



Capital Region Water

Water and Wastewater Rate Study Report

November 22, 2017

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APPENDIX A: Wholesale Wastewater Rate Calculation Details

1. INTRODUCTION

1.1 RATE STUDY SCOPE AND OBJECTIVES

This water and sewer rate study report was prepared for Capital Region Water (“CRW”) for the purpose of reviewing and updating CRW’s water and wastewater rates for fiscal year (“FY”) 2018 and providing planning level estimates of rate increases in FY 2019 through FY 2022 (“the forecast period”). CRW’s fiscal year begins on January 1 of each year.

The specific objectives of this rate study included the evaluation of:

1. Water system costs to be recovered from all customers and recommended rate revenue increases for FY 2018 through FY 2022.
2. Wastewater system costs allocable to Suburban communities to determine the resulting unit rates for Suburban wholesale customers in FY 2018.
3. Wastewater system costs to be recovered from City customers and recommended retail rate revenue increases for FY 2018 through FY 2022.
4. Water and wastewater rates of similar utilities for the purpose of comparing CRW’s proposed FY 2018 rates to the rates of other utilities located within the region.

1.2 BACKGROUND

CRW is a municipal authority that owns and manages the greater Harrisburg area’s water and wastewater systems and infrastructure. The water system includes a supply, treatment, and distribution system that serves approximately 20,700 accounts in Harrisburg (“the City”), the Borough of Penbrook, and parts of various outlying municipalities, including the Townships of Susquehanna and Lower Paxton. CRW’s water system also provides the water quantities and pressures needed to serve municipal fire hydrants and residential and commercial fire sprinkler systems.

The primary source of drinking water is the William T. DeHart Dam and Reservoir located 20 miles northeast of the City in the Clarks Valley Watershed. The Dam and Reservoir collect water from a watershed that is approximately 22 square miles. The Susquehanna River provides CRW with a backup water supply and is only used during severe drought or emergency. Raw water flows by gravity from the DeHart Reservoir to be treated at CRW’s Robert E. Young Water Services Center. The treatment facility is capable of producing up to 20 million gallons per day of drinking water. Treated water is pumped and held in three finished water storage reservoirs in Reservoir Park. The finished water storage reservoirs have a combined capacity of approximately 40 million gallons. In addition, the water system includes over 20 miles of forty-two-inch diameter transmission mains, 250 miles of distribution piping ranging from four to 42 inches in diameter, more than 1,600 fire hydrants and 5,340 valves, and five hydrant interconnections with SUEZ Water.

The wastewater system owned and operating by CRW includes an Advanced Wastewater Treatment Facility, a conveyance system, and wastewater and stormwater collection systems located within the City limits. Overall, the wastewater system includes approximately 48 miles of sanitary sewers, 29 miles of stormwater sewers, and 87 miles of combined sanitary and stormwater sewers.

The wastewater collection system provides service to customers located within the City. The conveyance and treatment systems provide wastewater conveyance and treatment services to City and Suburban wholesale customers. Suburban wholesale customers include Susquehanna Township, Susquehanna Township Authority, Lower Paxton Township, Lower Paxton Township Authority, Swatara Township, Swatara Township Authority, Paxtang Borough, Penbrook Borough, Steelton Borough, and the Steelton Borough Authority.

1.3 RATE STUDY PROCESS

The proposed water rates were calculated by estimating the water system's rate revenue requirements in FY 2018 and the remaining years of the forecast period, and adjusting the water rates such that they generate sufficient revenues to match the annual rate revenue need.

The Suburban wholesale wastewater rates in FY 2018 were developed by completing the following steps:

1. Estimating the wastewater system rate revenue requirement.
2. Allocating the revenue requirement to cost factors attributable to City retail customers and Suburban wholesale customers.
3. Calculating the wholesale rates by dividing the costs attributable to Suburban customers (with adjustments) by the applicable units of service.

The wastewater retail rates were developed by estimating the wastewater system's rate revenue requirement for each year of the forecast period, subtracting the revenue estimated to be received from Suburban wholesale customers, and adjusting the retail wastewater rate such that it generates sufficient revenue to match the annual retail rate revenue need.

In addition, information on water and wastewater rates was obtained for comparable utilities located within the region. Estimated residential bills were calculated for these utilities and for CRW based on the water and wastewater rates proposed as part of this report, in order to determine how CRW's proposed FY 2018 rates compare to those of similar utilities.

2. THE WATER SYSTEM

2.1 EXISTING WATER RATES

CRW's existing water rate structure consists of a fixed charge, which varies by meter size, and a uniform volumetric rate. The fixed charge, known as the Ready to Serve Charge, is billed on a monthly basis. The Ready to Serve Charge and the volumetric rate are the same for both inside and outside-city customers. The existing rate structure generates approximately 30 percent of the rate revenue from the Ready to Serve Charge and approximately 70 percent from the volumetric rate.

The existing (FY 2017) water rates are shown in Table 2-1.

Table 2-1. Existing (2017) Water Rates

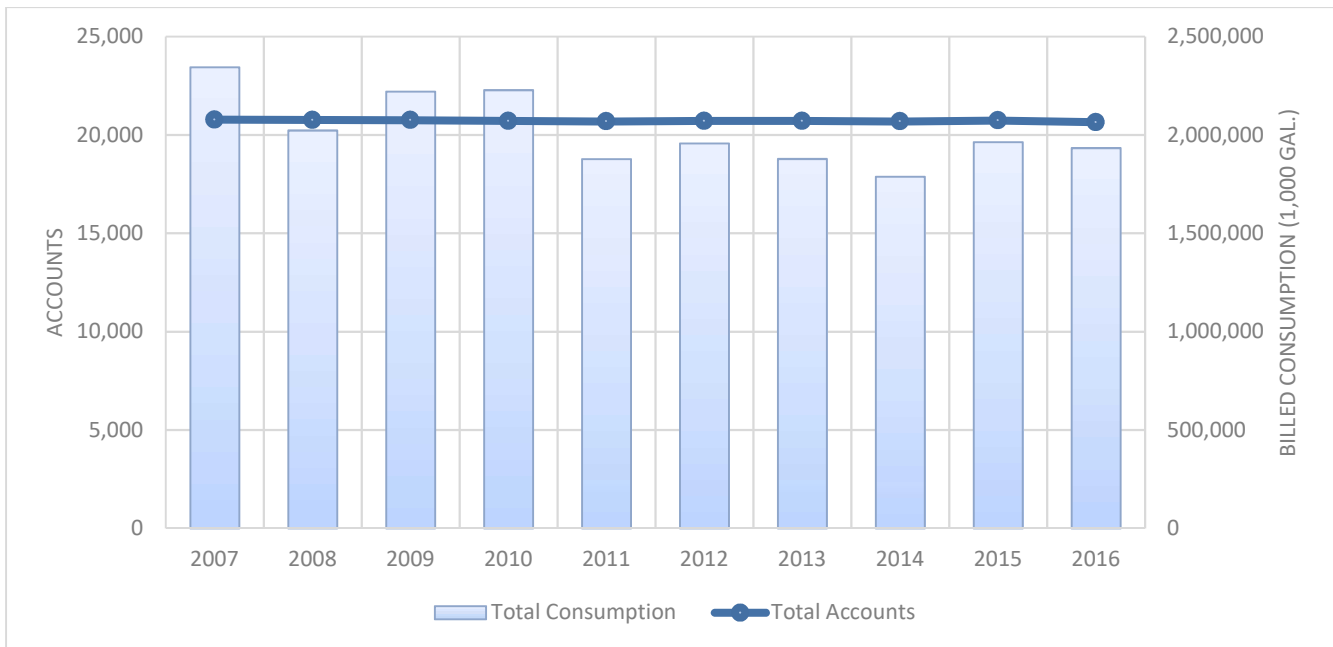
| Rate Component | |
|-----------------------|---------------------|
| Ready to Serve Charge | |
| Meter Size | Charge per Month |
| 5/8" | \$6.95 |
| 3/4" | \$15.06 |
| 1" | \$30.20 |
| 1-1/2" | \$64.69 |
| 2" | \$118.60 |
| 3" | \$331.53 |
| 4" | \$592.97 |
| 6" | \$1,601 |
| 8" | \$2,846 |
| 10" | \$4,021 |
| 12" | \$6,404 |
| Volume Charge | |
| Consumption | Cost per 1,000 gal. |
| All | \$8.80 |

2.2 CUSTOMER GROWTH

The projection of water rate revenues was derived from anticipated water rates in future years and assumptions regarding future customer accounts and billed consumption based on historical trends. The number of customer accounts has remained relatively flat over the past ten years, while water consumption has declined at a rate of approximately 2.1 percent per year over the past ten years, as shown in Figure 2-1. Similarly, the average consumption per account has declined from approximately 112,800 gallons per account in FY 2007 to approximately 93,600 gallons per account in FY 2016, which corresponds to an average decline in consumption per account of approximately 2.1 percent per year.

It should be noted that billed water consumption increased in FY 2015 and FY 2016 relative to FY 2014, which may have been due to CRW's continued meter repair and replacement work, as older customer meters continue to be repaired or replaced with new and more accurate meters. This is also evidence that declines in consumption per account is slowing and consumption is beginning to stabilize within the CRW system.

Figure 2-1. Historical Consumption and Number of Water Accounts



Source: Historical billing data provided by CRW.

Based on the historical trends shown in Figure 2-1 and discussions with CRW regarding their expectations of future changes in billed consumption, water customer accounts were assumed to increase by 0.1 percent per year, while billed consumption was assumed to increase by approximately 0.1 percent per year over the forecast period.

2.3 FISCAL POLICIES

2.3.1 Target Cash Reserve Balances

2.3.1.1 Operating Cash Reserves

The Trust Indenture between CRW and the Bank of New York Mellon Trust Company, originally dated January 1, 1991 and as amended and restated (the “Water Trust Indenture”)¹, establishes an Operating Reserve Account. The purpose of this account is to pay for unanticipated operating expenses or to cover expenditures in a given month when current revenues are insufficient. The Water Trust Indenture states

¹Amended and Restated Trust Indenture, originally dated as of January 1, 1991, between CRW and the Bank of New York Mellon Trust Company, N.A., amended and restated as of April 1, 2014, and supplemented by a First Supplemental Trust Indenture, dated as of January 1, 2015, and supplemented by a Second Supplemental Trust Indenture, dated as of April 1, 2016.

that CRW shall maintain an amount in this account equal to at least 60 days (one sixth) of budgeted operating and maintenance (“O&M”) expenses for the current fiscal year.

Total operating expenses, as defined under the Water Trust Indenture, were projected over the forecast period, as shown in Table 2-2. The table also shows the required minimum balance of the Operating Reserve Account and the annual transfers into the account that are necessary over the forecast period to meet the Water Trust Indenture requirement.

Table 2-2. Projected Year-End Water Operating Reserve Account Requirements

| Description | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|
| Total Operating Expenses | \$ 8,809,628 | \$ 9,125,857 | \$ 9,442,698 | \$ 9,771,728 | \$10,113,464 |
| Required ORA Balance | \$ 1,468,271 | \$ 1,520,976 | \$ 1,573,783 | \$ 1,628,621 | \$ 1,685,577 |
| Projected Beginning Balance | 1,626,188 | 1,626,188 | 1,626,188 | 1,626,188 | 1,628,621 |
| Required Transfer | \$ - | \$ - | \$ - | \$ 2,433 | \$ 56,956 |

As shown in Table 2-2, no transfers were projected to be required in FY 2018 through FY 2020, while transfers of approximately \$2,400 and \$57,000 were projected to be needed in FY 2021 and FY 2022, respectively. In addition, it should be noted that it was assumed that monies in the Operating Reserve Account would not be used to fund budgeted or projected operating or capital costs of the system over the forecast period.

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 200 days of annual O&M expenses, a level customary within the industry for water utilities with strong credit ratings. Given that CRW is required to maintain an operating reserve of 60 days of O&M expenses per the Water Trust Indenture, an additional cash reserve level equal to 140 days of O&M expenses was included as a minimum cash target for the system. This amount, combined with funds held in the Operating Reserve Account, provides CRW with a 200-day cash reserve.

CRW’s annual O&M expenses were projected to range from approximately \$8.8 million to \$10.1 million over the forecast period, which would require a cash reserve target that ranges between approximately \$3.4 million and \$3.9 million over the forecast period, in order to meet the additional 140-day reserve target. The anticipated amount of available cash held within the water system as of the beginning of FY 2018 was projected to be approximately \$10.3 million, as reported by CRW, excluding amounts held in the Operating Reserve and the Contingency Accounts, as well as the Renewal and Replacement Fund. Therefore, the beginning cash level in FY 2018 is anticipated to exceed CRW’s cash reserve target. In addition, cash received from the conservation easement at the DeHart Watershed Property (approximately \$4.4 million) in FY 2016 was not included in this amount or in the beginning and ending available cash balances in future years as part of the cash flow projection in Section 2.9 of this report, as directed by CRW.

2.3.1.2 Contingency Account

The water system is also required to maintain a Contingency Account under the Water Trust Indenture. Funds held within this account can be used as payments of capital additions or for any other purpose relating solely to the water system, as may be designated by resolution of CRW. As of July 2017, the balance in this account was approximately \$3,148,000. It should be noted that this amount is included as part of the cash flow projection in Section 2.9 of this report, as the water rates proposed as part of this report have assumed the potential use of funds from the Contingency Account, on an as needed basis, over the forecast period.

2.3.1.3 Renewal and Replacement Fund

CRW also maintains a Renewal and Replacement Fund to pay for extraordinary maintenance and repairs to the water system or to pay for the cost of capital additions, as required under the Water Trust Indenture. As of July 2017, the balance in the Renewal and Replacement Fund was approximately \$949,000. The Water Trust Indenture states that the minimum balance to be maintained in this fund shall be the greater of \$500,000 or an amount set forth by CRW's consulting engineer. Historically, CRW's consulting engineer has recommended that the fund's minimum balance be equal to at least 1.0 percent of the system's book value. Therefore, based on the book value of the system's capital assets being depreciated as of December 31, 2016, CRW would be required to maintain a minimum balance of approximately \$1,087,000 in this fund.

Given the minor difference between the fund's current and minimum required balances, CRW should consider transferring surplus funds from its operating cash reserves to this fund, in order to be in compliance with the recommendations of its consulting engineer. Furthermore, monies held in this fund were not included as part of the cash flow projection in Section 2.9 of this report, as the water rates proposed as part of this report did not assume the use of funds from the Renewal and Replacement Fund.

2.3.2 Debt Service Coverage Requirements

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. Currently, CRW's outstanding debt related to the water system is comprised of the Series 2008 Revenue Refunding Bonds, the Series 2016A and B Revenue Refunding Bonds, and a 2015 loan with the Pennsylvania Infrastructure Investment Authority ("PENNVEST"). The projected annual debt service payments for these issues were provided by CRW's financial advisor, Public Resources Advisory Group ("PRAG"). In addition, new Revenue Bond debt was assumed to be incurred over the forecast period to fund future capital project costs, as described in Section 2.5.

The required level of debt service coverage associated with the CRW's outstanding debt is described in the Water Trust Indenture and is summarized below.

"The Authority covenants that:

(a) 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 Assessment Revenues, including connection and tapping fees, which shall constitute Gross Revenues) which shall be sufficient in each Fiscal Year to provide funds to pay (1) an amount not less than 120% of the Debt Service Requirements with respect to its Outstanding Bonds in such Fiscal Year, (2) any amount required to replenish the Debt Service Reserve Fund in full and (3) 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 Water Revenue Fund and shall be decreased as a result of any transfers from the Contingency Account to the Rate Stabilization Fund in any Fiscal Year, subject to the limitations set forth in Section 6.08;

CRW has established management target for debt service coverage that is more restrictive than the bond covenant. The target consists of maintaining debt service coverage at a level of 1.35 times or greater with respect to annual debt service payments associated with current and future outstanding senior lien debt of the system. Senior lien debt was assumed to include all current and future outstanding Revenue Bond debt and the 2015 PENNVEST loan.

2.4 WATER REVENUE AND EXPENSES

The projection of water system O&M expenses over the forecast period was prepared based on adopted budget figures for FY 2018, as provided by CRW. In general, O&M expenses were comprised of costs related to personnel, insurance, electricity, chemicals, and general administrative costs. O&M expenses also included administrative costs of CRW attributable to the water system, which were anticipated to total approximately \$3.0 million in FY 2018.

Individual O&M expenses were classified as labor, benefits, insurance, electricity, chemicals, professional services, minor capital, or general, and were escalated in future years based on an appropriate cost escalation factor. The escalation factors for each of the expense classifications are provided in Table 2-3 and were developed based on discussions with CRW management.

Table 2-3. O&M Cost Escalation Rates

| Expense Category | Escalation Rate |
|-----------------------|-----------------|
| Labor | 3.5% |
| Benefits | 6.0% |
| Insurance | 3.0% |
| Electricity | 3.0% |
| Chemicals | 4.0% |
| Professional Services | 5.0% |
| Minor Capital | 3.0% |
| General | 2.8% |

In addition, capital project costs were escalated at a rate of 3.0 percent per year.

In general, CRW’s non-rate revenues were largely comprised of private fireline charges, penalties on past due accounts, and timber sales. All non-rate revenues, with the exception of interest income, were expected to remain constant over the forecast period; therefore, these items were not escalated in future years. Interest income was calculated based on the average annual balance of available cash associated with the water system and an interest earnings rate of approximately 0.25 percent per year.

It should be noted that the majority of water consumed by the Lancaster County Solid Waste Management Authority (“LCSWMA”) is subject to a negotiated rate of \$4.70 per 1,000 gallons, based on the recent amendment to the Effluent Water Reuse System Agreement between CRW and LCSWMA (LCSWMA will continue to pay Ready-to-Serve Charges related to water meters at its location, and will also continue to receive about 100,000 gallons per year from CRW, at the retail water rate, for regular domestic purposes). Therefore, anticipated revenue from LCSWMA of approximately \$704,000 in FY 2018 was forecasted separately from other rate revenues, as the agreement between CRW and LCSWMA stated that the rate applicable to water used by LCSWMA for facility purposes of \$4.70 per 1,000 gallons, would remain unchanged over the term of the original agreement.

2.5 CAPITAL PLAN

The projection of water system capital expenditures was based on a schedule of future capital project costs as provided in the 2017 Consulting Engineer’s Annual Report for the water system and adjusted based on other projects included in the plan by CRW management. The annual capital project costs related to raw water supply, transmission, treatment, distribution, as well as other miscellaneous projects anticipated to be incurred over the forecast period are shown in Table 2-4. The capital plan in FY 2019 through FY 2022 continues to be a work in progress and it is possible that additional project costs may be added as CRW continues to refine its capital plan for these years.

Table 2-4. Water System Capital Plan

| Description | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|-------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Raw Water Supply System | \$ 200,000 | \$ - | \$ - | \$ - | \$ - |
| Raw Water Transmission System | 550,000 | 3,491,700 | 9,834,543 | 10,129,579 | 10,433,467 |
| Water Treatment Plant | 2,735,060 | 945,540 | 159,135 | - | - |
| Distribution System | 4,964,550 | 1,236,000 | 1,273,080 | 1,311,272 | 1,350,611 |
| Miscellaneous Projects | 417,190 | 1,580,020 | 1,180,782 | 1,000,566 | 156,446 |
| Total | \$ 8,866,800 | \$ 7,253,260 | \$12,447,540 | \$12,441,418 | \$11,940,523 |

Note: Capital project costs shown in this table were estimated in 2018 dollars and escalated at a rate of 3.0 percent per year in future years for financial planning purposes.

2.5.1 Capital Project Funding

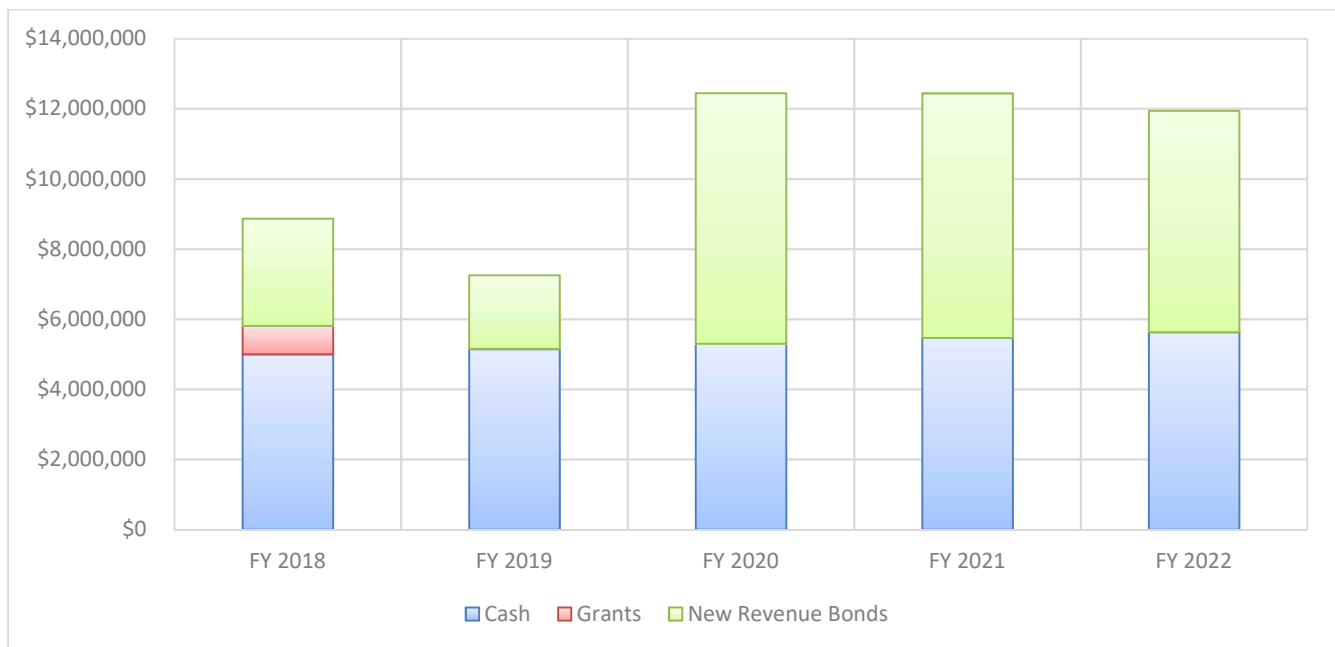
The financial plan assumed funding of capital project costs with a mix of cash, debt, and grant monies, as shown in Table 2-4. This financing plan scenario was prepared based on discussions with CRW management and for the purposes of this rate study. The financing assumptions employed should be discussed with

CRW’s municipal bond advisor as the scenario assumptions should not be considered specific municipal securities advice.

A summary of the assumed capital project funding plan is shown in Figure 2-2. Approximately \$5.0 to \$5.6 million of the annual capital project costs were assumed to be funded with cash, while new Revenue Bond issues were assumed to occur in FY 2018, FY 2020, and FY 2022. The bond issue in FY 2018 was assumed to include the non-cash funded portion of the capital project costs expected to be incurred FY 2018 and FY 2019, while the issue in FY 2020 was assumed to include the non-cash funded portion of project costs in FY 2020 and FY 2021. The issue in FY 2022 was assumed to include the non-cash funded portion of capital project costs in that year.

As discussed previously, new Revenue Bond debt was assumed to hold a senior claim to the net revenues of the water system, and was assumed with level annual debt service payments, an annual interest rate of 5.0 percent, a repayment term of 20 years, issuance costs of 1.5 percent, and a debt service reserve equal to one year’s debt service, funded with the proceeds of each issue.

Figure 2-2. Capital Project Funding Sources



2.6 WATER SYSTEM RATE REVENUE REQUIREMENTS

The calculation of water system rate revenue requirements over the forecast period is shown in Table 2-5. Rate revenue requirements include O&M expenses, minor capital outlays, debt service, and cash funded capital project expenditures. Non-rate revenues were subtracted from the revenue requirements in order to determine the annual rate revenue requirements. When positive, the Sources and Uses of Funds amounts (Line 12) represent the use of cash from current revenues to fund capital project costs, with the accumulation of cash to be carried over into future years. When negative, these amounts represent the use

of cash from current revenues and cash on-hand to fund capital project costs. The table also shows an adjustment to O&M and capital expenses for revenue from other sources. These adjustments are made to net out non-rate revenues, such as fireline charges, penalties, or interest income, in order to derive the O&M and capital related portions of the rate revenue requirement.

Table 2-5. Projected Water Rate Revenue Requirements

| Line No. | Description | Fiscal Year Ending December 31 | | | | |
|---|---------------------------------------|--------------------------------|----------------|----------------|----------------|----------------|
| | | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| O&M Expenses and Transfers | | | | | | |
| 1 | Operating and Maintenance Expenses | \$ 8,809,628 | \$ 9,125,857 | \$ 9,442,698 | \$ 9,771,728 | \$ 10,113,464 |
| 2 | Transfer to Operating Reserve Account | - | - | - | 2,433 | 56,956 |
| 3 | Total O&M and Transfers Out | \$ 8,809,628 | \$ 9,125,857 | \$ 9,442,698 | \$ 9,774,160 | \$ 10,170,420 |
| Capital Expenditures | | | | | | |
| 4 | Minor Capital | \$ 242,200 | \$ 249,466 | \$ 256,950 | \$ 264,658 | \$ 272,598 |
| 5 | Debt Service | 10,782,771 | 11,479,771 | 12,704,920 | 12,702,420 | 13,255,986 |
| 6 | Cash Funded Capital | 5,000,000 | 5,150,000 | 5,304,500 | 5,463,635 | 5,627,544 |
| 7 | Total Capital Expenditures | \$ 16,024,971 | \$ 16,879,237 | \$ 18,266,370 | \$ 18,430,713 | \$ 19,156,129 |
| 8 | Total O&M, Transfers Out, and Capital | \$ 24,834,599 | \$ 26,005,094 | \$ 27,709,068 | \$ 28,204,873 | \$ 29,326,548 |
| Less Non-Rate Revenues | | | | | | |
| 9 | Miscellaneous Revenue | \$ (1,546,500) | \$ (1,546,500) | \$ (1,546,500) | \$ (1,546,500) | \$ (1,546,500) |
| 10 | LCSWMA Revenue | (703,703) | (705,520) | (707,208) | (709,140) | (709,386) |
| 11 | Interest Revenue | (34,327) | (35,749) | (36,153) | (36,465) | (36,204) |
| 12 | Sources and Uses of Funds | 621,950 | 517,144 | (194,245) | 444,643 | (654,081) |
| 13 | Total Non-Rate Revenues | \$ (1,662,580) | \$ (1,770,626) | \$ (2,484,106) | \$ (1,847,461) | \$ (2,946,171) |
| 14 | Rate Revenue Requirement | \$ 23,172,019 | \$ 24,234,468 | \$ 25,224,961 | \$ 26,357,412 | \$ 26,380,377 |
| Adjustment for Revenue from Other Sources | | | | | | |
| 15 | Operating and Maintenance Expenses | \$ 6,525,098 | \$ 6,838,087 | \$ 7,152,837 | \$ 7,482,056 | \$ 7,878,329 |
| 16 | Capital Expenditures | 16,646,921 | 17,396,381 | 18,072,124 | 18,875,356 | 18,502,048 |
| 17 | Rate Revenue Requirement | \$ 23,172,019 | \$ 24,234,468 | \$ 25,224,961 | \$ 26,357,412 | \$ 26,380,377 |
| 18 | Proposed Rate Increase | 7.5% | 4.5% | 4.0% | 4.4% | 0.0% |

As shown in Table 2-5 (Line 18), a rate revenue increase is recommended in each year, except FY 2022, to pay for the O&M expenses of the system, to fund capital costs, to account for the reduced rate that was negotiated with LCSWMA, and to meet the fiscal requirements related to minimum cash reserves and debt service coverage. A rate revenue increase of 7.5 percent was projected to be needed in FY 2018, while rate revenue increases of 4.5 percent, 4.0 percent, and 4.4 percent were projected to be needed in FY 2019, FY 2020, and FY 2021, respectively.

2.7 PROPOSED WATER RATES

CRW's proposed water rates for FY 2018 were developed by applying the proposed FY 2018 water rate increase proportionally to both the Ready to Serve Charge and the volumetric rate. The proposed water rates for FY 2018 through FY 2022 are shown in Table 2-6 and are based on the existing rates and the recommended rate revenue increases calculated in Table 2-5. The current rate structure can be expected to

generate approximately 30 percent of rate revenue from the Ready to Serve Charge and approximately 70 percent from the volume rate in each year, over the forecast period.

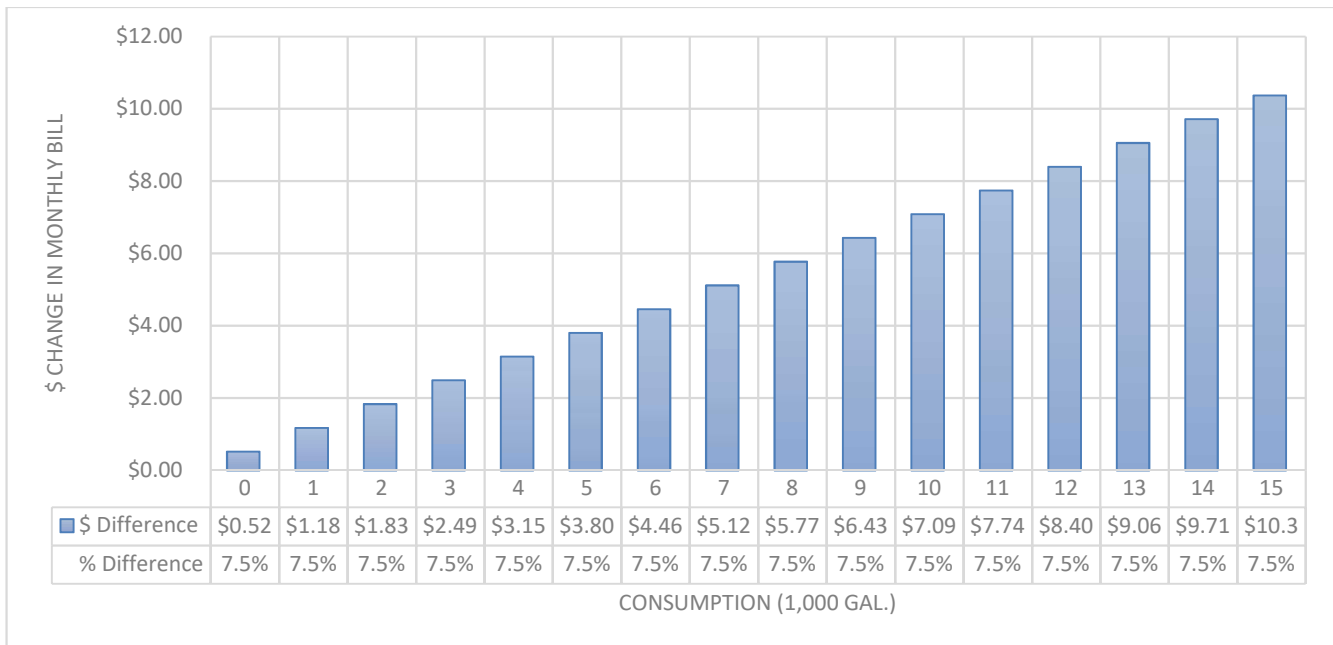
Table 2-6. Proposed Water Rates

| Rate Component | | | | | | |
|---|---------------------|----------|----------|----------|----------|----------|
| <i>Ready to Serve Charge (Monthly):</i> | | | | | | |
| Meter Size | Existing FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| Base Charge - 5/8" | \$6.95 | \$7.47 | \$7.80 | \$8.12 | \$8.47 | \$8.47 |
| 3/4" | \$15.06 | \$16.18 | \$16.91 | \$17.59 | \$18.36 | \$18.36 |
| 1" | \$30.20 | \$32.45 | \$33.91 | \$35.27 | \$36.82 | \$36.82 |
| 1-1/2" | \$64.69 | \$69.52 | \$72.65 | \$75.55 | \$78.88 | \$78.88 |
| 2" | \$118.60 | \$127.45 | \$133.19 | \$138.51 | \$144.61 | \$144.61 |
| 3" | \$331.53 | \$356.27 | \$372.31 | \$387.20 | \$404.23 | \$404.23 |
| 4" | \$592.97 | \$637.23 | \$665.90 | \$692.54 | \$723.01 | \$723.01 |
| 6" | \$1,601 | \$1,720 | \$1,798 | \$1,870 | \$1,952 | \$1,952 |
| 8" | \$2,846 | \$3,058 | \$3,196 | \$3,324 | \$3,470 | \$3,470 |
| 10" | \$4,021 | \$4,321 | \$4,516 | \$4,696 | \$4,903 | \$4,903 |
| 12" | \$6,404 | \$6,882 | \$7,192 | \$7,479 | \$7,808 | \$7,808 |
| <i>Volumetric Rate (\$ per 1,000 gal.):</i> | | | | | | |
| All customers | \$8.80 | \$9.46 | \$9.88 | \$10.28 | \$10.73 | \$10.73 |

2.8 CUSTOMER BILL IMPACT

Anticipated residential customer bill impacts for FY 2018 are provided in Figure 2-3 for a range of monthly consumption levels for customers using a 5/8-inch meter. As shown in Figure 2-3, a residential customer using 5,000 gallons of water per month would experience an increase in their water bill of \$3.80, or 7.5 percent per month, as compared to the existing (FY 2017) water rates. In addition, it should be noted that the dollar increase in the monthly bill amount becomes larger as the level of consumption rises. However, the percentage increase to a customer's bill remains the same across all levels of consumption, at approximately 7.5 percent.

Figure 2-3. Residential (5/8”) Water Bill Impact (FY 2018)



2.9 WATER SYSTEM CASH FLOW PROJECTION

A cash flow forecast for the water system for FY 2018 through FY 2022 was prepared and is shown in Table 2-7, and reflects the recommended rate revenue increases shown in Table 2-5. As shown in the forecast, unrestricted cash is anticipated to be maintained at a level of at least 140 days of O&M expenses.

Furthermore, with the projected transfers in FY 2021 and FY 2022, it is anticipated that the cash balance in the Operating Reserve Account (not included in Table 2-7) will be maintained at a level equal to at least 60 days of O&M expenses. Therefore, in total, it is anticipated that CRW will maintain unrestricted cash reserves of at least 200 days of O&M expenses over the forecast period. It should be noted that this amount is in addition to the cash held within the Renewal and Replacement Fund. Combining all cash, including cash held for operations, as well as amounts held in the Operating Reserve Account, Contingency Account, and Renewal and Replacement Fund, it is anticipated that CRW will maintain total cash reserves of between 600 and 680 days of cash over the forecast period.

The projected debt service coverage levels over the forecast period are also shown in Table 2-7. Net revenues were calculated to be 1.54 times senior lien debt service in FY 2018, which is higher than the debt service coverage requirement of 1.20, as stated in the Water Trust Indenture, and CRW’s management target of 1.35. Coverage levels associated with all senior lien debt are projected to be at least 1.39 times the annual debt service in each of the remaining years of the forecast period.

Table 2-7. Water System Cash Flow Projection

| Line No. | Description | Fiscal Year Ending December 31 | | | | | | | |
|----------------------------------|---|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | | Actual FY 2016 | Budget FY 2017 | Projected FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| Revenues | | | | | | | | | |
| 1 | Sales to Inside City Customers | \$ 18,534,213 | \$ 18,589,755 | \$ 17,994,659 | \$ 20,100,440 | \$ 21,022,103 | \$ 21,881,345 | \$ 22,863,727 | \$ 22,883,684 |
| 2 | Sales to Outside City Customers | 2,423,826 | 2,675,262 | 2,856,072 | 3,071,579 | 3,212,366 | 3,343,616 | 3,493,685 | 3,496,693 |
| 3 | Sales to LCSWMA | - | 695,130 | 695,130 | 703,703 | 705,520 | 707,208 | 709,140 | 709,386 |
| 4 | Penalties | 568,016 | 500,000 | 710,893 | 500,000 | 500,000 | 500,000 | 500,000 | 500,000 |
| 5 | Private Fire Protection Service | 314,253 | 316,000 | 320,098 | 315,000 | 315,000 | 315,000 | 315,000 | 315,000 |
| 6 | Grant Funds | 3,000 | - | 2,700 | - | - | - | - | - |
| 7 | Interest Income | 42,234 | 21,971 | 66,506 | 26,457 | 27,860 | 28,243 | 28,536 | 28,255 |
| 8 | Other Revenue | 325,587 | 560,050 | 448,848 | 731,500 | 731,500 | 731,500 | 731,500 | 731,500 |
| 9 | Total Revenues | \$ 22,211,129 | \$ 23,358,167 | \$ 23,094,906 | \$ 25,448,680 | \$ 26,514,348 | \$ 27,506,913 | \$ 28,641,588 | \$ 28,664,518 |
| Operating Expenses | | | | | | | | | |
| Personnel: | | | | | | | | | |
| 10 | Management | \$ 570,505 | \$ 549,153 | \$ 536,262 | \$ 713,882 | \$ 744,077 | \$ 773,024 | \$ 803,238 | \$ 834,779 |
| 11 | Distribution | 735,331 | 1,028,787 | 928,042 | 1,061,114 | 1,106,462 | 1,150,098 | 1,195,670 | 1,243,273 |
| 12 | Treatment | 1,326,018 | 1,454,378 | 1,337,935 | 1,441,963 | 1,502,372 | 1,560,087 | 1,620,293 | 1,683,108 |
| 13 | Other | 36,724 | 101,250 | 101,819 | 40,699 | 43,141 | 45,729 | 48,473 | 51,382 |
| Operations: | | | | | | | | | |
| 14 | Management | \$ 430,303 | \$ 490,611 | \$ 474,402 | \$ 506,838 | \$ 521,756 | \$ 537,114 | \$ 552,925 | \$ 569,201 |
| 15 | Distribution | 118,344 | 690,120 | 304,240 | 301,325 | 309,762 | 318,435 | 327,352 | 336,517 |
| 16 | Treatment | 971,507 | 1,042,574 | 1,161,654 | 1,157,618 | 1,202,914 | 1,250,128 | 1,299,340 | 1,350,634 |
| 17 | Other | 168,512 | 595,000 | 208,490 | 234,375 | 243,267 | 252,524 | 262,163 | 272,200 |
| Other Operating Expenses: | | | | | | | | | |
| 18 | CRW Administrative Fund Expense | \$ 2,472,228 | \$ 2,759,571 | \$ 2,552,956 | \$ 3,010,240 | \$ 3,094,527 | \$ 3,181,173 | \$ 3,270,246 | \$ 3,361,813 |
| 19 | Engineering Services | 268,267 | 1,020,000 | 792,745 | 320,090 | 336,095 | 352,899 | 370,544 | 389,071 |
| 20 | Total Operating Expenses | \$ 7,097,739 | \$ 9,731,445 | \$ 8,398,545 | \$ 8,788,144 | \$ 9,104,372 | \$ 9,421,214 | \$ 9,750,243 | \$ 10,091,979 |
| Other Expenses | | | | | | | | | |
| 21 | Transfers to Operating Reserve Account | \$ - | \$ 145,012 | \$ - | \$ - | \$ - | \$ - | \$ 2,433 | \$ 56,956 |
| 22 | Minor Capital Outlay | 133,172 | 109,500 | 167,807 | 242,200 | 249,466 | 256,950 | 264,658 | 272,598 |
| 23 | CRW Bank and Trustee Fees | 17,485 | 18,000 | 17,734 | 21,485 | 21,485 | 21,485 | 21,485 | 21,485 |
| Debt Service | | | | | | | | | |
| Existing Debt Service | | | | | | | | | |
| 24 | Revenue Bonds, Series 2002A, B, C and Series 2004 | \$ 5,948,223 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| 25 | Revenue Refunding Bonds, Series of 2008 | 3,462,722 | 3,370,144 | 3,370,144 | 3,370,144 | 3,370,144 | 3,370,144 | 3,370,144 | 3,370,144 |
| 26 | Revenue Refunding Bonds, Series A of 2016 | 564,565 | 4,096,100 | 4,096,100 | 7,017,000 | 7,714,000 | 7,716,000 | 7,713,500 | 7,712,250 |
| 27 | Revenue Refunding Bonds, Series B of 2016 | 17,283 | 2,513,200 | 2,513,200 | - | - | - | - | - |
| 28 | 2015 PENNVEST Loan | 177,443 | 309,049 | 309,049 | 309,049 | 309,049 | 309,049 | 309,049 | 309,049 |
| 29 | 2017 PENNVEST Loan | - | 352,445 | - | - | - | - | - | - |
| New Debt Service | | | | | | | | | |
| 30 | Revenue Bonds | - | - | - | 447,878 | 447,878 | 1,671,027 | 1,671,027 | 2,225,843 |
| 31 | Total Debt Service | \$ 10,170,236 | \$ 10,640,938 | \$ 10,288,493 | \$ 11,144,071 | \$ 11,841,071 | \$ 13,066,220 | \$ 13,063,720 | \$ 13,617,286 |
| 32 | Interest Earnings - DSRF | (367,213) | (321,300) | (359,388) | (361,300) | (361,300) | (361,300) | (361,300) | (361,300) |
| 33 | Total Debt Service, Net | \$ 9,803,023 | \$ 10,319,638 | \$ 9,929,105 | \$ 10,782,771 | \$ 11,479,771 | \$ 12,704,920 | \$ 12,702,420 | \$ 13,255,986 |
| 34 | Capital Projects Funded with Cash | \$ 2,984,767 | \$ 7,141,955 | \$ 2,880,647 | \$ 5,000,000 | \$ 5,150,000 | \$ 5,304,500 | \$ 5,463,635 | \$ 5,627,544 |
| 35 | Total Revenue Requirements | \$ 20,036,186 | \$ 27,465,549 | \$ 21,393,838 | \$ 24,834,599 | \$ 26,005,094 | \$ 27,709,068 | \$ 28,204,873 | \$ 29,326,548 |
| 36 | Revenues Over (Under) Expenditures | \$ 2,174,943 | \$ (4,107,382) | \$ 1,701,068 | \$ 614,080 | \$ 509,254 | \$ (202,155) | \$ 436,714 | \$ (662,030) |
| 37 | Beginning Cash Balance (excl. Contingency Account and R&R Fund) | | | | \$ 10,289,131 | \$ 10,903,211 | \$ 11,412,466 | \$ 11,210,311 | \$ 11,647,025 |
| 38 | Revenues Over (Under) Expenditures | | | | 614,080 | 509,254 | (202,155) | 436,714 | (662,030) |
| 39 | Ending Cash Balance | | | | \$ 10,903,211 | \$ 11,412,466 | \$ 11,210,311 | \$ 11,647,025 | \$ 10,984,995 |
| 40 | Ending Balance - Days O&M | | | | 446 | 450 | 427 | 429 | 391 |
| 41 | Target Reserve Balance (140 days O&M) | | | | \$ 3,425,967 | \$ 3,548,944 | \$ 3,672,160 | \$ 3,800,116 | \$ 3,933,014 |
| 42 | Projected City Rate Increase | | | | 7.5% | 4.5% | 4.0% | 4.4% | 0.0% |
| 43 | DSC (Senior debt, 1.35x DS target) | | | | 1.54 | 1.51 | 1.42 | 1.48 | 1.39 |
| 44 | DSC (All debt, 1.15x DS target) | | | | 1.54 | 1.51 | 1.42 | 1.48 | 1.39 |
| 45 | Capital Projects - Cash Funded | | | | \$ 5,000,000 | \$ 5,150,000 | \$ 5,304,500 | \$ 5,463,635 | \$ 5,627,544 |
| 46 | Capital Projects - Grant Funded | | | | 812,622 | - | - | - | - |
| 47 | Capital Projects - Funded with New Debt | | | | 3,054,178 | 2,103,260 | 7,143,040 | 6,977,783 | 6,312,979 |
| 48 | Capital Projects - Total | | | | \$ 8,866,800 | \$ 7,253,260 | \$ 12,447,540 | \$ 12,441,418 | \$ 11,940,523 |

3. THE WASTEWATER SYSTEM

3.1 EXISTING WASTEWATER RATES

CRW’s existing wastewater rate structure is comprised of volumetric rates that differ based on service area, level of service provided, and the results of a cost of service evaluation. Customers located within the City pay for retail wastewater service, while customers located in the Suburban communities pay for wholesale wastewater service. The rates differ based on the service 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. However, customers located in the Suburban communities outside the City operate their own collection systems and primarily utilize CRW’s treatment and conveyance facilities. Therefore, the wastewater rates paid by these communities exclude costs attributable to CRW’s collection system. The Borough of Steelton operates its own collection system and also maintains its own conveyance system, and discharges wastewater directly to CRW’s Advanced Wastewater Treatment Plant. Therefore, its wholesale rate is different than the other Suburban communities, as it reflects only its proportionate share of the costs associated with the use of CRW’s treatment facilities.

The existing wastewater rates for all customers are provided in Table 3-1. Note that the existing wastewater rates for wholesale customers are net of credits applied to the calculated FY 2017 rates for over-recovery of revenues that were collected in FY 2016.

Table 3-1. Existing (FY 2017) Retail and Wholesale Wastewater Rates

| Customer Class | Cost per 1,000 gal. |
|---------------------------------|---------------------|
| Retail (City) Customers: | |
| Utilization | \$5.68 |
| Maintenance | <u>\$0.85</u> |
| Total | \$6.53 |
| Wholesale Customers: | |
| Suburban (w/ 2017 credit) | \$3.41 |
| Steelton (w/ 2017 credit) | \$2.11 |
| | |
| Suburban (w/o 2017 credit) | \$4.19 |
| Steelton (w/o 2017 credit) | \$2.55 |

The Inter-Municipal Agreement between CRW and the Suburban communities, dated September 5, 1976, contains pricing provisions that specify how the wholesale rates are established. A summary of the pertinent sections of the Inter-Municipal Agreement is provided below. References to the City in the excerpt below should be read as CRW.

5.02. Each Municipality agrees to pay the City for sewage transport, treatment, and disposal services rendered by the City with respect to sewage and wastes emanating from each such Municipality...in accordance with Schedule A of the Agreement.

- 5.03. *Each Municipality agrees to pay to the City for each Industrial Establishment, a surcharge for pollutant load for all sewage and waste discharged to the Harrisburg Facilities and emanating from or containing a pollutant load of such strength character as to be classified as “high strength” by application of generally accepted engineering principles, or provisions of any Grant Agreement, or any state or federal law or regulation, which surcharge shall be determined by the City.*
- 5.04. *...City agrees to deliver to each Municipality, a statement of any adjustments to the rates and charges for the next calendar year no later than December 1 of any year. The City will cause its Consulting Engineers to prepare and deliver to it no later than October 1 of each year, a report which shall include estimates of Operating Expenses, and other expenditures, costs, revenues, and changes to the rates for the next calendar year.*
- 5.06. *Each Municipality covenants to pay all taxes and assessments including income, profits, property, franchise, excise, and/or other taxes levied or assessed by Federal, State or any municipal government against the City upon or by reason of payment or receipt of any sums payable by such Municipality hereunder to the City.*
- 6.02. *Each of the Joint Municipalities agrees to pay to the City for sewage transportation, treatment, and disposal, the following separate and distinct charges for customers of any of the Joint Municipalities discharging sewage and wastes to City sewer collection lines referred to in Section 6.01.:*
- A. An amount equal to the amount charged per customer for sewage and wastes discharged through the Harrisburg Conveyance System; and*
 - B. An amount equal to the separate amount charged per customer in the City as a sewer maintenance charge (as distinguished from sewer treatment charge).*
- 6.07. *If the City during the term hereof shall incur extra-ordinary costs in repairs to or in replacement of that part of its sewer lines governed by Article VI, to which sewage and wastes are discharged by one or more of the Joint Municipalities, any such Joint Municipality using that part of the sewer lines shall pay to the City such increased annual fees as are adequate to compensate the City for such additional costs...*
- 6.08. *If any Joint Municipality during the term hereof shall incur extraordinary costs in repair to or replacements of that part if its sewer collection system used jointly with the City, the City agrees to equitably share in the costs of such extraordinary repairs or replacements or to reduce annual fees paid by such Joint Municipality to the City under this Article VI...*

Schedule A Rates and Charges for Sewage Services

- 1. The categories of rates and charges to be paid to the City for sewage transportation, treatment, and disposal services in accordance with Section 5.02 are as follows:*

- (a) Separate rates shall be applied to customers of the City, to customers of the Municipalities discharging wastes through the Harrisburg Conveyance System, and to customers of the Municipalities discharging wastes through the Steelton Conveyance System.*
- (b) For each Residence served by metered water service and for each Non-Residential establishment, a rate per 1,000 gallons of water used shall be charged, subject however to minimum charges. Water used for Non-Residential establishments shall be determined by water meter or by estimates made by the Municipality in accordance with generally accepted engineering standards and practices.*
- (c) For each Residence not served by metered water service, a flat rate shall be charged.*

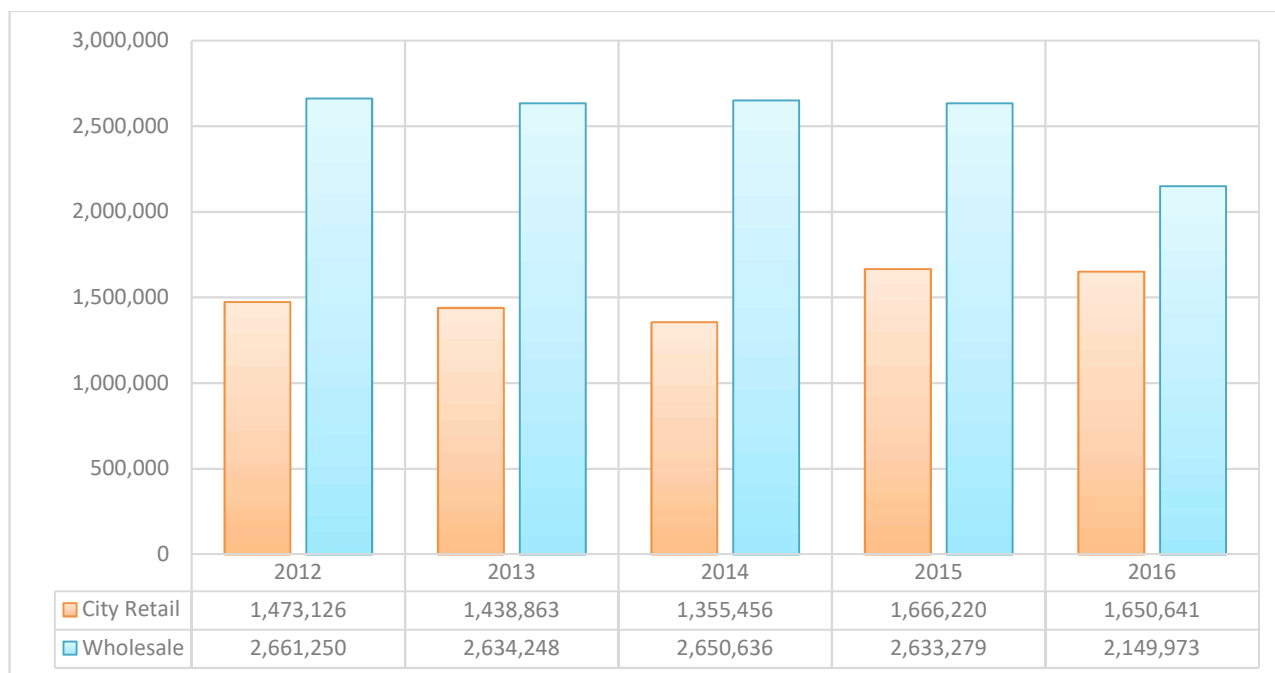
2. The rates and charges described above shall be determined in accordance with the following:

- (a) Rates apply to all customers of the Municipalities and the City shall be based upon a uniform distribution of the estimated amount to be received allocable to the Operating Expenses of the Harrisburg Facilities, subject to (c).*
- (b) Rates applied to customers in the Municipalities shall equal the rates applied to customers of the City, plus 15 percent of the portion of the City rates that is based on upon the estimated amount to be received allocable to Lease Rental payments and a margin of the same, as required under the Lease, subject to (c).*
- (c) Rates applied to customers of the Municipalities discharging wastes through the Steelton Conveyance System shall be based on the Harrisburg Facilities annual revenue requirements allocated only to the sewage treatment plant.*
- (d) The flat rate for Residences shall be based on the rate for customers with metered water service and an average water usage applicable to Residences in the service area of the Harrisburg Facilities.*
- (e) The minimum rates shall be those minimum rates which are imposed within each of the Municipalities and the City, respectively.*

3.2 CUSTOMER GROWTH

The projection of retail wastewater rate revenue was derived from anticipated future wastewater rates, as well as estimates of future billed wastewater flows attributable to both City and Suburban customers. The historical annual billed volume for City retail and Suburban wholesale customers from FY 2012 to FY 2016 is shown in Figure 3-1.

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



Source: Historical billing data provided by CRW.

As shown in Figure 3-1, the billed volume for City retail customers declined in FY 2013 and FY 2014, before increasing in FY 2015. The significant increase in FY 2015 may be due to CRW’s continued meter repair and replacement work, as older customer meters continue to be repaired or replaced with new and more accurate meters. Based on historical trends and discussions with CRW management, an increase in billed volume of approximately 0.1 percent per year from FY 2018 through FY 2022, was assumed over the forecast period for City retail customers.

The estimated billed volume for Suburban wholesale customers over the historical period shown has been relatively flat, with the exception of FY 2016. The decline in FY 2016 was due to a change in the estimated amount of billed flow per equivalent residential unit (“ERU”) from Suburban customers that are billed on an ERU basis, as opposed to metered water consumption. Billed water consumption data for some suburban residential customers, such as customers located in Penbrook and Paxtang Boroughs, as well as Lower Paxton and Susquehanna Townships, is not available. Therefore, an estimated amount of water consumption per ERU is assumed for these customers as the basis of billing. In previous years, one ERU was assumed to be equal 65,000 gallons of water consumption per year; however, this amount was adjusted to 45,000 gallons per year to be more consistent with a sample of recent historical water consumption data that was provided by the Suburban customers.

If the estimated gallons per ERU had remained at 65,000 gallons, billed flow attributable to Suburban wholesale customers in FY 2016 would have been equal to approximately 2,677,000,000 gallons, representing an increase of less than 2.0 percent from the prior year, according to Figure 3-1. No change in billed volume attributable to Suburban wholesale customers was assumed over the forecast period.

3.3 FISCAL POLICIES

3.3.1 Target Cash Reserve Balance

3.3.1.1 Operating Cash Reserves

The Trust Indenture between CRW and the Bank of New York Mellon Trust Company, dated May 1, 2017 (the “Wastewater Trust Indenture”)², established an Operating Reserve Account. The purpose of this account is to make payments and transfers required under the Wastewater Trust Indenture in the event that revenues are insufficient. The Wastewater Trust Indenture states that CRW shall maintain an amount in this account equal to at least 60 days (one sixth) of budgeted operating expenses for the current fiscal year. As of the date of this report, CRW has not formally established this account; however, based on the financial forecast developed for the wastewater system, there are adequate levels of cash available to establish this reserve at the minimum level and it is recommended that CRW do so during the remaining part of FY 2017.

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 O&M expenses. Therefore, an additional cash reserve level equal to 180 days of O&M expenses was included as a minimum cash target for the system. This amount, combined with the funds held in the Operating Reserve Account, provides CRW with a 240-day cash reserve target.

CRW’s O&M expenses were projected to range from approximately \$12.0 million to \$13.8 million from FY 2018 through FY 2022, which correspond to 180-day minimum reserve targets that range between approximately \$6.0 million to \$6.9 million over the forecast period. The amount of available cash related to the wastewater system as of the beginning of FY 2018 was projected to be approximately \$25.1 million, as provided by CRW. Therefore, the beginning current cash level in FY 2018 is anticipated to significantly exceed CRW’s minimum cash reserve target.

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. Currently, CRW’s outstanding debt related to the wastewater system is comprised of a 2009 PENNVEST loan, a 2014 PENNVEST loan, and the Series 2017 Revenue and Revenue Refunding Bonds. In addition, CRW intends to close on a new loan with PENNVEST prior to the end of FY 2017 to fund headworks screen design and construction costs at its Advanced Wastewater Treatment Facility. With the exception of the anticipated 2017 PENNVEST loan, the projected annual debt service payments were provided by CRW’s financial advisor, PRAG. In addition, new Revenue Bond debt was assumed to be incurred over the forecast period to fund future capital project costs, as described in Section 3.5.

²Trust Indenture dated as of May 1, 2017, between CRW and the Bank of New York Mellon Trust Company, N.A.

The required level of debt service coverage on outstanding debt is described in the Wastewater Trust Indenture and is summarized 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.”

CRW has established a management target for debt service coverage that is more restrictive than the bond covenant. The target consists of maintaining debt service coverage at a level of 1.35 times or greater with respect to annual debt service payments associated with current and future outstanding senior lien debt of the system. Senior lien debt was assumed to include all current and future Revenue Bond issues and PENNVEST loans, including the anticipated 2017 PENNVEST loan.

3.4 WASTEWATER REVENUE AND EXPENSES

The projection of wastewater O&M expenses over the forecast period was prepared based on adopted budget figures for FY 2018. In general, O&M expenses were comprised of costs related to personnel, insurance, electricity, chemicals, and general administrative costs. O&M expenses also included administrative costs of CRW attributable to the wastewater system in the amount of approximately \$3.1 million in FY 2018. Individual O&M expenses were classified as labor, benefits, insurance, electricity, chemicals, professional services, minor capital, or general, and were escalated in future years based on an appropriate cost escalation factor. The escalation factors for each of the expense classifications are provided in Table 3-2 and were developed based on discussions with CRW management.

Table 3-2. O&M Cost Escalation Factors

| Expense Category | Escalation Rate |
|-----------------------|-----------------|
| Labor | 3.5% |
| Benefits | 6.0% |
| Insurance | 3.0% |
| Electricity | 3.0% |
| Chemicals | 4.0% |
| Professional Services | 5.0% |
| Minor Capital | 3.0% |
| General | 2.8% |

In addition, capital project costs were escalated at a rate of 3.0 percent per year.

CRW’s non-rate revenues were largely comprised of penalties for late payment, contractor waste fees, electricity sales, and pretreatment fees. All non-rate revenues, with the exception of interest income, were expected to remain constant over the forecast period; therefore, these items were not escalated in future years. Interest income was calculated based on the average annual balance of available cash and an interest earnings rate of approximately 0.25 percent per year.

3.5 CAPITAL PLAN

The projection of wastewater system capital project expenditures was based on capital project costs included in the 2017 Consulting Engineer’s Annual Report for the wastewater system and planning level projections of capital project costs in future years, as provided by CRW. The annual capital project costs relating to collection, conveyance, pump stations, treatment plant, and Long-Term Control Plan (“LTCP”) planning and engineering, as well as other miscellaneous capital project costs anticipated to be incurred over the forecast period, are shown in Table 3-3.

Table 3-3. Wastewater System Capital Plan

| Description | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|----------------------------|--------------|--------------|--------------|--------------|--------------|
| Collection | \$ 3,472,950 | \$ 5,000,000 | \$ 5,150,000 | \$ 5,960,136 | \$ 5,463,635 |
| Conveyance | 9,897,059 | 6,506,053 | 4,804,124 | 2,121,800 | - |
| Pump Station Improvements | 2,561,000 | 7,139,000 | 206,000 | - | 8,195,453 |
| Wastewater Treatment Plant | 9,993,459 | 20,688,643 | 17,218,933 | 8,590,543 | 5,605,690 |
| Long-Term Control Plan | 6,495,827 | 5,235,996 | 4,223,000 | 4,031,420 | 3,059,636 |
| Miscellaneous | 567,000 | - | - | - | - |
| Total | \$32,987,295 | \$44,569,692 | \$31,602,057 | \$20,703,900 | \$22,324,413 |

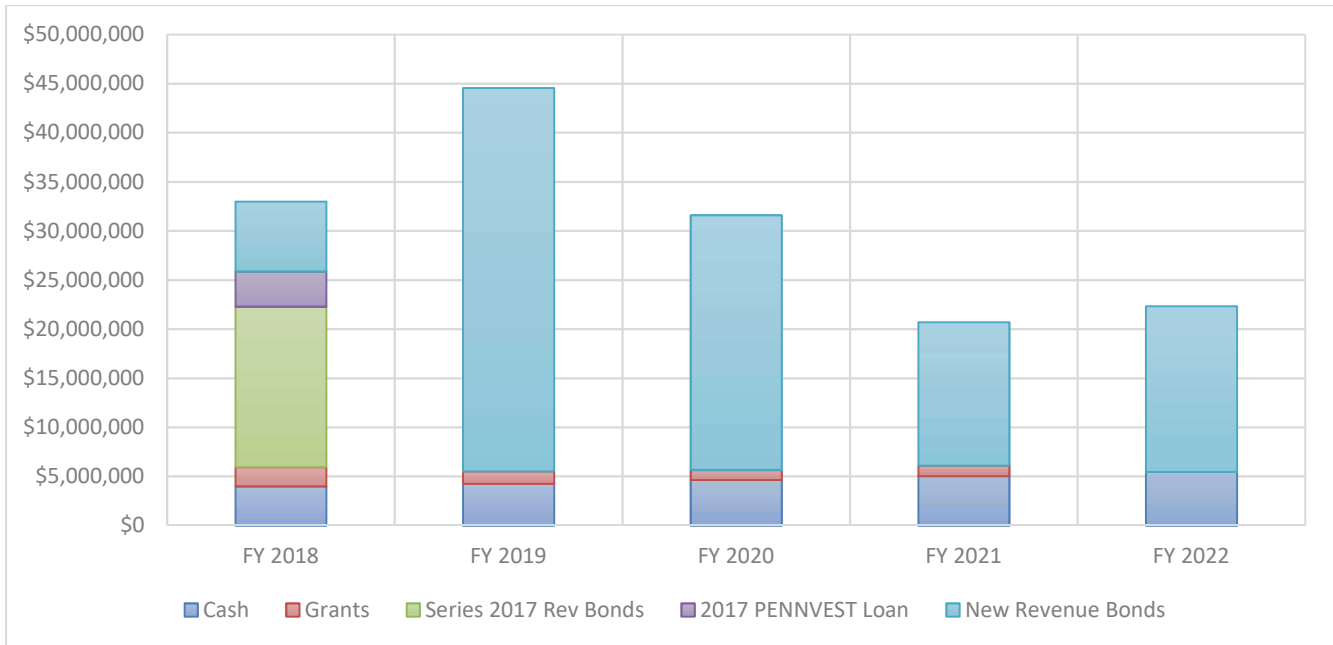
Note: Capital project costs shown in this table were estimated in 2018 dollars and escalated at a rate of 3.0 percent per year in future years for financial planning purposes.

3.5.1 Capital Project Funding

A summary of the funding sources for projected capital project costs is shown in Figure 3-2. This financing plan scenario was prepared based on discussions with CRW management and for the purposes of this rate study. The financing assumptions employed should be discussed with CRW’s municipal bond advisor as the scenario assumptions should not be considered municipal securities advice.

The capital project expenditures in FY 2018 were assumed to be funded with cash generated from current revenues or from cash on-hand, grant monies, unspent bond proceeds from the Series 2017 Revenue Bonds, bond proceeds from the anticipated 2017 PENNVEST loan, and a new Revenue Bond issue in FY 2018. All new Revenue Bond debt was assumed to hold a senior claim to the net revenues of the water system, and was assumed with level annual debt service payments, an annual interest rate of 5.0 percent, a repayment term of 30 years, issuance costs of 1.5 percent, and a debt service reserve equal to one year’s debt service, fully funded with the proceeds of each issue.

Figure 3-2. Capital Project Funding Sources



3.6 WHOLESALE RATE CALCULATION

3.6.1 Cost Categorization

The rate revenue requirement for FY 2018 was allocated to Treatment, Conveyance, Collection, and City-Only cost categories in order to calculate the Suburban wholesale rates in FY 2018. The costs included in these categories are discussed below:

-) Treatment – Costs are related to wastewater treatment and are shared by all users of the system.
-) Conveyance – 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 and are not associated with other users of the system.

In addition, administrative costs were first categorized into a separate administrative cost category and then subsequently re-allocated among the four categories listed above based on the proportion of non-administrative costs previously allocated to each category.

The capital revenue requirement in FY 2018 included costs attributable to existing debt service, new debt service, and cash-funded capital. Projects that were assumed to be funded with monies obtained with the 2017 PENNVEST loan, the Series 2017 Revenue Bond proceeds, a new Revenue Bond issue in FY 2018 or from cash on hand and current revenues included the following:

- J Projects related to headworks screening, anaerobic digester roof repair and primary digester facilities, and cogeneration improvements. These projects were allocated to the “Treatment” cost category.
- J Projects related to repair work on the Front Street Pump Station, Paxton Creek Interceptor, Front Street Interceptor, and Asylum Run Interceptor. These projects were allocated to the “Conveyance” cost category.
- J Various collection system repair and replacement projects. These projects were allocated to the “Collection” cost category.
- J Projects related to the Nine Minimum Controls Plan, Long-Term Control Plan compliance, and wet-weather related projects. These projects were allocated one third each to the “Treatment,” “Conveyance,” and “Collection” cost categories.
- J Stormwater-related projects were allocated to the “Collection” cost category.
- J Other miscellaneous projects, such as vehicle and other equipment purchases, were allocated one third each to the “Treatment”, “Conveyance”, and “Collection” cost categories.

A summary of the resulting revenue requirement categorizations for FY 2018 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 was approximately \$751,000, which was largely comprised of revenues received related to penalties, contractor waste fees, sludge handling charges, electric sales, pretreatment fees, and interest income.

Table 3-4. Summary of Cost Categorization Results

| Description | Treatment | Conveyance | Collection | City-Only | Total |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|
| Operating Revenue Requirement | \$ 5,721,260 | \$ 2,049,774 | \$ 2,733,531 | \$ 1,055,514 | \$11,560,079 |
| Allocation % | 49.5% | 17.7% | 23.6% | 9.1% | 100.0% |
| Capital Revenue Requirement | \$ 4,585,301 | \$ 2,724,864 | \$ 1,626,464 | \$ - | \$ 8,936,629 |
| Allocation % | 51.3% | 30.5% | 18.2% | 0.0% | 100.0% |
| Total | \$10,306,561 | \$ 4,774,638 | \$ 4,359,995 | \$ 1,055,514 | \$20,496,708 |

3.6.2 Cost Allocation

The categorized costs were allocated to City and Suburban customers based on each customer’s proportionate usage of the system. A summary of the wastewater flows attributable to City customers and to each of the Suburban customers is shown in Table 3-5.

Table 3-5. Customer Units of Service

| Customer Class | Non-Metered Consumption EDU's ¹ | Non-Metered Consumption (1,000 gal.) ¹ | Metered Consumption (1,000 gal.) | Total Consumption (1,000 gal.) | Extraneous Wastewater Flow ² (1,000 gal.) | Total Wastewater Volume (1,000 gal.) |
|-----------------------------------|---|--|-------------------------------------|-----------------------------------|---|---|
| City of Harrisburg | - | - | 1,650,641 | 1,650,641 | 1,553,314 | 3,203,955 |
| Penbrook Borough | 1,327 | 59,715 | 10,440 | 71,482 | 67,267 | 138,749 |
| Paxtang Borough | 665 | 29,925 | 5,546 | 36,136 | 34,005 | 70,141 |
| Swatara Township - via Harrisburg | - | - | 397,483 | 397,483 | 374,046 | 771,529 |
| Swatara Township - via Steelton | - | - | 70,635 | 70,635 | 66,470 | 137,105 |
| Lower Paxton Township | 12,867 | 579,015 | 174,516 | 766,398 | 721,209 | 1,487,607 |
| Susquehanna Township | 11,019 | 495,855 | 174,214 | 681,088 | 640,929 | 1,322,016 |
| Steelton Borough | - | - | 130,264 | 130,264 | 122,583 | 252,847 |
| Total | 25,878 | 1,164,510 | 2,613,739 | 3,804,127 | 3,579,823 | 7,383,950 |

Source: Based on FY 2016 billing data provided by CRW.

¹One ERU was assumed to equal 45,000 gallons of residential non-metered consumption per year.

²Calculated as the difference between total annual wastewater flow volume received at the AWTF in FY 2016, less billed volume for FY 2016. Extraneous flow volumes were allocated among customer classes based upon their proportionate billed volume amounts.

In previous years, the units of service for flat-rate customers with non-metered consumption was assumed to be 65,000 gallons per year, per ERU; however, for the purpose of calculating the Suburban wholesale rates in FY 2018 and in future years, this amount has been adjusted to 45,000 gallons, to be more in line with recent historical water consumption data provided by GHD, a consultant to the Suburban customers. This information was compared with CRW billed consumption data for City customers and Suburban customers receiving water service from CRW. As shown in Table 3-6, the five-year average of consumption per residential account from 2012 to 2016 for these customers was approximately 47,500 gallons per year, which is slightly higher than the residential customer consumption per account information provided by GHD.

Table 3-6. Historical CRW Water Consumption per Residential Account

| Year | Billed Water Consumption (Gallons) | Number of Customers | Annual Billed Water Consumption per Customer (Gallons) |
|---------------------------|---------------------------------------|---------------------|---|
| 2012 | 835,840,867 | 18,454 | 45,293 |
| 2013 | 829,975,715 | 18,456 | 44,971 |
| 2014 | 766,619,649 | 18,440 | 41,574 |
| 2015 | 987,569,000 | 18,728 | 52,732 |
| 2016 | 987,559,000 | 18,682 | 52,862 |
| 5-Year Historical Average | | | 47,486 |

Source: Historical billing and customer data provided by CRW.

The units of service were based on metered and billed water consumption, which implicitly assumes that inflow and infiltration (“I&I”) flow volumes are proportional to the billed water consumption amounts. As a result, I&I costs were also implicitly distributed proportionally to billed flows.

The units of service were distributed to the four cost categories based on each customer’s use of the wastewater system. This is shown in Table 3-7.

Table 3-7. Allocation of Units of Service to Cost Categories

| Customer Class | Treatment | Conveyance | Collection | City-Only |
|-----------------------------------|-----------|------------|------------|-----------|
| City of Harrisburg | 100.0% | 100.0% | 100.0% | 100.0% |
| Penbrook Borough | 100.0% | 100.0% | 0.0% | 0.0% |
| Paxtang Borough | 100.0% | 100.0% | 0.0% | 0.0% |
| Swatara Township - via Harrisburg | 100.0% | 100.0% | 0.0% | 0.0% |
| Swatara Township - via Steelton | 100.0% | 0.0% | 0.0% | 0.0% |
| Lower Paxton Township | 100.0% | 100.0% | 0.0% | 0.0% |
| Susquehanna Township | 100.0% | 100.0% | 0.0% | 0.0% |
| Steelton Borough | 100.0% | 0.0% | 0.0% | 0.0% |

The unit cost of service was calculated by dividing the categorized costs 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 3-8.

Table 3-8. Unit Cost of Service

| Description | Treatment | Conveyance | Collection | City-Only |
|-------------------------------------|--------------|--------------|--------------|--------------|
| Units of Service (1,000 gal.) | 3,800,614 | 3,599,715 | 1,650,641 | 1,650,641 |
| Operating Revenue Requirement | \$ 5,721,260 | \$ 2,049,774 | \$ 2,733,531 | \$ 1,055,514 |
| Capital Revenue Requirement | \$ 4,585,301 | \$ 2,724,864 | \$ 1,626,464 | \$ - |
| Operating Unit Cost (\$/1,000 gal.) | \$1.51 | \$0.57 | \$1.66 | \$0.64 |
| Capital Unit Cost (\$/1,000 gal.) | \$1.21 | \$0.76 | \$0.99 | \$0.00 |

3.6.3 Wholesale Rate Calculation

The FY 2018 wholesale rates were calculated for Suburban customers based on the calculated unit cost of service for each cost category and each customer’s use of the wastewater system. Since, the City does not provide collection service to Suburban customers, the wholesale rates exclude the unit cost for the “Collection” category. Similarly, a separate wholesale rate is shown for customers discharging wastewater through the Steelton conveyance system, as the wholesale rate for these customers excludes the unit rate associated with the costs incurred by CRW to convey wastewater to its treatment plant.

The calculated wholesale rates for FY 2018 for Suburban customers and for customers using the Steelton conveyance system are shown in Table 3-9. The O&M and capital components of the rates, by cost category, are also shown in this table. Additional wholesale rate calculation details are provided in Appendix A of this report. No adjustment was made to reflect an estimated “true-up” of the FY 2017 wholesale rates to both

Suburban and Steelton customers, as it is expected that such a true-up will be completed once actual costs and billing data for FY 2017 is available.

Table 3-9. Calculated Wholesale Rates (FY 2018)

| Description | City | Suburbs ¹ | Steelton ² |
|---|-----------------|----------------------|-----------------------|
| <u>O&M Rate:</u> | | | |
| Treatment | \$1.51 | \$1.51 | \$1.51 |
| Conveyance | \$0.57 | \$0.57 | \$0.00 |
| Collection | \$1.66 | \$0.00 | \$0.00 |
| City Only | <u>\$0.64</u> | <u>\$0.00</u> | <u>\$0.00</u> |
| Total O&M Rate (\$ per 1,000 gal.) | \$4.37 | \$2.07 | \$1.51 |
| <u>Capital Charge (Lease Rental Rates):³</u> | | | |
| Treatment | \$1.21 | \$1.39 | \$1.39 |
| Conveyance | \$0.76 | \$0.87 | \$0.00 |
| Collection | \$0.99 | \$0.00 | \$0.00 |
| City Only | \$0.00 | \$0.00 | \$0.00 |
| Other ⁴ | <u>(\$0.33)</u> | <u>\$0.00</u> | <u>\$0.00</u> |
| Total Capital Charge (\$ per 1,000 gal.) | \$2.62 | \$2.26 | \$1.39 |
| Total Rate (\$ per 1,000 gal.) | \$6.99 | \$4.33 | \$2.89 |
| Existing Rate (\$ per 1,000 gal.) | \$6.53 | \$4.19 | \$2.55 |
| Percent Increase / Decrease | 7.1% | 3.4% | 13.4% |

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

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

³Reflects a 15 percent adjustment to the unit costs per Section 2b of Schedule A of the Inter-Municipal Agreement.

⁴Use of cash reserves and other adjustments.

If an estimate of 65,000 gallons per ERU was used to represent the annual wastewater volume of flat rate Suburban customers, as has been done in previous years, the FY 2018 wholesale rates charged to Suburban and Steelton customers would have been \$3.80 and \$2.54 per 1,000 gallons, respectively. While the rates would have been lower under this scenario, the amount of cost recovered from Suburban wholesale customers would have been approximately \$886,000 more. Therefore, decreasing the amount of wastewater volume associated with one ERU from 65,000 to 45,000 increases the wholesale unit rates, but decreases the amount of wholesale revenue CRW will generate from Suburban customers.

3.7 WASTEWATER SYSTEM RATE REVENUE REQUIREMENTS

The calculation of the rate revenue requirements for City customers is shown in Table 3-10. Rate revenue requirements include O&M expenses, debt service, minor capital outlays, and cash-funded capital project expenditures. Non-rate revenues were subtracted from the expenses in order to determine the annual wastewater rate revenue requirement. Wholesale rate revenue, which was estimated by multiplying the wholesale rates calculated in Section 3.6 by the projected amount of Suburban customer wastewater flow in

FY 2018, was included in the calculation in Table 3-10 (Line 7) and serves to offset the City’s rate revenue requirements. When positive, the Sources and Uses of Funds amounts (Line 11) represent the use of cash from current revenues to fund capital project costs, with the accumulation of cash to be carried over into future years. When negative, these amounts represent the use of cash from current revenues and cash on-hand to fund capital project costs.

Table 3-10. Wastewater Rate Revenue Requirements for City Customers

| Line No. | Description | Fiscal Year Ending December 31 | | | | |
|----------|---|--------------------------------|-----------------|-----------------|-----------------|-----------------|
| | | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| 1 | Operations and Maintenance Expenses | \$ 12,027,153 | \$ 12,452,373 | \$ 12,880,860 | \$ 13,325,560 | \$ 13,787,156 |
| | Capital Expenditures | | | | | |
| 2 | Debt Service | \$ 4,936,629 | \$ 7,673,672 | \$ 9,502,381 | \$ 10,525,923 | \$ 11,731,964 |
| 3 | Cash Funded Capital | 4,000,000 | 4,250,000 | 4,635,000 | 5,039,275 | 5,463,635 |
| 4 | Minor Capital | 284,100 | 292,623 | 301,402 | 310,444 | 319,757 |
| 5 | Total Capital Expenditures | \$ 9,220,729 | \$ 12,216,295 | \$ 14,438,783 | \$ 15,875,642 | \$ 17,515,356 |
| 6 | Total O&M and Capital | \$ 21,247,882 | \$ 24,668,669 | \$ 27,319,644 | \$ 29,201,201 | \$ 31,302,512 |
| | Less Non-Rate Revenues | | | | | |
| 7 | Wholesale Revenue | \$ (9,025,935) | \$ (10,790,326) | \$ (12,012,836) | \$ (12,356,871) | \$ (13,438,379) |
| 8 | Other Revenue (O&M) | (690,500) | (690,500) | (690,500) | (690,500) | (690,500) |
| 9 | Other Revenue (Capital) | - | - | - | - | - |
| 10 | Interest Revenue | (60,673) | (56,641) | (52,619) | (48,750) | (45,321) |
| 11 | Sources and Uses of Funds | (1,512,258) | (1,717,299) | (1,504,552) | (1,594,945) | (1,151,199) |
| 12 | Total Non-Rate Revenues | \$ (11,289,367) | \$ (13,254,767) | \$ (14,260,507) | \$ (14,691,065) | \$ (15,325,400) |
| 13 | Rate Revenue Requirement | \$ 9,958,515 | \$ 11,413,902 | \$ 13,059,136 | \$ 14,510,137 | \$ 15,977,112 |
| | Adjustment for Revenue from Other Sources | | | | | |
| 14 | Operating and Maintenance Expenses | \$ 2,534,144 | \$ 1,207,529 | \$ 426,307 | \$ 539,883 | \$ (67,288) |
| 15 | Capital Expenditures | 7,424,371 | 10,206,373 | 12,632,829 | 13,970,253 | 16,044,399 |
| 16 | Rate Revenue Requirement | \$ 9,958,515 | \$ 11,413,902 | \$ 13,059,136 | \$ 14,510,137 | \$ 15,977,112 |
| 17 | Proposed Rate Increase | 7.1% | 14.5% | 14.3% | 11.0% | 10.0% |

As shown in Table 3-10 (Line 17), a rate increase in City retail rate revenue is anticipated to be needed each year, from FY 2018 through FY 2022, to fund the annual costs of the system and to meet fiscal policy targets related to cash reserves and debt service coverage. The rate revenue increases are projected to be 7.1 percent in FY 2018, 14.5 percent in FY 2019, 14.3 percent in FY 2020, 11.0 percent in FY 2021, and 10.0 percent in FY 2022.

3.8 PROPOSED CITY RETAIL AND WHOLESALE WASTEWATER RATES

The proposed City retail wastewater rates for FY 2018 through FY 2022 are shown in Table 3-11 and are based on the existing (FY 2017) retail rates and the recommended rate revenue increases shown in Table 3-10.

Table 3-11. Proposed Retail Wastewater Rates

| Description | Existing | | | | | |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| <u>Volume (\$ per 1,000 gal.):</u> | | | | | | |
| Sewer Utilization Charge | \$5.68 | \$6.08 | \$6.96 | \$7.96 | \$8.84 | \$9.72 |
| Sewer Maintenance Charge | <u>\$0.85</u> | <u>\$0.91</u> | <u>\$1.04</u> | <u>\$1.19</u> | <u>\$1.32</u> | <u>\$1.45</u> |
| Total | \$6.53 | \$6.99 | \$8.01 | \$9.15 | \$10.16 | \$11.17 |

The calculated wholesale rates for FY 2018 and the projected wholesale rates for FY 2019 through FY 2022 are shown in Table 3-12. The rates projected for FY 2019 through FY 2022 were based on projected O&M costs, debt service, and capital project expenditures in these years, as well as FY 2016 billing data, as no growth or decline in billed volume for Suburban wholesale customers was assumed in future years. Any over- or under-recovery of costs for FY 2017 is anticipated to be addressed by a reconciliation process that will occur after the completion of FY 2017.

Table 3-12. Calculated (2018) and Projected (2019 – 2022) Suburban Wholesale Rates

| Description | Existing | | | | | |
|--|-----------------|---------------|---------------|---------------|---------------|---------------|
| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| <u>Suburban Customers (\$ per 1,000 gal.):</u> | | | | | | |
| Calculated Rate | \$4.19 | \$4.33 | \$5.16 | \$5.73 | \$5.89 | \$6.45 |
| True-Up Adjustment | <u>(\$0.78)</u> | <u>\$0.00</u> | <u>\$0.00</u> | <u>\$0.00</u> | <u>\$0.00</u> | <u>\$0.00</u> |
| Total Adjusted Rate | \$3.41 | \$4.33 | \$5.16 | \$5.73 | \$5.89 | \$6.45 |
| <u>Steelton Customers (\$ per 1,000 gal.):</u> | | | | | | |
| Calculated Rate | \$2.55 | \$2.89 | \$3.65 | \$4.23 | \$4.36 | \$4.28 |
| True-Up Adjustment | <u>(\$0.44)</u> | <u>\$0.00</u> | <u>\$0.00</u> | <u>\$0.00</u> | <u>\$0.00</u> | <u>\$0.00</u> |
| Total Adjusted Rate | \$2.11 | \$2.89 | \$3.65 | \$4.23 | \$4.36 | \$4.28 |

Note: Beginning in FY 2018, credits due to suburban communities as a result of a prior year true-up will be provided by CRW to each suburban customer as a lump sum, as opposed to incorporating this amount into the wholesale rates.

3.9 WASTEWATER RATE STRUCTURE ALTERNATIVES

As CRW continues to plan and implement its City Beautiful H2O program, as well as address its aging infrastructure issues, there will be continued need to raise wastewater rates, which in turn will raise the cost of wastewater service and increase affordability concerns for some customers. CRW could consider modifying its wastewater rate structure in the future to address affordability concerns while equitably recovering these added costs from customers. For example, the portion of the City Beautiful H2O program that addresses wet weather issues could be recovered with a separate wastewater charge, stormwater fee, or a combination of the two. A separate wastewater charge or stormwater fee that recovers costs from customers based on impervious area, rather than billed water consumption, could lower the burden on residential customers by recovering more wet weather costs from non-residential customers that typically

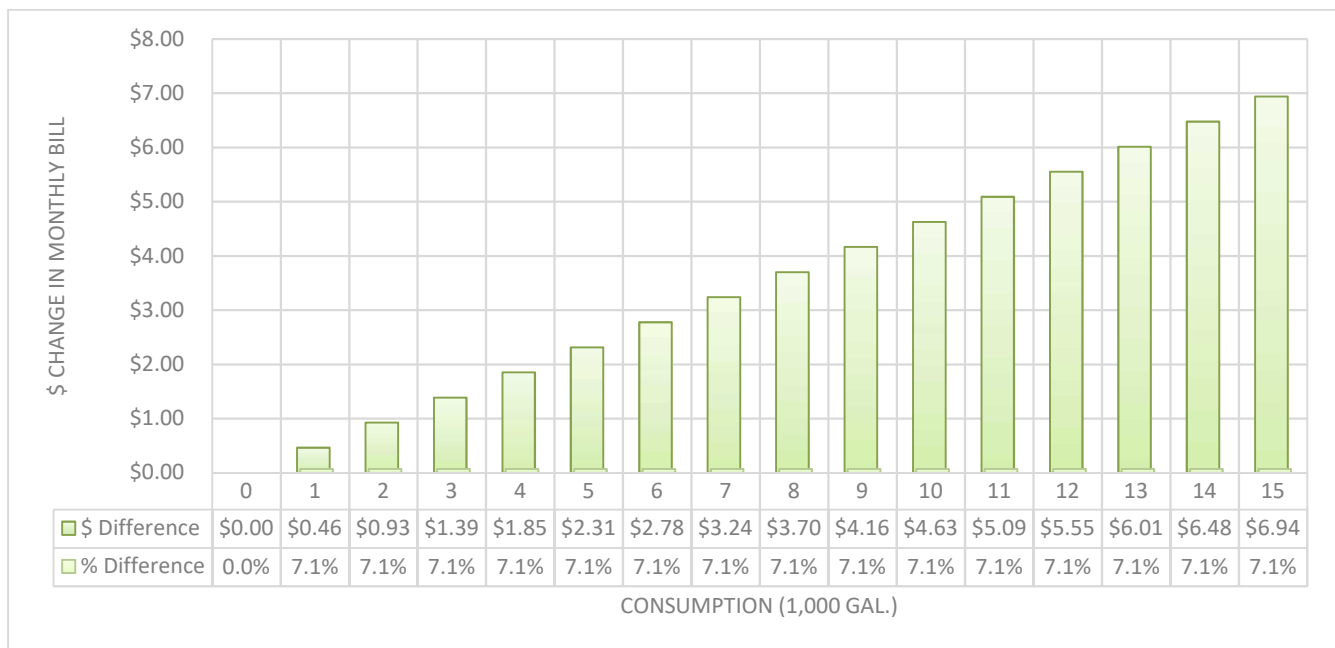
have larger impervious areas. CRW is currently evaluating the potential for implementing a separate stormwater fee to recover certain stormwater-related costs separate from the wastewater rate structure.

As another alternative to the current rate structure, CRW could consider adding a fixed charge to recover a portion of the capital costs of the system on a fixed revenue basis. Some wastewater utilities recover a portion of the cost of treating I&I from a fixed charge and a portion from a volume charge to reflect that the number of connections in the wastewater system reflects the size of the system and the greater potential for infiltration through poor joints and cracked pipes, and the inflow through roof and foundation drains. In addition, some wastewater utilities recover a portion of annual debt service with a fixed charge to better match fixed costs with a fixed revenue stream. While introducing a fixed charge to the wastewater rate structure could exacerbate affordability issue in the future. However, establishing a fixed charge that is tiered by customer usage or meter size could help to alleviate some of the affordability concerns.

3.10 RETAIL CUSTOMER BILL IMPACT

Retail residential customer bill impacts associated with the proposed retail wastewater rates for FY 2018 are provided in Figure 3-3, across a range of monthly consumption levels, for a customer using a 5/8-inch meter. As shown in Figure 3-3, a residential customer discharging 5,000 gallons of wastewater per month would experience an increase in their water bill of approximately \$2.31, or about 7.1 percent, per month as compared to the existing (FY 2017) retail wastewater rates. In addition, it should be noted that the dollar increase in the monthly bill amount becomes larger as the level of consumption rises. However, the percentage increase to a customer’s bill remains the same across all levels of consumption (with the exception of 0), at approximately 7.1 percent.

Figure 3-3. Retail Residential (5/8”) Wastewater Bill Impact (FY 2018)



3.11 WASTEWATER SYSTEM CASH FLOW PROJECTION

Based on the recommended rate revenue increases shown in Table 3-10, a cash flow forecast for the wastewater system from FY 2018 through FY 2022 was prepared and is shown in Table 3-13. The cash flow forecast shows cash on hand of at least 180 days within the wastewater system and debt service coverage levels of at least 1.35 times the debt service related to current and future outstanding senior lien debt.

Table 3-13. Wastewater System Cash Flow Projection

| Line No. | Description | Fiscal Year Ending December 31 | | | | | | | |
|----------------------------------|---|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | Actual FY 2016 | Budget FY 2017 | Projected FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| Revenues | | | | | | | | | |
| 1 | Sales to City Customers | \$ 8,825,199 | \$ 8,750,993 | \$ 9,290,299 | \$ 9,958,515 | \$ 11,413,902 | \$ 13,059,136 | \$ 14,510,137 | \$ 15,977,112 |
| 2 | Sales to Public Authorities | 8,205,114 | 9,276,723 | 8,755,752 | 9,025,935 | 10,790,326 | 12,012,836 | 12,356,871 | 13,438,379 |
| 3 | Penalties | 269,334 | 275,000 | 331,933 | 275,000 | 275,000 | 275,000 | 275,000 | 275,000 |
| 4 | Sludge Handling | 93,853 | 140,000 | 19,872 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| 5 | Electricity Sales | 108,156 | 108,000 | 52,021 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| 6 | Grant Funds | 16,258 | - | 62,574 | - | - | - | - | - |
| 7 | Interest Income | 68,278 | 51,334 | 145,822 | 60,673 | 56,641 | 52,619 | 48,750 | 45,321 |
| 8 | Other Revenue | 153,779 | 59,500 | 337,045 | 345,500 | 345,500 | 345,500 | 345,500 | 345,500 |
| 9 | Total Revenues | \$ 17,739,971 | \$ 18,661,550 | \$ 18,995,318 | \$ 19,735,624 | \$ 22,951,369 | \$ 25,815,091 | \$ 27,606,257 | \$ 30,151,312 |
| Operating Expenses | | | | | | | | | |
| Personnel: | | | | | | | | | |
| 10 | Management | \$ 421,322 | \$ 563,970 | \$ 573,589 | \$ 711,398 | \$ 740,468 | \$ 767,988 | \$ 796,652 | \$ 826,513 |
| 11 | Treatment | 1,424,667 | 1,455,338 | 1,325,664 | 1,516,824 | 1,580,420 | 1,641,197 | 1,704,599 | 1,770,754 |
| 12 | Maintenance | 563,917 | 617,154 | 500,818 | 601,861 | 627,647 | 652,482 | 678,422 | 705,522 |
| 13 | Field Maintenance | 725,729 | 1,014,841 | 1,072,168 | 1,375,338 | 1,433,037 | 1,488,192 | 1,545,732 | 1,605,771 |
| 14 | Other | 190,114 | 350,000 | 350,000 | 216,782 | 229,789 | 243,576 | 258,191 | 273,682 |
| Operations: | | | | | | | | | |
| 15 | Management | \$ 541,113 | \$ 582,449 | \$ 525,641 | \$ 624,913 | \$ 643,298 | \$ 662,224 | \$ 681,708 | \$ 701,766 |
| 16 | Treatment | 2,293,409 | 2,488,784 | 2,221,115 | 2,077,357 | 2,145,968 | 2,216,930 | 2,290,327 | 2,366,246 |
| 17 | Maintenance | 147,385 | 190,472 | 168,332 | 179,300 | 181,750 | 186,839 | 192,071 | 197,449 |
| 18 | Field Maintenance | 184,608 | 356,306 | 219,807 | 193,558 | 199,799 | 206,249 | 212,914 | 219,802 |
| 19 | Other | 371,255 | 823,500 | 658,085 | 706,375 | 739,791 | 774,824 | 811,554 | 850,064 |
| Other Operating Expenses: | | | | | | | | | |
| 20 | CRW Administrative Fund Expense | \$ 2,168,529 | \$ 2,759,571 | \$ 2,737,472 | \$ 3,127,864 | \$ 3,215,444 | \$ 3,305,477 | \$ 3,398,030 | \$ 3,493,175 |
| 21 | Shared Services | 528,491 | 520,000 | 551,962 | 692,083 | 711,461 | 731,382 | 751,861 | 772,913 |
| 22 | Total Operating Expenses | \$ 9,560,538 | \$ 11,722,384 | \$ 10,904,653 | \$ 12,023,653 | \$ 12,448,873 | \$ 12,877,360 | \$ 13,322,060 | \$ 13,783,656 |
| Other Expenses | | | | | | | | | |
| 23 | Minor Capital Outlay | \$ 253,059 | \$ 186,090 | \$ 274,360 | \$ 284,100 | \$ 292,623 | \$ 301,402 | \$ 310,444 | \$ 319,757 |
| 24 | CRW Bank and Trustee Fees | 58,169 | 44,576 | 22,118 | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 |
| Debt Service | | | | | | | | | |
| Existing Debt Service | | | | | | | | | |
| 25 | 1998 PENNVEST Loan | \$ 94,588 | \$ 73,201 | \$ 73,201 | \$ - | \$ - | \$ - | \$ - | \$ - |
| 26 | 2009 PENNVEST Loan | 110,802 | 114,120 | 114,120 | 114,120 | 114,120 | 114,120 | 114,120 | 114,120 |
| 27 | Series 2014 Revenue Bonds, Series B | 844,261 | 918,357 | 918,357 | - | - | - | - | - |
| 28 | 2014 PENNVEST Loan | 593,264 | 1,104,275 | 1,104,275 | 1,186,527 | 1,186,527 | 1,186,527 | 1,186,527 | 1,208,649 |
| 29 | Series 2017 Revenue and Refunding Bonds | - | 340,583 | 340,583 | 2,851,050 | 2,845,050 | 2,851,450 | 2,848,950 | 2,848,250 |
| 30 | 2017 PENNVEST Loan | - | 323,075 | - | 285,103 | 285,103 | 285,103 | 285,103 | 285,103 |
| New Debt Service | | | | | | | | | |
| 31 | Revenue Bonds | - | - | - | 499,830 | 3,242,873 | 5,065,182 | 6,091,223 | 7,275,843 |
| 32 | Total Debt Service | \$ 1,642,915 | \$ 2,873,610 | \$ 2,550,535 | \$ 4,936,629 | \$ 7,673,672 | \$ 9,502,381 | \$ 10,525,923 | \$ 11,731,964 |
| 33 | Capital Projects Funded with Cash | \$ 3,811,189 | \$ 7,461,053 | \$ 7,261,052 | \$ 4,000,000 | \$ 4,250,000 | \$ 4,635,000 | \$ 5,039,275 | \$ 5,463,635 |
| 34 | Total Revenue Requirements | \$ 15,325,869 | \$ 22,287,713 | \$ 21,012,719 | \$ 21,247,882 | \$ 24,668,669 | \$ 27,319,644 | \$ 29,201,201 | \$ 31,302,512 |
| 35 | Revenues Over (Under) Expenditures | \$ 2,414,102 | \$ (3,626,163) | \$ (2,017,401) | \$ (1,512,258) | \$ (1,717,299) | \$ (1,504,552) | \$ (1,594,945) | \$ (1,151,199) |
| 36 | Beginning Balance | | | | \$ 25,055,821 | \$ 23,543,563 | \$ 21,826,264 | \$ 20,321,712 | \$ 18,726,767 |
| 37 | Revenues Over (Under) Expenditures | | | | (1,512,258) | (1,717,299) | (1,504,552) | (1,594,945) | (1,151,199) |
| 38 | Ending Balance | | | | \$ 23,543,563 | \$ 21,826,264 | \$ 20,321,712 | \$ 18,726,767 | \$ 17,575,568 |
| 39 | Ending Balance - Days O&M | | | | 705 | 631 | 568 | 506 | 459 |
| 40 | Target Reserve Balance (180 days O&M) | | | | \$ 6,013,576 | \$ 6,226,187 | \$ 6,440,430 | \$ 6,662,780 | \$ 6,893,578 |
| 41 | Projected City Rate Increase | | | | 7.1% | 14.5% | 14.3% | 11.0% | 10.0% |
| 42 | DSC (Senior debt, 1.25x DS target) | | | | 1.55 | 1.36 | 1.36 | 1.35 | 1.39 |
| 43 | DSC (All debt, 1.15x DS target) | | | | 1.55 | 1.36 | 1.36 | 1.35 | 1.39 |
| 44 | Capital Projects - Cash Funded | | | | \$ 4,000,000 | \$ 4,250,000 | \$ 4,635,000 | \$ 5,039,275 | \$ 5,463,635 |
| 45 | Capital Projects - Funded with Series 2017 Bonds | | | | 16,331,194 | - | - | - | - |
| 46 | Capital Projects - Funded with 2017 PENNVEST Loan | | | | 3,586,474 | - | - | - | - |
| 47 | Capital Projects - Funded with Grant Proceeds | | | | 1,955,515 | 1,277,758 | 1,030,000 | 1,060,900 | - |
| 48 | Capital Projects - Funded with New Debt | | | | 7,114,112 | 39,041,934 | 25,937,057 | 14,603,725 | 16,860,778 |
| 49 | Capital Projects - Total | | | | \$ 32,987,295 | \$ 44,569,692 | \$ 31,602,057 | \$ 20,703,900 | \$ 22,324,413 |

4. RESIDENTIAL WATER AND WASTEWATER BILL COMPARISON

CRW's proposed water and wastewater rates were compared to the rates currently in effect for other utilities within the region by calculating and comparing estimated water and wastewater bills for residential customers. In addition to CRW, the following utilities were included in the comparison of estimated bills:

-) City of Allentown, PA
-) City of Bethlehem, PA
-) City of Lancaster, PA
-) Lower Paxton Township, PA
-) Paxtang Borough, PA
-) Penbrook Borough, PA
-) Pennsylvania American Water
-) Steelton Borough, PA
-) Susquehanna Township, PA
-) Swatara Township, PA

Monthly bills were estimated for residential customers based on an assumed amount of water consumption, wastewater flow, and meter size. Therefore, to calculate the estimated monthly bills, a 5/8-inch meter and 4,500 gallons (6.02 hundred cubic feet) of water consumption and wastewater flow were assumed.

4.1 WATER BILL COMPARISON

The comparison of estimated residential monthly water bills is shown in Figure 4-1. CRW's existing (FY 2017) water rates, as well as its proposed FY 2018 water rates, were included in each comparison.

Figure 4-1. Estimated Monthly Residential Water Bill Comparison



As shown in Figure 4-1, CRW’s estimated monthly bill under existing (FY 2017) rates was less than the estimated monthly bill of six other communities surveyed. However, CRW’s estimated monthly bill under the proposed FY 2018 rates was higher than all but one of the communities surveyed. It should be noted that the estimated monthly water bill for residential customers was assumed to be the same for Lower Paxton, Paxtang, Penbrook, Susquehanna, and Swatara, as water service is provided by SUEZ Water in these communities.

4.2 WASTEWATER BILL COMPARISON

The comparison of estimated monthly wastewater bills is shown by customer type in Figure 4-2.

Figure 4-2. Estimated Monthly Residential Wastewater Bill Comparison



As shown in Figure 4-2, CRW’s estimated monthly residential wastewater bill under its existing retail wastewater rates was less than six of the other communities surveyed, while its estimated monthly bill under the proposed FY 2018 rates was less than five of the other communities surveyed. As discussed previously, CRW provides wholesale treatment service to Steelton and a portion of Swatara. Therefore, their estimated monthly bill amounts include CRW’s wholesale treatment rate, as well as the local collection and conveyance costs in these communities. In addition, CRW provides wholesale treatment and conveyance service to Lower Paxton, Paxtang, Penbrook, Susquehanna, and a portion of Swatara. Therefore, their estimated monthly bill amounts include CRW’s wholesale rates for treatment and conveyance service, as well as the local collection costs in these communities.

5. CONCLUSIONS AND RECOMMENDATIONS

The following are the conclusions and recommendations of this rate study:

5.1 WATER SYSTEM

- J A water rate revenue increase of 7.5 percent is recommended in FY 2018. This increase was applied proportionally to all rate components to calculate the proposed FY 2018 rates; however, implementing higher fixed charges is a trend in the industry in order to improve revenue stability and respond to trends of declining water consumption.
- J Under the proposed FY 2018 water rates, the Ready to Serve Charge for a customer with a 5/8" meter be increased from \$6.95 to \$7.47 per month, and the volume charge be increased from \$8.80 per 1,000 gallons to \$9.46 per 1,000 gallons at the beginning of fiscal year FY 2018. This rate structure is expected to generate approximately 30 percent of rate revenues from the Ready to Serve Charge and approximately 70 percent from the volume rate.
- J The recommended water rate increase in FY 2018 would raise the typical residential bill by \$3.49 per month, from \$46.55 to \$50.04 assuming consumption of 4,500 gallons per month. This increase, if adopted, corresponds to a water rate increase of 7.5 percent for the typical residential customer. Water rate increases of 4.5 percent in FY 2019, 4.0 percent in FY 2020, and 4.4 in FY 2021 are anticipated to cover projected costs and to meet fiscal requirements and targets in these years. No rate increase is projected to be needed in FY 2022.
- J Based on the results of the rate comparison, CRW's proposed FY 2018 water rates were noted to be higher than most of the other communities included in the comparison. For example, the monthly residential water bill based on proposed FY 2018 rates for a customer using 4,500 gallons per month was calculated to be \$50.04 per month, which was noted to be second highest among the 11 communities surveyed.

5.2 WASTEWATER SYSTEM

- J A retail wastewater rate revenue increase of 7.1 percent is recommended in FY 2018. This increase was applied to the wastewater retail volumetric rate and results in the same percent increase for retail water customers.
- J In the future, CRW could consider establishing a separate wet weather charge and/or stormwater fee to recover the cost of managing sewer wet weather flows from customers proportionally based on a customer's impervious area. A separate wastewater charge or stormwater fee that recovers costs from customers based on impervious area, rather than billed water consumption, could lower the burden on residential customers by recovering more wet weather costs from non-residential customers that typically have larger impervious areas. Furthermore, CRW could consider adding a fixed charge to the City retail wastewater rate structure to recover a portion of the capital costs of the

system on a fixed revenue basis. Some wastewater utilities recover a portion of the cost of treating inflow and infiltration from a fixed charge and a portion from a volume charge to reflect that the number of connections in the wastewater system reflects the size of the system and the greater potential for infiltration through poor joints and cracked pipes, and the inflow through roof and foundation drains. In addition, some wastewater utilities recover a portion of annual debt service with a fixed charge to better match fixed costs with a fixed revenue stream.

- J The recommended retail wastewater increase in FY 2018 would raise the typical residential bill by \$2.07 per month, from \$29.39 to \$31.46 assuming 4,500 gallons of discharged wastewater per month. Retail rate revenue increase of 14.5 percent is projected in FY 2019, while increases of 14.3 percent, 11.0 percent, and 10.0 percent are projected in FY 2020, FY 2021, and FY 2022, respectively, to cover projected costs and to meet fiscal requirements and targets in these years.
- J The wastewater cost of service evaluation results indicate that the unit cost of providing wastewater and conveyance service to Suburban wholesale customers will increase from \$4.19 per 1,000 gallons in FY 2017, excluding the credit from FY 2016 (\$3.41 per 1,000 gallons, with credit), to \$4.33 per 1,000 gallons in FY 2018, and the unit cost of providing wastewater service to Steelton will increase from \$2.55 per 1,000 gallons, excluding the credit from FY 2016 (\$2.11 per 1,000 gallons, with credit), to \$2.89 per 1,000 gallons in FY 2018.
- J While no true-up provision is included in the Inter-Municipal Agreement between CRW and the Suburban communities, a true-up calculation applicable to the FY 2017 wholesale rates is expected to be performed during FY 2018 with actual costs and billing data from FY 2017. If the true-up determines that CRW has received an overpayment from wholesale customers in FY 2017, this amount is anticipated to be transferred by CRW to each suburban customer in FY 2018.
- J The units of service for Suburban wastewater customers with non-metered consumption was assumed to be 45,000 gallons per year. This change was made based on a sample of water billing data provided by a consultant to the Suburban customers. Decreasing the amount of wastewater volume associated with one ERU from 65,000 to 45,000 gallons increases the wholesale rates; however, with this adjustment, the amount paid per ERU by Suburban customers to CRW over the course of the fiscal year is lower, as the billed volume per ERU is reduced from 65,000 to 45,000 gallons per year.
- J Based on the results of the rate comparison, CRW's retail wastewater rates were noted to be comparable to the other utilities included in the survey. For example, the monthly residential bill based on proposed FY 2018 retail rates for customers discharging 4,500 gallons per month was calculated to be \$31.46, which was noted to be less than five of the 11 utilities surveyed.

APPENDIX A:

**Wholesale Wastewater Rate
Calculation Details**



Capital Region Water
Wholesale Rate Calculation
Operating Expense Allocation

Table A -1

| Line | Description | FY 2018 Budgeted Cost | Alloc Ref | Allocation % | | | | | | Allocation \$ | | | | | |
|--------------------|--------------------------------|-----------------------------|--------------|--------------|------------|------------|--------|-----------|--------|---------------|------------|------------|---------|-----------|---------|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | Total | Treatment | Conveyance | Collection | Admin | City Only | Total |
| <u>Management:</u> | | | | | | | | | | | | | | | |
| 1 | IT Computer Software | 59,125 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 59,125 | - | 59,125 |
| 2 | IT Computer Hardware | 7,345 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 7,345 | - | 7,345 |
| 3 | Mgmt Salaries & Wages | 505,821 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 268,890 | 89,237 | 147,695 | - | - | 505,821 |
| 4 | Mgmt Overtime Pay | 30 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 16 | 5 | 9 | - | - | 30 |
| 5 | Mgmt Payroll Taxes | 38,697 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 20,571 | 6,827 | 11,299 | - | - | 38,697 |
| 6 | Mgmt Health Benefits | 127,650 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 67,858 | 22,520 | 37,272 | - | - | 127,650 |
| 7 | Mgmt Life/Disab Insurance | 4,448 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 2,365 | 785 | 1,299 | - | - | 4,448 |
| 8 | Mgmt Pension Contribution | 27,316 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 14,521 | 4,819 | 7,976 | - | - | 27,316 |
| 9 | Mgmt Workers Comp Ins Prem | 5,116 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 2,720 | 903 | 1,494 | - | - | 5,116 |
| 10 | Mgmt Unemployment Comp | 2,320 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 1,233 | 409 | 677 | - | - | 2,320 |
| 11 | Ww Misc EE Benefits | - | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 12 | Mgmt Conferences & Training | 2,500 | 5 | 51.6% | 19.9% | 28.5% | 0.0% | 0.0% | 100.0% | 1,291 | 498 | 712 | - | - | 2,500 |
| 13 | Mgmt Travel and Mileage | 400 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 400 | - | 400 |
| 14 | Mgmt Lodging | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 15 | Mgmt Train/Conf Meals | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 16 | Mgmt Memberships and Dues | 1,400 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,400 | - | 1,400 |
| 17 | Mgmt Tuition | 7,615 | 5 | 51.6% | 19.9% | 28.5% | 0.0% | 0.0% | 100.0% | 3,931 | 1,516 | 2,167 | - | - | 7,615 |
| 18 | Mgmt Office Supplies | 4,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 4,000 | - | 4,000 |
| 19 | Mgmt Off Equip - Lease/Mtc | 3,600 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 3,600 | - | 3,600 |
| 20 | Mgmt Telephone & Internet | 35,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 35,000 | - | 35,000 |
| 21 | Mgmt Printing | 4,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 4,000 | - | 4,000 |
| 22 | Mgmt Postage | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 23 | Mgmt Meals - Internal | 1,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,000 | - | 1,000 |
| 24 | Mgmt Uniforms | 27,500 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 14,619 | 4,852 | 8,030 | - | - | 27,500 |
| 25 | Mgmt Personal Safety | 1,350 | 1 | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | 718 | 238 | 394 | - | - | 1,350 |
| 26 | Mgmt Advertising | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 27 | Mgmt Software License Fees | - | | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 28 | Ww Mgmt Misc Supplies/Expenses | 1,500 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,500 | - | 1,500 |
| 29 | Maintenance/Cleaning | 6,800 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 6,800 | - | 6,800 |
| 30 | Mgmt Auto Insurance | 21,390 | 13 | 23.4% | 25.4% | 51.1% | 0.0% | 0.0% | 100.0% | 5,010 | 5,444 | 10,937 | - | - | 21,390 |
| 31 | Mgmt Commercial Prop Ins | 147,527 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 147,527 | - | 147,527 |
| 32 | Mgmt Crime Insurance | 1,210 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,210 | - | 1,210 |
| 33 | Mgmt Flood Insurance | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 34 | Mgmt General Liab Ins | 131,214 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 131,214 | - | 131,214 |
| 35 | Mgmt Pollution Liab Ins | 60,210 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 60,210 | - | 60,210 |
| 36 | Mgmt Umbrella Liab Ins | 62,227 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 62,227 | - | 62,227 |
| 37 | Deductible/Retention/Claims | 20,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 20,000 | - | 20,000 |
| 38 | Mgmt Vehicle Service Contr | - | 15 | 28.9% | 26.6% | 44.4% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 39 | Mgmt Permits | 8,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 8,000 | - | - | - | - | 8,000 |
| 40 | Mgmt Other Contr Maint | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 41 | Mgmt Misc Contr Serv | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 42 | Mgmt Computer Software | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |

Capital Region Water
Wholesale Rate Calculation
Operating Expense Allocation

Table A -1

| Line | Description | FY 2018 Budgeted Cost | Alloc Ref | Allocation % | | | | | Allocation \$ | | | | | | |
|---------------------|------------------------------|-----------------------------|--------------|--------------|------------|------------|--------|-----------|---------------|-----------|------------|------------|-------|-----------|---------|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | Total | Treatment | Conveyance | Collection | Admin | City Only | Total |
| 43 | Mgmt Office Equipment | 5,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,000 | - | 5,000 |
| 44 | Mgmt Office Furniture | 5,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,000 | - | 5,000 |
| <u>Treatment:</u> | | | | | | | | | | | | | | | |
| 45 | Trmt Salaries & Wages | 874,419 | 2 | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | 792,585 | 81,834 | - | - | - | 874,419 |
| 46 | Trmt Overtime Pay | 144,210 | 2 | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | 130,714 | 13,496 | - | - | - | 144,210 |
| 47 | Trmt Payroll Taxes | 77,925 | 2 | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | 70,632 | 7,293 | - | - | - | 77,925 |
| 48 | Trmt Health Benefits | 310,477 | 2 | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | 281,420 | 29,057 | - | - | - | 310,477 |
| 49 | Trmt Life/Disab Insurance | 1,285 | 2 | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | 1,165 | 120 | - | - | - | 1,285 |
| 50 | Trmt Pension Contribution | 55,006 | 2 | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | 49,858 | 5,148 | - | - | - | 55,006 |
| 51 | Trmt Workers Comp Ins Prem | 48,572 | 2 | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | 44,026 | 4,546 | - | - | - | 48,572 |
| 52 | Trmt Unemployment Comp | 4,930 | 2 | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | 4,469 | 461 | - | - | - | 4,930 |
| 53 | Ww Trmt Memberships and Dues | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 54 | Trmt Misc Supplies/Expenses | 5,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 5,000 | - | - | - | - | 5,000 |
| 55 | Ww Trmt Rental Equipment | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 56 | Trmt Medical/Laboratory | 51,150 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 51,150 | - | - | - | - | 51,150 |
| 57 | Trmt Chemicals | 369,843 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 369,843 | - | - | - | - | 369,843 |
| 58 | Trmt Water | 145,200 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 145,200 | - | - | - | - | 145,200 |
| 59 | Trmt Electricity | 671,387 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 671,387 | - | - | - | - | 671,387 |
| 60 | Trmt Heat | 16,714 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 16,714 | - | - | - | - | 16,714 |
| 61 | Trmt Refuse | 608,763 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 608,763 | - | - | - | - | 608,763 |
| 62 | Trmt Equipment Repr/Mntce | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 63 | Trmt Custodial | 9,300 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 9,300 | - | - | - | - | 9,300 |
| 64 | Trmt Oth Contracted Mntce | 200,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 200,000 | - | - | - | - | 200,000 |
| 65 | Trmt Service Contracts | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 66 | Trmt Nutrient Credits | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| <u>Maintenance:</u> | | | | | | | | | | | | | | | |
| 67 | Mntc Salaries & Wages | 377,572 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 283,179 | 94,393 | - | - | - | 377,572 |
| 68 | Mntc Overtime Pay | 6,095 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 4,571 | 1,524 | - | - | - | 6,095 |
| 69 | Mntc Payroll Taxes | 29,351 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 22,013 | 7,338 | - | - | - | 29,351 |
| 70 | Mntc Health Benefits | 143,861 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 107,896 | 35,965 | - | - | - | 143,861 |
| 71 | Mntc Life/Disab Insurance | 1,010 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 758 | 253 | - | - | - | 1,010 |
| 72 | Mntc Pension Contribution | 20,718 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 15,539 | 5,180 | - | - | - | 20,718 |
| 73 | Mntc Workers Comp Ins Prem | 20,789 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 15,592 | 5,197 | - | - | - | 20,789 |
| 74 | Mntc Unemployment Comp | 2,465 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 1,849 | 616 | - | - | - | 2,465 |
| 75 | Mntc Personal Safety | 2,500 | 3 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | 1,875 | 625 | - | - | - | 2,500 |
| 76 | Mntc Misc Supplies/Expenses | 21,000 | | 60.0% | 30.0% | 10.0% | 0.0% | 0.0% | 100.0% | 12,600 | 6,300 | 2,100 | - | - | 21,000 |
| 77 | Mntc Rental Equipment | 10,000 | | 60.0% | 30.0% | 10.0% | 0.0% | 0.0% | 100.0% | 6,000 | 3,000 | 1,000 | - | - | 10,000 |
| 78 | Mntc Tools and Hardware | 10,000 | | 60.0% | 30.0% | 10.0% | 0.0% | 0.0% | 100.0% | 6,000 | 3,000 | 1,000 | - | - | 10,000 |
| 79 | Mntc Mechanical Equip Part | 168,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 168,000 | - | - | - | - | 168,000 |

Capital Region Water
Wholesale Rate Calculation
Operating Expense Allocation

Table A -1

| Line | Description | FY 2018 Budgeted Cost | Alloc Ref | Allocation % | | | | | | Allocation \$ | | | | | |
|---------------------------|------------------------------|-----------------------------|--------------|--------------|------------|------------|--------|-----------|--------|---------------|------------|------------|---------|-----------|---------|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | Total | Treatment | Conveyance | Collection | Admin | City Only | Total |
| 80 | Mntc Motor Fuels & Lubric | 52,000 | | 60.0% | 30.0% | 10.0% | 0.0% | 0.0% | 100.0% | 31,200 | 15,600 | 5,200 | - | - | 52,000 |
| 81 | Mntc Tires and Batteries | 3,000 | | 60.0% | 30.0% | 10.0% | 0.0% | 0.0% | 100.0% | 1,800 | 900 | 300 | - | - | 3,000 |
| 82 | Mntc Vehicle Parts & Supp | 21,800 | 15 | 28.9% | 26.6% | 44.4% | 0.0% | 0.0% | 100.0% | 6,307 | 5,809 | 9,684 | - | - | 21,800 |
| 83 | Mntc Snow Control | 6,000 | | 60.0% | 40.0% | 0.0% | 0.0% | 0.0% | 100.0% | 3,600 | 2,400 | - | - | - | 6,000 |
| 84 | Mntc Asphalt | - | | 60.0% | 40.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 85 | Mntc Pipe Connections | 3,000 | | 60.0% | 40.0% | 0.0% | 0.0% | 0.0% | 100.0% | 1,800 | 1,200 | - | - | - | 3,000 |
| 86 | Mntc Util Plant Fuels/Lub | 35,000 | | 60.0% | 40.0% | 0.0% | 0.0% | 0.0% | 100.0% | 21,000 | 14,000 | - | - | - | 35,000 |
| 87 | Ww Mntc Other Contr Maint | 2,500 | | 60.0% | 40.0% | 0.0% | 0.0% | 0.0% | 100.0% | 1,500 | 1,000 | - | - | - | 2,500 |
| 88 | Mntc Misc Contr Serv | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 89 | Mntc Operations Equipment | 12,500 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 12,500 | - | - | - | - | 12,500 |
| <u>Field Maintenance:</u> | | | | | | | | | | | | | | | |
| 90 | FMnt Salaries & Wages | 797,747 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 239,324 | 558,423 | - | - | 797,747 |
| 91 | FMnt Overtime Pay | 124,531 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 37,359 | 87,172 | - | - | 124,531 |
| 92 | FMnt Payroll Taxes | 70,554 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 21,166 | 49,388 | - | - | 70,554 |
| 93 | FMnt Health Benefits | 289,599 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 86,880 | 202,719 | - | - | 289,599 |
| 94 | FMnt Life/Disab Insurance | 1,322 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 397 | 925 | - | - | 1,322 |
| 95 | FMnt Pension Contribution | 49,803 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 14,941 | 34,862 | - | - | 49,803 |
| 96 | FMnt Workers Comp Ins Prem | 36,562 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 10,969 | 25,593 | - | - | 36,562 |
| 97 | FMnt Unemployment Comp | 5,220 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 1,566 | 3,654 | - | - | 5,220 |
| 98 | FMnt Telephone & Internet | - | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 99 | FMnt Personal Safety | 8,000 | 4 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | - | 2,400 | 5,600 | - | - | 8,000 |
| 100 | FMnt Rental Equipment | 15,000 | | 20.0% | 70.0% | 10.0% | 0.0% | 0.0% | 100.0% | 3,000 | 10,500 | 1,500 | - | - | 15,000 |
| 101 | Fmnt Chemicals | 26,000 | | 20.0% | 70.0% | 10.0% | 0.0% | 0.0% | 100.0% | 5,200 | 18,200 | 2,600 | - | - | 26,000 |
| 102 | FMtc Water | 11,000 | | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | 11,000 | - | - | - | 11,000 |
| 103 | FMnt Electricity | 84,558 | 14 | 0.0% | 95.3% | 4.7% | 0.0% | 0.0% | 100.0% | - | 80,584 | 3,974 | - | - | 84,558 |
| 104 | FMnt Tools and Hardware | 9,000 | | 20.0% | 70.0% | 10.0% | 0.0% | 0.0% | 100.0% | 1,800 | 6,300 | 900 | - | - | 9,000 |
| 105 | FMnt Vehicle Parts & Supp | 40,000 | 15 | 28.9% | 26.6% | 44.4% | 0.0% | 0.0% | 100.0% | 11,573 | 10,659 | 17,768 | - | - | 40,000 |
| 106 | FMtc Shared Services | 692,083 | 8 | 0.0% | 50.0% | 50.0% | 0.0% | 0.0% | 100.0% | - | 346,042 | 346,042 | - | - | 692,083 |
| 107 | Ww FMnt Other Contr Maint | - | | 20.0% | 70.0% | 10.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 108 | FMnt Water Meter Mtc Asses | 116,100 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 116,100 | - | 116,100 |
| <u>Other Expenses:</u> | | | | | | | | | | | | | | | |
| 109 | Legal Services | 20,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 20,000 | - | 20,000 |
| 110 | Ww Audit and Accounting Fees | 5,250 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,250 | - | 5,250 |
| 111 | Financial Advisor Fees | 15,000 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 15,000 | - | 15,000 |
| 112 | Engineering Services | 514,000 | 16 | 23.0% | 13.8% | 61.3% | 0.0% | 1.9% | 100.0% | 118,035 | 70,835 | 315,130 | - | 10,000 | 514,000 |
| 113 | Rate Study Consultant | 65,625 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 65,625 | - | 65,625 |
| 114 | Diversity Program Services | 27,500 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 27,500 | - | 27,500 |
| 115 | Other Prof Serv/Fees | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 116 | Ww Fines and Penalties | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |

Capital Region Water
Wholesale Rate Calculation
Operating Expense Allocation

Table A - 1

| Line | Description | FY 2018 Budgeted Cost | Alloc Ref | Allocation % | | | | | Allocation \$ | | | | | | |
|--|--|-----------------------------|--------------|--------------|------------|------------|--------|-----------|---------------|-----------|------------|------------|-----------|-----------|-----------|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | Total | Treatment | Conveyance | Collection | Admin | City Only | Total |
| 117 | Community Outreach | 9,000 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 9,000 | 9,000 |
| 118 | Ww AWTF Improv Open House | - | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | - | - |
| 119 | OPEB Retirement Benefits | 216,782 | 7 | 51.6% | 19.9% | 28.5% | 0.0% | 0.0% | 100.0% | 111,913 | 43,170 | 61,699 | - | - | 216,782 |
| 120 | Trustee/Bank Fees | 3,500 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 3,500 | 3,500 |
| 121 | Contingency | 50,000 | | 39.5% | 12.2% | 16.0% | 26.1% | 6.2% | 100.0% | 19,741 | 6,103 | 8,022 | 13,038 | 3,096 | 50,000 |
| <u>Incremental LTCP O&M:</u> | | | | | | | | | | | | | | | |
| 122 | Incremental LTCP O&M - Year 1 | - | | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| <u>CRW Administrative Fund Expenses:</u> | | | | | | | | | | | | | | | |
| 123 | Adm Salaries & Wages | 1,268,278 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,268,278 | - | 1,268,278 |
| 124 | <i>-Salaries & Wages (Billing & Collection)</i> | 353,319 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 353,319 | 353,319 |
| 125 | Adm Temporary Pay | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 126 | Adm Overtime Pay | 4,439 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 4,439 | - | 4,439 |
| 127 | Adm Payroll Taxes | 97,023 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 97,023 | - | 97,023 |
| 128 | <i>-Payroll Taxes (Billing & Collection)</i> | 27,029 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 27,029 | 27,029 |
| 129 | Adm Health Benefits | 341,131 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 341,131 | - | 341,131 |
| 130 | <i>-Health Benefits (Billing & Collection)</i> | 95,033 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 95,033 | 95,033 |
| 131 | Adm Life/Disability Insurance | 9,758 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 9,758 | - | 9,758 |
| 132 | <i>-Life/Disability Insurance (Billing & Collection)</i> | 2,718 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 2,718 | 2,718 |
| 133 | Adm Pension Contribution | 68,674 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 68,674 | - | 68,674 |
| 134 | <i>-Pension Contribution (Billing & Collection)</i> | 19,131 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 19,131 | 19,131 |
| 135 | Adm Workers Comp Insurance | 17,276 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 17,276 | - | 17,276 |
| 136 | <i>-Workers Comp Insurance (Billing & Collection)</i> | 4,813 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 4,813 | 4,813 |
| 137 | Adm Unemployment Comp | 5,574 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,574 | - | 5,574 |
| 138 | <i>-Unemployment Comp (Billing & Collection)</i> | 1,553 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 1,553 | 1,553 |
| 139 | Adm Employment Test | 1,741 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,741 | - | 1,741 |
| 140 | Adm Recruitment | 1,459 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,459 | - | 1,459 |
| 141 | Adm Misc EE Benefits | 6,085 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 6,085 | - | 6,085 |
| 142 | Adm OPEB Obligation | 7,505 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 7,505 | - | 7,505 |
| 143 | Adm Conferences & Training | 4,406 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 4,406 | - | 4,406 |
| 144 | Adm Tuition | 1,408 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,408 | - | 1,408 |
| 145 | Adm Travel and Mileage | 998 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 998 | - | 998 |
| 146 | Adm Lodging | 1,853 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,853 | - | 1,853 |
| 147 | Adm Train/Conf Meals | 289 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 289 | - | 289 |
| 148 | Adm Memberships and Dues | 5,362 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,362 | - | 5,362 |
| 149 | Adm Office Supplies | 12,800 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 12,800 | - | 12,800 |
| 150 | Adm Office Equip - Lease/Mtnc | 7,680 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 7,680 | - | 7,680 |
| 151 | Adm Telephone & Internet | 38,399 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 38,399 | - | 38,399 |
| 152 | Adm Subscriptions | 2,560 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 2,560 | - | 2,560 |

Capital Region Water
Wholesale Rate Calculation
Operating Expense Allocation

Table A -1

| Line | Description | FY 2018 Budgeted Cost | Alloc Ref | Allocation % | | | | | Allocation \$ | | | | | | |
|------|--------------------------------|-----------------------------|--------------|--------------|------------|------------|--------|-----------|---------------|--------------|--------------|--------------|--------------|------------|---------------|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | Total | Treatment | Conveyance | Collection | Admin | City Only | Total |
| 153 | Adm Postage | 5,120 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,120 | - | 5,120 |
| 154 | Adm Meals - Internal | 5,120 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,120 | - | 5,120 |
| 155 | Adm Software License Fees | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 156 | Adm HR/Payroll Services Fees | 13,086 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 13,086 | - | 13,086 |
| 157 | Adm Bank Fees | 77 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 77 | - | 77 |
| 158 | Adm Misc Supplies/Expense | 7,680 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 7,680 | - | 7,680 |
| 159 | Adm Document Management | 5,120 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,120 | - | 5,120 |
| 160 | Adm Office Lease | 104,844 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 104,844 | - | 104,844 |
| 161 | Adm Parking Rentals | 40,959 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 40,959 | - | 40,959 |
| 162 | Adm Advertising & Public Notic | 1,024 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 1,024 | 1,024 |
| 163 | Adm Community Outreach | 11,264 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 11,264 | 11,264 |
| 164 | Adm Printing | 2,560 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 2,560 | - | 2,560 |
| 165 | Adm Website Maintenance | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 166 | Adm CRW Sponsorships | - | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | - | - |
| 167 | Workforce Development | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 168 | DEP 48k K2Career Grant | - | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | - | - |
| 169 | Adm Public Officials Insurance | 8,723 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 8,723 | - | 8,723 |
| 170 | Adm Travel Accident Insurance | 502 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 502 | - | 502 |
| 171 | Adm Employee Dishonesty Bond | 1,024 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,024 | - | 1,024 |
| 172 | Adm Cyber Liability Insurance | 6,067 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 6,067 | - | 6,067 |
| 173 | Adm Motor Fuels & Lubricants | 1,536 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,536 | - | 1,536 |
| 174 | Adm Vehicle Parts & Supplies | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 175 | IT Computer Software | 28,708 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 28,708 | - | 28,708 |
| 176 | IT Computer Hardware | 6,190 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 6,190 | - | 6,190 |
| 177 | IT Support Contracts | 12,549 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 12,549 | - | 12,549 |
| 178 | IT Support Services | 12,544 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 12,544 | - | 12,544 |
| 179 | Adm Legal Services - General | 115,197 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 115,197 | - | 115,197 |
| 180 | Adm Legal Services - Other | 12,800 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 12,800 | - | 12,800 |
| 181 | Adm Audit/Accounting Fees | 52,051 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 52,051 | - | 52,051 |
| 182 | Adm Financial Advisor Fees | 15,360 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 15,360 | - | 15,360 |
| 183 | Adm Engineering Services | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 184 | Adm IT Support Services | - | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 185 | Adm Office Equipment | 1,024 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 1,024 | - | 1,024 |
| 186 | Adm Office Furniture | 5,120 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 5,120 | - | 5,120 |
| 187 | Adm Treasury Legal Fees | 10,240 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 10,240 | 10,240 |
| 188 | Adm Treasury Mailing Services | 83,044 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 83,044 | 83,044 |
| 189 | Adm Treasury Lockbox Fees | 63,998 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 63,998 | 63,998 |
| 190 | Adm Treasury Merchant Fees | 25,599 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 25,599 | 25,599 |
| 191 | Adm Treasury Security | 3,098 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 3,098 | 3,098 |
| 192 | Adm Treasury Billing Software | 34,815 | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | 34,815 | 34,815 |
| 193 | A Depreciation | - | | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | - | - | - | - | - | - |
| 194 | Adm Capital Equipment | 22,527 | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | - | - | - | 22,527 | - | 22,527 |
| 195 | Total Operating Expenses | \$ 12,311,253 | | | | | | | | \$ 4,860,807 | \$ 1,502,700 | \$ 1,975,215 | \$ 3,210,256 | \$ 762,275 | \$ 12,311,253 |

Capital Region Water
Wholesale Rate Calculation
Operating Expense Allocation

Table A -1

| Line | Description | FY 2018 Budgeted Cost | Alloc Ref | Allocation % | | | | | Allocation \$ | | | | | | |
|---|---------------------------------|-----------------------------|--------------|--------------|------------|------------|-------|-----------|---------------|--------------|--------------|--------------|--------------|--------------|---------------|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | Total | Treatment | Conveyance | Collection | Admin | City Only | Total |
| <u>Allocation of Administrative Expenses:</u> | | | | | | | | | | | | | | | |
| 196 | Total Operating Expenses | \$ 12,311,253 | | | | | | | | \$ 4,860,807 | \$ 1,502,700 | \$ 1,975,215 | \$ 3,210,256 | \$ 762,275 | \$ 12,311,253 |
| 197 | Less: Administrative Expenses | (3,210,256) | | | | | | | | - | - | - | (3,210,256) | - | (3,210,256) |
| 198 | Less: Electric Expenses | (755,945) | | | | | | | | (671,387) | (80,584) | (3,974) | - | - | (755,945) |
| 199 | Adjusted Operating Expenses | \$ 8,345,052 | | | | | | | | \$ 4,189,420 | \$ 1,422,117 | \$ 1,971,241 | \$ - | \$ 762,275 | \$ 8,345,052 |
| 200 | Percentage Allocation | | | | | | | | | 50.2% | 17.0% | 23.6% | 0.0% | 9.1% | 100.0% |
| 201 | Adjusted Operating Expenses | | | | | | | | | \$ 6,472,433 | \$ 2,049,774 | \$ 2,733,531 | \$ - | \$ 1,055,514 | \$ 12,311,253 |
| Less: Non-Rate Revenues | | | | | | | | | | | | | | | |
| 202 | Ww Penalties | \$ 275,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | \$ 275,000 | \$ - | \$ - | \$ - | \$ - | \$ 275,000 |
| 203 | Ww Miscellaneous Revenue | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 204 | Ww Lien Recovery | 1,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 1,000 | - | - | - | - | 1,000 |
| 205 | Backruptcy Recovery | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 206 | WW Renewable Energy Credits | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 207 | Ww Customer Refunds | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 208 | Ww Misc Operation Sales | 20,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 20,000 | - | - | - | - | 20,000 |
| 209 | Ww Sludge Handling Charges | 20,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 20,000 | - | - | - | - | 20,000 |
| 210 | Ww Sale of Electric | 50,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 50,000 | - | - | - | - | 50,000 |
| 211 | Ww Contractor Waste Fees | 275,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 275,000 | - | - | - | - | 275,000 |
| 212 | Ww Pretreatment fees | 48,000 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 48,000 | - | - | - | - | 48,000 |
| 213 | Maintenance Charge | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 214 | Ww Planning Module Fees | 1,500 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 1,500 | - | - | - | - | 1,500 |
| 215 | Ww Contr Waste Hauling Fees | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 216 | Street Cuts | - | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | - | - | - | - | - | - |
| 217 | Interest Earnings (Model) | 60,673 | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 60,673 | - | - | - | - | 60,673 |
| 218 | Total Non-Rate Revenues | \$ 751,173 | | | | | | | | \$ 751,173 | \$ - | \$ - | \$ - | \$ - | \$ 751,173 |
| 219 | Net Adjusted Operating Expenses | \$ 11,560,079 | | | | | | | | \$ 5,721,260 | \$ 2,049,774 | \$ 2,733,531 | \$ - | \$ 1,055,514 | \$ 11,560,079 |
| 220 | Percentage Allocation | | | | | | | | | 49.5% | 17.7% | 23.6% | 0.0% | 9.1% | 100.0% |

Capital Region Water
 Wholesale Rate Calculation
 Capital Cost Allocation

Table A-2

| Line | Description | FY 2018 Budgeted Cost | Alloc Ref | Allocation % | | | | | Allocation \$ | | | | | | |
|------|----------------------------------|-----------------------------|--------------|--------------|------------|------------|-------|-----------|---------------|--------------|--------------|--------------|-------|-----------|--------------|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | Total | Treatment | Conveyance | Collection | Admin | City Only | Total |
| 1 | Existing Debt Service | \$ 4,436,800 | 9 | 76.8% | 12.5% | 10.7% | 0.0% | 0.0% | 100.0% | \$ 3,406,731 | \$ 554,182 | \$ 475,887 | \$ - | \$ - | \$ 4,436,800 |
| 2 | New Debt Service - Revenue Bonds | 499,830 | 11 | 26.2% | 48.2% | 25.6% | 0.0% | 0.0% | 100.0% | 130,913 | 241,114 | 127,803 | - | - | 499,830 |
| 3 | New Debt Service - PennVest | - | 12 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | - | - | - | - | - | - |
| 4 | Cash Funded Capital Projects | 4,000,000 | 10 | 26.2% | 48.2% | 25.6% | 0.0% | 0.0% | 100.0% | 1,047,658 | 1,929,568 | 1,022,774 | - | - | 4,000,000 |
| 5 | Total Capital Expenditures | \$ 8,936,629 | | | | | | | | \$ 4,585,301 | \$ 2,724,864 | \$ 1,626,464 | \$ - | \$ - | \$ 8,936,629 |
| | Less: Non-Rate Revenues | | | | | | | | | | | | | | |
| 6 | Sale of Scrap | \$ - | | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| 7 | Net Capital Expenditures | \$ 8,936,629 | | | | | | | | \$ 4,585,301 | \$ 2,724,864 | \$ 1,626,464 | \$ - | \$ - | \$ 8,936,629 |
| 8 | Percentage Allocation | | | | | | | | | 51.3% | 30.5% | 18.2% | 0.0% | 0.0% | 100.0% |

Capital Region Water
Wholesale Rate Calculation
Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | Basis | |
|---------------------------------------|-----------|--|-----------------------|--------------|------------|------------|-------|-----------|--------|---|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | | Total |
| <u>Management Division Personnel</u> | | | | | | | | | | |
| 1 | | Plant Superintendent (JR) | \$ 89,529 | 70.0% | 15.0% | 15.0% | 0.0% | 0.0% | 100.0% | Unchanged from 2016. |
| 2 | | Pretreatment Coordinator (RS) | 59,666 | 70.0% | 0.0% | 30.0% | 0.0% | 0.0% | 100.0% | Unchanged from 2016. |
| 3 | | Operations Supervisor (RH) | 69,572 | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/9th of time for PS inspections. |
| 4 | | Facility Maintenance Supervisor (JB) | 80,503 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/4th of time for PS. |
| 5 | | Field Operations Supervisor (KF) | 70,698 | 10.0% | 20.0% | 70.0% | 0.0% | 0.0% | 100.0% | Per JR for 2018. |
| 6 | | Administrative Assistant II (BR) | 45,861 | 75.0% | 10.0% | 15.0% | 0.0% | 0.0% | 100.0% | Unchanged from 2016. |
| 7 | | Environmental Compliance Inspector (TBD) | 15,000 | 0.0% | 50.0% | 50.0% | 0.0% | 0.0% | 100.0% | Per JR for 2018. |
| 8 | | Field Maintenance Supervisor (TBD) | 75,000 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Per JR for 2018. |
| 9 | | Total: | \$ 505,829 | | | | | | | |
| 10 | 1 | Management Personnel Allocation | | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | |
| <u>Treatment Division Personnel</u> | | | | | | | | | | |
| 11 | | Lab Technician I (2) | \$ 108,911 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR for 2018. |
| 12 | | Laborer I (TBD) | 45,262 | 80.0% | 20.0% | 0.0% | 0.0% | 0.0% | 100.0% | Unchanged from 2016. |
| 13 | | Operator I (6) | 330,015 | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/9th of time for PS inspections. |
| 14 | | Operator II (CS) | 55,276 | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/9th of time for PS inspections. |
| 15 | | Operator IV (7) | 453,068 | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/9th of time for PS inspections. |
| 16 | | Total: | \$ 992,532 | | | | | | | |
| 17 | 2 | Treatment Division Personnel Allocation | | 90.6% | 9.4% | 0.0% | 0.0% | 0.0% | 100.0% | |
| <u>Maintenance Division Personnel</u> | | | | | | | | | | |
| 19 | | Electrician III (MM) | \$ 53,210 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/4th of time for PS. |
| 20 | | Laborer I (2) | 74,420 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/4th of time for PS. |
| 21 | | Janitor (TBD) | 19,014 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/4th of time for PS. |
| 22 | | Maintenance Worker I (JN) | 45,443 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/4th of time for PS. |
| 23 | | Maintenance Worker IV (4) | 212,840 | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Per JR, 1/4th of time for PS. |
| 24 | | Total: | \$ 404,927 | | | | | | | |
| 25 | 3 | Maintenance Division Personnel Allocation | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | |
| <u>Field Maintenance Division</u> | | | | | | | | | | |
| 26 | | Field Maintenance Worker II (3) | \$ 222,848 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Per JR 2 months for CSO's plus 1/8th of time. |
| 27 | | Field Maintenance Worker III (SR) | 67,176 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Per JR 2 months for CSO's plus 1/8th of time. |
| 28 | | Field Maintenance Worker I (8) | 531,978 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Per JR 2 months for CSO's plus 1/8th of time. |
| 29 | | Field Maintenance Worker IV (2) | 126,520 | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Per JR 2 months for CSO's plus 1/8th of time. |
| 30 | | Total: | \$ 948,522 | | | | | | | |
| 31 | 4 | Field Maintenance Division Personnel Allocation | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | |

Capital Region Water
Wholesale Rate Calculation
Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | Basis | |
|------|-----------|---|-----------------------|--------------|------------|------------|--------|-----------|--------|--|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | | Total |
| 32 | 5 | All Staff / Uniform Allocation | | 51.6% | 19.9% | 28.5% | 0.0% | 0.0% | 100.0% | Estimated based on most up-to-date staff allocations. |
| 33 | 6 | Insurance Allocation | | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | All non automobile related insurance fully allocated to Administration. |
| 34 | 7 | OPEB Allocation | | 51.6% | 19.9% | 28.5% | 0.0% | 0.0% | 100.0% | Based on allocation of all direct labor, including Administration / Management. |
| 35 | 8 | Department of Public Works - Sweep Cleaning | | 0.0% | 50.0% | 50.0% | 0.0% | 0.0% | 100.0% | Costs related to street sweeping services. |
| | | Existing Debt Service Allocation | | | | | | | | |
| 36 | | 2009 PENNVEST Loan | 114,120 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Projects financed related to improvements and replacements to wastewater treatment facility. |
| 37 | | 2014 PENNVEST Loan | 1,186,527 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Projects financed related to improvements and replacements to wastewater treatment facility. |
| 38 | | 2017 Revenue Bonds (New Money) - 30 Year | 1,197,950 | 27.7% | 44.5% | 27.8% | 0.0% | 0.0% | 100.0% | Based on overall allocation of capital projects completed in FY 2017 and to be completed in FY 2018. |
| 39 | | 2017 Revenue Refunding Bonds - 30 Year | 1,653,100 | 90.1% | 1.3% | 8.7% | 0.0% | 0.0% | 100.0% | Proceeds used to refund the Series 2014B Revenue Bonds. |
| 40 | | 2017 PENNVEST Loan | 285,103 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Projects financed related to improvements and replacements to wastewater treatment facility. |
| 41 | | Total: | \$ 4,436,800 | | | | | | | |
| 42 | 9 | Existing Debt Service Allocation | | 76.8% | 12.5% | 10.7% | 0.0% | 0.0% | 100.0% | |
| 43 | | Projects Funded with Cash | \$ 4,000,000 | 26.2% | 48.2% | 25.6% | 0.0% | 0.0% | 100.0% | Based on overall allocation of capital projects to be completed in FY 2018. |
| 44 | 10 | PayGo Expense Allocation | | 26.2% | 48.2% | 25.6% | 0.0% | 0.0% | 100.0% | |
| 45 | | New Revenue Bonds | \$ 499,830 | 26.2% | 48.2% | 25.6% | 0.0% | 0.0% | 100.0% | Based on overall allocation of capital projects to be completed in FY 2018. |
| 46 | 11 | New Revenue Bonds Allocation | | 26.2% | 48.2% | 25.6% | 0.0% | 0.0% | 100.0% | |

Capital Region Water
Wholesale Rate Calculation
Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | | Basis |
|------|-----------|-------------------------------------|-----------------------|--------------|------------|------------|-------|-----------|--------|---|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | Total | |
| 47 | | New PennVest Loan | \$ - | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | Based on the projects specified as being funded with PennVest loan proceeds in FY 2018. |
| 48 | 12 | New PennVest Loan Allocation | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | |
| | | Road Vehicles | | | | | | | | |
| 49 | | G-30 - Escape Sedan - 4 x 4 | | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | Used by Management Division. Based on overall Management Division allocation. |
| 50 | | G-31 - Escape Sedan - 4 x 4 | | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | Used by Management Division. Based on overall Management Division allocation. |
| 51 | | G-01 - Taurus Station Wagon | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Lab vehicle. Based on allocation of lab employees. |
| 52 | | G-16 - Dump Truck | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Belt filter press dump. Full allocation to Treatment. |
| 53 | | G-18 - Dump Truck | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Belt filter press dump. Full allocation to Treatment. |
| 54 | | G-38 - Pickup Truck | | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Operations vehicle. Based on allocation of Operations Supervisor and Operators. |
| 55 | | G-03 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 56 | | G-04 - Van with CCTV Equipment | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 57 | | G-06 - Vactor Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 58 | | G-13 - Flusher Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 59 | | G-14 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 60 | | G-15 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 61 | | G-17 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 62 | | G-20 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |

Capital Region Water
Wholesale Rate Calculation
Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | Total | Basis |
|------|-----------|----------------------|-----------------------|--------------|------------|------------|-------|-----------|--------|--|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | | |
| 63 | | G-24 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 64 | | G-39 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 65 | | G-46 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 66 | | G-47 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 67 | | G-54 - Vacuum Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 68 | | G-55 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 69 | | V-39 - Vactor Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 70 | | G-08 - Crane Truck | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 71 | | G-19 - Pickup Truck | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 72 | | G-45 - Cargo Van | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 73 | | G-48 - Pickup Truck | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 74 | | G-32 - Dump Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 75 | | G-33 - Utility Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 76 | | G-39 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 77 | | G-41 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 78 | | G-42 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |

Capital Region Water
Wholesale Rate Calculation
Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | Basis | |
|------|-----------|--|-----------------------|--------------|------------|------------|-------|-----------|--------|--|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | | Total |
| 79 | | G-43 - Dump Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 80 | | G-52 - Dump Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 81 | | G-59 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 82 | | G-60 - Dump Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 83 | 13 | Total Road Vehicle Insurance Allocation | | 23.4% | 25.4% | 51.1% | 0.0% | 0.0% | 100.0% | |
| 84 | 14 | Sewer Field Maintenance - Electricity | | 0.0% | 95.3% | 4.7% | 0.0% | 0.0% | 100.0% | Based on proportional use of electricity at the Spring Creek, Front Street, and Market Street pump stations in 2016. |
| | | Full Vehicle Listing | | | | | | | | |
| 85 | | G-30 - Escape Sedan - 4 x 4 | | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | Used by Management Division. Based on overall Management Division allocation. |
| 86 | | G-31 - Escape Sedan - 4 x 4 | | 53.2% | 17.6% | 29.2% | 0.0% | 0.0% | 100.0% | Used by Management Division. Based on overall Management Division allocation. |
| 87 | | G-01 - Taurus Station Wagon | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Lab vehicle. Based on allocation of lab employees. |
| 88 | | G-16 - Dump Truck | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Belt filter press dump. Full allocation to Treatment. |
| 89 | | G-18 - Dump Truck | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | Belt filter press dump. Full allocation to Treatment. |
| 90 | | G-38 - Pickup Truck | | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Operations vehicle. Based on allocation of Operations Supervisor and Operators. |
| 91 | | G-03 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 92 | | G-04 - Van with CCTV Equipment | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 93 | | G-06 - Vector Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 94 | | G-13 - Flusher Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |

Capital Region Water
Wholesale Rate Calculation
Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | Total | Basis |
|------|-----------|---------------------|-----------------------|--------------|------------|------------|-------|-----------|--------|--|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | | |
| 95 | | G-14 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 96 | | G-15 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 97 | | G-17 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 98 | | G-20 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 99 | | G-24 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 100 | | G-39 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 101 | | G-46 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 102 | | G-47 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 103 | | G-54 - Vacuum Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 104 | | G-55 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 105 | | V-39 - Vactor Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 106 | | G-08 - Crane Truck | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 107 | | G-19 - Pickup Truck | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 108 | | G-45 - Cargo Van | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 109 | | G-48 - Pickup Truck | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 110 | | G-32 - Dump Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |

Capital Region Water
Wholesale Rate Calculation
Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | Total | Basis |
|------|-----------|------------------------|-----------------------|--------------|------------|------------|-------|-----------|--------|--|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | | |
| 111 | | G-33 - Utility Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 112 | | G-39 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 113 | | G-41 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 114 | | G-42 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 115 | | G-43 - Dump Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 116 | | G-52 - Dump Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 117 | | G-59 - Pickup Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 118 | | G-60 - Dump Truck | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 119 | | G-27 - Utility Cart | | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Operations vehicle. Based on allocation of Operations Supervisor and Operators. |
| 120 | | G-57 - Dump Trailer | | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Operations vehicle. Based on allocation of Operations Supervisor and Operators. |
| 121 | | G-58 - Dump Trailer | | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Operations vehicle. Based on allocation of Operations Supervisor and Operators. |
| 122 | | G-44 - Hydro Excavator | | 0.0% | 95.3% | 4.7% | 0.0% | 0.0% | 100.0% | Field operations vehicle. Based on overall Field Maintenance Division allocation. |
| 123 | | G-26 - Utility Cart | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 124 | | G-28 - Mower / Tractor | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 125 | | G-34 - Mower / Tractor | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 126 | | G-35 - Mower / Tractor | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |

Capital Region Water
Wholesale Rate Calculation
Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | Total | Basis |
|------|-----------|--|-----------------------|--------------|------------|------------|-------|-----------|--------|--|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | | |
| 127 | | G-37 - Mower / Tractor | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 128 | | G-50 - Forklift | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 129 | | G-53 - Forklift | | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% | 100.0% | Facility maintenance vehicle. Based on overall Maintenance Division allocation. |
| 130 | | G-11 - Excavator | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 131 | | G-21 - Black Top Roller | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 132 | | G-23 - Trailer | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 133 | | G-25 - Air Compressor | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 134 | | G-29 - Backhoe | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 135 | | G-40 - Skid Steer Loader | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 136 | | G-49 - Wheel Loader | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 137 | | G-51 - Tar Buggy Trailer | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 138 | | G-61 - Backhoe | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 139 | | G-62 - Signboard Trailer | | 0.0% | 30.0% | 70.0% | 0.0% | 0.0% | 100.0% | Field maintenance vehicle. Based on overall Field Maintenance Division allocation. |
| 140 | 15 | Full Vehicle Allocation | | 28.9% | 26.6% | 44.4% | 0.0% | 0.0% | 100.0% | |
| | | Engineering Services Projects | | | | | | | | |
| 141 | | Asset Management Program Development | \$ 145,000 | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% | Updated in 2017 per CRW. |
| 142 | | CMMS (Cityworks) Professional Services | 35,000 | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% | Updated in 2017 per CRW. |
| 143 | | GIS Program Professional Services | 15,000 | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% | Updated in 2017 per CRW. |
| 144 | | Energy Management Optimization Studies | 59,000 | 90.0% | 10.0% | 0.0% | 0.0% | 0.0% | 100.0% | Updated in 2017 per CRW. |

Capital Region Water
 Wholesale Rate Calculation
 Allocation References

Table A-3

| Line | Alloc Ref | Description | FY 2018 Budgeted Cost | Allocation % | | | | | Total | Basis |
|------|-----------|--|-----------------------|--------------|------------|------------|-------|-----------|--------|--------------------------|
| | | | | Treatment | Conveyance | Collection | Admin | City Only | | |
| 145 | | Development Review Professional Services | 10,000 | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | Updated in 2017 per CRW. |
| 146 | | GSI Design Services | 250,000 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | Updated in 2017 per CRW. |
| 147 | | Total: | \$ 514,000 | | | | | | | |
| 148 | 16 | Engineering Services Allocation | | 23.0% | 13.8% | 61.3% | 0.0% | 1.9% | 100.0% | |

Capital Region Water
Wholesale Rate Calculation
Allocation of Capital Projects

Table A-4

FY2018

| Project | FY2018 Expenditure | Treatment | Conveyance | Collection | Administration | Other | Total |
|---|-----------------------|--------------|---------------|--------------|----------------|-------|---------------|
| Aerobic Digester Roof Repair and Primary Digester Facilities | 5,513,985 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Cogeneration Improvements | 750,000 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Front Street Pump Station Improvements | 2,561,000 | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Paxton Creek Interceptor Repairs | 7,274,254 | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Front Street Interceptor Repairs | 1,071,605 | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Asylum Run Interceptor Improvements | 1,551,200 | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Collection System Rehabilitation | 2,722,950 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% |
| Contracted Pipe Cleaning and CCTV | 750,000 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% |
| NMCP and LTCP | 1,379,360 | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% |
| CSO Outfall Remediation | 400,000 | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% |
| Parks GSI | 884,014 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% |
| Summit Terrace Green Neighborhood GSI | 488,350 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% |
| MulDer Square GSI | 300,000 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% |
| South Allison Hill GSI | 711,388 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% |
| Joint Pollutant Reduction Plan (MS4) Stream Restoration | 377,200 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% |
| Ww Pump Rebuilds | 40,000 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Ww HVAC Renovation | 78,000 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Ww 2018 Building Renovations | 25,000 | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Ww Facility Signage | 20,000 | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% |
| Ww Vehicular Equipment | 487,000 | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% |
| Ww Operations Equipment | 60,000 | 33.3% | 33.3% | 33.4% | 0.0% | 0.0% | 100.0% |
| Total | \$ 27,445,306 | | | | | | |
| Allocation of Projects to be Funded with Cash or New Revenue Bonds (\$) | | \$ 7,188,323 | \$ 13,239,397 | \$ 7,017,586 | \$ - | \$ - | \$ 27,445,306 |
| Allocation of Projects to be Funded with Cash or New Revenue Bonds (%) | | 26.2% | 48.2% | 25.6% | 0.0% | 0.0% | 100.0% |

Capital Region Water
Wholesale Rate Calculation
Units of Service (FY2016)

Table A-5

| Customer Class | Residential EDUs ¹ | Commercial EDUs | Residential Non-Metered Flow (1,000 gallons) | Commercial Non-Metered Flow (1,000 gallons) | Residential Metered Flow (1,000 gallons) | Commercial Metered Flow (1,000 gallons) | Industrial Metered Flow (1,000 gallons) | Utility Metered Flow (1,000 gallons) | Public Metered Flow (1,000 gallons) | Other Metered Flow (1,000 gallons) | Total Flow (1,000 gallons) |
|-----------------------------------|----------------------------------|--------------------|---|--|---|--|--|---|--|---|----------------------------------|
| City of Harrisburg | - | - | - | - | 794,179 | 576,091 | 204,842 | - | 75,529 | - | 1,650,641 |
| Penbrook Borough | 1,327 | - | 59,715 | - | - | 10,440 | - | - | - | - | 70,155 |
| Paxtang Borough | 665 | - | 29,925 | - | - | 5,546 | - | - | - | - | 35,471 |
| Swatara Township - via Harrisburg | - | - | - | - | 397,483 | - | - | - | - | - | 397,483 |
| Swatara Township - via Steelton | - | - | - | - | 70,635 | - | - | - | - | - | 70,635 |
| Lower Paxton Township | 12,867 | 497 | 579,015 | 22,365 | - | 174,516 | - | - | - | - | 775,896 |
| Susquehanna Township | 11,019 | - | 495,855 | - | - | 174,214 | - | - | - | - | 670,069 |
| Steelton Borough | - | - | - | - | 120,255 | 10,009 | - | - | - | - | 130,264 |
| Total | 25,878 | 497 | 1,164,510 | 22,365 | 1,382,552 | 950,816 | 204,842 | - | 75,529 | - | 3,800,614 |

¹One EDU was assumed to equal 45,000 gallons of residential non-metered consumption per year.

Capital Region Water
 Wholesale Rate Calculation
 Unit Cost of Service

Table A-6

FY 2018

| Description | Treatment | Conveyance | Collection | Admin. | City Only |
|--|------------------|-------------------|-------------------|---------------|------------------|
| Units of Service (1,000 gallons) | 3,800,614 | 3,599,715 | 1,650,641 | - | 1,650,641 |
| Operating Revenue Requirement | \$ 5,721,260 | \$ 2,049,774 | \$ 2,733,531 | \$ - | \$ 1,055,514 |
| Capital Revenue Requirement | \$ 4,585,301 | \$ 2,724,864 | \$ 1,626,464 | \$ - | \$ - |
| Operating Unit Cost (\$/1,000 gallons) | \$1.505 | \$0.569 | \$1.656 | \$0.000 | \$0.639 |
| Capital Unit Cost (\$/1,000 gallons) | \$1.206 | \$0.757 | \$0.985 | \$0.000 | \$0.000 |

Capital Region Water
Wholesale Rate Calculation
Retail and Wholesale Rates

Table A-7

FY 2018

| Description | City | Suburban | Steelton |
|-------------------------------------|---------------|-----------------|-----------------|
| O&M Rate | | | |
| Treatment | \$1.51 | \$1.51 | \$1.51 |
| Conveyance | \$0.57 | \$0.57 | \$0.00 |
| Collection | \$1.66 | \$0.00 | \$0.00 |
| Other | <u>\$0.64</u> | <u>\$0.00</u> | <u>\$0.00</u> |
| Total (\$/1,000 gal.) | \$4.37 | \$2.07 | \$1.51 |
| Capital Charge (Lease Rental Rates) | | | |
| Treatment | \$1.21 | \$1.39 | \$1.39 |
| Conveyance | \$0.76 | \$0.87 | \$0.00 |
| Collection | \$0.99 | \$0.00 | \$0.00 |
| Other | <u>\$0.00</u> | <u>\$0.00</u> | <u>\$0.00</u> |
| Total (\$/1,000 gal.) | \$2.95 | \$2.26 | \$1.39 |
| Total Rate (\$/1,000 gal.) | \$7.32 | \$4.33 | \$2.89 |
| Less: Prior Year True-Up | <u>\$0.00</u> | <u>\$0.00</u> | <u>\$0.00</u> |
| Adjusted Total Rate (\$/1,000 gal.) | \$7.32 | \$4.33 | \$2.89 |
| Existing Total Rate (\$/1,000 gal.) | \$6.53 | \$4.19 | \$2.55 |
| Percent Increase / Decrease | 12.1% | 3.4% | 13.4% |