



Capital Region Water

Financial Capability Assessment

REPORT / February 23, 2024



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List of Acronyms

ACS	American Community Survey
AWTF	Advanced Wastewater Treatment Facility
CCF	Hundred cubic feet
CIP	Capital Improvement Plan
CPI	Consumer Price Index
CRW	Capital Region Water
EPA	Environmental Protection Agency
ERU	Equivalent Residential Unit
FCA	Financial Capability Assessment
FCI	Financial Capability Indicators
FPL	Federal Poverty Level
IA	Impervious Area
LQI	Lowest Quintile Income
LQPI	Lowest Quintile Poverty Indicator
LQRI	Lowest Quintile Residential Indicator
LTCP	Long-Term Control Plan
MGD	Million Gallons Per Day
MHI	Median Household Income
O&M	Operation and Maintenance
PADEP	Pennsylvania Department of Environmental Protection
PI	Poverty Indicator
RI	Residential Indicator
R&R	Renewal and Replacement
SF	Square Feet
SRF	State Revolving Fund
SNAP	Supplemental Nutrition Assistance Program
U.S.	United States

Executive Summary

This report identifies the economic harm that would befall on the Capital Region Water (“CRW”) service area if CRW were required to fund capital investments necessary to implement water pollution controls necessary to satisfy Clean Water Act requirements over a 20-year period.

CRW’s City of Harrisburg (“City”) retail service area is poverty stricken, with poverty indicator scores significantly worse than the U.S. average. City retail customers of CRW already spend more of their income on sewer and stormwater service from CRW than other utilities in the region and the Commonwealth of Pennsylvania. The City’s Lowest Quintile Income (“LQI”) is significantly below the national average, and the percentage of the population below 200% of the national FPL, as well as the percentage of households receiving SNAP benefits, are both significantly higher than the national average. Other poverty prevalence measures, such as the percentage of vacant housing units and the percentage of unemployed population in the labor force, trend significantly unfavorably compared to the national averages, which indicate a significant prevalence of poverty within the City. These customers have limited or no additional capacity to pay higher sewer and stormwater bills.

CRW customers located within the City pay for retail sewer service, while the six suburban municipalities served by CRW pay for wholesale wastewater treatment and conveyance service. The rates differ based on the cost of the different services being provided by CRW. Customers located within the City utilize CRW’s treatment, conveyance, and collection systems and their rates reflect their proportionate share of the cost of operating and maintaining these facilities. The suburban municipalities located outside the City operate their own collection systems and primarily utilize CRW’s treatment and conveyance facilities. In accordance with its inter-municipal agreements with the suburban municipalities, CRW’s ability to pass on the cost of future regulatory capital investments is significantly limited because sewer rates paid by these municipalities exclude costs attributable to CRW’s collection system and wet weather treatment, except for a small number of suburban connections whose wastewater flows through CRW’s collection system.

Raftelis prepared a comprehensive long-term financial plan analysis that shows how CRW will need to impose substantial sewer rate increases on City customers in order to pay for capital investments associated with collection system repair and replacement (“R&R”), Partial Consent Decree Appendix B projects, planned GSI projects, and capital investments to improve the level of wet weather control in the system totaling approximately \$400 million in FY 2024 dollars. Under this scenario, the typical annual residential sewer and stormwater bill as a percentage of median household income (“MHI”) would rise from 1.2% to 2.1% within the first 20 years of the forecast. In addition, we estimated that the typical annual residential wastewater and stormwater bills as a percentage of the upper limit of the lowest quintile income would rise to approximately 5.7%, which should be considered a high financial burden.

The financial alternatives analysis shows that CRW has already implemented measures to lower the cost of wastewater service on its low-income customers by taking advantage of low-cost financing options to pay for capital investments, structuring sewer and stormwater rates to recover costs equitably in proportion to usage of the system and implementing low-income ratepayer support options to help address affordability concerns.

The FCA analysis results show that if CRW is required to make investments of \$400 million to pay for recurring system R&R and to comply with Consent Decree requirements, then an implementation schedule of at least 25 years would be required to keep utility rates and customer bill impacts at acceptable levels. If the required investment costs are higher than this amount, then an implementation schedule of more than 25 years would be required.

1. Introduction and Background

1.1. Purpose and Objectives

This report summarizes the financial capability assessment (“FCA”) that was completed for Capital Region Water (“CRW”) to satisfy the requirements of the Modification to the Partial Consent Decree executed between CRW, the United States Environmental Protection Agency (“EPA”) and the Commonwealth of Pennsylvania Department of Environmental Protection (“PADEP”) dated August 25, 2023 (“the Partial Consent Decree”).¹

According to the August 25, 2023 Modification to the Partial Consent Decree, CRW is required to complete and submit a revised and updated Long-Term Control Plan (“LTCP”) that complies with the requirements of the Partial Consent Decree. As part of these requirements, CRW is required to submit an FCA carried out in accordance with EPA’s “Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development” (EPA 832-B-97-004) (the “1997 FCA Guidance”), including information on sewer rate setting, definition of the service area population of the Harrisburg Sewer System, and median household income of the service population.²

In February 2023, the EPA published “Clean Water Act Financial Capability Assessment Guidance” (EPA 800-b-21-001) (the “2023 FCA Guidance”), which updated the 1997 FCA Guidance that was referenced in the Partial Consent Decree. Therefore, this FCA report was prepared consistent with the 2023 FCA Guidance.

1.2. CRW Background

CRW is a municipal authority that owns, operates, and maintains the greater Harrisburg area’s water and sewer systems and associated infrastructure. CRW (originally the Harrisburg Authority) was formed in 1957 to provide financing for the area’s conveyance and treatment systems. In August 2013, the City of Harrisburg (“City”) City Council and CRW each separately approved resolutions authorizing the transfer of the City sewer system to CRW. The ownership rights of the sewer system were transferred to CRW on December 4, 2013. Since that date, CRW has been solely responsible for the operation of the Sewer System.

CRW owns and operates the sewer system, which includes an Advanced Wastewater Treatment Facility (“AWTF”), a conveyance system, and wastewater and stormwater collection systems within the City limits. Overall, the sewer system includes approximately 48 miles of sanitary sewers, 29 miles of stormwater sewers, and 87 miles of combined sanitary and stormwater sewers.

The sewer system provides service to approximately 16,545 City retail customers and six suburban municipality wholesale customers. CRW’s suburban municipal customers account for more than half of the revenues of the conveyance and treatment systems. These suburban municipal customers include Susquehanna Township Authority, Lower Paxton Township Authority, Swatara Township Authority, Paxtang Borough, Penbrook Borough, and Steelton Borough, all of which are located in Dauphin County. CRW provides sewer conveyance and wastewater treatment services to the suburban municipalities and

¹ Case No. 1:15-cv-00291-CCC filed in the United States District Court for the Middle District of Pennsylvania.

² Ibid, Paragraph 17.

charges the municipalities for this service. CRW does not charge suburban municipality residents and businesses directly. The suburban municipalities own, operate, and maintain their own sewer collection systems, and charge their residents and businesses for operating and maintaining their collection systems and for the cost of sewer conveyance and treatment services provided by CRW.

1.3. Historical and Current Sewer Rates

CRW’s existing sewer rate structure is comprised of volumetric rates that differ based on level of service provided, and the results of a cost-of-service evaluation. Customers located within the City pay for retail sewer service, while the six Suburban municipalities served by CRW pay for wholesale wastewater treatment and conveyance service. The rates differ based on the cost of different services being provided by CRW. For example, customers located within the City utilize CRW’s treatment, conveyance, and collection systems and their rates reflect their proportionate share of the cost of operating and maintaining these facilities. The Suburban municipalities located outside the City operate their own collection systems and primarily utilize CRW’s treatment and conveyance facilities. In accordance with its inter-municipal agreements with the suburban municipalities, the sewer rates paid by these communities exclude costs attributable to CRW’s collection system and wet weather treatment.

The Borough of Steelton operates its own collection and conveyance systems, and discharges wastewater directly to CRW’s AWTF. Therefore, the wholesale cost of service for Steelton is different than the other Suburban municipalities because Steelton’s rates reflect its proportionate share of the costs associated with the use of CRW’s treatment facilities.

The existing (FY 2024) and historical sewer rates and rate increases over the past five years are provided in Table 1-1.

Table 1-1. Existing and Historical Retail and Wholesale Sewer Rates

Customer Class	2020	2021	2022	2023	2024
City Retail Customers:					
All	\$7.99	\$8.23	\$8.56	\$9.24	\$9.98
Wholesale Customers:					
Conveyance & Treatment	4.47	4.47	4.65	5.01	5.32
Treatment Services	3.28	3.28	3.41	3.58	3.79
Annual Rate Increases					
City Retail Service	4.4%	3.0%	4.0%	7.9%	8.0%
Wholesale Service	1.8%	0.0%	4.0%	7.7%	0.0%

Sewer rates shown are in units of \$ per 1,000 gallons of billed consumption.

1.4. Historical and Current Stormwater Fees

CRW has implemented a stormwater fee system to recover the cost of stormwater management in proportion to property impervious surface area. The stormwater fee took effect on October 1, 2020. CRW accounts for its stormwater management costs separately from its sewer and water costs to ensure that stormwater fee revenues sufficiently recover costs associated with the stormwater system.

CRW’s existing stormwater fees are assessed on a per equivalent residential unit (“ERU”) basis, with each ERU being assessed a fee based on the impervious area (“IA”) associated with each property. The fee is

assessed differently among residential and non-residential customers. The following are the fee tiers that apply to residential customers:

Residential – Tier 1:

- Residential customers with between 400 SF and 700 SF of IA are assigned a fee multiplier of 0.5x and this multiplier is applied to the monthly fee per ERU of \$6.77 to yield an annual stormwater fee of \$3.39 per month or \$40.68 per year in 2024.

Residential – Tier 2:

- Residential customers with IA between 700 SF and 2,200 SF are assigned a fee multiplier of 1.0x, with this multiplier applied to the monthly fee per ERU to yield an annual stormwater fee of \$6.77 per month or \$81.24 per year in 2024.

Residential – Tier 3:

- Residential customers with more than 2,200 SF of IA are assigned a multiplier based on their total IA and the IA included in one ERU (established at 1,023 SF). For example, if a residential property has 3,069 SF of IA, it would be assigned a multiplier of 3.0x (3,069 SF ÷ 1,023 SF), based on its total IA. This multiplier would then result in a monthly stormwater fee of \$20.31 (\$6.77 × 3.0) or \$243.72 per year in 2024.

Non-Residential:

- Non-residential customers are assigned a multiplier and assessed an annual stormwater fee in the same manner as the Residential – Tier 3 customers.

CRW’s existing stormwater fees are provided in Table 1-2.

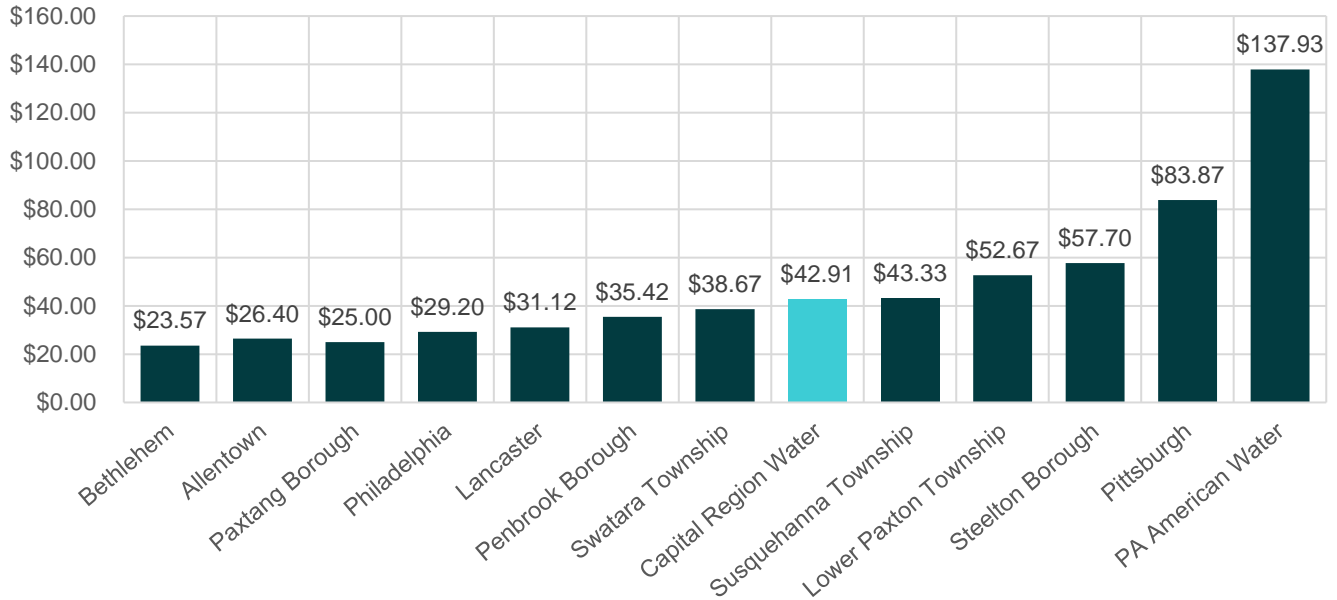
Table 1-2. Existing (FY 2024) Stormwater Fees

Customer Class / Tier	Fee per Month	Fee per Year
Residential:		
Tier 1 (>400 and <= 700 SF)	\$3.39	\$40.68
Tier 2 (>700 and <= 2,200 SF)	\$6.77	\$81.24
Tier 3 (>2,200 SF)	\$6.77 per 1,000 SF	\$81.24 per 1,000 SF
Non-Residential		
Tier 1 (400-700 SF)	\$3.39	\$40.68
Tier 2 (Over 700 SF)	\$6.77 per 1,000 SF	\$81.24 per 1,000 SF

1.5. Residential Sewer and Stormwater Bill Comparison

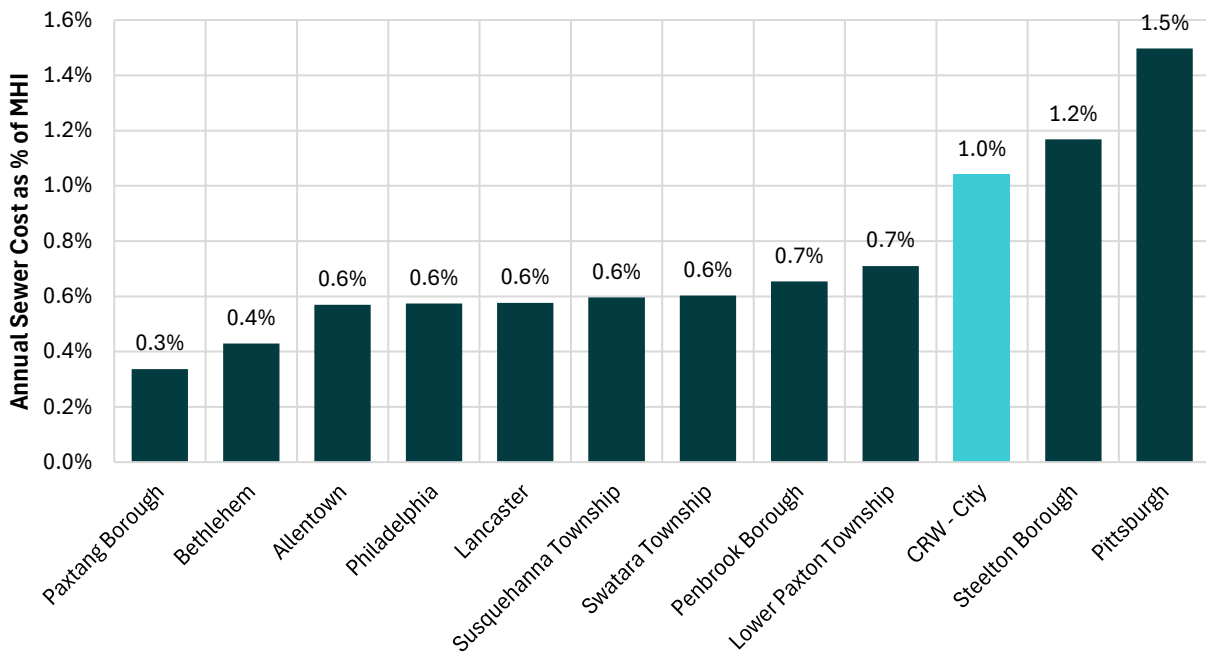
We compared CRW’s 2024 residential annual sewer bills to those of other communities in the region to show how CRW’s sewer rates compare to other service providers. We based the residential bill calculations for each community on the average residential usage of 4,300 gallons per month. The results of the sewer bill comparison are provided in Figure 1-1. As discussed previously, CRW provides wholesale treatment and conveyance service to Lower Paxton, Paxtang, Penbrook, Susquehanna, and a portion of Swatara, and wholesale treatment service to Steelton and a portion of Swatara.

Figure 1-1. Estimated Monthly Residential Sewer Bill Comparison (2024)



As shown in Figure 1-1, CRW’s 2024 annual residential sewer bill for customers that use 4,300 gallons of water per month is within the range of other sewer service providers in Pennsylvania. We also compared the typical annual residential bill as a percentage of median household income (“MHI”) for the same communities as shown in Figure 1-1. The results are presented in Figure 1-2 and show that the current cost burden of sewer service on City residential customers is already higher than most of the other communities included in the survey when the annual bills are compared to MHI. MHI is based on a household size of four individuals.

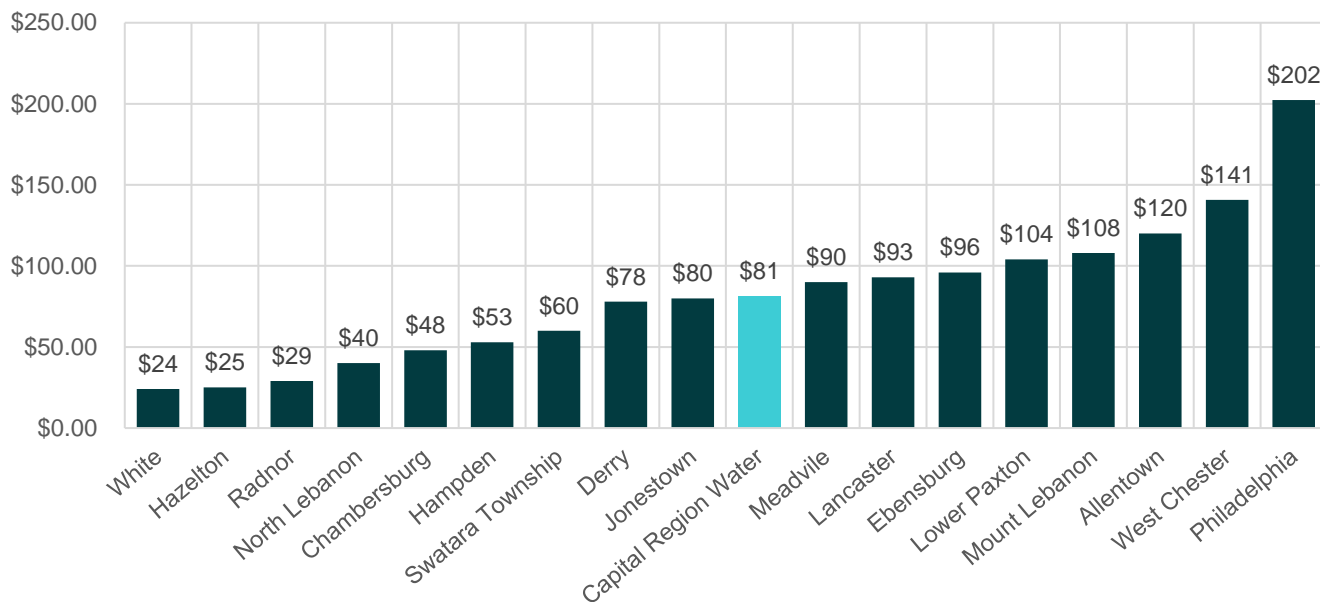
Figure 1-2. Estimated Monthly Residential Sewer Bill as % of MHI Comparison (2024)



The bill as a percentage of MHI in this comparison chart includes only sewer. The figure including both sewer and stormwater is 1.2% for CRW as discussed later in Section 5 of this report.

Next, we compared CRW’s 2024 typical residential annual stormwater bill to those of other communities in the region to show how CRW’s stormwater fees compare to other service providers. We based the residential bill calculations for each community on one ERU for CRW residential customers. The results of the bill comparison are provided in Figure 1-3. As shown in the figure, the projected fee was comparable to the stormwater fees currently assessed by other utilities in CRW’s region.

Figure 1-3. Survey of Annual Residential Stormwater Fees in PA (2024)



1.6. Disclaimers

Raftelis relied upon financial and utility system data prepared and/or provided by CRW as being accurate, reliable and appropriate for the analyses undertaken and for the conclusions and recommendations reached as described in this report. To the extent that the information provided to Raftelis is not accurate, the findings and conclusions contained in this report are subject to change. This report summarizes the work completed as of the date of this report. Changed conditions occurring or becoming known after such date could affect the material presented and the conclusions and recommendations reached herein to the extent of such changes.

This report contains information on proposed budgets and financial plans, as well as estimated financial results for the current fiscal year and projected years. Information that is shown as “Estimated” or “Projected” is subject to change in its entirety and subsequent reports or final versions may deviate materially from the information contained herein. There is no assurance that estimated financial results will be realized and actual financial results may differ materially from the estimates contained herein. Past performance is not indicative of future results, which will vary. By providing this information in this Report, Raftelis has no responsibility for updating this report for changes that occur after the date of the report.

2. Financial Capability Assessment Guidance

The 2023 FCA Guidance provides a framework to use to assess the financial capability of the utility and community to implement water pollution control measures needed to meet Clean Water Act requirements and for developing a reasonable implementation schedule for necessary improvement that will not overly burden the community. The 2023 Guidance sets forth two alternatives that utilities can choose to employ to assess financial capability when negotiating compliance schedules. Alternative 1 considers metrics that measure the financial impact of the current and proposed water pollution controls on residential users, the financial capability of the community, the lowest quintile income, and poverty prevalence within the community's service area. Alternative 2 utilizes dynamic financial and rate models to evaluate the impacts of debt service and operation and maintenance ("O&M") costs on customer bills. We have chosen to complete the FCA for CRW using Alternative 2.

Under Alternative 2, a long-term financial plan model is used to estimate the revenue necessary to cover expenses (including the costs of compliance projects) on an annual basis and to meet debt covenants over the implementation period. Using a long-term financial model, utilities can decide how much of the capital program should be financed through debt and how much should be directly paid for by sewer rates as costs are incurred (i.e., pay-as-you-go cash funding). The financial planning tool is then used to evaluate potential rate increases and balance revenue requirements and utility rates against customer affordability considerations. The analysis can help utilities mitigate affordability impacts, such as the likelihood that users will reduce usage or cease paying utility bills in lieu of paying for other essential needs, causing customer "rate shock," or causing the yield of the revenues from rate increases to be less than expected or desired. The financial model can help a utility and regulators to evaluate potential alternative capital plans and compliance schedules in light of anticipated annual rate increases and added economic burdens placed on utility customers.

The typical steps in the financial modeling process include:

- Preparing projections of O&M expenses, annual capital investment needs, capital outlay, and debt service payments necessary to continue to provide adequate utility service to system customers;
- Identifying a capital funding and financing plan to pay for the identified capital investments;
- Estimating future revenue requirements based on O&M expenses, capital financing plan, and the utility's fiscal policies and targets, such as cash reserve levels and debt service coverage ratios;
- Allocating the annual revenue requirements to customer classes based on a cost-of-service analysis:
and
- Developing a schedule of rates and charges necessary to meet revenue requirements.

We analyzed the results of the financial and rate models, along with completing an analysis of prevalence and severity of poverty within the service area, to help assess the financial capability of the utility and the community. The 2023 FCA Guidance also requires utilities to prepare and calculate the Lowest Quintile Poverty Indicator ("LQPI") Score under Alternative 2. This poverty prevalence score was considered along with the financial plan results to help develop a reasonable implementation schedule.

The LQPI score is calculated by considering and scoring the following six community poverty indicators:

1. Upper limit of the lowest quintile income ("LQI") (service area vs. national LQI)

2. Percentage of population with income below 200% of the Federal Poverty Level (service area vs. national value)
3. Percentage of households receiving food stamps / SNAP benefits (service area vs. national value)
4. Percentage of vacant housing units (service area vs. national value)
5. Trends in household growth (service area compared to growth percentage ranges)
6. Percentage of unemployed population 16 and over in the Civilian Labor Force (service area vs. national value)

For utilities with a service area that includes more than one jurisdiction, the 2023 FCA Guidance requires the LQPI indicators to be weighted based on the number of households in each jurisdiction throughout the entire service area.

The 2023 FCA Guidance also encourages utilities to include a Financial Alternatives Analysis to document whether the utility has considered feasible steps to reduce costs and address impacts to low-income households. The Financial Alternatives Analysis incorporates considerations of grant and low-cost loan availability, user fees and rate structures, and other viable funding mechanisms and sources of funding that may be used to mitigate financial impacts. This step is completed to help inform the consideration of extended implementation schedules and to help mitigate affordability concerns, particularly those that may be driven by the lowest quintile income and/or poverty considerations.

The 2023 FCA Guidance also provides the flexibility to utilities to submit supplemental information, metrics, and documentation that would provide a more accurate and complete picture of a utility and community's financial capability that may affect the conclusions of the standard FCA analyses described above.

3. Sewer Fund Financial Plan and Rate Projections

The FCA assessment for CRW was comprised of preparing a comprehensive long-term financial and rate model and analyzing affordability metrics in accordance with the EPA Guidance under Alternative 2 as described in Section 2. This Section of the report provides a summary of the methodology, key assumptions, and inputs used to develop the long-term financial and rate model for CRW's Sewer Fund, followed by a summary discussion of the long-term financial plan and rate projections.

3.1. General Financial Modeling Methodology

Raftelis and CRW prepared a long-term financial and rate model for CRW that was designed to forecast the annual rate revenue requirements over a long-term period (20 years or more) and to identify the rate adjustments anticipated to be necessary to meet the revenue needs in each year of the forecast. We used the model to help answer the following questions about the finances associated with CRW's Sewer Fund:

- How much would utility user rates need to increase to fully fund O&M expenses, capital expenditure needs, and comply with CRW's fiscal policy targets each year?
- How does the increase in sewer user rates impact the economic burden placed on residential customers of the system?
- What is a reasonable implementation timeline for CRW's regulatory capital needs that helps to minimize the economic burdens on CRW's low-income customers?

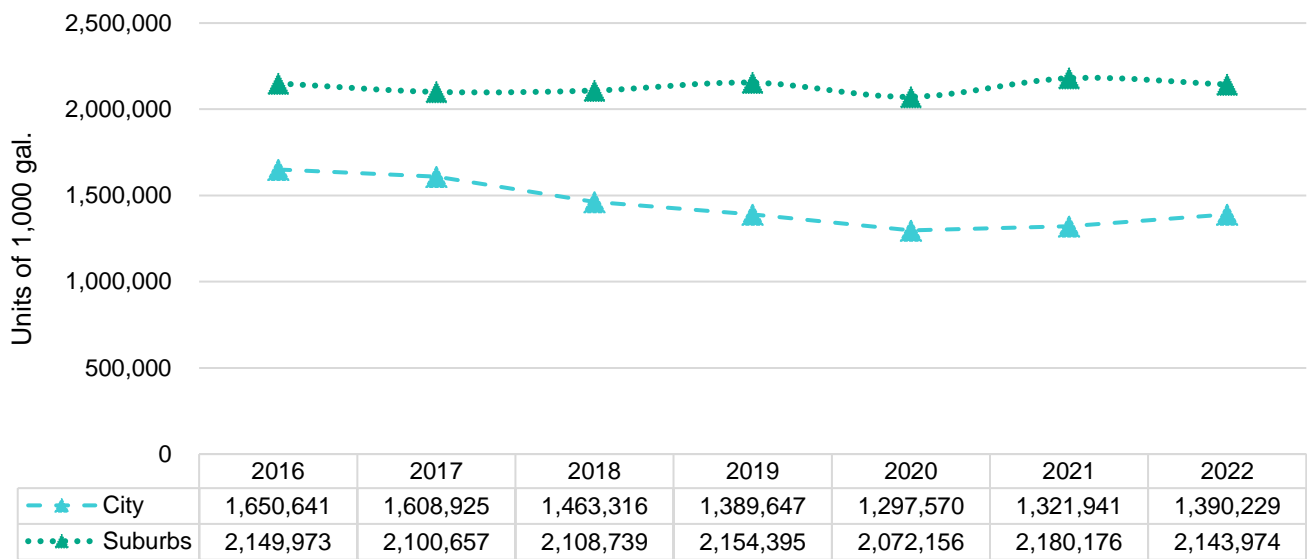
The long-term financial and rate model contains a collection of inputs, programmed calculations, and outputs (charts, tables, etc.) to be able to answer these questions.

The financial plan projections that were prepared for CRW's Sewer system considered current and projected customer billed sewage flows and loadings, existing sewer rates and revenues, existing and projected O&M expenses, capital investments, outstanding debt, current and projected cash levels, and established fiscal policies. We then used the financial projection to provide insight into the likely sewer rate adjustments that would be needed to provide the basic level of service, meet current regulatory obligations, and maintain the long-term financial health of CRW's Sewer Fund. The key inputs and assumptions used in the financial and rate model are detailed below.

3.2. Customer Growth

The projection of sewer rate revenues was derived from anticipated sewer rates (retail and wholesale) in future years and assumptions regarding future changes in billed flows. We completed an analysis of recent historical changes in billed flow and used this analysis to prepare an estimate of future changes to billed flow over the forecast period. The historical annual billed retail and wholesale sewer volumes from FY 2016 to FY 2023 are shown in Figure 3-1.

Figure 3-1. Historical Billed Sewer Volume (1,000 gal.)



As shown in Figure 3-1, annual billed volume attributable to City retail customers was relatively flat from FY 2016 to FY 2022, with a slight decline from FY 2017 to FY 2020, before rebounding during FY 2021 to FY 2022. Based on historical trend analysis and discussions with CRW about future demands and economic development activities, retail volumes were projected to remain unchanged over the forecast period.

The billed volume for wholesale customers was also relatively flat over the historical period. Recent residential consumption and account data shows the level of consumption per residential account to be about 52,000 gallons per year. In future years, the proportion of billed flows between City and Suburban customers for both treatment and conveyance service was assumed to remain unchanged from recent historical years.

3.3. Fiscal Requirements and Policies

CRW has established fiscal policies and targets for cash reserves and debt service coverage. CRW is also required to comply with fiscal requirements included in its financing agreements with lenders and bondholders and its management policies. These fiscal requirements and policies are discussed below.

3.3.1. Cash Reserves

3.3.1.1. Operating Cash Reserves

CRW has covenanted to maintain operating cash reserves according to the terms of its existing Trust Indenture with the Bank of New York Mellon Trust Company, dated May 1, 2017 (the “Wastewater Trust Indenture”) and elects to hold additional reserves above the minimum level specified in the Wastewater Trust Indenture as an internal fiscal policy target.³ The Wastewater Trust Indenture requires CRW to maintain an Operating Reserve Account, with its intended purpose of making payments and transfers required under the Wastewater Trust Indenture if revenues are insufficient to pay for operating expenses and/or debt service. The Wastewater Trust Indenture states that CRW shall maintain cash in this account equal to at least 60 days

³ Trust Indenture dated as of May 1, 2017, between CRW and the Bank of New York Mellon Trust Company, N.A.

(one sixth) of budgeted operating expenses for the current fiscal year. As of January 1, 2024, the balance in this account was approximately \$2.8 million, which is equivalent to about 78 days of cash.

CRW has also established a cash management target of maintaining a total cash reserve, including amounts in the Operating Reserve Account, at a minimum of 240 days of annual operating expenses. Therefore, an additional cash reserve equal to 180 days of operating expenses was included as a minimum cash target for the Sewer Fund. This amount, combined with the funds held separately in the Operating Reserve Account, provides CRW with a 240-day cash reserve target. As of January 1, 2024, the available cash balance in the Sewer Revenue Fund was approximately \$17.3 million, or 480 days of cash, which excludes amounts held in the Operating Reserve Account and the Rate Stabilization Fund and exceeds CRW's minimum cash reserve target.

3.3.1.2. Rate Stabilization Fund

In accordance with the Wastewater Trust Indenture, CRW is also required to maintain a Rate Stabilization Fund to offset a shortfall in any other fund specified in the Indenture, supplement a shortfall of revenues resulting from a decline in usage of the sewer system, and to satisfy the rate covenant provisions under the Indenture. As of January 1, 2024, the balance in this account was \$3.0 million. The amount of funds transferred from the Rate Stabilization Fund to the Sewer Operating Fund in any year for the purpose of satisfying rate covenant provisions cannot exceed 20% of the annual senior lien debt service requirement in the year the funds are transferred. In addition, once funds are transferred to satisfy rate covenant provisions, the funds cannot be transferred back to the Rate Stabilization Fund.

3.3.2. Debt Service Coverage

Debt service coverage is the amount of net operating revenue (operating revenue, less operating expenditures) available to fund annual principal and interest payments on outstanding debt. CRW is required to set its retail sewer rates at a level sufficient to maintain debt service coverage at or above what is required by its Wastewater Trust Indenture.

The required level of debt service coverage associated with CRW's outstanding debt is described in the Wastewater Trust Indenture as set forth below:

The Authority covenants (i) it has adopted and will charge, maintain and collect throughout its service area so long as any Bonds remain Outstanding and funds for their payment have not been provided, service rates, rents and other charges, which (after making due and reasonable allowances for prompt payment discounts, if any, contingencies and a margin of error in the estimates), shall generate Net Revenues (exclusive of Special Revenues, including connection and tapping fees, which shall not constitute Gross Revenues) which shall be sufficient in each Fiscal Year to provide funds to pay (a) an amount not less than 120% of the Debt Service Requirements with respect to its Outstanding Bonds and other Parity Obligations in such Fiscal Year, (b) any amount required to replenish the Debt Service Reserve Fund in full and (c) the amount due in such Fiscal Year on all Subordinated Debt. For purposes of this covenant, Net Revenues may be increased as a result of any transfers from the Rate Stabilization Fund to the Sewer Revenue Fund during such Fiscal Year.⁴

CRW has approximately \$91.1 million in outstanding debt related to the sewer system as shown in Table 3-1. This debt is comprised of PENNVEST Loans (from 2009, 2014, 2017, and 2018), the Series 2017 Revenue and Revenue Refunding Bonds, two PENNVEST Pro-Fi Loans, and a line of credit.

⁴ Ibid., Article VII. Section 7.01. P.53.

Table 3-1. Summary of Existing and Outstanding Sewer Fund Debt

Debt Issue	Principal Outstanding (as of January 1, 2024)
2009 PENNVEST Loan	\$596,251
2014 PENNVEST Loan	\$14,575,695
Series 2017 Revenue and Refunding Bonds	\$39,320,000
2017 PENNVEST Loan	\$2,795,490
2018 PENNVEST Loan	\$8,920,440
PENNVEST Pro Fi Loan (\$21M)	\$6,023,430
PENNVEST Pro Fi Loan (\$65M)	\$15,406,021
Line of Credit	<u>\$3,476,838</u>
Total	\$91,114,165

CRW has established management targets for debt service coverage that are more restrictive than the bond covenant for financial management purposes. The targets consist of maintaining debt service coverage of at least 1.40 times with respect to senior lien annual debt service payments and 1.15 times for all-in debt service payments. Senior lien debt includes the 2017 Revenue Bonds, all future Revenue Bond debt, the 2009 and 2014 PENNVEST loans, and any future loans designated as senior lien. The 2017 and 2018 PENNVEST loans, as well as the PENNVEST Pro-Fi loans, hold a subordinate claim to the net revenues of the system.

3.4. Sewer Revenues and Expenses

3.4.1. Revenues

CRW's sewer system revenues include revenue from sewer rates that are charged to City retail customers and Suburban municipalities, and from other miscellaneous sources. Sewer revenues projected from Suburban municipalities were estimated based on the year-by-year results of the cost-of-service evaluation described below. The projection of sewer revenues from City retail customers was prepared by multiplying the anticipated billed flow by the projected volumetric sewer rates.

Miscellaneous revenues were generally comprised of penalties for late payment, sludge handling charges, contractor waste fees, electricity sales, pretreatment fees, future sales of biogas from energy recovery improvements at the AWTF, and interest income. Historically, these miscellaneous revenues have comprised approximately 5% to 10% of the revenues of the system. Except for interest income, these revenues were projected in future years based on their FY 2024 budgeted amounts. Interest income was calculated based on the average annual balance of available cash and an interest earnings rate of between 2% and 3% per year.

A summary of the historical and projected sewer system revenues is provided at the end of this section in Table 3-14. With the exception of any unforeseen circumstances, CRW expects miscellaneous revenues to be realized in FY 2024 and in future years at the levels budgeted and projected based on the information available as of the date of this report. Biogas sales of roughly \$500,000 are expected to begin being realized in FY 2028.

3.4.2. Expenses

3.4.2.1. Operation and Maintenance Expenses

The projections of sewer system O&M expenses were prepared based in part on adopted budget figures for FY 2024 as provided by CRW. The system's O&M expenses were comprised of costs related to personnel, insurance, electricity, chemicals, parts and supplies, engineering services, and general operational costs. O&M expenses also include administrative costs attributable to the sewer system, which were anticipated to total approximately \$2.8 million in FY 2024. Individual expenses were classified as labor, benefits, insurance, electricity, chemicals, professional services, minor capital, or general and were escalated in future years based on their FY 2024 budget amount and an appropriate cost escalation factor. The assumed escalation factors for each of the expense classifications over the period from FY 2025 to FY 2033 are provided in Table 3-2 and were developed based on discussions with CRW. A summary of historical and projected O&M expenses is provided at the end of this section in Table 3-14.

Table 3-2. O&M Cost Escalation Factors

Expense Category	Escalation Rate
Labor	4.0%
Benefits	6.0%
Insurance	6.0%
Electricity	4.0%
Chemicals	4.0%
Professional Services	3.0%
Minor Capital/Equipment	3.0%
General	3.0%

O&M expenses beyond year 10 of the financial forecast for all categories were normalized to an annual escalation rate of 3.0% per year.

3.4.2.2. Capital Expenditures

The projection of sewer system capital expenditures was prepared based on a detailed schedule of future capital project costs provided by CRW. Capital projects in the base forecast include projects related to rehabilitation and replacement ("R&R") of collection, conveyance, pump stations, treatment plant, and other miscellaneous capital work anticipated to be incurred over the forecast period. In addition, the base forecast includes capital projects identified in Appendix B of Partial Consent Decree. However, the capital project costs summarized below do not include stormwater-related projects, as those projects are anticipated to be funded with stormwater fee revenues (see Section 4 of this report). Sewer system capital costs anticipated to be incurred in years FY 2024 to FY 2033 of the forecast are summarized in Table 3-3. Additional capital investments related to meeting Long-Term Control Plan objectives were also included in the 20-year capital plan under an alternative financial plan scenario identified later in this report. Sewer capital plan costs over a 20-year forecast period under base and alternative capital plans are provided in Appendix A.

Project costs were provided by CRW in future (escalated) dollars for the first 10 years of the forecast period, and in 2024 current year dollars for the remaining years of the forecast period. These costs were escalated to future year dollars by applying a construction cost index of 4.0% per year.⁵

Table 3-3. Sewer System Capital Plan

Project Type	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
Collection	\$11.1	\$15.7	\$11.9	\$8.0	\$4.9	\$5.0	\$7.6	\$11.4	\$5.4	\$5.6
Conveyance	5.5	1.5	6.7	8.0	11.4	7.2	3.3	0.0	0.0	0.0
Pump Stations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Treatment Plant	16.5	23.2	4.3	0.7	1.9	1.2	1.4	5.2	5.2	0.4
Miscellaneous	<u>1.4</u>	<u>1.0</u>	<u>0.5</u>	<u>0.2</u>	<u>0.7</u>	<u>0.4</u>	<u>1.2</u>	<u>0.9</u>	<u>0.4</u>	<u>0.1</u>
Total	\$34.5	\$41.5	\$23.3	\$16.9	\$18.8	\$13.8	\$13.5	\$17.5	\$11.1	\$6.0

Notes: Amounts shown in \$ millions. Capital project costs shown in this table are in future dollars. Amounts exclude future CSO projects other than those identified in Appendix B of the Partial Consent Decree.

3.5. Sewer Capital Project Funding and Financing

The financial forecast prepared for CRW's Sewer Fund assumed funding of capital project costs with a mix of cash and new debt. We assumed cash to fund capital projects would be generated from current revenues or would come from Revenue Fund reserves. This financing plan scenario was prepared for scenario analysis only and does not constitute municipal securities advice.

A summary of CRW's anticipated capital funding and financing plan over the next ten years is summarized in Figure 3-2 and assumes projects will be funded and financed with cash, new PENNVEST loans, and new Revenue Bonds. Current revenues and cash reserves were assumed to fund about \$54.1 million, or roughly 27.5%, of the total capital investment over the forecast period. In addition, new debt in the form of PENNVEST loans was assumed to fund approximately 21.9% of project costs over the forecast period, while new debt in the form of Revenue Bonds was assumed to fund 44% of capital costs over the forecast period. Anticipated tax credits were assumed to fund roughly 4.7% of project costs, while a line of credit was assumed to fund a small portion of project costs that would then be refinanced with future Revenue Bond issues.

The following paragraphs provide assumptions and other information about the new debt that were assumed to be used as capital funding sources:

PENNVEST Loans:

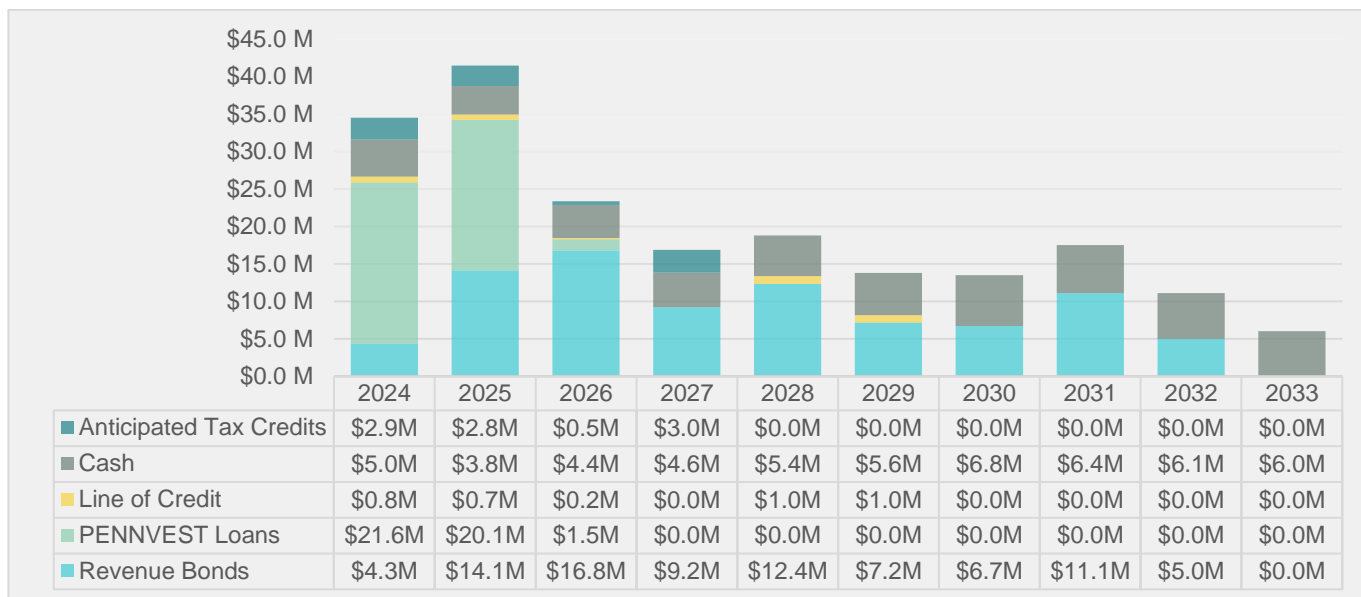
- The PENNVEST loans were assumed with an annual interest rate of 1.0% in the first 10 years of the forecast and 1.5% thereafter. Other assumptions included issuance costs of 0.85%, a repayment term of 20 years, and level annual debt service payments over the repayment period. It is assumed that these loans will hold a subordinate claim to the net revenues of the system.

⁵ A 4.0% capital cost escalation factor was selected because it is consistent with published long-term construction cost indices.

Revenue Bonds:

- Revenue bonds were assumed with an annual interest rate of between 4.0 to 5.5%, issuance costs of 1.5%, and level annual debt service payments over the 30-year repayment term. Future Revenue Bonds were assumed to hold a senior claim to the net revenues of the system.

Figure 3-2. Capital Project Funding Sources (FY 2024 – FY 2033)



For the years beyond FY 2033, we have assumed that \$6.0 million per year (in 2024 dollars) would be funded with cash on a pay-as-you-go basis. In addition, we assumed that 80% of the debt financed portion of the capital plan would be financed with revenue bonds and 20% would be financed with PENNVEST loans.

3.6. Suburban Wholesale Sewer Rate Calculation

The financial plan contains a projection of suburban wholesale sewer revenues. The amount of revenues that can be generated from these customers was estimated based on the pricing provisions contained within the long-term, intermunicipal agreements that have been executed with the suburban municipalities. We prepared estimates of suburban wholesale sewer rate revenues in each year of the forecast period utilizing the rate calculations described below.

3.6.1. Cost Categorization

We allocated the projected sewer rate revenue requirements to categories of Treatment, Conveyance, Collection, and City-Only costs. These categories are described as follows:

- Treatment: These costs are related to sewer treatment processes and facilities at CRW’s AWTF and are shared by all users of the system.
- Conveyance: These costs are related to the use of conveyance facilities and are shared by all users of the system, except customers whose wastewater flow is conveyed through the Steelton conveyance system.
- Collection: Costs are related to the City’s collection system and only apply to City customers.

- **City-Only:** Costs are related to system costs or revenues associated with City customers only and are not associated with other users of the system. Examples include costs related to billing and customer service.

We allocated CRW's projected O&M expenses among the four categories listed above based on the nature of the line-item expenses. Sewer specific administrative expenses were allocated based on the proportion of non-administrative costs allocated to each category. We also allocated CRW's sewer capital rate revenue requirements, including existing debt service, new debt service, and cash-funded capital, among these four cost categories. A summary of the resulting rate revenue requirement categorizations for FY 2024 is provided in Table 3-4. The O&M and capital rate revenue requirements represent annual O&M and capital costs less their respective miscellaneous revenue offsets. The total amount offset by miscellaneous revenue in FY 2024 was estimated to be approximately \$2.0 million.

Table 3-4. Summary of Example Cost Categorization Results for FY 2024

Description	Treatment	Conveyance	Collection	City-Only	Total
O&M Costs	\$7,667,461	\$1,760,147	\$1,947,897	\$1,756,718	\$13,132,223
O&M Related Non-Rate Revenue Offset	<u>-1,278,970</u>	<u>-60,925</u>	<u>-67,425</u>	<u>-447,718</u>	<u>-1,855,038</u>
O&M Revenue Requirement	\$6,388,491	\$1,699,222	\$1,880,472	\$1,309,000	\$11,277,185
Allocation %	56.6%	15.1%	16.7%	11.6%	100.0%
Capital Costs	\$4,173,968	\$1,620,407	\$4,580,391	\$0	\$10,374,765
Capital Related Non-Rate Revenue Offset	<u>-106,028</u>	<u>-25,612</u>	<u>-35,539</u>	<u>0</u>	<u>-167,179</u>
Capital Revenue Requirement	\$4,067,940	\$1,594,794	\$4,544,852	\$0	\$10,207,586
Allocation %	<u>39.9%</u>	<u>15.6%</u>	<u>44.5%</u>	<u>0%</u>	<u>100%</u>
Total	\$10,456,431	\$3,294,016	\$6,425,324	\$1,309,000	\$21,484,771

3.6.2. Cost Allocation

Once the costs were categorized, we then allocated the costs to City and Suburban customers based on each customer's proportionate usage of the system. A summary of the projected sewer flows attributable to City customers and to each of the Suburban customers over the first five years of the forecast is shown in Table 3-5.

Table 3-5. Customer Units of Service (Annual Flow Volume in 1,000 gallons)

Municipality	FY 2024 – FY 2028
City of Harrisburg	1,390,229
Penbrook Borough	68,585
Paxtang Borough	35,471
Swatara Township-via Harrisburg	377,569
Swatara Township-via Steelton	70,216
Lower Paxton Township	799,237
Susquehanna Township	667,636

Steelton Borough	132,955
Total	3,541,899

We then allocated the categorized cost to each of the municipalities based on the projected units of service for each municipality. Costs for treatment, conveyance, and collection were distributed to each municipality, as shown in Table 3-6, depending upon the services provided to each municipality, retail vs. wholesale service, and the constraints associated with the inter-municipal agreements. We then calculated the unit costs of service by dividing the categorized costs under each category by the units of service applicable to each cost category. The unit cost of service for O&M and capital costs is shown in Table 3-7.

Table 3-6. Allocation of Units of Service to Cost Driver Categories

Municipality	Treatment	Conveyance	Collection	City-Only
City of Harrisburg	100%	100%	100%	100%
Penbrook Borough	100%	100%	0%	0%
Paxtang Borough	100%	100%	0%	0%
Swatara Township-via Harrisburg	100%	100%	0%	0%
Swatara Township-via Steelton	100%	0%	0%	0%
Lower Paxton Township	100%	100%	0%	0%
Susquehanna Township	100%	100%	0%	0%
Steelton Borough	100%	0%	0%	0%

3.6.3. Wholesale Sewer Rate Calculation

We calculated the wholesale rates for Suburban customers using the unit cost of service for each cost category. An example is provided in Table 3-7 for FY 2024 and a similar procedure was used for the remaining years in the forecast period. Because the City does not provide collection service to Suburban municipalities, the Suburban wholesale rates exclude the unit cost for the Collection category. Similarly, a separate wholesale rate is shown for Steelton because Steelton's wastewater is conveyed to CRW's AWTP through the Steelton conveyance system, which is owned, operated, and maintained by Steelton Borough. As such, the wholesale rate for Steelton includes CRW's cost of treatment but excludes CRW's cost for conveyance and collection service.

Table 3-7. Unit Cost of Service (FY 2024)

Description	Treatment	Conveyance	Collection	City-Only	Total
Units of Service (1,000 gal.)	3,541,899	3,338,727	1,390,229	1,390,229	n/a
Operating Revenue Requirement	\$6,388,491	\$1,699,222	\$1,880,472	\$1,309,000	\$11,277,185
Capital Revenue Requirement	\$4,067,940	\$1,594,794	\$4,544,852	\$0	\$10,207,586
Operating Unit Cost (\$/1,000 gal.)	\$1.804	\$0.509	\$1.353	\$0.942	n/a
Capital Unit Cost (\$/1,000 gal.)	\$1.149	\$0.478	\$3.269	\$0.000	n/a

The Suburban wholesale rates were calculated for each year of the forecast period, similar to the example shown in Table 3-8 for FY 2024.

Table 3-8. Calculated Wholesale Rates (FY 2024)

Description	Suburban¹	Steelton²
<u>O&M Rate:</u>		
Treatment	\$1.80	\$1.80
Conveyance	\$0.51	\$0.00
Collection	\$0.00	\$0.00
City-Only	<u>\$0.00</u>	<u>\$0.00</u>
Total O&M Rate per 1,000 gal.	\$2.31	\$1.80
<u>Capital Charge (Lease Rental Rates):³</u>		
Treatment	\$1.32	\$1.32
Conveyance	\$0.55	\$0.00
Collection	\$0.00	\$0.00
City-Only	<u>\$0.00</u>	<u>\$0.00</u>
Total Charge per 1,000 gal.	\$1.87	\$1.60
Total Rate per 1,000 gal.	\$4.18	\$3.12

¹Includes Penbrook and Paxtang Borough, Swatara, Lower Paxton, and Susquehanna Township.

²Steelton Borough and a portion of Swatara Township do not share in conveyance system costs.

³Reflects a 15 % markup to the unit costs per Section 2b of Schedule A of the Intermunicipal Agreement.

Sewer treatment and conveyance revenue requirements were allocated to each of the different wholesale customers based on the calculated wholesale rates (example shown in Table 3-8) and the estimated wholesale customer units of service shown in Table 3-5. An example of the costs allocated to each wholesale customer in FY 2024 is provided in Table 3-9.

Table 3-9. Example Allocation of Revenue Requirements to Wholesale Customers (FY 2024)

Suburban Partner	Treatment Service			Conveyance Service			Total Allocated Cost
	Unit Cost of Treatment (\$/1,000 gal.)	Units of Service (1,000 gal.)	Allocated Cost	Unit Cost of Treatment (\$/1,000 gal.)	Units of Service (1,000 gal.)	Allocated Cost	
Penbrook Borough	\$3.12	68,585	\$ 214,293	\$1.06	68,585	\$ 72,581	\$ 286,874
Paxtang Borough	\$3.12	35,471	110,829	\$1.06	35,471	37,537	148,366
Swatara Township (via Harrisburg)	\$3.12	377,569	1,179,711	\$1.06	377,569	399,566	1,579,277
Swatara Township (via Steelton)	\$3.12	70,216	219,389	\$1.06	-	-	219,389
Lower Paxton Township	\$3.12	799,237	2,497,206	\$1.06	799,237	845,799	3,343,005
Susquehanna Township	\$3.12	667,636	2,086,022	\$1.06	667,636	706,532	2,792,553
Steelton Borough	\$3.12	132,955	415,417	\$1.06	-	-	415,417
Total			\$ 6,722,867			\$ 2,062,014	\$ 8,784,881

The calculated Suburban wholesale sewer rates for FY 2024 through FY 2028 are summarized in Table 3-10.

Table 3-10. Projected Wholesale Sewer Rates

Service Type	Wholesale Volumetric Rate (1,000 gal.)				
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Conveyance & Treatment	\$5.32	\$4.59	\$5.32	\$6.41	\$6.50
Treatment Services	\$3.79	\$3.17	\$3.44	\$4.15	\$4.23

Note: The wholesale rates in FY 2024 are actual, adopted rates that reflect rate smoothing and inclusion of a reserve for wholesale rate stabilization. The wholesale rates in FY 2025 and beyond were calculated based on the annual expenses allocated to wholesale customers without rate smoothing.

3.7. Sewer System Retail Rate Revenue Requirements

A summary of the projected revenue requirements for City Customers in FY 2024 through FY 2028 is provided in Table 3-11. The projections for the 20-year forecast are provided in Appendix B. As shown in Table 3-11, increases to City retail rate revenues are anticipated to be needed each year of the forecast period to fund the annual costs of the system and to meet fiscal policy targets related to cash reserves and debt service coverage. These sewer rate increases are also needed to build revenues to a level sufficient to meet minimum debt service coverage targets in anticipation of the projected additional annual debt service expenses associated with future Revenue Bonds and the PENNVEST loans.

Table 3-11. Projected Sewer Rate Revenue Requirements (FY 2024 – FY 2028)

Description	Budget				
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
O&M Expenses					
Current System O&M	\$ 12,951,652	\$ 13,446,205	\$ 13,961,096	\$ 14,497,226	\$ 15,055,537
Minor Capital	<u>180,571</u>	<u>185,988</u>	<u>191,568</u>	<u>197,315</u>	<u>203,234</u>
Total O&M Expenses	\$ 13,132,223	\$ 13,632,193	\$ 14,152,664	\$ 14,694,541	\$ 15,258,771
Capital Expenditures					
Debt Service	\$ 5,415,940	\$ 7,982,989	\$ 11,376,949	\$ 13,819,409	\$ 13,822,359
Cash Funded Capital	<u>4,958,825</u>	<u>3,823,929</u>	<u>4,394,114</u>	<u>4,600,651</u>	<u>5,431,840</u>
Total Capital Expenditures	\$ 10,374,765	\$ 11,806,918	\$ 15,771,063	\$ 18,420,060	\$ 19,254,199
Total O&M and Capital	\$ 23,506,988	\$ 25,439,112	\$ 29,923,727	\$ 33,114,601	\$ 34,512,970
Less: Non-Rate Revenues					
Wholesale Revenue	\$ (11,106,000)	\$ (9,593,913)	\$ (11,062,692)	\$ (13,335,339)	\$ (13,519,370)
Other Revenue	(1,450,666)	(1,450,666)	(1,450,666)	(1,450,666)	(1,950,666)
Interest Revenue	(571,551)	(631,464)	(424,203)	(402,462)	(381,908)
Sources and Uses of Funds	<u>3,494,229</u>	<u>1,219,771</u>	<u>(1,104,356)</u>	<u>(1,091,415)</u>	<u>(984,571)</u>
Total Non-Rate Revenues	\$ (9,633,988)	\$ (10,456,272)	\$ (14,041,917)	\$ (16,279,882)	\$ (16,836,515)
Rate Revenue Requirement	\$ 13,873,000	\$ 14,982,840	\$ 15,881,810	\$ 16,834,719	\$ 17,676,455
Proposed Rate Increase	n/a	8.00%	6.00%	6.00%	5.00%

3.8. Sewer System Retail Rate Projections

The calculated City sewer rates for FY 2025 through FY 2028 are summarized in Table 3-12. Additional projected rates over a 20-year forecast period are presented in Appendix B.

Table 3-12. Projected City Retail Volumetric Sewer Rates

Description	Existing	FY 2025	FY 2026	FY 2027	FY 2028
	FY 2024				
All Retail Customers	\$9.98	\$10.78	\$11.43	\$12.11	\$12.72

Sewer rates in \$ per 1,000 gallons.

3.9. Sewer System Cash Flow Projection

A cash flow forecast showing the projected cash revenues and expenses of the sewer system over the period from FY 2024 through FY 2028 is provided in Table 3-13. The cash flow projections for the additional years of the 20-year forecast period are provided in Appendix B. As shown in the forecast, unrestricted cash is anticipated to be maintained at a level of at least 180 days of O&M expenses (Line 41/42). In addition, the cash balance in the Operating Reserve Account is anticipated to be maintained separately at a level equal to at least 60 days of operating expenses. Therefore, in total, it is anticipated that CRW will maintain operating cash reserves of at least 240 days of O&M expenses over the forecast period (at least 180 days, as shown on Line 41/42, plus at least 60 days held separately in the Operating Reserve Account). The projected debt service coverage levels are also shown in Table 3-14 (Lines 45-46). Debt service coverage levels are anticipated to be at least 1.40 times the debt service of annual senior lien debt in each year over the forecast period.

Table 3-13. Sewer System Cash Flow Projection (FY 2024 – FY 2028)

Line No.	Description	Budget				
		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenues						
1	Sales to City Customers	\$ 13,873,000	\$ 14,982,840	\$ 15,881,810	\$ 16,834,719	\$ 17,676,455
2	Sales to Public Authorities	11,106,000	9,593,913	11,062,692	13,335,339	13,519,370
3	Contractor Waste Fees	646,755	646,755	646,755	646,755	646,755
4	Penalties	276,659	276,659	276,659	276,659	276,659
5	Sale of Nutrient Credits	50,000	50,000	50,000	50,000	50,000
6	Sludge Handling	117,438	117,438	117,438	117,438	117,438
7	Electricity Sales	66,394	66,394	66,394	66,394	66,394
8	Interest Income	571,551	631,464	424,203	402,462	381,908
10	Other Revenue	293,420	293,420	293,420	293,420	793,420
11	Total Revenues	\$ 27,001,217	\$ 26,658,883	\$ 28,819,371	\$ 32,023,186	\$ 33,528,399
Operating Expenses						
<i>Personnel:</i>						
12	Management	\$ 1,141,897	\$ 1,193,835	\$ 1,248,226	\$ 1,305,191	\$ 1,364,857
13	Treatment	1,845,581	1,929,166	2,016,679	2,108,314	2,204,273
14	Maintenance	907,616	950,212	994,890	1,041,755	1,090,919
15	Field Maintenance	774,602	809,856	846,776	885,444	925,947
16	Other	100,000	106,000	112,360	119,102	126,248
<i>Operations:</i>						
17	Management	\$ 747,212	\$ 785,362	\$ 825,601	\$ 868,048	\$ 912,828
18	Treatment	2,403,460	2,489,114	2,577,886	2,669,893	2,765,255
19	Maintenance	196,405	202,297	208,366	214,617	221,056
20	Field Maintenance	451,392	467,412	484,011	501,212	519,036
21	Other	1,574,864	1,620,160	1,666,815	1,714,869	1,764,365
<i>Other Operating Expenses:</i>						
22	CRW Administrative Fund Expense	\$ 2,805,623	\$ 2,889,792	\$ 2,976,485	\$ 3,065,780	\$ 3,157,753
23	Total Operating Expenses	\$ 12,948,652	\$ 13,443,205	\$ 13,958,096	\$ 14,494,226	\$ 15,052,537
<i>Other Expenses:</i>						
24	Minor Capital Outlay	\$ 180,571	\$ 185,988	\$ 191,568	\$ 197,315	\$ 203,234
25	CRW Bank and Trustee Fees	3,000	3,000	3,000	3,000	3,000
Debt Service						
<i>Existing Debt Service:</i>						
26	2009 PENNVEST Loan	\$ 114,120	\$ 114,120	\$ 114,120	\$ 114,120	\$ 114,120
27	2014 PENNVEST Loan	1,210,158	1,210,158	1,210,158	1,210,158	1,210,158
28	Series 2017 Revenue and Refunding Bond	2,851,000	2,851,750	2,850,250	2,851,500	2,850,250
29	2017 PENNVEST Loan	199,047	203,906	203,906	203,906	203,906
30	2018 PENNVEST Loan	614,616	614,616	614,616	614,616	614,616
31	Line of Credit	47,000	56,000	63,000	-	4,200
32	PENNVEST Pro-Fi Loans	380,000	617,035	1,690,090	4,194,300	4,194,300
<i>New Debt Service:</i>						
33	Revenue Bonds	-	2,315,405	4,630,810	4,630,810	4,630,810
34	PENNVEST Loans	-	-	-	-	-
35	Total Debt Service	\$ 5,415,940	\$ 7,982,989	\$ 11,376,949	\$ 13,819,409	\$ 13,822,359
36	Capital Projects Funded with Cash	\$ 4,958,825	\$ 3,823,929	\$ 4,394,114	\$ 4,600,651	\$ 5,431,840
37	Total Revenue Requirements	\$ 23,506,988	\$ 25,439,112	\$ 29,923,727	\$ 33,114,601	\$ 34,512,970
38	Revenues Over (Under) Expenditures	\$ 3,494,229	\$ 1,219,771	\$ (1,104,356)	\$ (1,091,415)	\$ (984,571)
39	Beginning Balance	\$ 17,260,413	\$ 20,754,642	\$ 21,974,413	\$ 20,870,057	\$ 19,778,642
40	Revenues Over (Under) Expenditures	\$ 3,494,229	\$ 1,219,771	\$ (1,104,356)	\$ (1,091,415)	\$ (984,571)
41	Ending Balance¹	\$ 20,754,642	\$ 21,974,413	\$ 20,870,057	\$ 19,778,642	\$ 18,794,072
42	Ending Balance - Days O&M	577	588	538	491	449
43	Target Reserve Balance (180 days O&M)	\$ 6,475,826	\$ 6,723,103	\$ 6,980,548	\$ 7,248,613	\$ 7,527,769
44	Projected City Rate Increase	n/a	8.00%	6.00%	6.00%	5.00%
45	DSC (Senior debt, 1.25x DS target)	3.22	1.91	1.62	1.92	2.03
46	DSC (All debt)	2.49	1.55	1.25	1.22	1.29
47	Capital Project Funding:					
48	Cash Funded	\$ 7,863,825	\$ 6,573,929	\$ 4,894,114	\$ 7,630,951	\$ 5,431,840
49	Debt Funded	26,657,500	34,916,000	18,449,290	9,222,839	13,366,660
50	Capital Projects Funding Total	\$ 34,521,325	\$ 41,489,929	\$ 23,343,404	\$ 16,853,790	\$ 18,798,500

¹Excludes cash held in the Operating Reserve Account, and Rate Stabilization Fund.

4. Stormwater Fund Financial Plan and Rate Projections

4.1. Stormwater Revenues and Expenses

4.1.1. Revenues

CRW's stormwater revenues include fee revenues and interest earnings. Gross fee revenues of \$6.2 million were budgeted for FY 2024 and were anticipated to be offset by \$150,900 in stormwater fee credits, which results in net stormwater fee revenues of about \$6.1 million in FY 2024. Stormwater fee credits are earned by customers as the result of construction, operation, and maintenance of stormwater management practices that reduce a parcel's contribution of stormwater runoff. Stormwater credits in future years were based on the budgeted amount in FY 2024 and were escalated in future years to remain at roughly 5.0% of gross stormwater fee revenues. The amount of residential and commercial impervious area was projected to remain unchanged over the forecast period. Therefore, projected increases to stormwater fee revenue over the forecast period were the result of proposed fee increases only. The full amount of the stormwater fees assessed were assumed to be collected by CRW.

Interest earnings were calculated in each year based on the average annual balance of available cash and an interest earnings rate of 3.0% (FY 2024) and 2.0% (all other years) per year. A summary of projected stormwater revenues is included at the end of this section in Table 4-5.

4.1.2. Expenses

4.1.2.1. Operation and Maintenance Expenses

Stormwater system expenses included O&M expenses and minor capital expenditures. In general, O&M expenses were comprised of costs related to personnel, various professional services, and general operating costs. O&M expenses also include a portion of administrative costs, which are allocable to the stormwater system. The allocation of these costs was budgeted to be \$940,000 in FY 2024.

O&M expenses were classified as labor, benefits, professional services, and general, and were escalated in future years based their FY 2024 budgeted amount and an appropriate cost escalation factor. Labor costs were escalated at 4.0% per year, benefit costs were escalated at 6.0% per year, while professional service and general operating costs were escalated at 3.0% per year over the first 10 years of the forecast period. O&M expenses beyond year 10 of the financial forecast for all categories were normalized to an annual escalation rate of 3.0% per year. A summary of projected stormwater O&M expenses is provided at the end of this section in Table 4-5.

General operating costs also included additional annual green stormwater infrastructure ("GSI") O&M costs. GSI O&M costs include costs incurred related to GSI inspections and maintenance, reporting and asset management, training and workforce development, and program management. Additional GSI O&M costs were assumed to result from the future installation of new GSI throughout the system.

Future annual GSI O&M costs were assumed to be 1.5% of the cumulative cost of newly installed GSI. For example, if the cost of installed GSI from the capital plan in one fiscal year was projected to be \$1.0 million,

the estimated additional annual O&M cost associated with the installed GSI was estimated to be \$150,000 (\$1.0 million × 1.5%) in FY 2024, with this amount projected forward and escalated at 3.0% per year in future years. Additional GSI O&M costs were added in the remaining years of the forecast period in the same manner. The O&M cost associated with the GSI scheduled to be installed in FY 2024 was assumed to be included in the FY 2024 budgeted expenses provided by CRW for the stormwater system.

4.1.2.2. Debt Service

Stormwater system debt service includes interest payments on two PENNVEST Pro-Fi loans, one that CRW closed on in 2020 and a second loan anticipated to be obtained in 2024. Interest payments on these loans in FY 2024 and in remaining years of the 10-year forecast were calculated based on an assumed annual interest rate of 1.0% and the cumulative cost of projects anticipated to be funded by the loan. An annual interest rate of 1.5% was assumed beyond the first 10 years of the forecast. The 2020 loan is scheduled to begin amortizing in FY 2025 with annual repayments of \$567,000, while the 2024 loan is scheduled to begin amortizing in FY 2028 with repayments of \$667,500 per year.

The PENNVEST Pro-Fi loans holds a subordinate claim on the net revenues of the sewer system. Therefore, a debt service coverage target of 1.15 times or greater with respect to annual debt service payments associated with all current and future outstanding debt of the stormwater system was assumed. This is consistent with the all-in debt service coverage management target assumed for the sewer system.

CRW plans to issue a new Revenue Bond in 2025 to fund, in part, improvements to its administrative building and to construct a new field equipment building. The stormwater system will be allocated a proportionate share of the resulting debt service costs. As discussed previously, CRW has established a management target for sewer debt service coverage that is more restrictive than its bond covenant for financial management purposes. The target consists of maintaining debt service coverage of at least 1.40 times with respect to senior lien annual debt service payments; therefore, a debt service coverage target of 1.40 times or greater with respect to annual debt service payments associated with the stormwater system’s share of Revenue Bond debt service was assumed.

4.1.2.3. Capital Expenditures

The projection of stormwater system capital expenditures was prepared based on a schedule of future capital project costs provided by CRW. Project costs were mainly related to stormwater system R&R investments, GSI installations associated with the Partial Consent Order Appendix B projects and other miscellaneous stormwater management related projects. The stormwater system capital plan is summarized for a ten-year period from FY 2024 to FY 2033 in Table 4-2. Additional details are provided in Appendix A of this report. Project costs were provided by CRW in current year dollars and inflated to future year dollars by applying a construction cost index of 4.0% per year.

Table 4-1. Stormwater System Capital Plan

Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
GSI Projects	\$4.6	\$3.1	\$1.9	\$5.2	\$2.7	\$2.7	\$2.8	\$2.9	\$3.0	\$3.1
Other Stormwater Related	0.5	5.4	0.9	0.6	0.8	0.4	0.3	0.4	5.7	0.7
Total	\$5.2	\$8.5	\$2.8	\$5.8	\$3.5	\$3.2	\$3.1	\$3.3	\$8.6	\$3.8

Notes: Amounts shown in \$ millions. Figures may not foot due to rounding. Capital project costs shown in this table were provided were provided by CRW in future year dollars.

4.2. Stormwater Capital Project Funding and Financing

The financial forecast for the stormwater system was prepared using an assumed mix of capital funding sources to fund capital project costs. Specific instruction on the amount of cash, grants, and debt used to fund project costs over the first 10 years of the forecast period was provided by CRW. A summary of CRW’s capital project funding plan is shown in Figure 4-1. Cash was assumed to fund approximately 49% of stormwater related capital project costs over the forecast period. The PENNVEST Pro-Fi loans and a new revenue bond were assumed to fund the remaining portion (51%).

Figure 4-1. Capital Project Funding Sources



For the years beyond FY 2033, we have assumed that 75% of the stormwater capital plan would be funded with cash on a pay-as-you-go basis and the remaining portion would be financed with PENNVEST loans.

4.3. Stormwater System Revenue Requirements

A summary of the rate revenue requirements of the stormwater system for the period from FY 2024 to FY 2028 is shown in Table 4-2. As shown in this table, stormwater fee increases of 5.0% are projected to be needed each year in FY 2024 through FY 2028. Note that the projected stormwater fee increases are planning level only and are subject to change in future years.

Table 4-2. Projected Stormwater System Revenue Requirements

Description	Budget				
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
O&M Expenses	\$ 3,830,247	\$ 3,971,917	\$ 4,222,180	\$ 4,382,473	\$ 4,549,284
Capital Expenditures:					
Debt Service	\$ 91,000	\$ 735,744	\$ 898,127	\$ 932,199	\$ 1,502,500
Cash Funded Capital	410,500	816,370	759,310	1,036,371	3,497,371
Total Capital Expenditures	\$ 501,500	\$ 1,552,114	\$ 1,657,437	\$ 1,968,570	\$ 4,999,871
Total O&M and Capital	\$ 4,331,747	\$ 5,524,031	\$ 5,879,617	\$ 6,351,043	\$ 9,549,155
Less Non-Rate Revenues:					
Fee Revenue Offsets	\$ (43,409)	\$ (139,471)	\$ (85,778)	\$ (97,930)	\$ (80,268)
Sources / (Uses) of Funds	1,956,662	1,172,690	1,091,273	976,255	(1,878,051)
Total Non-Fee Revenues	\$ 1,913,253	\$ 1,033,219	\$ 1,005,495	\$ 878,325	\$ (1,958,319)
Fee Revenue Requirement	\$ 6,245,000	\$ 6,557,250	\$ 6,885,112	\$ 7,229,368	\$ 7,590,836
Projected Fee Increase	n/a	5.00%	5.00%	5.00%	5.00%

4.4. Stormwater Fee Projections

The current and projected stormwater fees for FY 2024 through FY 2028 are shown in Table 4-3. The fees shown in the table were calculated based on CRW's existing stormwater fees and the stormwater fee revenue adjustments calculated in Table 4-2.

Table 4-3. Projected Annual Stormwater Fees

Customer Class / Tier	Existing				
	(FY 2024)	FY 2025	FY 2026	FY 2027	FY 2028
Residential:					
Tier 1 - >400 and <= 700 SF	\$40.68	\$42.71	\$44.85	\$47.09	\$49.45
Tier 2 - >700 and <= 2,200 SF	\$81.24	\$85.30	\$89.57	\$94.05	\$98.75
Tier 3 - >2,200 SF (per 1,000 SF)	\$81.24	\$85.30	\$89.57	\$94.05	\$98.75
Non-Residential:					
Tier 1 (400-700 SF)	\$40.68	\$42.71	\$44.85	\$47.09	\$49.45
Tier 2 - Over 700 SF (per 1,000 SF)	\$81.24	\$85.30	\$89.57	\$94.05	\$98.75

4.5. Stormwater System Cash Flow Projection

The stormwater financial plan cash flow projection is summarized in Table 4-5 for FY 2024 through FY 2028. The cash flow forecast details for the additional years of the 20-year projection are provided in Appendix C. As shown in the forecast, unrestricted cash is anticipated to be maintained at or above the minimum target level of 180 days of O&M expenses over the forecast period. A management target of 180 days was selected for the stormwater system to be consistent with the liquidity target incorporated into the wastewater system's financial forecast.

As shown in Table 4-5, debt service coverage levels are anticipated to be above the minimum requirements of debt service coverage for all system debt. A management target of 1.40 times senior lien annual debt service

and 1.15 times total annual debt service was selected for the stormwater system, which is consistent with the all-in debt service coverage management target assumed for the wastewater system.

The annual rate adjustments of 5.0 % in FY 2025 through FY 2028 were designed to build cash reserves in future years with moderate rate adjustments to provide CRW with the flexibility to cash-fund a greater portion of its stormwater management related capital projects in future years beyond FY 2028 if it desires to do so and to avoid the need for additional future debt.

Table 4-4. Stormwater System Cash Flow Projection

Description	Budget				
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenues					
Stormwater Fee Revenues	\$ 6,245,000	\$ 6,557,250	\$ 6,885,113	\$ 7,229,368	\$ 7,590,837
Fee Credits	(150,891)	(158,436)	(166,357)	(174,675)	(183,409)
Other Revenues	194,300	297,906	252,135	272,606	263,677
Total Revenues	\$ 6,288,409	\$ 6,696,721	\$ 6,970,890	\$ 7,327,298	\$ 7,671,104
Operating Expenses					
Personnel	\$ 1,541,312	\$ 1,612,705	\$ 1,687,538	\$ 1,765,984	\$ 1,848,225
Operations and Maintenance	2,288,935	2,359,212	2,534,642	2,616,489	2,701,060
Total Operating Expenses	\$ 3,830,247	\$ 3,971,917	\$ 4,222,180	\$ 4,382,473	\$ 4,549,284
Debt Service					
PENNVEST Loans	\$ 91,000	\$ 601,744	\$ 630,127	\$ 664,199	\$ 1,234,500
Revenue Bonds	-	134,000	268,000	268,000	268,000
Total Debt Service	\$ 91,000	\$ 735,744	\$ 898,127	\$ 932,199	\$ 1,502,500
Capital Projects Funded with Cash	\$ 410,500	\$ 816,370	\$ 759,310	\$ 1,036,371	\$ 3,497,371
Total Revenue Requirements	\$ 4,331,747	\$ 5,524,031	\$ 5,879,617	\$ 6,351,043	\$ 9,549,155
Revenues Over (Under) Expenditures	\$ 1,956,662	\$ 1,172,690	\$ 1,091,273	\$ 976,255	\$ (1,878,051)
Beginning Balance	\$ 4,447,176	\$ 6,403,838	\$ 7,576,528	\$ 8,667,801	\$ 9,644,056
Revenues Over (Under) Expenditures	1,956,662	1,172,690	1,091,273	976,255	(1,878,051)
Ending Balance	\$ 6,403,838	\$ 7,576,528	\$ 8,667,801	\$ 9,644,056	\$ 7,766,006
Ending Balance - Days O&M	602	687	739	792	615
Target Reserve Balance (30 days O&M)	\$ 1,915,124	\$ 1,985,958	\$ 2,111,090	\$ 2,191,236	\$ 2,274,642
Projected City Rate Increase	n/a	5.00%	5.00%	5.00%	5.00%
DSC (Senior debt, 1.40x DS target)	n/a	18.79	9.66	10.31	11.01
DSC (All debt, 1.15x DS target)	27.01	3.42	2.88	2.96	1.96
Capital Projects - Cash Funded	\$ 410,500	\$ 816,370	\$ 759,310	\$ 1,036,371	\$ 3,497,371
Capital Projects - PV Pro-Fi (2020 and 2024)	4,343,809	3,611,994	2,064,531	4,750,000	-
Capital Projects - Revenue Bonds	397,500	4,075,000	-	-	-
Capital Projects - Total	\$ 5,151,809	\$ 8,503,364	\$ 2,823,841	\$ 5,786,371	\$ 3,497,371

5. Financial Capability Assessment Results

We completed the FCA (using the 2023 FCA Guidance – Alternative 2) based on preparing comprehensive long-term financial plans for the sewer and stormwater systems described in Sections 3 and 4. The FCA results are described below.

5.1. FCA Baseline Scenario

First, we calculated the residential sewer and stormwater bill as percentage of income in 2024 using different household sizes within the City. The results are shown in Table 5-1. The bold figures show the results for each household size assuming consumption of 70 gallons per person per day.⁶ The “Red” shaded areas are where the wastewater and stormwater annual bills exceed 2% of income. The “Blue” shaded areas are where the bills are between 1% and 2% of income, and the “Green” shaded areas are where bills are below 1% of income. As shown in Table 5-1, we estimated that customers within the City with a household size of six people or greater using 70 gallons per person per day already dedicate more than 2% of their income to pay wastewater and stormwater bills. In addition, we estimate that CRW customers located in the City using 70 gallons per person per day with a household size of five people or less currently pay under 2% of their income for wastewater and stormwater service.

Table 5-1. Sewer and Stormwater Bills as a % of Income (City) (2024)

Household Size	# of Households ¹	% of Households	MHI per HH Size ²	Consumption in thousand gallons (kgal) per month						
				2.1	4.2	6.3	8.4	10.5	12.6	14.7
1	8,793	41%	\$41,857	0.8%	1.4%	2.0%	2.6%	3.2%	3.8%	4.4%
2	6,461	30%	\$51,260	0.6%	1.1%	1.6%	2.1%	2.6%	3.1%	3.6%
3	2,908	14%	\$53,261	0.6%	1.1%	1.6%	2.0%	2.5%	3.0%	3.5%
4	1,540	7%	\$71,105	0.5%	0.8%	1.2%	1.5%	1.9%	2.2%	2.6%
5	952	4%	\$75,100	0.4%	0.8%	1.1%	1.4%	1.8%	2.1%	2.5%
6	373	2%	\$69,602	0.5%	0.8%	1.2%	1.6%	1.9%	2.3%	2.6%
7	447	2%	\$70,463	0.5%	0.8%	1.2%	1.5%	1.9%	2.3%	2.6%
Annual Sewer & Stormwater Bill Amount ³				\$332.74	\$584.23	\$835.73	\$1,087	\$1,339	\$1,590	\$1,842

¹Number of households by household size for family and non-family households from U.S. Census 2022 ACS 5-year estimates, Table B11016.

²MHI per household size from U.S. Census 2022 ACS 5-year estimates, Table B19019, escalated at 3% per year.

³Assumes 2024 CRW sewer rates and 2024 stormwater fee for Residential Tier 2.

This same chart was prepared for CRW’s entire service area, including City retail and suburban wholesale customers of CRW and the results are presented in Table 5-2 for 2024.

⁶ An average of approximately 70 gallons per person per day is supported by CRW’s billed consumption, number of residential accounts, and household size statistics for the City.

Table 5-2. Sewer and Stormwater Bills as a % of Income (Service Area) (2024)

Household Size	# of Households ¹	% of Households	Weighted MHI per HH Size ²	Consumption in thousand gallons (kgal) per month						
				2.1	4.2	6.3	8.4	10.5	12.6	14.7
1	19,155	34%	\$44,219	0.8%	1.4%	1.9%	2.5%	3.1%	3.7%	4.3%
2	18,767	34%	\$82,438	0.4%	0.7%	1.0%	1.4%	1.7%	2.0%	2.3%
3	7,628	14%	\$87,242	0.4%	0.7%	1.0%	1.3%	1.6%	1.9%	2.2%
4	5,483	10%	\$104,053	0.3%	0.6%	0.8%	1.1%	1.3%	1.6%	1.8%
5	2,751	5%	\$91,831	0.4%	0.7%	0.9%	1.2%	1.5%	1.8%	2.1%
6	984	2%	\$90,003	0.4%	0.7%	1.0%	1.2%	1.5%	1.8%	2.1%
7	884	2%	\$103,078	0.3%	0.6%	0.8%	1.1%	1.3%	1.6%	1.8%
Annual Sewer & Stormwater Bill Amount ³				\$340.18	\$599.12	\$858.05	\$1,117	\$1,376	\$1,635	\$1,894

¹Number of households by household size for family and non-family households from U.S. Census 2022 ACS 5-year estimates, Table B11016.

²MHI per household size from U.S. Census 2022 ACS 5-year estimates, Table B19019, escalated at 3% per year.

³Assumes the 2024 weighted average of sewer rates and stormwater fees weighted by households in each municipality for the service area.

We then prepared a projection of annual wastewater and stormwater costs using two scenarios. The first scenario projects anticipated wastewater and stormwater revenue needs and rate increases necessary to satisfy CRW’s ongoing operations, maintenance, system repair & replacement (“R&R”) needs over the next 20 years, and includes anticipated payments for the GSI and the Partial Consent Decree Appendix B projects that CRW plans to implement within the next 10 years. This would require CRW to make capital investments of approximately \$300 million (in current FY 2024 dollars) over the next 20 years. This scenario, however, excludes the capital costs associated with additional pollution controls necessary to further improve water quality and the level of control in the Susquehanna River and in Paxton Creek.

Table 5-3 presents the results of this scenario in terms of the projected wastewater and stormwater rates, and annual customer bills that CRW would have to impose over a 20-year period from FY 2024 to FY 2043 assuming water usage of 4,300 gallons per month. The projections in Table 5-3 show that, even without incurring additional water pollution control costs to increase the level of control in the Susquehanna River and Paxton Creek, CRW will need to implement substantial rate increases to cover the existing and planned utility costs. The annual residential wastewater and stormwater bill as a percentage of MHI would rise from 1.2% today to 1.5% within the first 20 years of the forecast. In addition, we estimate that the annual residential wastewater and stormwater bill as a percentage of the LQI will rise to approximately 4.0%.

Furthermore, the projected economic burden placed on households located within the City in FY 2043 will vary based on household size and water consumption. As shown in Table 5-4, we estimate that CRW customers located in the City using 70 gallons per person per day with a household size of greater than four people will pay more than 2% of their income for wastewater and stormwater service under this scenario.

This same chart was prepared for CRW’s entire service area, including City retail and suburban wholesale customers of CRW and the results are presented in Table 5-5 for FY 2043.

Table 5-3. Baseline Projection of Sewer and Stormwater Bills as a % of MHI and LQI (City)

Year	WW Rate Increase	Annual WW Cost (\$) ¹	SW Rate Increase	Annual SW Cost (\$) ²	Annual WW & SW Cost (\$)	MHI (\$)	Annual WW & SW Cost / MHI	LQI (\$)	Annual WW & SW Cost / LQI
2024		\$511.20		\$81.24	\$592	\$49,495	1.2%	\$18,133	3.3%
2025	8.0%	\$552.10	5.0%	\$85.30	\$637	\$50,980	1.3%	\$18,677	3.4%
2026	6.0%	\$585.22	5.0%	\$89.57	\$675	\$52,509	1.3%	\$19,237	3.5%
2027	6.0%	\$620.34	5.0%	\$94.05	\$714	\$54,085	1.3%	\$19,814	3.6%
2028	5.0%	\$651.35	5.0%	\$98.75	\$750	\$55,707	1.3%	\$20,409	3.7%
2029	5.0%	\$683.92	5.0%	\$103.69	\$788	\$57,379	1.4%	\$21,021	3.7%
2030	5.0%	\$718.12	5.0%	\$108.87	\$827	\$59,100	1.4%	\$21,651	3.8%
2031	5.0%	\$754.02	5.0%	\$114.31	\$868	\$60,873	1.4%	\$22,301	3.9%
2032	5.0%	\$791.72	5.0%	\$120.03	\$912	\$62,699	1.5%	\$22,970	4.0%
2033	5.0%	\$831.31	5.0%	\$126.03	\$957	\$64,580	1.5%	\$23,659	4.0%
2034	3.0%	\$856.25	3.0%	\$129.81	\$986	\$66,517	1.5%	\$24,369	4.0%
2035	3.0%	\$881.93	2.0%	\$132.41	\$1,014	\$68,513	1.5%	\$25,100	4.0%
2036	3.0%	\$908.39	2.0%	\$135.06	\$1,043	\$70,568	1.5%	\$25,853	4.0%
2037	3.0%	\$935.64	2.0%	\$137.76	\$1,073	\$72,685	1.5%	\$26,628	4.0%
2038	3.0%	\$963.71	2.0%	\$140.51	\$1,104	\$74,866	1.5%	\$27,427	4.0%
2039	3.0%	\$992.63	2.0%	\$143.32	\$1,136	\$77,112	1.5%	\$28,250	4.0%
2040	3.0%	\$1,022.40	2.0%	\$146.19	\$1,169	\$79,425	1.5%	\$29,098	4.0%
2041	3.0%	\$1,053.08	2.0%	\$149.11	\$1,202	\$81,808	1.5%	\$29,971	4.0%
2042	3.0%	\$1,084.67	2.0%	\$152.09	\$1,237	\$84,262	1.5%	\$30,870	4.0%
2043	3.0%	\$1,117.21	2.0%	\$155.14	\$1,272	\$86,790	1.5%	\$31,796	4.0%

WW = Wastewater, SW = Stormwater, HH = Household, MHI = Median Household Income, LQI = Lowest Quintile Income, RI = Residential Indicator, LQRI = Lowest Quintile Residential Indicator

¹Annual wastewater cost based on 4,300 gallons of water usage per month.

²Annual stormwater cost based on a property with one equivalent residential unit of impervious area charged at the Tier 2 stormwater rate.

Table 5-4. Baseline Sewer and Stormwater Bills as a % of Income (City) (2043)

Household Size	# of Households ¹	% of Households	MHI per HH Size ²	Consumption in thousand gallons (kgal) per month						
				2.1	4.2	6.3	8.4	10.5	12.6	14.7
1	8,793	41%	\$73,396	1.0%	1.7%	2.5%	3.2%	4.0%	4.7%	5.5%
2	6,461	30%	\$89,884	0.8%	1.4%	2.0%	2.6%	3.2%	3.8%	4.5%
3	2,908	14%	\$93,394	0.8%	1.3%	1.9%	2.5%	3.1%	3.7%	4.3%
4	1,540	7%	\$124,683	0.6%	1.0%	1.4%	1.9%	2.3%	2.8%	3.2%
5	952	4%	\$131,688	0.5%	1.0%	1.4%	1.8%	2.2%	2.6%	3.0%
6	373	2%	\$122,048	0.6%	1.0%	1.5%	1.9%	2.4%	2.8%	3.3%
7	447	2%	\$123,557	0.6%	1.0%	1.5%	1.9%	2.3%	2.8%	3.2%
Annual Sewer & Stormwater Bill Amount ³				\$704.77	\$1,254	\$1,804	\$2,354	\$2,903	\$3,453	\$4,003

¹Number of households by household size for family and non-family households from U.S. Census 2022 ACS 5-year estimates, Table B11016.

²MHI per household size from U.S. Census 2022 ACS 5-year estimates, Table B19019, escalated at 3% per year.

³Assumes 2043 CRW sewer rates and 2043 stormwater fee for Residential Tier 2 based on financial modeling.

Table 5-5. Baseline Sewer and Stormwater Bills as a % of Income (Service Area) (2043)

Household Size	# of Households ¹	% of Households	Weighted MHI per HH Size ²	Consumption in thousand gallons (kgal) per month						
				2.1	4.2	6.3	8.4	10.5	12.6	14.7
1	19,155	34%	\$77,538	1.0%	1.8%	2.6%	3.4%	4.2%	4.9%	5.7%
2	18,767	34%	\$144,555	0.5%	1.0%	1.4%	1.8%	2.2%	2.6%	3.1%
3	7,628	14%	\$152,979	0.5%	0.9%	1.3%	1.7%	2.1%	2.5%	2.9%
4	5,483	10%	\$182,457	0.4%	0.8%	1.1%	1.4%	1.8%	2.1%	2.4%
5	2,751	5%	\$161,026	0.5%	0.9%	1.2%	1.6%	2.0%	2.4%	2.8%
6	984	2%	\$157,821	0.5%	0.9%	1.3%	1.7%	2.0%	2.4%	2.8%
7	884	2%	\$180,748	0.4%	0.8%	1.1%	1.4%	1.8%	2.1%	2.5%
Annual Sewer & Stormwater Bill Amount ³				\$792.72	\$1,400	\$2,006	\$2,613	\$3,220	\$3,827	\$4,433

¹Number of households by household size for family and non-family households from U.S. Census 2022 ACS 5-year estimates, Table B11016.

²MHI per household size from U.S. Census 2022 ACS 5-year estimates, Table B19019, escalated at 3% per year.

³Assumes the 2043 weighted average of sewer rates and stormwater fees weighted by households in each municipality for the service area.

5.2. FCA Capital Investment Scenario - \$400 million

An FCA scenario was prepared that included capital costs associated with collection system R&R, Partial Consent Decree Appendix B projects, planned GSI projects totaling approximately \$300 million, and capital investments to improve the level of wet weather control in the system totaling approximately \$100 million for a total of \$400 million (in current FY 2024 dollars). Under this scenario, the capital investment was assumed to be implemented over a 20-year period beginning in FY 2024 with capital R&R, Appendix B and GSI projects in years FY 2024 to FY 2033, and additional R&R, wet weather control, and GSI projects implemented in FY 2034 to FY 2043.

Currently, CRW serves suburban wholesale customers under long-term inter-municipal agreements that allow capital costs that are identified as conveyance and treatment costs benefiting the suburban municipalities to be shared. Capital costs associated with investments made in the City collection system are not sharable under the existing inter-municipal agreements. For the purposes of this scenario, we have assumed that CRW will not be able to share future wastewater regulatory-related capital projects with the suburban wholesale customers.

The results of this scenario are summarized in Tables 5-6 and 5-7 and show that high economic burdens will be placed on households within the City depending upon household size and water usage. The bold figures in Table 5-6 show annual cost as percentage of income for each household size assuming consumption of 70 gallons per person per day. As shown, CRW customers located in the City using 70 gallons per person per day with a household size of two people or greater would pay at least 2%, and for some, substantially more than 2% of their annual income for wastewater and stormwater service, which is considered a high economic burden.

Table 5-6. Sewer and Stormwater Bill as a % of Income (City) (2043) - \$400M

Household Size	# of Households ¹	% of Households	MHI per HH Size ²	Consumption in thousand gallons (kgal) per month						
				2.1	4.2	6.3	8.4	10.5	12.6	14.7
1	8,793	41%	\$73,396	1.4%	2.4%	3.4%	4.5%	5.5%	6.5%	7.5%
2	6,461	30%	\$89,884	1.1%	2.0%	2.8%	3.6%	4.5%	5.3%	6.2%
3	2,908	14%	\$93,394	1.1%	1.9%	2.7%	3.5%	4.3%	5.1%	5.9%
4	1,540	7%	\$124,683	0.8%	1.4%	2.0%	2.6%	3.2%	3.8%	4.4%
5	952	4%	\$131,688	0.8%	1.3%	1.9%	2.5%	3.1%	3.6%	4.2%
6	373	2%	\$122,048	0.8%	1.4%	2.1%	2.7%	3.3%	3.9%	4.5%
7	447	2%	\$123,557	0.8%	1.4%	2.0%	2.6%	3.3%	3.9%	4.5%
Annual Sewer & Stormwater Bill Amount ³				\$1,009	\$1,763	\$2,518	\$3,272	\$4,027	\$4,781	\$5,535

¹Number of households by household size for family and non-family households from U.S. Census 2022 ACS 5-year estimates, Table B11016.

²MHI per household size from U.S. Census 2022 ACS 5-year estimates, Table B19019, escalated at 3% per year.

³Assumes 2043 CRW sewer rates and 2043 stormwater fee for Residential Tier 2 based on financial modeling.

This same chart was prepared for CRW’s entire service area, including City retail and suburban wholesale customers of CRW and the results are presented in Table 5-7.

Table 5-7. Sewer and Stormwater Bill as a % of Income (Service Area) (2043) - \$400M

Household Size	# of Households ¹	% of Households	Weighted MHI per HH Size ²	Consumption in thousand gallons (kgal) per month						
				2.1	4.2	6.3	8.4	10.5	12.6	14.7
1	19,155	34%	\$77,538	1.2%	2.0%	2.9%	3.8%	4.6%	5.5%	6.4%
2	18,767	34%	\$144,555	0.6%	1.1%	1.6%	2.0%	2.5%	3.0%	3.4%
3	7,628	14%	\$152,979	0.6%	1.0%	1.5%	1.9%	2.3%	2.8%	3.2%
4	5,483	10%	\$182,457	0.5%	0.9%	1.2%	1.6%	2.0%	2.3%	2.7%
5	2,751	5%	\$161,026	0.6%	1.0%	1.4%	1.8%	2.2%	2.6%	3.1%
6	984	2%	\$157,821	0.6%	1.0%	1.4%	1.8%	2.3%	2.7%	3.1%
7	884	2%	\$180,748	0.5%	0.9%	1.2%	1.6%	2.0%	2.4%	2.7%
Annual Sewer & Stormwater Bill Amount ³				\$898.00	\$1,572	\$2,245	\$2,919	\$3,593	\$4,266	\$4,940

¹Number of households by household size for family and non-family households from U.S. Census 2022 ACS 5-year estimates, Table B11016.

²MHI per household size from U.S. Census 2022 ACS 5-year estimates, Table B19019, escalated at 3% per year.

³Assumes the 2043 weighted average of sewer rates and stormwater fees weighted by households in each municipality for the service area.

Furthermore, under this scenario, the projections in Table 5-8 show that CRW would need to make substantial rate increases annually over the forecast period to be able to generate sufficient revenues to pay for these capital investments. Under this scenario, the typical annual residential wastewater and stormwater bill as a percentage of MHI would rise from an annual residential bill as a percentage of MHI of 1.2% to 2.1% within the first 20 years of the forecast. In addition, we estimated the typical annual residential wastewater and stormwater bill as a percentage of the LQI to rise approximately 5.7%, which should be considered a high financial burden.

Table 5-8. Projection of Sewer and Stormwater Bill as a Percentage of MHI and LQI (City)

Year	WW Rate Increase	Annual WW Cost (\$) ¹	SW Rate Increase	Annual SW Cost (\$) ²	Annual WW & SW Cost (\$)	MHI (\$)	Annual WW & SW Cost / MHI	LQI (\$)	Annual WW & SW Cost / LQI
2024		\$511.20		\$81.24	\$592	\$49,495	1.2%	\$18,133	3.3%
2025	8.0%	\$552.10	5.0%	\$85.30	\$637	\$50,980	1.3%	\$18,677	3.4%
2026	6.0%	\$585.22	5.0%	\$89.57	\$675	\$52,509	1.3%	\$19,237	3.5%
2027	6.0%	\$620.34	5.0%	\$94.05	\$714	\$54,085	1.3%	\$19,814	3.6%
2028	5.0%	\$651.35	5.0%	\$98.75	\$750	\$55,707	1.3%	\$20,409	3.7%
2029	5.0%	\$683.92	5.0%	\$103.69	\$788	\$57,379	1.4%	\$21,021	3.7%
2030	5.0%	\$718.12	5.0%	\$108.87	\$827	\$59,100	1.4%	\$21,651	3.8%
2031	5.0%	\$754.02	5.0%	\$114.31	\$868	\$60,873	1.4%	\$22,301	3.9%
2032	5.0%	\$791.72	5.0%	\$120.03	\$912	\$62,699	1.5%	\$22,970	4.0%
2033	5.0%	\$831.31	5.0%	\$126.03	\$957	\$64,580	1.5%	\$23,659	4.0%
2034	8.0%	\$897.81	5.0%	\$132.33	\$1,030	\$66,517	1.5%	\$24,369	4.2%
2035	9.0%	\$978.62	5.0%	\$138.95	\$1,118	\$68,513	1.6%	\$25,100	4.5%

Year	WW Rate Increase	Annual WW Cost (\$) ¹	SW Rate Increase	Annual SW Cost (\$) ²	Annual WW & SW Cost (\$)	MHI (\$)	Annual WW & SW Cost / MHI	LQI (\$)	Annual WW & SW Cost / LQI
2036	9.0%	\$1,066.69	5.0%	\$145.90	\$1,213	\$70,568	1.7%	\$25,853	4.7%
2037	9.0%	\$1,162.69	5.0%	\$153.19	\$1,316	\$72,685	1.8%	\$26,628	4.9%
2038	7.0%	\$1,244.08	5.0%	\$160.85	\$1,405	\$74,866	1.9%	\$27,427	5.1%
2039	6.0%	\$1,318.73	5.0%	\$168.89	\$1,488	\$77,112	1.9%	\$28,250	5.3%
2040	6.0%	\$1,397.85	5.0%	\$177.34	\$1,575	\$79,425	2.0%	\$29,098	5.4%
2041	5.0%	\$1,467.74	5.0%	\$186.20	\$1,654	\$81,808	2.0%	\$29,971	5.5%
2042	5.0%	\$1,541.13	5.0%	\$195.51	\$1,737	\$84,262	2.1%	\$30,870	5.6%
2043	4.0%	\$1,602.78	5.0%	\$205.29	\$1,808	\$86,790	2.1%	\$31,796	5.7%

WW = Wastewater, SW = Stormwater, HH = Household, MHI = Median Household Income, LQI = Lowest Quintile Income, RI = Residential Indicator, LQRI = Lowest Quintile Residential Indicator

As the FCA analysis results show, if CRW is required to make investments of more than a total of \$400 million (in 2024 \$s) to pay for recurring system R&R and to comply with Consent Decree requirements, then a schedule of more than 20 years is required to keep utility rates and customer bill impacts at acceptable levels.

5.3. Poverty Prevalence Indicator Score

The Lowest Quintile Poverty Indicator (“LQPI”) score considers six poverty prevalence indicators and measures the presence of poverty within CRW’s service area. The results are presented in Table 5-9 for the City of Harrisburg based on 2022 U.S. Census American Community Survey 5-Year data. The results show that the City’s LQI is significantly below the national average, whereas the percentage of the population below 200% of the national FPL, the percentage of households receiving SNAP benefits are significantly higher than the national average. Other poverty prevalence measures, such as the percentage of vacant housing units and the percentage of unemployed population in the labor force trend significantly unfavorable compared to the national averages indicating a significant prevalence of poverty within the City and a “high impact” score.

Table 5-9. Lowest Quintile Poverty Indicator Score (City of Harrisburg)

Indicator (Census Data Code)	STRONG (Score = 3)	MID-RANGE (Score = 2)	WEAK (Score = 1)	Weight	City Value	U.S. Value	Score
LQPI #1 Upper Limit of Lowest Quintile Income (B19080)	>25% above national value	±25% of national value	>25% below national value	50%	\$16,594	\$30,785	1
LQPI #2 % of Population w/ Income Below 200% FPL (S1701)	<25% below national value	±25% of national value	>25% above national value	10%	51.0%	28.8%	1
LQPI #3 % of Households Receiving Food Stamps / SNAP (S2201)	<25% below national value	±25% of national value	>25% above national value	10%	27.3%	11.5%	1
LQPI #4 % of Vacant Housing Units (B25002)	<25% below national value	±25% of national value	>25% above national value	10%	12.0%	10.8%	2

LQPI #5							
Trends in Household Growth (B25002)	>1%	0% - 1%	<0%	10%	1.2%	1.1%	3
LQPI #6							
% of Unemployed Population in Civilian Labor Force (DP03)	<25% below national value	±25% of national value	>25% above national value	10%	9.0%	5.3%	1
Score for LQPI #1							1.0
Avg Score for LQPI #2 - #6							1.6
Lowest Quintile Income Poverty Score (Avg of LQPI #1 and LQPI #2-6)							1.3

LQPI Benchmarks: Low Impact (Above 2.5), Medium Impact (1.5 to 2.5), High Impact (Below 1.5)

Since CRW serves both City retail customers and suburban wholesale customers, we also present the LQPI score for the service area. The LQPI for the service area was weighted based on the number of households in each jurisdiction throughout the entire service area per the requirements of the 2023 FCA Guidance. The service area LQPI scores are presented in Table 5-10. The LQPI results for the service area show more moderate poverty prevalence. However, the results for the service area are less relevant for CRW because the majority of the cost of water pollution controls will need to be borne by City residents under the terms of the existing inter-municipal agreements with the suburban wholesale municipalities and only the City system is a combined sewer system.

Table 5-10. Lowest Quintile Poverty Indicator Score (Service Area)

Indicator (Census Data Code)	STRONG (Score = 3)	MID-RANGE (Score = 2)	WEAK (Score = 1)	Weight	Service Area Value	U.S. Value	Score
LQPI #1							
Upper Limit of Lowest Quintile Income (B19080)	pen	±25% of national value	>25% below national value	50%	\$27,640	\$30,785	2
LQPI #2							
% of Population w/ Income Below 200% FPL (S1701)	<25% below national value	±25% of national value	>25% above national value	10%	34.8%	28.8%	2
LQPI #3							
% of Households Receiving Food Stamps / SNAP (S2201)	<25% below national value	±25% of national value	>25% above national value	10%	15.6%	11.5%	1
LQPI #4							
% of Vacant Housing Units (B25002)	<25% below national value	±25% of national value	>25% above national value	10%	7.7%	10.8%	3
LQPI #5							
Trends in Household Growth (B25002)	>1%	0% - 1%	<0%	10%	1.4%	1.1%	3
LQPI #6							
% of Unemployed Population in Civilian Labor Force (DP03)	<25% below national value	±25% of national value	>25% above national value	10%	5.7%	5.3%	2
Score for LQPI #1							2.0
Avg Score for LQPI #2 - #6							2.2
Lowest Quintile Income Poverty Score (Avg of LQPI #1 and LQPI #2-6)							2.1

LQPI Benchmarks: Low Impact (Above 2.5), Medium Impact (1.5 to 2.5), High Impact (Below 1.5)

5.4. Financial Alternatives Analysis

This section provides responses to the financial alternatives analysis checklist contained in the EPA 2023 FCA Guidance. This financial alternatives analysis documents that CRW has considered feasible steps to reduce costs and address the impacts to low-income households within its service area.

Table 5-11. Financial Alternatives Analysis Checklist

Checklist Items	Response
Financing Options for Capital Costs	
<p>a. Has the community discussed financing options, including timing, terms, and potential grants or forgiveness, with the responsible State Revolving Loan Fund?</p>	<p>Yes. CRW has borrowed money through the Pennsylvania Infrastructure Investment Authority (“PENNVEST”), the Authority that administers the Commonwealth of Pennsylvania’s Clean Water State Revolving Fund (“SRF”) Loan Program. CRW anticipates pursuing additional PENNVEST SRF loans in the future and the financial forecast assumes continued use of this funding source.</p>
<p>b. What additional funding sources beyond SRF, such as grants, low-cost loans, or extended term loans, has the community considered?</p>	<p>CRW pursues grant funds for projects when these funds are available for qualifying projects. For example, \$3.5M in PA H2O grant funds were awarded for the Paxton Creek Interceptor project.</p> <p>CRW’s existing debt is comprised of several individual PENNVEST SRF loans, two separate PENNVEST programmatic financing vehicles, and a 2017 revenue bond issue. Its stormwater related debt is comprised of its own programmatic financing arrangement through PENNVEST. CRW anticipates pursuing additional PENNVEST SRF loans in the future and the financial forecast assumes continued use of this funding source.</p> <p>CRW has actively restructured debt in the past and will consider continuing to do so with its 2017 bonds as market conditions allow. CRW is unable to extend the existing 20-year term on its PENNVEST loans and the 2017 revenue bonds were issued to refund a previous revenue bond issue and to provide new money to pay for ongoing work related to CRW’s Combined Sewer Overflow Long-Term Control Plan update and other capital projects.</p> <p>The SRF loans are being repaid at an annual interest rate of 1.0%, which is a favorable interest rate for CRW and these loans cannot be refinanced or restructured with PENNVEST under the program. The programming financing arrangements are also being repaid at an annual interest rate of 1.0% and cannot be restructured. PENNVEST does not consider CRW eligible for grants or forgivable loans and most of the federal funds that are intended for grant programs are being used for the revolving loan programs.</p> <p>The revenue bonds were issued as serial bonds with individual segments carrying their own repayment dates and interest rates. Annual interest rates on the segments within the issue ranged from 3 to 5% per year. Given the current interest rate environment, it is unlikely that CRW could restructure this debt at a more favorable interest rate at this time.</p>
<p>c. Has the community considered special assessment districts to finance geographically defined project work?</p>	<p>CRW is a municipal authority that is funded through a user charge system that recovers the cost of sewer service based on the usage of the system. Given this structure and the nature of the sewer improvements, establishment of special assessment districts is not a viable alternative for CRW. Also, the legislation on municipal authorities strictly limit CRW’s ability to implement programs that may be allowed in other states.</p>

Checklist Items	Response
<p>d. Has the community considered other revenue sources to reduce direct burden on ratepayers, such as sales and property taxes, rental income from water tower leases, or other potential sources of support?</p>	<p>CRW is a municipal authority and receives no share of any state or local property or income taxes. CRW is reliant on a user charge system to pay for the cost of the sewer system. However, while CRW is funded through a user charge system that recovers the cost of sewer service based on the usage of the system, it also receives revenues for other ancillary fees and charges, and miscellaneous sources of revenue. In FY 2023 CRW received approximately \$1.3 million in non-user rate and charge related revenues for contractor waste fees (\$675k), the sale of nutrient credits (\$232k), sludge handling charges (\$100k), the sale of electric to its local electric utility provider (\$38k), pretreatment fees (\$35k), interest income (\$90k), and other miscellaneous sources of revenue (\$57k). These revenues offset costs that would otherwise be recovered through user rates and charges and help to reduce the burden on ratepayers.</p> <p>In addition, CRW recently awarded bids for an energy recovery project that will increase non-rate revenue by conditioning digester gas to be injected into UGI's nearby gas network. Additional information can be found at: https://capitalregionwater.com/projects/awtf-energy-recovery-improvements/</p>
<p>e. Has the community evaluated how it can reduce overall operating and program costs?</p>	<p>Yes. As part of the financial plan development, CRW investigated how other financing approaches, such as the use of current revenues and cash, revenue bonds, SRF loans could be used in combination to develop a viable financial plan, and the baseline financial projections include these considerations. CRW has also evaluated the use of WIFIA loans. CRW plans to continue to pursue funding for qualifying projects through the low-cost financing programs offered by PENNVEST. CRW also plans to pursue grant funds for projects when these funds are available for qualifying projects.</p>
<p>Rate Design</p>	
<p>a. In what ways has the community evaluated modifications to its rate structure that could increase revenue and/or reduce burden on the lowest income residents?</p>	<p>CRW charges City retail customers a uniform usage rate based on cost-of-service and suburban wholesale customers separate uniform rates that are based on inter-municipal agreements and cost-of-service. This structure is a fully variable rate structure that does not include fixed charges that could place added burden on low-income customers.</p>
<p>b. Has the community prepared a forward-looking financial plan and rate analysis within the last five years? If so, was the plan implemented.</p>	<p>Yes. CRW has prepared a forward-looking financial plan and rate analysis within the last five years. CRW regularly prepares a retail and wholesale wastewater rate projection and financial forecast. CRW has implemented past rate and financial forecasts and continues to do so, with updates incorporated into the plan on an ongoing basis.</p>
<p>c. Does the community have separate rate structures for commercial, industrial, and wholesale customers reflecting their particular demands on the collection and treatment system? Has the utility considered tiered based rates?</p>	<p>CRW's user charge system reflects the particular demands on the collection and treatment system by retail residential and non-residential and wholesale customers. Wholesale customers are charged separate rates than City retail customers in accordance with inter-municipal agreements. More specifically, CRW's user charge system recovers the cost of treatment, conveyance, and collection based on a volumetric user charge system that applies to retail residential and non-residential customers and separate volumetric rates for wholesale customers based on their usage of the system, inter-municipal agreements, and cost-of-service.</p>
<p>d. Does the community use inclining block rates that charge higher per gallon rates for higher increments of use?</p>	<p>See response to (a.). Also, CRW's sewer user charges comply with the EPA User Charge Regulations § 35.2140 that specify that Operation, Maintenance, and Replacement costs are recovered proportionally from customers in accordance to usage of the system. Therefore, CRW does not use inclining block rates that charge higher per gallon rates for higher increments of usage.</p>
<p>e. If charging a flat fee, has the community considered switching to a volumetric fee so that high-output customers pay for the wastewater they generate?</p>	<p>Not applicable. CRW's sewer user charge system is comprised of volumetric rates. CRW also has implemented stormwater fees that are "flat fees" based on impervious area.</p>

Checklist Items	Response
Ratepayer Support Options for Low Income Residential Customers	
a. Has the community looked into setting up a Customer Assistance Program?	<p>Yes. CRW already has a customer assistance program that includes credit assistance, leak forgiveness, winter and emergency medical shutoff moratoriums. CRW provides up to a \$300 credit per year to residential customers that meet qualifying income guidelines. CRW offers customers that are struggling to pay their bills a payment plan agreement that helps customers avoid further collection activity or interruption of service. It offers a leak adjustment program that provides billing adjustments for undetectable usage or an unexpected pipe break. It also has a shut off moratorium that suspends water service terminations for low-income residents and for emergency medical conditions. CRW also participated in the Low Income Household Water Assistance Program and the Emergency Rental Assistance Program.</p>
b. If you have a CAP, what is the enrollment rate? What efforts have been made to ensure low-income households are informed about the program and enroll? Are there ways to make the application process easier for customers to enroll?	<p>CRW does not calculate the enrollment rate for its customer assistance program. However, CRW does calculate approval ratings. Since program inception, in 2020, CRW's approval rating is 93%.</p> <p>CRW informs customers that financial assistance is available on our monthly invoices and encourages customers to visit our website or call our Customer Service Center for more information. In addition, CRW Customer Service Representatives have been trained to discuss the programs available when working directly with a customer who expresses financial hardship.</p> <p>The application process is already very simple. Customers can apply online or in person, and they can complete the one-page application and mail it to our Customer Service Department. We have a Spanish-speaking customer service representative and the application and instructions are available in Spanish. The application itself does not ask for any financial information, only confirmation that the customer is currently enrolled in one of several other State or local assistance programs. Customers that received Low Income Household Water Assistance Program (LIHWAP) assistance can opt-in to CRW's CAP simply by checking a box and signing their name.</p>
c. Has the community considered other types of customer support beyond a CAP for lower income residential customers.	<p>Other programs that are available to financially support low-income households in the service area include the Low-Income Home Energy Assistance Program (LIHEAP), the Supplemental Nutrition Assistance Program (SNAP), Pennsylvania Rent Rebate Program, UGI Utilities Assistance Program, and the PPL Electric Assistance Program.</p>
d. Are there policies in place to protect customers, including vulnerable populations, from shutoffs?	<p>Pennsylvania statutes (310. 53 Pa. Cons. Stat. § 5607(d)(9)) require municipal authorities to implement reasonable and uniform rates. Any rate funded customer assistance programs could be subject to reasonableness or uniformity challenges.</p>
e. Does the community have reduced rates for vulnerable populations, such as seniors on fixed incomes?	<p>See response to (a.)</p>
Financial and Utility Management	
a. Is the utility accounted for as a proprietary/enterprise fund or a separate independent utility?	<p>CRW is a municipal authority separate from the general government of the City of Harrisburg. The sewer system operates as a separate utility from the water system and CRW's stormwater management operations are also accounted for separately from wastewater system operations.</p>
b. Are all rate revenues or other user charges used to fund the utilities operations? Do rates charged recover the full cost of providing wastewater services?	<p>Yes. Revenues generated from the wastewater rates and the stormwater fees are used solely to fund wastewater and stormwater management operations, respectively. Rates charged recover the full cost of providing wastewater services.</p>

Checklist Items	Response
c. Does the utility have programs to optimize maintenance and asset management to reduce life cycle costs?	CRW is working with its engineering consultants to establish these types of programs. CRW also has a robust computerized maintenance management system and asset management program.
d. Are partnerships with other utilities, including joint procurement, or shared management and staffing arrangements, regionalization or consolidation options to provide economies of scale and reduced customer costs feasible in this community?	<p>CRW already owns and operates a regional wastewater conveyance and treatment system providing retail service to City customers and wholesale service to six suburban municipalities. In addition, CRW has developed a partnership with Susquehanna and Lower Paxton Townships related to CRW's Joint Pollutant Reduction Plan for the stormwater system, regionally addressing CRW's MS4 requirements. The partnership, which includes PennDOT, has led to significant cost savings in addressing the Paxton Creek TMDL.</p> <p>CRW is not aware of any other opportunities to further expand regionally or to take advantage of additional shared services opportunities.</p>
e. Has the utility or related municipality instituted a stormwater management program when evaluating long-term control plan schedules? If so, are impervious area-based stormwater fees used to fund the stormwater compliance costs.	Yes. CRW has instituted a stormwater management program and uses impervious area-based stormwater fees to fund the stormwater compliance costs.
f. Does the utility provide direct financial assistance (through rebates, upfront subsidies, or direct replacement of fixtures) for efficiency improvements, including leak repairs or replacement of inefficient fixtures or appliances?	CRW offers eligible customers a complimentary water conservation kit with information to save water and save money. The kits include tips to detect and fix leaks and retrofit fixtures to make minor plumbing repairs that can help reduce water consumption. In addition, CRW also provides leak forgiveness and funding for the costs associated with maintaining, repairing, and/or replacing drinking water service lines and wastewater laterals within the public right of way.

5.5. FCA Findings and Conclusions

The financial capability of CRW and the community is significantly limited. The anticipated wastewater and stormwater revenue needs and rate increases necessary to satisfy CRW's ongoing operations, maintenance, system R&R needs, and to pay for the GSI and Partial Consent Decree Appendix B projects that CRW plans to implement within the next 20 years will cause wastewater rates and stormwater fees to double and rise to a level that will result in high burdens placed on larger low-income households within the CRW's City retail service area. If CRW were to implement additional water pollution control capital investments, along with the other system investment needs, totaling \$400 million over 20 years, this would result in the annual cost of wastewater and stormwater service to rise to 2.1% of MHI and 5.7% of LQI. Furthermore, households with greater than two people or more would experience wastewater and stormwater bills that rise to far in excess of 2%, between 2.7% and 4.5% of incomes, placing an exceedingly high economic burden on these households. The FCA analysis results show that if CRW is required to make investments of \$400 million to pay for recurring system R&R and to comply with Consent Decree requirements, then an implementation schedule of at least 25 years would be required to keep utility rates and customer bill impacts at acceptable levels. If the required investment costs are higher than this amount, then an implementation schedule of more than 25 years would be required.

CRW's City retail service area is poverty stricken and its poverty indicator scores are significantly worse than the U.S. average. For example, the City's 20th percentile income is \$16,594 as compared to \$30,785 for the national average, approximately 51% of the population within the City have incomes below 200% of the FPL whereas the national average is 28.8%, and the unemployed population in the civilian labor force in the City is 9.0% compared to the national average of 5.3%. The poverty prevalence indicators demonstrate that paying for the implementation of water pollution controls will result in a significantly high impact on the population with the CRW's retail service area that is already struggling to make ends meet.

The financial alternatives assessment that was completed shows that CRW has already implemented measures to lower the cost of wastewater service on its low-income customers by taking advantage of low-cost financing options to pay for capital investments, structuring wastewater and stormwater rates to recover costs equitably in proportion of usage of the system and implementing low-income ratepayer support options to help address affordability concerns.

APPENDIX A:

Sewer and Stormwater Capital Plan Details (20-Year Projection)



Exhibit A-1. Sewer Capital Plan Details Years 1 – 10 (Shown in 2024 \$s)

Project Description	Funding	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033	Total
Treatment												
Primary Digester Cleanout	Cash res	-	-	-	-	170,961	-	173,869	-	-	-	344,830
AWTF Energy Recovery Improvements - Construction	Pennvest \$65	11,620,000	10,576,923	1,849,112	-	-	-	-	-	-	-	24,046,036
AWTF Energy Recovery Improvements - Eng/Cont Mgmt	LOC	720,000	692,308	166,420	-	-	-	-	-	-	-	1,578,728
Primary Clarifier Improvements - Construction	Pennvest \$65	2,400,000	4,625,962	-	-	-	-	-	-	-	-	7,025,962
Primary Clarifier Improvements - Eng & Const Mgmt	2025 Bond	200,000	192,308	-	-	-	-	-	-	-	-	392,308
Primary Digester Insulation	Cash res	-	-	-	444,498	-	-	-	-	-	-	444,498
Garage Door Replacements	Paygo	75,000	-	-	-	-	-	-	-	-	-	75,000
Secondary Digester Conversion	2030 Bond	-	-	-	-	-	-	790,315	3,799,589	3,653,451	-	8,243,355
Secondary Digester Conversion	Cash res	-	-	-	-	427,402	-	-	-	-	-	427,402
HPO Tank Repair	Paygo	100,000	-	-	-	-	-	-	-	-	-	100,000
Switchgear and New Line for Cryo Compressors	2025 Bond	315,000	-	-	-	-	-	-	-	-	-	315,000
Belt Filter Press Rehab.	Paygo	50,000	-	-	-	-	-	-	-	-	-	50,000
New Field Equipment Building	2025 Bond	300,000	2,884,615	-	-	-	-	-	-	-	-	3,184,615
AWTF Administrative Building Improvements	2025 Bond	292,500	3,100,962	-	-	-	-	-	-	-	-	3,393,462
Invet Mixers	Paygo	25,000	-	-	-	-	-	-	-	-	-	25,000
Pump Rebuild and Replacement - General	Paygo	100,000	67,308	66,568	65,786	64,965	64,110	63,225	63,073	62,839	61,828	679,702
Truck Scale Replacement	Paygo	100,000	-	-	-	-	-	-	-	-	-	100,000
Diluent Water Flow Meter Replacement	Paygo	7,000	-	-	-	-	-	-	-	-	-	7,000
AWTF SCADA Firmware & PLC Upgrade	Paygo	23,000	-	-	-	-	-	-	-	-	-	23,000
HACH All Weather Refrigerated Sampler w/Heater	Paygo	-	-	-	-	-	-	9,484	9,879	10,230	10,539	40,131
Automated External Defibrillators (AEDs)	Paygo	-	-	-	-	4,239	-	-	-	-	4,036	8,275
Bandsaw	Paygo	12,000	-	-	-	-	-	-	-	-	-	12,000
Lab Equipment	Paygo	30,000	14,423	6,934	7,112	7,266	7,397	7,508	7,599	7,672	7,728	103,640
Gas Fired Unit Heaters	Paygo	100,000	-	-	-	-	-	-	-	-	-	100,000
Wash Bay Hot Water Pressure Washers	Paygo	7,500	-	-	-	-	-	-	-	-	-	7,500
AWTF Laptops	Paygo	10,000	9,615	9,246	8,890	8,548	8,219	7,903	7,599	7,307	7,026	84,353
Gravity Thickeners - Equipment Replacement	2025 Bond	-	182,692	1,756,657	-	-	-	-	-	-	-	1,939,349
Dewatering Upgrade	LOC	-	-	-	-	854,804	821,927	-	-	-	-	1,676,731
Other Plant Upgrades	Paygo	-	-	92,456	88,900	85,480	82,193	79,031	75,992	73,069	175,647	752,767

Exhibit A.1 Cont'd. Sewer Capital Plan Details Years 1 – 10 (Shown in 2024 \$s)

Project Description	Funding	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033	Total
Collection & Conveyance												
Collection System Rehab - Eng & Const Mgmt	Paygo	-	-	-	-	-	-	-	-	-	-	-
Collection System Rehab	Paygo	1,740,000	1,634,135	3,025,005	3,022,588	3,019,168	3,836,723	3,799,831	3,763,295	3,727,109	3,691,271	31,259,124
Collection System Rehab - Construction	2025 Bond	-	-	924,556	888,996	854,804	-	-	-	-	-	2,668,357
Collection Ssystem Rehab - Eng & Const Mgmt	Paygo	377,000	426,923	-	-	-	-	-	-	-	-	803,923
Collection System Rehab - Construction	Pennvest \$21	5,800,000	6,730,769	-	-	-	-	-	-	-	-	12,530,769
Paxton Creek Interceptor - Construction	2025 Bond	-	-	-	2,693,926	5,180,626	4,981,371	2,394,677	-	-	-	15,250,600
Paxton Creek Interceptor - Engineering & Construction	2025 Bond	-	-	1,849,112	269,393	518,063	498,137	239,489	-	-	-	3,374,194
Paxton Creek Interceptor - Eng & Const Mgmt	Cash res	100,000	96,154	-	-	-	-	-	-	-	-	196,154
Arsenal Blvd - Construction	Pennvest \$65	4,389,000	-	-	-	-	-	-	-	-	-	4,389,000
Arsenal Blvd - Eng & Const Mgmt	Cash res	231,000	-	-	-	-	-	-	-	-	-	231,000
Other Multi-Model CCTV Investigations	2025 Bond	500,000	-	-	-	-	-	-	-	-	-	500,000
Front St. Interceptor Rehab P2 - Construction	Pennviest \$65	289,000	-	-	-	-	-	-	-	-	-	289,000
Front St. Interceptor Rehab P2 - Construction	Cash res	-	-	-	-	-	-	-	-	-	-	-
Front St. Interceptor Rehab P2 - Eng & Const Mgmt	LOC	35,000	-	-	-	-	-	-	-	-	-	35,000
Ww I-83 Sewer Conflict Work - Betterment - Engineering	Paygo	234,000	192,308	184,911	44,450	42,740	41,096	39,516	-	-	-	779,021
Ww I-83 Sewer Conflict Work - Betterment - Construction	2025 Bond	-	-	522,374	611,629	-	-	-	-	-	-	1,134,004
Ww I-83 Sewer Conflict Work - Betterment - Construction	2030 Bond	-	-	-	-	-	-	790,315	-	-	-	790,315
Spring Creek Interceptor Rehab/Storage/Pump Station	2025 Bond	500,000	1,346,154	4,345,414	4,178,283	4,017,580	410,964	-	-	-	-	14,798,394
Broad St. Market Sewer Main Replacements	2030 Bond	847,000	-	-	-	-	-	-	-	-	-	847,000
Street Restoration	Paygo	217,485	215,393	213,322	211,271	209,240	207,228	205,235	203,262	201,307	199,372	2,083,115
CSO Signage	Paygo	600	-	-	-	-	-	-	-	-	-	600
Check Valve Replacement Return Sludge Pump Station	Paygo	125,000	-	-	-	-	-	-	-	-	-	125,000
ADS Echo Level Sensors	Paygo	50,000	-	-	-	-	-	-	-	-	-	50,000
Collection System Rehab	Paygo	49,440	48,962	48,484	48,006	47,527	47,080	46,629	46,203	45,741	45,303	473,374
Ww I-83 Diversion Pipe - Construction	2025 Bond	-	5,769,231	6,013,582	2,250,769	-	-	-	-	-	-	14,033,581
Ww I-83 CSO Diversion Pipe - Eng & Const Mgmt	2025 Bond	200,000	115,385	92,456	-	-	-	-	-	-	-	407,840
Ww I-83 CSO Diversion Pipe	2030 Bond	-	-	-	-	-	-	182,405	4,647,809	-	-	4,830,214
Fleet Renewal	Paygo	594,800	910,096	392,012	148,462	555,623	325,483	335,884	387,558	322,234	44,263	4,016,415
Fleet Renewal	Cash res	600,000	-	-	-	-	-	596,687	288,769	-	-	1,485,456
4 In Trash Pumps	Paygo	-	23,077	23,669	-	-	-	-	-	-	-	46,746
10 inch Trash Pumps	Paygo	-	38,462	-	-	-	-	-	-	-	-	38,462
CSO Regulator Modifications	2025 Bond	1,155,000	-	-	-	-	-	-	-	-	-	1,155,000
CSO Regulator Modifications	2030 Bond	-	-	-	-	-	-	912,813	-	-	-	912,813
Total		\$ 34,523,350	\$ 39,896,190	\$ 21,584,318	\$ 14,984,989	\$ 16,071,070	\$ 11,333,964	\$ 10,676,852	\$ 13,302,666	\$ 8,113,001	\$ 4,249,055	\$ 174,715,115

Exhibit A.2. Sewer Capital Plan Scenario Details Years 11 – 20 (Shown in 2024 \$s)

Project Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043	11-20 Total	1-20 Grand Total
Treatment												
Primary Digester Cleanout	-	-	200,000	-	200,000	-	-	-	-	-	400,000	
Garage Door Replacements	75,000	-	-	-	-	-	-	-	-	-	75,000	
Invet Mixeres	25,000	-	-	-	-	25,000	-	-	-	-	50,000	
Pump Rebuild and Replacement - General	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000	
Lab Equipment	11,500	12,000	12,500	13,000	13,500	14,000	14,500	15,000	15,500	16,000	137,500	
Wash Bay Hot Water Pressure Washers	7,500	-	-	-	-	-	-	-	-	-	7,500	
AWTF Laptops	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,000	
Other Plant Upgrades	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,500,000	
Hydrogritter Roof	-	-	-	-	-	-	-	-	-	30,000	30,000	
Cyro Plant Cooling Tower	-	-	-	-	-	-	-	-	-	10,000	10,000	
Rubber Roof for Control Building	-	-	-	-	-	-	-	-	-	-	-	
Headworks Screening Renewal	-	-	-	-	-	-	-	-	200,000	1,500,000	1,700,000	
Grit Removal System Upgrade	-	-	-	150,000	2,000,000	-	-	-	-	-	2,150,000	
Main Plant Water Skid	100,000	-	-	-	-	-	-	-	-	-	100,000	
Hydrogritter Unit	-	250,000	-	-	-	-	-	-	-	-	250,000	
Settled Sewage Pumps, Motors, VFDs	-	-	500,000	500,000	-	-	-	-	-	-	1,000,000	
HPO, RAS Regen and 80/85 Aerators	-	-	-	-	-	-	-	-	-	-	-	
Post Aeration Blowers	100,000	100,000	-	-	-	-	-	-	-	100,000	300,000	
RAS Pumps and Motors	-	-	-	-	-	200,000	200,000	-	-	-	400,000	
Mixed Liquor Flowmeter Replacements	-	-	-	-	-	-	-	180,000	-	-	180,000	
Final Clarifier Rehabilitation	-	-	-	-	-	-	-	1,000,000	1,000,000	1,000,000	3,000,000	
Cryo Plant Compressor Upgrades	-	1,000,000	1,000,000	-	-	-	-	-	-	-	2,000,000	
Main Plant Switch Gear	-	-	-	-	-	-	3,000,000	-	-	-	3,000,000	
Disinfection Upgrade	-	-	-	-	-	-	-	-	-	-	-	
Collection & Conveyance												
Collection System Rehab	3,025,005	3,025,005	3,025,005	3,025,005	3,025,005	3,025,005	3,025,005	3,025,005	3,025,005	3,025,005	30,250,050	
Street Restoration	217,485	217,485	217,485	217,485	217,485	217,485	217,485	217,485	217,485	217,485	2,174,850	
Collection System Rehab	49,440	49,440	49,440	49,440	49,440	49,440	49,440	49,440	49,440	49,440	494,400	
Fleet Renewal	115,500	223,500	329,500	335,500	938,000	1,442,500	259,400	665,500	587,000	40,500	4,936,900	
Assumed Future Regulatory - Conveyance Projects	1,060,000	1,060,000	1,060,000	1,060,000	1,060,000	1,060,000	1,060,000	1,060,000	1,060,000	1,060,000	10,600,000	
Assumed Future Regulatory - Collection / GSI Projects	9,540,000	9,540,000	9,540,000	9,540,000	9,540,000	9,540,000	9,540,000	9,540,000	9,540,000	9,540,000	95,400,000	
Total	\$ 14,686,430	\$ 15,837,430	\$ 16,293,930	\$ 15,250,430	\$ 17,403,430	\$ 15,933,430	\$ 17,725,830	\$ 16,112,430	\$ 16,054,430	\$ 16,948,430	\$ 162,246,200	\$ 336,961,315

Exhibit A.3 Sewer Capital Plan Details Years 1 – 10 (Shown in Future \$)

Project Description	Funding	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033	Total
Treatment												
Primary Digester Cleanout	Cash res					200,000		220,000				420,000
AWTF Energy Recovery Improvements - Construction	Pennvest \$65	11,620,000	11,000,000	2,000,000								24,620,000
AWTF Energy Recovery Improvements - Eng/Cont Mgmt	LOC	720,000	720,000	180,000								1,620,000
Primary Clarifier Improvements - Construction	Pennvest \$65	2,400,000	4,811,000									7,211,000
Primary Clarifier Improvements - Eng & Const Mgmt	2025 Bond	200,000	200,000									400,000
Primary Digester Insulation	Cash res				500,000							500,000
Garage Door Replacements	Paygo	75,000										75,000
Secondary Digester Conversion	2030 Bond							1,000,000	5,000,000	5,000,000		11,000,000
Secondary Digester Conversion	Cash res					500,000						500,000
HPO Tank Repair	Paygo	100,000										100,000
Switchgear and New Line for Cryo Compressors	2025 Bond	315,000										315,000
Belt Filter Press Rehab.	Paygo	50,000										50,000
New Field Equipment Building	2025 Bond	300,000	3,000,000									3,300,000
AWTF Administrative Building Improvements	2025 Bond	292,500	3,225,000									3,517,500
Invet Mixeres	Paygo	25,000										25,000
Pump Rebuild and Replacement - General	Paygo	100,000	70,000	72,000	74,000	76,000	78,000	80,000	83,000	86,000	88,000	807,000
Truck Scale Replacement	Paygo	100,000										100,000
Diluent Water Flow Meter Replacement	Paygo	7,000										7,000
AWTF SCADA Firmware & PLC Upgrade	Paygo	23,000										23,000
HACH All Weather Refrigerated Sampler w/Heater	Paygo							12,000	13,000	14,000	15,000	54,000
Automated External Defibrillators (AEDs)	Paygo					4,959					5,745	10,704
Bandsaw	Paygo	12,000										12,000
Lab Equipment	Paygo	30,000	15,000	7,500	8,000	8,500	9,000	9,500	10,000	10,500	11,000	119,000
Gas Fired Unit Heaters	Paygo	100,000										100,000
Wash Bay Hot Water Pressure Washers	Paygo	7,500										7,500
AWTF Laptops	Paygo	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,000
Gravity Thickeners - Equipment Replacement	2025 Bond		190,000	1,900,000								2,090,000
Dewatering Upgrade	LOC					1,000,000	1,000,000					2,000,000
Other Plant Upgrades	Paygo			100,000	100,000	100,000	100,000	100,000	100,000	100,000	250,000	950,000

Capital projects in current dollars escalated to future dollars by applying an annual escalation rate of 4.0%.

Exhibit A.3 Cont'd. Sewer Capital Plan Details Years 1 – 10 (Shown in Future \$s) Cont'd

Project Description	Funding	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033	Total
Collection & Conveyance												
Collection System Rehab - Eng & Const Mgmt	Paygo											
Collection System Rehab	Paygo	1,740,000	1,699,500	3,271,845	3,400,000	3,532,000	4,667,960	4,807,999	4,952,239	5,100,806	5,253,830	38,426,179
Collection System Rehab - Construction	2025 Bond			1,000,000	1,000,000	1,000,000						3,000,000
Collection Ssystem Rehab - Eng & Const Mgmt	Paygo	377,000	444,000									821,000
Collection System Rehab - Construction	Pennvest \$21	5,800,000	7,000,000									12,800,000
Paxton Creek Interceptor - Construction	2025 Bond				3,030,300	6,060,600	6,060,600	3,030,030				18,181,530
Paxton Creek Interceptor - Engineering & Construction	2025 Bond			2,000,000	303,030	606,060	606,060	303,030				3,818,180
Paxton Creek Interceptor - Eng & Const Mgmt	Cash res	100,000	100,000									200,000
Arsenal Blvd - Construction	Pennvest \$65	4,389,000										4,389,000
Arsenal Blvd - Eng & Const Mgmt	Cash res	231,000										231,000
Other Multi-Model CCTV Investigations	2025 Bond	500,000										500,000
Front St. Interceptor Rehab P2 - Construction	Pennviest \$65	289,000										289,000
Front St. Interceptor Rehab P2 - Construction	Cash res											-
Front St. Interceptor Rehab P2 - Eng & Const Mgmt	LOC	35,000										35,000
Ww I-83 Sewer Conflict Work - Betterment - Engineering	Paygo	234,000	200,000	200,000	50,000	50,000	50,000	50,000				834,000
Ww I-83 Sewer Conflict Work - Betterment - Construction	2025 Bond			565,000	688,000							1,253,000
Ww I-83 Sewer Conflict Work - Betterment - Construction	2030 Bond							1,000,000				1,000,000
Spring Creek Interceptor Rehab/Storage/Pump Station	2025 Bond	500,000	1,400,000	4,700,000	4,700,000	4,700,000	500,000					16,500,000
Broad St. Market Sewer Main Replacements	2030 Bond	847,000										847,000
Street Restoration	Paygo	217,485	224,009	230,729	237,651	244,781	252,124	259,688	267,479	275,503	283,768	2,493,217
CSO Signage	Paygo	600										600
Check Valve Replacement Return Sludge Pump Station	Paygo	125,000										125,000
ADS Echo Level Sensors	Paygo	50,000										50,000
Collection System Rehab	Paygo	49,440	50,920	52,440	54,000	55,600	57,280	59,000	60,800	62,600	64,480	566,560
Ww I-83 Diversion Pipe - Construction	2025 Bond		6,000,000	6,504,290	2,531,809							15,036,099
Ww I-83 CSO Diversion Pipe - Eng & Const Mgmt	2025 Bond	200,000	120,000	100,000								420,000
Ww I-83 CSO Diversion Pipe	2030 Bond							230,800	6,116,200			6,347,000
Fleet Renewal	Paygo	594,800	946,500	424,000	167,000	650,000	396,000	425,000	510,000	441,000	63,000	4,617,300
Fleet Renewal	Cash res	600,000						755,000	380,000			1,735,000
4 In Trash Pumps	Paygo		24,000	25,600								49,600
10 inch Trash Pumps	Paygo		40,000									40,000
CSO Regulator Modifications	2025 Bond	1,155,000										1,155,000
CSO Regulator Modifications	2030 Bond							1,155,000				1,155,000
Total		\$ 34,523,350	\$ 41,491,956	\$ 23,345,433	\$ 16,855,821	\$ 18,800,533	\$ 13,789,059	\$ 13,509,084	\$ 17,504,757	\$ 11,102,450	\$ 6,046,866	\$ 196,948,969

Capital projects in current dollars escalated to future dollars by applying an annual escalation rate of 4.0%.

Exhibit A.4. Sewer Capital Plan Scenario Details Years 11 – 20 (Shown in Future \$s)

Project Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043	11-20 Total	1-20 Grand Total
Treatment												
Primary Digester Cleanout	-	-	320,206	-	346,335	-	-	-	-	-	666,542	
Garage Door Replacements	111,018	-	-	-	-	-	-	-	-	-	111,018	
Invet Mixeres	37,006	-	-	-	-	45,024	-	-	-	-	82,030	
Pump Rebuild and Replacement - General	148,024	153,945	160,103	166,507	173,168	180,094	187,298	194,790	202,582	210,685	1,777,197	
Lab Equipment	17,023	18,473	20,013	21,646	23,378	25,213	27,158	29,219	31,400	33,710	247,232	
Wash Bay Hot Water Pressure Washers	11,102	-	-	-	-	-	-	-	-	-	11,102	
AWTF Laptops	14,802	15,395	16,010	16,651	17,317	18,009	18,730	19,479	20,258	21,068	177,720	
Other Plant Upgrades	370,061	384,864	400,258	416,268	432,919	450,236	468,245	486,975	506,454	526,712	4,442,993	
Hydrogritter Roof	-	-	-	-	-	-	-	-	-	63,205	63,205	
Cyro Plant Cooling Tower	-	-	-	-	-	-	-	-	-	21,068	21,068	
Rubber Roof for Control Building	-	-	-	-	-	-	-	-	-	-	-	
Headworks Screening Renewal	-	-	-	-	-	-	-	-	405,163	3,160,274	3,565,437	
Grit Removal System Upgrade	-	-	-	249,761	3,463,353	-	-	-	-	-	3,713,114	
Main Plant Water Skid	148,024	-	-	-	-	-	-	-	-	-	148,024	
Hydrogritter Unit	-	384,864	-	-	-	-	-	-	-	-	384,864	
Settled Sewage Pumps, Motors, VFDs	-	-	800,516	832,537	-	-	-	-	-	-	1,633,053	
HPO, RAS Regen and 80/85 Aerators	-	-	-	-	-	-	-	-	-	-	-	
Post Aeration Blowers	148,024	153,945	-	-	-	-	-	-	-	210,685	512,655	
RAS Pumps and Motors	-	-	-	-	-	360,189	374,596	-	-	-	734,785	
Mixed Liquor Flowmeter Replacements	-	-	-	-	-	-	-	350,622	-	-	350,622	
Final Clarifier Rehabilitation	-	-	-	-	-	-	-	1,947,900	2,025,817	2,106,849	6,080,566	
Cryo Plant Compressor Upgrades	-	1,539,454	1,601,032	-	-	-	-	-	-	-	3,140,486	
Main Plant Switch Gear	-	-	-	-	-	-	5,618,944	-	-	-	5,618,944	
Disinfection Upgrade	-	-	-	-	-	-	-	-	-	-	-	
Collection & Conveyance												
Collection System Rehab	4,477,746	4,656,856	4,843,130	5,036,856	5,238,330	5,447,863	5,665,778	5,892,409	6,128,105	6,373,229	53,760,303	
Street Restoration	321,931	334,808	348,200	362,129	376,614	391,678	407,345	423,639	440,585	458,208	3,865,137	
Collection System Rehab	73,183	76,111	79,155	82,321	85,614	89,039	92,600	96,304	100,156	104,163	878,646	
Fleet Renewal	170,968	344,068	527,540	558,632	1,624,313	2,597,861	485,851	1,296,328	1,189,154	85,327	8,880,043	
Future Conveyance Projects	1,569,059	1,631,821	1,697,094	1,764,978	1,835,577	1,909,000	1,985,360	2,064,775	2,147,366	2,233,260	18,838,290	
Future Collection / GSI Projects	14,121,530	14,686,392	15,273,847	15,884,801	16,520,193	17,181,001	17,868,241	18,582,971	19,326,290	20,099,341	169,544,608	
Total	\$ 21,739,504	\$ 24,380,996	\$ 26,087,107	\$ 25,393,087	\$ 30,137,110	\$ 28,695,207	\$ 33,200,147	\$ 31,385,410	\$ 32,523,329	\$ 35,707,786	\$ 289,249,684	\$ 486,198,653

Capital projects in current dollars escalated to future dollars by applying an annual escalation rate of 4.0%.

Exhibit A.6. Stormwater Capital Plan Details Years 1-10 (Shown in 2024 \$s)

Project Description	Funding	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033	Total
SW Injection Well - Design	Paygo	-	-	-	-	162,413	-	-	-	-	-	162,413
SW Injection Well - Construction	Future PV	-	-	-	-	-	-	-	-	3,711,906	-	3,711,906
City Park GSI - Eng & Const Mgmt	Cash res	10,000	38,462	-	-	-	-	-	-	-	-	48,462
City Park GSI - Construction	FY204 PV	250,000	1,201,923	462,278	-	-	-	-	-	-	-	1,914,201
Paxton Creek TMDL Joint PRP MS4	Paygo	16,400	15,769	162,722	161,157	159,607	158,073	156,553	155,048	153,557	152,081	1,290,967
SW Pennvest Pro-fi Phase 4 Construction	\$13M PV	2,675,409	-	-	-	-	-	-	-	-	-	2,675,409
SW Pennvest Pro-fi Phase 4 Eng & Const Mgmt	Cash res	117,500	-	-	-	-	-	-	-	-	-	117,500
SW Pennvest Pro-fi Phase 5 Construction	FY24 PV	1,418,400	1,363,846	-	-	-	-	-	-	-	-	2,782,246
SW Pennvest Pro-fi Phase 5 Eng & Const Mgmt	Cash res	141,840	136,385	-	-	-	-	-	-	-	-	278,225
SW Small Sewer Separation	Cash res	50,000	144,231	46,228	-	-	-	-	-	-	-	240,459
SW Small Sewer Separation	FY24 PV	-	907,302	290,802	-	-	-	-	-	-	-	1,198,104
CSO Signage	Paygo	600	-	-	-	-	-	-	-	-	-	600
Field Equipment Buliding	Other	300,000	2,884,615	-	-	-	-	-	-	-	-	3,184,615
Admin Building Improvements	Other	97,500	1,033,654	-	-	-	-	-	-	-	-	1,131,154
Fleet Renewal	Paygo	-	126,923	269,970	302,259	329,100	131,508	-	75,992	200,940	297,194	1,733,886
Stormwater System Rehab	Paygo	74,160	73,442	72,726	72,009	71,291	70,620	69,943	69,305	68,612	67,954	710,061
SW GSI	Paygo	-	-	-	208,106	2,267,157	2,245,358	2,223,767	2,202,385	2,181,208	2,160,235	13,488,217
SW GSI	Future PV	-	-	-	-	-	-	-	-	-	-	-
Riverfron Park GSI - Eng & Const Mgmt	Cash res	-	234,375	144,462	177,799	-	-	-	-	-	-	556,636
Riverfron Park GSI - Construction	FY24 PV	-	-	1,155,695	4,222,733	-	-	-	-	-	-	5,378,428
4 Inch Trash Pumps	Paygo	-	5,769	5,917	-	-	-	-	-	-	-	11,686
10 Inch Trash Pumps	Paygo	-	9,615	-	-	-	-	-	-	-	-	9,615
Total		\$ 5,151,809	\$ 8,176,312	\$ 2,610,800	\$ 5,144,063	\$ 2,989,567	\$ 2,605,559	\$ 2,450,263	\$ 2,502,729	\$ 6,316,223	\$ 2,677,464	\$ 40,624,789

Exhibit A.6. Stormwater Capital Plan Scenario Details Years 11-20 (Shown in 2024 \$s)

Project Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043	11-20 Total	1-20 Grand Total
SW Injection Well - Design	-	-	-	-	-	-	-	-	-	-	-	-
SW Injection Well - Construction	-	-	-	-	-	-	-	-	-	-	-	-
City Park GSI - Eng & Const Mgmt	-	-	-	-	-	-	-	-	-	-	-	-
City Park GSI - Construction	-	-	-	-	-	-	-	-	-	-	-	-
Paxton Creek TMDL Joint PRP MS4	162,722	162,722	162,722	162,722	162,722	162,722	162,722	162,722	162,722	162,722	1,627,220	-
SW Pennvest Pro-fi Phase 4 Construction	-	-	-	-	-	-	-	-	-	-	-	-
SW Pennvest Pro-fi Phase 4 Eng & Const Mgmt	-	-	-	-	-	-	-	-	-	-	-	-
SW Pennvest Pro-fi Phase 5 Construction	-	-	-	-	-	-	-	-	-	-	-	-
SW Pennvest Pro-fi Phase 5 Eng & Const Mgmt	-	-	-	-	-	-	-	-	-	-	-	-
SW Small Sewer Separation	-	-	-	-	-	-	-	-	-	-	-	-
SW Small Sewer Separation	-	-	-	-	-	-	-	-	-	-	-	-
CSO Signage	-	-	-	-	-	-	-	-	-	-	-	-
Field Equipment Buliding	-	-	-	-	-	-	-	-	-	-	-	-
Admin Building Improvements	-	-	-	-	-	-	-	-	-	-	-	-
Fleet Renewal	439,000	-	35,000	84,000	243,000	291,000	243,000	138,000	-	119,000	1,592,000	-
Stormwater System Rehab	74,160	74,160	74,160	74,160	74,160	74,160	74,160	74,160	74,160	74,160	741,600	-
SW GSI	-	-	-	-	-	-	-	-	-	-	-	-
SW GSI	-	-	-	-	-	-	-	-	-	-	-	-
Riverfron Park GSI - Eng & Const Mgmt	-	-	-	-	-	-	-	-	-	-	-	-
Riverfron Park GSI - Construction	-	-	-	-	-	-	-	-	-	-	-	-
4 Inch Trash Pumps	-	-	-	-	-	-	-	-	-	-	-	-
10 Inch Trash Pumps	-	-	-	-	-	-	-	-	-	-	-	-
Assumed Future GSI (Placeholder)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	3,400,000	3,400,000	3,400,000	3,400,000	3,400,000	22,000,000	-
Total	\$ 1,675,882	\$ 1,236,882	\$ 1,271,882	\$ 1,320,882	\$ 1,479,882	\$ 3,927,882	\$ 3,879,882	\$ 3,774,882	\$ 3,636,882	\$ 3,755,882	\$ 25,960,820	\$ 66,585,609

Exhibit A.7. Stormwater Capital Plan Details Years 1-10 (Shown in Future \$s)

Project Description	Funding	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033	Total
SW Injection Well - Design	Paygo	-	-	-	-	190,000	-	-	-	-	-	190,000
SW Injection Well - Construction	Future PV	-	-	-	-	-	-	-	-	5,080,000	-	5,080,000
City Park GSI - Eng & Const Mgmt	Cash res	10,000	40,000	-	-	-	-	-	-	-	-	50,000
City Park GSI - Construction	FY204 PV	250,000	1,250,000	500,000	-	-	-	-	-	-	-	2,000,000
Paxton Creek TMDL Joint PRP MS4	Paygo	16,400	16,400	176,000	181,280	186,718	192,320	198,090	204,032	210,153	216,458	1,597,851
SW Pennvest Pro-fi Phase 4 Construction	\$13M PV	2,675,409	-	-	-	-	-	-	-	-	-	2,675,409
SW Pennvest Pro-fi Phase 4 Eng & Const Mgmt	Cash res	117,500	-	-	-	-	-	-	-	-	-	117,500
SW Pennvest Pro-fi Phase 5 Construction	FY24 PV	1,418,400	1,418,400	-	-	-	-	-	-	-	-	2,836,800
SW Pennvest Pro-fi Phase 5 Eng & Const Mgmt	Cash res	141,840	141,840	-	-	-	-	-	-	-	-	283,680
SW Small Sewer Separation	Cash res	50,000	150,000	50,000	-	-	-	-	-	-	-	250,000
SW Small Sewer Separation	FY24 PV	-	943,594	314,531	-	-	-	-	-	-	-	1,258,125
CSO Signage	Paygo	600	-	-	-	-	-	-	-	-	-	600
Field Equipment Bulding	Other	300,000	3,000,000	-	-	-	-	-	-	-	-	3,300,000
Admin Building Improvements	Other	97,500	1,075,000	-	-	-	-	-	-	-	-	1,172,500
Fleet Renewal	Paygo	-	132,000	292,000	340,000	385,000	160,000	-	100,000	275,000	423,000	2,107,000
Stormwater System Rehab	Paygo	74,160	76,380	78,660	81,000	83,400	85,920	88,500	91,200	93,900	96,720	849,840
SW GSI	Paygo	-	-	-	234,091	2,652,253	2,731,821	2,813,775	2,898,189	2,985,134	3,074,688	17,389,951
SW GSI	Future PV	-	-	-	-	-	-	-	-	-	-	-
Riverfron Park GSI - Eng & Const Mgmt	Cash res	-	243,750	156,250	200,000	-	-	-	-	-	-	600,000
Riverfron Park GSI - Construction	FY24 PV	-	-	1,250,000	4,750,000	-	-	-	-	-	-	6,000,000
4 Inch Trash Pumps	Paygo	-	6,000	6,400	-	-	-	-	-	-	-	12,400
10 Inch Trash Pumps	Paygo	-	10,000	-	-	-	-	-	-	-	-	10,000
Total		\$ 5,151,809	\$ 8,503,364	\$ 2,823,841	\$ 5,786,371	\$ 3,497,371	\$ 3,170,061	\$ 3,100,365	\$ 3,293,421	\$ 8,644,187	\$ 3,810,866	\$ 47,781,656

Capital projects in current dollars escalated to future dollars by applying an annual escalation rate of 4.0%.

Exhibit A.8. Stormwater Capital Plan Scenario Details Years 11-20 (Shown in Future \$s)

Project Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043	11-20 Total	1-20 Grand Total
SW Injection Well - Design	-	-	-	-	-	-	-	-	-	-	-	-
SW Injection Well - Construction	-	-	-	-	-	-	-	-	-	-	-	-
City Park GSI - Eng & Const Mgmt	-	-	-	-	-	-	-	-	-	-	-	-
City Park GSI - Construction	-	-	-	-	-	-	-	-	-	-	-	-
Paxton Creek TMDL Joint PRP MS4	240,868	250,503	260,523	270,944	281,782	293,053	304,775	316,966	329,645	342,831	2,891,891	-
SW Pennvest Pro-fi Phase 4 Construction	-	-	-	-	-	-	-	-	-	-	-	-
SW Pennvest Pro-fi Phase 4 Eng & Const Mgmt	-	-	-	-	-	-	-	-	-	-	-	-
SW Pennvest Pro-fi Phase 5 Construction	-	-	-	-	-	-	-	-	-	-	-	-
SW Pennvest Pro-fi Phase 5 Eng & Const Mgmt	-	-	-	-	-	-	-	-	-	-	-	-
SW Small Sewer Separation	-	-	-	-	-	-	-	-	-	-	-	-
SW Small Sewer Separation	-	-	-	-	-	-	-	-	-	-	-	-
CSO Signage	-	-	-	-	-	-	-	-	-	-	-	-
Field Equipment Buliding	-	-	-	-	-	-	-	-	-	-	-	-
Admin Building Improvements	-	-	-	-	-	-	-	-	-	-	-	-
Fleet Renewal	649,827	-	56,036	139,866	420,797	524,075	455,134	268,810	-	250,715	2,765,261	-
Stormwater System Rehab	109,775	114,166	118,733	123,482	128,421	133,558	138,900	144,456	150,235	156,244	1,317,969	-
SW GSI	-	-	-	-	-	-	-	-	-	-	-	-
SW GSI	-	-	-	-	-	-	-	-	-	-	-	-
Riverfron Park GSI - Eng & Const Mgmt	-	-	-	-	-	-	-	-	-	-	-	-
Riverfron Park GSI - Construction	-	-	-	-	-	-	-	-	-	-	-	-
4 Inch Trash Pumps	-	-	-	-	-	-	-	-	-	-	-	-
10 Inch Trash Pumps	-	-	-	-	-	-	-	-	-	-	-	-
Assumed Future GSI	1,480,244	1,539,454	1,601,032	1,665,074	1,731,676	6,123,208	6,368,136	6,622,862	6,887,776	7,163,287	41,182,750	-
Total	\$ 2,480,715	\$ 1,904,123	\$ 2,036,324	\$ 2,199,366	\$ 2,562,677	\$ 7,073,894	\$ 7,266,946	\$ 7,353,095	\$ 7,367,656	\$ 7,913,077	\$ 48,157,871	\$ 95,939,527

Capital projects in current dollars escalated to future dollars by applying an annual escalation rate of 4.0%.

APPENDIX B:

Sewer Long-Term Financial and Rate Projection Details (20-Year Projection)



Exhibit B.1. Cont'd. Sewer Long-Term Financial and Rate Plan Projection Details – Using Base Capital Needs

Line No.	Description	16 FY 2039	17 FY 2040	18 FY 2041	19 FY 2042	20 FY 2043
Revenues						
1	Sales to City Customers	\$ 26,937,979	\$ 27,746,119	\$ 28,578,502	\$ 29,435,857	\$ 30,318,933
2	Sales to Public Authorities	16,055,652	19,544,982	17,569,730	17,953,208	20,206,807
3	Contractor Waste Fees	728,351	742,918	757,777	772,932	788,391
4	Penalties	311,563	317,794	324,150	330,633	337,246
5	Sale of Nutrient Credits	56,308	57,434	58,583	59,755	60,950
6	Sludge Handling	132,254	134,899	137,597	140,349	143,156
7	Electricity Sales	74,770	76,266	77,791	79,347	80,934
8	Interest Income	385,408	406,998	441,529	472,854	515,791
9	Interest Earnings - DSRF	-	-	-	-	-
10	Other Revenue	893,520	911,390	929,618	948,210	967,175
11	Total Revenues	\$ 45,575,806	\$ 49,938,801	\$ 48,875,278	\$ 50,193,146	\$ 53,419,383
Operating Expenses						
Personnel:						
12	Management	\$ 2,058,690	\$ 2,120,451	\$ 2,184,065	\$ 2,249,587	\$ 2,317,074
13	Treatment	3,320,561	3,420,178	3,522,783	3,628,467	3,737,321
14	Maintenance	1,661,088	1,710,920	1,762,248	1,815,115	1,869,569
15	Field Maintenance	1,396,917	1,438,825	1,481,989	1,526,449	1,572,242
16	Other	207,646	213,876	220,292	226,901	233,708
Operations:						
17	Management	\$ 1,436,064	\$ 1,479,145	\$ 1,523,520	\$ 1,569,225	\$ 1,616,302
18	Treatment	3,935,501	4,053,386	4,174,807	4,299,872	4,428,688
19	Maintenance	305,993	315,172	324,628	334,366	344,397
20	Field Maintenance	738,328	760,478	783,292	806,791	830,995
21	Other	2,417,319	2,487,888	2,560,575	2,635,442	2,712,556
Other Operating Expenses:						
22	CRW Administrative Fund Expense	\$ 4,371,069	\$ 4,502,201	\$ 4,637,267	\$ 4,776,385	\$ 4,919,677
23	Total Operating Expenses	\$ 21,849,175	\$ 22,502,521	\$ 23,175,466	\$ 23,868,600	\$ 24,582,528
Other Expenses						
24	Minor Capital Outlay	281,324	289,763	298,456	307,410	316,632
25	CRW Bank and Trustee Fees	3,000	3,000	3,000	3,000	3,000
26	Incremental O&M	-	-	-	-	63
Debt Service						
Existing Debt Service						
27	2009 PENNVEST Loan	\$ -	\$ -	\$ -	\$ -	\$ -
28	2014 PENNVEST Loan	-	-	-	-	-
29	Series 2017 Rev Refunding Bonds	2,847,750	2,851,000	2,849,500	2,848,250	2,847,000
30	2017 PENNVEST Loan	-	-	-	-	-
31	2018 PENNVEST Loan	614,616	614,616	-	-	-
32	Line of Credit	-	-	-	-	-
33	PENNVEST Pro-Fi Loans	4,194,300	4,194,300	4,194,300	4,194,300	4,194,300
New Debt Service						
34	Revenue Bonds	\$ 6,041,707	\$ 6,146,367	\$ 6,146,367	\$ 6,146,367	\$ 6,182,802
35	PENNVEST Loans	16,345	41,118	41,118	41,118	49,742
36	Total Debt Service	\$ 13,714,718	\$ 13,847,400	\$ 13,231,284	\$ 13,230,034	\$ 13,273,844
37	Capital Projects Funded with Cash	9,605,205	11,237,887	10,737,664	11,049,674	12,641,095
38	Total Revenue Requirements	\$ 45,453,422	\$ 47,880,572	\$ 47,445,871	\$ 48,458,718	\$ 50,817,163
39	Revenues Over (Under) Expenditures	\$ 122,384	\$ 2,058,229	\$ 1,429,406	\$ 1,734,428	\$ 2,602,220
40	Beginning Balance	\$ 19,401,911	\$ 19,524,295	\$ 21,582,523	\$ 23,011,929	\$ 24,746,357
41	Revenues Over (Under) Expenditures	122,384	2,058,229	1,429,406	1,734,428	2,602,220
42	Ending Balance	\$ 19,524,295	\$ 21,582,523	\$ 23,011,929	\$ 24,746,357	\$ 27,348,577
43	Ending Balance - Days O&M	326	350	362	378	406
44	Target Reserve Bal (180 days O&M)	\$ 10,926,088	\$ 11,252,760	\$ 11,589,233	\$ 11,935,800	\$ 12,292,764
45	Projected City Rate Increase	3.0%	3.0%	3.0%	3.0%	3.0%
46	DSC (All debt)	1.68	1.93	1.89	1.93	2.11
Capital Project Funding						
47	Cash Funded	\$ 9,605,205	\$ 11,237,887	\$ 10,737,664	\$ 11,049,674	\$ 12,641,095
48	Debt Funded	-	2,108,658	-	-	734,089
49	Capital Projects Funding Total	\$ 9,605,205	\$ 13,346,545	\$ 10,737,664	\$ 11,049,674	\$ 13,375,184

Exhibit B.2. Cont'd. Sewer Long-Term Financial and Rate Plan Projection Details – Using \$400M Capital Plan Scenario in 20-Years

Line No.	Description	16 FY 2039	17 FY 2040	18 FY 2041	19 FY 2042	20 FY 2043
Revenues						
1	Sales to City Customers	\$ 35,787,764	\$ 37,935,029	\$ 39,831,781	\$ 41,823,370	\$ 43,496,305
2	Sales to Public Authorities	16,007,177	17,760,199	16,903,990	17,319,703	18,528,555
3	Contractor Waste Fees	728,351	742,918	757,777	772,932	788,391
4	Penalties	311,563	317,794	324,150	330,633	337,246
5	Sale of Nutrient Credits	56,308	57,434	58,583	59,755	60,950
6	Sludge Handling	132,254	134,899	137,597	140,349	143,156
7	Electricity Sales	74,770	76,266	77,791	79,347	80,934
8	Interest Income	247,523	262,633	280,131	285,005	285,996
9	Interest Earnings - DSRF	-	-	-	-	-
10	Other Revenue	893,520	911,390	929,618	948,210	967,175
11	Total Revenues	\$ 54,239,231	\$ 58,198,564	\$ 59,301,418	\$ 61,759,304	\$ 64,688,706
Operating Expenses						
Personnel:						
12	Management	\$ 2,058,690	\$ 2,120,451	\$ 2,184,065	\$ 2,249,587	\$ 2,317,074
13	Treatment	3,320,561	3,420,178	3,522,783	3,628,467	3,737,321
14	Maintenance	1,661,088	1,710,920	1,762,248	1,815,115	1,869,569
15	Field Maintenance	1,396,917	1,438,825	1,481,989	1,526,449	1,572,242
16	Other	207,646	213,876	220,292	226,901	233,708
Operations:						
17	Management	\$ 1,436,064	\$ 1,479,145	\$ 1,523,520	\$ 1,569,225	\$ 1,616,302
18	Treatment	3,935,501	4,053,386	4,174,807	4,299,872	4,428,688
19	Maintenance	305,993	315,172	324,628	334,366	344,397
20	Field Maintenance	738,328	760,478	783,292	806,791	830,995
21	Other	2,417,319	2,487,888	2,560,575	2,635,442	2,712,556
Other Operating Expenses:						
22	CRW Administrative Fund Expense	\$ 4,371,069	\$ 4,502,201	\$ 4,637,267	\$ 4,776,385	\$ 4,919,677
23	Total Operating Expenses	\$ 21,849,175	\$ 22,502,521	\$ 23,175,466	\$ 23,868,600	\$ 24,582,528
Other Expenses						
24	Minor Capital Outlay	3.0%	3.0%	3.0%	3.0%	3.0%
25	CRW Bank and Trustee Fees	281,324	289,763	298,456	307,410	316,632
26	Incremental O&M	3,000	3,000	3,000	3,000	3,000
		1,520,775	1,836,407	2,172,309	2,529,520	2,909,192
Debt Service						
Existing Debt Service						
27	2009 PENNVEST Loan	\$ -	\$ -	\$ -	\$ -	\$ -
28	2014 PENNVEST Loan	-	-	-	-	-
29	Series 2017 Rev Refunding Bonds	2,847,750	2,851,000	2,849,500	2,848,250	2,847,000
30	2017 PENNVEST Loan	-	-	-	-	-
31	2018 PENNVEST Loan	614,616	614,616	-	-	-
32	Line of Credit	-	-	-	-	-
33	PENNVEST Pro-Fi Loans	4,194,300	4,194,300	4,194,300	4,194,300	4,194,300
New Debt Service						
34	Revenue Bonds	\$ 10,813,033	\$ 11,903,097	\$ 12,880,778	\$ 13,891,734	\$ 15,036,615
35	PENNVEST Loans	1,145,710	1,403,726	1,635,142	1,874,433	2,145,425
36	Total Debt Service	\$ 19,615,409	\$ 20,966,739	\$ 21,559,720	\$ 22,808,718	\$ 24,223,339
37	Capital Projects Funded with Cash	10,805,661	11,237,887	11,687,403	12,154,899	12,641,095
38	Total Revenue Requirements	\$ 54,075,344	\$ 56,836,318	\$ 58,896,354	\$ 61,672,147	\$ 64,675,787
39	Revenues Over (Under) Expenditures	\$ 163,886	\$ 1,362,246	\$ 405,064	\$ 87,157	\$ 12,919
40	Beginning Balance	\$ 12,417,975	\$ 12,581,861	\$ 13,944,108	\$ 14,349,172	\$ 14,436,329
41	Revenues Over (Under) Expenditures	163,886	1,362,246	405,064	87,157	12,919
42	Ending Balance	\$ 12,581,861	\$ 13,944,108	\$ 14,349,172	\$ 14,436,329	\$ 14,449,248
43	Ending Balance - Days O&M	210	226	226	221	215
44	Target Reserve Bal (180 days O&M)	\$ 10,926,088	\$ 11,252,760	\$ 11,589,233	\$ 11,935,800	\$ 12,292,764
45	Projected City Rate Increase	6.0%	6.0%	5.0%	5.0%	4.0%
46	DSC (All debt)	1.55	1.59	1.55	1.52	1.51
Capital Project Funding						
47	Cash Funded	\$ 10,805,661	\$ 11,237,887	\$ 11,687,403	\$ 12,154,899	\$ 12,641,095
48	Debt Funded	17,889,546	21,962,259	19,698,007	20,368,430	23,066,690
49	Capital Projects Funding Total	\$ 28,695,207	\$ 33,200,146	\$ 31,385,410	\$ 32,523,329	\$ 35,707,785

APPENDIX C:

Stormwater Long-Term Financial and Rate Plan Projection Details



Exhibit C.1. Stormwater Long-Term Financial and Rate Plan Projection Details – Using Base Capital Needs

Line No.	Description	1 FY 2024	2 FY 2025	3 FY 2026	4 FY 2027	5 FY 2028	6 FY 2029	7 FY 2030	8 FY 2031	9 FY 2032	10 FY 2033
Revenues											
1	Stormwater Fee Revenues	\$ 6,245,000	\$ 6,557,250	\$ 6,885,113	\$ 7,229,368	\$ 7,590,837	\$ 7,970,378	\$ 8,368,897	\$ 8,787,342	\$ 9,226,709	\$ 9,688,045
2	Fee Credits	(150,891)	(158,436)	(166,357)	(174,675)	(183,409)	(192,579)	(202,208)	(212,319)	(222,935)	(234,081)
3	Interest Earnings and Other Revenue	194,300	297,906	252,135	272,606	263,677	231,356	206,409	184,013	160,807	133,954
4	Total Revenues	\$ 6,288,409	\$ 6,696,721	\$ 6,970,890	\$ 7,327,298	\$ 7,671,104	\$ 8,009,155	\$ 8,373,098	\$ 8,759,036	\$ 9,164,582	\$ 9,587,917
Operating Expenses											
5	Personnel	\$ 1,541,312	\$ 1,612,705	\$ 1,687,538	\$ 1,765,984	\$ 1,848,225	\$ 1,934,451	\$ 2,024,864	\$ 2,119,675	\$ 2,219,109	\$ 2,323,398
6	Operations and Maintenance	2,288,935	2,359,212	2,534,642	2,616,489	2,701,060	2,788,449	2,878,755	2,972,080	3,068,528	3,168,209
7	Additional O&M from GSI	-	-	-	-	-	-	-	-	-	-
8	Total Operating Expenses	\$ 3,830,247	\$ 3,971,917	\$ 4,222,180	\$ 4,382,473	\$ 4,549,284	\$ 4,722,900	\$ 4,903,619	\$ 5,091,755	\$ 5,287,637	\$ 5,491,607
Debt Service											
9	PENNVEST Loans	\$ 91,000	\$ 601,744	\$ 630,127	\$ 664,199	\$ 1,234,500	\$ 1,234,500	\$ 1,234,500	\$ 1,234,500	\$ 1,259,900	\$ 1,514,500
10	Revenue Bonds	-	134,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000
11	Total Debt Service	\$ 91,000	\$ 735,744	\$ 898,127	\$ 932,199	\$ 1,502,500	\$ 1,502,500	\$ 1,502,500	\$ 1,502,500	\$ 1,527,900	\$ 1,782,500
12	Capital Projects Funded with Cash	\$ 410,500	\$ 816,370	\$ 759,310	\$ 1,036,371	\$ 3,497,371	\$ 3,170,061	\$ 3,100,365	\$ 3,293,421	\$ 3,564,187	\$ 3,810,866
13	Total Revenue Requirements	\$ 4,331,747	\$ 5,524,031	\$ 5,879,617	\$ 6,351,043	\$ 9,549,155	\$ 9,395,461	\$ 9,506,484	\$ 9,887,676	\$ 10,379,724	\$ 11,084,973
14	Revenues Over (Under) Expenditures	\$ 1,956,662	\$ 1,172,690	\$ 1,091,273	\$ 976,255	\$ (1,878,051)	\$ (1,386,306)	\$ (1,133,386)	\$ (1,128,640)	\$ (1,215,142)	\$ (1,497,057)
15	Beginning Balance	\$ 4,447,176	\$ 6,403,838	\$ 7,576,528	\$ 8,667,801	\$ 9,644,056	\$ 7,766,006	\$ 6,379,700	\$ 5,246,314	\$ 4,117,674	\$ 2,902,532
16	Revenues Over (Under) Expenditures	1,956,662	1,172,690	1,091,273	976,255	(1,878,051)	(1,386,306)	(1,133,386)	(1,128,640)	(1,215,142)	(1,497,057)
17	Ending Balance	\$ 6,403,838	\$ 7,576,528	\$ 8,667,801	\$ 9,644,056	\$ 7,766,006	\$ 6,379,700	\$ 5,246,314	\$ 4,117,674	\$ 2,902,532	\$ 1,405,475
18	Ending Balance - Days O&M	602	687	739	792	615	486	385	291	198	92
19	Target Reserve Balance (30 days O&M)	\$ 1,915,124	\$ 1,985,958	\$ 2,111,090	\$ 2,191,236	\$ 2,274,642	\$ 2,361,450	\$ 2,451,810	\$ 2,545,878	\$ 2,643,818	\$ 2,745,804
20	Projected City Rate Increase	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
21	DSC (All debt)	27.01	3.42	2.88	2.96	1.96	2.09	2.23	2.38	2.49	2.27
22	Capital Projects - Cash Funded	\$ 410,500	\$ 816,370	\$ 759,310	\$ 1,036,371	\$ 3,497,371	\$ 3,170,061	\$ 3,100,365	\$ 3,293,421	\$ 3,564,187	\$ 3,810,866
23	Capital Projects - PV Pro-Fi (2020 and 2024)	4,343,809	3,611,994	2,064,531	4,750,000	-	-	-	-	-	-
24	Capital Projects - Revenue Bonds	397,500	4,075,000	-	-	-	-	-	-	-	-
25	Capital Projects - Future PENNVEST	-	-	-	-	-	-	-	-	5,080,000	-
26	Capital Projects - Total	\$ 5,151,809	\$ 8,503,364	\$ 2,823,841	\$ 5,786,371	\$ 3,497,371	\$ 3,170,061	\$ 3,100,365	\$ 3,293,421	\$ 8,644,187	\$ 3,810,866

Exhibit C.1. Cont'd. Stormwater Long-Term Financial and Rate Plan Projection Details – Using Base Capital Needs

Line No.	Description	11 FY 2034	12 FY 2035	13 FY 2036	14 FY 2037	15 FY 2038	16 FY 2039	17 FY 2040	18 FY 2041	19 FY 2042	20 FY 2043
Revenues											
1	Stormwater Fee Revenues	\$ 9,978,686	\$ 10,178,260	\$ 10,381,825	\$ 10,589,461	\$ 10,801,251	\$ 11,017,276	\$ 11,237,621	\$ 11,462,374	\$ 11,691,621	\$ 11,925,454
2	Fee Credits	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)
3	Interest Earnings and Other Revenue	135,547	173,619	217,051	260,483	302,137	341,736	381,815	424,547	471,505	519,448
4	Total Revenues	\$ 9,880,151	\$ 10,117,797	\$ 10,364,794	\$ 10,615,863	\$ 10,869,307	\$ 11,124,930	\$ 11,385,354	\$ 11,652,839	\$ 11,929,044	\$ 12,210,820
Operating Expenses											
5	Personnel	\$ 2,409,556	\$ 2,490,483	\$ 2,565,197	\$ 2,642,153	\$ 2,721,418	\$ 2,803,060	\$ 2,887,152	\$ 2,973,766	\$ 3,062,979	\$ 3,154,869
6	Operations and Maintenance	3,265,068	3,363,971	3,464,890	3,568,837	3,675,902	3,786,179	3,899,765	4,016,758	4,137,260	4,261,378
7	Additional O&M from GSI	-	-	-	-	-	-	-	-	-	-
8	Total Operating Expenses	\$ 5,674,624	\$ 5,854,454	\$ 6,030,087	\$ 6,210,990	\$ 6,397,320	\$ 6,589,239	\$ 6,786,917	\$ 6,990,524	\$ 7,200,240	\$ 7,416,247
Debt Service											
9	PENNVEST Loans	\$ 1,529,192	\$ 1,534,547	\$ 1,540,940	\$ 1,548,786	\$ 1,560,989	\$ 1,574,950	\$ 1,588,150	\$ 1,598,873	\$ 1,605,920	\$ 1,616,931
10	Revenue Bonds	268,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000
11	Total Debt Service	\$ 1,797,192	\$ 1,802,547	\$ 1,808,940	\$ 1,816,786	\$ 1,828,989	\$ 1,842,950	\$ 1,856,150	\$ 1,866,873	\$ 1,873,920	\$ 1,884,931
12	Capital Projects Funded with Cash	\$ 750,353	\$ 273,502	\$ 326,469	\$ 400,719	\$ 623,250	\$ 713,014	\$ 674,107	\$ 547,674	\$ 359,909	\$ 562,342
13	Total Revenue Requirements	\$ 8,222,169	\$ 7,930,503	\$ 8,165,496	\$ 8,428,495	\$ 8,849,559	\$ 9,145,204	\$ 9,317,173	\$ 9,405,072	\$ 9,434,069	\$ 9,863,520
14	Revenues Over (Under) Expenditures	\$ 1,657,983	\$ 2,187,294	\$ 2,199,298	\$ 2,187,368	\$ 2,019,748	\$ 1,979,727	\$ 2,068,181	\$ 2,247,767	\$ 2,494,975	\$ 2,347,300
15	Beginning Balance	\$ 1,405,475	\$ 3,063,458	\$ 5,250,752	\$ 7,450,051	\$ 9,637,419	\$ 11,657,166	\$ 13,636,893	\$ 15,705,074	\$ 17,952,841	\$ 20,447,816
16	Revenues Over (Under) Expenditures	1,657,983	2,187,294	2,199,298	2,187,368	2,019,748	1,979,727	2,068,181	2,247,767	2,494,975	2,347,300
17	Ending Balance	\$ 3,063,458	\$ 5,250,752	\$ 7,450,051	\$ 9,637,419	\$ 11,657,166	\$ 13,636,893	\$ 15,705,074	\$ 17,952,841	\$ 20,447,816	\$ 22,795,116
18	Ending Balance - Days O&M	194	323	445	559	656	745	833	925	1,022	1,107
19	Target Reserve Balance (30 days O&M)	\$ 2,837,312	\$ 2,927,227	\$ 3,015,044	\$ 3,105,495	\$ 3,198,660	\$ 3,294,620	\$ 3,393,458	\$ 3,495,262	\$ 3,600,120	\$ 3,708,123
20	Projected City Rate Increase	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
21	DSC (All debt)	2.32	2.32	2.33	2.33	2.33	2.33	2.32	2.32	2.32	2.32
22	Capital Projects - Cash Funded	\$ 750,353	\$ 273,502	\$ 326,469	\$ 400,719	\$ 623,250	\$ 713,014	\$ 674,107	\$ 547,674	\$ 359,909	\$ 562,342
23	Capital Projects - PV Pro-Fi (2020 and 2024)	-	-	-	-	-	-	-	-	-	-
24	Capital Projects - Revenue Bonds	-	-	-	-	-	-	-	-	-	-
25	Capital Projects - Future PENNVEST	250,118	91,167	108,823	133,573	207,750	237,671	224,702	182,558	119,970	187,447
26	Capital Projects - Total	\$ 1,000,470	\$ 364,669	\$ 435,292	\$ 534,292	\$ 831,000	\$ 950,685	\$ 898,810	\$ 730,233	\$ 479,879	\$ 749,789

Exhibit C.2. Stormwater Long-Term Financial and Rate Plan Projection Details – Using \$400M Capital Plan Scenario

Line No.	Description	1 FY 2024	2 FY 2025	3 FY 2026	4 FY 2027	5 FY 2028	6 FY 2029	7 FY 2030	8 FY 2031	9 FY 2032	10 FY 2033
Revenues											
1	Stormwater Fee Revenues	\$ 6,245,000	\$ 6,557,250	\$ 6,885,113	\$ 7,229,368	\$ 7,590,837	\$ 7,970,378	\$ 8,368,897	\$ 8,787,342	\$ 9,226,709	\$ 9,688,045
2	Fee Credits	(150,891)	(158,436)	(166,357)	(174,675)	(183,409)	(192,579)	(202,208)	(212,319)	(222,935)	(234,081)
3	Interest Earnings and Other Revenue	194,300	297,906	252,135	272,606	263,677	231,356	206,409	184,013	160,807	133,954
4	Total Revenues	<u>\$ 6,288,409</u>	<u>\$ 6,696,721</u>	<u>\$ 6,970,890</u>	<u>\$ 7,327,298</u>	<u>\$ 7,671,104</u>	<u>\$ 8,009,155</u>	<u>\$ 8,373,098</u>	<u>\$ 8,759,036</u>	<u>\$ 9,164,582</u>	<u>\$ 9,587,917</u>
Operating Expenses											
5	Personnel	\$ 1,541,312	\$ 1,612,705	\$ 1,687,538	\$ 1,765,984	\$ 1,848,225	\$ 1,934,451	\$ 2,024,864	\$ 2,119,675	\$ 2,219,109	\$ 2,323,398
6	Operations and Maintenance	2,288,935	2,359,212	2,534,642	2,616,489	2,701,060	2,788,449	2,878,755	2,972,080	3,068,528	3,168,209
7	Additional O&M from GSI	-	-	-	-	-	-	-	-	-	-
8	Total Operating Expenses	<u>\$ 3,830,247</u>	<u>\$ 3,971,917</u>	<u>\$ 4,222,180</u>	<u>\$ 4,382,473</u>	<u>\$ 4,549,284</u>	<u>\$ 4,722,900</u>	<u>\$ 4,903,619</u>	<u>\$ 5,091,755</u>	<u>\$ 5,287,637</u>	<u>\$ 5,491,607</u>
Debt Service											
9	PENNVEST Loans	\$ 91,000	\$ 601,744	\$ 630,127	\$ 664,199	\$ 1,234,500	\$ 1,234,500	\$ 1,234,500	\$ 1,234,500	\$ 1,259,900	\$ 1,514,500
10	Revenue Bonds	-	134,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000
11	Total Debt Service	<u>\$ 91,000</u>	<u>\$ 735,744</u>	<u>\$ 898,127</u>	<u>\$ 932,199</u>	<u>\$ 1,502,500</u>	<u>\$ 1,502,500</u>	<u>\$ 1,502,500</u>	<u>\$ 1,502,500</u>	<u>\$ 1,527,900</u>	<u>\$ 1,782,500</u>
12	Capital Projects Funded with Cash	<u>410,500</u>	<u>816,370</u>	<u>759,310</u>	<u>1,036,371</u>	<u>3,497,371</u>	<u>3,170,061</u>	<u>3,100,365</u>	<u>3,293,421</u>	<u>3,564,187</u>	<u>3,810,866</u>
13	Total Revenue Requirements	<u>\$ 4,331,747</u>	<u>\$ 5,524,031</u>	<u>\$ 5,879,617</u>	<u>\$ 6,351,043</u>	<u>\$ 9,549,155</u>	<u>\$ 9,395,461</u>	<u>\$ 9,506,484</u>	<u>\$ 9,887,676</u>	<u>\$ 10,379,724</u>	<u>\$ 11,084,973</u>
14	Revenues Over (Under) Expenditures	<u>\$ 1,956,662</u>	<u>\$ 1,172,690</u>	<u>\$ 1,091,273</u>	<u>\$ 976,255</u>	<u>\$(1,878,051)</u>	<u>\$(1,386,306)</u>	<u>\$(1,133,386)</u>	<u>\$(1,128,640)</u>	<u>\$(1,215,142)</u>	<u>\$(1,497,057)</u>
15	Beginning Balance	<u>\$ 4,447,176</u>	<u>\$ 6,403,838</u>	<u>\$ 7,576,528</u>	<u>\$ 8,667,801</u>	<u>\$ 9,644,056</u>	<u>\$ 7,766,006</u>	<u>\$ 6,379,700</u>	<u>\$ 5,246,314</u>	<u>\$ 4,117,674</u>	<u>\$ 2,902,532</u>
16	Revenues Over (Under) Expenditures	<u>1,956,662</u>	<u>1,172,690</u>	<u>1,091,273</u>	<u>976,255</u>	<u>(1,878,051)</u>	<u>(1,386,306)</u>	<u>(1,133,386)</u>	<u>(1,128,640)</u>	<u>(1,215,142)</u>	<u>(1,497,057)</u>
17	Ending Balance	<u>\$ 6,403,838</u>	<u>\$ 7,576,528</u>	<u>\$ 8,667,801</u>	<u>\$ 9,644,056</u>	<u>\$ 7,766,006</u>	<u>\$ 6,379,700</u>	<u>\$ 5,246,314</u>	<u>\$ 4,117,674</u>	<u>\$ 2,902,532</u>	<u>\$ 1,405,475</u>
18	Ending Balance - Days O&M	602	687	739	792	615	486	385	291	198	92
19	Target Reserve Balance (30 days O&M)	<u>\$ 1,915,124</u>	<u>\$ 1,985,958</u>	<u>\$ 2,111,090</u>	<u>\$ 2,191,236</u>	<u>\$ 2,274,642</u>	<u>\$ 2,361,450</u>	<u>\$ 2,451,810</u>	<u>\$ 2,545,878</u>	<u>\$ 2,643,818</u>	<u>\$ 2,745,804</u>
20	Projected City Rate Increase	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
21	DSC (All debt)	27.01	3.42	2.88	2.96	1.96	2.09	2.23	2.38	2.49	2.27
22	Capital Projects - Cash Funded	\$ 410,500	\$ 816,370	\$ 759,310	\$ 1,036,371	\$ 3,497,371	\$ 3,170,061	\$ 3,100,365	\$ 3,293,421	\$ 3,564,187	\$ 3,810,866
23	Capital Projects - PV Pro-Fi (2020 and 2024)	4,343,809	3,611,994	2,064,531	4,750,000	-	-	-	-	-	-
24	Capital Projects - Revenue Bonds	397,500	4,075,000	-	-	-	-	-	-	-	-
25	Capital Projects - Future PENNVEST	-	-	-	-	-	-	-	-	5,080,000	-
26	Capital Projects - Total	<u>\$ 5,151,809</u>	<u>\$ 8,503,364</u>	<u>\$ 2,823,841</u>	<u>\$ 5,786,371</u>	<u>\$ 3,497,371</u>	<u>\$ 3,170,061</u>	<u>\$ 3,100,365</u>	<u>\$ 3,293,421</u>	<u>\$ 8,644,187</u>	<u>\$ 3,810,866</u>

Exhibit C.2. Cont'd. Stormwater Long-Term Financial and Rate Plan Projection Details – Using \$400M Capital Plan Scenario

Line No.	Description	11 FY 2034	12 FY 2035	13 FY 2036	14 FY 2037	15 FY 2038	16 FY 2039	17 FY 2040	18 FY 2041	19 FY 2042	20 FY 2043
Revenues											
1	Stormwater Fee Revenues	\$ 10,172,447	\$ 10,681,069	\$ 11,215,123	\$ 11,775,879	\$ 12,364,673	\$ 12,982,906	\$ 13,632,052	\$ 14,313,654	\$ 15,029,337	\$ 15,780,804
2	Fee Credits	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)	(234,081)
3	Interest Earnings and Other Revenue	125,943	146,799	177,206	212,243	250,596	258,784	236,547	216,806	201,338	187,127
4	Total Revenues	<u>\$ 10,064,309</u>	<u>\$ 10,593,787</u>	<u>\$ 11,158,247</u>	<u>\$ 11,754,040</u>	<u>\$ 12,381,188</u>	<u>\$ 13,007,610</u>	<u>\$ 13,634,518</u>	<u>\$ 14,296,379</u>	<u>\$ 14,996,593</u>	<u>\$ 15,733,850</u>
Operating Expenses											
5	Personnel	\$ 2,409,556	\$ 2,490,483	\$ 2,565,197	\$ 2,642,153	\$ 2,721,418	\$ 2,803,060	\$ 2,887,152	\$ 2,973,766	\$ 3,062,979	\$ 3,154,869
6	Operations and Maintenance	3,265,068	3,363,971	3,464,890	3,568,837	3,675,902	3,786,179	3,899,765	4,016,758	4,137,260	4,261,378
7	Additional O&M from GSI	22,204	45,962	71,356	98,473	127,402	223,072	325,286	434,388	550,736	674,708
8	Total Operating Expenses	<u>\$ 5,696,828</u>	<u>\$ 5,900,415</u>	<u>\$ 6,101,443</u>	<u>\$ 6,309,463</u>	<u>\$ 6,524,722</u>	<u>\$ 6,812,312</u>	<u>\$ 7,112,203</u>	<u>\$ 7,424,912</u>	<u>\$ 7,750,976</u>	<u>\$ 8,090,955</u>
Debt Service											
9	PENNVEST Loans	\$ 1,550,930	\$ 1,578,892	\$ 1,608,796	\$ 1,641,094	\$ 1,678,728	\$ 1,782,609	\$ 1,889,326	\$ 1,997,308	\$ 2,105,503	\$ 2,221,708
10	Revenue Bonds	268,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000	268,000
11	Total Debt Service	<u>\$ 1,818,930</u>	<u>\$ 1,846,892</u>	<u>\$ 1,876,796</u>	<u>\$ 1,909,094</u>	<u>\$ 1,946,728</u>	<u>\$ 2,050,609</u>	<u>\$ 2,157,326</u>	<u>\$ 2,265,308</u>	<u>\$ 2,373,503</u>	<u>\$ 2,489,708</u>
12	Capital Projects Funded with Cash	<u>1,860,536</u>	<u>1,428,092</u>	<u>1,527,243</u>	<u>1,649,524</u>	<u>1,922,007</u>	<u>5,305,420</u>	<u>5,450,210</u>	<u>5,514,821</u>	<u>5,525,742</u>	<u>5,934,808</u>
13	Total Revenue Requirements	<u>\$ 9,376,293</u>	<u>\$ 9,175,400</u>	<u>\$ 9,505,482</u>	<u>\$ 9,868,081</u>	<u>\$ 10,393,457</u>	<u>\$ 14,168,341</u>	<u>\$ 14,719,738</u>	<u>\$ 15,205,040</u>	<u>\$ 15,650,221</u>	<u>\$ 16,515,470</u>
14	Revenues Over (Under) Expenditures	<u>\$ 688,015</u>	<u>\$ 1,418,387</u>	<u>\$ 1,652,765</u>	<u>\$ 1,885,959</u>	<u>\$ 1,987,731</u>	<u>\$ (1,160,731)</u>	<u>\$ (1,085,221)</u>	<u>\$ (908,661)</u>	<u>\$ (653,627)</u>	<u>\$ (781,620)</u>
15	Beginning Balance	<u>\$ 1,405,475</u>	<u>\$ 2,093,491</u>	<u>\$ 3,511,877</u>	<u>\$ 5,164,642</u>	<u>\$ 7,050,602</u>	<u>\$ 9,038,333</u>	<u>\$ 7,877,601</u>	<u>\$ 6,792,381</u>	<u>\$ 5,883,720</u>	<u>\$ 5,230,092</u>
16	Revenues Over (Under) Expenditures	<u>688,015</u>	<u>1,418,387</u>	<u>1,652,765</u>	<u>1,885,959</u>	<u>1,987,731</u>	<u>(1,160,731)</u>	<u>(1,085,221)</u>	<u>(908,661)</u>	<u>(653,627)</u>	<u>(781,620)</u>
17	Ending Balance	<u>\$ 2,093,491</u>	<u>\$ 3,511,877</u>	<u>\$ 5,164,642</u>	<u>\$ 7,050,602</u>	<u>\$ 9,038,333</u>	<u>\$ 7,877,601</u>	<u>\$ 6,792,381</u>	<u>\$ 5,883,720</u>	<u>\$ 5,230,092</u>	<u>\$ 4,448,472</u>
18	Ending Balance - Days O&M	<u>132</u>	<u>214</u>	<u>305</u>	<u>402</u>	<u>499</u>	<u>416</u>	<u>344</u>	<u>285</u>	<u>243</u>	<u>198</u>
19	Target Reserve Balance (30 days O&M)	<u>\$ 2,848,414</u>	<u>\$ 2,950,208</u>	<u>\$ 3,050,722</u>	<u>\$ 3,154,731</u>	<u>\$ 3,262,361</u>	<u>\$ 3,406,156</u>	<u>\$ 3,556,101</u>	<u>\$ 3,712,456</u>	<u>\$ 3,875,488</u>	<u>\$ 4,045,477</u>
20	Projected City Rate Increase	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
21	DSC (All debt)	2.38	2.51	2.65	2.79	2.93	2.94	2.96	2.98	3.01	3.03
22	Capital Projects - Cash Funded	\$ 1,860,536	\$ 1,428,092	\$ 1,527,243	\$ 1,649,524	\$ 1,922,007	\$ 5,305,420	\$ 5,450,210	\$ 5,514,821	\$ 5,525,742	\$ 5,934,808
23	Capital Projects - PV Pro-Fi (2020 and 2024)	-	-	-	-	-	-	-	-	-	-
24	Capital Projects - Revenue Bonds	-	-	-	-	-	-	-	-	-	-
25	Capital Projects - Future PENNVEST	620,179	476,031	509,081	549,841	640,669	1,768,473	1,816,737	1,838,274	1,841,914	1,978,269
26	Capital Projects - Total	<u>\$ 2,480,715</u>	<u>\$ 1,904,123</u>	<u>\$ 2,036,324</u>	<u>\$ 2,199,365</u>	<u>\$ 2,562,677</u>	<u>\$ 7,073,893</u>	<u>\$ 7,266,946</u>	<u>\$ 7,353,094</u>	<u>\$ 7,367,655</u>	<u>\$ 7,913,077</u>