentives Program (SMIP)** – The Water Department's stormwater grant program offered to non-residential property owners for stormwater retrofit projects.
4. **Green Acres Retrofit Program (GARP)** – The Water Department's stormwater grant program offered to contractors, companies or project aggregators to build large-scale stormwater retrofit projects across multiple properties.

5. **Units of Service** – The system wide billable accounts, parcels, and GA and IA square footage.
6. **Impervious Area Managed -** Impervious area that directs runoff to surface water bodies or to approved Stormwater Management Practices (SMPs). For the purposes of PWD's credit program, IA managed is calculated in square footage.
7. **Impervious Area Reduction (IAR) -** Impervious area that is directed to a pervious area on a property or based on the type of land cover, has characteristics similar to a pervious area.
8. **Adjustment Appeals** – PWD's appeal program which enables customers to seek adjustments for billing inaccuracies including inaccurate parcel classification, incorrect parcel identification, residential sideyard, or for errors in the calculation of a parcel's gross and/or impervious area.

Purpose

The primary purpose of the stormwater units of services analysis is to develop reasonable estimates of the billable accounts, parcels and GA and IA units of service for the Study Period of FY 2025 through FY 2030. The billable units of service are utilized in projecting the stormwater revenues under existing rates, as well as in developing the proposed GA and IA rates.

Stormwater Billing Data

The Water Department provided the historical number of accounts, parcels, impervious area and gross area used for billing the stormwater fees. Table 1 below presents the billing data for the most recently completed fiscal year. The City-wide total billable impervious area is 1,186 million square feet (sf) and the total gross area is 2,085 million sf. An overview of that data is provided in Table 1 below.

Table 1 Fiscal Year 2024 Stormwater Billing Data by Customer Class

Line No.	Description	Billable Parcels	Billable Accounts	FY 2024 Billable Impervious Area (Square Feet)	FY 2024 Billable Gross Area (Square Feet)
1	Residential	464,592	466,910	553,525,635	975,972,542
2	Non- Residential	68,528	77,776	609,893,369	1,078,116,431
3	Condominium	2,420	5,582	22,535,918	31,392,732
4	Total	535,540	550,268	1,185,954,922	2,085,481,705

- Residential customers are currently billed a uniform charge (per parcel) based upon the mean IA and GA square footage;
  - The mean residential IA per parcel is 1,190 sf and the mean residential GA per parcel is 2,100 sf and remains unchanged from the prior study.
  - Black & Veatch has utilized the average residential IA and GA for projecting billable units of service for Study Period and determining residential rates for FY 2026 and FY 2027.
- Non-Residential and Condominium customers are currently billed based on an IA charge and a GA charge per five hundred (500) square feet;

- Black & Veatch has utilized the average Non-Residential and Condominium billing data currently in place to estimate units of service for the Study Period and determining non-residential rates for FY 2026 and FY 2027.

Adjustment Factors

The parcels/accounts, GA and IA units of service projections are impacted by the following three "Adjustment Factors":

a. ***Adjustments for Stormwater Credits[1]:*** Stormwater credits which are offered in the form of a reduction in GA and/or IA square footage;
b. ***Adjustments for Stormwater Appeals:*** Reduction in GA and IA square footage due to customer appeals; and
c. ***Other Adjustments:*** Reduction in parcels/ accounts, GA and IA due to exempt Community Gardens[2].

The billable GA and IA units of service are projected taking into consideration any potential reduction or gain in billable square footage due to the above three Adjustment Factors.

Units of Service Analysis

This section provides an overview of the methodology used in the determination of the billable GA and IA units of service for the three customer classes: *Residential, Non-Residential, and Condominium*.

Classification of Parcels

PWD's Rates and Charges (Effective September 1, 2024), Section 4 defines three classes for the purposes of SWMS Charge:

- **Residential Property** - Real estate used exclusively for residential purposes with at least one and no more than four dwelling units.
- **Non-residential Property** - Real estate which cannot be classified as either residential or condominium.
- **Condominium Property** – Real estate, portions of which are designated for separate ownership, and the remainder of which is designated for common ownership by the owners of those portions.

In determining the billable unit of service, identical methodology is used for both the Non-Residential and Condominium customer classes. For presentation purposes, the discussion on the Non-Residential class also encompasses the Condominium class.

System-Wide Billable GA and IA Units of Service Framework

The following key steps are used in the determination of the billable GA and IA square footage, which are as follows:

- **Step 1 –** Project Initial GA and IA square footage for each customer class;
- **Step 2 –** Project GA and IA adjustments for each of the three adjustment factors; and

[1] As per PWD Rates and Charges Section 4.5 SWMS Credits.
[2] As per 2016 Special Filing Rate Board Decision, PWD Rates and Charges Section 5.2 (f) and Philadelphia Code Section 19-1603.

- **Step 3 –**Derive the billable GA and IA square footage for each customer class by applying the adjustments to the initial GA and IA square footage.

Step 1 – Project Initial GA and IA

The initial GA and IA refer to the baseline GA and IA square footage prior to the application of any Adjustment Factors. The Initial GA and IA for the Residential and Non-residential classes are projected by applying the Mean GA and IA to the projected number of parcels in each of those classes.

Residential Initial GA and IA

- *Mean GA & IA:* Based on the Fiscal Year 2024 Residential GA and IA and the number of parcels, the Residential Mean GA is 2,100 sf and the Mean IA is 1,190 sf.
- *Projected Number of Parcels:* The annual number of parcels projected for the Study Period is set to equal the FY 2024 number of parcels.
- Initial GA & IA: The Initial GA and IA for each year of the Study Period is derived by applying the Mean GA of 2,100 sf and Mean IA of 1,190 sf to the annual number of parcels determined for each year of the Study Period.

Non-Residential Initial GA and IA

- *Mean GA & IA:* Due to the significant diversity in the types of parcels within the non-residential and Condominium customer classes, sub-groups were delineated. The Mean GA and Mean IA for FY 2025 is derived for each of the sub-groups based on the FY 2024 Mean GA and Mean IA. **Table 6-6** in Schedule BV-2: Cost of Service Report illustrates the FY 2025 Mean GA and Mean IA determined for each of the Non-residential and Condominium sub-groups.
- *Projected Number of Parcels:* The annual number of parcels projected for the Study Period is set to equal the FY 2024 number of parcels.
- Initial GA & IA: The Initial GA and IA for each year of the Study Period is derived by applying the FY 2025 Mean GA and Mean IA square footage of the sub-groups to the annual number of parcels determined for each year of the Study Period for each of those sub-groups.

The projection of the Initial Parcel Count, Initial GA, and Initial IA estimated for the Residential, Non-Residential, and Condominium customer classes are presented in **Section 6.1** of Schedule BV-2: Cost of Service Report.

Step 2 Project GA and IA Adjustments

The estimation of the potential reduction or gain in the billable GA and IA units of service involved an analysis of each of the three Adjustment Factors, namely:

a. Adjustments for Stormwater Credits
b. Adjustments for Stormwater Appeals
c. Other Adjustments

The approach used to estimate the impact on GA and IA units of service due to each of these three Adjustment Factors is discussed in the following sections.

A. Adjustments for Stormwater Credits

Stormwater fee credits, which are offered to Non-residential and Condominium properties for implementing and maintaining onsite stormwater management practices, cause a reduction in stormwater billing and

ultimately stormwater revenues. To assure revenue adequacy, potential reduction in the billable GA and IA units of service due to credits need to be accounted for in designing the GA and IA rates.

Three primary types of stormwater management activities and/or programs are integral to private onsite stormwater management, each of which could result in the issuance of additional stormwater GA and IA credits during the Study Period. The three types of stormwater management activities/programs are:

1. Impervious Area Reduction (IAR) Practices
2. GA/IA Management Practices
3. SMIP/GARP Grants

The potential reduction in GA and IA credits, defined in terms of square footage, was estimated for each of these three types of activities/programs. The projections were developed based upon a review of the five-year historical data (FY 2020 through FY 2024) as provided by the Water Department, discussions with Department Stormwater Billing and Incentives Staff, and use the following approach(es):

IAR Practices –IAR practices refer to stormwater management practices that are typically deployed onsite by property owners to effectively reduce the impervious area square footage. IAR practices include tree canopy cover, impervious area disconnection, and down spout disconnections. The potential IA reduction during the Study Period due to these practices is estimated as follows:

Annual Estimated Additional IAR Credits (sf) = Number of additional IAR parcels projected for the fiscal year x Historical average IAR (sf) per parcel

- *Historical average IAR (sf) per parcel Average IAR (sf) per parcel* **–** The average IAR per parcel, determined using that 5-year trend, was estimated at 8,513 sf.
- *Projection of Additional IAR Parcels* – The number of IAR parcels from FY 2024 was used as the baseline for projection purposes. A five-year average annual growth rate of 13 parcels per year was estimated based on the growth rate from FY 2020 to FY 2024 and used to project the number of additional IAR parcels anticipated annually over the Study Period.

Figure 2 IAR Practices

Average Impervious Area Reduction per Parcel = 8,513 sf
Average five-year annual growth in parcels with IAR practices = 13
Parcels with IAR Practices (FY 2024 Baseline) = 664

The annual growth in parcels is multiplied by the average credit per parcel (sf) to estimate the IA credit over the Study Period. Figure 2 presents IAR practices baseline and assumptions for future projections.

Table A-1 in the Appendix presents the historical IAR credits along with the annual growth rate and average IAR credit per parcel.

Appendix H Table 1 in Schedule BV-2: Cost of Service Report presents the estimated number of parcels projected to receive IAR credits, and the associated reduction in Impervious Area estimated for the Study Period.

GA/IA Management Practices – The GA/IA Management Practices refer to stormwater management practices that are typically deployed to comply with the Water Department's stormwater management regulations. The potential GA and IA reduction during the Study Period due to these GA/IA Management practices were estimated as follows:

*Annual Estimated Additional GA/IA Managed Credits (sf) = Number of additional GA/IA Managed parcels projected for the fiscal year **x** Historical Average GA/IA Managed (sf) per parcel*

- *Average GA/IA Managed (sf) per parcel* **–** The FY 2024 data was used as the baseline for the projection of GA & IA credits.
    - Parcel level data on the GA and IA credits issued in FY 2020 to FY 2024 was obtained from the Department, to determine the average square footage for GA and IA credits issued.
    - A review of the FY 2020 to FY 2024 GA/IA managed credits data revealed differences in the average GA and IA credits issued per parcel, between the "Surface Discharge" and "Non-Surface Discharge" properties, and by the type of credits issued.
        - Therefore, the average GA and IA credits were determined for the two discharge types, and by the type of credits granted historically.
    - Table 3 presents the results of the five year (FY 2020 to FY 2024) average GA and average IA credits by type (IA Managed, GA Managed, National Pollutant Discharge Elimination System [NPDES] and Open Space Credits) for the two types of stormwater discharges.

Table 2 Projection Factors for GA/IA Managed Credits

NON-SURFACE DISCHARGE CREDITS			SURFACE DISCHARGE CREDITS		
Line No.	Description	Average Per Parcel-Year End (5 yr)	Line No.	Description	Average Per Parcel-Year End (5 yr)
1	Parcel Growth	27	1	Parcel Growth	6
2	IA Managed(sf)-Average Per Parcel	25,481	2	IA Managed(sf)-Average Per Parcel	204,598
3	IA NPDES(sf)-Average Per Parcel	0	3	IA NPDES(sf)-Average Per Parcel	774
4	GA Managed(sf)-Average Per Parcel	24,671	4	GA Managed(sf)-Average Per Parcel	205,083
5	GA Open Space(sf)-Average Per Parcel	64,896	5	GA Open Space(sf)-Average Per Parcel	503,101
6	GA NPDES(sf)-Average Per Parcel	0	6	GA NPDES(sf)-Average Per Parcel	3,728

- *Projection of Additional GA/IA Managed Parcels* – As indicated in Table 2, the 5-year average for number of parcels that were issued GA/IA managed credits between FY 2020 and FY 2024 for the Non-Surface and Surface Discharge types were 27 and 6 parcels, respectively.
    - Discussions with the Water Department staff indicated that recent short-term drops in credit enrollment are not believed to be indicative of longer-term trends; therefore, a more reasonable assumption would be to utilize the longer-term growth in parcels receiving credit to project overall program growth, for each succeeding fiscal year of the Study Period.
    - Based on the above, the number of parcels with GA/IA managed credits at the end of FY 2024 (910 parcels for Non-Surface Discharge and 339 parcels for Surface Discharge types) was assumed to be the baseline.
    - The 5-year annual growth in parcels was used to incrementally increase the total number of parcels receiving credit each succeeding fiscal year for the Study Period.

For each stormwater discharge and credit type, the annual growth in parcels is multiplied by the average IA and GA credit per parcel (sf) to estimate the IA and GA managed credits respectively during the Study Period.

Table A-2 in the Appendix presents the historical non-surface and surface credits along with the annual growth rate and average credits awarded per parcel.

Appendix H Table 1 in Schedule BV-2: Cost of Service Report presents the estimated number of parcels projected to receive credit for the *GA/IA Management Practices*, and the associated square footage of GA and IA managed credits, for the Study Period.

SMIP and GARP – As defined earlier, SMIP and GARP are the two grant programs offered by the Water Department to incentivize private stormwater management. Properties that receive SMIP/GARP grants ultimately receive stormwater credit[3]. Therefore, the reduction in billable GA and IA sf resulting from SMIP/GARP grants needs to be estimated for the Study Period.

[3] Upon the completion and verification of the Stormwater Management Practice (SMP) installation.

The annual SMIP/GARP grant budget is $15 million in FY 2025, $15 million in FY 2026 and then is assumed to return to prior funding levels at $25 million per year throughout from FY 2027 to FY 2030. This annual budget includes program administration costs and services which amount to approximately $600,000 per year for FY 2025 through FY 2030. Therefore, the budget available for reward is reduced accordingly, as summarized in **Appendix H Table 2.**

Estimation of Potential GA and IA Credits

The potential GA and IA credits resulting from the SMIP/GARP awards are estimated through a two-step approach:

- STEP 1: Estimate the amount of "drainage acres" that could result from the annual SMIP and GARP award amounts.
- STEP 2: Estimate the amount of GA and IA credits for the drainage acres deployed.

STEP 1: Based on a review of the completed SMIP/GARP project data as provided by the Department as well as discussions with the SMIP/GARP technical review team, the following assumptions were used in projecting drainage acres:

- The average grant amount awarded per drainage acre for the SMIP/ GARP projects was estimated to be $447,000 for FY 2024 and is $552,000 for projects awarded in FY 2025 to date; therefore, and average grant award per drainage acre of $500,000 was utilized
- The average grant amount awarded per drainage acre is escalated 5-percent annually based upon anticipated increases in costs beginning in FY 2026.

Using the average award per drainage acre, the available grant award amount (which is calculated as the annual SMIP/GARP program budget less administration costs) is then translated to estimate the number of resulting drainage acres.

Then the estimated number of resulting drainage acres is translated into managed GA and IA square footage by converting acres to square feet to estimate managed area.

STEP 2: The GA and IA managed credits are calculated for the estimated managed area determined in Step 1, for each fiscal year, taking into account the following factors:

- SMIP/GARP projects are currently estimated to take 24 months to complete construction and begin receiving credit (from the award date); and
- Projects are assumed to be awarded credit based upon the managed impervious area (per current stormwater credit policies) at 80% for IA and 80% GA for the corresponding GA.

The total GA and IA credits for each fiscal year are then calculated as the sum of the IA credits from IAR Practices, GA and IA credits from GA/IA Management Practices and GA and IA credits estimated for the SMIP/ GARP projects.

Appendix H Table 5 in Schedule BV-2: Cost of Service Report presents the estimated additional square footage of GA and IA managed credits, resulting from SMIP/GARP grant awards for the Study Period.

B. Adjustments for Stormwater Appeals

Stormwater adjustment appeals, which customers can seek for inaccurate property classification, and GA and IA data exceptions, have the potential to cause a reduction in the billable GA and IA units of service;

these adjustments primarily occur for the Non-residential customer class. The potential reduction in GA and IA due to stormwater appeals, was estimated for the Study Period using the following approach.

- A review of the appeals data for FY 2020 through FY 2024 obtained from the Water Department indicates there have been an average of 122 appeals per year over the past five years (FY 2020 to FY 2024). See Figure 3.This largely coincides with the implementation of updated GA and IA data for parcels city-wide.
- The above five-year average (FY 2020 to FY 2024) total number of parcels was used to establish a baseline estimate for the number of appeals for each fiscal year beginning in FY 2025. The number of new appeals occurring each year is projected to remain constant.
- The associated impacts of appeals on billable GA and IA square footage are based upon the five year (FY 2020 to FY 2024) average reduction in GA sf per appeal is 1,056 sf and the five-year average reduction in IA sf per appeal is 6,168 sf. These values are applied to the estimated cumulative number of appeals to determine the change in billable GA and IA units of service for each year of the Study Period.

Figure 3 Stormwater Appeals

Number of Appeals
FY 2020: 120
FY 2021: 99
FY 2022: 116
FY 2023: 162
FY 2024: 112

Table A-3 in the Appendix presents the historical appeals along with the annual change in growth rate and average appeals granted per parcel.

Table 6-7 and 6-8 in Schedule BV-2: Cost of Service Report shows the reduction in billable GA and IA for the non-residential class due to stormwater appeals.

C. Other Adjustments

Community Gardens – Approved community gardens (Community Gardens) receive a 100% discount on their stormwater bill. This is reflected as a reduction in billable GA and IA units of service. Therefore, the potential reduction in GA and IA due to Community Gardens applications approved is estimated for the Study Period using the following approach.

- A review of the community gardens tracking data for FY 2020 through FY 2024 provided by the Water Department indicates a year-to-year increase in the number of approved community gardens in all but FY 2023 as shown in Figure 4. For projection purposes, it is assumed that the number of parcels receiving the community gardens discount will continue to grow by roughly 7 parcels per year (based upon the 2-year average annual increase in number of community gardens). The number of community gardens parcels estimated for the Study Period is shown in Figure 4.
- The 2-year (FY 2023 - FY 2024) average GA and IA square footage per community garden parcel is 9,672 and 232, respectively. These values are applied to the estimated number of community garden parcels to determine the decrease in billable GA and IA units of service for each year of the Study Period.

Figure 4 Community Gardens

Number of Community Gardens
FY 2020: 157
FY 2021: 171
FY 2022: 179
FY 2023: 174
FY 2024: 193

Table A-4 in the Appendix presents the historical community gardens information along with the annual change in growth rate and average discount granted per parcel, as expressed in terms of IA and GA square footage.

Tables 6-3, **6-7** and **6-8** in Schedule BV-2: Cost of Service Report present the projections of reduction in the number of parcels; the reduction in billable GA and the reduction in billable IA by customer class due to 'Other Adjustment' appeals.

Step 3 - Projection of Billable GA and IA Units of Service

The third and final step in the units of service analysis is to compute the final billable GA and IA units of service for each of the three customer classes. The final billable GA and IA units of service are derived by deducting the total units of service adjustments from the Initial GA and IA units of service.

Appendix H Table 6 in Schedule BV-2: Cost of Service Report presents a summary of the billable number of parcels, the billable GA, and the billable IA estimated for each customer class and for each year of the Study Period.

In summary, while the total billable IA and billable GA for Residential customer class are projected to remain relatively flat throughout the majority Study Period, the billable IA and GA for the non-residential and condominium classes are projected to decrease due to credits, appeals and other adjustments. In total:

- Billable IA is projected to decrease overall from 1,180 million square feet in FY 2025 to 1,157 million square feet by FY 2030.
- Billable GA is projected to decrease from 2,074 million square feet in FY 2025 to 2,030 million square feet in FY 2030.

APPENDIX A – HISTORICAL DATA

Table A-1 – Historical IAR Credits (FY 2013-2024)

Line No.	Fiscal Year Ending June 30	Total No. of Parcels	IA Loss (sf)	Parcel Growth/ Change	IA Loss Per Parcel
1	2013	255	5,097,161		19,989
2	2014	274	4,338,588	19	15,834
3	2015	367	4,953,110	93	13,496
4	2016	419	5,178,141	52	12,358
5	2017	544	5,992,190	125	11,015
6	2018	579	6,209,567	35	10,725
7	2019	597	6,041,082	18	10,119
8	2020	616	5,531,161	19	8,979
9	2021	649	5,372,815	33	8,279
10	2022	524	4,511,352	(125)	8,609
11	2023	666	5,252,071	142	7,886
12	2024	664	5,851,679	(2)	8,813
13	5-Yr Average	624	5,303,816	13	8,513

Notes:
For credit projections, 5-Year average projection factors are being used.

Table A-2 – Historical Credits for Non- Surface and Surface Discharge Eligible Properties (FY 2013-2024)

CREDITS FOR NON SURFACE DISCHARGE ELIGIBLE PROPERTIES

Line #	Fiscal Year Ending June 30,	Number of Parcels	Gross Area	Impervious Area	Total Gross Credit	Total Impervious Credit	Open Space GA Credit	IA Managed Credit	GA Managed Credit	IA NPDES Credit	GA NPDES Credit	Parcel Growth/ Change	Open Space GA Credit (Per Parcel)	IA Managed Credit (Avg Per parcel)	GA Managed Credit (Avg per parcel)	IA NPDES Credit (Avg per parcel)	GA NPDES Credit (Avg per parcel)
1	2013	604	223,367,443	61,793,808	84,520,414	17,965,807	67,429,822	11,563,893	10,305,605	-	-		111,639	19,146	17,062	-	-
2	2014	653	257,321,475	76,969,015	94,009,369	20,633,398	55,499,304	12,668,858	11,410,570	-	-	49	84,991	19,401	17,474	-	-
3	2015	670	264,384,894	83,734,431	100,305,627	25,029,525	54,712,505	13,777,050	12,373,766	-	-	17	81,660	20,563	18,468	-	-
4	2016	695	308,606,388	110,633,550	119,638,164	33,170,833	60,658,419	16,434,037	15,025,143	-	-	25	87,278	23,646	21,619	-	-
5	2017	767	348,805,332	118,146,821	138,022,843	33,920,101	72,445,173	15,539,131	14,141,507	-	-	72	94,453	20,260	18,437	-	-
6	2018	823	314,434,590	113,476,770	144,822,988	39,742,752	72,337,150	19,141,871	17,744,247	-	-	56	87,894	23,259	21,560	-	-
7	2019	782	310,134,440	115,126,357	149,679,885	41,344,307	62,542,914	16,212,413	15,425,254	-	-	(41)	79,978	20,732	19,725	-	-
8	2020	813	322,039,967	120,201,957	160,913,257	45,539,961	59,748,724	19,565,431	19,223,758	-	-	31	73,492	24,066	23,645	-	-
9	2021	881	305,691,545	120,195,540	150,962,635	47,627,283	57,891,589	22,690,285	22,031,291	-	-	68	65,711	25,755	25,007	-	-
10	2022	906	347,944,545	132,702,256	188,575,144	54,098,147	56,231,742	22,534,000	21,612,322	-	-	25	62,066	24,872	23,855	-	-
11	2023	902	364,477,381	139,102,824	198,288,318	54,365,813	56,205,913	23,052,224	22,273,964	-	-	(4)	62,313	25,557	24,694	-	-
12	2024	915	344,382,757	121,789,842	193,116,572	55,221,624	55,722,786	24,845,351	23,932,704	-	-	13	60,899	27,153	26,156	-	-
15	5-Yr Average	883	336,907,239	126,798,484	178,371,185	51,370,566	57,160,151	22,537,458	21,814,808	-	-	27	64,896	25,481	24,671	-	-

CREDITS FOR SURFACE DISCHARGE ELIGIBLE PROPERTIES

Line #	Fiscal Year Ending June 30,	Number of Parcels	Gross Area	Impervious Area	Total Gross Credit	Total Impervious Credit	Open Space GA Credit	IA Managed Credit	GA Managed Credit	IA NPDES Credit	GA NPDES Credit	Parcel Growth/ Change	Open Space GA Credit (Per Parcel)	IA Managed Credit (Avg Per parcel)	GA Managed Credit (Avg per parcel)	IA NPDES Credit (Avg Per parcel)	GA NPDES Credit (Avg per parcel)
16	2013	152	220,024,320	79,752,423	129,107,867	47,612,306	80,471,840	43,703,240	43,717,412	1,500,062	2,575,193		529,420	287,521	287,615	9,869	16,942
17	2014	212	272,919,261	91,624,837	170,699,769	53,693,207	114,259,551	49,493,761	49,668,409	1,580,879	2,681,653	60	538,960	233,461	234,285	7,457	12,649
18	2015	246	283,413,656	98,224,301	176,930,329	60,226,500	122,127,335	55,736,478	47,311,404	1,524,473	2,590,089	34	496,453	226,571	192,323	6,197	10,529
19	2016	273	253,507,206	84,881,856	192,946,835	61,024,331	127,568,199	58,166,690	58,101,140	250,387	428,721	27	467,283	213,065	212,825	917	1,570
20	2017	312	289,520,162	88,550,428	223,008,811	63,952,942	151,024,452	61,284,210	61,338,258	242,176	423,291	39	484,053	196,424	196,597	776	1,357
21	2018	318	331,071,935	98,430,878	227,585,196	66,195,369	149,779,130	62,881,606	62,901,801	726,596	3,097,451	6	471,004	197,741	197,804	2,285	9,740
22	2019	308	340,151,826	95,665,431	241,876,061	65,118,503	165,977,231	62,023,047	62,089,933	621,466	2,942,661	(10)	538,887	201,374	201,591	2,018	9,554
23	2020	312	330,347,932	93,855,746	236,698,310	64,145,133	161,182,489	60,896,113	61,152,874	531,051	2,759,029	4	516,611	195,180	196,003	1,702	8,843
24	2021	313	316,186,603	99,071,024	220,700,957	66,765,983	140,515,959	63,039,153	63,232,852	531,051	2,759,029	1	448,933	201,403	202,022	1,697	8,815
25	2022	315	330,769,306	117,900,742	247,940,370	72,828,442	160,917,033	69,639,017	69,547,325	17,490	45,949	2	510,848	221,076	220,785	56	146
26	2023	331	349,000,872	117,602,193	260,003,777	72,142,784	175,911,588	68,183,039	68,429,384	24,690	74,888	16	531,455	205,991	206,735	75	226
27	2024	339	325,876,551	102,125,022	253,430,010	71,736,310	172,097,026	67,576,740	67,755,519	116,084	206,221	8	507,661	199,341	199,869	342	608
30	5-Yr Average	322	330,436,253	106,110,945	243,754,685	69,523,730	162,124,819	65,866,812	66,023,591	244,073	1,169,023	6	503,101	204,598	205,083	774	3,728

Table A-3 – Historical Appeals, IA and GA Loss (FY 2012-2024)

Line No.	Fiscal Year Ending June 30	Total No. of Parcels	IA Loss (sf)	GA Loss (sf)	Parcel Reduction/ Change	IA Loss Per Parcel (sf)	GA Loss Per Parcel (sf)
1	2012	793	4,617,485	5,257,906		5,820	6,630
2	2013	531	4,314,593	570,367	262	8,130	1,070
3	2014	423	1,497,566	385,468	108	3,540	910
4	2015	335	989,841	2,168,335	88	2,950	6,470
5	2016	393	1,560,294	14,863	(58)	3,970	40
6	2017	332	655,318	(151,566)	61	1,970	(460)
7	2018	237	896,103	1,292,493	95	3,780	5,450
8	2019	216	913,347	1,132,098	21	4,230	5,240
9	2020	120	419,553	424,065	96	3,500	3,530
10	2021	99	898,811	207,232	21	9,080	2,090
11	2022	116	(625,082)	(376,559)	(17)	(5,390)	(3,250)
12	2023	162	2,426,547	451,482	(46)	14,980	2,790
13	2024	112	970,888	13,191	50	8,670	120
14	5-Yr Average	122	818,143	143,882	21	6,168	1,056

Notes:
For appeals projections, 5-Year average projection factors are being used.

Table A-4 – Historical Community Gardens Parcels, IA and GA (FY 2017-2024)*

Line No.	Fiscal Year Ending June 30	Total No. of Parcels	IA (sf)	GA (sf)	Parcel Growth/ Change	IA Per Parcel (sf)	GA Per Parcel (sf)
1	2017	14	687	62,131		49	4,438
2	2018	101	65,346	1,157,491	87	647	11,460
3	2019	140	70,094	1,753,443	39	501	12,525
4	2020	157	71,228	1,786,600	17	454	11,380
5	2021	171	77,589	1,804,359	14	454	10,552
6	2022	179	77,075	1,649,623	8	431	9,216
7	2023	174	41,240	1,760,660	(5)	237	10,119
8	2024	193	43,725	1,780,473	19	227	9,225
7	Recent Year	193	43,725	1,780,473	19	227	9,225
8	2-Yr Average	184	42,483	1,770,567	7	232	9,672

Notes:
For community gardens projections, recent year projection factors are being used.

*Data compiled beginning in 2017, following the rate determination in 2016 Special Rate Proceeding authorizing the Community Gardens special rate (which became effective January 1, 2017).

SCHEDULE BV-4: WP-4 - COST RECOVERY APPROACH REPORT

This memorandum outlines the cost recovery approach used for billing discounts, stormwater credits, incentives, grants, and the Tiered Assistance Program (TAP). These approaches were used in development of the financial plan for Fiscal Years (FY) 2025 - FY 2030 prepared in conjunction with the FY 2026 - FY 2027 Rate Proceeding.

Program Name	Cost Recovery Approach
Discounts	• Proportionate recovery from all retail service types. • Includes discounts provided to senior citizens, the Philadelphia Housing Authority (PHA) and charities (including schools, universities, colleges, hospitals, and places used for actual religious worship).
Utility Emergency Services Fund (UESF) Grants	• Proportionate recovery from all retail service types.
Tiered Assistance Program (TAP)	• Proportionate recovery of program administration and support from all retail service types. • Discounts provided to TAP customers (i.e., TAP lost revenue referred to as TAP Costs in the TAP Rate Rider) recovered via the TAP Rate Rider surcharge rates, which are included in the overall water and sewer quantity charges.
Stormwater Management Incentives Program (SMIP) & Greened Acre Retrofit Program (GARP) Grants	• Recovered by Wastewater (*Sanitary Sewer & Stormwater*) revenues. • Proportionate recovery from applicable wastewater wholesale customers[1] and all retail service types.
Stormwater Credits	• Recovered via Stormwater Revenues. • Proportionate recovery from all retail service types. • Includes Community Gardens.
Stormwater Customer Assistance Program (CAP)	• Recovered by Non-residential service type Stormwater Revenues.

Notes:

1. SMIP/GARP is recovered from wastewater wholesale customers in accordance with their contract terms.

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SCHEDULE BV-4 WP-5: MISCELLANEOUS FEE METHODOLOGY REPORT

This document outlines the methodology used in updating the Philadelphia Water Department ("PWD") miscellaneous fees for the FY 2026 - FY 2027 rate proceeding ("current rate proceeding"). Under the current rate proceeding, updates to 98 existing miscellaneous fees are proposed (including 26 corresponding overtime-related fees) as noted in Schedule BV-3: Tables M-1 and M-2. The methodology for calculating cost-based miscellaneous fees is presented in Section 1 of this document. PWD is proposing three new miscellaneous fees related to stormwater development project reinspection. The description of those fees is presented in Section 2 of this document. An update to the Stormwater Management Fee In Lieu is also proposed; the associated methodology is presented in Section 3.

1. Methodology

The methodology used to calculate the miscellaneous fees in the current rate proceeding is consistent with the methodology utilized in calculating the fees adopted in 2023 Rate Determination, and further described in the following sections.

The water and wastewater miscellaneous fees were updated based on cost inputs provided by the PWD staff. The costs are categorized as follows and further documented in the appendix:

i. Labor Costs

ii. Equipment Costs

iii. Materials Costs

iv. Contractor Costs

The calculated charge is determined by summing all the cost inputs (as applicable) for a given miscellaneous fee. The following section further elaborates on the determination of each of the costs listed above. Appendix A provides the associated workpapers and calculations used to develop the proposed charges.

1.1 Labor Costs

The Labor costs use the average hourly rate for the staff position and the total labor hours spent on that task. The hourly rate for the position has a direct cost component and an indirect cost component.

- Direct Cost Component: This consists of the average hourly rate for the staff position based on the annual salary (maximum of the salary range) in the City of Philadelphia Fiscal 2025 Operating Budget and divided by 1,950 paid working hours per year for the work performed during PWD's business hours (defined as weekdays between 9:00 a.m. and 4:45 p.m.). For work performed during non-business hours, an overtime component is added to the average hourly rate for eligible staff "covered" under the FLSA (Fair Labor Standards Act) to determine the direct labor cost component. The annual salary for FY 202 is escalated[1] to project the annual salaries for FY 2026 and FY 2027.

[1] FY 2026 is based upon the recent labor agreement with District Council 33 ("DC33"). FY 2027 is based upon the 4-year average annual increases for FY 2022 to FY 2025 as included in the DC33 labor agreement. The escalation factors are highlighted in Schedule BV-2: Cost of Service Report.

- Indirect Cost Component: This consists of the Fringe Rate as per the City of Philadelphia's Fiscal 2023 Estimate of Civilian Fringe Costs as a Percentage of Salaries, applied to the direct cost component above.

The sum of the direct and indirect labor costs is used to determine the fully burdened hourly rate for a given staff position. The labor hours used in this analysis reflect the overall effort to support these specific tasks as provided by PWD. The total labor cost for a task is the sum of labor costs for all staff involved in the task.

1.2 Equipment Costs

The Equipment cost rates are based on the latest (2023) Federal Emergency Management Agency ("FEMA") hourly rates published on the FEMA website and utilized City-wide for vehicle and equipment reimbursement. Since FEMA's rates are a lagging indicator, the hourly rates are then escalated to determine the FY 2026 and FY 2027 hourly costs for equipment. The escalation factor used is the average change in the Producers Price Index for Construction Machinery and Equipment[2]. The equipment cost for the task is the product of the hourly rate for the specific equipment use and the total time spent on that task. The time spent on a job and the various equipment used for the task was provided by PWD. The total equipment cost for the job reflects the sum of the expenses for all the equipment used for the particular task.

1.3 Materials Costs

The Materials costs reflect the current materials pricing provided by PWD. Annual escalation factors[3] are applied to the current costs to project material costs for FY 2026 and FY 2027. The type of materials and the quantity of the materials for any given task was provided by PWD. The total material cost for the job is the sum of the expenses for all the material types used for the task.

1.4 Contractor Costs

The Contractor costs are incurred when the tasks are performed by non PWD personnel in the case of some miscellaneous fees. The contractor costs reflect the information provided by PWD for the most recent three years. The three-year average contractor cost is used to determine the projected contractor costs for FY 2026 and FY 2027.

2. New Miscellaneous Fees

The following new fees related to tasks performed by the Development Services Unit are introduced in the current rate proceeding:

a. Stormwater Second Reinspection Fee, to recover the cost associated with the Development Service Unit (DSU) reinspection to confirm compliance with an approved Post-Construction Stormwater Management Plan.

b. Stormwater Third Reinspection Fee, to recover the cost associated with DSU's reinspection to confirm compliance with an approved Post-Construction Stormwater Management Plan.

[2] The equipment cost is escalated according to the U.S. Bureau of Labor Statistics Producers Price Index for Construction Machinery and Equipment as of November 2024. FY 2026 and FY 2027 escalation is based on 2-year average annual increases in the Index).

[3] The material cost is escalated at 30.00% for small meters (5/8 inch), 15.00% for large meters (>5/8 inch) and 7.00% for all other materials each year in FY 2026 and FY 2027.

c. Stormwater Fourth & Subsequent Reinspection Fee, to recover the cost associated with DSU's reinspection to confirm compliance with an approved Post-Construction Stormwater Management Plan.

3. Stormwater Management Fee In Lieu

The Stormwater Management Fee In Lieu Exemption to Water Quality is not calculated based on the methodology outlined in Section 1. This fee is used when a developer/property owner has triggered PWD's stormwater management requirements and demonstrates it is not feasible to construct the required stormwater management practice on their site. In lieu of on-site management, PWD would have to construct an equivalent green stormwater infrastructure (GSI) practice at another location. This fee is calculated based on the life cycle cost of a GSI Practice inclusive of construction and maintenance. The construction cost is based upon PWD's average GSI construction costs. The maintenance costs are also based on PWD's experience and escalated annually at a constant rate over the life of the GSI Practice. The present value of this aggregate life cycle maintenance cost and the one-time construction cost together represent the Fee In Lieu, which is expressed as a unit cost per square feet of earth disturbance. These calculations are included in Appendix A.

4. Summary

The mix of staff, type of equipment, and quantity of materials, as well as the task completion time, are based on the information provided by PWD. The unit costs for labor and materials are based on the FY 2025 costs provided by PWD and applying the appropriate escalation factors to determine the unit costs for FY 2026 and FY 2027. The unit costs for equipment are based on the FY 2023 FEMA rates and escalated to determine the unit costs for FY 2026 and FY 2027.

- For fees with a calculated cost of service less than the existing charge, the proposed fee in FY 2026 and FY 2027 reflects the calculated cost of service.
- For fees with a calculated cost of service higher than the existing charge, the proposed fee is transitioned to cost of service, if the variance between the cost of service charge and the existing charge is less than or equal to 40%. If the variance is greater than 40% of the existing charge, the fees are phased-in by increasing them by 40% each fiscal year (to mitigate impact to the customer) or until the cost of service is achieved. The proposed miscellaneous charges are rounded to the nearest five or ten dollars except for the Stormwater Fee-In-Lieu which is rounded to the nearest dollar.

Table M-1 presents the list of 109 (98 updated, six (6) unchanged, three (3) new) miscellaneous fees applicable during regular business hours, and Table M-2 presents the list of 26 updated miscellaneous fees applicable outside of regular business hours. Except for the Stormwater Management Fee In Lieu and the TAP Customers-Shutoff and Restoration of Water Service fees, all the other fees are calculated based on the methodology described in Section 1 of this document. The two TAP related fees are based on policy decision by PWD to charge the minimum allowable bill for TAP customers. The Stormwater Management Fee In Lieu fee is based on the calculations performed by PWD and Black & Veatch as described in Section 3.

APPENDIX A

MISCELLANEOUS FEE STUDY WORKPAPERS

Overhead Rate Calculation

Line No.	Description	Operations	Engineering
1	Division, Fringe	83.39%	83.39%
2	Indirect Divisions Allocation	0%	0%
3	Total Overhead Rate	83%	83%

Source: City of Philadelphia
Fiscal Year 2023 Estimate of Civilian and Uniformed Fringe Costs as a Percentage of Salaries

Line No.	Description	Operations	Engineering
1			
	Annual No. of Working Hours	1950	1950

FY 2026 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations					
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)
1	Salary (Annual)	$53,680	$53,680	$59,530	$55,145	$49,238	$52,232
2	Salary (Hourly)	27.53	27.53	30.53	28.28	25.25	26.79
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0	0
4	Division Ind Labor (Overtime)	13.76	13.76	15.26	0.00	12.63	13.39
5	Division Fringes	22.96	22.96	25.46	23.58	21.06	22.34
6	Indirect Division Allocation	0	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	27.53	27.53	30.53	28.28	25.25	26.79
8	Salary + Div Ind Labor (Overtime Premium)	41.29	41.29	45.79	28.28	37.88	40.18
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	50.48	50.48	55.99	51.86	46.31	49.12
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	64.25	64.25	71.25	51.86	58.93	62.52
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	50.48	50.48	55.99	51.86	46.31	49.12
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	64.25	64.25	71.25	51.86	58.93	62.52

FY 2026 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations				
		Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1
1	Salary (Annual)	$55,145	$102,390	$93,304	$50,814	$57,905
2	Salary (Hourly)	28.28	52.51	47.85	26.06	29.69
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0
4	Division Ind Labor (Overtime)	14.14	0.00	0.00	13.03	14.85
5	Division Fringes	23.58	43.79	39.90	21.73	24.76
6	Indirect Division Allocation	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	28.28	52.51	47.85	26.06	29.69
8	Salary + Div Ind Labor (Overtime Premium)	42.42	52.51	47.85	39.09	44.54
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	51.86	96.29	87.75	47.79	54.46
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	66.00	96.29	87.75	60.82	69.30
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	51.86	96.29	87.75	47.79	54.46
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	66.00	96.29	87.75	60.82	69.30

FY 2026 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations					
		Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2
1	Salary (Annual)	$72,254	$93,304	$125,145	$117,156	$89,874	$75,160
2	Salary (Hourly)	37.05	47.85	64.18	60.08	46.09	38.54
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0	0
4	Division Ind Labor (Overtime)	0.00	0.00	0.00	0.00	0.00	19.27
5	Division Fringes	30.90	39.90	53.52	50.10	38.43	32.14
6	Indirect Division Allocation	0	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	37.05	47.85	64.18	60.08	46.09	38.54
8	Salary + Div Ind Labor (Overtime Premium)	37.05	47.85	64.18	60.08	46.09	57.82
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	67.95	87.75	117.69	110.18	84.52	70.69
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	67.95	87.75	117.69	110.18	84.52	89.96
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	67.95	87.75	117.69	110.18	84.52	70.69
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	67.95	87.75	117.69	110.18	84.52	89.96

FY 2026 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations					
		Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II
1	Salary (Annual)	$61,157	$66,494	$117,156	$64,907	$84,860	$64,907
2	Salary (Hourly)	31.36	34.10	60.08	33.29	43.52	33.29
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0	0
4	Division Ind Labor (Overtime)	15.68	0.00	0.00	16.64	0.00	16.64
5	Division Fringes	26.15	28.44	50.10	27.76	36.29	27.76
6	Indirect Division Allocation	0	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	31.36	34.10	60.08	33.29	43.52	33.29
8	Salary + Div Ind Labor (Overtime Premium)	47.04	34.10	60.08	49.93	43.52	49.93
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	57.52	62.54	110.18	61.04	79.81	61.04
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	73.20	62.54	110.18	77.69	79.81	77.69
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	57.52	62.54	110.18	61.04	79.81	61.04
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	73.20	62.54	110.18	77.69	79.81	77.69

FY 2026 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations		Planning & Environmental Services		
		Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
1	Salary (Annual)	$56,449	$84,860	$61,782	$72,254	$61,782
2	Salary (Hourly)	28.95	43.52	31.68	37.05	31.68
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0
4	Division Ind Labor (Overtime)	14.47	0.00	0.00	0.00	15.84
5	Division Fringes	24.14	36.29	26.42	30.90	26.42
6	Indirect Division Allocation	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	28.95	43.52	31.68	37.05	31.68
8	Salary + Div Ind Labor (Overtime Premium)	43.42	43.52	31.68	37.05	47.52
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	53.09	79.81	58.10	67.95	58.10
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	67.56	79.81	58.10	67.95	73.95
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	53.09	79.81	58.10	67.95	58.10
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	67.56	79.81	58.10	67.95	73.95

FY 2026 Hourly Salary and Overhead Rates

Line	Overhead Group	Planning & Environmental Services			
		Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2
1	Salary (Annual)	$87,683	$64,907	$93,304	$78,729
2	Salary (Hourly)	44.97	33.29	47.85	40.37
3	Division Ind Labor (Excl Overtime)	0	0	0	0
4	Division Ind Labor (Overtime)	0.00	16.64	0.00	0.00
5	Division Fringes	37.50	27.76	39.90	33.67
6	Indirect Division Allocation	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	44.97	33.29	47.85	40.37
8	Salary + Div Ind Labor (Overtime Premium)	44.97	49.93	47.85	40.37
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	82.46	61.04	87.75	74.04
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	82.46	77.69	87.75	74.04
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	82.46	61.04	87.75	74.04
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	82.46	77.69	87.75	74.04

FY 2027 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations					
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)
1	Salary (Annual)	$55,559	$55,559	$61,614	$57,075	$50,961	$54,060
2	Salary (Hourly)	28.49	28.49	31.60	29.27	26.13	27.72
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0	0
4	Division Ind Labor (Overtime)	14.25	14.25	15.80	0.00	13.07	13.86
5	Division Fringes	23.76	23.76	26.35	24.41	21.79	23.12
6	Indirect Division Allocation	0	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	28.49	28.49	31.60	29.27	26.13	27.72
8	Salary + Div Ind Labor (Overtime Premium)	42.74	42.74	47.40	29.27	39.20	41.58
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	52.25	52.25	57.95	53.68	47.93	50.84
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	66.50	66.50	73.74	53.68	60.99	64.70
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	52.25	52.25	57.95	53.68	47.93	50.84
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	66.50	66.50	73.74	53.68	60.99	64.70

FY 2027 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations				
		Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1
1	Salary (Annual)	$57,075	$105,974	$96,570	$52,592	$59,932
2	Salary (Hourly)	29.27	54.35	49.52	26.97	30.73
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0
4	Division Ind Labor (Overtime)	14.63	0.00	0.00	13.49	15.37
5	Division Fringes	24.41	45.32	41.30	22.49	25.63
6	Indirect Division Allocation	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	29.27	54.35	49.52	26.97	30.73
8	Salary + Div Ind Labor (Overtime Premium)	43.90	54.35	49.52	40.46	46.10
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	53.68	99.66	90.82	49.46	56.36
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	68.31	99.66	90.82	62.95	71.73
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	53.68	99.66	90.82	49.46	56.36
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	68.31	99.66	90.82	62.95	71.73

FY 2027 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations					
		Engineer 1 (Environmental Engineer 1)	Engineer 2 (Environmental Engineer 2)	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2
1	Salary (Annual)	$74,783	$96,570	$129,525	$121,256	$93,020	$77,791
2	Salary (Hourly)	38.35	49.52	66.42	62.18	47.70	39.89
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0	0
4	Division Ind Labor (Overtime)	0.00	0.00	0.00	0.00	0.00	19.95
5	Division Fringes	31.98	41.30	55.39	51.85	39.78	33.27
6	Indirect Division Allocation	0	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	38.35	49.52	66.42	62.18	47.70	39.89
8	Salary + Div Ind Labor (Overtime Premium)	38.35	49.52	66.42	62.18	47.70	59.84
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	70.33	90.82	121.81	114.04	87.48	73.16
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	70.33	90.82	121.81	114.04	87.48	93.11
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	70.33	90.82	121.81	114.04	87.48	73.16
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	70.33	90.82	121.81	114.04	87.48	93.11

FY 2027 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations					
		Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II
1	Salary (Annual)	$63,297	$68,821	$121,256	$67,179	$87,830	$67,179
2	Salary (Hourly)	32.46	35.29	62.18	34.45	45.04	34.45
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0	0
4	Division Ind Labor (Overtime)	16.23	0.00	0.00	17.23	0.00	17.23
5	Division Fringes	27.07	29.43	51.85	28.73	37.56	28.73
6	Indirect Division Allocation	0	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	32.46	35.29	62.18	34.45	45.04	34.45
8	Salary + Div Ind Labor (Overtime Premium)	48.69	35.29	62.18	51.68	45.04	51.68
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	59.53	64.72	114.04	63.18	82.60	63.18
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	75.76	64.72	114.04	80.40	82.60	80.40
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	59.53	64.72	114.04	63.18	82.60	63.18
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	75.76	64.72	114.04	80.40	82.60	80.40

FY 2027 Hourly Salary and Overhead Rates

Line	Overhead Group	Operations		Planning & Environmental Services		
		Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
1	Salary (Annual)	$58,425	$ 87,830	$ 63,944	$ 74,783	$ 63,944
2	Salary (Hourly)	29.96	45.04	32.79	38.35	32.79
3	Division Ind Labor (Excl Overtime)	0	0	0	0	0
4	Division Ind Labor (Overtime)	14.98	0.00	0.00	0.00	16.40
5	Division Fringes	24.98	37.56	27.35	31.98	27.35
6	Indirect Division Allocation	0	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	29.96	45.04	32.79	38.35	32.79
8	Salary + Div Ind Labor (Overtime Premium)	44.94	45.04	32.79	38.35	49.19
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	54.95	82.60	60.14	70.33	60.14
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	69.93	82.60	60.14	70.33	76.53
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	54.95	82.60	60.14	70.33	60.14
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	69.93	82.60	60.14	70.33	76.53

FY 2027 Hourly Salary and Overhead Rates

Line	Overhead Group	Planning & Environmental Services			
		Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2
1	Salary (Annual)	$ 90,752	$ 67,179	$ 96,570	$ 81,485
2	Salary (Hourly)	46.54	34.45	49.52	41.79
3	Division Ind Labor (Excl Overtime)	0	0	0	0
4	Division Ind Labor (Overtime)	0.00	17.23	0.00	0.00
5	Division Fringes	38.81	28.73	41.30	34.85
6	Indirect Division Allocation	0	0	0	0
7	Salary + Div Ind Labor (Excl Overtime)	46.54	34.45	49.52	41.79
8	Salary + Div Ind Labor (Overtime Premium)	46.54	51.68	49.52	41.79
9	Salary + Div Ind Labor + Fringes (Excl Overtime)	85.35	63.18	90.82	76.63
10	Salary + Div Ind Labor + Fringes (Overtime Premium)	85.35	80.40	90.82	76.63
11	Salary + Div Ind Labor + Fringes+ Ind Div Alloc (Excl Overtime)	85.35	63.18	90.82	76.63
12	Salary + Div Ind Labor + Fringes + Ind Div Alloc (Overtime Premium)	85.35	80.40	90.82	76.63

Equipment Rates

	FEMA DESCRIPTION	Truck, Backhoe	Air Compressor	Truck, Dump	Truck, Dump	Truck, Pickup	Automobile	Jackhammer	Pump	Generator	Vehicle, Small	Sewer Camera Inspection Truck
2	FEMA CODE	8795	8014	8725	8720	8801	8076	8518	8473	8310	8750	8711-2
3	EQUIPMENT DESCRIPTION	Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck
4	UNIT	Per Hour	Per Hour	Per Hour	Per Hour	Per Hour	Per Hour	Per Hour	Per Hour	Per Hour	Per Hour	Per Hour
5	UNESCALATED COST (FY 2024)	$35.58	$68.71	$117.13	$55.98	$16.68	$42.27	$1.60	$10.08	$4.86	$7.94	$104.82
6	ESCALATED COST (FY 2025)	$37.11	$71.66	$122.17	$58.39	$17.40	$44.09	$1.67	$10.51	$5.07	$8.28	$109.33
7	YEAR 1 COST (FY 2026)	$38.71	$74.74	$127.42	$60.90	$18.15	$45.99	$1.74	$10.96	$5.29	$8.64	$114.03
8	YEAR 2 COST (FY 2027)	$40.37	$77.95	$132.90	$63.52	$18.93	$47.97	$1.81	$11.43	$5.52	$9.01	$118.93

Source: 2023 FEMA Rates applicable to major disasters and emergencies declared by the President on or after July 26, 2023

Annual Escalation for Equipment Costs		
4.30%	Budget Year	Use 2-year average
4.30%	FY 2026	Use 2-year average
4.30%	FY 2027	Use 2-year average

Source: BLS PPI Construction Machinery and Equipment
Assuming annual inflation will stabilize in the future years

Material Costs

No.	MATERIAL DESCRIPTION	UNIT	FY 2026 COST	FY 2027 COST
1	Meter costs by meter size			
	5/8"	Each	$198.78	$258.41
	3/4" RFSS	Each	$443.21	$509.69
	1"	Each	$306.68	$352.68
	1" RFSS	Each	$414.81	$477.03
	1 1/2"	Each	$1,070.65	$1,231.25
	1 1/2" RFSS	Each	$890.22	$1,023.75
	2"	Each	$1,070.65	$1,231.25
	2" RFSS	Each	$1,109.00	$1,275.35
	3" Compound	Each	$3,803.60	$4,374.14
	3" Turbine	Each	$1,704.62	$1,960.31
	3" Fire Series	Each	$3,760.82	$4,324.94
	4" Compound	Each	$5,152.43	$5,925.29
	4" Turbine	Each	$2,927.72	$3,366.88
	4" Fire Series	Each	$5,073.46	$5,834.48
	4" Fire Assembly	Each	$7,273.75	$8,364.81
	6" Compound	Each	$7,874.94	$9,056.18
	6" Turbine	Each	$5,838.32	$6,714.07
	6" Fire Series	Each	$6,863.41	$7,892.92
	6" Fire Assembly	Each	$11,632.31	$13,377.16
	8" Turbine	Each	$7,021.10	$8,074.27
	8" Fire Series	Each	$9,091.35	$10,455.05
	8" Fire Assembly	Each	$15,083.01	$17,345.46
	10" Turbine	Each	$10,246.44	$11,783.41
	10" Fire Series	Each	$11,304.88	$13,000.61
	10" Fire Assembly	Each	$21,999.01	$25,298.86
	12" Turbine	Each	$10,982.07	$12,629.38
	12" Fire Series	Each	$14,447.45	$16,614.57
	12" Fire Assembly	Each	$23,464.12	$26,983.74
2	Ferrule Costs			
324005	3/4"	Each	$32.92	$35.22
324006	1"	Each	$48.88	$52.30
324008	1 1/2"	Each	$149.44	$159.90
324010	2"	Each	$250.06	$267.56
3	Adapter for Ferrule			
001301	3/4"	Each	$21.29	$22.78
001303	1"	Each	$39.93	$42.73
4	Valve costs by size			
925379	3"	Each	$906.76	$970.23
925381	4"	Each	$1,018.96	$1,090.29
925383	6"	Each	$1,289.16	$1,379.40
925385	8"	Each	$2,083.72	$2,229.58
925387	10"	Each	$3,102.68	$3,319.87

Material Costs

No.	MATERIAL DESCRIPTION	UNIT	FY 2026 COST	FY 2027 COST
925389	12"	Each	$3,984.25	$4,263.15
5	Sleeve costs by size			
	3"	Each	$789.98	$845.28
	4"	Each	$887.30	$949.41
	6"	Each	$1,087.66	$1,163.80
	8"	Each	$1,700.18	$1,819.19
	10"	Each	$2,701.96	$2,891.10
	12"	Each	$3,262.97	$3,491.38
6	3" or 4 " Sleeve costs by Main size			
	12" X 3" or 4"	Each	$3,984.25	$4,263.15
	16" X 3" or 4"	Each	$10,304.10	$11,025.39
	20" X 3" or 4"	Each	$13,395.33	$14,333.00
	24" X 3" or 4"	Each	$16,406.42	$17,554.87
	30" X 3" or 4"	Each	$32,780.46	$35,075.09
	36" X 3" or 4"	Each	$42,192.68	$45,146.17
7	6" or 8 " Sleeve costs by Main size			
	12" X 6" or 8"	Each	$3,984.25	$4,263.15
	16" X 6" or 8"	Each	$10,590.33	$11,331.65
	20" X 6" or 8"	Each	$12,937.37	$13,842.99
	24" X 6" or 8"	Each	$16,406.42	$17,554.87
	30" X 6" or 8"	Each	$35,486.35	$37,970.39
	36" X 6" or 8"	Each	$48,428.59	$51,818.59
8	10" or 12 " Sleeve costs by Main size			
	12" X 10" or 12"	Each	$4,865.83	$5,206.44
	16" X 10" or 12"	Each	$10,647.57	$11,392.90
	20" X 10" or 12"	Each	$14,196.76	$15,190.53
	24" X 10" or 12"	Each	$16,406.42	$17,554.87
	30" X 10" or 12"	Each	$36,486.09	$39,040.12
	36" X 10" or 12"	Each	$52,307.05	$55,968.54
9	Ductile Iron Pipe by size			
720489	3"	Per foot	$81.43	$87.13
720490	4"	Per foot	$64.20	$68.69
720492	6"	Per foot	$65.59	$70.18
720494	8"	Per foot	$91.75	$98.17
720495	10"	Per foot	$117.70	$125.94
720496	12"	Per foot	$147.66	$158.00
10	Dressing or Couplings by size			
130540	6"	Each	$128.76	$137.77
130542	8"	Each	$191.26	$204.65
130546	10"	Each	$224.64	$240.36
130548	12"	Each	$294.27	$314.87
130569	20"	Each	$596.67	$638.44
	24"	Each	$731.18	$782.36

Material Costs

No.	MATERIAL DESCRIPTION	UNIT	FY 2026 COST	FY 2027 COST
11	Cap costs by size			
113234	3"	Each	$73.19	$78.31
113235	4"	Each	$112.99	$120.90
113236	6"	Each	$172.06	$184.10
113238	8"	Each	$238.82	$255.54
113240	10"	Each	$297.89	$318.74
113242	12"	Each	$408.31	$436.89
12	Band costs by size			
28053	3"	Each	$199.02	$212.95
28054	4"	Each	$192.60	$206.08
28056	6"	Each	$545.70	$583.90
28058	8 "	Each	$243.96	$261.04
28201	10 "	Each	$481.50	$515.21
28062	12"	Each	$539.28	$577.03
	Other Materials			
13	Curb Stop	Each	$132.68	$141.97
14	Curb Box (051019)	Each	$95.23	$101.90
15	Concrete Slab (4 Feet)	Each	$802.50	$858.68
16	Blacktop (128125)	Per Bag	$11.98	$12.82
17	Hydrant Permit Materials			
549100	CCL Kit	Each	$524.55	$561.27
	CCL Bonnet	Each	$23.54	$25.19
728100	Operating Nut	Each	$67.25	$71.96

	CONTRACTOR TASK DESCRIPTION	UNIT	FY 2026 COST	FY 2027 COST
16	CCTV Inspection		$275.00	$275.00
17	Conceptual Submission Website Cost	Per Application	$910.00	$910.00
18	Stormwater Plan Review Contractor Cost	Per Hour	$87.00	$87.00
19	Inspection Task	Per Hour	$80.00	$80.00

Labor Cost Calculations FY 2026

Line No.	Description	Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"	2.25						
b	1",1.5",2"	2.00						
c	3",4",6",8",10",12"	3.00						
d	Field Tests 3" and above	3.00						
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"	1.00						
	3/4 RFSS	1.00						
	1"	2.00						
	1" RFSS	2.00						
	1 1/2	2.00						
	1 1/2 RFSS	2.00						
	2"	2.00						
	2" RFSS	2.00						
	3" Compound	3.00						
	3" Turbine	3.00						
	3" Fire Series	3.00						
	4" Compound	3.00						
	4" Turbine	3.00						
	4" Fire Series	3.00						
	4" Fire Assembly	3.00						
	6" Compound	3.00						
	6" Turbine	3.00						
	6" Fire Series	3.00						
	6" Fire Assembly	3.00						
	8" Turbine	3.00						
	8" Fire Series	3.00						
	8" Fire Assembly	3.00						
	10" Turbine	3.00						

Labor Cost Calculations FY 2026

Line No.	Description	Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	10" Fire Series	3.00						
	10" Fire Assembly	3.00						
	12" Turbine	3.00						
	12" Fire Series	3.00						
	12" Fire Assembly	3.00						
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"	1.00						
	3/4 RFSS	1.00						
	1"	2.00						
	1" RFSS	2.00						
	1 1/2	2.00						
	1 1/2 RFSS	2.00						
	2"	2.00						
	2" RFSS	2.00						
	3" Compound	3.00						
	3" Turbine	3.00						
	4" Compound	3.00						
	4" Turbine	3.00						
	6" Compound	3.00						
	6" Turbine	3.00						
	8"	3.00						
	10"	3.00						
3	Tampering of Meter							
a	5/8" or 3/4"	1.00						
b	1", 1.5" or 2"	2.00						
c	3" and larger	3.00						
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment	1.00						
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	1.00						
c	**Restoration of Water Service**							

Labor Cost Calculations FY 2026

Line No.	Description	Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	Operating service valve 2" and smaller service lines	1.00						
	Operating service valve larger than 2" service lines				0.50	2.00		
	Obstructed curb stop, missing access box, requires excavation		2.00					
	Curb stop inoperable, requires installation of new curb stop		2.00					
	Obstructed curb stop, missing access box, requires excavation and footway paving		2.00					
	Curb stop inoperable, requires installation of new curb stop and footway paving		2.00					
	Excavation and shutoff of ferrule at the water main				1.00	3.00	1.00	1.00
5	Pumping of Properties				1.00	2.00		
6	Charges for Water Main Shutdown Service				0.50	2.00		
7	Water Connection Charges							
	Ferrule Connections							
a	3/4"				0.50	2.00		
b	1"				0.50	2.00		
c	1.5"				0.50	2.00		
d	2"				0.50	2.00		
	Valve Connections							
e	3" & 4"				1.00	3.00	1.00	1.00
f	6" & 8"				1.00	3.00	1.00	1.00
g	10" & 12"				1.00	3.00	1.00	1.00
	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main				1.00	3.00	1.00	1.00
	20" Main				1.00	3.00	1.00	1.00
	24" Main				1.00	3.00	1.00	1.00
	30" Main				1.00	3.00	1.00	1.00
	36" Main				1.00	3.00	1.00	1.00
	6" & 8" Sleeve							
	16" Main				1.00	3.00	1.00	1.00
	20" Main				1.00	3.00	1.00	1.00

Labor Cost Calculations FY 2026

Line No.	Description	Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	24" Main				1.00	3.00	1.00	1.00
	30" Main				1.00	3.00	1.00	1.00
	36" Main				1.00	3.00	1.00	1.00
	10" & 12" Sleeve							
	16" Main				1.00	3.00	1.00	1.00
	20" Main				1.00	3.00	1.00	1.00
	24" Main				1.00	3.00	1.00	1.00
	30" Main				1.00	3.00	1.00	1.00
	36" Main				1.00	3.00	1.00	1.00
8	Discontinuance of Water				0.25	1.00	1.00	1.00
9	Hydrant Permits							
a	One Week							
b	Six Month							
10	Flow Tests					2.00		
11	Water Service Line Investigations and/or Inspections				0.50	2.00		
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit							
4	Groundwater Discharge Permit							
5	Manhole Pump-out Permit							
6	Trucked or Hauled Wastewater Permit							
7	Photographic & Video Inspection							
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
a	Conceptual Stormwater Plan Approval							
c	Post Construction Stormwater Plan Approval (Additional Review Time Fee)							
d	Final Inspection of Development Project							
e	E&S Second Reinspection							
f	E&S Third Reinspection							

Labor Cost Calculations FY 2026

Line No.	Description	Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
g	E&S Fourth/Subsequent Reinspection							
h	Utility Plan Review Fee							
2	Stormwater Management Fee in Lieu							
a	Exemption to Water Quality Requirement							
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee							
2	Sewer Credit Failure to Inform PWD about increase							
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal							

Labor Cost Calculations FY 2026

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"							
b	1",1.5",2"							
c	3",4",6",8",10",12"							
d	Field Tests 3" and above							
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"							
	3/4 RFSS							
	1"							
	1" RFSS							
	1 1/2							
	1 1/2 RFSS							
	2"							
	2" RFSS							
	3" Compound							
	3" Turbine							
	3" Fire Series							
	4" Compound							
	4" Turbine							
	4" Fire Series							
	4" Fire Assembly							
	6" Compound							
	6" Turbine							
	6" Fire Series							
	6" Fire Assembly							
	8" Turbine							
	8" Fire Series							
	8" Fire Assembly							
	10" Turbine							

Labor Cost Calculations FY 2026

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	10" Fire Series							
	10" Fire Assembly							
	12" Turbine							
	12" Fire Series							
	12" Fire Assembly							
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"							
	3/4 RFSS							
	1"							
	1" RFSS							
	1 1/2							
	1 1/2 RFSS							
	2"							
	2" RFSS							
	3" Compound							
	3" Turbine							
	4" Compound							
	4" Turbine							
	6" Compound							
	6" Turbine							
	8"							
	10"							
3	Tampering of Meter							
a	5/8" or 3/4"							
b	1", 1.5" or 2"							
c	3" and larger							
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment							
b	Non-compliance with Notice of Defect and/or Metering Non-compliance							
c	**Restoration of Water Service**							

Labor Cost Calculations FY 2026

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	Operating service valve 2" and smaller service lines							
	Operating service valve larger than 2" service lines							
	Obstructed curb stop, missing access box, requires excavation							
	Curb stop inoperable, requires installation of new curb stop							
	Obstructed curb stop, missing access box, requires excavation and footway paving							
	Curb stop inoperable, requires installation of new curb stop and footway paving							
	Excavation and shutoff of ferrule at the water main							
5	Pumping of Properties							
6	Charges for Water Main Shutdown Service							
7	Water Connection Charges							
	Ferrule Connections							
a	3/4"							
b	1"							
c	1.5"							
d	2"							
	Valve Connections							
e	3" & 4"							
f	6" & 8"							
g	10" & 12"							
	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main							
	20" Main							
	24" Main							
	30" Main							
	36" Main							
	6" & 8" Sleeve							
	16" Main							
	20" Main							

Labor Cost Calculations FY 2026

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	24" Main							
	30" Main							
	36" Main							
	10" & 12" Sleeve							
	16" Main							
	20" Main							
	24" Main							
	30" Main							
	36" Main							
8	Discontinuance of Water							
9	Hydrant Permits							
a	One Week	1.00						
b	Six Month	1.00						
10	Flow Tests	1.00	1.00		1.00			
11	Water Service Line Investigations and/or Inspections							
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit						20.00	6.00
4	Groundwater Discharge Permit						12.00	4.00
5	Manhole Pump-out Permit						5.00	3.00
6	Trucked or Hauled Wastewater Permit						10.00	3.00
7	Photographic & Video Inspection							
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
a	Conceptual Stormwater Plan Approval							
c	Post Construction Stormwater Plan Approval (Additional Review Time Fee)							
d	Final Inspection of Development Project							
e	E&S Second Reinspection							
f	E&S Third Reinspection							

Labor Cost Calculations FY 2026

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
g	E&S Fourth/Subsequent Reinspection							
h	Utility Plan Review Fee			1.00				
2	Stormwater Management Fee in Lieu							
a	Exemption to Water Quality Requirement							
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee						7.00	1.00
2	Sewer Credit Failure to Inform PWD about increase						1.00	1.00
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal							

Labor Cost Calculations FY 2026

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	Section 6- Miscellaneous Water Charges	**NUMBER OF PERSONNEL**							
1	Meter Test Charges								
a	5/8"								
b	1",1.5",2"								
c	3",4",6",8",10",12"								
d	Field Tests 3" and above								
2	Charges for Furnishing and Installation of Water Meters								
a	Setting both Meter and Meter Interface Unit (MIU)								
	5/8"								
	3/4 RFSS								
	1"								
	1" RFSS								
	1 1/2								
	1 1/2 RFSS								
	2"								
	2" RFSS								
	3" Compound								
	3" Turbine								
	3" Fire Series								
	4" Compound								
	4" Turbine								
	4" Fire Series								
	4" Fire Assembly								
	6" Compound								
	6" Turbine								
	6" Fire Series								
	6" Fire Assembly								
	8" Turbine								
	8" Fire Series								
	8" Fire Assembly								
	10" Turbine								

Labor Cost Calculations FY 2026

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	10" Fire Series								
	10" Fire Assembly								
	12" Turbine								
	12" Fire Series								
	12" Fire Assembly								
b	Furnishing and Setting Meter Interface Unit (MIU)								
	5/8"								
	3/4 RFSS								
	1"								
	1" RFSS								
	1 1/2								
	1 1/2 RFSS								
	2"								
	2" RFSS								
	3" Compound								
	3" Turbine								
	4" Compound								
	4" Turbine								
	6" Compound								
	6" Turbine								
	8"								
	10"								
3	Tampering of Meter								
a	5/8" or 3/4"								
b	1", 1.5" or 2"								
c	3" and larger								
4	Shut-Off and Restoration of Water Service								
a	Site Visit for Non-payment								
b	Non-compliance with Notice of Defect and/or Metering Non-compliance								
c	**Restoration of Water Service**								

Labor Cost Calculations FY 2026

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	Operating service valve 2" and smaller service lines								
	Operating service valve larger than 2" service lines								
	Obstructed curb stop, missing access box, requires excavation								
	Curb stop inoperable, requires installation of new curb stop								
	Obstructed curb stop, missing access box, requires excavation and footway paving								
	Curb stop inoperable, requires installation of new curb stop and footway paving								
	Excavation and shutoff of ferrule at the water main								
5	Pumping of Properties								
6	Charges for Water Main Shutdown Service								
7	Water Connection Charges								
	Ferrule Connections								
a	3/4"								
b	1"								
c	1.5"								
d	2"								
	Valve Connections								
e	3" & 4"								
f	6" & 8"								
g	10" & 12"								
	Attachment to a Transmission Main								
	3" & 4" Sleeve								
	16" Main								
	20" Main								
	24" Main								
	30" Main								
	36" Main								
	6" & 8" Sleeve								
	16" Main								
	20" Main								

Labor Cost Calculations FY 2026

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	24" Main								
	30" Main								
	36" Main								
	10" & 12" Sleeve								
	16" Main								
	20" Main								
	24" Main								
	30" Main								
	36" Main								
8	Discontinuance of Water								
9	Hydrant Permits								
a	One Week								
b	Six Month								
10	Flow Tests								
11	Water Service Line Investigations and/or Inspections								
	Section 7- Miscellaneous Sewer Charges	**STAFF HOURS**							
1	Sewer Charges for Groundwater								
2	Charges for Wastewater Service								
3	Wastewater Discharge Permit	15.00	11.00	11.00					
4	Groundwater Discharge Permit	10.00	4.00	4.00					
5	Manhole Pump-out Permit	6.00	12.00	10.00					
6	Trucked or Hauled Wastewater Permit	8.00	2.00	3.00					
7	Photographic & Video Inspection								
	Section 8- Miscellaneous Stormwater Charges								
1	Stormwater Plan Review Fees								
a	Conceptual Stormwater Plan Approval								
c	Post Construction Stormwater Plan Approval (Additional Review Time Fee)								
d	Final Inspection of Development Project					2.00			
e	E&S Second Reinspection							1.50	
f	E&S Third Reinspection							1.50	

Labor Cost Calculations FY 2026

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
g	E&S Fourth/Subsequent Reinspection							1.50	
h	Utility Plan Review Fee					2.00			
2	Stormwater Management Fee in Lieu								
a	Exemption to Water Quality Requirement								
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)								
1	Sewer Credit Application Fee	4.00	3.00	3.00					
2	Sewer Credit Failure to Inform PWD about increase	2.00	2.00	0.00					
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)								
3	Stormwater Credit Application Fee Renewal								

Labor Cost Calculations FY 2026

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"							
b	1",1.5",2"							
c	3",4",6",8",10",12"							
d	Field Tests 3" and above							
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"							
	3/4 RFSS							
	1"							
	1" RFSS							
	1 1/2							
	1 1/2 RFSS							
	2"							
	2" RFSS							
	3" Compound							
	3" Turbine							
	3" Fire Series							
	4" Compound							
	4" Turbine							
	4" Fire Series							
	4" Fire Assembly							
	6" Compound							
	6" Turbine							
	6" Fire Series							
	6" Fire Assembly							
	8" Turbine							
	8" Fire Series							
	8" Fire Assembly							
	10" Turbine							

Labor Cost Calculations FY 2026

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	10" Fire Series							
	10" Fire Assembly							
	12" Turbine							
	12" Fire Series							
	12" Fire Assembly							
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"							
	3/4 RFSS							
	1"							
	1" RFSS							
	1 1/2							
	1 1/2 RFSS							
	2"							
	2" RFSS							
	3" Compound							
	3" Turbine							
	4" Compound							
	4" Turbine							
	6" Compound							
	6" Turbine							
	8"							
	10"							
3	Tampering of Meter							
a	5/8" or 3/4"							
b	1", 1.5" or 2"							
c	3" and larger							
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment							
b	Non-compliance with Notice of Defect and/or Metering Non-compliance							
c	**Restoration of Water Service**							

Labor Cost Calculations FY 2026

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	Operating service valve 2" and smaller service lines							
	Operating service valve larger than 2" service lines							
	Obstructed curb stop, missing access box, requires excavation							
	Curb stop inoperable, requires installation of new curb stop							
	Obstructed curb stop, missing access box, requires excavation and footway paving							
	Curb stop inoperable, requires installation of new curb stop and footway paving							
	Excavation and shutoff of ferrule at the water main							
5	Pumping of Properties							
6	Charges for Water Main Shutdown Service							
7	Water Connection Charges							
	Ferrule Connections							
a	3/4"							
b	1"							
c	1.5"							
d	2"							
	Valve Connections							
e	3" & 4"							
f	6" & 8"							
g	10" & 12"							
	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main							
	20" Main							
	24" Main							
	30" Main							
	36" Main							
	6" & 8" Sleeve							
	16" Main							
	20" Main							

Labor Cost Calculations FY 2026

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	24" Main							
	30" Main							
	36" Main							
	10" & 12" Sleeve							
	16" Main							
	20" Main							
	24" Main							
	30" Main							
	36" Main							
8	Discontinuance of Water							
9	Hydrant Permits							
a	One Week							
b	Six Month							
10	Flow Tests							
11	Water Service Line Investigations and/or Inspections							
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit							
4	Groundwater Discharge Permit							
5	Manhole Pump-out Permit							
6	Trucked or Hauled Wastewater Permit							
7	Photographic & Video Inspection							
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
a	Conceptual Stormwater Plan Approval						0.50	10.00
c	Post Construction Stormwater Plan Approval (Additional Review Time Fee)						1.33	
d	Final Inspection of Development Project							
e	E&S Second Reinspection							
f	E&S Third Reinspection							

Labor Cost Calculations FY 2026

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
g	E&S Fourth/Subsequent Reinspection							
h	Utility Plan Review Fee							
2	Stormwater Management Fee in Lieu							
a	Exemption to Water Quality Requirement							
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee							
2	Sewer Credit Failure to Inform PWD about increase							
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal							

Labor Cost Calculations FY 2026

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Task Time (Hours)
	Section 6- Miscellaneous Water Charges				
1	Meter Test Charges				
a	5/8"				1.00
b	1",1.5",2"				1.50
c	3",4",6",8",10",12"				2.50
d	Field Tests 3" and above				2.50
2	Charges for Furnishing and Installation of Water Meters				
a	Setting both Meter and Meter Interface Unit (MIU)				
	5/8"				1.00
	3/4 RFSS				1.00
	1"				1.00
	1" RFSS				1.00
	1 1/2				1.00
	1 1/2 RFSS				1.00
	2"				1.00
	2" RFSS				1.00
	3" Compound				2.00
	3" Turbine				2.00
	3" Fire Series				2.00
	4" Compound				2.00
	4" Turbine				2.00
	4" Fire Series				2.00
	4" Fire Assembly				2.00
	6" Compound				2.00
	6" Turbine				2.00
	6" Fire Series				2.00
	6" Fire Assembly				2.00
	8" Turbine				2.00
	8" Fire Series				2.00
	8" Fire Assembly				2.00
	10" Turbine				2.00

Labor Cost Calculations FY 2026

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Task Time (Hours)
	10" Fire Series				2.00
	10" Fire Assembly				2.00
	12" Turbine				2.00
	12" Fire Series				2.00
	12" Fire Assembly				2.00
b	Furnishing and Setting Meter Interface Unit (MIU)				
	5/8"				1.00
	3/4 RFSS				1.00
	1"				1.00
	1" RFSS				1.00
	1 1/2				1.00
	1 1/2 RFSS				1.00
	2"				1.00
	2" RFSS				1.00
	3" Compound				2.00
	3" Turbine				2.00
	4" Compound				2.00
	4" Turbine				2.00
	6" Compound				2.00
	6" Turbine				2.00
	8"				2.00
	10"				2.00
3	Tampering of Meter				
a	5/8" or 3/4"				1.00
b	1", 1.5" or 2"				1.00
c	3" and larger				2.00
4	Shut-Off and Restoration of Water Service				
a	Site Visit for Non-payment				1.00
b	Non-compliance with Notice of Defect and/or Metering Non-compliance				1.00
c	**Restoration of Water Service**				

Labor Cost Calculations FY 2026

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Task Time (Hours)
	Operating service valve 2" and smaller service lines				1.00
	Operating service valve larger than 2" service lines				2.00
	Obstructed curb stop, missing access box, requires excavation				4.00
	Curb stop inoperable, requires installation of new curb stop				4.00
	Obstructed curb stop, missing access box, requires excavation and footway paving				4.00
	Curb stop inoperable, requires installation of new curb stop and footway paving				4.00
	Excavation and shutoff of ferrule at the water main				3.00
5	Pumping of Properties				1.00
6	Charges for Water Main Shutdown Service				2.00
7	Water Connection Charges				
	Ferrule Connections				
a	3/4"				1.00
b	1"				1.00
c	1.5"				1.00
d	2"				1.00
	Valve Connections				
e	3" & 4"				32.00
f	6" & 8"				32.00
g	10" & 12"				32.00
	Attachment to a Transmission Main				
	3" & 4" Sleeve				
	16" Main				40.00
	20" Main				40.00
	24" Main				40.00
	30" Main				40.00
	36" Main				40.00
	6" & 8" Sleeve				
	16" Main				40.00
	20" Main				40.00

Labor Cost Calculations FY 2026

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Task Time (Hours)
	24" Main				40.00
	30" Main				40.00
	36" Main				40.00
	10" & 12" Sleeve				
	16" Main				40.00
	20" Main				40.00
	24" Main				40.00
	30" Main				40.00
	36" Main				40.00
8	Discontinuance of Water				4.00
9	Hydrant Permits				
a	One Week				2.00
b	Six Month				2.00
10	Flow Tests				1.50
11	Water Service Line Investigations and/or Inspections				1.00
	Section 7- Miscellaneous Sewer Charges				
1	Sewer Charges for Groundwater				
2	Charges for Wastewater Service				
3	Wastewater Discharge Permit				
4	Groundwater Discharge Permit				
5	Manhole Pump-out Permit				
6	Trucked or Hauled Wastewater Permit				
7	Photographic & Video Inspection				
	Section 8- Miscellaneous Stormwater Charges				
1	Stormwater Plan Review Fees				
a	Conceptual Stormwater Plan Approval				
c	Post Construction Stormwater Plan Approval (Additional Review Time Fee)		1.00		
d	Final Inspection of Development Project	4.00			
e	E&S Second Reinspection				
f	E&S Third Reinspection				

Labor Cost Calculations FY 2026

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Task Time (Hours)
g	E&S Fourth/Subsequent Reinspection				
h	Utility Plan Review Fee		2.00		
2	Stormwater Management Fee in Lieu				
a	Exemption to Water Quality Requirement				
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)				
1	Sewer Credit Application Fee				
2	Sewer Credit Failure to Inform PWD about increase				
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)				
3	Stormwater Credit Application Fee Renewal		6.00	5.00	

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates-Not including Overtime), $						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"	113.59	-	-	-	-	-	-
b	1",1.5",2"	151.45	-	-	-	-	-	-
c	3",4",6",8",10",12"	378.63	-	-	-	-	-	-
d	Field Tests 3" and above	378.63	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"	50.48	-	-	-	-	-	-
	3/4 RFSS	50.48	-	-	-	-	-	-
	1"	100.97	-	-	-	-	-	-
	1" RFSS	100.97	-	-	-	-	-	-
	1 1/2	100.97	-	-	-	-	-	-
	1 1/2 RFSS	100.97	-	-	-	-	-	-
	2"	100.97	-	-	-	-	-	-
	2" RFSS	100.97	-	-	-	-	-	-
	3" Compound	302.90	-	-	-	-	-	-
	3" Turbine	302.90	-	-	-	-	-	-
	3" Fire Series	302.90	-	-	-	-	-	-
	4" Compound	302.90	-	-	-	-	-	-
	4" Turbine	302.90	-	-	-	-	-	-
	4" Fire Series	302.90	-	-	-	-	-	-
	4" Fire Assembly	302.90	-	-	-	-	-	-
	6" Compound	302.90	-	-	-	-	-	-
	6" Turbine	302.90	-	-	-	-	-	-
	6" Fire Series	302.90	-	-	-	-	-	-
	6" Fire Assembly	302.90	-	-	-	-	-	-
	8" Turbine	302.90	-	-	-	-	-	-
	8" Fire Series	302.90	-	-	-	-	-	-
	8" Fire Assembly	302.90	-	-	-	-	-	-
	10" Turbine	302.90	-	-	-	-	-	-
	10" Fire Series	302.90	-	-	-	-	-	-
	10" Fire Assembly	302.90	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates-Not including Overtime), $						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	12" Turbine	302.90	-	-	-	-	-	-
	12" Fire Series	302.90	-	-	-	-	-	-
	12" Fire Assembly	302.90	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"	50.48	-	-	-	-	-	-
	3/4 RFSS	50.48	-	-	-	-	-	-
	1"	100.97	-	-	-	-	-	-
	1" RFSS	100.97	-	-	-	-	-	-
	1 1/2	100.97	-	-	-	-	-	-
	1 1/2 RFSS	100.97	-	-	-	-	-	-
	2"	100.97	-	-	-	-	-	-
	2" RFSS	100.97	-	-	-	-	-	-
	3" Compound	302.90	-	-	-	-	-	-
	3" Turbine	302.90	-	-	-	-	-	-
	4" Compound	302.90	-	-	-	-	-	-
	4" Turbine	302.90	-	-	-	-	-	-
	6" Compound	302.90	-	-	-	-	-	-
	6" Turbine	302.90	-	-	-	-	-	-
	8"	302.90	-	-	-	-	-	-
	10"	302.90	-	-	-	-	-	-
3	Tampering of Meter							
a	5/8" or 3/4"	50.48	-	-	-	-	-	-
b	1", 1.5" or 2"	100.97	-	-	-	-	-	-
c	3" and larger	302.90	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment	50.48	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	50.48	-	-	-	-	-	-
	Operating service valve 2" and smaller service lines	50.48	-	-	-	-	-	-
	Operating service valve larger than 2" service lines	-	-	-	51.86	185.23	-	-
	Obstructed curb stop, missing access box, requires excavation	-	403.87	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop	-	403.87	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates-Not including Overtime), $						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	403.87	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	403.87	-	-	-	-	-
	Excavation and shutoff of ferrule at the water main	-	-	-	155.59	416.76	147.37	155.59
5	Pumping of Properties	-	-	-	51.86	92.61	-	-
6	Charges for Water Main Shutdown Service	-	-	-	51.86	185.23	-	-
7	Water Connection Charges							
b	Ferrule Connections							
	3/4"	-	-	-	25.93	92.61	-	-
	1"	-	-	-	25.93	92.61	-	-
	1.5"	-	-	-	25.93	92.61	-	-
	2"	-	-	-	25.93	92.61	-	-
c	Valve Connections							
	3" & 4"	-	-	-	1,659.58	4,445.42	1,571.91	1,659.58
	6" & 8"	-	-	-	1,659.58	4,445.42	1,571.91	1,659.58
	10" & 12"	-	-	-	1,659.58	4,445.42	1,571.91	1,659.58
d	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	20" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	24" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	30" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	36" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	6" & 8" Sleeve							
	16" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	20" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	24" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	30" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	36" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	10" & 12" Sleeve							
	16" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	20" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates-Not including Overtime), $						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	24" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	30" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
	36" Main	-	-	-	2,074.47	5,556.77	1,964.89	2,074.47
9	Hydrant Permits							
	One Week	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-
10	Flow Tests	-	-	-	-	138.92	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	25.93	92.61	-	-
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit	-	-	-	-	-	-	-
4	Groundwater Discharge Permit	-	-	-	-	-	-	-
5	Manhole Pump-out Permit	-	-	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-
	Utility Plan Review Fee	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu							
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee	-	-	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates-Not including Overtime), $						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	12" Turbine	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-
3	Tampering of Meter							
a	5/8" or 3/4"	-	-	-	-		-	-
b	1", 1.5" or 2"	-	-	-	-		-	-
c	3" and larger	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-
	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-
	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-
	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-
7	Water Connection Charges							
b	Ferrule Connections							
	3/4"	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
c	Valve Connections							
	3" & 4"	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-
d	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
	6" & 8" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
	10" & 12" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
9	Hydrant Permits							
	One Week	192.59	-	-	-		-	-
	Six Month	192.59	-	-	-		-	-
10	Flow Tests	144.44	131.62	-	81.69		-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-		-	-
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit	-	-	-	-	-	1,754.98	706.16
4	Groundwater Discharge Permit	-	-	-	-	-	1,052.99	470.78
5	Manhole Pump-out Permit	-	-	-	-	-	438.74	353.08
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	877.49	353.08
7	Photographic & Video Inspection	-	-	-	-		-	-
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-
	Utility Plan Review Fee	-	-	47.79	-	-	-	-
2	Stormwater Management Fee in Lieu							
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee	-	-	-	-	-	614.24	117.69
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	87.75	117.69

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	Section 6- Miscellaneous Water Charges								
1	Meter Test Charges								
a	5/8"	-	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters								
a	Setting both Meter and Meter Interface Unit (MIU)								
	5/8"	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	12" Turbine	-	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)								
	5/8"	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-	-
3	Tampering of Meter								
a	5/8" or 3/4"	-	-	-	-	-	-	-	-
b	1", 1.5" or 2"	-	-	-	-	-	-	-	-
c	3" and larger	-	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service								
a	Site Visit for Non-payment	-	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-	-
	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-	-
	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-	-
	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-	-
7	Water Connection Charges								
b	Ferrule Connections								
	3/4"	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-
c	Valve Connections								
	3" & 4"	-	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-	-
d	Attachment to a Transmission Main								
	3" & 4" Sleeve								
	16" Main	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-
	6" & 8" Sleeve								
	16" Main	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-
	10" & 12" Sleeve								
	16" Main	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	24" Main	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-
9	Hydrant Permits								
	One Week	-	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-	-
10	Flow Tests	-	-	-	-	-	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges								
1	Sewer Charges for Groundwater								
2	Charges for Wastewater Service								
3	Wastewater Discharge Permit	1,652.71	929.75	777.54	-	-	-	-	-
4	Groundwater Discharge Permit	1,101.81	338.09	282.74	-	-	-	-	-
5	Manhole Pump-out Permit	661.08	1,014.28	706.85	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	881.45	169.05	212.06	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges								
1	Stormwater Plan Review Fees								
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	125.07	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	91.56	-
	E&S Third Reinspection	-	-	-	-	-	-	91.56	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	91.56	-
	Utility Plan Review Fee	-	-	-	-	125.07	-	-	-
2	Stormwater Management Fee in Lieu								
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)								
1	Sewer Credit Application Fee	440.72	253.57	212.06	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	220.36	169.05	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)								
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	12" Turbine	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-
3	Tampering of Meter							
a	5/8" or 3/4"	-	-	-	-	-	-	-
b	1", 1.5" or 2"	-	-	-	-	-	-	-
c	3" and larger	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-
	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-
	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-
	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-
7	Water Connection Charges							
b	Ferrule Connections							
	3/4"	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
c	Valve Connections							
	3" & 4"	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-
d	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
	6" & 8" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
	10" & 12" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
9	Hydrant Permits							
	One Week	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-
10	Flow Tests	-	-	-	-	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit	-	-	-	-	-	-	-
4	Groundwater Discharge Permit	-	-	-	-	-	-	-
5	Manhole Pump-out Permit	-	-	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
	Conceptual Stormwater Plan Approval	-	-	-	-	-	29.05	824.62
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	77.28	-
	Final Inspection of Development Project	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-
	Utility Plan Review Fee	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu							
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee	-	-	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost
	Section 6- Miscellaneous Water Charges				
1	Meter Test Charges				
a	5/8"	-	-	-	$113.59
b	1",1.5",2"	-	-	-	$151.45
c	3",4",6",8",10",12"	-	-	-	$378.63
d	Field Tests 3" and above	-	-	-	$378.63
2	Charges for Furnishing and Installation of Water Meters				
a	Setting both Meter and Meter Interface Unit (MIU)				
	5/8"	-	-	-	$50.48
	3/4 RFSS	-	-	-	$50.48
	1"	-	-	-	$100.97
	1" RFSS	-	-	-	$100.97
	1 1/2	-	-	-	$100.97
	1 1/2 RFSS	-	-	-	$100.97
	2"	-	-	-	$100.97
	2" RFSS	-	-	-	$100.97
	3" Compound	-	-	-	$302.90
	3" Turbine	-	-	-	$302.90
	3" Fire Series	-	-	-	$302.90
	4" Compound	-	-	-	$302.90
	4" Turbine	-	-	-	$302.90
	4" Fire Series	-	-	-	$302.90
	4" Fire Assembly	-	-	-	$302.90
	6" Compound	-	-	-	$302.90
	6" Turbine	-	-	-	$302.90
	6" Fire Series	-	-	-	$302.90
	6" Fire Assembly	-	-	-	$302.90
	8" Turbine	-	-	-	$302.90
	8" Fire Series	-	-	-	$302.90
	8" Fire Assembly	-	-	-	$302.90
	10" Turbine	-	-	-	$302.90
	10" Fire Series	-	-	-	$302.90
	10" Fire Assembly	-	-	-	$302.90

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost
	12" Turbine	-	-	-	$302.90
	12" Fire Series	-	-	-	$302.90
	12" Fire Assembly	-	-	-	$302.90
b	Furnishing and Setting Meter Interface Unit (MIU)				
	5/8"	-	-	-	$50.48
	3/4 RFSS	-	-	-	$50.48
	1"	-	-	-	$100.97
	1" RFSS	-	-	-	$100.97
	1 1/2	-	-	-	$100.97
	1 1/2 RFSS	-	-	-	$100.97
	2"	-	-	-	$100.97
	2" RFSS	-	-	-	$100.97
	3" Compound	-	-	-	$302.90
	3" Turbine	-	-	-	$302.90
	4" Compound	-	-	-	$302.90
	4" Turbine	-	-	-	$302.90
	6" Compound	-	-	-	$302.90
	6" Turbine	-	-	-	$302.90
	8"	-	-	-	$302.90
	10"	-	-	-	$302.90
3	Tampering of Meter				
a	5/8" or 3/4"	-	-	-	$50.48
b	1", 1.5" or 2"	-	-	-	$100.97
c	3" and larger	-	-	-	$302.90
4	Shut-Off and Restoration of Water Service				
a	Site Visit for Non-payment	-	-	-	$50.48
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	$50.48
	Operating service valve 2" and smaller service lines	-	-	-	$50.48
	Operating service valve larger than 2" service lines	-	-	-	$237.09
	Obstructed curb stop, missing access box, requires excavation	-	-	-	$403.87
	Curb stop inoperable, requires installation of new curb stop	-	-	-	$403.87

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	$403.87
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	$403.87
	Excavation and shutoff of ferrule at the water main	-	-	-	$875.30
5	Pumping of Properties	-	-	-	$144.47
6	Charges for Water Main Shutdown Service	-	-	-	$237.09
7	Water Connection Charges				
b	Ferrule Connections				
	3/4"	-	-	-	$118.54
	1"	-	-	-	$118.54
	1.5"	-	-	-	$118.54
	2"	-	-	-	$118.54
c	Valve Connections				
	3" & 4"	-	-	-	$9,336.48
	6" & 8"	-	-	-	$9,336.48
	10" & 12"	-	-	-	$9,336.48
d	Attachment to a Transmission Main				
	3" & 4" Sleeve				
	16" Main	-	-	-	$11,670.60
	20" Main	-	-	-	$11,670.60
	24" Main	-	-	-	$11,670.60
	30" Main	-	-	-	$11,670.60
	36" Main	-	-	-	$11,670.60
	6" & 8" Sleeve				
	16" Main	-	-	-	$11,670.60
	20" Main	-	-	-	$11,670.60
	24" Main	-	-	-	$11,670.60
	30" Main	-	-	-	$11,670.60
	36" Main	-	-	-	$11,670.60
	10" & 12" Sleeve				
	16" Main	-	-	-	$11,670.60
	20" Main	-	-	-	$11,670.60

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost
	24" Main	-	-	-	$11,670.60
	30" Main	-	-	-	$11,670.60
	36" Main	-	-	-	$11,670.60
9	Hydrant Permits				
	One Week	-	-	-	$192.59
	Six Month	-	-	-	$192.59
10	Flow Tests	-	-	-	$496.67
11	Water Service Line Investigations and/or Inspections	-	-	-	$118.54
	Section 7- Miscellaneous Sewer Charges				
1	Sewer Charges for Groundwater				
2	Charges for Wastewater Service				
3	Wastewater Discharge Permit	-	-	-	$5,821.14
4	Groundwater Discharge Permit	-	-	-	$3,246.40
5	Manhole Pump-out Permit	-	-	-	$3,174.04
6	Trucked or Hauled Wastewater Permit	-	-	-	$2,493.12
7	Photographic & Video Inspection	-	-	-	$0.00
	Section 8- Miscellaneous Stormwater Charges				
1	Stormwater Plan Review Fees				
	Conceptual Stormwater Plan Approval	-	-	-	$853.68
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	87.75	-	$165.03
	Final Inspection of Development Project	244.17	-	-	$369.24
	E&S Second Reinspection	-	-	-	$91.56
	E&S Third Reinspection	-	-	-	$91.56
	E&S Fourth/Subsequent Reinspection	-	-	-	$91.56
	Utility Plan Review Fee	-	175.50	-	$348.36
2	Stormwater Management Fee in Lieu				
	Exemption to Water Quality Requirement	-	-	-	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)				
1	Sewer Credit Application Fee	-	-	-	$1,638.28
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	$594.85

FY 2026 Labor Costs (No Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)				
3	Stormwater Credit Application Fee Renewal	-	526.49	370.21	$896.70

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates including Overtime)						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"	144.56	-	-	-	-	-	-
b	1",1.5",2"	192.74	-	-	-	-	-	-
c	3",4",6",8",10",12"	481.86	-	-	-	-	-	-
d	Field Tests 3" and above	481.86	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"	64.25	-	-	-	-	-	-
	3/4 RFSS	64.25	-	-	-	-	-	-
	1"	128.50	-	-	-	-	-	-
	1" RFSS	128.50	-	-	-	-	-	-
	1 1/2	128.50	-	-	-	-	-	-
	1 1/2 RFSS	128.50	-	-	-	-	-	-
	2"	128.50	-	-	-	-	-	-
	2" RFSS	128.50	-	-	-	-	-	-
	3" Compound	385.49	-	-	-	-	-	-
	3" Turbine	385.49	-	-	-	-	-	-
	3" Fire Series	385.49	-	-	-	-	-	-
	4" Compound	385.49	-	-	-	-	-	-
	4" Turbine	385.49	-	-	-	-	-	-
	4" Fire Series	385.49	-	-	-	-	-	-
	4" Fire Assembly	385.49	-	-	-	-	-	-
	6" Compound	385.49	-	-	-	-	-	-
	6" Turbine	385.49	-	-	-	-	-	-
	6" Fire Series	385.49	-	-	-	-	-	-
	6" Fire Assembly	385.49	-	-	-	-	-	-
	8" Turbine	385.49	-	-	-	-	-	-
	8" Fire Series	385.49	-	-	-	-	-	-
	8" Fire Assembly	385.49	-	-	-	-	-	-
	10" Turbine	385.49	-	-	-	-	-	-
	10" Fire Series	385.49	-	-	-	-	-	-
	10" Fire Assembly	385.49	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates including Overtime)						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	12" Turbine	385.49	-	-	-	-	-	-
	12" Fire Series	385.49	-	-	-	-	-	-
	12" Fire Assembly	385.49	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"	64.25	-	-	-	-	-	-
	3/4 RFSS	64.25	-	-	-	-	-	-
	1"	128.50	-	-	-	-	-	-
	1" RFSS	128.50	-	-	-	-	-	-
	1 1/2	128.50	-	-	-	-	-	-
	1 1/2 RFSS	128.50	-	-	-	-	-	-
	2"	128.50	-	-	-	-	-	-
	2" RFSS	128.50	-	-	-	-	-	-
	3" Compound	385.49	-	-	-	-	-	-
	3" Turbine	385.49	-	-	-	-	-	-
	4" Compound	385.49	-	-	-	-	-	-
	4" Turbine	385.49	-	-	-	-	-	-
	6" Compound	385.49	-	-	-	-	-	-
	6" Turbine	385.49	-	-	-	-	-	-
	8"	385.49	-	-	-	-	-	-
	10"	385.49	-	-	-	-	-	-
3	Tampering of Meter							
a	5/8" or 3/4"	64.25	-	-	-	-	-	-
b	1", 1.5" or 2"	128.50	-	-	-	-	-	-
c	3" and larger	385.49	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment	64.25	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	64.25	-	-	-	-	-	-
c	Operating service valve 2" and smaller service lines	64.25	-	-	-	-	-	-
d	Operating service valve larger than 2" service lines	-	-	-	51.86	235.73	-	-
e	Obstructed curb stop, missing access box, requires excavation	-	513.98	-	-	-	-	-
f	Curb stop inoperable, requires installation of new curb stop	-	513.98	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates including Overtime)						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	513.98	-	-	-	-	-
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	513.98	-	-	-	-	-
i	Excavation and shutoff of ferrule at the water main	-	-	-	155.59	530.38	187.55	198.00
5	Pumping of Properties	-	-	-	51.86	117.86	-	-
6	Charges for Water Main Shutdown Service	-	-	-	51.86	235.73	-	-
7	Water Connection Charges							
b	Ferrule Connections							
	3/4"	-	-	-	25.93	117.86	-	-
	1"	-	-	-	25.93	117.86	-	-
	1.5"	-	-	-	25.93	117.86	-	-
	2"	-	-	-	25.93	117.86	-	-
c	Valve Connections							
	3" & 4"	-	-	-	1,659.58	5,657.43	2,000.48	2,112.05
	6" & 8"	-	-	-	1,659.58	5,657.43	2,000.48	2,112.05
	10" & 12"	-	-	-	1,659.58	5,657.43	2,000.48	2,112.05
d	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	20" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	24" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	30" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	36" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	6" & 8" Sleeve							
	16" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	20" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	24" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	30" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	36" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	10" & 12" Sleeve							
	16" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	20" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates including Overtime)						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	24" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	30" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
	36" Main	-	-	-	2,074.47	7,071.79	2,500.60	2,640.06
8	Discontinuance of Water	-	-	-	51.86	235.73	250.06	264.01
9	Hydrant Permits							
	One Week	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-
10	Flow Tests	-	-	-	-	176.79	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	25.93	117.86	-	-
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit	-	-	-	-	-	-	-
4	Grounwater Discharge Permit	-	-	-	-	-	-	-
5	Manhole Pump-out Permit	-	-	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-
	Utility Plan Review Fee	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu							
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee	-	-	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates including Overtime)						
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	12" Turbine	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-
3	Tampering of Meter							
a	5/8" or 3/4"	-	-	-	-		-	-
b	1", 1.5" or 2"	-	-	-	-		-	-
c	3" and larger	-	-	-	-		-	-
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-
c	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-
d	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-
e	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-
f	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-
i	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-
7	Water Connection Charges							
b	Ferrule Connections							
	3/4"	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
c	Valve Connections							
	3" & 4"	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-
d	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
	6" & 8" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
	10" & 12" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
8	Discontinuance of Water	-	-	-	-	-	-	-
9	Hydrant Permits							
	One Week	192.59	-	-	-	-	-	-
	Six Month	192.59	-	-	-	-	-	-
10	Flow Tests	144.44	131.62	-	103.96	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit	-	-	-	-	-	1,754.98	706.16
4	Grounwater Discharge Permit	-	-	-	-	-	1,052.99	470.78
5	Manhole Pump-out Permit	-	-	-	-	-	438.74	353.08
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	877.49	353.08
7	Photographic & Video Inspection	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-
	Utility Plan Review Fee	-	-	60.82	-	-	-	-
2	Stormwater Management Fee in Lieu							
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee	-	-	-	-	-	614.24	117.69
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	87.75	117.69

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineer 3/ WTR Engineer 1	Engineering Specialist	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	Section 6- Miscellaneous Water Charges								
1	Meter Test Charges								
a	5/8"	-	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters								
a	Setting both Meter and Meter Interface Unit (MIU)								
	5/8"	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	12" Turbine	-	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)								
	5/8"	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-	-
3	Tampering of Meter								
a	5/8" or 3/4"	-	-	-	-	-	-	-	-
b	1", 1.5" or 2"	-	-	-	-	-	-	-	-
c	3" and larger	-	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service								
a	Site Visit for Non-payment	-	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-	-
c	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-	-
d	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-	-
e	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-	-
f	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-	-
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-	-
i	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-	-
7	Water Connection Charges								
b	Ferrule Connections								
	3/4"	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-
c	Valve Connections								
	3" & 4"	-	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-	-
d	Attachment to a Transmission Main								
	3" & 4" Sleeve								
	16" Main	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-
	6" & 8" Sleeve								
	16" Main	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-
	10" & 12" Sleeve								
	16" Main	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	24" Main	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-
8	Discontinuance of Water	-	-	-	-	-	-	-	-
9	Hydrant Permits								
	One Week	-	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-	-
10	Flow Tests	-	-	-	-	-	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges								
1	Sewer Charges for Groundwater								
2	Charges for Wastewater Service								
3	Wastewater Discharge Permit	1,652.71	929.75	989.53	-	-	-	-	-
4	Grounwater Discharge Permit	1,101.81	338.09	359.83	-	-	-	-	-
5	Manhole Pump-out Permit	661.08	1,014.28	899.57	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	881.45	169.05	269.87	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges								
1	Stormwater Plan Review Fees								
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	125.07	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	116.53	-
	E&S Third Reinspection	-	-	-	-	-	-	116.53	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	116.53	-
	Utility Plan Review Fee	-	-	-	-	125.07	-	-	-
2	Stormwater Management Fee in Lieu								
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)								
1	Sewer Credit Application Fee	440.72	253.57	269.87	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	220.36	169.05	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)								
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	Section 6- Miscellaneous Water Charges							
1	Meter Test Charges							
a	5/8"	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters							
a	Setting both Meter and Meter Interface Unit (MIU)							
	5/8"	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	12" Turbine	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)							
	5/8"	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-
3	Tampering of Meter							
a	5/8" or 3/4"	-	-	-	-	-	-	-
b	1", 1.5" or 2"	-	-	-	-	-	-	-
c	3" and larger	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service							
a	Site Visit for Non-payment	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-
c	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-
d	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-
e	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-
f	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-
i	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-
7	Water Connection Charges							
b	Ferrule Connections							
	3/4"	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-
c	Valve Connections							
	3" & 4"	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-
d	Attachment to a Transmission Main							
	3" & 4" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
	6" & 8" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
	10" & 12" Sleeve							
	16" Main	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	24" Main	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-
8	Discontinuance of Water	-	-	-	-	-	-	-
9	Hydrant Permits							
	One Week	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-
10	Flow Tests	-	-	-	-	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges							
1	Sewer Charges for Groundwater							
2	Charges for Wastewater Service							
3	Wastewater Discharge Permit	-	-	-	-	-	-	-
4	Grounwater Discharge Permit	-	-	-	-	-	-	-
5	Manhole Pump-out Permit	-	-	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges							
1	Stormwater Plan Review Fees							
	Conceptual Stormwater Plan Approval	-	-	-	-	-	36.97	824.62
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	98.35	-
	Final Inspection of Development Project	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-
	Utility Plan Review Fee	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu							
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)							
1	Sewer Credit Application Fee	-	-	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant	Environmental Scientist Specialist
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)							
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost (with Overtime)
	Section 6- Miscellaneous Water Charges				
1	Meter Test Charges				
a	5/8"	-	-	-	$144.56
b	1",1.5",2"	-	-	-	$192.74
c	3",4",6",8",10",12"	-	-	-	$481.86
d	Field Tests 3" and above	-	-	-	$481.86
2	Charges for Furnishing and Installation of Water Meters				
a	Setting both Meter and Meter Interface Unit (MIU)				
	5/8"	-	-	-	$64.25
	3/4 RFSS	-	-	-	$64.25
	1"	-	-	-	$128.50
	1" RFSS	-	-	-	$128.50
	1 1/2	-	-	-	$128.50
	1 1/2 RFSS	-	-	-	$128.50
	2"	-	-	-	$128.50
	2" RFSS	-	-	-	$128.50
	3" Compound	-	-	-	$385.49
	3" Turbine	-	-	-	$385.49
	3" Fire Series	-	-	-	$385.49
	4" Compound	-	-	-	$385.49
	4" Turbine	-	-	-	$385.49
	4" Fire Series	-	-	-	$385.49
	4" Fire Assembly	-	-	-	$385.49
	6" Compound	-	-	-	$385.49
	6" Turbine	-	-	-	$385.49
	6" Fire Series	-	-	-	$385.49
	6" Fire Assembly	-	-	-	$385.49
	8" Turbine	-	-	-	$385.49
	8" Fire Series	-	-	-	$385.49
	8" Fire Assembly	-	-	-	$385.49
	10" Turbine	-	-	-	$385.49
	10" Fire Series	-	-	-	$385.49
	10" Fire Assembly	-	-	-	$385.49

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost (with Overtime)
	12" Turbine	-	-	-	$385.49
	12" Fire Series	-	-	-	$385.49
	12" Fire Assembly	-	-	-	$385.49
b	Furnishing and Setting Meter Interface Unit (MIU)				
	5/8"	-	-	-	$64.25
	3/4 RFSS	-	-	-	$64.25
	1"	-	-	-	$128.50
	1" RFSS	-	-	-	$128.50
	1 1/2	-	-	-	$128.50
	1 1/2 RFSS	-	-	-	$128.50
	2"	-	-	-	$128.50
	2" RFSS	-	-	-	$128.50
	3" Compound	-	-	-	$385.49
	3" Turbine	-	-	-	$385.49
	4" Compound	-	-	-	$385.49
	4" Turbine	-	-	-	$385.49
	6" Compound	-	-	-	$385.49
	6" Turbine	-	-	-	$385.49
	8"	-	-	-	$385.49
	10"	-	-	-	$385.49
3	Tampering of Meter				
a	5/8" or 3/4"	-	-	-	$64.25
b	1", 1.5" or 2"	-	-	-	$128.50
c	3" and larger	-	-	-	$385.49
4	Shut-Off and Restoration of Water Service				
a	Site Visit for Non-payment	-	-	-	$64.25
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	$64.25
c	Operating service valve 2" and smaller service lines	-	-	-	$64.25
d	Operating service valve larger than 2" service lines	-	-	-	$287.59
e	Obstructed curb stop, missing access box, requires excavation	-	-	-	$513.98
f	Curb stop inoperable, requires installation of new curb stop	-	-	-	$513.98

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost (with Overtime)
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	$513.98
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	$513.98
i	Excavation and shutoff of ferrule at the water main	-	-	-	$1,071.52
5	Pumping of Properties	-	-	-	$169.72
6	Charges for Water Main Shutdown Service	-	-	-	$287.59
7	Water Connection Charges				
b	Ferrule Connections				
	3/4"	-	-	-	$143.79
	1"	-	-	-	$143.79
	1.5"	-	-	-	$143.79
	2"	-	-	-	$143.79
c	Valve Connections				
	3" & 4"	-	-	-	$11,429.54
	6" & 8"	-	-	-	$11,429.54
	10" & 12"	-	-	-	$11,429.54
d	Attachment to a Transmission Main				
	3" & 4" Sleeve				
	16" Main	-	-	-	$14,286.92
	20" Main	-	-	-	$14,286.92
	24" Main	-	-	-	$14,286.92
	30" Main	-	-	-	$14,286.92
	36" Main	-	-	-	$14,286.92
	6" & 8" Sleeve				
	16" Main	-	-	-	$14,286.92
	20" Main	-	-	-	$14,286.92
	24" Main	-	-	-	$14,286.92
	30" Main	-	-	-	$14,286.92
	36" Main	-	-	-	$14,286.92
	10" & 12" Sleeve				
	16" Main	-	-	-	$14,286.92
	20" Main	-	-	-	$14,286.92

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost (with Overtime)
	24" Main	-	-	-	$14,286.92
	30" Main	-	-	-	$14,286.92
	36" Main	-	-	-	$14,286.92
8	Discontinuance of Water	-	-	-	$801.65
9	Hydrant Permits				
	One Week	-	-	-	$192.59
	Six Month	-	-	-	$192.59
10	Flow Tests	-	-	-	$556.82
11	Water Service Line Investigations and/or Inspections	-	-	-	$143.79
	Section 7- Miscellaneous Sewer Charges				
1	Sewer Charges for Groundwater				
2	Charges for Wastewater Service				
3	Wastewater Discharge Permit	-	-	-	$6,033.13
4	Grounwater Discharge Permit	-	-	-	$3,323.49
5	Manhole Pump-out Permit	-	-	-	$3,366.76
6	Trucked or Hauled Wastewater Permit	-	-	-	$2,550.93
7	Photographic & Video Inspection	-	-	-	$0.00
	Section 8- Miscellaneous Stormwater Charges				
1	Stormwater Plan Review Fees				
	Conceptual Stormwater Plan Approval	-	-	-	$861.60
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	87.75	-	$186.10
	Final Inspection of Development Project	310.74	-	-	$435.81
	E&S Second Reinspection	-	-	-	$116.53
	E&S Third Reinspection	-	-	-	$116.53
	E&S Fourth/Subsequent Reinspection	-	-	-	$116.53
	Utility Plan Review Fee	-	175.50	-	$361.39
2	Stormwater Management Fee in Lieu				
	Exemption to Water Quality Requirement	-	-	-	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)				
1	Sewer Credit Application Fee	-	-	-	$1,696.10
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	$594.85

FY 2026 Labor Costs (With Overtime)

Line No.	Description	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost (with Overtime)
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)				
3	Stormwater Credit Application Fee Renewal	-	526.49	370.21	$896.70

Labor Cost Calculations FY 2027

Line No.	Description	Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	Section 6- Miscellaneous Water Charges									
1	Meter Test Charges									
a	5/8"	2.25								
b	1",1.5",2"	2.00								
c	3",4",6",8",10",12"	3.00								
d	Field Tests 3" and above	3.00								
2	Charges for Furnishing and Installation of Water Meters									
a	Setting both Meter and Meter Interface Unit (MIU)									
	5/8"	1.00								
	3/4 RFSS	1.00								
	1"	2.00								
	1" RFSS	2.00								
	1 1/2	2.00								
	1 1/2 RFSS	2.00								
	2"	2.00								
	2" RFSS	2.00								
	3" Compound	3.00								
	3" Turbine	3.00								
	3" Fire Series	3.00								
	4" Compound	3.00								
	4" Turbine	3.00								
	4" Fire Series	3.00								
	4" Fire Assembly	3.00								
	6" Compound	3.00								
	6" Turbine	3.00								
	6" Fire Series	3.00								
	6" Fire Assembly	3.00								
	8" Turbine	3.00								
	8" Fire Series	3.00								
	8" Fire Assembly	3.00								
	10" Turbine	3.00								
	10" Fire Series	3.00								
	10" Fire Assembly	3.00								
	12" Turbine	3.00								
	12" Fire Series	3.00								
	12" Fire Assembly	3.00								
b	Furnishing and Setting Meter Interface Unit (MIU)									
	5/8"	1.00								
	3/4 RFSS	1.00								
	1"	2.00								
	1" RFSS	2.00								
	1 1/2	2.00								
	1 1/2 RFSS	2.00								

Labor Cost Calculations FY 2027

Line No.	Description	Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	2"	2.00								
	2" RFSS	2.00								
	3" Compound	3.00								
	3" Turbine	3.00								
	4" Compound	3.00								
	4" Turbine	3.00								
	6" Compound	3.00								
	6" Turbine	3.00								
	8"	3.00								
	10"	3.00								
3	Tampering of Meter									
a	5/8" or 3/4"	1.00								
b	1", 1.5" or 2"	2.00								
c	3" and larger	3.00								
4	Shut-Off and Restoration of Water Service									
a	Site Visit for Non-payment	1.00								
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	1.00								
c	**Restoration of Water Service**									
	Operating service valve 2" and smaller service lines	1.00								
	Operating service valve larger than 2" service lines				0.50	2.00				
	Obstructed curb stop, missing access box, requires excavation		2.00							
	Curb stop inoperable, requires installation of new curb stop		2.00							
	Obstructed curb stop, missing access box, requires excavation and footway paving		2.00							
	Curb stop inoperable, requires installation of new curb stop and footway paving		2.00							
	Excavation and shutoff of ferrule at the water main				1.00	3.00	1.00	1.00		
5	Pumping of Properties				1.00	2.00				
6	Charges for Water Main Shutdown Service				0.50	2.00				
7	Water Connection Charges									
	Ferrule Connections									
a	3/4"				0.50	2.00				
b	1"				0.50	2.00				
c	1.5"				0.50	2.00				
d	2"				0.50	2.00				
	Valve Connections									
e	3" & 4"				1.00	3.00	1.00	1.00		
f	6" & 8"				1.00	3.00	1.00	1.00		
g	10" & 12"				1.00	3.00	1.00	1.00		
	Attachment to a Transmission Main									
	3" & 4" Sleeve									
	16" Main				1.00	3.00	1.00	1.00		
	20" Main				1.00	3.00	1.00	1.00		
	24" Main				1.00	3.00	1.00	1.00		
	30" Main				1.00	3.00	1.00	1.00		
	36" Main				1.00	3.00	1.00	1.00		

Labor Cost Calculations FY 2027

Line No.	Description	Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	6" & 8" Sleeve									
	16" Main				1.00	3.00	1.00	1.00		
	20" Main				1.00	3.00	1.00	1.00		
	24" Main				1.00	3.00	1.00	1.00		
	30" Main				1.00	3.00	1.00	1.00		
	36" Main				1.00	3.00	1.00	1.00		
	10" & 12" Sleeve									
	16" Main				1.00	3.00	1.00	1.00		
	20" Main				1.00	3.00	1.00	1.00		
	24" Main				1.00	3.00	1.00	1.00		
	30" Main				1.00	3.00	1.00	1.00		
	36" Main				1.00	3.00	1.00	1.00		
8	Discontinuance of Water				0.25	1.00	1.00	1.00		
9	Hydrant Permits									
a	One Week								1.00	
b	Six Month								1.00	
10	Flow Tests					2.00			1.00	1.00
11	Water Service Line Investigations and/or Inspections				0.50	2.00				
	Section 7- Miscellaneous Sewer Charges									
1	Sewer Charges for Groundwater									
2	Charges for Wastewater Service									
3	Wastewater Discharge Permit									
4	Groundwater Discharge Permit									
5	Manhole Pump-out Permit									
6	Trucked or Hauled Wastewater Permit									
7	Photographic & Video Inspection									
	Section 8- Miscellaneous Stormwater Charges									
1	Stormwater Plan Review Fees									
a	Conceptual Stormwater Plan Approval									
b	Post Construction Stormwater Plan Approval (Additional Review Time Fee)									
c	Final Inspection of Development Project									
d	E&S Second Reinspection									
e	E&S Third Reinspection									
f	E&S Fourth/Subsequent Reinspection									
g	Utility Plan Review Fee									
2	Stormwater Management Fee in Lieu									
a	Exemption to Water Quality Requirement									
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)									
1	Sewer Credit Application Fee									
2	Sewer Credit Failure to Inform PWD about increase									
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)									
3	Stormwater Credit Application Fee Renewal									

Labor Cost Calculations FY 2027

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	Section 6- Miscellaneous Water Charges							**NUMBER OF PERSONNEL**		
1	Meter Test Charges									
a	5/8"									
b	1",1.5",2"									
c	3",4",6",8",10",12"									
d	Field Tests 3" and above									
2	Charges for Furnishing and Installation of Water Meters									
a	Setting both Meter and Meter Interface Unit (MIU)									
	5/8"									
	3/4 RFSS									
	1"									
	1" RFSS									
	1 1/2									
	1 1/2 RFSS									
	2"									
	2" RFSS									
	3" Compound									
	3" Turbine									
	3" Fire Series									
	4" Compound									
	4" Turbine									
	4" Fire Series									
	4" Fire Assembly									
	6" Compound									
	6" Turbine									
	6" Fire Series									
	6" Fire Assembly									
	8" Turbine									
	8" Fire Series									
	8" Fire Assembly									
	10" Turbine									
	10" Fire Series									
	10" Fire Assembly									
	12" Turbine									
	12" Fire Series									
	12" Fire Assembly									
b	Furnishing and Setting Meter Interface Unit (MIU)									
	5/8"									
	3/4 RFSS									
	1"									
	1" RFSS									
	1 1/2									
	1 1/2 RFSS									

Labor Cost Calculations FY 2027

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	2"									
	2" RFSS									
	3" Compound									
	3" Turbine									
	4" Compound									
	4" Turbine									
	6" Compound									
	6" Turbine									
	8"									
	10"									
3	Tampering of Meter									
a	5/8" or 3/4"									
b	1", 1.5" or 2"									
c	3" and larger									
4	Shut-Off and Restoration of Water Service									
a	Site Visit for Non-payment									
b	Non-compliance with Notice of Defect and/or Metering Non-compliance									
c	**Restoration of Water Service**									
	Operating service valve 2" and smaller service lines									
	Operating service valve larger than 2" service lines									
	Obstructed curb stop, missing access box, requires excavation									
	Curb stop inoperable, requires installation of new curb stop									
	Obstructed curb stop, missing access box, requires excavation and footway paving									
	Curb stop inoperable, requires installation of new curb stop and footway paving									
	Excavation and shutoff of ferrule at the water main									
5	Pumping of Properties									
6	Charges for Water Main Shutdown Service									
7	Water Connection Charges									
	Ferrule Connections									
a	3/4"									
b	1"									
c	1.5"									
d	2"									
	Valve Connections									
e	3" & 4"									
f	6" & 8"									
g	10" & 12"									
	Attachment to a Transmission Main									
	3" & 4" Sleeve									
	16" Main									
	20" Main									
	24" Main									
	30" Main									
	36" Main									

Labor Cost Calculations FY 2027

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	6" & 8" Sleeve									
	16" Main									
	20" Main									
	24" Main									
	30" Main									
	36" Main									
	10" & 12" Sleeve									
	16" Main									
	20" Main									
	24" Main									
	30" Main									
	36" Main									
8	Discontinuance of Water									
9	Hydrant Permits									
a	One Week									
b	Six Month									
10	Flow Tests		1.00							
11	Water Service Line Investigations and/or Inspections									
	Section 7- Miscellaneous Sewer Charges							**STAFF HOURS**		
1	Sewer Charges for Groundwater									
2	Charges for Wastewater Service									
3	Wastewater Discharge Permit				20.00	6.00	15.00	11.00	11.00	
4	Groundwater Discharge Permit				12.00	4.00	10.00	4.00	4.00	
5	Manhole Pump-out Permit				5.00	3.00	6.00	12.00	10.00	
6	Trucked or Hauled Wastewater Permit				10.00	3.00	8.00	2.00	3.00	
7	Photographic & Video Inspection									
	Section 8- Miscellaneous Stormwater Charges									
1	Stormwater Plan Review Fees									
a	Conceptual Stormwater Plan Approval									
b	Post Construction Stormwater Plan Approval (Additional Review Time Fee)									
c	Final Inspection of Development Project									
d	E&S Second Reinspection									
e	E&S Third Reinspection									
f	E&S Fourth/Subsequent Reinspection									
g	Utility Plan Review Fee	1.00								
2	Stormwater Management Fee in Lieu									
a	Exemption to Water Quality Requirement									
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)									
1	Sewer Credit Application Fee				7.00	1.00	4.00	3.00	3.00	
2	Sewer Credit Failure to Inform PWD about increase				1.00	1.00	2.00	2.00	0.00	
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)									
3	Stormwater Credit Application Fee Renewal									

Labor Cost Calculations FY 2027

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	Section 6- Miscellaneous Water Charges										
1	Meter Test Charges										
a	5/8"										
b	1",1.5",2"										
c	3",4",6",8",10",12"										
d	Field Tests 3" and above										
2	Charges for Furnishing and Installation of Water Meters										
a	Setting both Meter and Meter Interface Unit (MIU)										
	5/8"										
	3/4 RFSS										
	1"										
	1" RFSS										
	1 1/2										
	1 1/2 RFSS										
	2"										
	2" RFSS										
	3" Compound										
	3" Turbine										
	3" Fire Series										
	4" Compound										
	4" Turbine										
	4" Fire Series										
	4" Fire Assembly										
	6" Compound										
	6" Turbine										
	6" Fire Series										
	6" Fire Assembly										
	8" Turbine										
	8" Fire Series										
	8" Fire Assembly										
	10" Turbine										
	10" Fire Series										
	10" Fire Assembly										
	12" Turbine										
	12" Fire Series										
	12" Fire Assembly										
b	Furnishing and Setting Meter Interface Unit (MIU)										
	5/8"										
	3/4 RFSS										
	1"										
	1" RFSS										
	1 1/2										
	1 1/2 RFSS										

Labor Cost Calculations FY 2027

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	2"										
	2" RFSS										
	3" Compound										
	3" Turbine										
	4" Compound										
	4" Turbine										
	6" Compound										
	6" Turbine										
	8"										
	10"										
3	Tampering of Meter										
a	5/8" or 3/4"										
b	1", 1.5" or 2"										
c	3" and larger										
4	Shut-Off and Restoration of Water Service										
a	Site Visit for Non-payment										
b	Non-compliance with Notice of Defect and/or Metering Non-compliance										
c	**Restoration of Water Service**										
	Operating service valve 2" and smaller service lines										
	Operating service valve larger than 2" service lines										
	Obstructed curb stop, missing access box, requires excavation										
	Curb stop inoperable, requires installation of new curb stop										
	Obstructed curb stop, missing access box, requires excavation and footway paving										
	Curb stop inoperable, requires installation of new curb stop and footway paving										
	Excavation and shutoff of ferrule at the water main										
5	Pumping of Properties										
6	Charges for Water Main Shutdown Service										
7	Water Connection Charges										
	Ferrule Connections										
a	3/4"										
b	1"										
c	1.5"										
d	2"										
	Valve Connections										
e	3" & 4"										
f	6" & 8"										
g	10" & 12"										
	Attachment to a Transmission Main										
	3" & 4" Sleeve										
	16" Main										
	20" Main										
	24" Main										
	30" Main										
	36" Main										

Labor Cost Calculations FY 2027

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	6" & 8" Sleeve										
	16" Main										
	20" Main										
	24" Main										
	30" Main										
	36" Main										
	10" & 12" Sleeve										
	16" Main										
	20" Main										
	24" Main										
	30" Main										
	36" Main										
8	Discontinuance of Water										
9	Hydrant Permits										
a	One Week										
b	Six Month										
10	Flow Tests										
11	Water Service Line Investigations and/or Inspections										
	Section 7- Miscellaneous Sewer Charges										
1	Sewer Charges for Groundwater										
2	Charges for Wastewater Service										
3	Wastewater Discharge Permit										
4	Groundwater Discharge Permit										
5	Manhole Pump-out Permit										
6	Trucked or Hauled Wastewater Permit										
7	Photographic & Video Inspection										
	Section 8- Miscellaneous Stormwater Charges										
1	Stormwater Plan Review Fees										
a	Conceptual Stormwater Plan Approval										0.50
b	Post Construction Stormwater Plan Approval (Additional Review Time Fee)										1.33
c	Final Inspection of Development Project	2.00									
d	E&S Second Reinspection			1.50							
e	E&S Third Reinspection			1.50							
f	E&S Fourth/Subsequent Reinspection			1.50							
g	Utility Plan Review Fee	2.00									
2	Stormwater Management Fee in Lieu										
a	Exemption to Water Quality Requirement										
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)										
1	Sewer Credit Application Fee										
2	Sewer Credit Failure to Inform PWD about increase										
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)										
3	Stormwater Credit Application Fee Renewal										

Labor Cost Calculations FY 2027

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Task Time (Hours)
	Section 6- Miscellaneous Water Charges					
1	Meter Test Charges					
a	5/8"					1.00
b	1",1.5",2"					1.50
c	3",4",6",8",10",12"					2.50
d	Field Tests 3" and above					2.50
2	Charges for Furnishing and Installation of Water Meters					
a	Setting both Meter and Meter Interface Unit (MIU)					
	5/8"					1.00
	3/4 RFSS					1.00
	1"					1.00
	1" RFSS					1.00
	1 1/2					1.00
	1 1/2 RFSS					1.00
	2"					1.00
	2" RFSS					1.00
	3" Compound					2.00
	3" Turbine					2.00
	3" Fire Series					2.00
	4" Compound					2.00
	4" Turbine					2.00
	4" Fire Series					2.00
	4" Fire Assembly					2.00
	6" Compound					2.00
	6" Turbine					2.00
	6" Fire Series					2.00
	6" Fire Assembly					2.00
	8" Turbine					2.00
	8" Fire Series					2.00
	8" Fire Assembly					2.00
	10" Turbine					2.00
	10" Fire Series					2.00
	10" Fire Assembly					2.00
	12" Turbine					2.00
	12" Fire Series					2.00
	12" Fire Assembly					2.00
b	Furnishing and Setting Meter Interface Unit (MIU)					
	5/8"					1.00
	3/4 RFSS					1.00
	1"					1.00
	1" RFSS					1.00
	1 1/2					1.00
	1 1/2 RFSS					1.00

Labor Cost Calculations FY 2027

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Task Time (Hours)
	2"					1.00
	2" RFSS					1.00
	3" Compound					2.00
	3" Turbine					2.00
	4" Compound					2.00
	4" Turbine					2.00
	6" Compound					2.00
	6" Turbine					2.00
	8"					2.00
	10"					2.00
3	Tampering of Meter					
a	5/8" or 3/4"					1.00
b	1", 1.5" or 2"					1.00
c	3" and larger					2.00
4	Shut-Off and Restoration of Water Service					
a	Site Visit for Non-payment					1.00
b	Non-compliance with Notice of Defect and/or Metering Non-compliance					1.00
c	**Restoration of Water Service**					
	Operating service valve 2" and smaller service lines					1.00
	Operating service valve larger than 2" service lines					2.00
	Obstructed curb stop, missing access box, requires excavation					4.00
	Curb stop inoperable, requires installation of new curb stop					4.00
	Obstructed curb stop, missing access box, requires excavation and footway paving					4.00
	Curb stop inoperable, requires installation of new curb stop and footway paving					4.00
	Excavation and shutoff of ferrule at the water main					3.00
5	Pumping of Properties					1.00
6	Charges for Water Main Shutdown Service					2.00
7	Water Connection Charges					
	Ferrule Connections					
a	3/4"					1.00
b	1"					1.00
c	1.5"					1.00
d	2"					1.00
	Valve Connections					
e	3" & 4"					32.00
f	6" & 8"					32.00
g	10" & 12"					32.00
	Attachment to a Transmission Main					
	3" & 4" Sleeve					
	16" Main					40.00
	20" Main					40.00
	24" Main					40.00
	30" Main					40.00
	36" Main					40.00

Labor Cost Calculations FY 2027

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Task Time (Hours)
	6" & 8" Sleeve					
	16" Main					40.00
	20" Main					40.00
	24" Main					40.00
	30" Main					40.00
	36" Main					40.00
	10" & 12" Sleeve					
	16" Main					40.00
	20" Main					40.00
	24" Main					40.00
	30" Main					40.00
	36" Main					40.00
8	Discontinuance of Water					4.00
9	Hydrant Permits					
a	One Week					2.00
b	Six Month					2.00
10	Flow Tests					1.50
11	Water Service Line Investigations and/or Inspections					1.00
	Section 7- Miscellaneous Sewer Charges					
1	Sewer Charges for Groundwater					
2	Charges for Wastewater Service					
3	Wastewater Discharge Permit					
4	Groundwater Discharge Permit					
5	Manhole Pump-out Permit					
6	Trucked or Hauled Wastewater Permit					
7	Photographic & Video Inspection					
	Section 8- Miscellaneous Stormwater Charges					
1	Stormwater Plan Review Fees					
a	Conceptual Stormwater Plan Approval	10.00				
b	Post Construction Stormwater Plan Approval (Additional Review Time Fee)			1.00		
c	Final Inspection of Development Project		4.00			
d	E&S Second Reinspection					
e	E&S Third Reinspection					
f	E&S Fourth/Subsequent Reinspection					
g	Utility Plan Review Fee			2.00		
2	Stormwater Management Fee in Lieu					
a	Exemption to Water Quality Requirement					
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)					
1	Sewer Credit Application Fee					
2	Sewer Credit Failure to Inform PWD about increase					
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)					
3	Stormwater Credit Application Fee Renewal			6.00	5.00	

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates-Not including Overtime), $								
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	Section 6- Miscellaneous Water Charges									
1	Meter Test Charges									
a	5/8"	117.56	-	-	-	-	-	-	-	-
b	1",1.5",2"	156.75	-	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	391.88	-	-	-	-	-	-	-	-
d	Field Tests 3" and above	391.88	-	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters									
a	Setting both Meter and Meter Interface Unit (MIU)									
	5/8"	52.25	-	-	-	-	-	-	-	-
	3/4 RFSS	52.25	-	-	-	-	-	-	-	-
	1"	104.50	-	-	-	-	-	-	-	-
	1" RFSS	104.50	-	-	-	-	-	-	-	-
	1 1/2	104.50	-	-	-	-	-	-	-	-
	1 1/2 RFSS	104.50	-	-	-	-	-	-	-	-
	2"	104.50	-	-	-	-	-	-	-	-
	2" RFSS	104.50	-	-	-	-	-	-	-	-
	3" Compound	313.51	-	-	-	-	-	-	-	-
	3" Turbine	313.51	-	-	-	-	-	-	-	-
	3" Fire Series	313.51	-	-	-	-	-	-	-	-
	4" Compound	313.51	-	-	-	-	-	-	-	-
	4" Turbine	313.51	-	-	-	-	-	-	-	-
	4" Fire Series	313.51	-	-	-	-	-	-	-	-
	4" Fire Assembly	313.51	-	-	-	-	-	-	-	-
	6" Compound	313.51	-	-	-	-	-	-	-	-
	6" Turbine	313.51	-	-	-	-	-	-	-	-
	6" Fire Series	313.51	-	-	-	-	-	-	-	-
	6" Fire Assembly	313.51	-	-	-	-	-	-	-	-
	8" Turbine	313.51	-	-	-	-	-	-	-	-
	8" Fire Series	313.51	-	-	-	-	-	-	-	-
	8" Fire Assembly	313.51	-	-	-	-	-	-	-	-
	10" Turbine	313.51	-	-	-	-	-	-	-	-
	10" Fire Series	313.51	-	-	-	-	-	-	-	-
	10" Fire Assembly	313.51	-	-	-	-	-	-	-	-
	12" Turbine	313.51	-	-	-	-	-	-	-	-
	12" Fire Series	313.51	-	-	-	-	-	-	-	-
	12" Fire Assembly	313.51	-	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)									
	5/8"	52.25	-	-	-	-	-	-	-	-
	3/4 RFSS	52.25	-	-	-	-	-	-	-	-
	1"	104.50	-	-	-	-	-	-	-	-
	1" RFSS	104.50	-	-	-	-	-	-	-	-
	1 1/2	104.50	-	-	-	-	-	-	-	-
	1 1/2 RFSS	104.50	-	-	-	-	-	-	-	-
	2"	104.50	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates-Not including Overtime), $								
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	2" RFSS	104.50	-	-	-	-	-	-	-	-
	3" Compound	313.51	-	-	-	-	-	-	-	-
	3" Turbine	313.51	-	-	-	-	-	-	-	-
	4" Compound	313.51	-	-	-	-	-	-	-	-
	4" Turbine	313.51	-	-	-	-	-	-	-	-
	6" Compound	313.51	-	-	-	-	-	-	-	-
	6" Turbine	313.51	-	-	-	-	-	-	-	-
	8"	313.51	-	-	-	-	-	-	-	-
	10"	313.51	-	-	-	-	-	-	-	-
3	Tampering of Meter									
a	5/8" or 3/4"	52.25	-	-	-	-	-	-	-	-
b	1", 1.5" or 2"	104.50	-	-	-	-	-	-	-	-
c	3" and larger	313.51	-	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service									
a	Site Visit for Non-payment	52.25	-	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	52.25	-	-	-	-	-	-	-	-
	Operating service valve 2" and smaller service lines	52.25	-	-	-	-	-	-	-	-
	Operating service valve larger than 2" service lines	-	-	-	53.68	191.71	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation	-	418.01	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop	-	418.01	-	-	-	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	418.01	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	418.01	-	-	-	-	-	-	-
	Excavation and shutoff of ferrule at the water main	-	-	-	161.03	431.34	152.52	161.03	-	-
5	Pumping of Properties	-	-	-	53.68	95.85	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	53.68	191.71	-	-	-	-
7	Water Connection Charges									
b	Ferrule Connections									
	3/4"	-	-	-	26.84	95.85	-	-	-	-
	1"	-	-	-	26.84	95.85	-	-	-	-
	1.5"	-	-	-	26.84	95.85	-	-	-	-
	2"	-	-	-	26.84	95.85	-	-	-	-
c	Valve Connections									
	3" & 4"	-	-	-	1,717.66	4,601.01	1,626.93	1,717.66	-	-
	6" & 8"	-	-	-	1,717.66	4,601.01	1,626.93	1,717.66	-	-
	10" & 12"	-	-	-	1,717.66	4,601.01	1,626.93	1,717.66	-	-
d	Attachment to a Transmission Main									
	3" & 4" Sleeve									
	16" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	20" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	24" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	30" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	36" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	6" & 8" Sleeve									
	16" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates-Not including Overtime), $								
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	20" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	24" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	30" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	36" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	10" & 12" Sleeve									
	16" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	20" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	24" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	30" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
	36" Main	-	-	-	2,147.08	5,751.26	2,033.66	2,147.08	-	-
8	Discontinuance of Water	-	-	-	53.68	191.71	203.37	214.71	-	-
9	Hydrant Permits									
	One Week	-	-	-	-	-	-	-	199.33	-
	Six Month	-	-	-	-	-	-	-	199.33	-
10	Flow Tests	-	-	-	-	143.78	-	-	149.50	136.23
11	Water Service Line Investigations and/or Inspections	-	-	-	26.84	95.85	-	-	-	-
	Section 7- Miscellaneous Sewer Charges									
1	Sewer Charges for Groundwater									
2	Charges for Wastewater Service									
3	Wastewater Discharge Permit	-	-	-	-	-	-	-	-	-
4	Groundwater Discharge Permit	-	-	-	-	-	-	-	-	-
5	Manhole Pump-out Permit	-	-	-	-	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges									
1	Stormwater Plan Review Fees									
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-	-	-
	Utility Plan Review Fee	-	-	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu									
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)									
1	Sewer Credit Application Fee	-	-	-	-	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)									
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	Section 6- Miscellaneous Water Charges									
1	Meter Test Charges									
a	5/8"	-	-	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters									
a	Setting both Meter and Meter Interface Unit (MIU)									
	5/8"	-	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-	-	-
	12" Turbine	-	-	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)									
	5/8"	-	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	2" RFSS	-	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-	-	-
3	Tampering of Meter									
a	5/8" or 3/4"	-	-	-	-	-	-	-	-	-
b	1", 1.5" or 2"	-	-	-	-	-	-	-	-	-
c	3" and larger	-	-	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service									
a	Site Visit for Non-payment	-	-	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-	-	-
	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-	-	-
	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-	-	-
	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-	-	-
7	Water Connection Charges									
b	Ferrule Connections									
	3/4"	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-
c	Valve Connections									
	3" & 4"	-	-	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-	-	-
d	Attachment to a Transmission Main									
	3" & 4" Sleeve									
	16" Main	-	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-
	6" & 8" Sleeve									
	16" Main	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	20" Main	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-
	10" & 12" Sleeve									
	16" Main	-	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-
8	Discontinuance of Water	-	-	-	-	-	-	-	-	-
9	Hydrant Permits									
	One Week	-	-	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-	-	-
10	Flow Tests	-	84.55	-	-	-	-	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges									
1	Sewer Charges for Groundwater									
2	Charges for Wastewater Service									
3	Wastewater Discharge Permit	-	-	-	1,816.40	730.88	1,710.56	962.29	804.75	-
4	Groundwater Discharge Permit	-	-	-	1,089.84	487.25	1,140.37	349.93	292.64	-
5	Manhole Pump-out Permit	-	-	-	454.10	365.44	684.22	1,049.78	731.59	-
6	Trucked or Hauled Wastewater Permit	-	-	-	908.20	365.44	912.30	174.96	219.48	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges									
1	Stormwater Plan Review Fees									
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-	-	-
	Utility Plan Review Fee	49.46	-	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu									
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)									
1	Sewer Credit Application Fee	-	-	-	635.74	121.81	456.15	262.44	219.48	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	90.82	121.81	228.07	174.96	-	-
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)									
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	Section 6- Miscellaneous Water Charges										
1	Meter Test Charges										
a	5/8"	-	-	-	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters										
a	Setting both Meter and Meter Interface Unit (MIU)										
	5/8"	-	-	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-	-	-	-
	12" Turbine	-	-	-	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)										
	5/8"	-	-	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	2" RFSS	-	-	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-	-	-	-
3	Tampering of Meter										
a	5/8" or 3/4"	-	-	-	-	-	-	-	-	-	-
b	1", 1.5" or 2"	-	-	-	-	-	-	-	-	-	-
c	3" and larger	-	-	-	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service										
a	Site Visit for Non-payment	-	-	-	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-	-	-	-
	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-	-	-	-
	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-	-	-	-
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-	-	-	-
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-	-	-	-
	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-	-	-	-
7	Water Connection Charges										
b	Ferrule Connections										
	3/4"	-	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-	-
c	Valve Connections										
	3" & 4"	-	-	-	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-	-	-	-
d	Attachment to a Transmission Main										
	3" & 4" Sleeve										
	16" Main	-	-	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-	-
	6" & 8" Sleeve										
	16" Main	-	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	20" Main	-	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-	-
	10" & 12" Sleeve										
	16" Main	-	-	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-	-
8	Discontinuance of Water	-	-	-	-	-	-	-	-	-	-
9	Hydrant Permits										
	One Week	-	-	-	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-	-	-	-
10	Flow Tests	-	-	-	-	-	-	-	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges										
1	Sewer Charges for Groundwater										
2	Charges for Wastewater Service										
3	Wastewater Discharge Permit	-	-	-	-	-	-	-	-	-	-
4	Groundwater Discharge Permit	-	-	-	-	-	-	-	-	-	-
5	Manhole Pump-out Permit	-	-	-	-	-	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges										
1	Stormwater Plan Review Fees										
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-	-	30.07
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-	-	79.98
	Final Inspection of Development Project	129.45	-	-	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	94.77	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	94.77	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	94.77	-	-	-	-	-	-	-
	Utility Plan Review Fee	129.45	-	-	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu										
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)										
1	Sewer Credit Application Fee	-	-	-	-	-	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)										
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost
	Section 6- Miscellaneous Water Charges					
1	Meter Test Charges					
a	5/8"	-	-	-	-	$117.56
b	1",1.5",2"	-	-	-	-	$156.75
c	3",4",6",8",10",12"	-	-	-	-	$391.88
d	Field Tests 3" and above	-	-	-	-	$391.88
2	Charges for Furnishing and Installation of Water Meters					
a	Setting both Meter and Meter Interface Unit (MIU)					
	5/8"	-	-	-	-	$52.25
	3/4 RFSS	-	-	-	-	$52.25
	1"	-	-	-	-	$104.50
	1" RFSS	-	-	-	-	$104.50
	1 1/2	-	-	-	-	$104.50
	1 1/2 RFSS	-	-	-	-	$104.50
	2"	-	-	-	-	$104.50
	2" RFSS	-	-	-	-	$104.50
	3" Compound	-	-	-	-	$313.51
	3" Turbine	-	-	-	-	$313.51
	3" Fire Series	-	-	-	-	$313.51
	4" Compound	-	-	-	-	$313.51
	4" Turbine	-	-	-	-	$313.51
	4" Fire Series	-	-	-	-	$313.51
	4" Fire Assembly	-	-	-	-	$313.51
	6" Compound	-	-	-	-	$313.51
	6" Turbine	-	-	-	-	$313.51
	6" Fire Series	-	-	-	-	$313.51
	6" Fire Assembly	-	-	-	-	$313.51
	8" Turbine	-	-	-	-	$313.51
	8" Fire Series	-	-	-	-	$313.51
	8" Fire Assembly	-	-	-	-	$313.51
	10" Turbine	-	-	-	-	$313.51
	10" Fire Series	-	-	-	-	$313.51
	10" Fire Assembly	-	-	-	-	$313.51
	12" Turbine	-	-	-	-	$313.51
	12" Fire Series	-	-	-	-	$313.51
	12" Fire Assembly	-	-	-	-	$313.51
b	Furnishing and Setting Meter Interface Unit (MIU)					
	5/8"	-	-	-	-	$52.25
	3/4 RFSS	-	-	-	-	$52.25
	1"	-	-	-	-	$104.50
	1" RFSS	-	-	-	-	$104.50
	1 1/2	-	-	-	-	$104.50
	1 1/2 RFSS	-	-	-	-	$104.50
	2"	-	-	-	-	$104.50

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost
	2" RFSS	-	-	-	-	$104.50
	3" Compound	-	-	-	-	$313.51
	3" Turbine	-	-	-	-	$313.51
	4" Compound	-	-	-	-	$313.51
	4" Turbine	-	-	-	-	$313.51
	6" Compound	-	-	-	-	$313.51
	6" Turbine	-	-	-	-	$313.51
	8"	-	-	-	-	$313.51
	10"	-	-	-	-	$313.51
3	Tampering of Meter					
a	5/8" or 3/4"	-	-	-	-	$52.25
b	1", 1.5" or 2"	-	-	-	-	$104.50
c	3" and larger	-	-	-	-	$313.51
4	Shut-Off and Restoration of Water Service					
a	Site Visit for Non-payment	-	-	-	-	$52.25
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	$52.25
	Operating service valve 2" and smaller service lines	-	-	-	-	$52.25
	Operating service valve larger than 2" service lines	-	-	-	-	$245.39
	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	$418.01
	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	$418.01
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	$418.01
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	$418.01
	Excavation and shutoff of ferrule at the water main	-	-	-	-	$905.93
5	Pumping of Properties	-	-	-	-	$149.53
6	Charges for Water Main Shutdown Service	-	-	-	-	$245.39
7	Water Connection Charges					
b	Ferrule Connections					
	3/4"	-	-	-	-	$122.69
	1"	-	-	-	-	$122.69
	1.5"	-	-	-	-	$122.69
	2"	-	-	-	-	$122.69
c	Valve Connections					
	3" & 4"	-	-	-	-	$9,663.26
	6" & 8"	-	-	-	-	$9,663.26
	10" & 12"	-	-	-	-	$9,663.26
d	Attachment to a Transmission Main					
	3" & 4" Sleeve					
	16" Main	-	-	-	-	$12,079.07
	20" Main	-	-	-	-	$12,079.07
	24" Main	-	-	-	-	$12,079.07
	30" Main	-	-	-	-	$12,079.07
	36" Main	-	-	-	-	$12,079.07
	6" & 8" Sleeve					
	16" Main	-	-	-	-	$12,079.07

FY 2027 Labor Costs (No Overtime)

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost
	20" Main	-	-	-	-	$12,079.07
	24" Main	-	-	-	-	$12,079.07
	30" Main	-	-	-	-	$12,079.07
	36" Main	-	-	-	-	$12,079.07
	10" & 12" Sleeve					
	16" Main	-	-	-	-	$12,079.07
	20" Main	-	-	-	-	$12,079.07
	24" Main	-	-	-	-	$12,079.07
	30" Main	-	-	-	-	$12,079.07
	36" Main	-	-	-	-	$12,079.07
8	Discontinuance of Water	-	-	-	-	$663.46
9	Hydrant Permits					
	One Week	-	-	-	-	$199.33
	Six Month	-	-	-	-	$199.33
10	Flow Tests	-	-	-	-	$514.05
11	Water Service Line Investigations and/or Inspections	-	-	-	-	$122.69
	Section 7- Miscellaneous Sewer Charges					
1	Sewer Charges for Groundwater					
2	Charges for Wastewater Service					
3	Wastewater Discharge Permit	-	-	-	-	$6,024.88
4	Groundwater Discharge Permit	-	-	-	-	$3,360.03
5	Manhole Pump-out Permit	-	-	-	-	$3,285.13
6	Trucked or Hauled Wastewater Permit	-	-	-	-	$2,580.38
7	Photographic & Video Inspection	-	-	-	-	$0.00
	Section 8- Miscellaneous Stormwater Charges					
1	Stormwater Plan Review Fees					
	Conceptual Stormwater Plan Approval	853.49	-	-	-	$883.56
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	90.82	-	$170.80
	Final Inspection of Development Project	-	252.72	-	-	$382.16
	E&S Second Reinspection	-	-	-	-	$94.77
	E&S Third Reinspection	-	-	-	-	$94.77
	E&S Fourth/Subsequent Reinspection	-	-	-	-	$94.77
	Utility Plan Review Fee	-	-	181.64	-	$360.55
2	Stormwater Management Fee in Lieu					
	Exemption to Water Quality Requirement	-	-	-	-	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)					
1	Sewer Credit Application Fee	-	-	-	-	$1,695.62
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	$615.67
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)					
3	Stormwater Credit Application Fee Renewal	-	-	544.92	383.17	$928.09

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates including Overtime)								
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	Section 6- Miscellaneous Water Charges									
1	Meter Test Charges									
a	5/8"	149.62	-	-	-	-	-	-	-	-
b	1",1.5",2"	199.49	-	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	498.73	-	-	-	-	-	-	-	-
d	Field Tests 3" and above	498.73	-	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters									
a	Setting both Meter and Meter Interface Unit (MIU)									
	5/8"	66.50	-	-	-	-	-	-	-	-
	3/4 RFSS	66.50	-	-	-	-	-	-	-	-
	1"	132.99	-	-	-	-	-	-	-	-
	1" RFSS	132.99	-	-	-	-	-	-	-	-
	1 1/2	132.99	-	-	-	-	-	-	-	-
	1 1/2 RFSS	132.99	-	-	-	-	-	-	-	-
	2"	132.99	-	-	-	-	-	-	-	-
	2" RFSS	132.99	-	-	-	-	-	-	-	-
	3" Compound	398.98	-	-	-	-	-	-	-	-
	3" Turbine	398.98	-	-	-	-	-	-	-	-
	3" Fire Series	398.98	-	-	-	-	-	-	-	-
	4" Compound	398.98	-	-	-	-	-	-	-	-
	4" Turbine	398.98	-	-	-	-	-	-	-	-
	4" Fire Series	398.98	-	-	-	-	-	-	-	-
	4" Fire Assembly	398.98	-	-	-	-	-	-	-	-
	6" Compound	398.98	-	-	-	-	-	-	-	-
	6" Turbine	398.98	-	-	-	-	-	-	-	-
	6" Fire Series	398.98	-	-	-	-	-	-	-	-
	6" Fire Assembly	398.98	-	-	-	-	-	-	-	-
	8" Turbine	398.98	-	-	-	-	-	-	-	-
	8" Fire Series	398.98	-	-	-	-	-	-	-	-
	8" Fire Assembly	398.98	-	-	-	-	-	-	-	-
	10" Turbine	398.98	-	-	-	-	-	-	-	-
	10" Fire Series	398.98	-	-	-	-	-	-	-	-
	10" Fire Assembly	398.98	-	-	-	-	-	-	-	-
	12" Turbine	398.98	-	-	-	-	-	-	-	-
	12" Fire Series	398.98	-	-	-	-	-	-	-	-
	12" Fire Assembly	398.98	-	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)									
	5/8"	66.50	-	-	-	-	-	-	-	-
	3/4 RFSS	66.50	-	-	-	-	-	-	-	-
	1"	132.99	-	-	-	-	-	-	-	-
	1" RFSS	132.99	-	-	-	-	-	-	-	-
	1 1/2	132.99	-	-	-	-	-	-	-	-
	1 1/2 RFSS	132.99	-	-	-	-	-	-	-	-
	2"	132.99	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates including Overtime)								
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	2" RFSS	132.99	-	-	-	-	-	-	-	-
	3" Compound	398.98	-	-	-	-	-	-	-	-
	3" Turbine	398.98	-	-	-	-	-	-	-	-
	4" Compound	398.98	-	-	-	-	-	-	-	-
	4" Turbine	398.98	-	-	-	-	-	-	-	-
	6" Compound	398.98	-	-	-	-	-	-	-	-
	6" Turbine	398.98	-	-	-	-	-	-	-	-
	8"	398.98	-	-	-	-	-	-	-	-
	10"	398.98	-	-	-	-	-	-	-	-
3	Tampering of Meter									
a	5/8" or 3/4"	66.50	-	-	-	-	-	-	-	-
b	1", 1.5" or 2"	132.99	-	-	-	-	-	-	-	-
c	3" and larger	398.98	-	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service									
a	Site Visit for Non-payment	66.50	-	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	66.50	-	-	-	-	-	-	-	-
c	Operating service valve 2" and smaller service lines	66.50	-	-	-	-	-	-	-	-
d	Operating service valve larger than 2" service lines	-	-	-	53.68	243.98	-	-	-	-
e	Obstructed curb stop, missing access box, requires excavation	-	531.97	-	-	-	-	-	-	-
f	Curb stop inoperable, requires installation of new curb stop	-	531.97	-	-	-	-	-	-	-
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	531.97	-	-	-	-	-	-	-
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	531.97	-	-	-	-	-	-	-
i	Excavation and shutoff of ferrule at the water main	-	-	-	161.03	548.95	194.11	204.93	-	-
5	Pumping of Properties	-	-	-	53.68	121.99	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	53.68	243.98	-	-	-	-
7	Water Connection Charges									
b	Ferrule Connections									
	3/4"	-	-	-	26.84	121.99	-	-	-	-
	1"	-	-	-	26.84	121.99	-	-	-	-
	1.5"	-	-	-	26.84	121.99	-	-	-	-
	2"	-	-	-	26.84	121.99	-	-	-	-
c	Valve Connections									
	3" & 4"	-	-	-	1,717.66	5,855.44	2,070.50	2,185.97	-	-
	6" & 8"	-	-	-	1,717.66	5,855.44	2,070.50	2,185.97	-	-
	10" & 12"	-	-	-	1,717.66	5,855.44	2,070.50	2,185.97	-	-
d	Attachment to a Transmission Main									
	3" & 4" Sleeve									
	16" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	20" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	24" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	30" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	36" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	6" & 8" Sleeve									
	16" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Costs (Crew Size X Task Hours X Fully Burdened Personnel Rates including Overtime)								
		Water Field Cust Serv Rep	Water Field Cust Serv Rep (D&R)	Water Field Cust Serv Sup (D&R)	Crew Chief	Repair Worker	Equipment Operator (Equipment Operator 2)	Heavy Equipment Operator	Engineer 3/ WTR Engineer 1	Engineering Specialist
	20" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	24" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	30" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	36" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	10" & 12" Sleeve									
	16" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	20" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	24" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	30" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
	36" Main	-	-	-	2,147.08	7,319.30	2,588.12	2,732.46	-	-
8	Discontinuance of Water	-	-	-	53.68	243.98	258.81	273.25	-	-
9	Hydrant Permits									
	One Week	-	-	-	-	-	-	-	199.33	-
	Six Month	-	-	-	-	-	-	-	199.33	-
10	Flow Tests	-	-	-	-	182.98	-	-	149.50	136.23
11	Water Service Line Investigations and/or Inspections	-	-	-	26.84	121.99	-	-	-	-
	Section 7- Miscellaneous Sewer Charges									
1	Sewer Charges for Groundwater									
2	Charges for Wastewater Service									
3	Wastewater Discharge Permit	-	-	-	-	-	-	-	-	-
4	Grounwater Discharge Permit	-	-	-	-	-	-	-	-	-
5	Manhole Pump-out Permit	-	-	-	-	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges									
1	Stormwater Plan Review Fees									
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-	-	-
	Utility Plan Review Fee	-	-	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu									
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)									
1	Sewer Credit Application Fee	-	-	-	-	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)									
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	Section 6- Miscellaneous Water Charges									
1	Meter Test Charges									
a	5/8"	-	-	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters									
a	Setting both Meter and Meter Interface Unit (MIU)									
	5/8"	-	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-	-	-
	12" Turbine	-	-	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)									
	5/8"	-	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	2" RFSS	-	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-	-	-
3	Tampering of Meter									
a	5/8" or 3/4"	-	-	-	-	-	-	-	-	-
b	1", 1.5" or 2"	-	-	-	-	-	-	-	-	-
c	3" and larger	-	-	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service									
a	Site Visit for Non-payment	-	-	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-	-	-
c	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-	-	-
d	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-	-	-
e	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-	-	-
f	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-	-	-
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-	-	-
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-	-	-
i	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-	-	-
7	Water Connection Charges									
b	Ferrule Connections									
	3/4"	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-
c	Valve Connections									
	3" & 4"	-	-	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-	-	-
d	Attachment to a Transmission Main									
	3" & 4" Sleeve									
	16" Main	-	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-
	6" & 8" Sleeve									
	16" Main	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Engineering Aide (Engineering Aide 2)	Engineering Technician 1	Engineer 1 (Environmental Engineer 1)	Industrial Waste Engineering Specialist	Water Engineering Projects Assistant Manager	Engineering Supervisor 2	Industrial Waste Control Supervisor	Industrial Waste Control Technician 2	Industrial Waste Control Technician 1
	20" Main	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-
	10" & 12" Sleeve									
	16" Main	-	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-
8	Discontinuance of Water	-	-	-	-	-	-	-	-	-
9	Hydrant Permits									
	One Week	-	-	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-	-	-
10	Flow Tests	-	107.60	-	-	-	-	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges									
1	Sewer Charges for Groundwater									
2	Charges for Wastewater Service									
3	Wastewater Discharge Permit	-	-	-	1,816.40	730.88	1,710.56	962.29	1,024.16	-
4	Grounwater Discharge Permit	-	-	-	1,089.84	487.25	1,140.37	349.93	372.42	-
5	Manhole Pump-out Permit	-	-	-	454.10	365.44	684.22	1,049.78	931.05	-
6	Trucked or Hauled Wastewater Permit	-	-	-	908.20	365.44	912.30	174.96	279.32	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges									
1	Stormwater Plan Review Fees									
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-	-
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-	-
	Final Inspection of Development Project	-	-	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-	-	-
	Utility Plan Review Fee	62.95	-	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu									
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)									
1	Sewer Credit Application Fee	-	-	-	635.74	121.81	456.15	262.44	279.32	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	90.82	121.81	228.07	174.96	-	-
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)									
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	Section 6- Miscellaneous Water Charges										
1	Meter Test Charges										
a	5/8"	-	-	-	-	-	-	-	-	-	-
b	1",1.5",2"	-	-	-	-	-	-	-	-	-	-
c	3",4",6",8",10",12"	-	-	-	-	-	-	-	-	-	-
d	Field Tests 3" and above	-	-	-	-	-	-	-	-	-	-
2	Charges for Furnishing and Installation of Water Meters										
a	Setting both Meter and Meter Interface Unit (MIU)										
	5/8"	-	-	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-	-
	2" RFSS	-	-	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-	-	-
	3" Fire Series	-	-	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-	-	-
	4" Fire Series	-	-	-	-	-	-	-	-	-	-
	4" Fire Assembly	-	-	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-	-	-
	6" Fire Series	-	-	-	-	-	-	-	-	-	-
	6" Fire Assembly	-	-	-	-	-	-	-	-	-	-
	8" Turbine	-	-	-	-	-	-	-	-	-	-
	8" Fire Series	-	-	-	-	-	-	-	-	-	-
	8" Fire Assembly	-	-	-	-	-	-	-	-	-	-
	10" Turbine	-	-	-	-	-	-	-	-	-	-
	10" Fire Series	-	-	-	-	-	-	-	-	-	-
	10" Fire Assembly	-	-	-	-	-	-	-	-	-	-
	12" Turbine	-	-	-	-	-	-	-	-	-	-
	12" Fire Series	-	-	-	-	-	-	-	-	-	-
	12" Fire Assembly	-	-	-	-	-	-	-	-	-	-
b	Furnishing and Setting Meter Interface Unit (MIU)										
	5/8"	-	-	-	-	-	-	-	-	-	-
	3/4 RFSS	-	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-	-
	1" RFSS	-	-	-	-	-	-	-	-	-	-
	1 1/2	-	-	-	-	-	-	-	-	-	-
	1 1/2 RFSS	-	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	2" RFSS	-	-	-	-	-	-	-	-	-	-
	3" Compound	-	-	-	-	-	-	-	-	-	-
	3" Turbine	-	-	-	-	-	-	-	-	-	-
	4" Compound	-	-	-	-	-	-	-	-	-	-
	4" Turbine	-	-	-	-	-	-	-	-	-	-
	6" Compound	-	-	-	-	-	-	-	-	-	-
	6" Turbine	-	-	-	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-	-	-	-
	10"	-	-	-	-	-	-	-	-	-	-
3	Tampering of Meter										
a	5/8" or 3/4"	-	-	-	-	-	-	-	-	-	-
b	1", 1.5" or 2"	-	-	-	-	-	-	-	-	-	-
c	3" and larger	-	-	-	-	-	-	-	-	-	-
4	Shut-Off and Restoration of Water Service										
a	Site Visit for Non-payment	-	-	-	-	-	-	-	-	-	-
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	-	-	-	-	-
c	Operating service valve 2" and smaller service lines	-	-	-	-	-	-	-	-	-	-
d	Operating service valve larger than 2" service lines	-	-	-	-	-	-	-	-	-	-
e	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	-	-	-	-	-	-
f	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	-	-	-	-	-	-
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	-	-	-	-	-	-
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	-	-	-	-	-	-
i	Excavation and shutoff of ferrule at the water main	-	-	-	-	-	-	-	-	-	-
5	Pumping of Properties	-	-	-	-	-	-	-	-	-	-
6	Charges for Water Main Shutdown Service	-	-	-	-	-	-	-	-	-	-
7	Water Connection Charges										
b	Ferrule Connections										
	3/4"	-	-	-	-	-	-	-	-	-	-
	1"	-	-	-	-	-	-	-	-	-	-
	1.5"	-	-	-	-	-	-	-	-	-	-
	2"	-	-	-	-	-	-	-	-	-	-
c	Valve Connections										
	3" & 4"	-	-	-	-	-	-	-	-	-	-
	6" & 8"	-	-	-	-	-	-	-	-	-	-
	10" & 12"	-	-	-	-	-	-	-	-	-	-
d	Attachment to a Transmission Main										
	3" & 4" Sleeve										
	16" Main	-	-	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-	-
	6" & 8" Sleeve										
	16" Main	-	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Grad Civil Engineer/ Graduate Environmental Engineer	WTR Supervisor	Inspector	Collector Unit	Electronic Tech II	Electronic Tech I	Electronic Equipment Supervisor	Environmental Scientist 1	Engineer 1 (Civil Engineer 1)	Administrative Assistant
	20" Main	-	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-	-
	10" & 12" Sleeve										
	16" Main	-	-	-	-	-	-	-	-	-	-
	20" Main	-	-	-	-	-	-	-	-	-	-
	24" Main	-	-	-	-	-	-	-	-	-	-
	30" Main	-	-	-	-	-	-	-	-	-	-
	36" Main	-	-	-	-	-	-	-	-	-	-
8	Discontinuance of Water	-	-	-	-	-	-	-	-	-	-
9	Hydrant Permits										
	One Week	-	-	-	-	-	-	-	-	-	-
	Six Month	-	-	-	-	-	-	-	-	-	-
10	Flow Tests	-	-	-	-	-	-	-	-	-	-
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	-	-	-	-	-
	Section 7- Miscellaneous Sewer Charges										
1	Sewer Charges for Groundwater										
2	Charges for Wastewater Service										
3	Wastewater Discharge Permit	-	-	-	-	-	-	-	-	-	-
4	Grounwater Discharge Permit	-	-	-	-	-	-	-	-	-	-
5	Manhole Pump-out Permit	-	-	-	-	-	-	-	-	-	-
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-	-	-	-
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-	-	-
	Section 8- Miscellaneous Stormwater Charges										
1	Stormwater Plan Review Fees										
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-	-	38.27
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-	-	101.79
	Final Inspection of Development Project	129.45	-	-	-	-	-	-	-	-	-
	E&S Second Reinspection	-	-	120.61	-	-	-	-	-	-	-
	E&S Third Reinspection	-	-	120.61	-	-	-	-	-	-	-
	E&S Fourth/Subsequent Reinspection	-	-	120.61	-	-	-	-	-	-	-
	Utility Plan Review Fee	129.45	-	-	-	-	-	-	-	-	-
2	Stormwater Management Fee in Lieu										
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)										
1	Sewer Credit Application Fee	-	-	-	-	-	-	-	-	-	-
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-	-	-	-
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)										
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-	-	-

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost (with Overtime)
	Section 6- Miscellaneous Water Charges					
1	Meter Test Charges					
a	5/8"	-	-	-	-	$149.62
b	1",1.5",2"	-	-	-	-	$199.49
c	3",4",6",8",10",12"	-	-	-	-	$498.73
d	Field Tests 3" and above	-	-	-	-	$498.73
2	Charges for Furnishing and Installation of Water Meters					
a	Setting both Meter and Meter Interface Unit (MIU)					
	5/8"	-	-	-	-	$66.50
	3/4 RFSS	-	-	-	-	$66.50
	1"	-	-	-	-	$132.99
	1" RFSS	-	-	-	-	$132.99
	1 1/2	-	-	-	-	$132.99
	1 1/2 RFSS	-	-	-	-	$132.99
	2"	-	-	-	-	$132.99
	2" RFSS	-	-	-	-	$132.99
	3" Compound	-	-	-	-	$398.98
	3" Turbine	-	-	-	-	$398.98
	3" Fire Series	-	-	-	-	$398.98
	4" Compound	-	-	-	-	$398.98
	4" Turbine	-	-	-	-	$398.98
	4" Fire Series	-	-	-	-	$398.98
	4" Fire Assembly	-	-	-	-	$398.98
	6" Compound	-	-	-	-	$398.98
	6" Turbine	-	-	-	-	$398.98
	6" Fire Series	-	-	-	-	$398.98
	6" Fire Assembly	-	-	-	-	$398.98
	8" Turbine	-	-	-	-	$398.98
	8" Fire Series	-	-	-	-	$398.98
	8" Fire Assembly	-	-	-	-	$398.98
	10" Turbine	-	-	-	-	$398.98
	10" Fire Series	-	-	-	-	$398.98
	10" Fire Assembly	-	-	-	-	$398.98
	12" Turbine	-	-	-	-	$398.98
	12" Fire Series	-	-	-	-	$398.98
	12" Fire Assembly	-	-	-	-	$398.98
b	Furnishing and Setting Meter Interface Unit (MIU)					
	5/8"	-	-	-	-	$66.50
	3/4 RFSS	-	-	-	-	$66.50
	1"	-	-	-	-	$132.99
	1" RFSS	-	-	-	-	$132.99
	1 1/2	-	-	-	-	$132.99
	1 1/2 RFSS	-	-	-	-	$132.99
	2"	-	-	-	-	$132.99

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost (with Overtime)
	2" RFSS	-	-	-	-	$132.99
	3" Compound	-	-	-	-	$398.98
	3" Turbine	-	-	-	-	$398.98
	4" Compound	-	-	-	-	$398.98
	4" Turbine	-	-	-	-	$398.98
	6" Compound	-	-	-	-	$398.98
	6" Turbine	-	-	-	-	$398.98
	8"	-	-	-	-	$398.98
	10"	-	-	-	-	$398.98
3	Tampering of Meter					
a	5/8" or 3/4"	-	-	-	-	$66.50
b	1", 1.5" or 2"	-	-	-	-	$132.99
c	3" and larger	-	-	-	-	$398.98
4	Shut-Off and Restoration of Water Service					
a	Site Visit for Non-payment	-	-	-	-	$66.50
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	$66.50
c	Operating service valve 2" and smaller service lines	-	-	-	-	$66.50
d	Operating service valve larger than 2" service lines	-	-	-	-	$297.65
e	Obstructed curb stop, missing access box, requires excavation	-	-	-	-	$531.97
f	Curb stop inoperable, requires installation of new curb stop	-	-	-	-	$531.97
g	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	-	$531.97
h	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	-	$531.97
i	Excavation and shutoff of ferrule at the water main	-	-	-	-	$1,109.02
5	Pumping of Properties	-	-	-	-	$175.67
6	Charges for Water Main Shutdown Service	-	-	-	-	$297.65
7	Water Connection Charges					
b	Ferrule Connections					
	3/4"	-	-	-	-	$148.83
	1"	-	-	-	-	$148.83
	1.5"	-	-	-	-	$148.83
	2"	-	-	-	-	$148.83
c	Valve Connections					
	3" & 4"	-	-	-	-	$11,829.57
	6" & 8"	-	-	-	-	$11,829.57
	10" & 12"	-	-	-	-	$11,829.57
d	Attachment to a Transmission Main					
	3" & 4" Sleeve					
	16" Main	-	-	-	-	$14,786.96
	20" Main	-	-	-	-	$14,786.96
	24" Main	-	-	-	-	$14,786.96
	30" Main	-	-	-	-	$14,786.96
	36" Main	-	-	-	-	$14,786.96
	6" & 8" Sleeve					
	16" Main	-	-	-	-	$14,786.96

FY 2027 Labor Costs (With Overtime)

Line No.	Description	Environmental Scientist Specialist	Construction Project Technician 2	Engineering Specialist	GIS Specialist 2	Total Labor Cost (with Overtime)
	20" Main	-	-	-	-	$14,786.96
	24" Main	-	-	-	-	$14,786.96
	30" Main	-	-	-	-	$14,786.96
	36" Main	-	-	-	-	$14,786.96
	10" & 12" Sleeve					
	16" Main	-	-	-	-	$14,786.96
	20" Main	-	-	-	-	$14,786.96
	24" Main	-	-	-	-	$14,786.96
	30" Main	-	-	-	-	$14,786.96
	36" Main	-	-	-	-	$14,786.96
8	Discontinuance of Water	-	-	-	-	$829.71
9	Hydrant Permits					
	One Week	-	-	-	-	$199.33
	Six Month	-	-	-	-	$199.33
10	Flow Tests	-	-	-	-	$576.30
11	Water Service Line Investigations and/or Inspections	-	-	-	-	$148.83
	Section 7- Miscellaneous Sewer Charges					
1	Sewer Charges for Groundwater					
2	Charges for Wastewater Service					
3	Wastewater Discharge Permit	-	-	-	-	$6,244.29
4	Grounwater Discharge Permit	-	-	-	-	$3,439.81
5	Manhole Pump-out Permit	-	-	-	-	$3,484.59
6	Trucked or Hauled Wastewater Permit	-	-	-	-	$2,640.22
7	Photographic & Video Inspection	-	-	-	-	$0.00
	Section 8- Miscellaneous Stormwater Charges					
1	Stormwater Plan Review Fees					
	Conceptual Stormwater Plan Approval	853.49	-	-	-	$891.75
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	90.82	-	$192.61
	Final Inspection of Development Project	-	321.62	-	-	$451.06
	E&S Second Reinspection	-	-	-	-	$120.61
	E&S Third Reinspection	-	-	-	-	$120.61
	E&S Fourth/Subsequent Reinspection	-	-	-	-	$120.61
	Utility Plan Review Fee	-	-	181.64	-	$374.03
2	Stormwater Management Fee in Lieu					
	Exemption to Water Quality Requirement	-	-	-	-	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)					
1	Sewer Credit Application Fee	-	-	-	-	$1,755.46
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	$615.67
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)					
3	Stormwater Credit Application Fee Renewal	-	-	544.92	383.17	$928.09

Equipment Cost Calculations FY 2026

Line No.	Description	Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	Task Time (Hours)
	Section 6- Miscellaneous Water Charges												
1	Meter Test Charges												
a	5/8"						1.00						1.00
b	1",1.5",2"						1.00						1.50
c	3",4",6",8",10",12"					1.00							2.50
d	Field Tests 3" and above					1.00							2.50
2	Charges for Furnishing and Installation of Water Meters												
a	Setting both Meter and Meter Interface Unit (MIU)												
	5/8"						1.00						1.00
	3/4 RFSS						1.00						1.00
	1"						1.00						1.00
	1" RFSS						1.00						1.00
	1 1/2						1.00						1.00
	1 1/2 RFSS						1.00						1.00
	2"						1.00						1.00
	2" RFSS						1.00						1.00
	3" Compound					1.00							2.00
	3" Turbine					1.00							2.00
	3" Fire Series					1.00							2.00
	4" Compound					1.00							2.00
	4" Turbine					1.00							2.00
	4" Fire Series					1.00							2.00
	4" Fire Assembly					1.00							2.00
	6" Compound					1.00							2.00
	6" Turbine					1.00							2.00
	6" Fire Series					1.00							2.00
	6" Fire Assembly					1.00							2.00
	8" Turbine					1.00							2.00
	8" Fire Series					1.00							2.00
	8" Fire Assembly					1.00							2.00
	10" Turbine					1.00							2.00
	10" Fire Series					1.00							2.00
	10" Fire Assembly					1.00							2.00
	12" Turbine					1.00							2.00
	12" Fire Series					1.00							2.00
	12" Fire Assembly					1.00							2.00
b	Furnishing and Setting Meter Interface Unit (MIU)												
	5/8"						1.00						1.00
	3/4 RFSS						1.00						1.00
	1"						1.00						1.00
	1" RFSS						1.00						1.00
	1 1/2						1.00						1.00
	1 1/2 RFSS						1.00						1.00
	2"						1.00						1.00
	2" RFSS						1.00						1.00
	3" Compound					1.00							2.00
	3" Turbine					1.00							2.00
	4" Compound					1.00							2.00
	4" Turbine					1.00							2.00
	6" Compound					1.00							2.00
	6" Turbine					1.00							2.00
	8"					1.00							2.00
	10"					1.00							2.00
3	Tampering of Meter												
a	5/8" or 3/4"						1.00						1.00
b	1", 1.5" or 2"						1.00						1.00

Equipment Cost Calculations FY 2026

Line No.	Description	Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	Task Time (Hours)
c	3" and larger					1.00							2.00
4	Shut-Off and Restoration of Water Service												
a	Site Visit for Non-payment						1.00						1.00
b	Non-compliance with Notice of Defect and/or Metering Non-compliance						1.00						1.00
c	**Restoration of Water Service**												
	Operating service valve 2" and smaller service lines						1.00						1.00
	Operating service valve larger than 2" service lines				1.00		0.25						2.00
	Obstructed curb stop, missing access box, requires excavation				1.00		0.25						4.00
	Curb stop inoperable, requires installation of new curb stop				1.00		0.25						4.00
	Obstructed curb stop, missing access box, requires excavation and footway paving				1.00		0.25						4.00
	Curb stop inoperable, requires installation of new curb stop and footway paving				1.00		0.25						4.00
	Excavation and shutoff of ferrule at the water main	1.00		1.00	1.00		0.25						3.00
5	Pumping of Properties								1.00				1.00
6	Charges for Water Main Shutdown Service				1.00								2.00
7	Water Connection Charges												
b	Ferrule Connections												
	3/4"						1.25						1.00
	1"						1.25						1.00
	1.5"						1.25						1.00
	2"						1.25						1.00
c	Valve Connections												
	3" & 4"	1.00				1.00	0.25						32.00
	6" & 8"	1.00				1.00	0.25						32.00
	10" & 12"	1.00				1.00	0.25						32.00
d	Attachment to a Transmission Main												
	3" & 4" Sleeve												
	16" Main	1.00				1.00	0.25						40.00
	20" Main	1.00				1.00	0.25						40.00
	24" Main	1.00				1.00	0.25						40.00
	30" Main	1.00				1.00	0.25						40.00
	36" Main	1.00				1.00	0.25						40.00
	6" & 8" Sleeve												
	16" Main	1.00				1.00	0.25						40.00
	20" Main	1.00				1.00	0.25						40.00
	24" Main	1.00				1.00	0.25						40.00
	30" Main	1.00				1.00	0.25						40.00
	36" Main	1.00				1.00	0.25						40.00
	10" & 12" Sleeve												
	16" Main	1.00				1.00	0.25						40.00
	20" Main	1.00				1.00	0.25						40.00
	24" Main	1.00				1.00	0.25						40.00
	30" Main	1.00				1.00	0.25						40.00
	36" Main	1.00				1.00	0.25						40.00
8	Discontinuance of Water	1.00				1.00							4.00
9	Hydrant Permits												
a	One Week				1.00								2.00
b	Six Month				1.00								2.00
10	Flow Tests						1.00						1.50
11	Water Service Line Investigations and/or Inspections						1.00						1.00
	Section 7- Miscellaneous Sewer Charges												
1	Sewer Charges for Groundwater												
2	Charges for Wastewater Service												
3	Wastewater Discharge Permit												0.00
4	Groundwater Discharge Permit												0.00
5	Manhole Pump-out Permit												0.00

Equipment Cost Calculations FY 2026

Line No.	Description	Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	Task Time (Hours)
6	Trucked or Hauled Wastewater Permit												0.00
7	Photographic & Video Inspection												0.00
	Section 8- Miscellaneous Stormwater Charges												
1	Stormwater Plan Review Fees												
	Conceptual Stormwater Plan Approval												0.00
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)												0.00
	Final Inspection of Development Project										4.00		0.00
	E&S Second Reinspection										1.50		0.00
	E&S Third Reinspection										1.50		0.00
	E&S Fourth/Subsequent Reinspection										1.50		0.00
	Utility Plan Review Fee												0.00
2	Stormwater Management Fee in Lieu												
	Exemption to Water Quality Requirement												0.00
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)												
1	Sewer Credit Application Fee												0.00
2	Sewer Credit Failure to Inform PWD about increase												0.00
	Other- Not in the Miscellaneous Charges Section (Chapter 5 of PWD Regulations)												
3	Stormwater Credit Application Fee Renewal												0.00

FY 2026 Equipment Costs

Line No.	Description	Costs (No. of Equipment X Task Hours X Equipment Rates), $											Total
		Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	
	Section 6- Miscellaneous Water Charges												
1	Meter Test Charges												
	5/8"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1",1.5",2"	-	-	-	-	-	68.99	-	-	-	-	-	$68.99
	3",4",6",8",10",12"	-	-	-	-	45.38	-	-	-	-	-	-	$45.38
	Field Tests 3" and above	-	-	-	-	45.38	-	-	-	-	-	-	$45.38
2	Charges for Furnishing and Installation of Water Meters												
a	Setting both Meter and ERT												
	5/8"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	3/4 RFSS	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1" RFSS	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1 1/2	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1 1/2 RFSS	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	2"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	2" RFSS	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	3" Compound	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	3" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	3" Fire Series	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	4" Compound	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	4" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	4" Fire Series	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	4" Fire Assembly	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	6" Compound	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	6" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	6" Fire Series	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	6" Fire Assembly	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	8" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	8" Fire Series	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	8" Fire Assembly	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	10" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	10" Fire Series	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	10" Fire Assembly	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	12" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	12" Fire Series	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	12" Fire Assembly	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
b	Furnishing and Setting Meter Interface Unit (MIU)												
	5/8"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	3/4 RFSS	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1" RFSS	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1 1/2	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1 1/2 RFSS	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	2"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	2" RFSS	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	3" Compound	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	3" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	4" Compound	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	4" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	6" Compound	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	6" Turbine	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	8"	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
	10"	-	-	-	-	36.30	-	-	-	-	-	-	$36.30
3	Tampering of Meter												
	5/8" or 3/4"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	1", 1.5" or 2"	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	3" and larger	-	-	-	-	36.30	-	-	-	-	-	-	$36.30

FY 2026 Equipment Costs

Line No.	Description	Costs (No. of Equipment X Task Hours X Equipment Rates), $											Total
		Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	
4	Shut-Off and Restoration of Water Service												
a	Site Visit for Non-payment	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	Operating service valve 2" and smaller service lines	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	Operating service valve larger than 2" service lines	-	-	-	121.80	-	23.00	-	-	-	-	-	$144.80
	Obstructed curb stop, missing access box, requires excavation	-	-	-	243.60	-	45.99	-	-	-	-	-	$289.59
	Curb stop inoperable, requires installation of new curb stop	-	-	-	243.60	-	45.99	-	-	-	-	-	$289.59
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	243.60	-	45.99	-	-	-	-	-	$289.59
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	243.60	-	45.99	-	-	-	-	-	$289.59
	Excavation and shutoff of ferrule at the water main	116.13	-	382.26	182.70	-	34.49	-	-	-	-	-	$715.58
5	Pumping of Properties	-	-	-	-	-	-	-	10.96	-	-	-	$10.96
6	Charges for Water Main Shutdown Service	-	-	-	121.80	-	-	-	-	-	-	-	$121.80
7	Water Connection Charges												
b	Ferrule Connections												
	3/4"	-	-	-	-	-	57.49	-	-	-	-	-	$57.49
	1"	-	-	-	-	-	57.49	-	-	-	-	-	$57.49
	1.5"	-	-	-	-	-	57.49	-	-	-	-	-	$57.49
	2"	-	-	-	-	-	57.49	-	-	-	-	-	$57.49
c	Valve Connections												
	3" & 4"	1,238.72	-	-	-	580.80	367.92	-	-	-	-	-	$2,187.44
	6" & 8"	1,238.72	-	-	-	580.80	367.92	-	-	-	-	-	$2,187.44
	10" & 12"	1,238.72	-	-	-	580.80	367.92	-	-	-	-	-	$2,187.44
d	Attachment to a Transmission Main												
	3" & 4" Sleeve												
	16" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	20" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	24" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	30" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	36" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	6" & 8" Sleeve												
	16" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	20" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	24" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	30" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	36" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	10" & 12" Sleeve												
	16" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	20" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	24" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	30" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
	36" Main	1,548.40	-	-	-	726.00	459.90	-	-	-	-	-	$2,734.30
8	Discontinuance of Water	154.84	-	-	-	72.60	-	-	-	-	-	-	$227.44
9	Hydrant Permits												
	One Week	-	-	-	121.80	-	-	-	-	-	-	-	$121.80
	Six Month	-	-	-	121.80	-	-	-	-	-	-	-	$121.80
10	Flow Tests	-	-	-	-	-	68.99	-	-	-	-	-	$68.99
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	45.99	-	-	-	-	-	$45.99
	Section 7- Miscellaneous Sewer Charges												
1	Sewer Charges for Groundwater												
2	Charges for Wastewater Service												
3	Wastewater Discharge Permit	-	-	-	-	-	-	-	-	-	-	-	$0.00
4	Groundwater Discharge Permit	-	-	-	-	-	-	-	-	-	-	-	$0.00
5	Manhole Pump-out Permit	-	-	-	-	-	-	-	-	-	-	-	$0.00
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-	-	-	-	-	$0.00
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Section 8- Miscellaneous Stormwater Charges												
1	Stormwater Plan Review Fees												

FY 2026 Equipment Costs

Line No.	Description	Costs (No. of Equipment X Task Hours X Equipment Rates), $											Total
		Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Final Inspection of Development Project	-	-	-	-	-	-	-	-	-	34.56	-	$34.56
	E&S Second Reinspection	-	-	-	-	-	-	-	-	-	12.96	-	$12.96
	E&S Third Reinspection	-	-	-	-	-	-	-	-	-	12.96	-	$12.96
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-	-	-	12.96	-	$12.96
	Utility Plan Review Fee	-	-	-	-	-	-	-	-	-	-	-	$0.00
2	Stormwater Management Fee in Lieu												
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)												
1	Sewer Credit Application Fee	-	-	-	-	-	-	-	-	-	-	-	$0.00
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)												
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-	-	-	-	$0.00

Equipment Cost Calculations FY 2027

Line No.	Description	Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	Task Time (Hours)
	Section 6- Miscellaneous Water Charges												
1	Meter Test Charges												
a	5/8"						1.00						1.00
b	1",1.5",2"						1.00						1.50
c	3",4",6",8",10",12"					1.00							2.50
d	Field Tests 3" and above					1.00							2.50
2	Charges for Furnishing and Installation of Water Meters												
a	Setting both Meter and Meter Interface Unit (MIU)												
	5/8"						1.00						1.00
	3/4 RFSS						1.00						1.00
	1"						1.00						1.00
	1" RFSS						1.00						1.00
	1 1/2						1.00						1.00
	1 1/2 RFSS						1.00						1.00
	2"						1.00						1.00
	2" RFSS						1.00						1.00
	3" Compound					1.00							2.00
	3" Turbine					1.00							2.00
	3" Fire Series					1.00							2.00
	4" Compound					1.00							2.00
	4" Turbine					1.00							2.00
	4" Fire Series					1.00							2.00
	4" Fire Assembly					1.00							2.00
	6" Compound					1.00							2.00
	6" Turbine					1.00							2.00
	6" Fire Series					1.00							2.00
	6" Fire Assembly					1.00							2.00
	8" Turbine					1.00							2.00
	8" Fire Series					1.00							2.00
	8" Fire Assembly					1.00							2.00
	10" Turbine					1.00							2.00
	10" Fire Series					1.00							2.00
	10" Fire Assembly					1.00							2.00
	12" Turbine					1.00							2.00
	12" Fire Series					1.00							2.00
	12" Fire Assembly					1.00							2.00
b	Furnishing and Setting Meter Interface Unit (MIU)												
	5/8"						1.00						1.00
	3/4 RFSS						1.00						1.00
	1"						1.00						1.00
	1" RFSS						1.00						1.00
	1 1/2						1.00						1.00
	1 1/2 RFSS						1.00						1.00
	2"						1.00						1.00
	2" RFSS						1.00						1.00
	3" Compound					1.00							2.00
	3" Turbine					1.00							2.00
	4" Compound					1.00							2.00
	4" Turbine					1.00							2.00
	6" Compound					1.00							2.00
	6" Turbine					1.00							2.00
	8"					1.00							2.00
	10"					1.00							2.00
3	Tampering of Meter												
a	5/8" or 3/4"						1.00						1.00
b	1", 1.5" or 2"						1.00						1.00

Equipment Cost Calculations FY 2027

Line No.	Description	Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	Task Time (Hours)
c	3" and larger					1.00							2.00
4	Shut-Off and Restoration of Water Service												
a	Site Visit for Non-payment						1.00						1.00
b	Non-compliance with Notice of Defect and/or Metering Non-compliance						1.00						1.00
c	**Restoration of Water Service**												
	Operating service valve 2" and smaller service lines						1.00						1.00
	Operating service valve larger than 2" service lines				1.00		0.25						2.00
	Obstructed curb stop, missing access box, requires excavation				1.00		0.25						4.00
	Curb stop inoperable, requires installation of new curb stop				1.00		0.25						4.00
	Obstructed curb stop, missing access box, requires excavation and footway paving				1.00		0.25						4.00
	Curb stop inoperable, requires installation of new curb stop and footway paving				1.00		0.25						4.00
	Excavation and shutoff of ferrule at the water main	1.00		1.00	1.00		0.25						3.00
5	Pumping of Properties								1.00				1.00
6	Charges for Water Main Shutdown Service				1.00								2.00
7	Water Connection Charges												
b	Ferrule Connections												
	3/4"						1.25						1.00
	1"						1.25						1.00
	1.5"						1.25						1.00
	2"						1.25						1.00
c	Valve Connections												
	3" & 4"	1.00				1.00	0.25						32.00
	6" & 8"	1.00				1.00	0.25						32.00
	10" & 12"	1.00				1.00	0.25						32.00
d	Attachment to a Transmission Main												
	3" & 4" Sleeve												
	16" Main	1.00				1.00	0.25						40.00
	20" Main	1.00				1.00	0.25						40.00
	24" Main	1.00				1.00	0.25						40.00
	30" Main	1.00				1.00	0.25						40.00
	36" Main	1.00				1.00	0.25						40.00
	6" & 8" Sleeve												
	16" Main	1.00				1.00	0.25						40.00
	20" Main	1.00				1.00	0.25						40.00
	24" Main	1.00				1.00	0.25						40.00
	30" Main	1.00				1.00	0.25						40.00
	36" Main	1.00				1.00	0.25						40.00
	10" & 12" Sleeve												
	16" Main	1.00				1.00	0.25						40.00
	20" Main	1.00				1.00	0.25						40.00
	24" Main	1.00				1.00	0.25						40.00
	30" Main	1.00				1.00	0.25						40.00
	36" Main	1.00				1.00	0.25						40.00
8	Discontinuance of Water	1.00				1.00							4.00
9	Hydrant Permits												
a	One Week				1.00								2.00
b	Six Month				1.00								2.00
10	Flow Tests						1.00						1.50
11	Water Service Line Investigations and/or Inspections						1.00						1.00
	Section 7- Miscellaneous Sewer Charges												
1	Sewer Charges for Groundwater												
2	Charges for Wastewater Service												
3	Wastewater Discharge Permit												0.00
4	Groundwater Discharge Permit												0.00
5	Manhole Pump-out Permit												0.00
6	Trucked or Hauled Wastewater Permit												0.00

Equipment Cost Calculations FY 2027

Line No.	Description	Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	Task Time (Hours)
7	Photographic & Video Inspection												0.00
	Section 8- Miscellaneous Stormwater Charges												
1	Stormwater Plan Review Fees												
	Conceptual Stormwater Plan Approval												0.00
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)												0.00
	Final Inspection of Development Project										4.00		0.00
	E&S Second Reinspection										1.50		0.00
	E&S Third Reinspection										1.50		0.00
	E&S Fourth/Subsequent Reinspection										1.50		0.00
	Utility Plan Review Fee												0.00
2	Stormwater Management Fee in Lieu												
	Exemption to Water Quality Requirement												0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)												
1	Sewer Credit Application Fee												0.00
2	Sewer Credit Failure to Inform PWD about increase												0.00
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)												
3	Stormwater Credit Application Fee Renewal												0.00

FY 2027 Equipment Costs

Line No.	Description	Costs (No. of Equipment X Task Hours X Equipment Rates), $											Total
		Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	
	Section 6- Miscellaneous Water Charges												
1	Meter Test Charges												
	5/8"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1",1.5",2"	-	-	-	-	-	71.96	-	-	-	-	-	$71.96
	3",4",6",8",10",12"	-	-	-	-	47.33	-	-	-	-	-	-	$47.33
	Field Tests 3" and above	-	-	-	-	47.33	-	-	-	-	-	-	$47.33
2	Charges for Furnishing and Installation of Water Meters												
a	Setting both Meter and ERT												
	5/8"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	3/4 RFSS	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1" RFSS	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1 1/2	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1 1/2 RFSS	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	2"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	2" RFSS	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	3" Compound	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	3" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	3" Fire Series	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	4" Compound	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	4" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	4" Fire Series	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	4" Fire Assembly	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	6" Compound	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	6" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	6" Fire Series	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	6" Fire Assembly	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	8" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	8" Fire Series	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	8" Fire Assembly	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	10" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	10" Fire Series	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	10" Fire Assembly	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	12" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	12" Fire Series	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	12" Fire Assembly	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
b	Furnishing and Setting Meter Interface Unit (MIU)												
	5/8"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	3/4 RFSS	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1" RFSS	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1 1/2	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1 1/2 RFSS	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	2"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	2" RFSS	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	3" Compound	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	3" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	4" Compound	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	4" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	6" Compound	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	6" Turbine	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	8"	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
	10"	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
3	Tampering of Meter												
	5/8" or 3/4"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	1", 1.5" or 2"	-	-	-	-	-	47.97	-	-	-	-	-	$47.97

FY 2027 Equipment Costs

Line No.	Description	Costs (No. of Equipment X Task Hours X Equipment Rates), $											Total
		Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	
	3" and larger	-	-	-	-	37.86	-	-	-	-	-	-	$37.86
4	Shut-Off and Restoration of Water Service												
a	Site Visit for Non-payment	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	Non-compliance with Notice of Defect and/or Metering Non-compliance	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	Operating service valve 2" and smaller service lines	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	Operating service valve larger than 2" service lines	-	-	-	127.04	-	23.99	-	-	-	-	-	$151.03
	Obstructed curb stop, missing access box, requires excavation	-	-	-	254.08	-	47.97	-	-	-	-	-	$302.05
	Curb stop inoperable, requires installation of new curb stop	-	-	-	254.08	-	47.97	-	-	-	-	-	$302.05
	Obstructed curb stop, missing access box, requires excavation and footway paving	-	-	-	254.08	-	47.97	-	-	-	-	-	$302.05
	Curb stop inoperable, requires installation of new curb stop and footway paving	-	-	-	254.08	-	47.97	-	-	-	-	-	$302.05
	Excavation and shutoff of ferrule at the water main	121.11	-	398.70	190.56	-	35.98	-	-	-	-	-	$746.35
5	Pumping of Properties	-	-	-	-	-	-	-	11.43	-	-	-	$11.43
6	Charges for Water Main Shutdown Service	-	-	-	127.04	-	-	-	-	-	-	-	$127.04
7	Water Connection Charges												
b	Ferrule Connections												
	3/4"	-	-	-	-	-	59.96	-	-	-	-	-	$59.96
	1"	-	-	-	-	-	59.96	-	-	-	-	-	$59.96
	1.5"	-	-	-	-	-	59.96	-	-	-	-	-	$59.96
	2"	-	-	-	-	-	59.96	-	-	-	-	-	$59.96
c	Valve Connections												
	3" & 4"	1,291.84	-	-	-	605.76	383.76	-	-	-	-	-	$2,281.36
	6" & 8"	1,291.84	-	-	-	605.76	383.76	-	-	-	-	-	$2,281.36
	10" & 12"	1,291.84	-	-	-	605.76	383.76	-	-	-	-	-	$2,281.36
d	Attachment to a Transmission Main												
	3" & 4" Sleeve												
	16" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	20" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	24" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	30" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	36" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	6" & 8" Sleeve												
	16" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	20" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	24" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	30" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	36" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	10" & 12" Sleeve												
	16" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	20" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	24" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	30" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
	36" Main	1,614.80	-	-	-	757.20	479.70	-	-	-	-	-	$2,851.70
8	Discontinuance of Water	161.48	-	-	-	75.72	-	-	-	-	-	-	$237.20
9	Hydrant Permits												
	One Week	-	-	-	127.04	-	-	-	-	-	-	-	$127.04
	Six Month	-	-	-	127.04	-	-	-	-	-	-	-	$127.04
10	Flow Tests	-	-	-	-	-	71.96	-	-	-	-	-	$71.96
11	Water Service Line Investigations and/or Inspections	-	-	-	-	-	47.97	-	-	-	-	-	$47.97
	Section 7- Miscellaneous Sewer Charges												
1	Sewer Charges for Groundwater												
2	Charges for Wastewater Service												
3	Wastewater Discharge Permit	-	-	-	-	-	-	-	-	-	-	-	$0.00
4	Groundwater Discharge Permit	-	-	-	-	-	-	-	-	-	-	-	$0.00
5	Manhole Pump-out Permit	-	-	-	-	-	-	-	-	-	-	-	$0.00
6	Trucked or Hauled Wastewater Permit	-	-	-	-	-	-	-	-	-	-	-	$0.00
7	Photographic & Video Inspection	-	-	-	-	-	-	-	-	-	-	-	$0.00

FY 2027 Equipment Costs

Line No.	Description	Costs (No. of Equipment X Task Hours X Equipment Rates), $											Total
		Backhoe	Compressor	Large Dump Truck	Small Utility Truck	Crew Truck	SUV/ Van	Jackhammer	Pump	Generator	Vehicle, Small	CCTV Truck	
	Section 8- Miscellaneous Stormwater Charges												
1	Stormwater Plan Review Fees												
	Conceptual Stormwater Plan Approval	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Final Inspection of Development Project	-	-	-	-	-	-	-	-	-	36.04	-	$36.04
	E&S Second Reinspection	-	-	-	-	-	-	-	-	-	13.52	-	$13.52
	E&S Third Reinspection	-	-	-	-	-	-	-	-	-	13.52	-	$13.52
	E&S Fourth/Subsequent Reinspection	-	-	-	-	-	-	-	-	-	13.52	-	$13.52
	Utility Plan Review Fee	-	-	-	-	-	-	-	-	-	-	-	$0.00
2	Stormwater Management Fee in Lieu												
	Exemption to Water Quality Requirement	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)												
1	Sewer Credit Application Fee	-	-	-	-	-	-	-	-	-	-	-	$0.00
2	Sewer Credit Failure to Inform PWD about increase	-	-	-	-	-	-	-	-	-	-	-	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)												
3	Stormwater Credit Application Fee Renewal	-	-	-	-	-	-	-	-	-	-	-	$0.00

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
	Section 6- Miscellaneous Water Charges						
1	Meter Test Charges						
a	5/8"						
b	1",1.5",2"						
c	3",4",6",8",10",12"						
d	Field Tests 3" and above						
2	Charges for Furnishing and Installation of Water Meters						
a	Setting both Meter and Meter Interface Unit (MIU)						
	5/8"	1.00					
	3/4 RFSS	1.00					
	1"	1.00					
	1" RFSS	1.00					
	1 1/2	1.00					
	1 1/2 RFSS	1.00					
	2"	1.00					
	2" RFSS	1.00					
	3" Compound	1.00					
	3" Turbine	1.00					
	3" Fire Series	1.00					
	4" Compound	1.00					
	4" Turbine	1.00					
	4" Fire Series	1.00					
	4" Fire Assembly	1.00					
	6" Compound	1.00					
	6" Turbine	1.00					
	6" Fire Series	1.00					
	6" Fire Assembly	1.00					
	8" Turbine	1.00					
	8" Fire Series	1.00					
	8" Fire Assembly	1.00					
	10" Turbine	1.00					
	10" Fire Series	1.00					

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
	10" Fire Assembly	1.00					
	12" Turbine	1.00					
	12" Fire Series	1.00					
	12" Fire Assembly	1.00					
b	Furnishing and Setting Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	4" Compound						
	4" Turbine						
	6" Compound						
	6" Turbine						
	8"						
	10"						
3	Tampering of Meter						
a	5/8" or 3/4"						
b	1", 1.5" or 2"						
c	3" and larger						
4	Shut-Off and Restoration of Water Service						
a	Site Visit for Non-payment						
b	Non-compliance with Notice of Defect and/or Metering Non-compliance						
c	**Restoration of Water Service**						
	Operating service valve 2" and smaller service lines						
	Operating service valve larger than 2" service lines						

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
	Obstructed curb stop, missing access box, requires excavation		1.00				
	Curb stop inoperable, requires installation of new curb stop			1.00			
	Obstructed curb stop, missing access box, requires excavation and footway paving		1.00				
	Curb stop inoperable, requires installation of new curb stop and footway paving			1.00			
	Excavation and shutoff of ferrule at the water main						
5	Pumping of Properties						
6	Charges for Water Main Shutdown Service						
7	Water Connection Charges						
b	Ferrule Connections						
	3/4"				1.00	1.00	
	1"				1.00	1.00	
	1.5"				1.00	1.00	
	2"				1.00	1.00	
c	Valve Connections						
	3" & 4"						1.00
	6" & 8"						1.00
	10" & 12"						1.00
d	Attachment to a Transmission Main						
	3" & 4" Sleeve						
	16" Main						
	20" Main						
	24" Main						
	30" Main						
	36" Main						
	6" & 8" Sleeve						
	16" Main						
	20" Main						
	24" Main						
	30" Main						
	36" Main						

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
	10" & 12" Sleeve						
	16" Main						
	20" Main						
	24" Main						
	30" Main						
	36" Main						
8	Discontinuance of Water						
9	Hydrant Permits						
	One Week						
	Six Month						
10	Flow Tests						
11	Water Service Line Investigations and/or Inspections						
	Section 7- Miscellaneous Sewer Charges						
1	Sewer Charges for Groundwater						
2	Charges for Wastewater Service						
3	Wastewater Discharge Permit						
4	Groundwater Discharge Permit						
5	Manhole Pump-out Permit						
6	Trucked or Hauled Wastewater Permit						
7	Photographic & Video Inspection						
	Section 8- Miscellaneous Stormwater Charges						
1	Stormwater Plan Review Fees						
	Conceptual Stormwater Plan Approval						
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)						
	Final Inspection of Development Project						
	E&S Second Reinspection						
	E&S Third Reinspection						
	E&S Fourth/Subsequent Reinspection						
	Utility Plan Review Fee						

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
2	Stormwater Management Fee in Lieu						
	Exemption to Water Quality Requirement						
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)						
1	Sewer Credit Application Fee						
2	Sewer Credit Failure to Inform PWD about increase						
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)						
3	Stormwater Credit Application Fee Renewal						

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
	Section 6- Miscellaneous Water Charges						
1	Meter Test Charges						
a	5/8"						
b	1",1.5",2"						
c	3",4",6",8",10",12"						
d	Field Tests 3" and above						
2	Charges for Furnishing and Installation of Water Meters						
a	Setting both Meter and Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	3" Fire Series						
	4" Compound						
	4" Turbine						
	4" Fire Series						
	4" Fire Assembly						
	6" Compound						
	6" Turbine						
	6" Fire Series						
	6" Fire Assembly						
	8" Turbine						
	8" Fire Series						
	8" Fire Assembly						
	10" Turbine						
	10" Fire Series						

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
	10" Fire Assembly						
	12" Turbine						
	12" Fire Series						
	12" Fire Assembly						
b	Furnishing and Setting Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	4" Compound						
	4" Turbine						
	6" Compound						
	6" Turbine						
	8"						
	10"						
3	Tampering of Meter						
a	5/8" or 3/4"						
b	1", 1.5" or 2"						
c	3" and larger						
4	Shut-Off and Restoration of Water Service						
a	Site Visit for Non-payment						
b	Non-compliance with Notice of Defect and/or Metering Non-compliance						
c	**Restoration of Water Service**						
	Operating service valve 2" and smaller service lines						
	Operating service valve larger than 2" service lines						

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
	Obstructed curb stop, missing access box, requires excavation						
	Curb stop inoperable, requires installation of new curb stop						
	Obstructed curb stop, missing access box, requires excavation and footway paving				1.00		
	Curb stop inoperable, requires installation of new curb stop and footway paving				1.00		
	Excavation and shutoff of ferrule at the water main				2.00		
5	Pumping of Properties						
6	Charges for Water Main Shutdown Service						
7	Water Connection Charges						
b	Ferrule Connections						
	3/4"						
	1"						
	1.5"						
	2"						
c	Valve Connections						
	3" & 4"	1.00			8.00	1.00	
	6" & 8"	1.00			8.00	1.00	
	10" & 12"	1.00			8.00	1.00	
d	Attachment to a Transmission Main						
	3" & 4" Sleeve						
	16" Main	1.00			8.00		
	20" Main	1.00			8.00		
	24" Main	1.00			8.00		
	30" Main	1.00			8.00		
	36" Main	1.00			8.00		
	6" & 8" Sleeve						
	16" Main	1.00			8.00		
	20" Main	1.00			8.00		
	24" Main	1.00			8.00		
	30" Main	1.00			8.00		
	36" Main	1.00			8.00		

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
	10" & 12" Sleeve						
	16" Main	1.00			8.00		
	20" Main	1.00			8.00		
	24" Main	1.00			8.00		
	30" Main	1.00			8.00		
	36" Main	1.00			8.00		
8	Discontinuance of Water		1.00	1.00	8.00		
9	Hydrant Permits						
	One Week						
	Six Month						
10	Flow Tests						
11	Water Service Line Investigations and/or Inspections						
	Section 7- Miscellaneous Sewer Charges						
1	Sewer Charges for Groundwater						
2	Charges for Wastewater Service						
3	Wastewater Discharge Permit						
4	Groundwater Discharge Permit						
5	Manhole Pump-out Permit						
6	Trucked or Hauled Wastewater Permit						
7	Photographic & Video Inspection						1.00
	Section 8- Miscellaneous Stormwater Charges						
1	Stormwater Plan Review Fees						
	Conceptual Stormwater Plan Approval						1.00
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)						1.00
	Final Inspection of Development Project						
	E&S Second Reinspection						1.00
	E&S Third Reinspection						
	E&S Fourth/Subsequent Reinspection						
	Utility Plan Review Fee						

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
2	Stormwater Management Fee in Lieu						
	Exemption to Water Quality Requirement						
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)						
1	Sewer Credit Application Fee						
2	Sewer Credit Failure to Inform PWD about increase						
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)						
3	Stormwater Credit Application Fee Renewal						

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used			
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	Section 6- Miscellaneous Water Charges				
1	Meter Test Charges				
a	5/8"				
b	1",1.5",2"				
c	3",4",6",8",10",12"				
d	Field Tests 3" and above				
2	Charges for Furnishing and Installation of Water Meters				
a	Setting both Meter and Meter Interface Unit (MIU)				
	5/8"				
	3/4 RFSS				
	1"				
	1" RFSS				
	1 1/2				
	1 1/2 RFSS				
	2"				
	2" RFSS				
	3" Compound				
	3" Turbine				
	3" Fire Series				
	4" Compound				
	4" Turbine				
	4" Fire Series				
	4" Fire Assembly				
	6" Compound				
	6" Turbine				
	6" Fire Series				
	6" Fire Assembly				
	8" Turbine				
	8" Fire Series				
	8" Fire Assembly				
	10" Turbine				
	10" Fire Series				

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used			
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	10" Fire Assembly				
	12" Turbine				
	12" Fire Series				
	12" Fire Assembly				
b	Furnishing and Setting Meter Interface Unit (MIU)				
	5/8"				
	3/4 RFSS				
	1"				
	1" RFSS				
	1 1/2				
	1 1/2 RFSS				
	2"				
	2" RFSS				
	3" Compound				
	3" Turbine				
	4" Compound				
	4" Turbine				
	6" Compound				
	6" Turbine				
	8"				
	10"				
3	Tampering of Meter				
a	5/8" or 3/4"				
b	1", 1.5" or 2"				
c	3" and larger				
4	Shut-Off and Restoration of Water Service				
a	Site Visit for Non-payment				
b	Non-compliance with Notice of Defect and/or Metering Non-compliance				
c	**Restoration of Water Service**				
	Operating service valve 2" and smaller service lines				
	Operating service valve larger than 2" service lines				

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used			
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	Obstructed curb stop, missing access box, requires excavation				
	Curb stop inoperable, requires installation of new curb stop				
	Obstructed curb stop, missing access box, requires excavation and footway paving				
	Curb stop inoperable, requires installation of new curb stop and footway paving				
	Excavation and shutoff of ferrule at the water main				
5	Pumping of Properties				
6	Charges for Water Main Shutdown Service				
7	Water Connection Charges				
b	Ferrule Connections				
	3/4"				
	1"				
	1.5"				
	2"				
c	Valve Connections				
	3" & 4"				
	6" & 8"				
	10" & 12"				
d	Attachment to a Transmission Main				
	3" & 4" Sleeve				
	16" Main				
	20" Main				
	24" Main				
	30" Main				
	36" Main				
	6" & 8" Sleeve				
	16" Main				
	20" Main				
	24" Main				
	30" Main				
	36" Main				

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used			
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	10" & 12" Sleeve				
	16" Main				
	20" Main				
	24" Main				
	30" Main				
	36" Main				
8	Discontinuance of Water				
9	Hydrant Permits				
	One Week	1.00	1.00	1.00	22.46
	Six Month	1.00	1.00	1.00	462.03
10	Flow Tests				1.47
11	Water Service Line Investigations and/or Inspections				
	Section 7- Miscellaneous Sewer Charges				
1	Sewer Charges for Groundwater				
2	Charges for Wastewater Service				
3	Wastewater Discharge Permit				
4	Groundwater Discharge Permit				
5	Manhole Pump-out Permit				
6	Trucked or Hauled Wastewater Permit				
7	Photographic & Video Inspection				
	Section 8- Miscellaneous Stormwater Charges				
1	Stormwater Plan Review Fees				
	Conceptual Stormwater Plan Approval				
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)				
	Final Inspection of Development Project				
	E&S Second Reinspection				
	E&S Third Reinspection				
	E&S Fourth/Subsequent Reinspection				
	Utility Plan Review Fee				

Material Cost Calculations FY 2026

Line No.	Description	Quantity of Materials Used			
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
2	Stormwater Management Fee in Lieu				
	Exemption to Water Quality Requirement				
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)				
1	Sewer Credit Application Fee				
2	Sewer Credit Failure to Inform PWD about increase				
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)				
3	Stormwater Credit Application Fee Renewal				

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
	Section 6- Miscellaneous Water Charges						
1	Meter Test Charges						
a	5/8"						
b	1",1.5",2"						
c	3",4",6",8",10",12"						
d	Field Tests 3" and above						
2	Charges for Furnishing and Installation of Water Meters						
a	Setting both Meter and Meter Interface Unit (MIU)						
	5/8"	198.78					
	3/4 RFSS	443.21					
	1"	306.68					
	1" RFSS	414.81					
	1 1/2	1,070.65					
	1 1/2 RFSS	890.22					
	2"	1,070.65					
	2" RFSS	1,109.00					
	3" Compound	3,803.60					
	3" Turbine	1,704.62					
	3" Fire Series	3,760.82					
	4" Compound	5,152.43					
	4" Turbine	2,927.72					
	4" Fire Series	5,073.46					
	4" Fire Assembly	7,273.75					
	6" Compound	7,874.94					
	6" Turbine	5,838.32					
	6" Fire Series	6,863.41					
	6" Fire Assembly	11,632.31					
	8" Turbine	7,021.10					
	8" Fire Series	9,091.35					
	8" Fire Assembly	15,083.01					
	10" Turbine	10,246.44					
	10" Fire Series	11,304.88					
	10" Fire Assembly	21,999.01					
	12" Turbine	10,982.07					

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
	12" Fire Series	14,447.45					
	12" Fire Assembly	23,464.12					
b	Furnishing and Setting Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	4" Compound						
	4" Turbine						
	6" Compound						
	6" Turbine						
	8"						
	10"						
3	Tampering of Meter						
a	5/8" or 3/4"						
b	1", 1.5" or 2"						
c	3" and larger						
4	Shut-Off and Restoration of Water Service						
a	Site Visit for Non-payment						
b	Non-compliance with Notice of Defect and/or Metering Non-compliance						
c	Operating service valve 2" and smaller service lines						
d	Operating service valve larger than 2" service lines						
e	Obstructed curb stop, missing access box, requires excavation		95.23				
f	Curb stop inoperable, requires installation of new curb stop			132.68			
g	Obstructed curb stop, missing access box, requires excavation and footway paving		95.23				

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
h	Curb stop inoperable, requires installation of new curb stop and footway paving			132.68			
i	Excavation and shutoff of ferrule at the water main						
5	Pumping of Properties						
6	Charges for Water Main Shutdown Service						
7	Water Connection Charges						
b	Ferrule Connections						
	3/4"				32.92	21.29	
	1"				48.88	39.93	
	1.5"				149.44		
	2"				250.06		
c	Valve Connections						
	~~3" &~~ 4"						1,018.96
	6" & 8"						1,686.44
	10" & 12"						3,543.47
d	Attachment to a Transmission Main						
	3" & 4" Sleeve						
	16" Main						
	20" Main						
	24" Main						
	30" Main						
	36" Main						
	6" & 8" Sleeve						
	16" Main						
	20" Main						
	24" Main						
	30" Main						
	36" Main						
	10" & 12" Sleeve						
	16" Main						
	20" Main						
	24" Main						
	30" Main						
	36" Main						

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Meter	Curb Box	Curb Stop	Ferrule	Adapter	Valve
8	Discontinuance of Water						
9	Hydrant Permits						
	One Week						
	Six Month						
10	Flow Tests						
11	Water Service Line Investigations and/or Inspections						
	Section 7- Miscellaneous Sewer Charges						
1	Sewer Charges for Groundwater						
2	Charges for Wastewater Service						
3	Wastewater Discharge Permit						
4	Groundwater Discharge Permit						
5	Manhole Pump-out Permit						
6	Trucked or Hauled Wastewater Permit						
7	Photographic & Video Inspection						
	Section 8- Miscellaneous Stormwater Charges						
1	Stormwater Plan Review Fees						
	Conceptual Stormwater Plan Approval						
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)						
	Final Inspection of Development Project						
	E&S Second Reinspection						
	E&S Third Reinspection						
	E&S Fourth/Subsequent Reinspection						
	Utility Plan Review Fee						
2	Stormwater Management Fee in Lieu						
	Exemption to Water Quality Requirement						
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)						
1	Sewer Credit Application Fee						
2	Sewer Credit Failure to Inform PWD about increase						
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)						
3	Stormwater Credit Application Fee Renewal						

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
	Section 6- Miscellaneous Water Charges						
1	Meter Test Charges						
a	5/8"						
b	1",1.5",2"						
c	3",4",6",8",10",12"						
d	Field Tests 3" and above						
2	Charges for Furnishing and Installation of Water Meters						
a	Setting both Meter and Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	3" Fire Series						
	4" Compound						
	4" Turbine						
	4" Fire Series						
	4" Fire Assembly						
	6" Compound						
	6" Turbine						
	6" Fire Series						
	6" Fire Assembly						
	8" Turbine						
	8" Fire Series						
	8" Fire Assembly						
	10" Turbine						
	10" Fire Series						
	10" Fire Assembly						
	12" Turbine						

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
	12" Fire Series						
	12" Fire Assembly						
b	Furnishing and Setting Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	4" Compound						
	4" Turbine						
	6" Compound						
	6" Turbine						
	8"						
	10"						
3	Tampering of Meter						
a	5/8" or 3/4"						
b	1", 1.5" or 2"						
c	3" and larger						
4	Shut-Off and Restoration of Water Service						
a	Site Visit for Non-payment						
b	Non-compliance with Notice of Defect and/or Metering Non-compliance						
c	Operating service valve 2" and smaller service lines						
d	Operating service valve larger than 2" service lines						
e	Obstructed curb stop, missing access box, requires excavation						
f	Curb stop inoperable, requires installation of new curb stop						
g	Obstructed curb stop, missing access box, requires excavation and footway paving				11.98		

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
h	Curb stop inoperable, requires installation of new curb stop and footway paving				11.98		
i	Excavation and shutoff of ferrule at the water main				23.96		
5	Pumping of Properties						
6	Charges for Water Main Shutdown Service						
7	Water Connection Charges						
b	Ferrule Connections						
	3/4"						
	1"						
	1.5"						
	2"						
c	Valve Connections						
	~~3" &~~ 4"	887.30			95.84	802.50	
	6" & 8"	1,393.92			95.84	802.50	
	10" & 12"	2,982.47			95.84	802.50	
d	Attachment to a Transmission Main						
	3" & 4" Sleeve						
	16" Main	10,304.10			95.84		
	20" Main	13,395.33			95.84		
	24" Main	16,406.42			95.84		
	30" Main	32,780.46			95.84		
	36" Main	42,192.68			95.84		
	6" & 8" Sleeve						
	16" Main	10,590.33			95.84		
	20" Main	12,937.37			95.84		
	24" Main	16,406.42			95.84		
	30" Main	35,486.35			95.84		
	36" Main	48,428.59			95.84		
	10" & 12" Sleeve						
	16" Main	10,647.57			95.84		
	20" Main	14,196.76			95.84		
	24" Main	16,406.42			95.84		
	30" Main	36,486.09			95.84		
	36" Main	52,307.05			95.84		

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration	Contractor Costs
8	Discontinuance of Water		217.21	367.01	95.84		
9	Hydrant Permits						
	One Week						
	Six Month						
10	Flow Tests						
11	Water Service Line Investigations and/or Inspections						
	Section 7- Miscellaneous Sewer Charges						
1	Sewer Charges for Groundwater						
2	Charges for Wastewater Service						
3	Wastewater Discharge Permit						
4	Groundwater Discharge Permit						
5	Manhole Pump-out Permit						
6	Trucked or Hauled Wastewater Permit						
7	Photographic & Video Inspection						275.00
	Section 8- Miscellaneous Stormwater Charges						
1	Stormwater Plan Review Fees						
	Conceptual Stormwater Plan Approval						910.00
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)						87.00
	Final Inspection of Development Project						
	E&S Second Reinspection						
	E&S Third Reinspection						
	E&S Fourth/Subsequent Reinspection						
	Utility Plan Review Fee						
2	Stormwater Management Fee in Lieu						
	Exemption to Water Quality Requirement						
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)						
1	Sewer Credit Application Fee						
2	Sewer Credit Failure to Inform PWD about increase						
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)						
3	Stormwater Credit Application Fee Renewal						

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $				
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage	Total Materials Cost
	Section 6- Miscellaneous Water Charges					
1	Meter Test Charges					
a	5/8"					$0.00
b	1",1.5",2"					$0.00
c	3",4",6",8",10",12"					$0.00
d	Field Tests 3" and above					$0.00
2	Charges for Furnishing and Installation of Water Meters					
a	Setting both Meter and Meter Interface Unit (MIU)					
	5/8"					$198.78
	3/4 RFSS					$443.21
	1"					$306.68
	1" RFSS					$414.81
	1 1/2					$1,070.65
	1 1/2 RFSS					$890.22
	2"					$1,070.65
	2" RFSS					$1,109.00
	3" Compound					$3,803.60
	3" Turbine					$1,704.62
	3" Fire Series					$3,760.82
	4" Compound					$5,152.43
	4" Turbine					$2,927.72
	4" Fire Series					$5,073.46
	4" Fire Assembly					$7,273.75
	6" Compound					$7,874.94
	6" Turbine					$5,838.32
	6" Fire Series					$6,863.41
	6" Fire Assembly					$11,632.31
	8" Turbine					$7,021.10
	8" Fire Series					$9,091.35
	8" Fire Assembly					$15,083.01
	10" Turbine					$10,246.44
	10" Fire Series					$11,304.88
	10" Fire Assembly					$21,999.01
	12" Turbine					$10,982.07

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $				
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage	Total Materials Cost
	12" Fire Series					$14,447.45
	12" Fire Assembly					$23,464.12
b	Furnishing and Setting Meter Interface Unit (MIU)					
	5/8"					$0.00
	3/4 RFSS					$0.00
	1"					$0.00
	1" RFSS					$0.00
	1 1/2					$0.00
	1 1/2 RFSS					$0.00
	2"					$0.00
	2" RFSS					$0.00
	3" Compound					$0.00
	3" Turbine					$0.00
	4" Compound					$0.00
	4" Turbine					$0.00
	6" Compound					$0.00
	6" Turbine					$0.00
	8"					$0.00
	10"					$0.00
3	Tampering of Meter					
a	5/8" or 3/4"					$0.00
b	1", 1.5" or 2"					$0.00
c	3" and larger					$0.00
4	Shut-Off and Restoration of Water Service					
a	Site Visit for Non-payment					$0.00
b	Non-compliance with Notice of Defect and/or Metering Non-compliance					$0.00
c	Operating service valve 2" and smaller service lines					$0.00
d	Operating service valve larger than 2" service lines					$0.00
e	Obstructed curb stop, missing access box, requires excavation					$95.23
f	Curb stop inoperable, requires installation of new curb stop					$132.68
g	Obstructed curb stop, missing access box, requires excavation and footway paving					$107.21

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $				
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage	Total Materials Cost
h	Curb stop inoperable, requires installation of new curb stop and footway paving					$144.66
i	Excavation and shutoff of ferrule at the water main					$23.96
5	Pumping of Properties					$0.00
6	Charges for Water Main Shutdown Service					$0.00
7	Water Connection Charges					
b	Ferrule Connections					
	3/4"					$54.21
	1"					$88.81
	1.5"					$149.44
	2"					$250.06
c	Valve Connections					
	~~3" &~~ 4"					$2,804.60
	6" & 8"					$3,978.70
	10" & 12"					$7,424.27
d	Attachment to a Transmission Main					
	3" & 4" Sleeve					
	16" Main					$10,399.94
	20" Main					$13,491.17
	24" Main					$16,502.26
	30" Main					$32,876.30
	36" Main					$42,288.52
	6" & 8" Sleeve					
	16" Main					$10,686.17
	20" Main					$13,033.21
	24" Main					$16,502.26
	30" Main					$35,582.19
	36" Main					$48,524.43
	10" & 12" Sleeve					
	16" Main					$10,743.41
	20" Main					$14,292.60
	24" Main					$16,502.26
	30" Main					$36,581.93
	36" Main					$52,402.89

FY 2026 Material Costs

Line No.	Description	Cost of Materials Used, $				
		CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage	Total Materials Cost
8	Discontinuance of Water					$680.06
9	Hydrant Permits					
	One Week	524.55	23.54	67.25	1,312.86	$1,928.20
	Six Month	524.55	23.54	67.25	22,034.31	$22,649.65
10	Flow Tests				94.55	$94.55
11	Water Service Line Investigations and/or Inspections					$0.00
	Section 7- Miscellaneous Sewer Charges					
1	Sewer Charges for Groundwater					
2	Charges for Wastewater Service					
3	Wastewater Discharge Permit					$0.00
4	Groundwater Discharge Permit					$0.00
5	Manhole Pump-out Permit					$0.00
6	Trucked or Hauled Wastewater Permit					$0.00
7	Photographic & Video Inspection					$275.00
	Section 8- Miscellaneous Stormwater Charges					
1	Stormwater Plan Review Fees					
	Conceptual Stormwater Plan Approval					$910.00
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)					$87.00
	Final Inspection of Development Project					$0.00
	E&S Second Reinspection					$0.00
	E&S Third Reinspection					$0.00
	E&S Fourth/Subsequent Reinspection					$0.00
	Utility Plan Review Fee					$0.00
2	Stormwater Management Fee in Lieu					
	Exemption to Water Quality Requirement					$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)					
1	Sewer Credit Application Fee					$0.00
2	Sewer Credit Failure to Inform PWD about increase					$0.00
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)					
3	Stormwater Credit Application Fee Renewal					$0.00

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
	Section 6- Miscellaneous Water Charges					
1	Meter Test Charges					
a	5/8"					
b	1",1.5",2"					
c	3",4",6",8",10",12"					
d	Field Tests 3" and above					
2	Charges for Furnishing and Installation of Water Meters					
a	Setting both Meter and Meter Interface Unit (MIU)					
	5/8"	1.00				
	3/4 RFSS	1.00				
	1"	1.00				
	1" RFSS	1.00				
	1 1/2	1.00				
	1 1/2 RFSS	1.00				
	2"	1.00				
	2" RFSS	1.00				
	3" Compound	1.00				
	3" Turbine	1.00				
	3" Fire Series	1.00				
	4" Compound	1.00				
	4" Turbine	1.00				
	4" Fire Series	1.00				
	4" Fire Assembly	1.00				
	6" Compound	1.00				
	6" Turbine	1.00				
	6" Fire Series	1.00				
	6" Fire Assembly	1.00				
	8" Turbine	1.00				
	8" Fire Series	1.00				
	8" Fire Assembly	1.00				
	10" Turbine	1.00				
	10" Fire Series	1.00				

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
	10" Fire Assembly	1.00				
	12" Turbine	1.00				
	12" Fire Series	1.00				
	12" Fire Assembly	1.00				
b	Furnishing and Setting Meter Interface Unit (MIU)					
	5/8"					
	3/4 RFSS					
	1"					
	1" RFSS					
	1 1/2					
	1 1/2 RFSS					
	2"					
	2" RFSS					
	3" Compound					
	3" Turbine					
	4" Compound					
	4" Turbine					
	6" Compound					
	6" Turbine					
	8"					
	10"					
3	Tampering of Meter					
a	5/8" or 3/4"					
b	1", 1.5" or 2"					
c	3" and larger					
4	Shut-Off and Restoration of Water Service					
a	Site Visit for Non-payment					
b	Non-compliance with Notice of Defect and/or Metering Non-compliance					
c	**Restoration of Water Service**					
	Operating service valve 2" and smaller service lines					
	Operating service valve larger than 2" service lines					
	Obstructed curb stop, missing access box, requires excavation		1.00			

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
	Curb stop inoperable, requires installation of new curb stop			1.00		
	Obstructed curb stop, missing access box, requires excavation and footway paving		1.00			
	Curb stop inoperable, requires installation of new curb stop and footway paving			1.00		
	Excavation and shutoff of ferrule at the water main					
5	Pumping of Properties					
6	Charges for Water Main Shutdown Service					
7	Water Connection Charges					
b	Ferrule Connections					
	3/4"				1.00	1.00
	1"				1.00	1.00
	1.5"				1.00	1.00
	2"				1.00	1.00
c	Valve Connections					
	3" & 4"					
	6" & 8"					
	10" & 12"					
d	Attachment to a Transmission Main					
	3" & 4" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
	6" & 8" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
	10" & 12" Sleeve					
	16" Main					

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
	20" Main					
	24" Main					
	30" Main					
	36" Main					
8	Discontinuance of Water					
9	Hydrant Permits					
	One Week					
	Six Month					
10	Flow Tests					
11	Water Service Line Investigations and/or Inspections					
	Section 7- Miscellaneous Sewer Charges					
1	Sewer Charges for Groundwater					
2	Charges for Wastewater Service					
3	Wastewater Discharge Permit					
4	Groundwater Discharge Permit					
5	Manhole Pump-out Permit					
6	Trucked or Hauled Wastewater Permit					
7	Photographic & Video Inspection					
	Section 8- Miscellaneous Stormwater Charges					
1	Stormwater Plan Review Fees					
	Conceptual Stormwater Plan Approval					
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)					
	Final Inspection of Development Project					
	E&S Second Reinspection					
	E&S Third Reinspection					
	E&S Fourth/Subsequent Reinspection					
	Utility Plan Review Fee					
2	Stormwater Management Fee in Lieu					
	Exemption to Water Quality Requirement					

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)					
1	Sewer Credit Application Fee					
2	Sewer Credit Failure to Inform PWD about increase					
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)					
3	Stormwater Credit Application Fee Renewal					

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
	Section 6- Miscellaneous Water Charges						
1	Meter Test Charges						
a	5/8"						
b	1",1.5",2"						
c	3",4",6",8",10",12"						
d	Field Tests 3" and above						
2	Charges for Furnishing and Installation of Water Meters						
a	Setting both Meter and Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	3" Fire Series						
	4" Compound						
	4" Turbine						
	4" Fire Series						
	4" Fire Assembly						
	6" Compound						
	6" Turbine						
	6" Fire Series						
	6" Fire Assembly						
	8" Turbine						
	8" Fire Series						
	8" Fire Assembly						
	10" Turbine						
	10" Fire Series						

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
	10" Fire Assembly						
	12" Turbine						
	12" Fire Series						
	12" Fire Assembly						
b	Furnishing and Setting Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	4" Compound						
	4" Turbine						
	6" Compound						
	6" Turbine						
	8"						
	10"						
3	Tampering of Meter						
a	5/8" or 3/4"						
b	1", 1.5" or 2"						
c	3" and larger						
4	Shut-Off and Restoration of Water Service						
a	Site Visit for Non-payment						
b	Non-compliance with Notice of Defect and/or Metering Non-compliance						
c	**Restoration of Water Service**						
	Operating service valve 2" and smaller service lines						
	Operating service valve larger than 2" service lines						
	Obstructed curb stop, missing access box, requires excavation						

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
	Curb stop inoperable, requires installation of new curb stop						
	Obstructed curb stop, missing access box, requires excavation and footway paving					1.00	
	Curb stop inoperable, requires installation of new curb stop and footway paving					1.00	
	Excavation and shutoff of ferrule at the water main					2.00	
5	Pumping of Properties						
6	Charges for Water Main Shutdown Service						
7	Water Connection Charges						
b	Ferrule Connections						
	3/4"						
	1"						
	1.5"						
	2"						
c	Valve Connections						
	3" & 4"	1.00	1.00			8.00	1.00
	6" & 8"	1.00	1.00			8.00	1.00
	10" & 12"	1.00	1.00			8.00	1.00
d	Attachment to a Transmission Main						
	3" & 4" Sleeve						
	16" Main		1.00			8.00	
	20" Main		1.00			8.00	
	24" Main		1.00			8.00	
	30" Main		1.00			8.00	
	36" Main		1.00			8.00	
	6" & 8" Sleeve						
	16" Main		1.00			8.00	
	20" Main		1.00			8.00	
	24" Main		1.00			8.00	
	30" Main		1.00			8.00	
	36" Main		1.00			8.00	
	10" & 12" Sleeve						
	16" Main		1.00			8.00	

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
	20" Main		1.00			8.00	
	24" Main		1.00			8.00	
	30" Main		1.00			8.00	
	36" Main		1.00			8.00	
8	Discontinuance of Water			1.00	1.00	8.00	
9	Hydrant Permits						
	One Week						
	Six Month						
10	Flow Tests						
11	Water Service Line Investigations and/or Inspections						
	Section 7- Miscellaneous Sewer Charges						
1	Sewer Charges for Groundwater						
2	Charges for Wastewater Service						
3	Wastewater Discharge Permit						
4	Groundwater Discharge Permit						
5	Manhole Pump-out Permit						
6	Trucked or Hauled Wastewater Permit						
7	Photographic & Video Inspection						
	Section 8- Miscellaneous Stormwater Charges						
1	Stormwater Plan Review Fees						
	Conceptual Stormwater Plan Approval						
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)						
	Final Inspection of Development Project						
	E&S Second Reinspection						
	E&S Third Reinspection						
	E&S Fourth/Subsequent Reinspection						
	Utility Plan Review Fee						
2	Stormwater Management Fee in Lieu						
	Exemption to Water Quality Requirement						

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)						
1	Sewer Credit Application Fee						
2	Sewer Credit Failure to Inform PWD about increase						
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)						
3	Stormwater Credit Application Fee Renewal						

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	Section 6- Miscellaneous Water Charges					
1	Meter Test Charges					
a	5/8"					
b	1",1.5",2"					
c	3",4",6",8",10",12"					
d	Field Tests 3" and above					
2	Charges for Furnishing and Installation of Water Meters					
a	Setting both Meter and Meter Interface Unit (MIU)					
	5/8"					
	3/4 RFSS					
	1"					
	1" RFSS					
	1 1/2					
	1 1/2 RFSS					
	2"					
	2" RFSS					
	3" Compound					
	3" Turbine					
	3" Fire Series					
	4" Compound					
	4" Turbine					
	4" Fire Series					
	4" Fire Assembly					
	6" Compound					
	6" Turbine					
	6" Fire Series					
	6" Fire Assembly					
	8" Turbine					
	8" Fire Series					
	8" Fire Assembly					
	10" Turbine					
	10" Fire Series					

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	10" Fire Assembly					
	12" Turbine					
	12" Fire Series					
	12" Fire Assembly					
b	Furnishing and Setting Meter Interface Unit (MIU)					
	5/8"					
	3/4 RFSS					
	1"					
	1" RFSS					
	1 1/2					
	1 1/2 RFSS					
	2"					
	2" RFSS					
	3" Compound					
	3" Turbine					
	4" Compound					
	4" Turbine					
	6" Compound					
	6" Turbine					
	8"					
	10"					
3	Tampering of Meter					
a	5/8" or 3/4"					
b	1", 1.5" or 2"					
c	3" and larger					
4	Shut-Off and Restoration of Water Service					
a	Site Visit for Non-payment					
b	Non-compliance with Notice of Defect and/or Metering Non-compliance					
c	**Restoration of Water Service**					
	Operating service valve 2" and smaller service lines					
	Operating service valve larger than 2" service lines					
	Obstructed curb stop, missing access box, requires excavation					

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	Curb stop inoperable, requires installation of new curb stop					
	Obstructed curb stop, missing access box, requires excavation and footway paving					
	Curb stop inoperable, requires installation of new curb stop and footway paving					
	Excavation and shutoff of ferrule at the water main					
5	Pumping of Properties					
6	Charges for Water Main Shutdown Service					
7	Water Connection Charges					
b	Ferrule Connections					
	3/4"					
	1"					
	1.5"					
	2"					
c	Valve Connections					
	3" & 4"					
	6" & 8"					
	10" & 12"					
d	Attachment to a Transmission Main					
	3" & 4" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
	6" & 8" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
	10" & 12" Sleeve					
	16" Main					

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	20" Main					
	24" Main					
	30" Main					
	36" Main					
8	Discontinuance of Water					
9	Hydrant Permits					
	One Week		1.00	1.00	1.00	22.46
	Six Month		1.00	1.00	1.00	462.03
10	Flow Tests					1.47
11	Water Service Line Investigations and/or Inspections					
	Section 7- Miscellaneous Sewer Charges					
1	Sewer Charges for Groundwater					
2	Charges for Wastewater Service					
3	Wastewater Discharge Permit					
4	Groundwater Discharge Permit					
5	Manhole Pump-out Permit					
6	Trucked or Hauled Wastewater Permit					
7	Photographic & Video Inspection	1.00				
	Section 8- Miscellaneous Stormwater Charges					
1	Stormwater Plan Review Fees					
	Conceptual Stormwater Plan Approval	1.00				
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	1.00				
	Final Inspection of Development Project					
	E&S Second Reinspection	1.00				
	E&S Third Reinspection					
	E&S Fourth/Subsequent Reinspection					
	Utility Plan Review Fee					
2	Stormwater Management Fee in Lieu					
	Exemption to Water Quality Requirement					

Material Cost Calculations FY 2027

Line No.	Description	Quantity of Materials Used				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)					
1	Sewer Credit Application Fee					
2	Sewer Credit Failure to Inform PWD about increase					
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)					
3	Stormwater Credit Application Fee Renewal					

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
	Section 6- Miscellaneous Water Charges					
1	Meter Test Charges					
a	5/8"					
b	1",1.5",2"					
c	3",4",6",8",10",12"					
d	Field Tests 3" and above					
2	Charges for Furnishing and Installation of Water Meters					
a	Setting both Meter and Meter Interface Unit (MIU)					
	5/8"	258.41				
	3/4 RFSS	509.69				
	1"	352.68				
	1" RFSS	477.03				
	1 1/2	1,231.25				
	1 1/2 RFSS	1,023.75				
	2"	1,231.25				
	2" RFSS	1,275.35				
	3" Compound	4,374.14				
	3" Turbine	1,960.31				
	3" Fire Series	4,324.94				
	4" Compound	5,925.29				
	4" Turbine	3,366.88				
	4" Fire Series	5,834.48				
	4" Fire Assembly	8,364.81				
	6" Compound	9,056.18				
	6" Turbine	6,714.07				
	6" Fire Series	7,892.92				
	6" Fire Assembly	13,377.16				
	8" Turbine	8,074.27				
	8" Fire Series	10,455.05				
	8" Fire Assembly	17,345.46				
	10" Turbine	11,783.41				
	10" Fire Series	13,000.61				
	10" Fire Assembly	25,298.86				
	12" Turbine	12,629.38				

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
	12" Fire Series	16,614.57				
	12" Fire Assembly	26,983.74				
b	Furnishing and Setting Meter Interface Unit (MIU)					
	5/8"					
	3/4 RFSS					
	1"					
	1" RFSS					
	1 1/2					
	1 1/2 RFSS					
	2"					
	2" RFSS					
	3" Compound					
	3" Turbine					
	4" Compound					
	4" Turbine					
	6" Compound					
	6" Turbine					
	8"					
	10"					
3	Tampering of Meter					
a	5/8" or 3/4"					
b	1", 1.5" or 2"					
c	3" and larger					
4	Shut-Off and Restoration of Water Service					
a	Site Visit for Non-payment					
b	Non-compliance with Notice of Defect and/or Metering Non-compliance					
c	Operating service valve 2" and smaller service lines					
d	Operating service valve larger than 2" service lines					
e	Obstructed curb stop, missing access box, requires excavation		101.90			
f	Curb stop inoperable, requires installation of new curb stop			141.97		
g	Obstructed curb stop, missing access box, requires excavation and footway paving		101.90			
h	Curb stop inoperable, requires installation of new curb stop and footway paving			141.97		

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
i	Excavation and shutoff of ferrule at the water main					
5	Pumping of Properties					
6	Charges for Water Main Shutdown Service					
7	Water Connection Charges					
b	Ferrule Connections					
	3/4"				35.22	22.78
	1"				52.30	42.73
	1.5"				159.90	
	2"				267.56	
c	Valve Connections					
	3" & 4"					
	6" & 8"					
	10" & 12"					
d	Attachment to a Transmission Main					
	3" & 4" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
	6" & 8" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
	10" & 12" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
8	Discontinuance of Water					
9	Hydrant Permits					

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $				
		Meter	Curb Box	Curb Stop	Ferrule	Adapter
	One Week					
	Six Month					
10	Flow Tests					
11	Water Service Line Investigations and/or Inspections					
	Section 7- Miscellaneous Sewer Charges					
1	Sewer Charges for Groundwater					
2	Charges for Wastewater Service					
3	Wastewater Discharge Permit					
4	Groundwater Discharge Permit					
5	Manhole Pump-out Permit					
6	Trucked or Hauled Wastewater Permit					
7	Photographic & Video Inspection					
	Section 8- Miscellaneous Stormwater Charges					
1	Stormwater Plan Review Fees					
	Conceptual Stormwater Plan Approval					
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)					
	Final Inspection of Development Project					
	E&S Second Reinspection					
	E&S Third Reinspection					
	E&S Fourth/Subsequent Reinspection					
	Utility Plan Review Fee					
2	Stormwater Management Fee in Lieu					
	Exemption to Water Quality Requirement					
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)					
1	Sewer Credit Application Fee					
2	Sewer Credit Failure to Inform PWD about increase					
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)					
3	Stormwater Credit Application Fee Renewal					

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
	Section 6- Miscellaneous Water Charges						
1	Meter Test Charges						
a	5/8"						
b	1",1.5",2"						
c	3",4",6",8",10",12"						
d	Field Tests 3" and above						
2	Charges for Furnishing and Installation of Water Meters						
a	Setting both Meter and Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	3" Fire Series						
	4" Compound						
	4" Turbine						
	4" Fire Series						
	4" Fire Assembly						
	6" Compound						
	6" Turbine						
	6" Fire Series						
	6" Fire Assembly						
	8" Turbine						
	8" Fire Series						
	8" Fire Assembly						
	10" Turbine						
	10" Fire Series						
	10" Fire Assembly						
	12" Turbine						

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
	12" Fire Series						
	12" Fire Assembly						
b	Furnishing and Setting Meter Interface Unit (MIU)						
	5/8"						
	3/4 RFSS						
	1"						
	1" RFSS						
	1 1/2						
	1 1/2 RFSS						
	2"						
	2" RFSS						
	3" Compound						
	3" Turbine						
	4" Compound						
	4" Turbine						
	6" Compound						
	6" Turbine						
	8"						
	10"						
3	Tampering of Meter						
a	5/8" or 3/4"						
b	1", 1.5" or 2"						
c	3" and larger						
4	Shut-Off and Restoration of Water Service						
a	Site Visit for Non-payment						
b	Non-compliance with Notice of Defect and/or Metering Non-compliance						
c	Operating service valve 2" and smaller service lines						
d	Operating service valve larger than 2" service lines						
e	Obstructed curb stop, missing access box, requires excavation						
f	Curb stop inoperable, requires installation of new curb stop						
g	Obstructed curb stop, missing access box, requires excavation and footway paving					12.82	
h	Curb stop inoperable, requires installation of new curb stop and footway paving					12.82	

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
i	Excavation and shutoff of ferrule at the water main					25.64	
5	Pumping of Properties						
6	Charges for Water Main Shutdown Service						
7	Water Connection Charges						
b	Ferrule Connections						
	3/4"						
	1"						
	1.5"						
	2"						
c	Valve Connections						
	3" & 4"	1,090.29	949.41			102.56	858.68
	6" & 8"	1,804.49	1,491.50			102.56	858.68
	10" & 12"	3,791.51	3,191.24			102.56	858.68
d	Attachment to a Transmission Main						
	3" & 4" Sleeve						
	16" Main		11,025.39			102.56	
	20" Main		14,333.00			102.56	
	24" Main		17,554.87			102.56	
	30" Main		35,075.09			102.56	
	36" Main		45,146.17			102.56	
	6" & 8" Sleeve						
	16" Main		11,331.65			102.56	
	20" Main		13,842.99			102.56	
	24" Main		17,554.87			102.56	
	30" Main		37,970.39			102.56	
	36" Main		51,818.59			102.56	
	10" & 12" Sleeve						
	16" Main		11,392.90			102.56	
	20" Main		15,190.53			102.56	
	24" Main		17,554.87			102.56	
	30" Main		39,040.12			102.56	
	36" Main		55,968.54			102.56	
8	Discontinuance of Water			232.41	392.70	102.56	
9	Hydrant Permits						

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $					
		Valve	Sleeve	Caps	Bands	Temp Paving (Blacktop Bag)	Street Restoration
	One Week						
	Six Month						
10	Flow Tests						
11	Water Service Line Investigations and/or Inspections						
	Section 7- Miscellaneous Sewer Charges						
1	Sewer Charges for Groundwater						
2	Charges for Wastewater Service						
3	Wastewater Discharge Permit						
4	Groundwater Discharge Permit						
5	Manhole Pump-out Permit						
6	Trucked or Hauled Wastewater Permit						
7	Photographic & Video Inspection						
	Section 8- Miscellaneous Stormwater Charges						
1	Stormwater Plan Review Fees						
	Conceptual Stormwater Plan Approval						
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)						
	Final Inspection of Development Project						
	E&S Second Reinspection						
	E&S Third Reinspection						
	E&S Fourth/Subsequent Reinspection						
	Utility Plan Review Fee						
2	Stormwater Management Fee in Lieu						
	Exemption to Water Quality Requirement						
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)						
1	Sewer Credit Application Fee						
2	Sewer Credit Failure to Inform PWD about increase						
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)						
3	Stormwater Credit Application Fee Renewal						

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	Section 6- Miscellaneous Water Charges					
1	Meter Test Charges					
a	5/8"					
b	1",1.5",2"					
c	3",4",6",8",10",12"					
d	Field Tests 3" and above					
2	Charges for Furnishing and Installation of Water Meters					
a	Setting both Meter and Meter Interface Unit (MIU)					
	5/8"					
	3/4 RFSS					
	1"					
	1" RFSS					
	1 1/2					
	1 1/2 RFSS					
	2"					
	2" RFSS					
	3" Compound					
	3" Turbine					
	3" Fire Series					
	4" Compound					
	4" Turbine					
	4" Fire Series					
	4" Fire Assembly					
	6" Compound					
	6" Turbine					
	6" Fire Series					
	6" Fire Assembly					
	8" Turbine					
	8" Fire Series					
	8" Fire Assembly					
	10" Turbine					
	10" Fire Series					
	10" Fire Assembly					
	12" Turbine					

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	12" Fire Series					
	12" Fire Assembly					
b	Furnishing and Setting Meter Interface Unit (MIU)					
	5/8"					
	3/4 RFSS					
	1"					
	1" RFSS					
	1 1/2					
	1 1/2 RFSS					
	2"					
	2" RFSS					
	3" Compound					
	3" Turbine					
	4" Compound					
	4" Turbine					
	6" Compound					
	6" Turbine					
	8"					
	10"					
3	Tampering of Meter					
a	5/8" or 3/4"					
b	1", 1.5" or 2"					
c	3" and larger					
4	Shut-Off and Restoration of Water Service					
a	Site Visit for Non-payment					
b	Non-compliance with Notice of Defect and/or Metering Non-compliance					
c	Operating service valve 2" and smaller service lines					
d	Operating service valve larger than 2" service lines					
e	Obstructed curb stop, missing access box, requires excavation					
f	Curb stop inoperable, requires installation of new curb stop					
g	Obstructed curb stop, missing access box, requires excavation and footway paving					
h	Curb stop inoperable, requires installation of new curb stop and footway paving					

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
i	Excavation and shutoff of ferrule at the water main					
5	Pumping of Properties					
6	Charges for Water Main Shutdown Service					
7	Water Connection Charges					
b	Ferrule Connections					
	3/4"					
	1"					
	1.5"					
	2"					
c	Valve Connections					
	3" & 4"					
	6" & 8"					
	10" & 12"					
d	Attachment to a Transmission Main					
	3" & 4" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
	6" & 8" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
	10" & 12" Sleeve					
	16" Main					
	20" Main					
	24" Main					
	30" Main					
	36" Main					
8	Discontinuance of Water					
9	Hydrant Permits					

FY 2027 Material Costs

Line No.	Description	Cost of Materials Used, $				
		Contractor Costs	CCL Kit	CCL Bonnet	Operating Nut	Hydrant Water Usage
	One Week		561.27	25.19	71.96	1,312.86
	Six Month		561.27	25.19	71.96	22,034.31
10	Flow Tests					94.55
11	Water Service Line Investigations and/or Inspections					
	Section 7- Miscellaneous Sewer Charges					
1	Sewer Charges for Groundwater					
2	Charges for Wastewater Service					
3	Wastewater Discharge Permit					
4	Groundwater Discharge Permit					
5	Manhole Pump-out Permit					
6	Trucked or Hauled Wastewater Permit					
7	Photographic & Video Inspection	275.00				
	Section 8- Miscellaneous Stormwater Charges					
1	Stormwater Plan Review Fees					
	Conceptual Stormwater Plan Approval	910.00				
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	87.00				
	Final Inspection of Development Project					
	E&S Second Reinspection					
	E&S Third Reinspection					
	E&S Fourth/Subsequent Reinspection					
	Utility Plan Review Fee					
2	Stormwater Management Fee in Lieu					
	Exemption to Water Quality Requirement					
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)					
1	Sewer Credit Application Fee					
2	Sewer Credit Failure to Inform PWD about increase					
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)					
3	Stormwater Credit Application Fee Renewal					

FY 2027 Material Costs

Line No.	Description	Total Materials Cost
	Section 6- Miscellaneous Water Charges	
1	Meter Test Charges	
a	5/8"	$0.00
b	1",1.5",2"	$0.00
c	3",4",6",8",10",12"	$0.00
d	Field Tests 3" and above	$0.00
2	Charges for Furnishing and Installation of Water Meters	
a	Setting both Meter and Meter Interface Unit (MIU)	
	5/8"	$258.41
	3/4 RFSS	$509.69
	1"	$352.68
	1" RFSS	$477.03
	1 1/2	$1,231.25
	1 1/2 RFSS	$1,023.75
	2"	$1,231.25
	2" RFSS	$1,275.35
	3" Compound	$4,374.14
	3" Turbine	$1,960.31
	3" Fire Series	$4,324.94
	4" Compound	$5,925.29
	4" Turbine	$3,366.88
	4" Fire Series	$5,834.48
	4" Fire Assembly	$8,364.81
	6" Compound	$9,056.18
	6" Turbine	$6,714.07
	6" Fire Series	$7,892.92
	6" Fire Assembly	$13,377.16
	8" Turbine	$8,074.27
	8" Fire Series	$10,455.05
	8" Fire Assembly	$17,345.46
	10" Turbine	$11,783.41
	10" Fire Series	$13,000.61
	10" Fire Assembly	$25,298.86
	12" Turbine	$12,629.38

FY 2027 Material Costs

Line No.	Description	Total Materials Cost
	12" Fire Series	$16,614.57
	12" Fire Assembly	$26,983.74
b	Furnishing and Setting Meter Interface Unit (MIU)	
	5/8"	$0.00
	3/4 RFSS	$0.00
	1"	$0.00
	1" RFSS	$0.00
	1 1/2	$0.00
	1 1/2 RFSS	$0.00
	2"	$0.00
	2" RFSS	$0.00
	3" Compound	$0.00
	3" Turbine	$0.00
	4" Compound	$0.00
	4" Turbine	$0.00
	6" Compound	$0.00
	6" Turbine	$0.00
	8"	$0.00
	10"	$0.00
3	Tampering of Meter	
a	5/8" or 3/4"	$0.00
b	1", 1.5" or 2"	$0.00
c	3" and larger	$0.00
4	Shut-Off and Restoration of Water Service	
a	Site Visit for Non-payment	$0.00
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	$0.00
c	Operating service valve 2" and smaller service lines	$0.00
d	Operating service valve larger than 2" service lines	$0.00
e	Obstructed curb stop, missing access box, requires excavation	$101.90
f	Curb stop inoperable, requires installation of new curb stop	$141.97
g	Obstructed curb stop, missing access box, requires excavation and footway paving	$114.72
h	Curb stop inoperable, requires installation of new curb stop and footway paving	$154.79

FY 2027 Material Costs

Line No.	Description	Total Materials Cost
i	Excavation and shutoff of ferrule at the water main	$25.64
5	Pumping of Properties	$0.00
6	Charges for Water Main Shutdown Service	$0.00
7	Water Connection Charges	
b	Ferrule Connections	
	3/4"	$58.00
	1"	$95.03
	1.5"	$159.90
	2"	$267.56
c	Valve Connections	
	3" & 4"	$3,000.94
	6" & 8"	$4,257.23
	10" & 12"	$7,943.99
d	Attachment to a Transmission Main	
	3" & 4" Sleeve	
	16" Main	$11,127.95
	20" Main	$14,435.56
	24" Main	$17,657.43
	30" Main	$35,177.65
	36" Main	$45,248.73
	6" & 8" Sleeve	
	16" Main	$11,434.21
	20" Main	$13,945.55
	24" Main	$17,657.43
	30" Main	$38,072.95
	36" Main	$51,921.15
	10" & 12" Sleeve	
	16" Main	$11,495.46
	20" Main	$15,293.09
	24" Main	$17,657.43
	30" Main	$39,142.68
	36" Main	$56,071.10
8	Discontinuance of Water	$727.68
9	Hydrant Permits	

FY 2027 Material Costs

Line No.	Description	Total Materials Cost
	One Week	$1,971.28
	Six Month	$22,692.73
10	Flow Tests	$94.55
11	Water Service Line Investigations and/or Inspections	$0.00
	Section 7- Miscellaneous Sewer Charges	
1	Sewer Charges for Groundwater	
2	Charges for Wastewater Service	
3	Wastewater Discharge Permit	$0.00
4	Groundwater Discharge Permit	$0.00
5	Manhole Pump-out Permit	$0.00
6	Trucked or Hauled Wastewater Permit	$0.00
7	Photographic & Video Inspection	$275.00
	Section 8- Miscellaneous Stormwater Charges	
1	Stormwater Plan Review Fees	
	Conceptual Stormwater Plan Approval	$910.00
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	$87.00
	Final Inspection of Development Project	$0.00
	E&S Second Reinspection	$0.00
	E&S Third Reinspection	$0.00
	E&S Fourth/Subsequent Reinspection	$0.00
	Utility Plan Review Fee	$0.00
2	Stormwater Management Fee in Lieu	
	Exemption to Water Quality Requirement	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)	
1	Sewer Credit Application Fee	$0.00
2	Sewer Credit Failure to Inform PWD about increase	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)	
3	Stormwater Credit Application Fee Renewal	$0.00

Fee Calculation (No Overtime) FY 2026

Line No.	Description	Costs			
		Labor (No Overtime)	Equipment	Material/ Contractor	Total Cost (No Overtime)
	Section 6- Miscellaneous Water Charges				
1	Meter Test Charges				
	5/8"	$113.59	$45.99	$0.00	$159.58
	1",1.5",2"	$151.45	$68.99	$0.00	$220.44
	3",4",6",8",10",12"	$378.63	$45.38	$0.00	$424.00
	Field Tests 3" and above	$378.63	$45.38	$0.00	$424.00
2	Charges for Furnishing and Installation of Water Meters				
a	Setting both Meter and ERT				
	5/8"	$50.48	$45.99	$198.78	$295.25
	3/4 RFSS	$50.48	$45.99	$443.21	$539.68
	1"	$100.97	$45.99	$306.68	$453.64
	1" RFSS	$100.97	$45.99	$414.81	$561.77
	1 1/2	$100.97	$45.99	$1,070.65	$1,217.61
	1 1/2 RFSS	$100.97	$45.99	$890.22	$1,037.18
	2"	$100.97	$45.99	$1,070.65	$1,217.61
	2" RFSS	$100.97	$45.99	$1,109.00	$1,255.96
	3" Compound	$302.90	$36.30	$3,803.60	$4,142.80
	3" Turbine	$302.90	$36.30	$1,704.62	$2,043.82
	3" Fire Series	$302.90	$36.30	$3,760.82	$4,100.02
	4" Compound	$302.90	$36.30	$5,152.43	$5,491.63
	4" Turbine	$302.90	$36.30	$2,927.72	$3,266.92
	4" Fire Series	$302.90	$36.30	$5,073.46	$5,412.66
	4" Fire Assembly	$302.90	$36.30	$7,273.75	$7,612.95
	6" Compound	$302.90	$36.30	$7,874.94	$8,214.14
	6" Turbine	$302.90	$36.30	$5,838.32	$6,177.52
	6" Fire Series	$302.90	$36.30	$6,863.41	$7,202.61
	6" Fire Assembly	$302.90	$36.30	$11,632.31	$11,971.51
	8" Turbine	$302.90	$36.30	$7,021.10	$7,360.30
	8" Fire Series	$302.90	$36.30	$9,091.35	$9,430.55
	8" Fire Assembly	$302.90	$36.30	$15,083.01	$15,422.21
	10" Turbine	$302.90	$36.30	$10,246.44	$10,585.64
	10" Fire Series	$302.90	$36.30	$11,304.88	$11,644.08
	10" Fire Assembly	$302.90	$36.30	$21,999.01	$22,338.21
	12" Turbine	$302.90	$36.30	$10,982.07	$11,321.27
	12" Fire Series	$302.90	$36.30	$14,447.45	$14,786.65
	12" Fire Assembly	$302.90	$36.30	$23,464.12	$23,803.32

Fee Calculation (No Overtime) FY 2026

Line No.	Description	Costs			
		Labor (No Overtime)	Equipment	Material/ Contractor	Total Cost (No Overtime)
b	Furnishing and Setting ERT				
	5/8"	$50.48	$45.99	$0.00	$96.47
	3/4 RFSS	$50.48	$45.99	$0.00	$96.47
	1"	$100.97	$45.99	$0.00	$146.96
	1" RFSS	$100.97	$45.99	$0.00	$146.96
	1 1/2	$100.97	$45.99	$0.00	$146.96
	1 1/2 RFSS	$100.97	$45.99	$0.00	$146.96
	2"	$100.97	$45.99	$0.00	$146.96
	2" RFSS	$100.97	$45.99	$0.00	$146.96
	3" Compound	$302.90	$36.30	$0.00	$339.20
	3" Turbine	$302.90	$36.30	$0.00	$339.20
	4" Compound	$302.90	$36.30	$0.00	$339.20
	4" Turbine	$302.90	$36.30	$0.00	$339.20
	6" Compound	$302.90	$36.30	$0.00	$339.20
	6" Turbine	$302.90	$36.30	$0.00	$339.20
	8"	$302.90	$36.30	$0.00	$339.20
	10"	$302.90	$36.30	$0.00	$339.20
3	Tampering of Meter				
	5/8" or 3/4"	$50.48	$45.99	$0.00	$96.47
	1", 1.5" or 2"	$100.97	$45.99	$0.00	$146.96
	3" and larger	$302.90	$36.30	$0.00	$339.20
4	Shut-Off and Restoration of Water Service				
a	Site Visit for Non-payment	$50.48	$45.99	$0.00	$96.47
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	$50.48	$45.99	$0.00	$96.47
c	Restoration of Water Service				
	Operating service valve 2" and smaller service lines	$50.48	$45.99	$0.00	$96.47
	Operating service valve larger than 2" service lines	$237.09	$144.80	$0.00	$381.88
	Obstructed curb stop, missing access box, requires excavation	$403.87	$289.59	$95.23	$788.69
	Curb stop inoperable, requires installation of new curb stop	$403.87	$289.59	$132.68	$826.14
	Obstructed curb stop, missing access box, requires excavation and footway paving	$403.87	$289.59	$107.21	$800.67
	Curb stop inoperable, requires installation of new curb stop and footway paving	$403.87	$289.59	$144.66	$838.12
	Excavation and shutoff of ferrule at the water main	$875.30	$715.58	$23.96	$1,614.84
5	Pumping of Properties	$144.47	$10.96	$0.00	$155.43
6	Charges for Water Main Shutdown Service	$237.09	$121.80	$0.00	$358.89

Fee Calculation (No Overtime) FY 2026

Line No.	Description	Costs			
		Labor (No Overtime)	Equipment	Material/ Contractor	Total Cost (No Overtime)
7	Water Connection Charges				
b	Ferrule Connections				
	3/4"	$118.54	$57.49	$54.21	$230.24
	1"	$118.54	$57.49	$88.81	$264.84
	1.5"	$118.54	$57.49	$149.44	$325.47
	2"	$118.54	$57.49	$250.06	$426.09
c	Valve Connections				
	3" & 4"	$9,336.48	$2,187.44	$2,804.60	$14,328.52
	6" & 8"	$9,336.48	$2,187.44	$3,978.70	$15,502.62
	10" & 12"	$9,336.48	$2,187.44	$7,424.27	$18,948.19
d	Attachment to a Transmission Main				
	3" & 4" Sleeve				
	16" Main	$11,670.60	$2,734.30	$10,399.94	$24,804.84
	20" Main	$11,670.60	$2,734.30	$13,491.17	$27,896.07
	24" Main	$11,670.60	$2,734.30	$16,502.26	$30,907.16
	30" Main	$11,670.60	$2,734.30	$32,876.30	$47,281.20
	36" Main	$11,670.60	$2,734.30	$42,288.52	$56,693.42
	6" & 8" Sleeve				
	16" Main	$11,670.60	$2,734.30	$10,686.17	$25,091.07
	20" Main	$11,670.60	$2,734.30	$13,033.21	$27,438.11
	24" Main	$11,670.60	$2,734.30	$16,502.26	$30,907.16
	30" Main	$11,670.60	$2,734.30	$35,582.19	$49,987.09
	36" Main	$11,670.60	$2,734.30	$48,524.43	$62,929.33
	10" & 12" Sleeve				
	16" Main	$11,670.60	$2,734.30	$10,743.41	$25,148.31
	20" Main	$11,670.60	$2,734.30	$14,292.60	$28,697.50
	24" Main	$11,670.60	$2,734.30	$16,502.26	$30,907.16
	30" Main	$11,670.60	$2,734.30	$36,581.93	$50,986.83
	36" Main	$11,670.60	$2,734.30	$52,402.89	$66,807.79
8	Discontinuance of Water	$641.02	$227.44	$680.06	$1,548.52
9	Hydrant Permits				
	One Week	$192.59	$121.80	$1,928.20	$2,242.59
	Six Month	$192.59	$121.80	$22,649.65	$22,964.03
10	Flow Tests	$496.67	$68.99	$94.55	$660.20
11	Water Service Line Investigations and/or Inspections	$118.54	$45.99	$0.00	$164.53
	Section 7- Miscellaneous Sewer Charges				

Fee Calculation (No Overtime) FY 2026

Line No.	Description	Costs			
		Labor (No Overtime)	Equipment	Material/ Contractor	Total Cost (No Overtime)
1	Sewer Charges for Groundwater				TBD-Rate Study
2	Charges for Wastewater Service				TBD-Rate Study
3	Wastewater Discharge Permit	$5,821.14	$0.00	$0.00	$5,821.14
4	Groundwater Discharge Permit	$3,246.40	$0.00	$0.00	$3,246.40
5	Manhole Pump-out Permit	$3,174.04	$0.00	$0.00	$3,174.04
6	Trucked or Hauled Wastewater Permit	$2,493.12	$0.00	$0.00	$2,493.12
7	Photographic & Video Inspection	$0.00	$0.00	$275.00	$275.00
	Section 8- Miscellaneous Stormwater Charges				
1	Stormwater Plan Review Fees				
	Conceptual Stormwater Plan Approval	$853.68	$0.00	$910.00	$1,763.68
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	$165.03	$0.00	$87.00	$252.03
	Final Inspection of Development Project	$369.24	$34.56	$0.00	$403.80
	E&S Second Reinspection	$91.56	$12.96	$0.00	$104.52
	E&S Third Reinspection	$91.56	$12.96	$0.00	$104.52
	E&S Fourth/Subsequent Reinspection	$91.56	$12.96	$0.00	$104.52
	Utility Plan Review Fee	$348.36	$0.00	$0.00	$348.36
2	Stormwater Management Fee in Lieu				
	Exemption to Water Quality Requirement	$0.00	$0.00	$0.00	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)				
1	Sewer Credit Application Fee	$1,638.28	$0.00	$0.00	$1,638.28
2	Sewer Credit Failure to Inform PWD about increase	$594.85	$0.00	$0.00	$594.85
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)				
3	Stormwater Credit Application Fee Renewal	$896.70	$0.00	$0.00	$896.70

Fee Calculation (Overtime) FY 2026

Line No.	Description	Costs			
		Labor (With Overtime)	Equipment	Material	Total Cost (Overtime)
	Section 6- Miscellaneous Water Charges				
1	Meter Test Charges				
	3",4",6",8",10",12"	$481.86	$45.38	$0.00	$527.24
	Field Tests 3" and above	$481.86	$45.38	$0.00	$527.24
2	Charges for Furnishing and Installation of Water Meters				
a	Setting both Meter and ERT				
	5/8"	$64.25	$45.99	$198.78	$309.02
	3/4 RFSS	$64.25	$45.99	$443.21	$553.45
	1"	$128.50	$45.99	$306.68	$481.17
	1" RFSS	$128.50	$45.99	$414.81	$589.30
	1 1/2	$128.50	$45.99	$1,070.65	$1,245.14
	1 1/2 RFSS	$128.50	$45.99	$890.22	$1,064.71
	2"	$128.50	$45.99	$1,070.65	$1,245.14
	2" RFSS	$128.50	$45.99	$1,109.00	$1,283.49
	3" Compound	$385.49	$36.30	$3,803.60	$4,225.39
	3" Turbine	$385.49	$36.30	$1,704.62	$2,126.41
	3" Fire Series	$385.49	$36.30	$3,760.82	$4,182.61
	4" Compound	$385.49	$36.30	$5,152.43	$5,574.22
	4" Turbine	$385.49	$36.30	$2,927.72	$3,349.51
	4" Fire Series	$385.49	$36.30	$5,073.46	$5,495.25
	4" Fire Assembly	$385.49	$36.30	$7,273.75	$7,695.54
	6" Compound	$385.49	$36.30	$7,874.94	$8,296.73
	6" Turbine	$385.49	$36.30	$5,838.32	$6,260.11
	6" Fire Series	$385.49	$36.30	$6,863.41	$7,285.20
	6" Fire Assembly	$385.49	$36.30	$11,632.31	$12,054.10
	8" Turbine	$385.49	$36.30	$7,021.10	$7,442.89
	8" Fire Series	$385.49	$36.30	$9,091.35	$9,513.14
	8" Fire Assembly	$385.49	$36.30	$15,083.01	$15,504.80
	10" Turbine	$385.49	$36.30	$10,246.44	$10,668.23
	10" Fire Series	$385.49	$36.30	$11,304.88	$11,726.67
	10" Fire Assembly	$385.49	$36.30	$21,999.01	$22,420.80
	12" Turbine	$385.49	$36.30	$10,982.07	$11,403.86
	12" Fire Series	$385.49	$36.30	$14,447.45	$14,869.24
	12" Fire Assembly	$385.49	$36.30	$23,464.12	$23,885.91
b	Furnishing and Setting ERT				
	5/8"	$64.25	$45.99	$0.00	$110.24

Fee Calculation (Overtime) FY 2026

Line No.	Description	Costs			
		Labor (With Overtime)	Equipment	Material	Total Cost (Overtime)
	3/4 RFSS	$64.25	$45.99	$0.00	$110.24
	1"	$128.50	$45.99	$0.00	$174.49
	1" RFSS	$128.50	$45.99	$0.00	$174.49
	1 1/2	$128.50	$45.99	$0.00	$174.49
	1 1/2 RFSS	$128.50	$45.99	$0.00	$174.49
	2"	$128.50	$45.99	$0.00	$174.49
	2" RFSS	$128.50	$45.99	$0.00	$174.49
	3" Compound	$385.49	$36.30	$0.00	$421.79
	3" Turbine	$385.49	$36.30	$0.00	$421.79
	4" Compound	$385.49	$36.30	$0.00	$421.79
	4" Turbine	$385.49	$36.30	$0.00	$421.79
	6" Compound	$385.49	$36.30	$0.00	$421.79
	6" Turbine	$385.49	$36.30	$0.00	$421.79
	8"	$385.49	$36.30	$0.00	$421.79
	10"	$385.49	$36.30	$0.00	$421.79
3	Tampering of Meter				
	3" and larger	$385.49	$36.30	$0.00	$421.79
4	Shut-Off and Restoration of Water Service				
	Site Visit for Non-payment	$64.25	$45.99	$0.00	$110.24
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	$64.25	$45.99	$0.00	$110.24
	Operating service valve 2" and smaller service lines	$64.25	$45.99	$0.00	$110.24
	Operating service valve larger than 2" service lines	$287.59	$144.80	$0.00	$432.38
	Obstructed curb stop, missing access box, requires excavation	$513.98	$289.59	$95.23	$898.80
	Curb stop inoperable, requires installation of new curb stop	$513.98	$289.59	$132.68	$936.25
	Obstructed curb stop, missing access box, requires excavation and footway paving	$513.98	$289.59	$107.21	$910.78
	Curb stop inoperable, requires installation of new curb stop and footway paving	$513.98	$289.59	$144.66	$948.23
	Excavation and shutoff of ferrule at the water main	$1,071.52	$715.58	$23.96	$1,811.06
5	Pumping of Properties	$169.72	$10.96	$0.00	$180.68
6	Charges for Water Main Shutdown Service	$287.59	$121.80	$0.00	$409.39
7	Water Connection Charges				
b	Ferrule Connections				
	3/4"	$143.79	$57.49	$54.21	$255.49
	1"	$143.79	$57.49	$88.81	$290.09
	1.5"	$143.79	$57.49	$149.44	$350.72

Fee Calculation (Overtime) FY 2026

Line No.	Description	Costs			
		Labor (With Overtime)	Equipment	Material	Total Cost (Overtime)
	2"	$143.79	$57.49	$250.06	$451.34
c	Valve Connections				
	3" & 4"	$11,429.54	$2,187.44	$2,804.60	$16,421.58
	6" & 8"	$11,429.54	$2,187.44	$3,978.70	$17,595.68
	10" & 12"	$11,429.54	$2,187.44	$7,424.27	$21,041.25
d	Attachment to a Transmission Main				
	3" & 4" Sleeve				
	16" Main	$14,286.92	$2,734.30	$10,399.94	$27,421.16
	20" Main	$14,286.92	$2,734.30	$13,491.17	$30,512.39
	24" Main	$14,286.92	$2,734.30	$16,502.26	$33,523.48
	30" Main	$14,286.92	$2,734.30	$32,876.30	$49,897.52
	36" Main	$14,286.92	$2,734.30	$42,288.52	$59,309.74
	6" & 8" Sleeve				
	16" Main	$14,286.92	$2,734.30	$10,686.17	$27,707.39
	20" Main	$14,286.92	$2,734.30	$13,033.21	$30,054.43
	24" Main	$14,286.92	$2,734.30	$16,502.26	$33,523.48
	30" Main	$14,286.92	$2,734.30	$35,582.19	$52,603.41
	36" Main	$14,286.92	$2,734.30	$48,524.43	$65,545.65
	10" & 12" Sleeve				
	16" Main	$14,286.92	$2,734.30	$10,743.41	$27,764.63
	20" Main	$14,286.92	$2,734.30	$14,292.60	$31,313.82
	24" Main	$14,286.92	$2,734.30	$16,502.26	$33,523.48
	30" Main	$14,286.92	$2,734.30	$36,581.93	$53,603.15
	36" Main	$14,286.92	$2,734.30	$52,402.89	$69,424.11
9	Hydrant Permits				
	One Week	$192.59	$121.80	$1,928.20	$2,242.59
	Six Month	$192.59	$121.80	$22,649.65	$22,964.03
10	Flow Tests	$556.82	$68.99	$94.55	$720.35
11	Water Service Line Investigations and/or Inspections	$143.79	$45.99	$0.00	$189.78
	Section 7- Miscellaneous Sewer Charges				
1	Sewer Charges for Groundwater				TBD-Rate Study
2	Charges for Wastewater Service				TBD-Rate Study
3	Wastewater Discharge Permit	$6,033.13	$0.00	$0.00	$6,033.13
4	Groundwater Discharge Permit	$3,323.49	$0.00	$0.00	$3,323.49
5	Manhole Pump-out Permit	$3,366.76	$0.00	$0.00	$3,366.76
6	Trucked or Hauled Wastewater Permit	$2,550.93	$0.00	$0.00	$2,550.93

Fee Calculation (Overtime) FY 2026

Line No.	Description	Costs			
		Labor (With Overtime)	Equipment	Material	Total Cost (Overtime)
7	Photographic & Video Inspection	$0.00	$0.00	$275.00	$275.00
	Section 8- Miscellaneous Stormwater Charges				
1	Stormwater Plan Review Fees				
	Conceptual Stormwater Plan Approval	$861.60	$0.00	$910.00	$1,771.60
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	$186.10	$0.00	$87.00	$273.10
	Final Inspection of Development Project	$435.81	$34.56	$0.00	$470.37
	E&S Second Reinspection	$116.53	$12.96	$0.00	$129.49
	E&S Third Reinspection	$116.53	$12.96	$0.00	$129.49
	E&S Fourth/Subsequent Reinspection	$116.53	$12.96	$0.00	$129.49
	Utility Plan Review Fee	$361.39	$0.00	$0.00	$361.39
2	Stormwater Management Fee in Lieu				
	Exemption to Water Quality Requirement	$0.00	$0.00	$0.00	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)				
1	Sewer Credit Application Fee	$1,696.10	$0.00	$0.00	$1,696.10
2	Sewer Credit Failure to Inform PWD about increase	$594.85	$0.00	$0.00	$594.85
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)				
3	Stormwater Credit Application Fee Renewal	$896.70	$0.00	$0.00	$896.70

Fee Calculation (No Overtime) FY 2027

Line No.	Description	Costs			
		Labor (No Overtime)	Equipment	Material/ Contractor	Total Cost (No Overtime)
	Section 6- Miscellaneous Water Charges				
1	Meter Test Charges				
	5/8"	$117.56	$47.97	$0.00	$165.53
	1",1.5",2"	$156.75	$71.96	$0.00	$228.71
	3",4",6",8",10",12"	$391.88	$47.33	$0.00	$439.21
	Field Tests 3" and above	$391.88	$47.33	$0.00	$439.21
2	Charges for Furnishing and Installation of Water Meters				
a	Setting both Meter and ERT				
	5/8"	$52.25	$47.97	$258.41	$358.63
	3/4 RFSS	$52.25	$47.97	$509.69	$609.91
	1"	$104.50	$47.97	$352.68	$505.15
	1" RFSS	$104.50	$47.97	$477.03	$629.50
	1 1/2	$104.50	$47.97	$1,231.25	$1,383.72
	1 1/2 RFSS	$104.50	$47.97	$1,023.75	$1,176.22
	2"	$104.50	$47.97	$1,231.25	$1,383.72
	2" RFSS	$104.50	$47.97	$1,275.35	$1,427.82
	3" Compound	$313.51	$37.86	$4,374.14	$4,725.51
	3" Turbine	$313.51	$37.86	$1,960.31	$2,311.68
	3" Fire Series	$313.51	$37.86	$4,324.94	$4,676.31
	4" Compound	$313.51	$37.86	$5,925.29	$6,276.66
	4" Turbine	$313.51	$37.86	$3,366.88	$3,718.25
	4" Fire Series	$313.51	$37.86	$5,834.48	$6,185.85
	4" Fire Assembly	$313.51	$37.86	$8,364.81	$8,716.18
	6" Compound	$313.51	$37.86	$9,056.18	$9,407.55
	6" Turbine	$313.51	$37.86	$6,714.07	$7,065.44
	6" Fire Series	$313.51	$37.86	$7,892.92	$8,244.29
	6" Fire Assembly	$313.51	$37.86	$13,377.16	$13,728.53
	8" Turbine	$313.51	$37.86	$8,074.27	$8,425.64
	8" Fire Series	$313.51	$37.86	$10,455.05	$10,806.42
	8" Fire Assembly	$313.51	$37.86	$17,345.46	$17,696.83
	10" Turbine	$313.51	$37.86	$11,783.41	$12,134.78
	10" Fire Series	$313.51	$37.86	$13,000.61	$13,351.98
	10" Fire Assembly	$313.51	$37.86	$25,298.86	$25,650.23
	12" Turbine	$313.51	$37.86	$12,629.38	$12,980.75
	12" Fire Series	$313.51	$37.86	$16,614.57	$16,965.94
	12" Fire Assembly	$313.51	$37.86	$26,983.74	$27,335.11

Fee Calculation (No Overtime) FY 2027

Line No.	Description	Costs			
		Labor (No Overtime)	Equipment	Material/ Contractor	Total Cost (No Overtime)
b	Furnishing and Setting ERT				
	5/8"	$52.25	$47.97	$0.00	$100.22
	3/4 RFSS	$52.25	$47.97	$0.00	$100.22
	1"	$104.50	$47.97	$0.00	$152.47
	1" RFSS	$104.50	$47.97	$0.00	$152.47
	1 1/2	$104.50	$47.97	$0.00	$152.47
	1 1/2 RFSS	$104.50	$47.97	$0.00	$152.47
	2"	$104.50	$47.97	$0.00	$152.47
	2" RFSS	$104.50	$47.97	$0.00	$152.47
	3" Compound	$313.51	$37.86	$0.00	$351.37
	3" Turbine	$313.51	$37.86	$0.00	$351.37
	4" Compound	$313.51	$37.86	$0.00	$351.37
	4" Turbine	$313.51	$37.86	$0.00	$351.37
	6" Compound	$313.51	$37.86	$0.00	$351.37
	6" Turbine	$313.51	$37.86	$0.00	$351.37
	8"	$313.51	$37.86	$0.00	$351.37
	10"	$313.51	$37.86	$0.00	$351.37
3	Tampering of Meter				
	5/8" or 3/4"	$52.25	$47.97	$0.00	$100.22
	1", 1.5" or 2"	$104.50	$47.97	$0.00	$152.47
	3" and larger	$313.51	$37.86	$0.00	$351.37
4	Shut-Off and Restoration of Water Service				
a	Site Visit for Non-payment	$52.25	$47.97	$0.00	$100.22
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	$52.25	$47.97	$0.00	$100.22
c	Restoration of Water Service				
	Operating service valve 2" and smaller service lines	$52.25	$47.97	$0.00	$100.22
	Operating service valve larger than 2" service lines	$245.39	$151.03	$0.00	$396.41
	Obstructed curb stop, missing access box, requires excavation	$418.01	$302.05	$101.90	$821.96
	Curb stop inoperable, requires installation of new curb stop	$418.01	$302.05	$141.97	$862.03
	Obstructed curb stop, missing access box, requires excavation and footway paving	$418.01	$302.05	$114.72	$834.78
	Curb stop inoperable, requires installation of new curb stop and footway paving	$418.01	$302.05	$154.79	$874.85
	Excavation and shutoff of ferrule at the water main	$905.93	$746.35	$25.64	$1,677.92
5	Pumping of Properties	$149.53	$11.43	$0.00	$160.96

Fee Calculation (No Overtime) FY 2027

Line No.	Description	Costs			
		Labor (No Overtime)	Equipment	Material/ Contractor	Total Cost (No Overtime)
6	Charges for Water Main Shutdown Service	$245.39	$127.04	$0.00	$372.43
7	Water Connection Charges				
b	Ferrule Connections				
	3/4"	$122.69	$59.96	$58.00	$240.66
	1"	$122.69	$59.96	$95.03	$277.69
	1.5"	$122.69	$59.96	$159.90	$342.56
	2"	$122.69	$59.96	$267.56	$450.22
c	Valve Connections				
	3" & 4"	$9,663.26	$2,281.36	$3,000.94	$14,945.56
	6" & 8"	$9,663.26	$2,281.36	$4,257.23	$16,201.84
	10" & 12"	$9,663.26	$2,281.36	$7,943.99	$19,888.61
d	Attachment to a Transmission Main				
	3" & 4" Sleeve				
	16" Main	$12,079.07	$2,851.70	$11,127.95	$26,058.72
	20" Main	$12,079.07	$2,851.70	$14,435.56	$29,366.33
	24" Main	$12,079.07	$2,851.70	$17,657.43	$32,588.20
	30" Main	$12,079.07	$2,851.70	$35,177.65	$50,108.42
	36" Main	$12,079.07	$2,851.70	$45,248.73	$60,179.50
	6" & 8" Sleeve				
	16" Main	$12,079.07	$2,851.70	$11,434.21	$26,364.98
	20" Main	$12,079.07	$2,851.70	$13,945.55	$28,876.32
	24" Main	$12,079.07	$2,851.70	$17,657.43	$32,588.20
	30" Main	$12,079.07	$2,851.70	$38,072.95	$53,003.72
	36" Main	$12,079.07	$2,851.70	$51,921.15	$66,851.92
	10" & 12" Sleeve				
	16" Main	$12,079.07	$2,851.70	$11,495.46	$26,426.23
	20" Main	$12,079.07	$2,851.70	$15,293.09	$30,223.86
	24" Main	$12,079.07	$2,851.70	$17,657.43	$32,588.20
	30" Main	$12,079.07	$2,851.70	$39,142.68	$54,073.45
	36" Main	$12,079.07	$2,851.70	$56,071.10	$71,001.87
8	Discontinuance of Water	$663.46	$237.20	$727.68	$1,628.33
9	Hydrant Permits				
	One Week	$199.33	$127.04	$1,971.28	$2,297.65
	Six Month	$199.33	$127.04	$22,692.73	$23,019.09
10	Flow Tests	$514.05	$71.96	$94.55	$680.56
11	Water Service Line Investigations and/or Inspections	$122.69	$47.97	$0.00	$170.66

Fee Calculation (No Overtime) FY 2027

Line No.	Description	Costs			
		Labor (No Overtime)	Equipment	Material/ Contractor	Total Cost (No Overtime)
	Section 7- Miscellaneous Sewer Charges				
1	Sewer Charges for Groundwater				TBD-Rate Study
2	Charges for Wastewater Service				TBD-Rate Study
3	Wastewater Discharge Permit	$6,024.88	$0.00	$0.00	$6,024.88
4	Groundwater Discharge Permit	$3,360.03	$0.00	$0.00	$3,360.03
5	Manhole Pump-out Permit	$3,285.13	$0.00	$0.00	$3,285.13
6	Trucked or Hauled Wastewater Permit	$2,580.38	$0.00	$0.00	$2,580.38
7	Photographic & Video Inspection	$0.00	$0.00	$275.00	$275.00
	Section 8- Miscellaneous Stormwater Charges				
1	Stormwater Plan Review Fees				
	Conceptual Stormwater Plan Approval	$883.56	$0.00	$910.00	$1,793.56
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	$170.80	$0.00	$87.00	$257.80
	Final Inspection of Development Project	$382.16	$36.04	$0.00	$418.20
	E&S Second Reinspection	$94.77	$13.52	$0.00	$108.28
	E&S Third Reinspection	$94.77	$13.52	$0.00	$108.28
	E&S Fourth/Subsequent Reinspection	$94.77	$13.52	$0.00	$108.28
	Utility Plan Review Fee	$360.55	$0.00	$0.00	$360.55
2	Stormwater Management Fee in Lieu				
	Exemption to Water Quality Requirement	$0.00	$0.00	$0.00	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)				
1	Sewer Credit Application Fee	$1,695.62	$0.00	$0.00	$1,695.62
2	Sewer Credit Failure to Inform PWD about increase	$615.67	$0.00	$0.00	$615.67
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)				
3	Stormwater Credit Application Fee Renewal	$928.09	$0.00	$0.00	$928.09

Fee Calculation (Overtime) FY 2027

Line No.	Description	Costs			
		Labor (With Overtime)	Equipment	Material	Total Cost (Overtime)
	Section 6- Miscellaneous Water Charges				
1	Meter Test Charges				
	3",4",6",8",10",12"	$498.73	$47.33	$0.00	$546.05
	Field Tests 3" and above	$498.73	$47.33	$0.00	$546.05
2	Charges for Furnishing and Installation of Water Meters				
a	Setting both Meter and ERT				
	5/8"	$66.50	$47.97	$258.41	$372.88
	3/4 RFSS	$66.50	$47.97	$509.69	$624.16
	1"	$132.99	$47.97	$352.68	$533.64
	1" RFSS	$132.99	$47.97	$477.03	$657.99
	1 1/2	$132.99	$47.97	$1,231.25	$1,412.21
	1 1/2 RFSS	$132.99	$47.97	$1,023.75	$1,204.71
	2"	$132.99	$47.97	$1,231.25	$1,412.21
	2" RFSS	$132.99	$47.97	$1,275.35	$1,456.31
	3" Compound	$398.98	$37.86	$4,374.14	$4,810.98
	3" Turbine	$398.98	$37.86	$1,960.31	$2,397.15
	3" Fire Series	$398.98	$37.86	$4,324.94	$4,761.78
	4" Compound	$398.98	$37.86	$5,925.29	$6,362.13
	4" Turbine	$398.98	$37.86	$3,366.88	$3,803.72
	4" Fire Series	$398.98	$37.86	$5,834.48	$6,271.32
	4" Fire Assembly	$398.98	$37.86	$8,364.81	$8,801.65
	6" Compound	$398.98	$37.86	$9,056.18	$9,493.02
	6" Turbine	$398.98	$37.86	$6,714.07	$7,150.91
	6" Fire Series	$398.98	$37.86	$7,892.92	$8,329.76
	6" Fire Assembly	$398.98	$37.86	$13,377.16	$13,814.00
	8" Turbine	$398.98	$37.86	$8,074.27	$8,511.11
	8" Fire Series	$398.98	$37.86	$10,455.05	$10,891.89
	8" Fire Assembly	$398.98	$37.86	$17,345.46	$17,782.30
	10" Turbine	$398.98	$37.86	$11,783.41	$12,220.25
	10" Fire Series	$398.98	$37.86	$13,000.61	$13,437.45
	10" Fire Assembly	$398.98	$37.86	$25,298.86	$25,735.70
	12" Turbine	$398.98	$37.86	$12,629.38	$13,066.22
	12" Fire Series	$398.98	$37.86	$16,614.57	$17,051.41
	12" Fire Assembly	$398.98	$37.86	$26,983.74	$27,420.58
b	Furnishing and Setting ERT				
	5/8"	$66.50	$47.97	$0.00	$114.47

Fee Calculation (Overtime) FY 2027

Line No.	Description	Costs			
		Labor (With Overtime)	Equipment	Material	Total Cost (Overtime)
	3/4 RFSS	$66.50	$47.97	$0.00	$114.47
	1"	$132.99	$47.97	$0.00	$180.96
	1" RFSS	$132.99	$47.97	$0.00	$180.96
	1 1/2	$132.99	$47.97	$0.00	$180.96
	1 1/2 RFSS	$132.99	$47.97	$0.00	$180.96
	2"	$132.99	$47.97	$0.00	$180.96
	2" RFSS	$132.99	$47.97	$0.00	$180.96
	3" Compound	$398.98	$37.86	$0.00	$436.84
	3" Turbine	$398.98	$37.86	$0.00	$436.84
	4" Compound	$398.98	$37.86	$0.00	$436.84
	4" Turbine	$398.98	$37.86	$0.00	$436.84
	6" Compound	$398.98	$37.86	$0.00	$436.84
	6" Turbine	$398.98	$37.86	$0.00	$436.84
	8"	$398.98	$37.86	$0.00	$436.84
	10"	$398.98	$37.86	$0.00	$436.84
3	Tampering of Meter				
	5/8" or 3/4"	$66.50	$47.97	$0.00	$114.47
	1", 1.5" or 2"	$132.99	$47.97	$0.00	$180.96
	3" and larger	$398.98	$37.86	$0.00	$436.84
4	Shut-Off and Restoration of Water Service				
	Site Visit for Non-payment	$66.50	$47.97	$0.00	$114.47
b	Non-compliance with Notice of Defect and/or Metering Non-compliance	$66.50	$47.97	$0.00	$114.47
	Operating service valve 2" and smaller service lines	$66.50	$47.97	$0.00	$114.47
	Operating service valve larger than 2" service lines	$297.65	$151.03	$0.00	$448.68
	Obstructed curb stop, missing access box, requires excavation	$531.97	$302.05	$101.90	$935.92
	Curb stop inoperable, requires installation of new curb stop	$531.97	$302.05	$141.97	$975.99
	Obstructed curb stop, missing access box, requires excavation and footway paving	$531.97	$302.05	$114.72	$948.74
	Curb stop inoperable, requires installation of new curb stop and footway paving	$531.97	$302.05	$154.79	$988.81
	Excavation and shutoff of ferrule at the water main	$1,109.02	$746.35	$25.64	$1,881.01
5	Pumping of Properties	$175.67	$11.43	$0.00	$187.10
6	Charges for Water Main Shutdown Service	$297.65	$127.04	$0.00	$424.69
7	Water Connection Charges				
b	Ferrule Connections				

Fee Calculation (Overtime) FY 2027

Line No.	Description	Costs			
		Labor (With Overtime)	Equipment	Material	Total Cost (Overtime)
	3/4"	$148.83	$59.96	$58.00	$266.79
	1"	$148.83	$59.96	$95.03	$303.82
	1.5"	$148.83	$59.96	$159.90	$368.69
	2"	$148.83	$59.96	$267.56	$476.35
c	Valve Connections				
	3" & 4"	$11,829.57	$2,281.36	$3,000.94	$17,111.87
	6" & 8"	$11,829.57	$2,281.36	$4,257.23	$18,368.15
	10" & 12"	$11,829.57	$2,281.36	$7,943.99	$22,054.92
d	Attachment to a Transmission Main				
	3" & 4" Sleeve				
	16" Main	$14,786.96	$2,851.70	$11,127.95	$28,766.61
	20" Main	$14,786.96	$2,851.70	$14,435.56	$32,074.22
	24" Main	$14,786.96	$2,851.70	$17,657.43	$35,296.09
	30" Main	$14,786.96	$2,851.70	$35,177.65	$52,816.31
	36" Main	$14,786.96	$2,851.70	$45,248.73	$62,887.39
	6" & 8" Sleeve				
	16" Main	$14,786.96	$2,851.70	$11,434.21	$29,072.87
	20" Main	$14,786.96	$2,851.70	$13,945.55	$31,584.21
	24" Main	$14,786.96	$2,851.70	$17,657.43	$35,296.09
	30" Main	$14,786.96	$2,851.70	$38,072.95	$55,711.61
	36" Main	$14,786.96	$2,851.70	$51,921.15	$69,559.81
	10" & 12" Sleeve				
	16" Main	$14,786.96	$2,851.70	$11,495.46	$29,134.12
	20" Main	$14,786.96	$2,851.70	$15,293.09	$32,931.75
	24" Main	$14,786.96	$2,851.70	$17,657.43	$35,296.09
	30" Main	$14,786.96	$2,851.70	$39,142.68	$56,781.34
	36" Main	$14,786.96	$2,851.70	$56,071.10	$73,709.76
9	Hydrant Permits				
	One Week	$199.33	$127.04	$1,971.28	$2,297.65
	Six Month	$199.33	$127.04	$22,692.73	$23,019.09
10	Flow Tests	$576.30	$71.96	$94.55	$742.81
11	Water Service Line Investigations and/or Inspections	$148.83	$47.97	$0.00	$196.80
	Section 7- Miscellaneous Sewer Charges				
1	Sewer Charges for Groundwater				TBD-Rate Study
2	Charges for Wastewater Service				TBD-Rate Study
3	Wastewater Discharge Permit	$6,244.29	$0.00	$0.00	$6,244.29

Fee Calculation (Overtime) FY 2027

Line No.	Description	Costs			
		Labor (With Overtime)	Equipment	Material	Total Cost (Overtime)
4	Groundwater Discharge Permit	$3,439.81	$0.00	$0.00	$3,439.81
5	Manhole Pump-out Permit	$3,484.59	$0.00	$0.00	$3,484.59
6	Trucked or Hauled Wastewater Permit	$2,640.22	$0.00	$0.00	$2,640.22
7	Photographic & Video Inspection	$0.00	$0.00	$275.00	$275.00
	Section 8- Miscellaneous Stormwater Charges				
1	Stormwater Plan Review Fees				
	Conceptual Stormwater Plan Approval	$891.75	$0.00	$910.00	$1,801.75
	Post Construction Stormwater Plan Approval (Additional Review Time Fee)	$192.61	$0.00	$87.00	$279.61
	Final Inspection of Development Project	$451.06	$36.04	$0.00	$487.10
	E&S Second Reinspection	$120.61	$13.52	$0.00	$134.12
	E&S Third Reinspection	$120.61	$13.52	$0.00	$134.12
	E&S Fourth/Subsequent Reinspection	$120.61	$13.52	$0.00	$134.12
	Utility Plan Review Fee	$374.03	$0.00	$0.00	$374.03
2	Stormwater Management Fee in Lieu				
	Exemption to Water Quality Requirement	$0.00	$0.00	$0.00	$0.00
	Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)				
1	Sewer Credit Application Fee	$1,755.46	$0.00	$0.00	$1,755.46
2	Sewer Credit Failure to Inform PWD about increase	$615.67	$0.00	$0.00	$615.67
	Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)				
3	Stormwater Credit Application Fee Renewal	$928.09	$0.00	$0.00	$928.09

Philadelphia Water Department

								Increase	Decrease	Increase	Decrease
TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)											
			1	2	3	4	5	6	7	8	9
				Calculated Charges		PWD Miscellaneous Charges					
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027	Variance ($) Proposed-FY 2026 to Existing Charges	Variance (%) Proposed-FY 2026 to Existing Charges	Variance ($) Proposed-FY 2026 to Proposed-FY 2027 Charges	Variance (%) Proposed-FY 2026 to Proposed-FY 2027 Charges
Section 6- Miscellaneous Water Charges											
1	Meter Test Charges	6.1									
	5/8"	6.1 (e)	$140.00	$159.58	$165.53	$160.00	$170.00	$20.00	14%	$10.00	6%
	1",1.5",2"	6.1 (e)	$190.00	$220.44	$228.71	$225.00	$230.00	$35.00	18%	$5.00	2%
	3",4",6",8",10",12"	6.1 (e)	$400.00	$424.00	$439.21	$425.00	$440.00	$25.00	6%	$15.00	4%
	Field Tests 3" and above	6.1 (e)	$400.00	$424.00	$439.21	$425.00	$440.00	$25.00	6%	$15.00	4%
2	Charges for Furnishing and Installation of Water Meters	6.2									
a	Setting both Meter and Meter Interface Unit (MIU)	6.2 (a)									
	5/8"	6.2 (a)	$230.00	$295.25	$358.63	$300.00	$360.00	$70.00	30%	$60.00	20%
	3/4 RFSS	6.2 (a)	$435.00	$539.68	$609.91	$540.00	$610.00	$105.00	24%	$70.00	13%
	1"	6.2 (a)	$395.00	$453.64	$505.15	$455.00	$510.00	$60.00	15%	$55.00	12%
	1" RFSS	6.2 (a)	$490.00	$561.77	$629.50	$565.00	$630.00	$75.00	15%	$65.00	12%
	1 1/2	6.2 (a)	$875.00	$1,217.61	$1,383.72	$1,220.00	$1,385.00	$345.00	39%	$165.00	14%
	1 1/2 RFSS	6.2 (a)	$825.00	$1,037.18	$1,176.22	$1,040.00	$1,180.00	$215.00	26%	$140.00	13%
	2"	6.2 (a)	$1,055.00	$1,217.61	$1,383.72	$1,220.00	$1,385.00	$165.00	16%	$165.00	14%
	2" RFSS	6.2 (a)	$1,070.00	$1,255.96	$1,427.82	$1,260.00	$1,430.00	$190.00	18%	$170.00	13%
	3" Compound	6.2 (a)	$3,485.00	$4,142.80	$4,725.51	$4,145.00	$4,730.00	$660.00	19%	$585.00	14%
	3" Turbine	6.2 (a)	$1,910.00	$2,043.82	$2,311.68	$2,045.00	$2,315.00	$135.00	7%	$270.00	13%
	3" Fire Series	6.2 (a)	$3,820.00	$4,100.02	$4,676.31	$4,105.00	$4,680.00	$285.00	7%	$575.00	14%
	4" Compound	6.2 (a)	$4,830.00	$5,491.63	$6,276.66	$5,495.00	$6,280.00	$665.00	14%	$785.00	14%
	4" Turbine	6.2 (a)	$2,760.00	$3,266.92	$3,718.25	$3,270.00	$3,720.00	$510.00	18%	$450.00	14%
	4" Fire Series	6.2 (a)	$4,725.00	$5,412.66	$6,185.85	$5,415.00	$6,190.00	$690.00	15%	$775.00	14%
	4" Fire Assembly	6.2 (a)	$6,385.00	$7,612.95	$8,716.18	$7,615.00	$8,720.00	$1,230.00	19%	$1,105.00	15%
	6" Compound	6.2 (a)	$6,760.00	$8,214.14	$9,407.55	$8,215.00	$9,410.00	$1,455.00	22%	$1,195.00	15%
	6" Turbine	6.2 (a)	$5,200.00	$6,177.52	$7,065.44	$6,180.00	$7,070.00	$980.00	19%	$890.00	14%
	6" Fire Series	6.2 (a)	$6,255.00	$7,202.61	$8,244.29	$7,205.00	$8,245.00	$950.00	15%	$1,040.00	14%
	6" Fire Assembly	6.2 (a)	$9,120.00	$11,971.51	$13,728.53	$11,975.00	$13,730.00	$2,855.00	31%	$1,755.00	15%
	8" Turbine	6.2 (a)	$6,175.00	$7,360.30	$8,425.64	$7,365.00	$8,430.00	$1,190.00	19%	$1,065.00	14%
	8" Fire Series	6.2 (a)	$7,925.00	$9,430.55	$10,806.42	$9,435.00	$10,810.00	$1,510.00	19%	$1,375.00	15%

Philadelphia Water Department

TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)

								Increase	Decrease	Increase	Decrease
			1	2	3	4	5	6	7	8	9
				Calculated Charges		PWD Miscellaneous Charges					
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027	Variance ($) Proposed-FY 2026 to Existing Charges	Variance (%) Proposed-FY 2026 to Existing Charges	Variance ($) Proposed-FY 2026 to Proposed-FY 2027 Charges	Variance (%) Proposed-FY 2026 to Proposed-FY 2027 Charges
	8" Fire Assembly	6.2 (a)	$12,890.00	$15,422.21	$17,696.83	$15,425.00	$17,700.00	$2,535.00	20%	$2,275.00	15%
	10" Turbine	6.2 (a)	$8,960.00	$10,585.64	$12,134.78	$10,590.00	$12,135.00	$1,630.00	18%	$1,545.00	15%
	10" Fire Series	6.2 (a)	$9,760.00	$11,644.08	$13,351.98	$11,645.00	$13,355.00	$1,885.00	19%	$1,710.00	15%
	10" Fire Assembly	6.2 (a)	$18,630.00	$22,338.21	$25,650.23	$22,340.00	$25,655.00	$3,710.00	20%	$3,315.00	15%
	12" Turbine	6.2 (a)	$9,490.00	$11,321.27	$12,980.75	$11,325.00	$12,985.00	$1,835.00	19%	$1,660.00	15%
	12" Fire Series	6.2 (a)	$10,975.00	$14,786.65	$16,965.94	$14,790.00	$16,970.00	$3,815.00	35%	$2,180.00	15%
	12" Fire Assembly	6.2 (a)	$19,845.00	$23,803.32	$27,335.11	$23,805.00	$27,340.00	$3,960.00	20%	$3,535.00	15%
b	Furnishing and Setting Meter Interface Unit (MIU)	6.2 (b)									
	5/8"	6.2 (b)	$75.00	$96.47	$100.22	$100.00	$105.00	$25.00	33%	$5.00	5%
	3/4 RFSS	6.2 (b)	$75.00	$96.47	$100.22	$100.00	$105.00	$25.00	33%	$5.00	5%
	1"	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00	$25.00	20%	$5.00	3%
	1" RFSS	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00	$25.00	20%	$5.00	3%
	1 1/2	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00	$25.00	20%	$5.00	3%
	1 1/2 RFSS	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00	$25.00	20%	$5.00	3%
	2"	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00	$25.00	20%	$5.00	3%
	2" RFSS	6.2 (b)	$125.00	$146.96	$152.47	$150.00	$155.00	$25.00	20%	$5.00	3%
	3" Compound	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00	$20.00	6%	$15.00	4%
	3" Turbine	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00	$20.00	6%	$15.00	4%
	4" Compound	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00	$20.00	6%	$15.00	4%
	4" Turbine	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00	$20.00	6%	$15.00	4%
	6" Compound	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00	$20.00	6%	$15.00	4%
	6" Turbine	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00	$20.00	6%	$15.00	4%
	8"	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00	$20.00	6%	$15.00	4%
	10"	6.2 (b)	$320.00	$339.20	$351.37	$340.00	$355.00	$20.00	6%	$15.00	4%
3	Tampering of Meter	6.3									
	5/8" or 3/4"	6.3 (a)	$90.00	$96.47	$100.22	$110.00	$120.00	$20.00	22%	$10.00	9%
	1", 1.5" or 2"	6.3 (a)	$140.00	$146.96	$152.47	$170.00	$170.00	$30.00	21%	$0.00	0%
	3" and larger	6.3 (a)	$350.00	$339.20	$351.37	$380.00	$390.00	$30.00	9%	$10.00	3%
4	Shut-Off and Restoration of Water Service	6.4									

Philadelphia Water Department

TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)

								Increase	Decrease	Increase	Decrease
			1	2	3	4	5	6	7	8	9
				Calculated Charges		PWD Miscellaneous Charges					
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027	Variance ($) Proposed-FY 2026 to Existing Charges	Variance (%) Proposed-FY 2026 to Existing Charges	Variance ($) Proposed-FY 2026 to Proposed-FY 2027 Charges	Variance (%) Proposed-FY 2026 to Proposed-FY 2027 Charges
a	Site Visit for Non-payment	6.4 (a)	$75.00	$96.47	$100.22	$100.00	$105.00	$25.00	33%	$5.00	5%
b	Non-compliance with Notice of Defect and/or Metering No	6.4 (b)	$75.00	$96.47	$100.22	$100.00	$105.00	$25.00	33%	$5.00	5%
c	Restoration of Water Service	6.4 (c)									
	Operating service valve 2" and smaller service lines	6.4 (c) (1) (i)	$75.00	$96.47	$100.22	$100.00	$105.00	$25.00	33%	$5.00	5%
	Operating service valve larger than 2" service lines	6.4 (c) (1) (ii)	$370.00	$381.88	$396.41	$385.00	$400.00	$15.00	4%	$15.00	4%
	Obstructed curb stop, missing access box, requires excavation	6.4 (c) (2)	$725.00	$788.69	$821.96	$790.00	$825.00	$65.00	9%	$35.00	4%
	Curb stop inoperable, requires installation of new curb stop	6.4 (c) (3)	$765.00	$826.14	$862.03	$830.00	$865.00	$65.00	8%	$35.00	4%
	Obstructed curb stop, missing access box, requires excavation and footway paving	6.4 (c) (4)	$735.00	$800.67	$834.78	$805.00	$835.00	$70.00	10%	$30.00	4%
	Curb stop inoperable, requires installation of new curb stop and footway paving	6.4 (c) (5)	$775.00	$838.12	$874.85	$840.00	$875.00	$65.00	8%	$35.00	4%
	Excavation and shutoff of ferrule at the water main	6.4 (c) (6)	$1,505.00	$1,614.84	$1,677.92	$1,615.00	$1,680.00	$110.00	7%	$65.00	4%
	TAP Customers -Shut-off and Restoration of Water Service	*6.4 (e)*									
	Shut off service for non-payment; and, payment is tendered at the time of the shut-off	*6.4 (e) (1)*	NA	NA	NA	$12.00	$12.00	NA	NA	NA	NA
	Restore water service after termination for non-payment or violation of service requirements	*6.4 (e) (2)*	NA	NA	NA	$12.00	$12.00	NA	NA	NA	NA
5	Pumping of Properties	6.5	Actual Cost	$155.43	$160.96	Actual Cost	Actual Cost	$0.00	0%	$0.00	0.0%
6	Charges for Water Main Shutdown Service	6.6	$360.00	$358.89	$372.43	$360.00	$375.00	$0.00	0%	$15.00	4%
7	Water Connection Charges	6.7									
b	Ferrule Connections	6.7 (b)									
	3/4"	6.7 (b) (2)	$190.00	$230.24	$240.66	$235.00	$245.00	$45.00	24%	$10.00	4%
	1"	6.7 (b) (2)	$220.00	$264.84	$277.69	$265.00	$280.00	$45.00	20%	$15.00	6%
	1.5"	6.7 (b) (2)	$265.00	$325.47	$342.56	$330.00	$345.00	$65.00	25%	$15.00	5%
	2"	6.7 (b) (2)	$335.00	$426.09	$450.22	$430.00	$455.00	$95.00	28%	$25.00	6%
c	Valve Connections	6.7 (c)									
	3" & 4"	6.7 (c) (1)	$13,235.00	$14,328.52	$14,945.56	$14,330.00	$14,950.00	$1,095.00	8%	$620.00	4%
	6" & 8"	6.7 (c) (1)	$14,160.00	$15,502.62	$16,201.84	$15,505.00	$16,205.00	$1,345.00	9%	$700.00	5%
	10" & 12"	6.7 (c) (1)	$16,990.00	$18,948.19	$19,888.61	$18,950.00	$19,890.00	$1,960.00	12%	$940.00	5%
d	Attachment to a Transmission Main	6.7 (d)									

Philadelphia Water Department

								Increase	Decrease	Increase	Decrease
TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)											
			1	2	3	4	5	6	7	8	9
				Calculated Charges		PWD Miscellaneous Charges					
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027	Variance ($) Proposed-FY 2026 to Existing Charges	Variance (%) Proposed-FY 2026 to Existing Charges	Variance ($) Proposed-FY 2026 to Proposed-FY 2027 Charges	Variance (%) Proposed-FY 2026 to Proposed-FY 2027 Charges
	3" & 4" Sleeve	6.7 (d) (2)									
	16" Main	6.7 (d) (2)	$21,665.00	$24,804.84	$26,058.72	$24,805.00	$26,060.00	$3,140.00	14%	$1,255.00	5%
	20" Main	6.7 (d) (2)	$23,970.00	$27,896.07	$29,366.33	$27,900.00	$29,370.00	$3,930.00	16%	$1,470.00	5%
	24" Main	6.7 (d) (2)	$26,430.00	$30,907.16	$32,588.20	$30,910.00	$32,590.00	$4,480.00	17%	$1,680.00	5%
	30" Main	6.7 (d) (2)	$39,465.00	$47,281.20	$50,108.42	$47,285.00	$50,110.00	$7,820.00	20%	$2,825.00	6%
	36" Main	6.7 (d) (2)	$46,870.00	$56,693.42	$60,179.50	$56,695.00	$60,180.00	$9,825.00	21%	$3,485.00	6%
	6" & 8" Sleeve	6.7 (d) (2)									
	16" Main	6.7 (d) (2)	$21,895.00	$25,091.07	$26,364.98	$25,095.00	$26,365.00	$3,200.00	15%	$1,270.00	5%
	20" Main	6.7 (d) (2)	$23,660.00	$27,438.11	$28,876.32	$27,440.00	$28,880.00	$3,780.00	16%	$1,440.00	5%
	24" Main	6.7 (d) (2)	$26,430.00	$30,907.16	$32,588.20	$30,910.00	$32,590.00	$4,480.00	17%	$1,680.00	5%
	30" Main	6.7 (d) (2)	$41,595.00	$49,987.09	$53,003.72	$49,990.00	$53,005.00	$8,395.00	20%	$3,015.00	6%
	36" Main	6.7 (d) (2)	$51,775.00	$62,929.33	$66,851.92	$62,930.00	$66,855.00	$11,155.00	22%	$3,925.00	6%
	10" & 12" Sleeve	6.7 (d) (2)									
	16" Main	6.7 (d) (2)	$21,970.00	$25,148.31	$26,426.23	$25,150.00	$26,430.00	$3,180.00	14%	$1,280.00	5%
	20" Main	6.7 (d) (2)	$24,045.00	$28,697.50	$30,223.86	$28,700.00	$30,225.00	$4,655.00	19%	$1,525.00	5%
	24" Main	6.7 (d) (2)	$26,430.00	$30,907.16	$32,588.20	$30,910.00	$32,590.00	$4,480.00	17%	$1,680.00	5%
	30" Main	6.7 (d) (2)	$42,275.00	$50,986.83	$54,073.45	$50,990.00	$54,075.00	$8,715.00	21%	$3,085.00	6%
	36" Main	6.7 (d) (2)	$54,680.00	$66,807.79	$71,001.87	$66,810.00	$71,005.00	$12,130.00	22%	$4,195.00	6%
8	Discontinuance of Water	6.8	$100.00	$1,548.52	$1,628.33	$100.00	$100.00	$0.00	0%	$0.00	0%
9	Hydrant Permits	6.9									
	One Week	6.9 (b) (1)	$1,690.00	$2,242.59	$2,297.65	$2,245.00	$2,300.00	$555.00	33%	$55.00	2%
	Six Month	6.9 (b) (2)	$8,815.00	$22,964.03	$23,019.09	$12,345.00	$17,285.00	$3,530.00	40%	$4,940.00	40%
10	Flow Tests	6.10	$585.00	$660.20	$680.56	$665.00	$685.00	$80.00	14%	$20.00	3%
11	Water Service Line Investigations and/or Inspections	6.11	$140.00	$164.53	$170.66	$165.00	$175.00	$25.00	18%	$10.00	6%
Section 7- Miscellaneous Sewer Charges											
1	Sewer Charges for Groundwater	7.1	$14.81	TBD-Rate Study							
2	Charges for Wastewater Service	7.2	$65.88	TBD-Rate Study							

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								Increase	Decrease	Increase	Decrease
TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)											
			1	2	3	4	5	6	7	8	9
				Calculated Charges		PWD Miscellaneous Charges					
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027	Variance ($) Proposed-FY 2026 to Existing Charges	Variance (%) Proposed-FY 2026 to Existing Charges	Variance ($) Proposed-FY 2026 to Proposed-FY 2027 Charges	Variance (%) Proposed-FY 2026 to Proposed-FY 2027 Charges
3	Wastewater Discharge Permit	7.3	$3,845.00	$5,821.14	$6,024.88	$5,385.00	$6,025.00	$1,540.00	40%	$640.00	12%
4	Groundwater Discharge Permit	7.4	$2,860.00	$3,246.40	$3,360.03	$3,250.00	$3,365.00	$390.00	14%	$115.00	4%
5	Manhole Pump-out Permit	7.5	$2,950.00	$3,174.04	$3,285.13	$3,175.00	$3,290.00	$225.00	8%	$115.00	4%
6	Trucked or Hauled Wastewater Permit	7.6	$1,610.00	$2,493.12	$2,580.38	$2,255.00	$2,585.00	$645.00	40%	$330.00	15%
7	Photographic & Video Inspection	7.7	$275.00	$275.00	$275.00	$275.00	$275.00	$0.00	0%	$0.00	0%
Section 8- Miscellaneous Stormwater Charges											
1	Stormwater Plan Review Fees	8.1									
	Conceptual Stormwater Plan Approval	8.1 (a) (1)	$1,515.00	$1,763.68	$1,793.56	$1,765.00	$1,795.00	$250.00	17%	$30.00	2%
	Post Construction Stormwater Plan Approval (Additional Re	8.1 (a) (2)	$225.00	$252.03	$257.80	$255.00	$260.00	$30.00	13%	$5.00	2%
	Final Inspection of Development Project	8.1 (a) (3)	$385.00	$403.80	$418.20	$405.00	$420.00	$20.00	5%	$15.00	4%
	E&S Second Reinspection	ew Fee 8.1 (a) (4) (	$0.00	$104.52	$108.28	$105.00	$110.00	$105.00		$5.00	5%
	E&S Third Reinspection	ew Fee 8.1 (a) (4) (	$0.00	$104.52	$108.28	$210.00	$220.00	$210.00		$10.00	5%
	E&S Fourth/Subsequent Reinspection	ew Fee 8.1 (a) (4) (	$0.00	$104.52	$108.28	$315.00	$325.00	$315.00		$10.00	3%
	Utility Plan Review Fee	8.3 (a)	$320.00	$348.36	$360.55	$350.00	$365.00	$30.00	9%	$15.00	4%
2	Stormwater Management Fee in Lieu	8.2									
	Exemption to Water Quality Requirement	8.2 (a)	$36.00	$39.69	$39.69	$40.00	$40.00	$4.00	11%	$0.00	0%
Other- Not in the Miscellaneous Charges Section (Section 3- Rates and Charges)											
1	Sewer Credit Application Fee	3.5 (c)	$1,150.00	$1,638.28	$1,695.62	$1,610.00	$1,700.00	$460.00	40%	$90.00	6%
2	Sewer Credit Failure to Inform PWD about increase	3.5 (f)	$540.00	$594.85	$615.67	$595.00	$620.00	$55.00	10%	$25.00	4%
Other- Not in the Miscellaneous Charges Section (Section 4- Rates and Charges)											
3	Stormwater Credit Application Fee Renewal	4.5 (f) (4)	$395.00	$896.70	$928.09	$555.00	$780.00	$160.00	41%	$225.00	41%

Column Notes

1 From the PWD Regulations Chapter 3-Rates and Charges Effective September 1, 2024 (FY 2025 Charges)

Philadelphia Water Department

								Increase	Decrease	Increase	Decrease
TABLE M-1- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING BUSINESS HOURS)											
			1	2	3	4	5	6	7	8	9
				Calculated Charges		PWD Miscellaneous Charges					
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027	Variance ($) Proposed-FY 2026 to Existing Charges	Variance (%) Proposed-FY 2026 to Existing Charges	Variance ($) Proposed-FY 2026 to Proposed-FY 2027 Charges	Variance (%) Proposed-FY 2026 to Proposed-FY 2027 Charges

2,3 Calculated charges for work performed during Water Department's regular business hours (9:00 a.m. to 4:45 p.m.) (i.e. not including overtime)

FY 2026 Labor costs assume an escalation of 5% from FY 2025 budgeted salary costs .

FY 2027 labor costs assume an escalation of 3.5% from FY 2026 escalated salary costs.

Equipment costs based on FY 2023 FEMA rates.

Since FEMA costs are a lagging indicator, annual escalation applied to project FY 2026 and FY 2027 equipment costs.

Material costs provided by PWD. Small meter (5/8 Inch) costs escalated by 30%, for large meters (>5/8 Inch) costs escalated by 15%

and 7% for all other materials each year in FY 2026 and FY 2027.

4,5 Proposed FY 2026 -FY 2027 Miscellaneous charges.

Row Notes

Section 6.2 (b) ERT material costs are excluded because ERTs are under warranty. Removed ERTs are sent to ITRON and ITRON sends a replacement.

The cost of ERT is built into the ITRON contract and is recovered through the meter based charges.

Section 6.8 City Code (Chapter 19-1600 Water Sewer Rents) stipulates the Discontinuance Permit fee at $100 (allocated $30 for water department use and $70 for general fund use).

Section 7.7 Per PWD Staff the customer is billed the amount that is charged by the contractor, which is $275.

Section 8.1 (a) Development Services Unit has proposed new fees for reinspections.

Section 8.2 (a) Fee per square foot of Drainage area. Based on FY 2024 design, construction and maintenance costs provided by PWD.

Philadelphia Water Department

TABLE M-2- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING NON BUSINESS HOURS)

								Increase	Decrease	Increase	Decrease
			1	2	3	4	5	6	7	8	9
				Calculated Charges		PWD Miscellaneous Charges					
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges (Non Business Hours)	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027	Variance between Existing and Initial Draft-FY 2026	% Variance between Existing and Initial Draft-FY 2026	Variance ($) Initial Draft-FY 2026 to Initial Draft-FY 2027 Charges	Variance (%) Initial Draft-FY 2026 to Initial Draft-FY 2027 Charges
Section 6- Miscellaneous Water Charges											
1	Meter Test Charges	6.1									
	5/8"		Cost during regular business hours + Overtime + Addl expenses incurred	$190.55	$197.59	$ 160 Plus Addl Expenses for Overtime	$ 170 Plus Addl Expenses for Overtime	$20.00	14%	$10.00	6%
	1",1.5",2"		Cost during regular business hours + Overtime + Addl expenses incurred	$261.73	$271.45	$ 225 Plus Addl Expenses for Overtime	$ 230 Plus Addl Expenses for Overtime	$35.00	18%	$5.00	2%
	3",4",6",8",10",12"		Cost during regular business hours + Overtime + Addl expenses incurred	$527.24	$546.05	$ 425 Plus Addl Expenses for Overtime	$ 440 Plus Addl Expenses for Overtime	$25.00	6%	$15.00	4%
	Field Tests 3" and above		Cost during regular business hours + Overtime + Addl expenses incurred	$527.24	$546.05	$ 425 Plus Addl Expenses for Overtime	$ 440 Plus Addl Expenses for Overtime	$25.00	6%	$15.00	4%
7	Water Connection Charges										
	Ferrule Connections	6.7 (b)									
	3/4"	6.7 (b) (3)	$215.00	$255.49	$266.79	$260.00	$270.00	$45.00	21%	$10.00	4%
	1"	6.7 (b) (3)	$245.00	$290.09	$303.82	$295.00	$305.00	$50.00	20%	$10.00	3%
	1.5"	6.7 (b) (3)	$290.00	$350.72	$368.69	$355.00	$370.00	$65.00	22%	$15.00	4%
	2"	6.7 (b) (3)	$360.00	$451.34	$476.35	$455.00	$480.00	$95.00	26%	$25.00	5%
	Valve Connections	6.7 (c)									
	3" & 4"	6.7 (c) (2)	$15,290.00	$16,421.58	$17,111.87	$16,425.00	$17,115.00	$1,135.00	7%	$690.00	4%
	6" & 8"	6.7 (c) (2)	$16,215.00	$17,595.68	$18,368.15	$17,600.00	$18,370.00	$1,385.00	9%	$770.00	4%
	10" & 12"	6.7 (c) (2)	$19,040.00	$21,041.25	$22,054.92	$21,045.00	$22,055.00	$2,005.00	11%	$1,010.00	5%
	Attachment to a Transmission Main	6.7 (d)									
	3" & 4" Sleeve	6.7 (d) (3)									
	16" Main	6.7 (d) (3)	$24,230.00	$27,421.16	$28,766.61	$27,425.00	$28,770.00	$3,195.00	13%	$1,345.00	5%
	20" Main	6.7 (d) (3)	$26,535.00	$30,512.39	$32,074.22	$30,515.00	$32,075.00	$3,980.00	15%	$1,560.00	5%
	24" Main	6.7 (d) (3)	$28,995.00	$33,523.48	$35,296.09	$33,525.00	$35,300.00	$4,530.00	16%	$1,775.00	5%
	30" Main	6.7 (d) (3)	$42,030.00	$49,897.52	$52,816.31	$49,900.00	$52,820.00	$7,870.00	19%	$2,920.00	6%
	36" Main	6.7 (d) (3)	$49,440.00	$59,309.74	$62,887.39	$59,310.00	$62,890.00	$9,870.00	20%	$3,580.00	6%
	6" & 8" Sleeve										

Philadelphia Water Department

TABLE M-2- SUMMARY OF MISCELLANEOUS CHARGES (FOR WORK PERFORMED DURING NON BUSINESS HOURS)

								Increase	Decrease	Increase	Decrease
			1	2	3	4	5	6	7	8	9
				Calculated Charges		PWD Miscellaneous Charges					
Line No.	Miscellaneous Charge Description	PWD Rates and Charges Reference	PWD Existing Charges (Non Business Hours)	FY 2026	FY 2027	Proposed FY 2026	Proposed FY 2027	Variance between Existing and Initial Draft-FY 2026	% Variance between Existing and Initial Draft-FY 2026	Variance ($) Initial Draft-FY 2026 to Initial Draft-FY 2027 Charges	Variance (%) Initial Draft-FY 2026 to Initial Draft-FY 2027 Charges
	16" Main	6.7 (d) (3)	$24,460.00	$27,707.39	$29,072.87	$27,710.00	$29,075.00	$3,250.00	13%	$1,365.00	5%
	20" Main	6.7 (d) (3)	$26,230.00	$30,054.43	$31,584.21	$30,055.00	$31,585.00	$3,825.00	15%	$1,530.00	5%
	24" Main	6.7 (d) (3)	$28,995.00	$33,523.48	$35,296.09	$33,525.00	$35,300.00	$4,530.00	16%	$1,775.00	5%
	30" Main	6.7 (d) (3)	$44,160.00	$52,603.41	$55,711.61	$52,605.00	$55,715.00	$8,445.00	19%	$3,110.00	6%
	36" Main	6.7 (d) (3)	$54,345.00	$65,545.65	$69,559.81	$65,550.00	$69,560.00	$11,205.00	21%	$4,010.00	6%
	10" & 12" Sleeve										
	16" Main	6.7 (d) (3)	$24,540.00	$27,764.63	$29,134.12	$27,765.00	$29,135.00	$3,225.00	13%	$1,370.00	5%
	20" Main	6.7 (d) (3)	$26,615.00	$31,313.82	$32,931.75	$31,315.00	$32,935.00	$4,700.00	18%	$1,620.00	5%
	24" Main	6.7 (d) (3)	$28,995.00	$33,523.48	$35,296.09	$33,525.00	$35,300.00	$4,530.00	16%	$1,775.00	5%
	30" Main	6.7 (d) (3)	$44,845.00	$53,603.15	$56,781.34	$53,605.00	$56,785.00	$8,760.00	20%	$3,180.00	6%
	36" Main	6.7 (d) (3)	$57,245.00	$69,424.11	$73,709.76	$69,425.00	$73,710.00	$12,180.00	21%	$4,285.00	6%

Column Notes

1 From the PWD Regulations Chapter 3-Rates and Charges Effective September 1, 2024 (FY 2025 Charges)

2,3 Calculated charges for work performed outside of Water Department's business hours (business hours are from 9:00 a.m. to 4:45 p.m.)

Includes overtime costs.

FY 2026 Labor costs assume an escalation of 5% from FY 2025 budgeted salary costs . FY 2027 labor costs assume an escalation of 3.5% from FY 2026 escalated salary costs.

Equipment costs based on FY 2023 FEMA rates. Since FEMA costs are a lagging indicator, annual escalation applied to project FY 2026 and FY 2027 equipment costs.

Material costs provided by PWD and escalated at 7% for all materials.

Percentage variance between existing and calculated charges.

4,5 Proposed FY 2026 - FY 2027 Miscellaneous charges for work performed during non-business hours.

PWD Fee-in-Lieu Cost of Service Calculation

INPUTS

Index No.	Inputs		Description
1	40	-	Yrs. of Cashflow Consideration
2	2024	-	Year of Fee-in-Lieu Payment
3	3.0%	-	PV Factor
4	2024	-	PY Year
5	43,560	-	Impervious Area (IA) - SF
6	$776,000	-	FY24 Average Design and Construction Cost (DCC) - $/Drainage Acre
7	$19,420	-	FY24 Average Maintenance Cost - $/Acre
8	4.0%	-	Maintenance Escalation Factor - %

CALCULATION

Year	Design and Construction Cost (DCC)	PV of DCC Cost	Maintenance Cost	PV of Maintenance Cost	Total PV Cost	FIL Rate PV Cost	
					1,728,856	$ 39.69	FY24
2024	776,000	776,000		-			
2025	-	-	20,197	19,609			
2026	-	-	21,005	19,799			
2027	-	-	21,845	19,991			
2028	-	-	22,719	20,185			
2029	-	-	23,627	20,381			
2030	-	-	24,572	20,579			
2031	-	-	25,555	20,779			
2032	-	-	26,578	20,981			
2033	-	-	27,641	21,184			
2034	-	-	28,746	21,390			
2035	-	-	29,896	21,598			
2036	-	-	31,092	21,807			
2037	-	-	32,336	22,019			
2038	-	-	33,629	22,233			
2039	-	-	34,974	22,449			
2040	-	-	36,373	22,667			
2041	-	-	37,828	22,887			
2042	-	-	39,341	23,109			
2043	-	-	40,915	23,333			
2044	-	-	42,552	23,560			
2045	-	-	44,254	23,789			
2046	-	-	46,024	24,019			
2047	-	-	47,865	24,253			
2048	-	-	49,779	24,488			
2049	-	-	51,771	24,726			
2050	-	-	53,841	24,966			
2051	-	-	55,995	25,208			
2052	-	-	58,235	25,453			
2053	-	-	60,564	25,700			
2054	-	-	62,987	25,950			
2055	-	-	65,506	26,202			
2056	-	-	68,127	26,456			
2057	-	-	70,852	26,713			
2058	-	-	73,686	26,972			
2059	-	-	76,633	27,234			
2060	-	-	79,698	27,499			
2061	-	-	82,886	27,765			
2062	-	-	86,202	28,035			
2063	-	-	89,650	28,307			
2064	-	-	93,236	28,582			
2065	-	-	-	-			

SCHEDULE BV-4: WP-6: SENIOR CITIZEN THRESHOLD ADJUSTMENT

This document provides the approach for the determination of income threshold for the senior citizens discount per the Code of General Ordinances of the City of Philadelphia (the Philadelphia Code) and also as reflected in the Philadelphia Water Department's (PWD or the Water Department) Rates and Charges.

1.0 Background

The senior citizen discount is codified in the Philadelphia Code Chapter 19-1900. Section 19-1901 of the Philadelphia Code defines an "Eligible Senior Citizen" as follows:

"A residential customer of record of the Water Department age sixty-five (65) or older residing in the City of Philadelphia whose gross annual household income does not exceed as set forth below;

An amount not to exceed fourteen thousand ($14,000) dollars, except as adjusted to reflect the net change in the Consumer Price Index (All Urban Consumers (CPI-U) for Philadelphia (All Items)), such adjustment to occur from time to time at the discretion of the Water Commissioner, but no less often than at each general residential customer rate determination."

2.0 Methodology

Per the Philadelphia Code, Black & Veatch Management Consulting, LLC (Black & Veatch) has evaluated the senior citizen income discount threshold for inclusion in the current rate proceeding. Described below is the calculation methodology followed to determine the appropriate threshold level.

2.1 Baseline Income Threshold

The baseline income threshold for senior citizen discount utilized was $14,000 in fiscal year (FY) 1987, the year Section 19-1901, as amended, went into effect. Each year thereafter, this amount was escalated, as described in the paragraph below. Per the FY 2023 - FY 2024 Rate Determination (the Rate Determination), the current senior citizen income threshold, as stated in Section 5.2(b)(1)(iii) of the Water Department's Rates and Charges (Effective September 1, 2024), is $38,800.

2.2 Escalation Factor

The escalation factor is determined using the Consumer Price Index (CPI) data obtained from the Bureau of Labor Statistics (BLS) website. The report generated from the BLS website is for item and regional indices as specified in the ordinance above. The report specifications are:

CPI-All Urban Consumers (Current Series) Original Data Value Not Seasonally Adjusted Area: Philadelphia-Wilmington-Atlantic City, PA-NJ All Items Base Period: 1982-84=100 Years: 2012 to 2024

We use the index for August to determine the escalation factor applied to the baseline income threshold because it is the latest month for which data is available to update the threshold at the time of this analysis prior to the next rate filing.

2.3 Calculation of New Income Threshold

Black & Veatch calculated the new income threshold for senior citizen discounts by escalating the baseline income threshold with the escalation factor determined above. The calculated amount calculated is rounded up to the nearest $100.

For purposes of income threshold projections in future years, Black & Veatch recommends projecting the escalation factor as the average annual change in the CPI over the most recent five years. The most recent CPI Escalation Factor is multiplied by the average change in CPI to calculate the projected escalation factors. Following the same process, as used in the current proceeding, we would then determine the new threshold for senior citizen discount by escalating the baseline threshold (i.e., $14,000) by the resulting escalation factors. The amount calculated is then rounded up to the nearest $100.

3.0 Results

The tables that follow present the results of the senior citizen discount income threshold calculations.

Table 1 presents the escalation factors, calculated income thresholds, and annual change in CPI from FY 1987 through FY 2024.

Table 1 Senior Citizen Discount – Income Threshold Calculation

Fiscal Year	CPI Reference Date	CPI Value	CPI Escalation Factor	CPI Adjusted Income	Annual Change in CPI Adjusted Income
1986	Aug 1985	109.300			
1987	Aug 1986	111.800	1.00	$ 14,000.00	
1988	Aug 1987	118.400	1.06	$ 14,826.48	5.90%
1989	Aug 1988	123.900	1.11	$ 15,515.21	4.65%
1990	Aug 1989	129.100	1.15	$ 16,166.37	4.20%
1991	Aug 1990	137.300	1.23	$ 17,193.20	6.35%
1992	Aug 1991	143.300	1.28	$ 17,944.54	4.37%
1993	Aug 1992	148.000	1.32	$ 18,533.09	3.28%
1994	Aug 1993	150.600	1.35	$ 18,858.68	1.76%
1995	Aug 1994	155.700	1.39	$ 19,497.32	3.39%
1996	Aug 1995	159.600	1.43	$ 19,985.69	2.50%
1997	Aug 1996	163.600	1.46	$ 20,486.58	2.51%
1998	Aug 1997	166.800	1.49	$ 20,887.30	1.96%
1999	Aug 1998	168.600	1.51	$ 21,112.70	1.08%
2000	Aug 1999	173.100	1.55	$ 21,676.21	2.67%
2001	Aug 2000	177.500	1.59	$ 22,227.19	2.54%
2002	Aug 2001	182.800	1.64	$ 22,890.88	2.99%
2003	Aug 2002	188.300	1.68	$ 23,579.61	3.01%
2004	Aug 2003	191.100	1.71	$ 23,930.23	1.49%
2005	Aug 2004	199.100	1.78	$ 24,932.02	4.19%
2006	Aug 2005	206.600	1.85	$ 25,871.20	3.77%
2007	Aug 2006	216.400	1.94	$ 27,098.39	4.74%
2008	Aug 2007	218.692	1.96	$ 27,385.40	1.06%
2009	Aug 2008	228.337	2.04	$ 28,593.18	4.41%
2010	Aug 2009	226.039	2.02	$ 28,305.42	-1.01%
2011	Aug 2010	228.500	2.04	$ 28,613.60	1.09%
2012	Aug 2011	236.196	2.11	$ 29,577.32	3.37%
2013	Aug 2012	239.557	2.14	$ 29,998.19	1.42%
2014	Aug 2013	242.128	2.17	$ 30,320.14	1.07%
2015	Aug 2014	245.303	2.19	$ 30,717.73	1.31%
2016	Aug 2015	244.519	2.19	$ 30,619.55	-0.32%
2017	Aug 2016	245.386	2.19	$ 30,728.12	0.35%
2018	Aug 2017	248.919	2.23	$ 31,170.54	1.44%
2019	Aug 2018	253.085	2.26	$ 31,692.22	1.67%
2020	Aug 2019	258.877	2.32	$ 32,417.51	2.29%
2021	Aug 2020	259.965	2.33	$ 32,553.76	0.42%
2022	Aug 2021	272.044	2.43	$ 34,066.33	4.65%
2023	Aug 2022	294.130	2.63	$ 36,832.02	8.12%
2024	Aug 2023	305.742	2.73	$ 38,286.12	3.95%
2025	Aug 2024	316.061	2.83	$ 39,578.30	3.38%

Notes: CPI Adjusted Income for FY 1987 and CPI Indices as per the Philadelphia Code.

Table 2 presents the average change in CPI over the most recent 5-year, 10-year, 15-year, and 20-year periods.

Table 2 Average Annual Change in CPI

Description	Average Annual Change
5-Year Average	4.10%
10-Year Average	2.59%
15-Year Average	2.28%
20-Year Average	2.36%

Table 3 presents the projected senior citizen income thresholds for FY 2026 and FY 2027 using the 5-year average escalation factor. The average of the projected senior citizen income thresholds is utilized for the requested rate period of FY 2026 to FY 2027.

Table 3 Projections for Senior Citizen Income Threshold

Fiscal Year	Annual CPI Income Change	CPI Escalation Factor Used	Projected CPI Adjusted Income	Projected Income Threshold for PWD Use
			Current Threshold	**$38,800**
2026	4.10%	2.94	$41,202	$41,300
2027	4.10%	3.06	$42,892	$42,900
Average				**$42,100**

Notes: CPI Escalation Factor used is based on the 5-year average change in CPI

Based upon the senior citizen income threshold of $14,000 established by the Philadelphia Code for FY 1987 and the projected adjustments per CPI, Black & Veatch recommends that the senior income threshold be adjusted to $42,100 in FY 2026 in conjunction with the upcoming rate proceeding for the requested rate period of FY 2026 to FY 2027.

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges

Fiscal Years 2026-2027

Philadelphia Water Department

Black & Veatch Management Consulting, LLC

Schedule BV-5

Dated: February 2025

Company Description

Black & Veatch Holding Company is a leading, global engineering, construction and consulting company specializing in infrastructure development in the fields of energy, water and information. Our Mission sets the bar high—*Building a World of Difference®*. We live up to this ideal by delivering reliable and innovative infrastructure solutions to our client's most complex challenges, helping to improve and sustain the quality of life around the world.

Founded in 1915, Black & Veatch is an employee-owned company based in Overland Park, Kansas that has approximately 11,000 professionals operating out of more than 110 offices worldwide. Through this network of collaboratively connected offices, we have served our clients—many of whom we have provided services to for decades. We value long lasting relationships and believe that rapport enables superior customer service and support.

BLACK & VEATCH MANAGEMENT CONSULTING, LLC

Black & Veatch Management Consulting, LLC is a wholly-owned subsidiary of Black & Veatch Holding Company that brings together more than 200 professionals. These professionals include experienced industry executives, senior analysts and technology experts from across the electric, water, oil, natural gas and technology industries. This experience—combined with seamless access to the company's world-class engineering, procurement, construction and operations capabilities, experienced senior executives, economists, senior policy experts and regulatory officials, engineers and internationally respected subject-matter experts—makes Black & Veatch uniquely qualified to assist clients with their most complex challenges.

Black & Veatch's diverse consulting service offerings span financial, process, and technology solutions, and many of our experienced professionals possess cross functional skills including asset management, cost of service/rate design, business process / work flow analysis, and implementation services.

Black & Veatch Team Resumes

Ann Bui

Senior Managing Director

Ms. Bui serves as a Senior Managing Director with Black & Veatch's Strategic Advisory & Lifecycle Resiliency Services business and leads the company's Rates and Regulatory practice. Besides providing clients with strategic financial management strategies, her responsibilities include driving growth and innovation to utilities in the areas of financial and advisory planning, climate solutions, resiliency and sustainability issues, and asset integrity.

Ann has more than 30 years of experience with clients in North and South America, Europe, and Asia, gained through more than 525 engagements, providing financial and business planning services for public and investor-owned utilities of all sizes. Currently, she is focused on reducing carbon footprints for energy-intensive activities, water insecurity, addressing affordability and assistance program needs, and developing innovative approaches for structuring alternative delivery projects using private and public financing instruments.

She has prepared financial feasibility reports supporting more than $16 billion of revenue bond sales, $8 billion in state revolving fund loans, and over $1 billion in grant applications.

Ms. Bui has completed due diligence engagements for entities of many internationally well-established companies such as KKR, Macquarie Capital, Credit Suisse, Morgan Stanley, J.P. Morgan, Goldman Sachs, Bank of America Merrill Lynch, Rothschild, Canada Pension Plan Investment Board, Barclays, Fiera Infrastructure, Alma Global, and PGGM. Her work on due diligence efforts has supported water and wastewater infrastructure assets totaling over $55 billion.

Over the past two decades, Ms. Bui has provided expert witness testimony in front of the California Public Utilities Commission, the Indiana Utilities Regulatory Commission, the Idaho Public Utilities Commission, and the Kentucky Public Service Commission. She has served as an expert witness for utility rate commissions for clients such as the Philadelphia Water Department and Washington Suburban Sanitary Commission. She has also provided expert witness testimony supporting rate litigation matters for the City of San Diego, CA, Greater Cincinnati Water Works, and Atlanta, GA.

An active proponent of advancing the water industry, Ms. Bui is a long-standing member of several industry associations. She is a past Chair of the American Water Works Association (AWWA) Finance, Accounting, and Management Controls Committee. She is involved with AWWA's Rates and

EDUCATION

Masters, Business Administration, Finance, University of California – Davis, 1995

MS, Chemical Engineering, University of California Los Angeles, 1989

BS, Chemical Engineering, University of British Columbia, 1986, Canada

YEARS EXPERIENCE

35

PROFESSIONAL REGISTRATION

License, Engineer-In-Training, #XE094654, California, 1995

PROFESSIONAL ASSOCIATIONS

AWWA

Past Chair - AWWA's Finance, Accounting & Management Controls Committee

Member – AWWA's Rates & Charges

WEF

NACWA's Utility Management Committee

Women in Energy

SPECIALIZATIONS AND SKILLS

Financial & Management Consulting Services; Debt Issuance Support; Elasticity Studies; Cost of Service & Rate Design; Institutional & Organizational Studies; Alternative Financing; Valuations/M&A

Charges Committee, the National Association of Clean Water Agency's Utility Management Committee, the Water Environment Federation (WEF), and Women in Energy.

Ann serves as an author, editor, and peer reviewer for many of the rate-making industry's manuals of practice, including AWWA's M1 – Principles of Water Rates, Fees and Charges, the current update to M1, the current update of WEF's Manual of Practice 27, Financing and Charges for Wastewater Systems, and WEF's User-Fee Funded Stormwater Program. She is the lead author and editor of AWWA's book ***Financial Management for Water Utilities: Principles of Finance, Accounting and Management Controls.***

SELECT PROJECT EXPERIENCE

Citizen's Energy Group; Water Cost of Service Rate Filing and Asset Valuation; Indiana

Project Director. Black & Veatch has provided financial and rate consulting services to Citizen's Energy Group (CEG) in Indiana for its unregulated water and wastewater businesses for over a decade. Ms. Bui is the Project Director and expert witness leading Black & Veatch's engagement to conduct a fair value analysis and cost-of-service rate filing for CEG's regulated water utility. Commission hearings are scheduled for mid-2024.

LADWP | Retail Rate Review and Rate Design; CA

Project Director. Oversaw the Black & Veatch portion of a Guidehouse/Black & Veatch engagement with the Los Angeles Department of Water & Power. Reviewed financial and revenue requirement modeling for LADWP's interim rate review and potential full rate action which is cash/financial metric based. In addition, we developed an open access transmission tariff (OATT) cost-of-service and rate design model patterned after FERC Section 35.13 requirements. Validated model inputs to LADWP general ledger, Power Plant System, and financial statements Finally, Black & Veatch worked with LADWP to develop the rate action report, commercial EV rates, and other retail rate matters.

Peoples Gas | Cost of Service and Rate Design Services; PA

Project Director. Oversaw the Black & Veatch engagement with Peoples Gas for a Cost of Service and Rate Design Rate study. Developed cost-of-service models for three Peoples Gas entities including special studies for model allocators. Assisted with testimony on cost of service, rate design and a proposed weather normalization adjustment.

State of New Jersey; Trenton Water Works 360-Degree Review

Project Director. Black & Veatch and its partner API are providing a 360-degree review of the failing Trenton Water Works (TWW) system on behalf of the New Jersey Department of Environmental Protection (DEP) and the state's Infrastructure Bank (iBank). Under this engagement, we are assessing TWW's operational, capital, financial, and governance needs. As part of the review, Black & Veatch is reviewing alternative forms of governance, including privatization, a regional authority, a P3, and other options.

Veolia Water; Customer Class Load Studies and Cost of Service Rate Case Filings; Idaho, New York, and Delaware

Project Director. Ms. Bui is the Project Director and expert witness supporting Black & Veatch's cost-of-service engagements with Veolia Water. The team developed the cost-of-service and rate design sections for General Rate Case filings in Idaho, New York, and Delaware. A customer class load study

was conducted for each filing to support customer class peaking factors. Black & Veatch is also providing VW with expert witness testimony and post-filing support.

Aqua North Carolina, Conservation Rate Benefit Analysis & CIP Review; North Carolina

Project Director. Ms. Bui is the Project Director and expert witness supporting Black & Veatch's work with Aqua North Carolina (Company) regarding its Conservation Pilot Program. Aqua initiated a Conservation Pilot Program (CPP) approximately 5 years ago. Under the CPP, four systems facing capacity source water issues were selected, and a tiered water rate design was implemented. As required by the Order under Docket No. W-218, the Company is required to file an analysis of the CPP that includes recommendations for ongoing rates for the CPP service areas to be included with the WSIP annual review process. Under a new engagement, Black & Veatch is currently reviewing and categorizing the Company's CIP for its April 2025 rate filing.

Philadelphia Water Department (PWD); Water, Wastewater and Stormwater Cost of Service Studies; Pennsylvania

Project Director. Ms. Bui has worked with the City of Philadelphia since 2003. Currently, she serves as the Project Director for Black & Veatch's multi-utility cost-of-service work with PWD. The 2018 Rate Case incorporated program costs for PWD's long-term control plan, green infrastructure, public-private grants to incentivize stormwater improvements, and restructuring of the City's assistance programs. The 2018 Rate Case also included the development of a customer assistance rate rider as well as changes in public fire protection cost recovery.

City of Los Angeles Bureau of Sanitation, CA, Various Wastewater & Stormwater Rate Services

Project Director. Black & Veatch has provided financial and rate consulting services to the City of Los Angeles (City) since the 1970s. Ms. Bui has worked with the City of Los Angeles Bureau of Sanitation (LASAN) in a variety of positions since 2008. Currently, she is the Project Director for Black & Veatch's engagement with LASAN to evaluate rate structure alternatives pertaining to the City's Clean Water Program. This restructuring work involves extensive public outreach and engagement since it has been over a decade since the last cost-of-service study.

Since 2008, Ms. Bui and her team have assisted LASAN with the following services:

- Provided funding strategies to support the City's submittal of three Enhanced Watershed Management Permits (EWMPs). The EWMP outlines a strategy to address watershed activities to comply with MS4 requirements.
- Reviewed stormwater fees and alternative funding sources for the stormwater program. Consideration was given to the need and appropriate basis for stormwater quality-based charges. A financial planning and rate design model was developed for City staff to annually evaluate the financial status of the stormwater program. The model is designed to provide future budget estimates, evaluate alternative revenues, revenue requirements, and the flow of funds analyses, and show the effect of any changes on existing and alternative rate designs.
- Updated LASAN's Sewerage Generation Factors (SGF). The SGF is the basis for sewage facilities charges imposed on new development or renovation of existing facilities. The SGF consists of a volumetric and two strength components. The analysis included research of the existing SGF, a mass balance, field surveys, and benchmarking to similar utilities. In addition, we incorporated the effects of water conservation measures enacted by the City of Los Angeles into the analysis.

- Reconciled LASAN's Contract Agency section service charges. LASAN entered into separate agreements with 29 surrounding agencies to provide wastewater services. The reconciliation required updates of O&M and capital costs, flow and strength characteristics, cost allocations, and facilities charges.

Charleston Water Systems; Comprehensive Financial Planning, Cost of Service Studies, and Asset Valuation; South Carolina

Project Director. Ms. Bui serves as the Project Director supporting Black & Veatch's comprehensive financial services to Charleston Water Systems. We have provided revenue bonds, rate design, and other financial services to the Charleston Water Service for several decades. The comprehensive water and wastewater rate study and rate schedules were recently updated in 2018. In addition, contracts with wholesale customers were reviewed and updated. Current work includes asset valuation for specific parts of the water system that are being considered for purchase by an existing customer.

Greater Cincinnati Water Works (GCWW); Comprehensive Water Rate Study; Cincinnati, Ohio, United States

Project Director. Black & Veatch has been providing consulting services to GCWW since the 1960s. In addition to rate studies, GCWW requested Black & Veatch to assist with strategic business planning, feasibility analysis of district formation, credit card costs, system expansion issues, utilization of family unit classifications, late fees, and payment plan fees. Ms. Bui has worked with the GCWW since 2002 in a variety of roles. She is the Project Director for Black & Veatch's engagement with the City. Since 2002, Black & Veatch has conducted the following studies:

Rate Studies. As part of the comprehensive rate studies, we have addressed alternative rate forms, policy considerations, and the City/County water service contract review. Our financial plans were used extensively in the assessment of scenarios regarding the utility's first issuance of revenue bonds and have supported subsequent bond issues as well.

Valuation Study and District Formation Feasibility Study. The initiative's primary goal was to evaluate the impact of transitioning GCWW from a municipal water department to an autonomous water district. Included in the engagement was a tactical transition plan that examined how to execute best the formation of the potential new district, including an assessment of operational changes necessary to support all required utility and administrative functions. In support of the feasibility assessment, a valuation of the utility was conducted using a combination of approaches to determine a reasonable range of value, from which negotiations on the purchase of utility assets from the City could be negotiated. Black & Veatch facilitated several large workshops during the conduct of the study, including over 100 GCWW associates, to achieve project goals and the client's desire to conduct the study in an open and participative manner.

City of San Diego; Water and Wastewater Cost of Service Studies

Project Director. Ms. Bui served as the Project Director for the City of San Diego's water and wastewater cost of service studies. Black & Veatch prepared a comprehensive look at the City's financial condition and rate structure for the water and wastewater utilities. Faced with large, purchased water increases and required wastewater investments at Point Loma, the City is actively looking for innovative ways to restructure its rates. As part of this multi-year study, Black & Veatch also provided the City with active public outreach services, wholesale contract reviews, and stakeholder negotiations.

Midwestern & Eastern US - Water, Wastewater, Stormwater, Solid Waste & Gas Utility Enterprise Financial Planning, Rate & Cost-of-Service Studies, System Development Charges, Indirect Cost Allocations, & Business Planning Activities

- Jasper, AL
- Veolia Water, DE
- Florida Governmental Utility Authority, FL
- JEA, FL
- Miami-Dade Water and Sewer Department, FL
- North Miami, FL
- Palm Beach County, FL
- Surfside, FL
- Atlanta, GA
- Cedar Falls, IA
- Bloomington Department of Utilities, IN
- Citizens Energy Group, IN
- Aurora, IL
- Highland, IL
- Thorn Creek Basin Sanitary District, IL
- El Dorado, KS
- Johnson County Wastewater, KS
- Kansas City Board of Public Utilities, KS
- Leavenworth, KS
- Topeka, KS
- Unified Government of Wyandotte County, KS
- WaterOne, KS
- Louisville Water Company, KY
- Louisville Metropolitan Sewer District, KY
- Northern Kentucky Water District, KY
- SD#1 Northern Kentucky Sewer District, KY
- Warren County, KY
- Baton Rouge, LA
- Parish of East Baton Rouge, LA
- Shreveport, LA
- Sewerage and Water Board of New Orleans, LA
- Washington Suburban Sanitary Commission, MD
- Detroit, MI
- Grand Rapids, MI
- Great Lakes Water Authority, MI
- Holland, MI
- Rochester Hills, MI
- Wyoming, MI
- Kansas City, MO
- Metropolitan St Louis Sewer District, MO
- High Point, NC
- Raleigh, NC
- Clayton, NC
- Johnston County, NC
- Winston-Salem, NC
- Lincoln, NE
- Norfolk, NE
- New Jersey American Water, NJ
- New Jersey Infrastructure Bank, NJ
- Veolia Water, NY
- Columbus, OH
- Dayton, OH
- Greater Cincinnati Water Works, OH
- Mason, OH
- Metropolitan Sewer District of Hamilton County, OH
- Broken Arrow Municipal Authority, OK
- Tulsa, OK
- Tulsa Municipal Utility Authority, OK
- Alleghany County Sanitary Authority, PA
- Peoples Gas, PA
- Philadelphia Water Department, PA
- Philadelphia Gas Works, PA
- Beaufort-Jasper Water and Sewer Authority, SC
- Charleston, SC
- Charleston Water System, SC
- Columbia, SC
- Renewable Water Resources, SC
- Woodruff Roebuck Water District, SC
- Arlington, TX
- Fort Worth, TX
- Gulf Coast Water Authority, TX
- Hudson Oaks, TX
- Lower Colorado River Authority, TX
- North Texas Municipal Water Authority, TX
- San Antonio Water System, TX
- Taylor, TX
- Norfolk, VA
- Hydro One, Canada

- Palmas Del Mar Utilities, PR
- Puerto Rico Aqueduct and Sewer Authority, PR
- National Water Commission, Jamaica

Western US - Water, Wastewater, Stormwater, & Solid Waste Utility Enterprise Financial Planning, Rate & Cost-of-Service Studies, Indirect Cost Allocations, Management Audits /Organizational Assessment Studies, & Business Planning Activities

Flagstaff, AZ
Glendale, AZ
Phoenix, AZ
Tucson, AZ
Scottsdale, AZ
Antioch, CA
Atascadero Mutual Water Company, CA
Banning, CA
Burbank, CA
California American Water, CA
California State University, Channel Islands, CA
Cambria Community Services District, CA
Camrosa Water District, CA
Central Contra Costa Sanitation District, CA
Chino Hills, CA
County of San Bernardino, CA
County of San Diego, CA
Cucamonga Valley Water District, CA
Downey, CA
Dublin San Ramon Service District, CA
Encinitas Wastewater Authority, CA
Escondido, CA
Fountain Valley, CA
Golden States Water Company, CA
Goleta Water District, CA
Helix Water District, CA
Indio Water Authority, CA
Santa Monica, CA
Los Angeles Bureau of Sanitation
LADWP, CA
Leucadia Water District, CA
Lomita, CA
Long Beach, CA
Lynwood, CA
Manhattan Beach, CA
Marin Municipal Water District, CA
Menlo Park, CA
Metropolitan Water District of Southern California
Napa, CA
Newport Beach, CA
Oakland, CA
Olivehain Municipal Water District, CA
Ontario, CA
Orange, CA
Orange County Waste and Recycling, CA
Oxnard, CA
Padre Dam Municipal Water District, CA
Palo Alto, CA
Patterson, CA
Pico Rivera, CA
Ponoma, CA
Port Hueneme, CA
Port of San Diego, CA
Rancho California Water District, CA
Riverside Public Utilities, CA
San Clemente, CA
San Diego, CA
San Joaquin County, CA
San Jose, CA
San Juan Capistrano, CA
Santa Ana, CA
Santa Clara, CA
Santa Ynez River Water Conservation District, CA
Simi Valley, CA
Soledad, CA
Soquel Creek Water District, CA
South Gate, CA
Sweetwater Authority, CA
Western Municipal Water District, CA
Westminster, CA
Windsor, CA
Vallecitos Water District, CA
Vallejo Flood Control District, CA
West Sacramento, CA
Yuba City, CA
Cherry Hills Sanitation District, CO
Parker Water and Sanitation District, CO
Southeastern Colorado Water Conservancy District, CO
Waste Management Inc., CO
Veolia Water, ID
Las Campanas Water & Sewer Cooperative, NM
Henderson, NV
Las Vegas, NV
Salem, OR
Tacoma, WA
Guam Waterworks Authority

PUBLICATIONS & PRESENTATIONS

“Using New Perspectives to Illuminate Affordability Issues When Building Rate Cases,” Association of Metropolitan Water Agencies, October 2024.

"The Conundrum of Water Affordability. What's at Stake," Lead story, Water Finance & Management, February 2021.

"Customer-centricity for Utilities" Zyprme Webinar, October 29, 2020.

"Can't Pay; Won't Pay: COVID Implications for Water Utility Funding" Water Online, September 16, 2020

"How Much is it Worth? An Overview of Valuing Water Utilities" Journal AWWA, August 2020.

"Municipal Water and Privatization" Bank of America Merrill Lynch Water Investors Conference, December 2019

"Water Reuse Cost Allocations and Pricing" Journal AWWA, November 2019.

"A Smoother Road to AMI: Leveraging applicable lessons from the Power Industry" Journal AWWA, September 2017.

"What is a World-Class Utility and How Does Yours Become One?" Water Online, July 25, 2017

"Where are We Heading Next? Strategic Directions in the Water Industry", presented at the Conference of Infrastructure Financing Agencies, Federal Policy Meeting in Washington, D.C., April 2017.

"What's in Your Wallet? Ways to Address Aging Infrastructure and Lack of Money." Annual Utility Management Conference. June 2016

"No More Sacred Cows", published in Journal AWWA, January 2016.

"Business Risks to the Capital Financing Process", published in AWWA's Opflow magazine, September 2015.

"Securing Solid Revenues Streams for Water Utilities is Crucial for Financial Resilience", published in Breaking Energy, September 10, 2015.

"Revenues and Expenses and Ratios, Oh My! A Finance Primer for Non-Finance Professionals", presented at the Annual Utility Management Conference in Glendale, Ariz., March 2013.

Bui, Ann T., Editor, Financial Management for Water Utilities: Principles of Finance, Accounting and Management Controls, 2012, published by AWWA, Denver, Colo.

"Checks and Balances: An Overview of the New Financial Management for Water Utilities Handbook", presented at the Annual AWWA Conference in Dallas, Tex., June 2012.

"Introduction to Financial Planning" presented at the Pacific Northwest Section of the Clean Water Association Winter Short Course University, Portland, Oreg., February 2010.

"Money Makes the World Go 'Round: An Overview of the New Financial Management for Water Utilities Handbook," presented at the Annual AWWA Conference in San Diego, Calif., June 2009.

"Key Performance Indicators" presented at the Annual AWWA Conference in San Diego, Calif., June 2009.

"Everything You Ever Wanted to Know About Finance Management but were Afraid to Ask: An Overview of the New Financial Management for Water Utilities Manual", presented at the Annual AWWA Conference in Atlanta, Ga., June 2008.

“Alternative Funding Sources” presented at the Regional Water Authority Conference in Rancho Cordova, Calif., April 2007.

“Financial Benchmarks” presented at the Annual AWWA Conference in San Francisco, Calif., June 2005.

“Maximize Debt Market Options – Minimize Revenue Adjustments” presented at the Kentucky/Tennessee AWWA/WEF Conference in Nashville, Tenn., August 2004.

“Quantification and Reduction of Risk from Hazardous Air Emissions - Keynote address,” presented at the AIChE Annual Conference in San Francisco, Calif., November 1994.

Dave Jagt

Principal Consultant

Mr. Dave Jagt has served as a manager on a variety of projects, including utility revenue forecasting, estimation and projection of revenue requirements, financial planning and rate design, capital improvement program review and financing, computer rate modeling, fixed-asset record keeping and present worth analyses.

Mr. Jagt also has experience with civil engineering projects, such as hydraulic design, computer hydraulic modeling, structural design, building plan review, and preparation of specifications and bid documents.

EDUCATION

BS, Civil Engineering, Virginia Polytech Inst St U, 1987

YEARS EXPERIENCE

35

ADDITIONAL CREDIENTIALS

American Water Works Association (AWWA) – Rates and Charges Committee

SPECILIZATIONS AND SKILLS

Bond Feasibility; Computer Modeling; Financial Planning; Fixed Asset Recordkeeping; Rate Design

SELECT PROJECT EXPERIENCE

Philadelphia Water Department; Water and Wastewater Financial Rate Study; Philadelphia, Pennsylvania; 2007-Present

Project Manager/Task Lead. Mr. Jagt has performed comprehensive studies of revenue requirements, costs of service and rates for water and wastewater utilities. The cost of service studies involved allocation of costs of service and determination of charges for 9 municipal wholesale wastewater customers and one wholesale water customers in accordance with the terms of wholesale service contractual agreements with these customers. He assisted with the development of the Tiered Assistance Program Rate Rider Surcharge (TAP-R), a rate rider concept to recover costs related to the PWD's Tiered Customer Assistance Program (TAP), and supported the TAP-R reconciliation. He assisted with contract negotiations with municipal wholesale customers, including the development of exceedance charges. He assisted with issuance of revenue bonds, including preparation of required engineering and financial feasibility studies, presentations before bond rating agencies and preparation of official statements.

Mr. Jagt has participated in enhancements to stormwater cost allocation and rate methodologies and the impacts of the alternative rates on various representative customers. The City's evolving geographic information system network and new billing system facilitated the establishment of stormwater charges based upon the customer's impervious and gross property area.

Mr. Jagt served as a task lead for the Water Department's Alternative Rate Structure study, which consisted of a review of the existing water and stormwater rate structures, supporting policies and programs, as well as an evaluation of a potential rider for pension expenses. The study also included discussions with various stakeholders and prior rate proceeding participants to gather feedback on potential alternatives. A report was issued to the Rate Board in the Fall of 2019.

Harford County; Comprehensive Revenue Analysis and Rate Study; Harford County, Maryland; 2019-2020

Task Leader. Mr. Jagt was a task leader for a water/sewer Operating Fund revenue reconciliation and a comprehensive financial planning study (FY 2021 – FY 2025) for the County. The five-year financial plan involved the projection of revenue and revenue requirements, cash flow analysis, and recommendations

on a series of annual revenue adjustments for the Operating Fund. In addition, the study involved a review of the County's system development charge and basic wholesale water municipality rate.

DC Water; Financial Plan Model and Construction Cost Model Development; Washington DC, District of Columbia; 2019-2020

Technical Advisor. As Technical Advisor, Mr. Jagt assisted the development of an Excel-based Water/Sewer Financial Plan model for DC Water's Operations group. The objective of this project is to provide a robust yet user-friendly model that could help the leadership within DC Water Operations assess the financial impact of any potential changes in operating and capital expenditure assumptions and revenue assumptions.

Pittsburgh Water and Sewer Authority; Storm Water Management and Rate Structure Project; Pittsburgh, Pennsylvania; 2012

Consultant. Mr. Jagt assisted with the development of storm water cost allocation analysis, financial planning, user fee funding options evaluation and Equivalent Residential Unit (ERU) rate development as part of the storm water utility feasibility evaluation. The study included concept development, development of combined sewer cost allocation methodology for debt service and operations and maintenance costs, analysis of annual storm water revenue requirements and funding options, and the development of storm water ERU rates.

Philadelphia Water Department; Storm Water Implementation Services; Philadelphia, Pennsylvania; 2009-2011

Consultant. Mr. Jagt has provided assistance with the implementation of Philadelphia Water Department's parcel area based storm water charges. The implementation assistance included reviewing the Credit and Appeals manual, frequently asked questions documents, and parcel fact sheets, which were provided to non-residential customers as part of the public outreach program. The parcel area based storm water charge bill is to go live on 1 July 2010.

Henrico County; Storm Water Utility Study; Richmond, Virginia; 2011

Consultant. Mr. Jagt performed the storm water financial planning and funding options evaluation. The study included program review and level of service alternatives evaluation, financial planning and funding options analysis, impervious area analysis and rate structure evaluation. The study also included a preliminary review of credits program, appeals process and billing options evaluation.

Public Utilities Department; Water Revenue Bond Feasibility Study; Chesapeake, VA; 2010

Project Manager. Mr. Jagt managed Black & Veatch's evaluation of the ability of the city of Chesapeake to issue $36.4 million in water and sewer revenue bonds, Series 2010. The project included conducting site inspections of water and sewer system facilities to evaluate their adequacy to provide utility service, projection of revenue requirements and revenues; cash flow financial planning analyses; evaluation of adequate working capital balances; and debt service coverage analyses including system maximum and annual debt ratios.

Mr. Jagt also participated in the bond working group for official statement and agreement of trust reviews and in developing presentations to bond rating agencies. He prepared a final engineering report included in the bond issue's official statement.

City of Norfolk; Water Utility Wholesale Contract True-up Calculations; 1995–2003 and 2010–Present

Project Manager/Project Advisor. Mr. Jagt managed and assisted with the preparation of biennial rate projections and revenue true-up calculations during the period of 1995 to 2003 and 2010 to 2025 for Norfolk's wholesale water contracts with the City of Virginia Beach and the U.S. Navy. A Black & Veatch-developed computer model facilitated the comparisons of adopted rates (using budget projections) with recalculated rates (using actual costs) to determine amounts of revenue to be reserved for use by the annual audit and to meet the contract-specified two-year, or biennial true-up periods.

As stipulated by the contracts, adopted wholesale rates were based on budget projections and specified formulas recognizing the utility basis of cost allocations. The true-up comparisons revealed actual costs of wholesale service based on audited financial results.

City of Norfolk; Bond Issuance Assistance; Norfolk, Virginia; 1993–2020

Project Manager/Project Advisor. Mr. Jagt managed and assisted with Black & Veatch's evaluations of the Norfolk Department of Utilities' ability to issue water revenue bonds (Series 1993, 1995, 1998, 2001, 2010, 2012, 2013, 2014, 2015, and 2018). The studies, excluding the Series 2018 bonds, included a formal review of system facilities for sound operating conditions, current regulatory compliance, sufficient treated and raw water capacity, and adequate staffing. All studies included a detailed review and projection of all revenue requirements including operation and maintenance expense, recurring capital, existing debt service, cost of new debt, maintenance of required reserve funds, Payment in Lieu of Taxes (PILOT), transfers to General Fund, and anticipated major capital improvements was also performed. In addition, Mr. Jagt assisted with Black & Veatch's evaluations of the Norfolk Department of Utilities water refunding bonds (2012, 2015, 2017, and 2020).

City of Atlanta; Water and Wastewater Differential Study; Atlanta, Georgia; 2024

Project Manager. Mr. Jagt managed the update of the Water and Wastewater Differential Study for the City of Atlanta's Department of Watershed Management (DWM). The purpose of the study was to determine the appropriate differential between inside City and outside City rates for water and sewer services provided by DWM.

City of Columbia – Department of Utilities & Engineering; Water, Sewer and Stormwater Rate Studies; City of Columbia, South Carolina; 2017–2021

Task Leader/Project Advisor. Mr. Jagt assisted with the comprehensive study of water and sewer utility rates for FY 2018, FY 2019, FY 2020 and FY 2021. The annual studies covered multi-year projections of revenue and revenue requirements, cost of service by customer class, design rate schedules of rates for the sale of water to retail and wholesale service customers, and sewer service. Additionally, Mr. Jagt provided support to the City during public sessions related to educating and informing existing stakeholders about the City's FY 2018 water and sewer financial plan and rates.

Key West Utilities Department; Wholesale Wastewater Rates Assessment and Contract Review; Key West, Florida; 2016

Task Leader. Mr. Jagt was a task leader for a cost of service analysis for wholesale wastewater service and assisted with a review of the existing wholesale wastewater services agreement and drafting an updated wholesale wastewater agreement. This study included an assessment and analysis of the existing wholesale wastewater rate furnished to the US Navy, the development of a proposed wholesale

wastewater rate for Key Haven, a new service territory that was acquired and operated by the Florida Key Aqueduct Authority (FKAA), and an update of the existing Navy Wholesale Wastewater Agreement.

City of Wilmington; Water, Wastewater, Stormwater Utility Annual Financial Planning and Rate Study; City of Wilmington, Delaware; 2016

Technical Advisor. As Technical Advisor, Mr. Jagt assisted with the rate support efforts for the wholesale wastewater treatment rates. The study involved assisting with the development of a presentation of the wholesale wastewater treatment cost of service analysis methodology and results and assisting with providing responses to the wholesale customer queries regarding the proposed cost of service rates.

Harford County; Comprehensive Utility Revenue Rate Study; Harford County, MD; 2015

Task Leader. Mr. Jagt was a task leader for a comprehensive water/sewer utility revenue study for Harford County. This comprehensive study included eight (8) interrelated work items comprising of 13 tasks. The work items included Operating and Capital Funding Analysis; Infrastructure Reinvestment Forecasting; Billing Period Modification Analysis; Labor Resource Analysis; Connection Fee Study; Electronic Bill Payment Investigation; Rate Benchmarking; and Rate Seminar. The objective of this comprehensive revenue study is to prepare a six-year financial plan incorporating the financial results from all of the other work items, to determine the magnitude of annual revenue adjustments required during the six-year study period, and its impact on rates. Mr. Jagt was the task lead for the Operating and Capital Funding Analysis and Connection Fee Study work items.

City of Dallas; Storm Water Fee Study; Dallas, Texas; 2009-2010

Task Leader. Mr. Jagt assisted with the effort to update the storm water user fee program for the city of Dallas. He led the financial planning and cost of service analyses. The study involved the following key tasks:

Financial Planning: Developed storm water revenue requirements for a multi-year financial plan utilizing an Excel-based model. Revenue requirements developed served as the basis for the Utility's Fiscal Year 2009 budget.

Parcel Data Analysis: Involved an extensive parcel data analysis of the city's parcel data received from Dallas County along with billing data received from the new billing system (SAP Pay1) and the previous billing system (CIABS). Analysis also provided an estimation of the runoff coefficient for parcels. A review of the billing mechanism and procedures for ongoing maintenance were reviewed as well as an update of parcel impervious data.

User Fee Methodology: Reviewed various storm water user fee billing methodologies and alternative rate structures. Defined a methodology based on impervious area for residential, and runoff coefficient based impervious area for the non-residential parcels.

Rate Schedule: Defined a rate schedule with a five-tiered rate structure for the residential parcels and an individually computed fee for commercial parcels. Unimproved (vacant) land parcels saw an increase applicable to the level of uncapped/capped gross area square footage.

Water Revenue Bureau; Utility Billing Appeals Process Optimization; Philadelphia, Pennsylvania; 2009

Consultant. Mr. Jagt assisted in conducting a Utility Billing Appeals Process Optimization study for the Water Revenue Bureau (WRB). The purpose of the study was to do a comprehensive review of the existing billing dispute/appeals and hearing process to facilitate better alignment of business processes with Philadelphia Water Department (PWD) regulations; and to streamline policies, staffing, and workflow

to enhance the overall operations for meeting desired service levels. The key elements of the study included the following:

Formation of a WRB Advisory Group
Review of existing business processes and workflow, and policies and regulations
Gap analysis on processes, technology, policy and staffing issues/constraints
Optimization of business workflow and technology utilization
Staffing and workload analysis to determine staffing needs
Development of recommendations for requisite policy changes
Development of procedures to integrate the storm water utility billing appeals with the water/sewer appeals processes

Department of Utilities, City of Lynchburg; Water and Wastewater Financial Planning Model, Water Wholesale Cost-of-Service Study, and CSO Compliance Report Certification; Lynchburg, Virginia; 2006–2007

Project Manager. Mr. Jagt managed Black & Veatch's effort to develop financial planning models that would allow the City to conduct water and wastewater utility financial planning and rate analyses. The models allowed the City staff to analyze historical customer account and billed volumes, revenues and revenue requirements; develop projections of customer accounts and billed volumes, revenue under existing rates and revenue requirements; prepare cash-based flow of funds statements for each utility; develop financial plans for each utility; and calculate test year rates necessary to provide the net revenue requirements of each utility as established by the financial plans.

In addition, Black & Veatch assisted the City in conducting a cost-of-service water rate study for purposes of developing the cost of service and rates for the City's wholesale water service to the Counties of Amherst, Bedford and Campbell. Black & Veatch determined revenue requirements and units of service; evaluated revenue requirement basis and cost allocation methodologies; allocated revenue requirements to functional cost components; distributed functional cost component costs to customer classes; determined proposed rates for wholesale service; and assisted with the development of a wholesale service water rate agreement.

Black & Veatch also reviewed and certified the City-prepared Annual CSO Compliance Report. Black & Veatch checked the accuracy of the current year data on each of the provided schedules. The City's Annual CSO Compliance Report also includes verification that the annual residential wastewater bill based on 700 cubic feet per month is greater than or equal to 1.25 percent of median household income to ensure that enough funds are being spent on wastewater projects.

Department of Utilities, City of Chesapeake; Comprehensive Water and Wastewater Rate Study; Chesapeake, Virginia; 2005–2006

Project Manager. Mr. Jagt managed Black & Veatch's comprehensive analysis of the City's water and wastewater rates. The study includes the development of a 10-year financial plan for water and wastewater separately and combined, cost of service for the identified test year and cost-of-service rate design to equitably recover costs from customers based on their identified service requirements. Black & Veatch also developed a sophisticated financial planning and rate model for the City.

PRESENTATIONS & PUBLICATIONS

Jagt, David. "Rate Rider Mechanisms – An Effective and Efficient Cost Recovery Tool for Water and Wastewater Utilities," 2021 Utility Management Conference. August 2021.

Jagt, David. "Sustainable Wet Weather Funding Can Be Achieved by Developing Multi - Objective Storm water Utility Programs." WEFTEC 2014. August 2014.

Jagt, David. "Building Financial Resiliency: The Critical Role of Establishing and Adhering to Financial Performance Metrics." 2014 Tri-Association Conference. August 2014.

Jagt, David. "Fairfax County, Virginia OWM's Approach to Sewer Utility Financial and Operational Planning." Chesapeake Water Environment Association and The Water and Waste Operations Association of Maryland, Delaware and District of Columbia 30th Joint Annual Conference. July 1999.

Jagt, David. "A Combined Water and Wastewater Utility Approach to Meeting Increasing Costs While Operating Efficiently." WEF/AWWA Joint Conference. March 1999.

Jagt, David. "Useful Marketing Strategies Necessary for Bond Issue Preparedness." Chesapeake AWWA. September 1998.

Jagt, David. "Useful Marketing Strategies Necessary for Bond Issue Preparedness." 1998 Annual VA Section AWWA Conference. October 1998.

Jagt, David. "Fairfax County, Virginia OWM's Approach to Sewer Utility Financial & Operational Planning." Annual WEFTEC "96". October 1996.

Jagt, David. "Norfolk's Use of Computer Models During Water Sales Contract Negotiations." AWWA's 1995 Computer Conference. April 1995.

Jagt, David. "Long Range and Short Range Planning: Fairfax County OWM's Approach to Today's Decision Making." Virginia Review. September 1994.

Brian Merritt

Principal Consultant

Mr. Brian Merritt is a Principal Consultant with Black & Veatch's Rates and Regulatory Practice. With a background in civil and water resources, he brings more than 22 years of experience in the engineering and consulting industry.

Mr. Merritt has extensive experience in in project management, stormwater fee implementation and development, cost of service, financial planning and rate design, wholesale rate and contract support, engineering design, permitting, public outreach, program evaluations and planning, and funding strategy implementation.

EDUCATION

MS, Civil & Environmental Engineering, Lehigh University, 2007

BS, Civil & Environmental Engineering, Lehigh University, 2000

YEARS EXPERIENCE

22

ADDITIONAL CREDIENTIALS

Stormcon – Advisory Board

SPECILIZATIONS AND SKILLS

Stormwater Fee and Utility Implementation; Stormwater Management; Strategic Planning; Hydraulics; Hydrology; Credit Program Development; Rate Structure Analysis and Design; Stormwater Financial Planning; Public Outreach and Stakeholder Engagement; Stormwater Needs Assessments.

SELECT PROJECT EXPERIENCE

Philadelphia Water Department, City of Philadelphia, Pennsylvania; Financial Planning and Cost of Service Study; 2019-Present

Project Manager. Mr. Merritt serves as Black & Veatch's Project Manager for the Water Department's Cost of Service Consulting contract. Mr. Merritt served as project manager for the Water Department's Alternative Rate Structure study, which consisted of a review of the existing water and stormwater rate structures, supporting policies and programs. The study's current focus is on the evaluation of potential alternative stormwater rate structures for residential customers. Current work includes the financial planning, wholesale contract negotiation support, stormwater cost of service analysis, and rate study update for the Philadelphia Water Department (PWD). The study involves a six-year financial planning, cost of service analysis, cost allocation analysis, policy issues review, rate design, and rate case support.

City of Charleston, SC; Stormwater Utility Account Management System Update; 2024-Present

Project Manager. Mr. Merritt serves as Black & Veatch's Project Manager for the City of Charleston, SC's Stormwater Department Account Management System Update project. The initial phase of work included evaluation of existing billing data, billing policies, associated account management systems, data transfer and maintenance, policy review and exploration of billing mechanism alternatives. Current work includes development of updated stormwater billing data, review of rate structure alternatives, billing system updates, refresh of data management process and procedures, collection and enforcement policy review, among other tasks.

Stormwater Rate Structure and Tax Roll Update Services; City of Delray Beach, FL; 2021 - Present

Project Manager. Mr. Merritt is managing the implementation of a tiered residential stormwater rates along with the preparation of the updated stormwater fee assessment for all parcels to be billed via the Palm Beach County Assessor's tax assessment system. Phase 1, work included development of City-wide impervious area mapping; updated stormwater classifications, multi-year financial plan; rate

structure updates and engagement with City Council. Phase 2 included the preparation of updated stormwater non-ad valorem tax assessment data and delivery of a master account file to the City as well as the Palm Beach County Tax Assessor's office to enabling billing. Phase 3 work includes policy refinement and business process documentation and related support services.

City of Hoboken, New Jersey; Stormwater Utility Feasibility Study; 2022- Present

Project Manager. Mr. Merritt serves as Black & Veatch's Project Manager for a Stormwater Utility Feasibility Study for the City of Hoboken, New Jersey. The project involves a review of the City's current stormwater management program, identification of program improvements and level of service enhancements, as well as capital improvements needs. Work also includes impervious area development, customer classification, rate structure development, policy development including credits. Recommendations were provided to City leadership in late-2022.

Metropolitan Sewer District of Greater Cincinnati (MSD); Wet Weather Impervious Surface Charge Feasibility Study; 2021

Project Support. Mr. Merritt provided project support in a study to evaluate the feasibility of implementing a new wet weather fee by bifurcating costs currently recovered by the Metropolitan Sewer District under its sewer rates. Mr. Merritt aided in the rate structure development and the evaluation of available data sources (including impervious area and property assessment data), to help identify potential rate structure options and associated policies.

City of Newark, New Jersey; Stormwater and Sewer Rate Study; 2020-2021

Project Support. Mr. Merritt served as project manager to City of Newark, New Jersey's Department of Water and Sewer Utilities' Stormwater and Sewer Rate Study. The primary objective of the study was to evaluate the impact of the implementation of a stormwater fee on Newark's sewer rates and to evaluate customer bill impacts ahead of further consideration by City leadership. City staff and administration were presented with the results of both analysis in 2021.

City of Myrtle Beach, South Carolina; Stormwater Management Fee and Level of Service Analysis Rate Study; 2020-2021

Project Manager. Mr. Merritt served as Black & Veatch's project manager, as a subconsultant to W.K. Dickson, working with the City of Myrtle Beach to complete a comprehensive review of their stormwater rates. Work included the creation of stormwater financial and rate model, projecting detailed revenue requirements, modeling the impact of the level of service alternatives, developing capital financing mix, identifying the City's fiscal position and required financial metrics. Anticipated system-wide revenue increases were developed along with the associated rate schedules to support the increase in the City's stormwater operational and capital program needs to address growth, climate change and water quality issues. City leadership approved the request revenue adjustment in the Spring of 2021.

New Jersey Future, Trenton, NJ; On-call Stormwater Utility Expert Support Services; 2019-2020

Project Manager. Mr. Merritt worked with NJ Future to develop the New Jersey Stormwater Utility Resource Center, providing technical input and guidance, narrative development as well as content review. He assisted in on-call service support, providing assistance and feedback to NJ Future staff on stormwater utility related policy matters. Mr. Merritt, along with other Black & Veatch staff, conducted stormwater utility training sessions for NJ Future staff, municipal staff and advocacy organizations.

Hannibal Board of Public Works; Stormwater Utility Feasibility Study; Hannibal, MO; 2017-2019

Project Support. Assisted in the evaluation of impervious area data. Drafted policy regarding stormwater roles and responsibilities for the City, BPW and private property owners.

City of Norfolk Department of Utilities, Norfolk, Virginia; Water Utility Wholesale Contract True-up Calculations; 2019

Project Support. Mr. Merritt aided in the preparation of biennial revenue true-up calculations for Norfolk's wholesale water contract with the City of Virginia Beach for the periods of FY 2018 and FY 2019. As stipulated by the contract, adopted wholesale rates were based on budget projections and specified formulas recognizing the utility basis of cost allocations. The true-up comparisons revealed actual costs of wholesale service based on audited financial results. Mr. Merritt supported the review of updated fixed asset listings to update utility basis cost allocations, revisions to demand based allocations, updates to annual O&M expenses, as well as review of billing and revenue adjustments.

Metropolitan St. Louis Sewer District (MSD), St. Louis, Missouri; Rate Consultant to MSD Rate Commission; 2019

Project Support. Black & Veatch has served as a rate consultant to MSD's Rate Commission the last two rate cycles. MSD establishes rates through a thorough stakeholder engagement process, whereby a broad cross section of stakeholders serve as a Rate Commission to evaluate MSD's Rate Proposal, supporting documentation, and testimony. In response to a request made by the Rate Commission, Mr. Merritt supported the Black & Veatch team in the development of wastewater rate comparisons of MSD's wastewater rates and rate structure to those of selected peer utilities across the country. This work included a review of industry trends, as well as the costs of wastewater collection and treatment, underlying infrastructure needs, regulatory requirements, revenue sources, rate structures as well as resulting customer rates and bill impacts.

City of Takoma Park, Maryland; Stormwater Rate Study; 2018-2019

Project Manager. Mr. Merritt worked with the City of Takoma Park, Maryland to complete a review of their stormwater billing information and associated stormwater rates. The City had not holistically re-evaluated its stormwater rate structure since its initial implementation in the late 1990s and had recently obtained updated impervious area data (i.e. planimetric data). Mr. Merritt worked with the City to assess the impacts of the updated data set on the existing rate structure and identify potential rate adjustments needed to maintain revenue sufficiency for the stormwater program. In addition, alternative rate structures were developed to help improve the public understanding and improve the overall equity of the stormwater rate structure. The City adopted a tiered residential rate structure and updated the baseline billing unit from an equivalent residential unit (ERU) basis to a unit area basis, using 500 square feet of impervious area as the base billing unit.

City of Jonesboro, Arkansas; Stormwater Feasibility Study; 2018-2019

Project Support. Mr. Merritt assisted in the evaluation of a dedicated stormwater fee for the City of Jonesboro, Arkansas. This involved the evaluation of policies related to stormwater revenue requirements, impervious area development, customer classification, rate structure development, billing and enforcement as well as credit and appeals. Work included establishing stormwater units of service and analyzing the operations, capital and other costs to determine the revenue requirements.

Unified Government of Wyandotte County and Kansas City, Kansas| Stormwater Feasibility Study | 2018-2024

Project Support. Mr. Merritt assisted in the development and evaluation of an impervious area based stormwater user fee for the Unified Government of Wyandotte County and Kansas City, Kansas (UG). UG currently charges all customer a flat fee for stormwater services. Work included the review of available data sources, evaluation of stormwater rate structures, development of stormwater customers classifications, establishing stormwater units of service as well as the development of credit and appeals policies. Other areas of work included the development of updates stormwater revenue requirements including an assessment of operation and maintenance, capital improvement and capital financing needs. The impervious area based stormwater fee was adopted and implemented in 2024.

City of Columbia, South Carolina – Department of Utilities & Engineering; Stormwater Bond Feasibility Study; 2018

Project Support. Mr. Merritt worked with the City of Columbia, South Carolina to perform a five-year financial feasibility analysis of the City's Stormwater System operating results associated with the issuance of Stormwater System Revenue Bonds. The analysis included a forecast of revenues and revenue requirements, to determine the financial feasibility of the City issuing the Series 2018 Bonds.

City of Newark, New Jersey; Stormwater Utility Feasibility Study; 2017-2019

Project Support. Mr. Merritt assisted in the evaluation of a stormwater utility for the City of Newark, New Jersey. The project involved a review of the City's current stormwater management program, identification of program improvements and level of service enhancements, as well as capital improvements needs. Part of the evaluation includes the allocation of combined sewer related costs between sewer and stormwater revenue requirements. Work also includes impervious area development, customer classification, rate structure development, policy development including credits, appeals, as well as billing and enforcement. Recommendations were provided to City leadership in Mid-2019 along with anticipated planned public outreach and education efforts. The City is currently pursuing grants to help fund implementation.

City of Newark, Delaware; Stormwater Utility Implementation; 2016-2018

Project Support. Mr. Merritt assisted in the development and implementation of a stormwater utility for the City of Newark, Delaware. This involved the evaluation of policies related to stormwater revenue requirements, impervious area development, customer classification, rate structure development, billing and enforcement as well as credit and appeals. Work included establishing stormwater units of service and analyzing the operations, capital and other costs to determine the revenue requirements. During 2017, Mr. Merritt assisted with the implementation phase of the project helping the City with the finalization of customer service processes including credit and appeals, billing integration and parcel account mapping. The City began billing for stormwater in January 2018.

City of Cincinnati, Ohio – Stormwater Management Utility; Stormwater Rate Study; 2016-2018

Project Manager. Mr. Merritt worked with the City of Cincinnati Ohio's Stormwater Management Utility (SMU) to complete a comprehensive review of their stormwater rates. Work included the evaluation of projected revenue requirements and anticipated system-wide revenue increases due to the anticipated need for a large capital program to rehabilitate and/or replace components of the City's Barrier Dam as well as other critical stormwater infrastructure. Additional costs associated with NPDES MS4 Phase II

permit requirements, increased operation and maintenance costs, were also evaluated. A financial plan report was delivered to staff in and City Council ultimately adopted updated stormwater rates to support the revenue requirements of SMU.

Philadelphia Water Department, City of Philadelphia, Pennsylvania; Financial Planning and Cost of Service Study; 2017-2018

Project Manager. Mr. Merritt supported the financial planning, stormwater cost of service analysis, and rate study update for the Philadelphia Water Department (PWD). The study involved a six-year financial planning, cost of service analysis, cost allocation analysis, policy issues review, rate design, and rate case support. Mr. Merritt aided in the development of the financial plan, cost of service analysis including: sewer cost of service, system-wide billing units estimates, stormwater cost allocation, user fee methodology, credit, incentive and customer assistance program cost recovery. Mr. Merritt worked with the project team to develop a rate rider concept to recover costs related to the PWD's Tiered Customer Assistance Program (TAP). Mr. Merritt led the stakeholder engagement support services provided under this contract. Mr. Merritt also helped with drafting testimony for the rate proceedings.

City of Columbia, South Carolina – Department of Utilities & Engineering; Water, Sewer and Stormwater Rate Study; 2017

Stormwater Task Lead. Mr. Merritt assisted with a water, sewer and stormwater rate study for the City of Columbia, South Carolina's Department of Utilities & Engineering. Mr. Merritt led the stormwater portion of the study. Project worked included: development of a multi-year financial plan, revenue and revenue requirements review, stormwater rate structure alternatives analysis, development of financial metrics, review of capital program needs and financing. The project included the development of a Stormwater Rate Study report and presentation of the Rate Study findings and recommendations to City Council. Based upon the study's findings, the City adopted a series (i.e. multi-year) stormwater rate increases.

City of Havre de Grace, Maryland; Water and Sewer Rate Study; 2016-2017

Project Manager. Mr. Merritt served as project manager for the City of Havre de Grace, Maryland's comprehensive review of their current water and sewer rates. The project integrated an asset renewal forecast with the rate study and development of alternative funding mechanisms (such as an asset reinvestment charge) to alleviate the current deficit fiscal position and adequately fund water and sewer operations and capital program obligations. Work also included: Preparation of a reasonable estimate of repair and renewal forecast for all of the water system treatment, storage, transmission, and distribution assets; Development a five-year financial plan for the water/sewer enterprise fund to assure financial self-sufficiency; Review of the existing rate structure and design rate schedules to enable a defensible recovery of fixed and variable costs of the water and sewer utilities; and presentation of the Rate Study findings and recommendations to the Water and Sewer Rate Commission and to the City Administration and Council.

Philadelphia Water Department, City of Philadelphia, Pennsylvania; Stormwater Cost of Service and Rate Study; 2015-2016

Project Support. Mr. Merritt supported the stormwater cost of service analysis, and rate study update for the Philadelphia Water Department. The study involved a six-year financial planning, cost allocation analysis, stormwater fee policy issues review, rate design, and rate case support. Mr. Merritt aided in the development of stormwater related analysis including: sewer cost of service, system-wide billing units

estimates, stormwater cost allocation, user fee methodology, credit, incentive and customer assistance program cost recovery. Mr. Merritt helped with drafting testimony for the rate proceedings.

Pittsburgh Water and Sewer Authority, Pittsburgh; Stormwater Management and Rate Structure Project; 2015-2019

Project Manager. Mr. Merritt is currently serving as Project Manager for Black & Veatch's portions of the Pittsburgh Water and Sewer Authority's (PWSA) Stormwater User Fee Development and Implementation project. Phase 2 builds from work previously conducted in 2012, and is intended to take the decisions and recommendations developed during Phase I- Feasibility Study up to the development of a draft ordinance for consideration by Pittsburgh City Council. Project work includes updates to the stormwater cost allocation analysis, financial planning, user fee funding and rate structure finalization. Mr. Merritt is providing technical advice and input into PWSA's public outreach efforts.

South Fayette Township, Allegheny County, Pennsylvania; Stormwater Program Needs Assessment; 2015

Project Manager, while with a former employer, assisting South Fayette Township in a comprehensive needs assessment of their existing stormwater program. The goal of the project was to define an enhanced program that meets the future needs and priorities of the community while addressing operation and maintenance, infrastructure replacement, and MS4 compliance responsibilities. All of the main streams, which run through the Township, are impaired. Impairments include acid mine drainage, nutrients, PCBs, and sediments. Actions to address these pollutants must be considered as part of the next MS4 permit cycle. A stormwater needs assessment committee was conveyed to gain public input into which program areas needed the most attention and to develop a five-year plan on which to evaluate funding options.

White Township, Indiana County, Pennsylvania; Stormwater Assessment Feasibility Study; 2014-2015

Project Manager, while with a former employer, assisting White Township in a program evaluation process that could result in the implementation of a stormwater user fee in the Township. This fee would be used to support enhancements to the Township's stormwater management program with resources directed to meet community-wide goals and needs. The project was intended to provide the Township with sufficient information on the viability of implementing a stormwater user fee, prior to investing in full implementation. Responsible for program evaluation and planning, billing system and data evaluation, impervious area data analysis, parcel and account review, rate structure development, initial rate estimates, public/Board of Commissioners presentations as well as overall project and client management. White Township implemented their stormwater fee in early 2016.

Radnor Township, Montgomery County, Pennsylvania; Stormwater Program and Fee Implementation; 2012-2013

Project Manager, while with a former employer, for the evaluation and development of an updated stormwater management program and funding mechanism for Radnor Township, PA. Led project team working with the Township personnel to develop a dedicated funding source to help meet the community's goals for infrastructure maintenance, flood mitigation, and green infrastructure. Services included stormwater program assessment and level of services analysis, financial analysis, data and master account file development, stakeholder meeting facilitation, rate evaluation, rate structure and

ordinance development. Radnor convened a stormwater advisory committee to provide input into key policy issues such as the stormwater program needs, level of service considerations, the overall program plan, rate structure, credit and incentive program options and public education requirements. Assisted the Township with appeals policy development, billing system implementation support, customer service training, draft credit program development, and public education efforts. The stormwater user fee was approved by the Radnor Board of Commissioners in September 2013.

City of Meadville, Crawford County, Pennsylvania; Stormwater Program and Fee Implementation Project; 2012-2013

Project Manager, while with a former employer, for the evaluation and development of an updated stormwater management program for the City of Meadville, PA. Assessed the current stormwater program with the goal of establishing a functioning stormwater funding mechanism that fully accounts for the City's stormwater program costs. Tasks included a review of the City's current level of service, evaluation of the stormwater program's organizational structure, future needs assessment, current cost estimation, facilitation of Citizen's Advisory Groups, ordinance development, credit and appeals policy and program development, customer service training, management of public outreach and education activities as well as GIS and billing database development. Two separate Citizen's Advisory Groups were convened, one to provide input on the initial stormwater fee policies and the second to help develop a detailed stormwater credit and appeals program to enhance the equity of the fee and provide incentivizes to private property owners to better manage stormwater on-site. The Meadville stormwater fee was approved by their City Council in November 2012 and the first bills were processed in 2013.

SELECTED PUBLICATIONS AND PRESENTATIONS

Presentations – Stormwater Utilities

Co-presented, "Stormwater Utility Reboot: The Need to Maintain Equity in Stormwater Cost Recovery," StormCon, September 2022.

"Road to Resiliency: Integrated Stormwater Management Planning and Funding," NJ Future, May 2015

New Jersey Watershed Institute Stormwater Seminar, June 2019

Government Finance Officers Association of Pennsylvania, April 2015

Villanova University Guest Lecturer – Sustainability & Science, 2014

St Joseph's University Stormwater Workshop, 2014

Villanova University Stormwater Symposium, 2013

3 Rivers Wet Weather, 2013

Erie County GIS Workshop, 2013

PA Northwest City Manager's Meeting, 2012

Presentations – Affordability

Co-Authored "Rate Rider Mechanisms – An Effective and Efficient Cost Recovery Tool for Water and Wastewater Utilities," 2021 Utility Management Conference in Atlanta, GA., August 2021.

Philadelphia Water's Tiered Assistance Program (TAP) Cost Recovery & Financial Safeguards, AWWA/WEF Affordability Symposium, August 2018

PUBLICATIONS

"Sustainable Stormwater Programs and Financing", Pennsylvania Borough News, October 2014

David Sayers

Manager, Consulting

Experienced Project Manager in water use analytics, water resources management, water efficiency and conservation, water system audits, non-revenue water management and financial analysis. David specializes in leading complex analytical studies and is highly proficient in a variety of advanced analytical software packages and has developed numerous tools and customized applications to automate analyses and find meaning and value in data. He is the lead developer of the American Water Works Association (AWWA) Free Water Audit Software© and associated water audit data management tools which have been downloaded over 15,000 times.

EDUCATION

BS, Environmental Studies, Environmental Protection and Monitoring, University of Hertfordshire, 1997, United Kingdom

YEARS EXPERIENCE

25

EXPERTISE

Water Resources Management; Water Efficiency; Demand Forecasting; Hydrology; AWWA Water System Audits; Non-Revenue Water Management; Stormwater Fee and Utility Implementation; Financial Analysis; Advanced Data Analytics & Business Intelligence, Data Visualization, Database design and management. Data Integration & Programming.

SELECT PROJECT EXPERIENCE

Veolia Water New York; Load Study; West Nyack, New York; 2023

Project Manager. Black & Veatch performed a Customer Class Load Study for Veolia (formerly Suez) Water, New York. The study leveraged the investment in Advanced Metering Infrastructure (AMI) to provide new insights on the timing of peak demands on the system, and the drivers of those demands, by utilizing hourly customer consumption data. David was the architect for managing and integrating multiple data sources to support the Load Study, utilizing records from system production data, water storage data, customer billing data, AMI data (for those customers with AMI meters) and Geographical Information System (GIS) data. David worked with the client and rate modeling team to integrate the Load Study results into the Cost of Service Study and ultimately through to successfully incorporation into the rate case and approval by the NY Public Service Commission.

Veolia Water Delaware; Load Study; Wilmington, Delaware; 2023

Project Manager. Black & Veatch performed a Customer Class Load Study for Veolia (formerly Suez) Water, Delaware. The study leveraged the investment in Advanced Metering Infrastructure (AMI) to provide new insights on the timing of peak demands on the system, and the drivers of those demands, by utilizing hourly customer consumption data. Data management challenges were met using data solutions such as Snowflake, MS SQL Server, MS Power BI, ESRI ArcGIS Pro, as well as the more standard desktop software packages. Load studies utilizing customers AMI data are relatively uncommon within the water utility sector as AMI is not yet prevalent. This innovative study provided more reliable insights on the timing and drivers of system peak demands compared to those available from the analysis of monthly, bi-monthly, or quarterly customer billing data. David worked with the client and rate modeling team to integrate the Load Study results into the Cost of Service Study and ultimately through to successfully incorporation into the rate case and approval by the DE Public Service Commission.

Veolia Water Idaho; Load Study; Boise, Idaho; 2022

Project Manager. Black & Veatch performed a Customer Class Load Study for Veolia (formerly Suez)

Water, Idaho. The innovative study leveraged the investment in Advanced Metering Infrastructure (AMI) to provide new insights on the timing of peak demands on the system, and the drivers of those demands, by utilizing hourly customer consumption data. David was the architect for managing and integrating multiple data sources to support the Load Study, utilizing records from system production data, water storage data, customer billing data, AMI data (for those customers with AMI meters) and Geographical Information System (GIS) data. The study was data intensive and in excess of 0.5 billon data points were managed and analyzed as part of the study. Black & Veatch worked with the client and the Idaho Public Utilities Commission and interested parties to take input into the design of the study.

Unified Government of Wyandotte County (UG); Stormwater Rate Implementation; Kansas City, Kansas; 2023 – Present

Project Manager. David served as a subject matter expert on this project and led the task of matching over 56,000 parcels to more than 70,000 utility accounts, based primarily on matching parcel address and account address records. Due to challenges in the consistency and structure of the two independent data sets, matching parcels to accounts required highly innovative approaches using multiple software tools. Primarily the work was conducted in a MS Access database and included parsing and recombining address attributes to improve consistency and integrity of the data and allow programmatic data matching. Additional processes used in the project included geocoding and spatial matching in GIS, approximate string matching for parcel-owner to account-owner data, and a prioritized effort of manual data validation.

City of Delray Beach; Stormwater User Fee Revenue and Tax Billing Integration Support, Delray Beach, Florida; 2022 - Present

Subject Matter Expert. David was part of the team conducting a stormwater user fee rate study and the preparation of stormwater tax roll assessment for billing via Palm Beach County's tax assessment system. David led the preparation of the stormwater tax roll. This task involved developing a MS Access database to manage and combine parcel data and impervious area data for over 30,000 parcels and assign the appropriate stormwater fee using a tiered rate structure. A relational database was used to apportion the impervious area for condo parcels to individual condo owners. The preparation of the tax roll data also required detailed programming to prepare a text file meeting the exact requirements of the County tax assessment system.

Charleston Water System; Financial Services; Charleston, SC; 2019-2023

Subject Matter Expert. David has supported recent work including review of contracts with wholesale customers, development of rates for raw water customers, creation of a surcharge for excess ammonia, development of a water rate model for a water wholesale customer and preparation of a bond feasibility report. Current work includes reviewing alternative water and wastewater rate structures and updating the water and wastewater comprehensive rate models. David is currently leading the development of a Power BI dashboard for this client to trend and track water consumption and revenue by customer class.

Great Lakes Water Authority; Units of Service and System Water Audit for Non-Master Metered Customers; Detroit, Michigan; 2017-2023

Project Manager. David was the Project Manager for this study of one of the largest and most complex water distribution systems in the U.S. The Great Lakes Water Authority (GLWA) provides water to approximately 3.5 million customers in southeast Michigan, including the City of Detroit and over 100

surrounding communities. Black & Veatch was hired to develop the Units of Service for communities that are supplied with water by GLWA but do not have a master meter. Simultaneously, Black & Veatch developed a Water Audit using AWWA M36 principles for the entire water system. The project duration was approximately two years and covered all aspects of the standard Water Audit, from an evaluation of water production facilities through to analyses of hourly consumption data from the Itron AMI network covering Detroit's 200,000 customers. In the second phase of the project, the team implemented District Metered Areas to refine estimates of water losses and ensure equitable financial cost allocation.

City of Wilmington, Delaware; AWWA Water Audit Development & Review; Wilmington, Delaware; 2015-2021

Subject Matter Expert. David applied his expertise in AWWA Water Audits to help develop and review the annual water audit for the City of Wilmington following the AWWA M36 Methodology. The City's Water Audit is reviewed by Black & Veatch for accuracy prior to submission to the Delaware River Basin Commission as part of their regulatory program. In 2021, the City of Wilmington utilized the new AWWA Water Audit Software v6.0 which utilizes a new data grading format and Black & Veatch assisted the City in understanding the new software features. The review of the water audit led to an increased level of scrutiny in several areas of the water audit, including the production metering facilities, thus building confidence in the water audit data and performance indicators to support non-revenue water management.

Sewerage and Water Board of New Orleans; Water Audit and Demand Analysis; New Orleans, Louisiana; 2020 – 2022

Subject Matter Expert. David was the task lead for a Water Loss Analysis for the Sewerage and Water Board of New Orleans (SWBNO). David led the effort to collaborate and guide SWBNO staff in gathering the appropriate data to support the AWWA water balance model and use the AWWA Water Audit Software. This process also included determining the appropriate data grading, or confidence level, for each water audit input. The water audit process led to the development of actionable KPIs that were presented within a Power BI dashboard that will enable SWBNO to benchmark their performance against peer utilities and to determine the next steps to improve their water audit and reduce the costs and impacts of water losses. David also led a separate task to project pumping volumes and peak demand factors to support the financial model.

SUEZ Water New York; Comprehensive Service Classification Study; West Nyack, New York; 2018-2019

Project Manager. David was the Project Manager for developing a Comprehensive Service Classification Study with a particular focus on multi-family sub-classes of customers, and the seasonality of commercial and industrial customers. The Black & Veatch team leveraged its nationwide expertise and experience with evaluating utility rate-setting policies, technical analysis of customer accounts and usage profiles and industry-accepted cost of service and rate structure principles. The team also developed sophisticated and automated analytical techniques to cross-check the billing database against third-party land use classifications and used online mapping tools to retrieve property image data to verify the accuracy of classifications. A project report was produced and submitted to the New York Public Services Commission.

City of Sugar Land; System Water Audits; Sugar Land, Texas; 2019

Project Manager/SME. David took on many roles for this project including Project Manager and Subject Matter Expert. David applied the AWWA M36 methodology to develop Water Audits for four distinct water systems for the City of Sugar Land. David conducted a detailed analysis of customer meter test data to calculate apparent losses and developed a cost-benefit analysis to prioritize large meters to replace or repair to achieve the maximum return on investment. Recommendations were identified that will lead to improved reliability of data, and verification and reduction of real loss through field-based investigations.

American Water; Water Efficiency Program Development & Implementation; Merrick, New York; 2018-2019

Project Manager/SME. David took on many roles for this project including Project Manager and Subject Matter Expert. He led the Black & Veatch team (including sub-contractors) to prepare detailed data analyses to determine customer water use trends and analyzed the results of over 5,000 completed customer surveys to help develop a data-driven and comprehensive conservation program for New York American Water. David worked with the corporate headquarters of American Water and local staff in New York to help implement the program which included an instant rebate on smart irrigation controllers and the development of a lawn watering phone app in conjunction with Cornell University's Northeast Regional Climate Center.

Georgia Environmental Protection Division; Water Audit Validation; Atlanta, Georgia; 2017

Subject Matter Expert. David helped Black & Veatch complete 92 AWWA water loss audit validations for large and small water utilities across Georgia. David used his expertise in the AWWA Water Audit methodology and his familiarity with the AWWA Water Audit Software to lead water audit data validity discussions with utility representatives. This process involved reviewing each input to a completed AWWA Water Audit and confirming that the origin of the data and the water utilities' data collection and management practices were scored appropriately within the AWWA water audit software ensuring data integrity for Georgia EPD.

SUEZ Water New York; Evaluation of Low-Income Assistance Programs; Rockland County, New York; 2017, 2022

Project Manager/SME. David led the evaluation of a potential low-income assistance program for SUEZ in Rockland County, NY. The evaluation included a review of established best practices and published research on low-income programs within water utilities across the United States. David's team worked closely with SUEZ to determine how a low-income program could be tailored for the Rockland County customer base, taking a close look at how assistance could be provided for hard-to-reach low-income residents within multi-family buildings.

SELECTED PUBLICATIONS AND PRESENTATIONS

"Building Trust in Water Audit Data: Validity, Volume and Value." North American Water Loss Conference. December 2017.

"Best Practice Water Audits and Loss Control Programs." AWWA Seminar. August 2017.

"AWWA Water Audit Data Initiative: The First Six Years." American Water Works Association Annual Conference & Exposition. June 2017.

“The Water Audit Data Initiative: Five Years and Accounting.” Journal AWWA. November 2016.

“Water Audit Data Initiative.” AWWA Water Infrastructure Conference. October 2016.

“Review of the AWWA Free Water Audit Software and Compiler Tool.” North American Water Loss Conference. December 2015.

“Analysis of Calendar Year 2012 Water Audit Data from Public Water Supply Systems in the Delaware River Basin.” Delaware River Basin Commission. February 2015.

“Water Withdrawals in the Delaware River Basin: Past Trends and Future Planning.” AWRA Annual Conference. November 2014.

“Improving Water Efficiency in the Delaware River Basin through Water System Audits.” American Water Resources Association (AWRA) Annual Conference. November 2014.

“Water Loss: The North American Dataset.” American Water Works Association. Vol. 105, Number 6. June 2013.

“Water Use Trends of the Energy Industry in the Delaware River Basin.” Water Resources Association of the Delaware River Basin - Annual Conference. November 2012.

“Consumptive Water Use: Missing in Action.” AWRA Annual Conference. November 2010.

“An automated approach to streamflow data retrieval and statistical analysis.” Pennsylvania Council of Professional Geologists. May 2008.Publications