

BUDGET

FISCAL YEAR 2020-2021



April 22, 2020

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MEMBERS OF THE BOARD

William R. Knocke, Chairman
Marc A. Verniel, Vice-Chairman
Wayne O. Nelson, Secretary
F. Craig Meadows, Treasurer
Christopher H. Kiwus

Caleb M. Taylor, P.E.
Executive Director

The enclosed *Recommended FY2020-2021 Budget* for the NRV Regional Water Authority was presented and passed by the Members of the Board at the regularly scheduled Board Meeting held on April 22, 2020 at 4PM.

William R. Knocke

William R. Knocke, Chairman

5/6/2020

Date

Caleb M. Taylor

Caleb M. Taylor, Executive Director

5/4/2020

Date

F. Craig Meadows

F. Craig Meadows, Treasurer

5/6/2020

Date

Sharon Huff

Attest

5/6/2020

Date



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Christopher H. Kiwus

Caleb M. Taylor, P.E.
Executive Director

April 22, 2020

FY2020-2021 Budget Letter

Dear NRV Regional Water Authority Board Members:

We are pleased to submit for your review the ***Recommended FY2020-2021 Budget*** for the period beginning July 1, 2020 through June 30, 2021. This year's budget is balanced and meets the strategic goals of the Water Authority.

The purpose of our budget is to plan necessary operating and capital expenditures for the next fiscal year to meet Water Authority Board expectations and maintain the level of service that has been provided to its customers while servicing the Water Authority's debt. Quality water service will continue to be offered at a reasonable cost. Highlights of the ***Recommended FY2020-2021 Budget*** include:

1. A water rate increase from \$3.70 to \$3.77 per 1,000 gallons (or a 1.9% increase) as adopted by the NRV Regional Water Authority Board of Directors on February 22, 2017.
2. The proposed budget assumes an increase in sales of 0.5% in the coming year. This is analogous to the 0.5% increase in sales as projected in the revised cash flow projection analysis dated May 15, 2018. Attached to the budget is the 2019 Water and Wastewater Rate Study performed by Draper Aden Associates.
3. Chemical costs are up by approximately 3%. Chemical bids were renewed at the beginning of 2020 only marginal increases due to inflation were experienced which have helped keep pricing consistent for budgeting purposes.
4. A compensation increase of 5% for Authority employees.

5. VRS rate remains at 18.30% with insurance slightly increasing from 1.31% to 1.34%.
6. Health Insurance premiums will remain the same for FY2020-2021.
7. Capital Improvement expenditures have been projected to be \$550,000 paid from the reserve account, and approximately \$36 million paid from debt.

This budget incorporates the annual operations and maintenance as well as capital improvement needs identified by engineering studies and NRVWA staff. The fiscal condition of the Water Authority remains sound as shown in the *Recommended FY2020-2021 Budget*. We look forward to the next year and continued success at the NRV Regional Water Authority.

Sincerely,

Caleb M. Taylor

Caleb M. Taylor, P.E.
Executive Director

CMT/sh

REVENUES

Water Rates

Historical water rates for the Authority’s customers are shown in Table 1.

Table 1. Water Rates 2013-2021

Fiscal Year	Water Rate	Percent Increase
2013-2014	1.94	7.2
2014-2015	2.08	7.2
2015-2016	2.22	6.7
2016-2017	2.34	5.4
2017-2018	3.08	31.6
2018-2019	3.61	17.2
2019-2020	3.70	2.5
2020-2021	3.77	1.9

As shown in Table 1, water rates have increased on average 10% annually. The water rate increased noticeably in 2018 and 2019 with a 31.6% and 17.2 % increase, respectively. The increase is the result of increases in operations and maintenance costs due to inflation as well as the debt service obligations associated with the following:

1. 2013 Bond for Prices Fork Transmission Main (Joinder Project)
2. 2014 (refinanced 2005 bond) bond
3. 2019 Bond for Plum Creek Transmission Main (Joinder Project)
4. Water Treatment Plant Modernization/Upgrade

The NRV Regional Water Authority’s Cash Flow Projections that outlines the existing and proposed water rates is provided in Appendix A.

The NRV Regional Water Authority’s proposed rate of \$3.77/1,000 gallons is a comparable rate when considering other wholesale water providers in the Commonwealth. More information on the wholesale water rates along with information on each of the Authorities is provided in Appendix A.

Water Sales

Annual water sales for the NRV Regional Water Authority from 2014-2019 are shown in Figure 1.

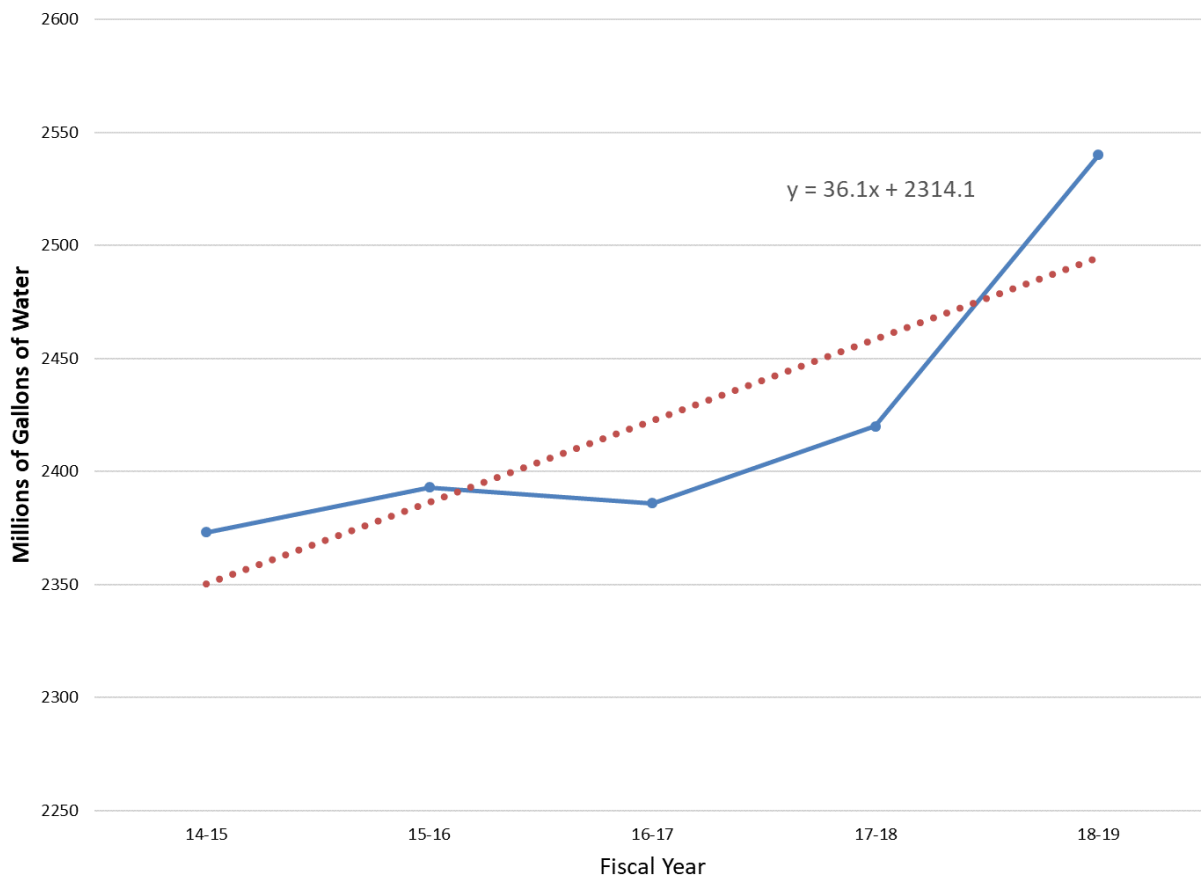


Figure 1. Annual Water Sales 2014-2019

The annual water sales in the last five (5) years for the Water Authority since the Joinder Study have risen during that time. In evaluating the trend for where anticipated water sales would be for FY2020-2021, many variables come into play such as weather patterns and economic growth. While weather is unpredictable for determining water sales, these historical numbers suggest that there will be little change in the annual water sales. Additionally, there is not any significant growth projected in the Water Authority’s service area within the next year.

For the Water Authority, the financial analysis assumed a one-half (0.5) percent increase in water sales for the 2020-2021 fiscal year. In evaluating the trends seen in Figure 1, a 0.5 percent increase in water sales was projected for 2020-2021 which provides a conservative estimate to the projected annual water sales for the Water Authority in 2020-2021.

Average water sales by customer are shown in Figure 2.

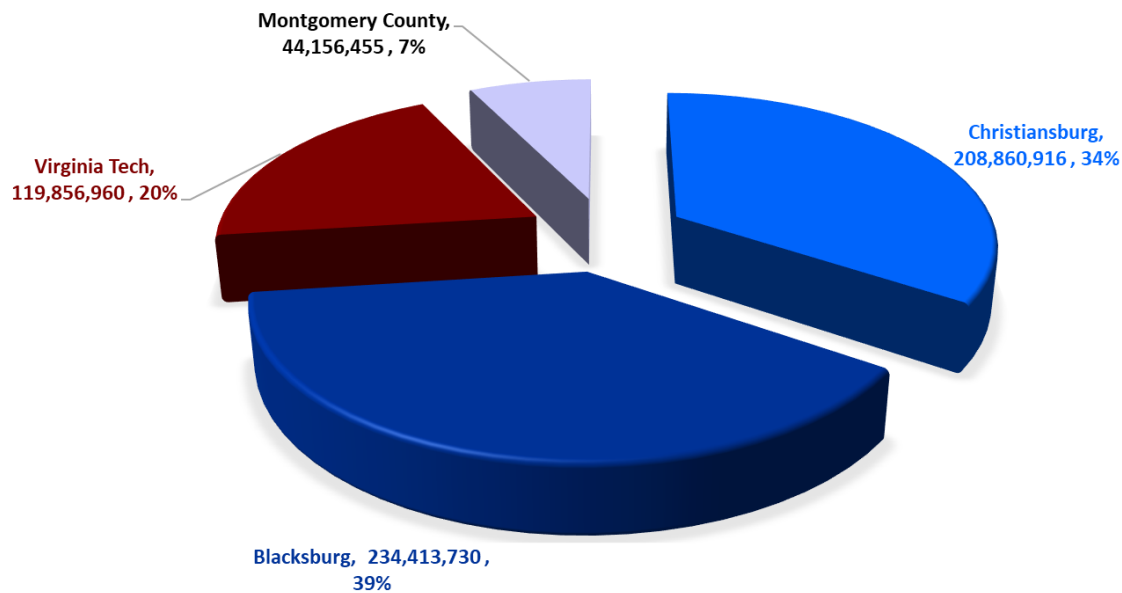


Figure 2. Average Water Sales by Customer in Million Gallons 2013-2019

Of the four customers (Blacksburg, Christiansburg, Virginia Tech and Montgomery County), approximately 73% of the water is being sold to the Towns of Blacksburg and Christiansburg while Virginia Tech and Montgomery County comprises approximately 20% and 7% of the total sales respectively. The percentages presented in Figure 2 follow historical usage.

The 2019 Water and Wastewater Rate Report prepared by Draper Aden Associates identifies trends in water rates for residential customers as well as other factors contributing to the water rates across the commonwealth. The towns and the county participate in this report. A copy of the 2019 Water and Wastewater Rate Report is provided in Appendix B.

Proposed FY2020-2021 Revenue Budget

The Recommended FY2020-2021 Revenue Budget based on the water rates and sales presented is shown in Table 2.

Table 2. FY2020-2021 Revenue Budget

<u>REVENUE</u>	Proposed Budget FY20-21	Estimated Year End FY19-20	Increase (Decrease) FY20 to FY21
VIRGINIA TECH	\$ 1,811,000		
MONTGOMERY COUNTY	\$ 667,000		
TOWN OF BLACKSBURG	\$ 3,543,000		
TOWN OF CHRISTIANSBURG	\$ 3,157,000		
INTEREST INCOME	\$ 70,000		
MEMBERSHIP INTEREST	\$ 24,000		
TRANSER IN-CAPITAL CONTRIBUTION	-		
MISCELLANEOUS	\$ 5,000		
GAIN/LOSS ON SALE OF ASSETS	-		
TOTAL REVENUE =	\$ 9,277,000	\$ 9,058,000	\$ 219,000

The Recommended FY2020-2021 Revenue Budget is \$9,277,000. This represents a 2.4% increase in revenue from FY2019-2020. The revenue increase is the net result of the water rate increase as well as the small projected increase in water sales. The recommended revenue budget for FY2020-2021 takes a conservative but realistic approach of what the Water Authority could expect over the upcoming year.

EXPENSES

Salaries/Staffing

Salaries is the single largest operating expense for the Water Authority. This is typical for most utilities that provides a similar type of service such as the Water Authority.

Electrical Service

Electrical service is the Water Authority's second largest expense in the operating budget. It comprises approximately 20% of the total operating budget.

Chemicals and Testing

Chemicals and Testing is the Water Authority's third largest expense in the operating budget. In the first quarter of 2020, all of the chemicals utilized by the Water Authority in the treatment of water were renewed for competitive pricing. Based on the chemical usage in 2019-2020 and anticipated usage in 2020-2021, chemical and testing costs are up 3%. The majority of the cost increases associated with the chemicals is the freight and fuel to have them delivered to the site.

VRS Retirement

VRS retirement percentages for the Authority essentially almost remained the same in 2020-2021 due to VRS's two year audit of staffing, staff age, anticipated retirements, and risk analysis. Based on the information of the existing staff, the VRS insurance percentage slightly increased from 1.31% to 1.34% while the VRS pension percentage remained the same at 18.30% for fiscal years 2021 and 2022.

Insurance

Insurance premiums for the Water Authority remain unchanged in the upcoming fiscal year through our provider The Local Choice.

Proposed FY2020-2021 Expense Budget

The Recommended FY2020-2021 Expense Budget based on the anticipated operational and maintenance expenses is shown in Table 3.

Table 3. FY2020-2021 Expense Budget

EXPENSES	Proposed Budget FY20-21	Current Budget FY19-20	Estimated Year End FY19-20	Increase (Decrease) FY20 to FY21
ELECTRICAL SERVICES	\$ 860,000	\$ 825,000	\$ 800,000	\$ 35,000
CHEMICALS AND TESTING	\$ 400,000	\$ 325,000	\$ 300,000	\$ 75,000
LEGAL SERVICES	\$ 25,000	\$ 35,000	\$ 31,500	\$ (10,000)
SALARIES-REGULAR	\$ 1,540,000	\$ 1,480,000	\$ 1,470,000	\$ 60,000
SALARIES-OVERTIME	\$ 133,000	\$ 128,000	\$ 126,000	\$ 5,000
FICA	\$ 129,000	\$ 126,000	\$ 120,000	\$ 3,000
VRS RETIREMENT	\$ 298,000	\$ 291,000	\$ 210,000	\$ 7,000
EMPLOYEE BENEFITS	\$ 117,000	\$ 106,000	\$ 41,000	\$ 11,000
GENERAL LIABILITY INSURANCE	\$ 85,000	\$ 75,000	\$ 75,000	\$ 10,000
HEALTH INSURANCE	\$ 291,000	\$ 267,000	\$ 267,000	\$ 24,000
OTHER POSTEMPLOYMENT BENEFITS	\$ 35,000	\$ 38,000	\$ 35,000	\$ (3,000)
ENGINEERING AND ARCH. SERVICES	\$ 210,000	\$ 200,000	\$ 100,000	\$ 10,000
OTHER PROFESSIONAL SERVICES	\$ 102,000	\$ 102,000	\$ 101,000	\$ 0
LAB SUPPLIES	\$ 45,000	\$ 45,000	\$ 42,000	\$ 0
ADVERTISING	\$ 7,500	\$ 7,000	\$ 4,000	\$ 500
OFFICE SUPPLIES	\$ 12,500	\$ 12,500	\$ 5,000	\$ 0
POSTAGE	\$ 3,500	\$ 3,500	\$ 3,100	\$ 0
JANITORIAL SUPPLIES	\$ 7,500	\$ 8,000	\$ 7,500	\$ (500)
DUES AND MEMBERSHIPS	\$ 19,000	\$ 17,000	\$ 16,500	\$ 2,000
WEARING APPAREL	\$ 16,000	\$ 16,000	\$ 16,000	\$ 0
EXPENDABLE EQUIPMENT	\$ 25,000	\$ 25,000	\$ 15,000	\$ 0
MAINTENANCE OF LINES	\$ 50,000	\$ 50,000	\$ 10,000	\$ 0
MAINTENANCE OF EQUIPMENT	\$ 50,000	\$ 68,000	\$ 2,500	\$ (18,000)
MAINTENANCE OF BOOSTER STATIONS	\$ 55,000	\$ 55,000	\$ 35,000	\$ 0
MAINTENANCE OF TANKS	\$ 20,000	\$ 20,000	\$ 1,000	\$ 0
MAINTENANCE OF INSTRUMENTATION	\$ 17,000	\$ 17,000	\$ 15,600	\$ 0
NON-PROFESSIONAL SERVICES	\$ 40,000	\$ 40,400	\$ 40,000	\$ (400)
SAMPLING, TESTING, AND MONITORING	\$ 10,000	\$ 15,000	\$ 5,000	\$ (5,000)
METERS	\$ 32,000	\$ 32,000	\$ 30,000	\$ 0
MILEAGE	\$ 1,000	\$ 1,000	\$ 0	\$ 0
MEALS AND LODGING	\$ 5,000	\$ 4,500	\$ 4,000	\$ 500
MAINTENANCE OF AUTO EQUIPMENT	\$ 43,000	\$ 39,000	\$ 28,000	\$ 4,000
HEATING SERVICES-GAS, OIL, KEROSENE	\$ 10,000	\$ 15,000	\$ 8,500	\$ (5,000)
TELEPHONE SERVICE	\$ 12,000	\$ 15,000	\$ 9,000	\$ (3,000)
CELL PHONE SERVICE	\$ 11,000	\$ 9,000	\$ 9,000	\$ 2,000
EDUCATION/REGISTRATION	\$ 10,000	\$ 9,500	\$ 6,500	\$ 500
UTILITIES	\$ 10,000	\$ 10,000	\$ 100	\$ 0
MISCELLANEOUS	\$ 21,000	\$ 16,000	\$ 4,500	\$ 5,000
PERMITS	\$ 20,000	\$ 18,000	\$ 15,500	\$ 2,000
SOLIDS HANDLING AND DISPOSAL	\$ 30,000	\$ 30,000	\$ 25,000	\$ 0
MAINTENANCE OF BUILDING AND GROUNDS	\$ 30,000	\$ 30,000	\$ 30,000	\$ 0
DEBT SERVICE	\$ 894,100	\$ 391,300	\$ 391,300	\$ 502,800
OPERATIONS & MAINTENANCE TOTAL ^a=	\$ 4,838,000	\$ 4,626,400	\$ 4,064,800	\$ 211,600

^a Operations and Maintenance Total does not include Debt Service.

The Recommended FY2020-2021 Expense Budget is \$4,838,000. This represents a 4.6% increase in expenses from FY2019-2020. The small increase in expenses is the result of inflation coupled with needs identified by staff to maintain a safe working environment and properly functioning equipment. The Financial Analysis projected FY2020-2021 total expenses of \$5,112,636 which is 5.7% more than the recommended expense budget of \$4,838,000. The recommended expense budget for FY2020-2021 takes into account the identified needs of the Water Authority operations over the upcoming year while building the necessary days of cash on hand that the Authority needs to have as recommended by its financial advisors as well as pay for the debt service obligations associated with the capital improvement plan needs of the Authority.

The difference between the Recommended Revenues and Expenses are the funds available for capital improvements. Table 4 presents the Recommended FY2020-2021 Budget summary.

Table 4. Recommended FY2020-2021 Budget Summary

	Proposed Budget FY20-21	Budget FY19-20	Increase (Decrease) FY20 to FY21
TOTAL REVENUE =	\$ 9,277,000	\$ 9,058,000	\$ 219,000
OPERATIONS & MAINTENANCE TOTAL =	\$ 4,838,000	\$ 4,626,400	\$ 211,600
FY2020-2021 180 DAYS CASH ON HAND =	\$ 2,385,870	\$ 2,281,510	
TOTAL AVAILABLE FOR IMPROVEMENTS ^a =	\$ 1,159,030	\$ 1,758,790	
PROPOSED IMPROVEMENTS =	\$ 550,000	\$ 3,071,500	
SURPLUS/RESERVE PAYMENT =	\$ 609,030	\$ (1,312,710)	

^a Accounts for debt service payment of \$894,100 for FY20-21 and \$391,300 for FY19-20.

The total available funds for capital improvements in FY2020-2021 is \$1,159,030. The total proposed capital improvements for FY2020-2021 totals \$550,000. The proposed capital improvements funded through the operating budget include: Route 114 pump station improvements and Route 460 pump station improvements and WTP Modernization Phase 1 Contract 2 (Administrative and Shop buildings). Major capital improvement projects that will be funded through bonds and low interest rate loans through programs such as the Virginia Department of Health’s State Revolving Loan Fund Program include:

1. Water Treatment Plant Modernization Phase 2 Project
2. Plum Creek Transmission Line Project (Phases 1, 2 & 3)

We anticipate FY2020-2021 to be a capital improvements year with the projects identified above progressing through bidding and construction. The Authority will continue to plan in the upcoming fiscal year to review and update the capital outlay using the latest information along with staff input and an overall master plan to build a solid path towards continued sustainability.

APPENDICES

**APPENDIX A:
NRV REGIONAL
WATER AUTHORITY
CASH FLOW
PROJECTIONS &
WHOLESALE
WATER RATES**

Memorandum

To: Caleb Taylor, PE
From: Sheryl Stephens
Date: April 20, 2020
Project Number: B14128B-08
Subject: Projections for FY2021 – 2025;
 Wholesale Rates/Other Wholesale Water Authorities

The purpose of this memorandum is to provide:

- Revised revenue and expense projections for the fiscal years 2021 – 2025, and
- Wholesale water rates in effect for other authorities in Virginia.

Revised Revenue and Expense Projections:

The cashflow projection developed in 2019 was updated using the following assumptions:

- Water sales continue to increase at .5% per year.
- The following wholesale rates are used:

Table 1: Projected Wholesale Rates (FY2020 – 2025)

FY	Adopted			Projected		
	2020	2021	2022	2023	2024	2025
Rate	\$3.70	\$3.77	\$3.97	\$4.05	\$4.13	\$4.21
% increase	2.5%	1.9%	5.3%	2.0%	2.0%	2.0%

- Most operating expenses increase at 4% per year.
- Debt service on the water treatment plant upgrade is based on a project cost of \$45.7 million. The project is funded using VDH funds and cash reserves:
 - VDH funding is \$36.7 million; 30 years; 2.5% interest, annual debt service of \$1.76 million. Debt service starts in FY 2023.
 - The balance of the WTP cost - \$9 million, is funded with reserves.
- There is no additional "New Debt" during this 5-year period.
- During the 5-year period, the following projects are funded using cash reserves:
 - WTP Upgrade, \$9,000,000 in FY23 (mentioned above);
 - Route 114 Pump Station Upgrade, \$500,000 in FY21
 - Blacksburg Pump Station Study and Upgrades, \$500,000 in FY22
 - WTP – Flocculation Project - \$2,333,000 in FY23

Projected Impact of COVID-19 in FY20:

Water sales in March were approximately 7 percent (7%) less than the previous month. As would be expected, the water sales to Virginia Tech showed the greatest decline – 29% decline in March as compared to February.

Water sales to each member locality vary from month to month for a wide variety of reasons, but assuming that the overall sales are “down” 7% to 10% during the final quarter of FY20, the revenue for the fourth quarter may be \$125,000 - \$200,000 less than projected. The actual reduction in sales will be impacted by many factors, including when various businesses and services began to “shut-down” and if any begin to resume operations during the month of June. And, the reduced sales could continue into the first quarter of the next fiscal year.

The impact to the cash flow projections is that the projected transfers to the capital reserve would be reduced by an amount approximately equal to the decreased revenue – or, by approximately \$125,000 to \$200,000. However, a reduction in sales of this magnitude **will not** have a meaningful impact on the ability to pay operating expenses or debt service; nor will this reduction in revenue cause the Authority to fail to meet the debt coverage or days cash on hand ratios.

Summary:

Based on the adopted rates through FY 2022 :

- Debt coverage exceeds the “target” of 150% each year.
- Days Cash on Hand exceeds the target of 180 days.
- Reserves are projected to be approximately \$14 million at the end of FY22.

The 5-year projection is attached. see **Table 2** on the following page.

Recommendation:

Until the near-term capital projects are complete, it is recommended that the NRV Water Authority maintain the adopted wholesale rates through FY22. Further, the Authority may need to continue to increase the wholesale rates in the years following FY22, depending on future operating costs and the final cost of the capital projects.

Table 2: NRV Cashflow Projection – FY2020 - FY2025

	2020	2021	2022	2023	2024	2025
Wholesale Rate (\$/1,000 gallons)	\$3.70	\$3.77	\$3.97	\$4.05	\$4.13	\$4.21
Revenue						
Revenue from Water Sales	\$8,959,000	\$9,178,000	\$9,713,218	\$9,957,020	\$10,206,941	\$10,463,135
Other Income	\$99,000	\$99,000	\$99,000	\$99,000	\$99,000	\$99,000
Total Revenue	\$9,058,000	\$9,277,000	\$9,812,218	\$10,056,020	\$10,305,941	\$10,562,135
Expenses						
Operating Expenses	\$4,626,400	\$4,838,000	\$5,156,437	\$5,423,065	\$5,673,859	\$5,972,406
Existing Debt Service	\$554,173	\$894,097	\$893,406	\$894,509	\$891,856	\$892,981
Projected Debt Service:						
Upgrade of Water Plant (\$36.7 M)	\$-	\$-	\$-	\$883,060	\$1,766,120	\$1,766,120
Total Expenses	\$5,180,573	\$5,732,097	\$6,049,843	\$7,200,634	\$8,331,835	\$8,631,508
Surplus/Contribution to Reserve	\$3,877,427	\$3,544,903	\$3,762,375	\$2,853,151	\$1,971,453	\$1,931,752
Analysis of Capital Reserve:						
Beginning Capital Reserve	\$6,841,578	\$8,305,006	\$11,349,909	\$14,612,283	\$6,132,435	\$8,103,887
Additions to Reserve	\$3,877,427	\$3,544,903	\$3,762,375	\$2,853,151	\$1,971,453	\$1,931,752
Use of Unrestricted Reserve:						
Projects Funded with Reserves:						
Administration and Shop Bldgs.	\$(2,414,000)	\$-	\$-	\$-	\$-	\$-
Upgrade of Water Plant	\$-	\$-	\$-	\$(9,000,000)	\$-	\$-
Upgrades - Blacksburg Pump Station (Rt. 460 Pump Station)	\$-	\$-	\$(500,000)	\$-	\$-	\$-
WTP - Flocculation	\$-	\$-	\$-	\$(2,333,000)	\$-	\$-
Route 114 PS Upgrades	\$-	\$(500,000)	\$-	\$-	\$-	\$-
Route 114 Transmission Upgrade	\$-	\$-	\$-	\$-	\$-	\$-
Bburg S. Main St. Transmission Main Replacement	\$-	\$-	\$-	\$-	\$-	\$-
Prices Fork II	\$-	\$-	\$-	\$-	\$-	\$-
Ending Reserve	\$8,305,006	\$11,349,909	\$14,612,283	\$6,132,435	\$8,103,887	\$10,035,639
Debt Coverage:						
Total Revenue Available for Debt Service	\$4,431,600	\$4,439,000	\$4,655,781	\$4,632,955	\$4,632,082	\$4,589,729
Debt Coverage	8.00	4.96	5.21	2.60	1.74	1.73
Does Coverage = 150% or more?	Yes	Yes	Yes	Yes	Yes	Yes
Days Cash on Hand:						
Total Operating Expenses / 365 Days	\$12,675	\$13,255	\$14,127	\$14,858	\$15,545	\$16,363
DCOH (Ending Reserve)/(Total Operating Exp./365)	655	856	1,034	413	521	613
Does DCOH Exceed 180 days?	Yes	Yes	Yes	Yes	Yes	Yes

Wholesale Water Rates:

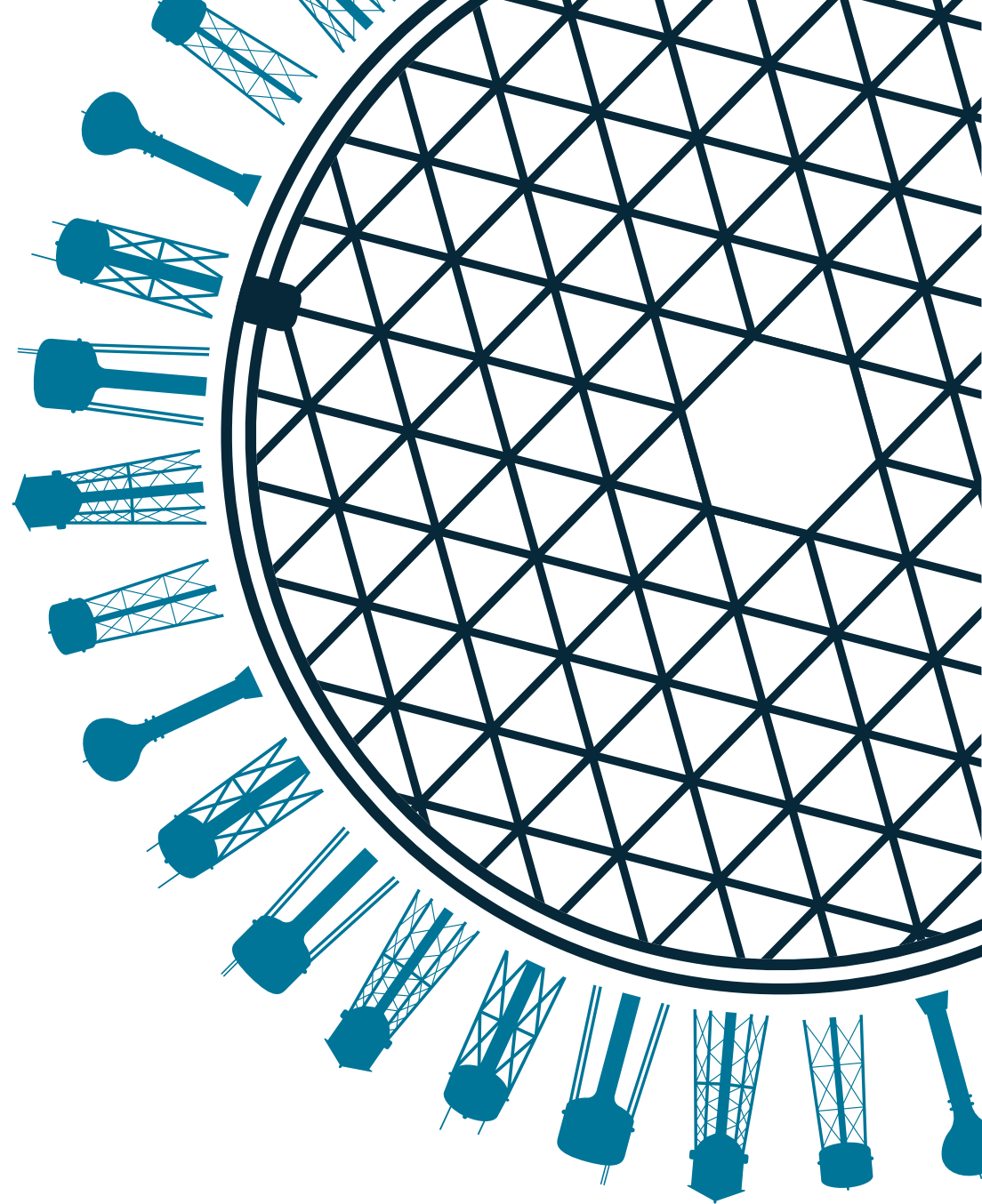
The following table details the historic and current wholesale water rates for select wholesale water providers in Virginia:

Table 3: Wholesale Rates FY2017 - FY2021
 (\$/1,000 gallons)

Authority – Locality	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year
	2017	2018	2019	2020	2021
NRV Regional Water Authority	\$2.34	\$3.08	\$3.61	\$3.70	\$3.77
Appomattox River WA - Chesterfield	\$0.90	\$0.90	\$1.00	\$0.98	\$1.03
Appomattox River WA - Colonial Heights	\$0.90	\$0.90	\$0.98	\$1.01	\$1.06
Appomattox River WA – Dinwiddie	\$1.41	\$1.41	\$1.58	\$1.45	\$1.48
Appomattox River WA - Petersburg	\$0.90	\$0.90	\$1.00	\$0.98	\$1.03
Appomattox River WA - Prince George	\$1.35	\$1.35	\$1.45	\$1.37	\$1.38
Maury SA - City of Lexington	\$2.55	\$2.60	\$2.72	\$3.32	\$3.70
Maury SA - Rockbridge PSA	\$2.55	\$2.60	\$2.72	\$3.32	\$3.70
Rivanna W&SA - Albemarle Co. SA (see note below)	\$3.88	\$4.03	N/A	\$3.59	N/A
Rivanna W&SA – Charlottesville (see note below)	\$2.86	\$2.98	N/A	\$4.63	N/A
Roanoke River Service Authority	\$3.70	\$3.70	\$3.77	\$3.77	\$3.77

**APPENDIX B:
2019 ANNUAL
WATER and
WASTEWATER
RATE REPORT**

The 31st Annual Virginia Water and Wastewater Rate Report 2019



 **Draper Aden Associates**
Engineering • Surveying • Environmental Services
Lasting Positive Impact®



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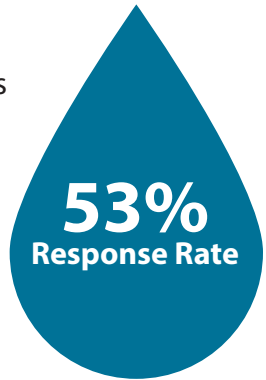
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Draper Aden Associates has provided water and wastewater rate analysis to local government clients across Virginia for several decades. For questions about this report or rate consultation services, please contact Sheryl Stephens at 804.261.2915 or sstephens@daa.com.

About Our Survey

For 31 years, Draper Aden Associates has provided the Annual Virginia Water and Wastewater Rate Report as a service to our clients and to water and sewer providers across the Commonwealth. Earlier this year, Draper Aden Associates conducted a survey to request water and wastewater rate information from 265 water and sewer providers; fifty-three percent (53%), or 140 utilities, responded to the survey and provided the data included in this report. Survey respondents provided information detailing:



- approximate number of residential and non-residential connections
- billing frequency (monthly, bi-monthly, or quarterly)
- the charge for residential customers using 3,000, 4,000, and 5,000 gallons of water per month
- the charge for non-residential customers using 1,000,000 gallons per month
- the current residential connection fee and capital recovery charge
- the year that rates and fees were last changed.

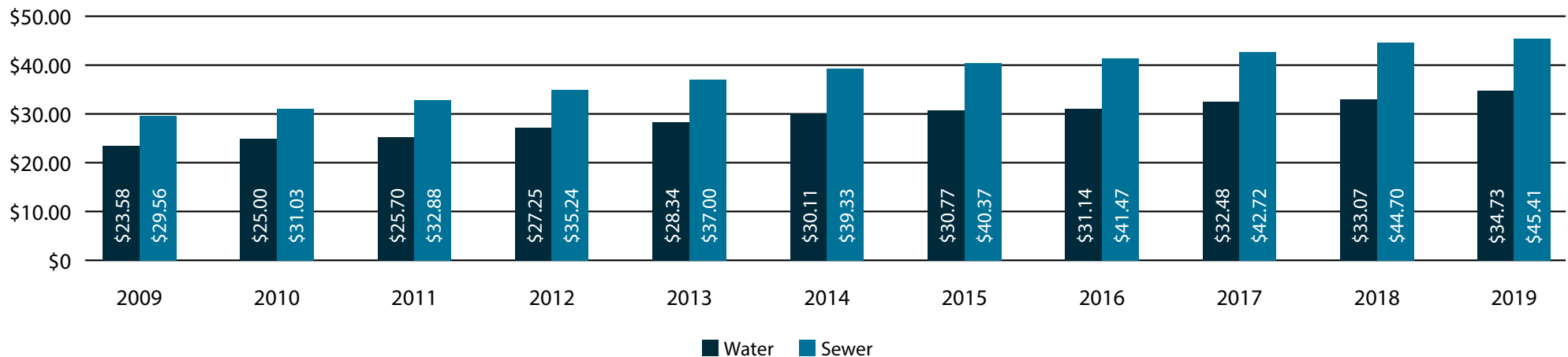
We are pleased to share these results and express our gratitude to all who participated in this effort.

Control Group Data

For over 20 years, Draper Aden's survey has tracked a select group comprised of 20 water and wastewater providers who represent a cross section of utilities across the Commonwealth. We have consistently tracked the monthly residential charges of these 20 utilities to provide an indication of trends in water and wastewater rates in Virginia – and to provide an indication of average increases over time.

The average water rate increased by 5% in 2019 and the average sewer rate increased by 1.6%. Since 2009, water rates have increased by approximately 3.95% per year and wastewater rates have increased by approximately 4.4% per year.

Average Monthly Water and Sewer Bills (based on 5,000 gallons of usage)



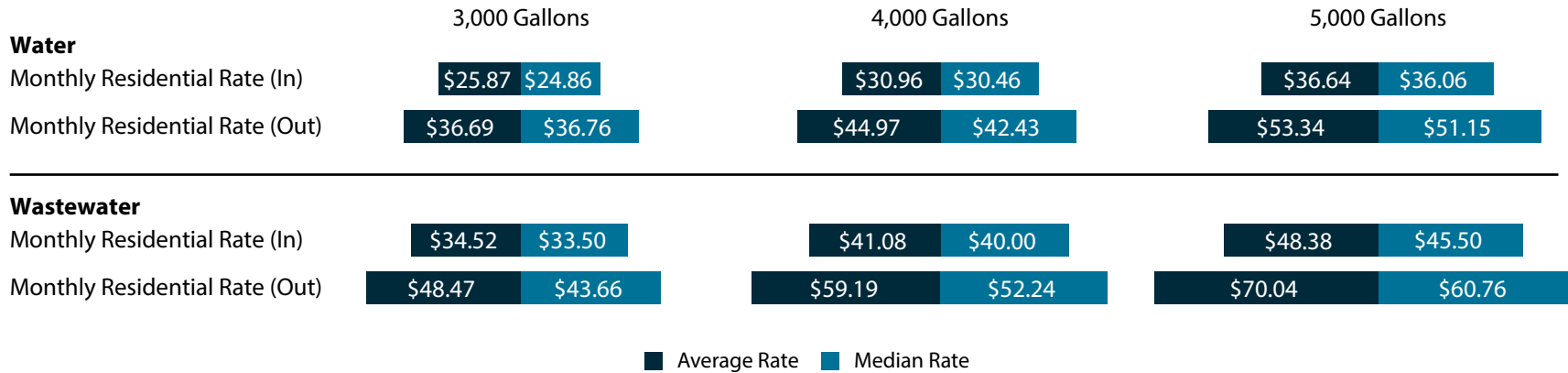
Water and Wastewater Rates

Utilities were asked to calculate the charges for residential customers using 3,000, 4,000 and 5,000 gallons of water per month. Utilities that bill on a bi-monthly or quarterly basis provided rates based on equivalent usage and the rates were normalized to monthly rates. Respondents were asked to use the rates in effect on July 1, 2019.



Residential Connections	# of Replies	Smallest System # of Connections	Largest System # of Connections	Average # of Connections	Median # of Connections
Water	128	5	360,778	11,644	2,379
Wastewater	119	32	116,659	8,999	1,752

Monthly Residential Rates

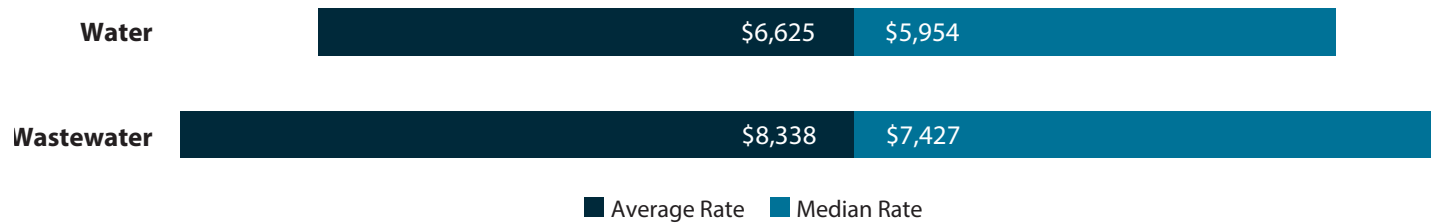


Utilities were also asked to provide the rate for a non-residential customer that uses 1,000,000 gallons per month. If the size of the meter influences the charges, the utility was to assume a 4-inch meter.



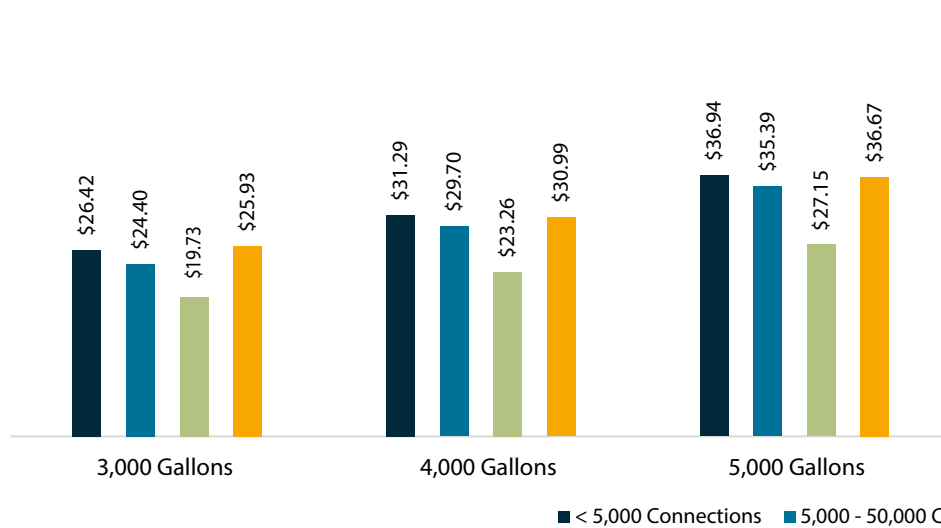
Non-residential Connections	# of Replies	Smallest System # of Connections	Largest System # of Connections	Average # of Connections	Median # of Connections
Water	126	4	12,644	787	212
Wastewater	115	3	8,687	695	207

Monthly Non-residential Rates (per 1 million gallons)



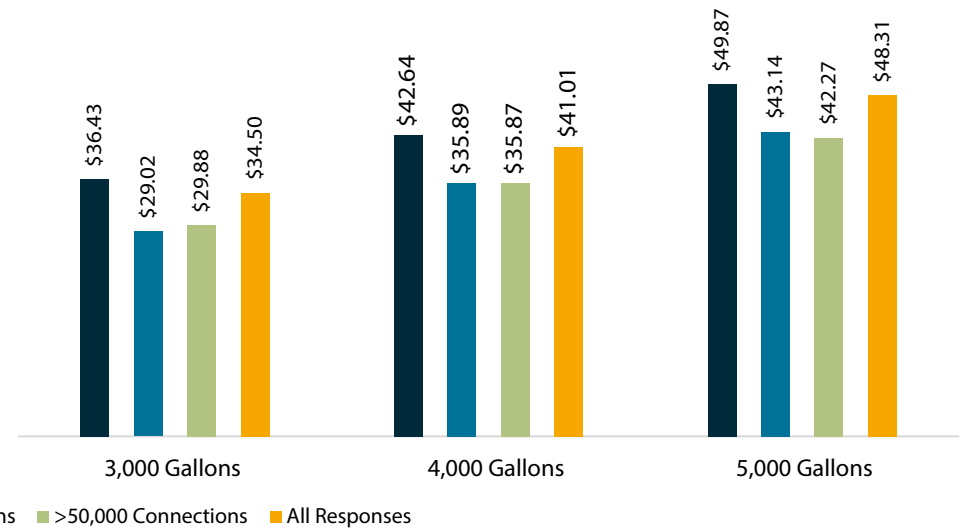
Water Rate Summary by System Size

Average Residential Water Rates by System Size (Monthly)



Wastewater Rate Summary by System Size

Average Residential Wastewater Rates by System Size (Monthly)



Connection Fees and Capital Recovery Charges

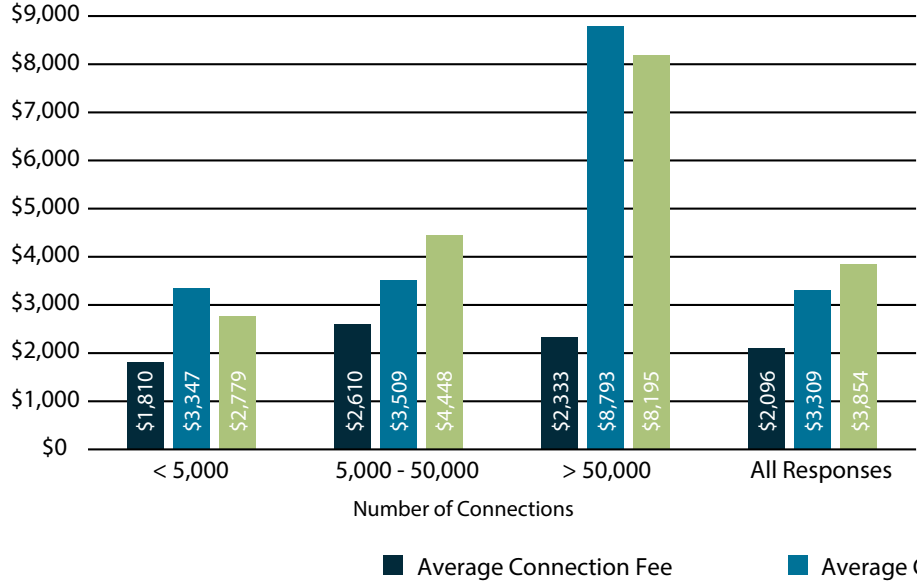
Residential connection fees and capital recovery charges are shown below. Connection fees are charges for tapping into the water main and running a line to the water meter or for tapping into the sewer line and running a lateral to the property line. Capital recovery charges are capital charges for buying into the existing system or charges that recognize the Cost of adding capacity to the system. Providers were asked to furnish the charges for a residential connection using a 5/8- or 3/4-inch meter.

	Connection Fees		Capital Recovery Charges		Combined Charges	
	Water	Wastewater	Water	Wastewater	Water	Wastewater
Average	\$2,096	\$3,309	\$3,854	\$4,363	\$3,521	\$4,624
Median	\$1,500	\$2,000	\$3,000	\$4,000	\$3,000	\$4,000
High	\$14,115	\$22,750	\$19,545	\$14,000	\$20,845	\$22,750
Low	\$50	\$80	\$400	\$385	\$200	\$150

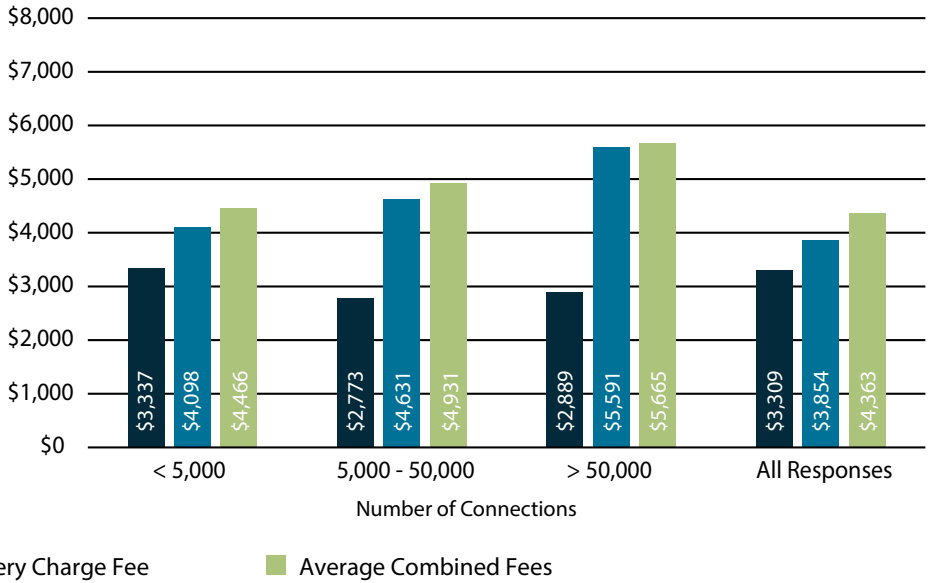
*Fees and charges in this table are for residential connections using a 5/8- or 3/4-inch meter



Water Connection and Capital Recovery Charges by System Size



Wastewater Connection and Capital Recovery Charges by System Size





Water Data

	# Residential Water Units	# Non-Residential Water Units	Residential Water Rate Inside (3,000 gal./mo.) ¹	Residential Water Rate Outside (3,000 gal./mo.) ¹	Residential Water Rate Inside (4,000 gal./mo.)	Residential Water Rate Outside (4,000 gal./mo.)	Residential Water Rate Inside (5,000 gal./mo.)	Residential Water Rate Outside (5,000 gal./mo.)	Water Rate - Business Inside (1 million gal./mo.)	Last Water Rate Change	Water Source ²	Residential Connection Fee ³	Last Water Connection Fee Change	Residential Capital Recovery Charge ³	Last Water CRC Rate Change
Albemarle County Service Authority	30,703	1,473	\$22.01		\$30.99		\$39.97		\$8,795	2019	S	\$1,026	2013	\$6,650	2017
Alleghany County	2,745	187	\$45.00		\$45.00		\$45.00		\$9,249	2019	S	\$1,000	2000		
Altavista, Town of	1,640	56	\$14.12	\$21.74	\$16.66	\$26.82	\$19.20	\$31.90	\$2,653	2019	C	\$1,500	2018		
Amelia County	294	147	\$22.50		\$27.00		\$31.50		\$4,725		G	Cost + 100%	2007	\$3,000	2013
Amherst County Service Authority	6,388	533	\$31.97		\$38.64		\$45.37		\$6,698	2019	S	\$1,285	2015	\$2,790	2015
Amherst, Town of	1,131	164	\$38.85	\$77.70	\$46.60	\$93.20	\$54.35	\$108.70	\$12,250	2019	S	\$50		\$1,700	
Appomattox, Town of	944	231	\$17.00		\$23.00		\$29.00		\$5,999	2019	S	\$1,500		\$2,500	
Appalachia, Town of	1,030	35	\$26.75	\$38.60	\$32.50	\$47.60	\$38.25	\$56.60	\$6,043	2019	S	\$1,250	2019		
Arlington County	35,518	1,961	\$14.10		\$18.80		\$23.50		\$4,700	2019	S	\$3,200	2008	\$85/DFU	2013
Augusta County Service Authority	14,089	1,088	\$24.72		\$30.42		\$36.12		\$5,929	2019	C	\$1,350	2019	\$2,645	
Bedford Regional Water Authority	12,386	867	\$35.60	\$37.60	\$39.80	\$41.80	\$44.00	\$46.00	\$4,688	2019	C	\$1,500	2018	\$4,000	2018
Berryville, Town of	1,519	207	\$25.20		\$33.60		\$42.00		\$8,400	2015	S	\$5,575	2008		
Big Stone Gap, Town of	3,570	303	\$27.51	\$44.25	\$33.66	\$54.10	\$39.81	\$63.95	\$6,159	2018	S				
Blacksburg, Town of	9,668	138	\$24.54	\$42.95	\$31.74	\$55.55	\$38.94	\$68.15	\$7,688	2019	S	\$648	2019	\$1,302	2019
Bluefield, Town of	2,300	100	\$32.60	\$48.90	\$40.50	\$60.75	\$48.40	\$72.60	\$6,076	2018	S	\$550	2016		
Bowling Green, Town of	797	96	\$19.16	\$38.33	\$21.01	\$42.04	\$22.86	\$45.76	\$2,504	2019	G	\$750	2000	\$6,000	2000
Boones Mill, Town of			\$58.00	\$78.00	\$64.00	\$84.00	\$70.00	\$90.00	\$6,020	2018	G	\$3,000			
Bridgewater, Town of	1,919	375	\$16.04	\$26.04	\$19.79	\$29.79	\$23.54	\$33.54	\$4,476	2019	C	\$2,758	2019		
Bristol Virginia Utilities Authority	6,931	955	\$24.09	\$36.14	\$27.75	\$41.63	\$31.41	\$47.12	\$3,278	2019	S	\$990	2019		
Buckingham County	321	95	\$25.36		\$25.36		\$38.56		\$13,000	2018	S	\$2,000	1994		
Buena Vista, Town of	2,520	199	\$22.44		\$29.92		\$37.40		\$7,480	2014	G				
Campbell County Utility and Service Authority	10,235	560	\$26.81		\$33.07		\$39.34		\$6,344	2012	C	\$1,500	2010	\$1,900	2010
Cape Charles, Town of	1,160	110	\$35.57		\$38.20		\$40.83			2019	G	\$875	2012	\$4,000	2012
Caroline County	1,652	138	\$23.16		\$24.68		\$26.51		\$2,043	2018	G	Min of \$1,000	2018	\$5,000	2018
Carroll County PSA	3,689	165	\$37.80		\$47.25		\$56.70		\$4,773	2019	C	\$1,250	2019		
Charlotte Court House, Town of	257	58	\$37.00		\$41.00		\$45.00			2015	S	\$1,450			
Chase City, Town of	1,200	30	\$25.10	\$32.13	\$30.77	\$39.39	\$36.44	\$46.64	\$4,948	2017	S	\$800			

¹"Inside" refers to inside of municipal boundary. "Outside" rates are listed where the utility has implemented higher rates to users outside of the municipal boundary.

²Water Source: **S** = surface water, **G** = groundwater, and **C** = combination.

³Connection and Capital Recovery Charge (CRC) Fees: "Cost" = customer pays the Cost of making the connection; "Cost +" = the customer pays the Cost to make the connection, plus additional charges, "Fixture" or DFU means the customer is charged that fee per the number of drainage Fixture units in the structure. **Min** = Minimum charge is dollar amount cited.



Water Data

	# Residential Water Units	# Non-Residential Water Units	Residential Water Rate Inside (3,000 gal./mo.) ¹	Residential Water Rate Outside (3,000 gal./mo.) ¹	Residential Water Rate Inside (4,000 gal./mo.)	Residential Water Rate Outside (4,000 gal./mo.)	Residential Water Rate Inside (5,000 gal./mo.)	Residential Water Rate Outside (5,000 gal./mo.)	Water Rate - Business Inside (1 million gal./mo.)	Last Water Rate Change	Water Source ²	Residential Connection Fee ³	Last Water Connection Fee Change	Residential Capital Recovery Charge ³	Last Water CRC Rate Change
Chesapeake Public Utilities	64,050	3,332	\$27.46		\$32.51		\$40.09				C	\$3,697	2007		
Chesterfield County	128,415	5,600	\$18.80		\$21.68		\$24.55		\$3,068	2019	S	\$1,980	2019	\$5,725	2018
Chincoteague, Town of	2,754	1,145	\$14.03		\$18.39		\$22.75		\$5,538		G	\$670	2012	\$3,708	2012
Chilhowie, Town of	2,100	144	\$24.36	\$48.11	\$29.23	\$57.75	\$34.10	\$67.39	\$5,420	2019	G	\$900	2016		
Christiansburg, Town of	9,644	793	\$25.00	\$37.50	\$34.00	\$51.00	\$43.00	\$64.50	\$6,861	2018	S	\$3,000	2015		
Clarke County Sanitary Authority	433	34	\$38.70		\$51.60		\$64.50		\$12,900	2019	G			\$13,800	2006
Clarksville, Town of	732	162	\$30.00	\$59.75	\$37.00	\$73.70	\$44.00	\$87.65	\$7,009	2016	S	\$1,000	2009	\$1,000	2009
Clifton Forge, Town of	1,600	200	\$35.80		\$35.80		\$35.80		\$6,866	2019	S	\$600			
Coeburn, Town of	1,550	165	\$25.74	\$37.02	\$31.68	\$45.90	\$37.62	\$54.78		2015	S	Cost + \$50			
Courtland, Town of	668	48	\$11.00	\$13.00	\$11.00	\$13.00	\$11.00	\$13.00		1994	G	\$1,200			
Culpeper, Town of	6,621	738	\$19.60		\$25.80		\$32.00		\$3,859	2018	C	\$281	2012	\$6,500	2009
Danville, City of	17,437	2,500	\$19.25		\$22.63		\$26.27		\$3,688	2019	S	\$1,500	2019		
Dinwiddie County Water Authority	3,545	185	\$15.70	\$15.70	\$20.01	\$20.01	\$24.32	\$24.32	\$3,902	2017	C	\$1,618	2015		
Dungannon, Town of	206	4	\$24.50	\$28.50	\$29.50	\$33.50	\$34.50	\$38.50	\$5,010	2016	G	\$125	2016	\$750	2016
Eastville, Town of	148	38	\$34.73	\$40.43	\$40.73	\$49.43	\$46.73	\$58.40	\$6,016	2019	G	\$3,000	2010		
Edinburg, Town of	574	50	\$27.50	\$41.25	\$33.50	\$50.28	\$39.50	\$59.31		2019	G	\$5,000	2009		
Emporia, City of	2,175		\$29.94		\$39.43		\$48.92		\$5,957	2019	S	\$3,000	2015		
Exmore, Town of	700	110	\$24.00	\$27.00	\$26.75	\$29.75	\$29.50	\$32.50	\$5,468	2018	G	\$1,000	2017		
Fairfax Water	360,778	12,644	\$13.28		\$16.35		\$19.42		\$3,118	2019	S	\$1,300	2019	\$19,545	2019
Farmville, Town of	3,219	636	\$26.81	\$35.22	\$30.49	\$40.74	\$34.17	\$46.26	\$5,240	2018	S	\$4,000	2013		
Fauquier County Water and Sanitation Authority	6,544	170	\$44.72		\$51.17		\$57.62		\$10,897	2019	G			\$11,120	2016
Ferrum Water and Sewer Authority	192	30	\$24.00		\$29.50		\$35.00		\$5,570	2017	G	Cost + \$500	2014	\$1,500	2017
Fincastle, Town of	258		\$27.61		\$31.71		\$35.81		\$5,239	2019	G	\$2,000	2012	\$2,500	2017
Franklin, City of	3,254	252	\$23.82	\$29.86	\$27.02	\$33.82	\$30.22	\$37.78	\$3,214	2016	G	\$3,500	2005		
Frederick Water	15,442	763	\$21.69		\$26.01		\$30.33		\$7,796	2019	C	\$14,115	2018		
Fredericksburg, City of	6,240	1,847	\$26.27		\$29.04		\$31.81		\$2,777	2019	S	\$2,600	2012	\$3,000	2012
Front Royal, Town of			\$9.92	\$19.84	\$18.43	\$36.86	\$26.94	\$53.88	\$8,872	2014	S	\$4,836			
Galax, City of	3,200	500	\$14.50	\$29.00	\$19.00	\$38.00	\$23.50	\$47.00	\$4,501	2017	S	\$1,000	2010		
Gate City, Town of			\$36.05		\$43.95		\$51.85		\$7,912	2013	S				
Glasgow, Town of	516	12	\$31.50	\$47.25	\$36.40	\$56.15	\$41.30	\$65.05	\$608	2019	G	\$2,625	2019		
Gloucester, County of	5,598	922	\$30.18		\$40.18		\$50.18		\$10,397	2013	C	\$3,500	2008	\$500	2008



Water Data

	# Residential Water Units	# Non-Residential Water Units	Residential Water Rate Inside (3,000 gal./mo.) ¹	Residential Water Rate Outside (3,000 gal./mo.) ¹	Residential Water Rate Inside (4,000 gal./mo.)	Residential Water Rate Outside (4,000 gal./mo.)	Residential Water Rate Inside (5,000 gal./mo.)	Residential Water Rate Outside (5,000 gal./mo.)	Water Rate - Business Inside (1 million gal./mo.)	Last Water Rate Change	Water Source ²	Residential Connection Fee ³	Last Water Connection Fee Change	Residential Capital Recovery Charge ³	Last Water CRC Rate Change
Goochland, County of	2,150	290	\$25.25		\$32.05		\$38.58		\$9,387	2019	S	\$4,400	2019		
Greensville County WSA	1,700	100	\$16.95		\$22.60		\$28.25		\$5,950		C	\$960		\$400	
Gretna, Town of	585	105	\$26.87	\$53.73	\$32.18	\$61.96	\$37.49	\$70.19	\$5,320	2019	G	\$300			
Halifax County Service Authority	3,890	420	\$24.00		\$29.00		\$34.00		\$4,049	2018	S			\$1,250	2008
Hanover County	19,815	1,770	\$13.83		\$18.97		\$24.11		\$4,128	2019	C			\$6,281	2019
Harrisonburg, City of	18,139	3,078	\$12.77	\$18.98	\$16.36	\$24.64	\$19.95	\$30.30	\$3,385	2019	S	\$2,500	2010		
Henrico County	92,422	5,998	\$22.22		\$27.02		\$31.82		\$4,937	2019	S	\$4,940	2019		
Henry Co. Public Service Authority	12,454	923	\$30.00		\$30.00		\$34.70		\$7,017		C	\$1,750	2013		
Highland County - McDowell Water System	56	18	\$35.00		\$35.00		\$42.50		\$7,470	2006	G	Cost + \$200			
Hillsville, Town of	1,130	170	\$30.74	\$39.73	\$35.38	\$49.46	\$40.02	\$59.19	\$7,856	2019	S	\$690	2011		
James City Service Authority	21,768	1,064	\$16.30		\$20.40		\$24.50		\$6,349	2019	G	\$500/Fixture	2008	\$1,300	1989
Kenbridge, Town of	473	97	\$15.15	\$28.11	\$20.15	\$36.15	\$26.15	\$44.19		2012	G	\$500			
Kilmarnock, Town of	791	263	\$15.15	\$22.73	\$17.95	\$26.93	\$20.75	\$31.13	\$5,627	2008	G	\$2,055	2006		
King George County Service Authority	3,996	243	\$34.01		\$38.99		\$43.97		\$6,130	2017	G	\$1,162	2013	\$7,500	2013
Lawrenceville, Town of	995	180	\$15.14	\$26.47	\$19.28	\$33.69	\$23.42	\$40.92	\$4,143	2019	S	Cost + \$400			
Leesburg, Town of	15,000	1,042	\$27.42	\$33.42	\$33.59	\$42.11	\$39.75	\$50.80	\$7,222	2019	S	\$4,682			
Lexington, City of	2,500	600	\$18.45	\$24.90	\$24.60	\$33.21	\$30.75	\$41.51	\$13,764	2018	S	Min of \$1,675	2018	\$620	2018
Loudoun Water	74,928	5,944	\$19.13		\$21.66		\$24.19		\$3,558	2019	C	\$80		\$6,901	2019
Louisa Co. Water Authority - Zion Crossroads	622	53	\$23.56		\$23.56		\$29.45		\$5,890	2019	G	\$3,750	2004		
Louisa Co. Water Authority - Northeast Creek	97	72	\$23.56		\$23.56		\$29.45		\$5,890	2019	C	\$3,750	2004		
Louisa, Town of	807	154	\$37.32	\$41.92	\$37.32	\$41.92	\$43.98	\$49.97	\$6,697	2019	C	\$4,780			
Lovettsville, Town of	898	44	\$32.17	\$48.25	\$41.13	\$61.69	\$50.09	\$75.13		2017	G	\$2,000	2017		
Luray, Town of	2,185	126	\$36.02	\$54.03	\$41.27	\$61.91	\$46.52	\$69.78	\$5,600	2019	G	\$3,320	2012	\$1,200	2012
Lynchburg, City of	22,000	2,000	\$13.92		\$17.50		\$21.09		\$3,633	2017	S	\$1,150	2016	\$1,220	2000
Martinsville, City of	7,000	500	\$25.31	\$31.50	\$25.31	\$31.50	\$28.50	\$35.68	\$2,675	2016	S	\$900	2014		
Mineral, Town of	257	51	\$26.50	\$30.00	\$34.50	\$39.00	\$42.50	\$48.00	\$8,003	2013	C	\$4,000	2007		
Monterey, Town of	220	59	\$22.50		\$22.50		\$27.00			2019	G	\$1,125	2015		
Montross, Town of	228	78	\$18.00	\$27.00	\$18.00	\$27.00	\$18.00	\$27.00		2018	G	\$500			
Mount Crawford, Town of	192	12	\$37.50		\$44.60		\$51.70		\$7,116	2014	G	\$2,650			
Narrows, Town of	1,005	12	\$31.00	\$42.02	\$45.15	\$59.59	\$58.50	\$77.16			G	\$1,500	2018		
New Kent County			\$24.29		\$31.58		\$38.87		\$8,552	2017	G				



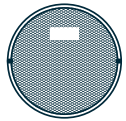
Water Data

	# Residential Water Units	# Non-Residential Water Units	Residential Water Rate Inside (3,000 gal./mo.) ¹	Residential Water Rate Outside (3,000 gal./mo.) ¹	Residential Water Rate Inside (4,000 gal./mo.)	Residential Water Rate Outside (4,000 gal./mo.)	Residential Water Rate Inside (5,000 gal./mo.)	Residential Water Rate Outside (5,000 gal./mo.)	Water Rate - Business Inside (1 million gal./mo.)	Last Water Rate Change	Water Source ²	Residential Connection Fee ³	Last Water Connection Fee Change	Residential Capital Recovery Charge ³	Last Water CRC Rate Change
New Market, Town of	1,044	120	\$26.86	\$40.29	\$34.06	\$51.09	\$41.26	\$61.89	\$7,205	2019	G	\$2,000			
Norton, City of	1,838	345	\$29.25	\$41.95	\$35.40	\$56.75	\$44.05	\$71.55	\$6,168	2019	S	\$240			
Onancock, Town of	610	56	\$27.81		\$36.94		\$46.07			2019	G	\$1,500			
Orange, Town of	1,767	325	\$18.60	\$51.70	\$22.60	\$58.30	\$26.60	\$64.90	\$4,013	2007	S	\$3,000	2012		
Phenix, Town of	128	5	\$35.50		\$39.50		\$43.50			2019	G	\$600			
Pittsylvania County Service Authority	3,852	222	\$23.00		\$23.00		\$30.00		\$6,995		C	\$955	2013		
Portsmouth, City of	30,277	2,474	\$21.52		\$27.03		\$32.54		\$5,583	2019	C	\$200	2013		
Pound, Town of	1,005	67	\$32.87	\$47.05	\$40.75	\$58.87	\$48.63	\$70.69		2019	G	\$800	2017		
Powhatan County	5	108	\$31.01		\$37.74		\$44.47		\$7,000	2019	C	\$4,100			
Prince William County Service Authority	117,636	3,631	\$16.00		\$19.35		\$22.70		\$3,849	2012	S	\$4,600	2012		
Pulaski County Public Service Authority	4,416	310	\$27.47		\$32.83		\$38.19		\$4,866	2019	S	\$700	2016		
Purcellville, Town of			\$28.60	\$49.69	\$37.49	\$67.47	\$46.38	\$85.25	\$49,377	2019	S				
Radford, City of	4,915	456	\$16.32		\$16.32		\$20.40		\$3,680	2014	S	\$1,000	2014	\$800	2014
Rapidan Service Authority	7,515	499	\$15.66		\$19.88		\$24.10			2019	S	\$10,000			
Rockbridge County PSA - Long Hollow			\$35.49		\$43.64		\$51.79			2019	G	\$1,025	2007	\$4,000	2007
Rockbridge County PSA - Rivermont and Riveria	2,592	380	\$28.59		\$34.34		\$40.09		\$5,954	2019	G	\$1,025	2007	\$4,000	2007
Rockingham County	4,329	339	\$12.50		\$14.40		\$18.20		\$3,799	2017	G	\$625	2009	\$2,650	2009
Rocky Mount, Town of	2,458	472	\$17.85	\$35.70	\$21.37	\$42.74	\$24.89	\$49.78	\$3,381	2019	S	\$1,000	2016		
Rural Retreat, Town of			\$23.60	\$41.10	\$28.90	\$50.20	\$34.20	\$59.30	\$7,045	2017	G	\$1,000	2017		
Russell County PSA - Lebanon and New Garden			\$38.50		\$47.00		\$55.50		\$8,524		S				
Saint Paul, Town of	645	75	\$24.22	\$41.67	\$30.87	\$52.12	\$37.52	\$62.57	\$6,654	2019	S	Min of \$750	2016		
Salem, City of	8,538	1,187	\$29.69		\$35.26		\$40.83		\$6,576	2019	S	\$1,500	2014	\$2,000	2014
Scott County Public Service Authority	4,900	500	\$37.60		\$47.28		\$56.96		\$9,695	2019	C	\$1,500	2015		
Shenandoah, Town of	946	76	\$23.65	\$36.50	\$28.15	\$44.00	\$32.65	\$51.50	\$4,511	2018	G	\$4,000	2008		
Smithfield, Town of	3,210	479	\$24.70	\$29.47	\$31.02	\$37.38	\$37.34	\$45.29	\$6,326	2019	G	\$660	1999	\$2,720	2007
Smyth County	2,526	35	\$40.01		\$49.30		\$58.59		\$11,376	2016	C	\$850	2016		
South Hill, Town of	2,900	900	\$17.50	\$35.00	\$24.00	\$48.00	\$28.00	\$52.00	\$4,000	2016	S	\$1,000	2000		
Southampton County	814	26	\$28.00		\$28.00		\$34.00			2018	G	\$1,000	2009	\$4,000	2009
Spotsylvania County	29,741	2,002	\$19.03		\$25.74		\$32.45		\$10,868	2019	S	\$1,290	2008	\$4,920	2008
Stafford County	36,526	1,627	\$22.03		\$25.77		\$30.90		\$5,128	2019	S	\$6,900	2010		
Staunton, City of	8,507	1,230	\$14.72	\$22.08	\$18.40	\$27.60	\$23.92	\$35.88	\$4,931	2019	S	\$2,100	2016	\$3,500	2016



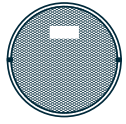
Water Data

	# Residential Water Units	# Non-Residential Water Units	Residential Water Rate Inside (3,000 gal./mo.) ¹	Residential Water Rate Outside (3,000 gal./mo.) ¹	Residential Water Rate Inside (4,000 gal./mo.)	Residential Water Rate Outside (4,000 gal./mo.)	Residential Water Rate Inside (5,000 gal./mo.)	Residential Water Rate Outside (5,000 gal./mo.)	Water Rate - Business Inside (1 million gal./mo.)	Last Water Rate Change	Water Source ²	Residential Connection Fee ³	Last Water Connection Fee Change	Residential Capital Recovery Charge ³	Last Water CRC Rate Change
Stanley, Town of	1,513	91	\$20.50	\$25.10	\$22.00	\$27.40	\$23.50	\$29.70		2018	G	\$2,700	2018	\$1,125	2018
Strasburg, Town of	2,525	159	\$38.36	\$53.70	\$51.15	\$71.61	\$63.94	\$89.52	\$18,051	2019	S	\$6,500	2010		
Sussex Service Authority	896	104	\$28.00		\$28.00		\$28.00		\$7,000	2019	G	\$1,800	2020		
Tazewell County Public Service Authority	6,184	334	\$45.89		\$53.80		\$62.46		\$8,299	2019	S	\$1,100			
Tazewell, Town of	1,714	226	\$33.31	\$46.81	\$40.62	\$55.97	\$47.93	\$65.13		2019	S	\$540			
Warrenton, Town of	4,254	630	\$11.04	\$16.57	\$16.73	\$25.11	\$22.42	\$33.65	\$5,859	2019	C	Cost + \$2,000		\$4,950	2016
Warsaw, Town of	600	100	\$11.00	\$12.10	\$11.00	\$12.10	\$12.49	\$13.74	\$2,983	2015	G	\$3,000	2013		
Waynesboro, City of	8,007	881	\$20.02	\$21.58	\$25.23	\$27.31	\$30.44	\$33.04	\$5,289	2019	G	Min of \$800	1999	\$2,725	1999
Western Virginia Water Authority - Botetourt Co.	1,477	265	\$26.50		\$31.25		\$36.00		\$7,180	2019	G	\$2,000		\$3,000	
Western Virginia Water Authority - Franklin Co.	1,823	163	\$45.00		\$50.00		\$55.00		\$6,800	2019	C	\$2,000		\$3,000	
Western Virginia Water Authority - Roanoke City/County)	52,489	8,241	\$21.25		\$24.23		\$27.25		\$4,543	2019	C	\$2,000		\$3,000	
West Point, Town of	1,127	184	\$22.45		\$22.45		\$22.45		\$5,694	2018	G	\$500	2007	\$3,500	2007
Windsor, Town of	1,135	5	\$22.50	\$24.00	\$30.00	\$32.00	\$37.50	\$40.00	\$7,500	2017	G	\$1,000	2006	\$5,000	2005
Wise County Public Service Authority	4,375	175	\$42.50		\$55.00		\$67.50		\$12,009	2019	S	\$1,200	2019		
Wythe County	3,149	217	\$37.80		\$47.25		\$56.70		\$9,459	2018	S				
Wytheville, Town of	4,065	688	\$24.11	\$48.22	\$32.46	\$64.92	\$40.81	\$79.62	\$4,003	2019	S	\$1,500 + Meter	2005		



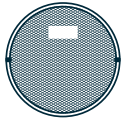
Wastewater Data⁴

	# Residential Wastewater Units	# Non-Residential Wastewater Units	Residential WW Rate Inside (3,000 gal./mo.)	Residential WW Rate Outside (3,000 gal./mo.)	Residential WW Rate Inside (4,000 gal./mo.)	Residential WW Rate Outside (4,000 gal./mo.)	Residential WW Rate Inside (5,000 gal./mo.)	Residential WW Rate Outside (5,000 gal./mo.)	WW Rate Business Inside (1 million gal./mo.)	Last WW Rate Change	Residential Connection Fee Wastewater	Last WW Connection Fee Change	Residential Capital Recovery Charge	Last WW CRC Rate Change
Albemarle County Service Authority	27,517	1,146	\$28.41		\$37.88		\$47.35		\$9,470	2019	Cost	2017	\$6,820	2017
Alexandria Renew / City of Alexandria	22,990	3,528	\$40.56		\$50.47		\$60.38		\$8,442	2019				
Alleghany County	1,909	134	\$45.00		\$45.00		\$45.00		\$10,493	2019	\$1,000	2000		
Altavista, Town of	1,280	54	\$8.47	\$16.93	\$11.29	\$22.58	\$14.11	\$28.22	\$2,890	2019	\$2,000	2018		
Amelia County	239	119	\$25.00		\$25.00		\$30.00		\$5,250	2017	Cost + 100%	2007	\$4,000	2013
Amherst County Service Authority	944	249	\$31.35		\$41.16		\$51.04		\$9,813	2019	\$1,400	2015	\$3,810	2015



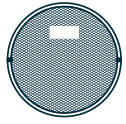
Wastewater Data⁴

	# Residential Wastewater Units	# Non-Residential Wastewater Units	Residential WW Rate Inside (3,000 gal./mo.)	Residential WW Rate Outside (3,000 gal./mo.)	Residential WW Rate Inside (4,000 gal./mo.)	Residential WW Rate Outside (4,000 gal./mo.)	Residential WW Rate Inside (5,000 gal./mo.)	Residential WW Rate Outside (5,000 gal./mo.)	WW Rate Business Inside (1 million gal./mo.)	Last WW Rate Change	Residential Connection Fee Wastewater	Last WW Connection Fee Change	Residential Capital Recovery Charge	Last WW CRC Rate Change
Amherst, Town of	680	142	\$47.90	\$95.80	\$54.75	\$109.50	\$61.60	\$123.20	\$15,265	2019	\$2,200			
Appomattox, Town of	754	188	\$47.85		\$65.10		\$82.35		\$17,246	2019	\$2,200	2013	\$3,000	2019
Appalachia, Town of			\$41.11	\$57.11	\$48.88	\$69.26	\$56.64	\$81.41	\$8,163	2019	\$1,250	2019		
Arlington County	35,166	1,662	\$27.30		\$36.40		\$45.50		\$9,100	2019			\$115/DFU	2013
Augusta County Service Authority	8,511	746	\$40.56		\$50.19		\$59.82		\$9,924	2019	\$1,250		\$4,900	
Bedford Regional Water Authority	4,238	610	\$44.00	\$46.20	\$45.50	\$53.70	\$57.00	\$61.20	\$6,448	2019	\$1,500		\$5,000	2018
Berryville, Town of	1,466	207	\$51.00		\$68.00		\$85.00		\$17,000	2013	\$22,750	2008		
Big Stone Gap, Town of	2,327	258	\$31.27	\$51.96	\$37.13	\$61.31	\$42.99	\$70.66	\$5,874	2018				
Blacksburg, Town of	9,040	126	\$21.02	\$36.80	\$27.04	\$47.34	\$33.06	\$57.88	\$6,023	2019	\$1,013	2019	\$2,500	2019
Bowling Green, Town of	396	84	\$45.46	\$51.38	\$49.85	\$56.34	\$54.24	\$61.30	\$6,400	2019	\$750	2019	\$6,000	2000
Boones Mill, Town of			\$58.00	\$78.00	\$64.00	\$84.00	\$70.00	\$90.00	\$6,020	2018	\$4,000			
Bridgewater, Town of	1,860	353	\$29.45		\$36.77		\$44.09		\$8,588		\$7,172			
Bristol Virginia Utilities Authority	6,703	966	\$25.36	\$38.04	\$29.10	\$43.65	\$32.84	\$49.26	\$3,995	2019	\$2,250			
Buckingham County	178	42	\$40.85		\$40.85		\$54.05		\$13,586	2018	\$2,500	1994		
Buena Vista, Town of	2,430		\$22.32		\$29.76		\$37.20		\$7,440	2014				
Campbell County Utility and Service Authority	3,076	301	\$25.82	\$25.82	\$32.41	\$32.41	\$39.03	\$39.03	\$6,610	2012	\$1,900	2010	\$2,200	2010
Cape Charles, Town of	1,160	110	\$66.11		\$70.22		\$74.33			2019	\$875	2012	\$6,600	2012
Caroline County	993	114	\$52.12		\$61.67		\$71.52		\$10,588	2018	Min of \$1,000	2018	\$6,000	2018
Carroll County PSA	891	210	\$42.00		\$52.00		\$62.00		\$7,589	2019	\$1,250			
Chase City, Town of	1,000	25	\$23.90	\$30.59	\$30.10	\$38.53	\$36.30	\$46.46	\$3,590	2017	\$600			
Chesapeake Public Utilities	64,050	3,332	\$39.20		\$51.77		\$66.81			2017	\$3,519	2007		
Chesterfield County	113,136	3,761	\$25.71		\$28.72		\$31.73		\$3,364	2019			\$5,400	2018
Chilhowie, Town of	1,040	121	\$24.36	\$55.82	\$29.23	\$67.01	\$34.10	\$78.20	\$5,315	2019	\$900	2016		
Christiansburg, Town of	8,900	355	\$30.50	\$45.76	\$40.75	\$61.14	\$51.00	\$76.52	\$10,250	2018	\$3,000	2015		
Clarke County Sanitary Authority	325	30	\$58.50		\$58.50		\$65.96		\$14,924	2019	\$16,200	2006		
Clarksville, Town of	730	151	\$43.33	\$98.18	\$43.33	\$98.18	\$43.33	\$98.18	\$12,978	2016	\$800	2009	\$800	2009
Clifton Forge, Town of	1,600	200	\$74.20		\$74.20		\$74.20		\$7,427	2016				
Coeburn, Town of	995	130	\$33.46	\$55.53	\$41.18	\$68.85	\$48.91	\$82.17		2015	Cost +\$50			
Culpeper, Town of	6,387	650	\$24.46		\$32.28		\$40.10		\$7,062	2018	\$281	2012	\$10,000	2009
Danville, City of	16,159	2,300	\$23.52		\$26.61		\$29.95		\$3,635	2019	\$1,700	2019		
Dinwiddie County Water Authority	3,450	140	\$20.82		\$26.82		\$32.82		\$5,805	2017	\$3,910			
Dungannon, Town of	178	3	\$24.50	\$28.50	\$29.50	\$33.50	\$34.50	\$38.50	\$5,010	2016	\$175	2016	\$750	2016



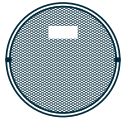
Wastewater Data⁴

	# Residential Wastewater Units	# Non-Residential Wastewater Units	Residential WW Rate Inside (3,000 gal./mo.)	Residential WW Rate Outside (3,000 gal./mo.)	Residential WW Rate Inside (4,000 gal./mo.)	Residential WW Rate Outside (4,000 gal./mo.)	Residential WW Rate Inside (5,000 gal./mo.)	Residential WW Rate Outside (5,000 gal./mo.)	WW Rate Business Inside (1 million gal./mo.)	Last WW Rate Change	Residential Connection Fee Wastewater	Last WW Connection Fee Change	Residential Capital Recovery Charge	Last WW CRC Rate Change
Edinburg, Town of	528	42	\$31.00	\$46.50	\$37.00	\$55.53	\$43.00	\$64.56		2019	\$10,000	2009		
Emporia, City of	2,118		\$29.87		\$38.00		\$46.13		\$6,311	2019	\$4,000	2015		
Exmore, Town of	275	70	\$44.50		\$44.50		\$44.50		\$5,919	2019	\$6,500	2017		
Farmville, Town of	3,194	631	\$20.17	\$30.26	\$24.59	\$36.89	\$29.00	\$43.51	\$6,288	2018	\$4,000	2013		
Fauquier County Water and Sanitation Authority	4,411	244	\$58.21		\$67.83		\$77.45		\$10,897	2019			\$14,000	2016
Ferrum Water and Sewer Authority	148	30	\$31.50		\$39.00		\$46.50		\$7,620	2017	Cost + \$500	2014	\$2,500	2017
Fincastle, Town of	210		\$38.50		\$45.19		\$51.88		\$7,234	2019	\$2,000	2012	\$2,500	2012
Franklin, City of	3,214	252	\$32.30	\$36.95	\$36.73	\$45.62	\$41.16	\$51.29	\$4,449	2016	\$4,500	2005		
Frederick Water	15,047	700	\$38.22		\$43.39		\$48.56		\$8,649	2019	\$3,076	2018		
Fredericksburg, City of	6,200	1,847	\$26.93		\$32.35		\$37.77		\$5,431	2019	\$5,100	2012	\$5,000	2012
Front Royal, Town of			\$16.17	\$32.34	\$30.08	\$60.16	\$43.99	\$87.98	\$13,882	2014	\$10,232			
Galax, City of	3,200	500	\$14.50	\$29.00	\$19.00	\$38.00	\$23.50	\$47.00	\$4,501	2017	\$1,000			
Gate City, Town of			\$38.25		\$47.65		\$57.05		\$10,958	2013				
Glasgow, Town of	520	12	\$32.08	\$41.00	\$33.38	\$44.30	\$34.68	\$47.60	\$2,327	2019	\$2,500	2015		
Gloucester, County of	1,504	689	\$39.59		\$52.36		\$64.95		\$11,206	2013	\$5,205	2008	\$1,200	2008
Goochland, County of	1,864	183	\$39.98		\$47.26		\$54.54		\$14,208	2019	\$6,300	2019		
Greensville County WSA	1,600	92	\$33.16		\$33.16		\$39.79		\$7,738		\$1,320		\$835	
Gretna, Town of			\$17.05	\$34.09	\$20.70	\$41.39	\$24.35	\$48.69	\$3,656	2019	\$400			
Halifax County Service Authority	4,040	425	\$36.10		\$41.80		\$47.50		\$5,355	2019			\$1,500	2008
Hampton, City of	43,640	2,040	\$26.67		\$35.56		\$44.44		\$8,890	2013	Based on Frontage			
Hanover County	19,348	1,671	\$30.70		\$38.25		\$45.80		\$5,690	2019			\$6,459	2019
Harrisonburg, City of	16,873	2,568	\$17.31	\$25.74	\$23.08	\$34.32	\$28.85	\$42.90	\$5,620	2019	\$4,500			
Henrico County	90,206	5,098	\$31.05		\$36.15		\$41.24		\$5,241	2019	\$5,955			
Henry Co. Public Service Authority	7,136		\$30.00		\$30.00		\$34.70		\$14,034	2013	\$1,750	2013		
Hillsville, Town of	1,050	185	\$28.61	\$43.32	\$35.19	\$51.68	\$41.77	\$60.04	\$7,690	2019	\$683	2011		
James City Service Authority	23,283	1,290	\$34.85		\$45.80		\$56.75		\$11,100	2019	\$400/Fixture		\$1,050	1989
Kenbridge, Town of	417	144	\$52.28	\$75.53	\$60.37	\$86.70	\$68.48	\$97.87		2012	\$500			
Kilmarnock, Town of	786	260	\$26.88	\$40.32	\$33.13	\$49.69	\$39.38	\$59.07	\$12,533	2008	\$8,040	2006		
King George County Service Authority	2,284	187	\$65.31		\$76.94		\$88.57		\$13,364	2019	\$1,162		\$10,021	2013
Lawrenceville, Town of	830	145	\$15.14	\$26.47	\$19.28	\$33.69	\$23.42	\$40.92	\$4,143	2019	Cost + \$400			
Leesburg, Town of	15,000	1,038	\$28.27	\$38.53	\$34.84	\$48.52	\$41.41	\$58.51	\$7,212	2019	\$7,292			
Lexington, City of	2,500	550	\$36.81	\$49.70	\$49.09	\$66.27	\$61.36	\$82.84	\$27,426	2018	\$1,625	2018	\$385	2018



Wastewater Data⁴

	# Residential Wastewater Units	# Non-Residential Wastewater Units	Residential WW Rate Inside (3,000 gal./mo.)	Residential WW Rate Outside (3,000 gal./mo.)	Residential WW Rate Inside (4,000 gal./mo.)	Residential WW Rate Outside (4,000 gal./mo.)	Residential WW Rate Inside (5,000 gal./mo.)	Residential WW Rate Outside (5,000 gal./mo.)	WW Rate Business Inside (1 million gal./mo.)	Last WW Rate Change	Residential Connection Fee Wastewater	Last WW Connection Fee Change	Residential Capital Recovery Charge	Last WW CRC Rate Change
Loudoun Water	74,928	5,944	\$26.44		\$31.41		\$36.38		\$5,220	2019	\$80		\$8,373	2019
Louisa Co. Water Authority - Zion Crossroads	622	42	\$35.48		\$35.48		\$44.35		\$8,870	2019	\$5,250	2004		
Louisa Co. Water Authority - Northeast Creek	37	47	\$35.48		\$35.48		\$44.35		\$8,870	2019	\$5,250	2004		
Louisa, Town of	739	154	\$34.34	\$50.36	\$34.34	\$50.35	\$41.53	\$58.99	\$7,224	2019	\$7,720			
Lovettsville, Town of	898	44	\$37.44	\$56.16	\$51.67	\$77.50	\$65.90	\$98.85		2017	\$2,000			
Luray, Town of	2,125	72	\$47.71	\$71.57	\$54.75	\$82.13	\$61.79	\$92.96	\$7,609	2019	\$5,940	2012	\$1,200	2012
Lynchburg, City of	18,500	2,000	\$28.67		\$36.72		\$44.75		\$8,148	2017	\$1,330	2016	\$1,950	2000
Martinsville, City of	7,000	500	\$23.64		\$23.64		\$26.37		\$2,743	2016	\$850	2014		
Mineral, Town of	112	34	\$35.40		\$44.25		\$53.10		\$8,859	2013	\$8,000	2007		
Monterey, Town of	181	53	\$40.00		\$40.00		\$44.50			2019	\$1,125			
Mount Crawford, Town of	192	12	\$37.50		\$44.60		\$51.70				\$5,300			
Narrows, Town of	907	12	\$35.77	\$41.24	\$44.14	\$48.20	\$52.51	\$55.16		2019	\$1,500			
New Kent County			\$33.75		\$43.86		\$53.97		\$12,047	2017				
New Market, Town of	950	113	\$53.71	\$94.01	\$69.72	\$122.03	\$85.73	\$150.05	\$16,016	2019	\$3,000			
Norton, City of	1,558	385	\$42.44	\$78.90	\$53.20	\$103.50	\$63.96	\$128.10	\$10,773	2019	\$175			
Onancock, Town of	590	59	\$64.38		\$86.11		\$107.53			2019	\$1,200			
Orange, Town of	1,423	292	\$41.88	\$83.52	\$47.38	\$91.62	\$52.88	\$99.72	\$6,665	2012	\$12,330			
Pittsylvania County Service Authority	1,344	185	\$25.00		\$25.00		\$25.00		\$2,013		\$1,555			
Portsmouth, City of	29,768	2,458	\$36.50		\$48.59		\$60.74		\$12,148	2019	\$150	2013		
Pound, Town of	439	54	\$37.71	\$54.31	\$46.28	\$67.16	\$54.85	\$80.01		2019	\$800			
Powhatan County	100	107	\$33.46		\$40.07		\$46.68		\$6,951	2019	\$8,100			
Prince William County Service Authority	116,659	3,300	\$30.10		\$36.65		\$42.20		\$7,411	2019	\$10,800	2012		
Pulaski County Public Service Authority	1,233	150	\$36.51	NA	\$44.21	NA	\$51.91	NA	\$7,273	2019	\$700			
Pulaski County Sewerage Authority	850	135	\$26.50		\$27.75		\$29.00		\$4,425	2019	\$500			
Purcellville, Town of			\$55.35	\$103.20	\$71.30	\$135.10	\$87.25	\$167.00	\$16,137	2019				
Radford, City of	4,915	456	\$18.36		\$24.48		\$30.60		\$4,455	2014	\$1,500	2014	\$1,500	2014
Rapidan Service Authority	6,347	290	\$34.40		\$43.18		\$51.96			2019	\$10,000			
Rappahannock County Water and Sewer Authority	174	43	\$50.00		\$50.00		\$50.00			2018	\$7,500			
Rockbridge County PSA - Rivermont and Riveria	1,411	288	\$46.69		\$56.44		\$66.19		\$10,036	2019	\$850	2007	\$4,500	2007
Rockingham County	4,396	282	\$16.30		\$21.45		\$26.60		\$5,151	2017	\$625		\$5,300	2009
Rocky Mount, Town of	1,752	330	\$17.85	\$35.70	\$21.37	\$42.74	\$24.89	\$49.78	\$3,328	2019	\$1,000	2016		
Rural Retreat, Town of			\$24.15		\$28.95		\$33.75		\$6,458	2017	\$400			



Wastewater Data⁴

	# Residential Wastewater Units	# Non-Residential Wastewater Units	Residential WW Rate Inside (3,000 gal./mo.)	Residential WW Rate Outside (3,000 gal./mo.)	Residential WW Rate Inside (4,000 gal./mo.)	Residential WW Rate Outside (4,000 gal./mo.)	Residential WW Rate Inside (5,000 gal./mo.)	Residential WW Rate Outside (5,000 gal./mo.)	WW Rate Business Inside (1 million gal./mo.)	Last WW Rate Change	Residential Connection Fee Wastewater	Last WW Connection Fee Change	Residential Capital Recovery Charge	Last WW CRC Rate Change
Saint Paul, Town of	355	75	\$26.64	\$45.83	\$33.95	\$57.33	\$41.27	\$68.82	\$7,320	2016	Min of \$350			
Salem, City of	8,154	1,087	\$38.87		\$44.26		\$49.65		\$5,435	2015	\$2,100	2014	\$1,000	2014
Scott County Public Service Authority	900	100	\$42.11		\$54.87		\$67.63		\$12,719	2019	\$2,000	2015		
Shenandoah, Town of	856	68	\$23.65	\$36.50	\$28.15	\$44.00	\$32.65	\$51.50	\$4,511	2018	\$5,000			
Smithfield, Town of	3,117	470	\$43.65	\$46.35	\$55.09	\$58.69	\$66.53	\$71.03	\$11,454	2019	\$1,580		\$4,120	2007
Smyth County	1,167	10	\$40.01	\$40.01	\$49.30	\$49.30	\$58.59	\$58.59	\$11,467	2016	\$850	2016		
South Hill, Town of	2,900	450	\$19.25	\$38.50	\$26.40	\$52.80	\$30.80	\$57.20	\$4,400	2016	\$1,500			
Southampton County	1,387	80	\$36.00		\$36.00		\$44.00			2018	\$1,800		\$6,000	2009
Spotsylvania County	28,859	1,759	\$20.27		\$25.99		\$31.71		\$6,287	2019	\$2,220		\$4,920	2008
Stafford County	33,555	1,261	\$35.20		\$41.56		\$47.92		\$6,697	2019	\$3,500			
Staunton, City of	8,194	1,127	\$19.52	\$29.28	\$24.40	\$36.60	\$31.72	\$47.58	\$6,539	2016	\$2,600	2019	\$9,850	2019
Stanley, Town of	923	64	\$29.40		\$30.70		\$32.00			2018	\$3,000		\$1,625	
Strasburg, Town of	2,479	152	\$35.17	\$49.24	\$48.32	\$67.65	\$61.47	\$86.06	\$16,383	2019	\$6,500	2010		
Sussex Service Authority	1,890	176	\$42.50		\$42.50		\$42.50		\$10,000	2019	\$2,300			
Tazewell County Public Service Authority	2,285	227	\$45.14		\$53.80		\$62.46		\$8,305	2018	\$900	2016		
Tazewell, Town of	2,178	208	\$37.35	\$54.25	\$46.20	\$66.00	\$55.05	\$77.75		2019	\$540			
Warrenton, Town of	3,748	595	\$21.52	\$32.28	\$30.87	\$46.30	\$40.22	\$60.32	\$9,733	2019	Cost + \$3,000		\$10,800	2016
Warsaw, Town of	600	100	\$40.00	\$44.00	\$40.00	\$44.00	\$46.00	\$50.60	\$12,004	2015	\$7,000			
Waynesboro, City of	7,418	787	\$33.50	\$36.14	\$42.29	\$45.81	\$51.10	\$55.48	\$8,866	2019	Min of \$800		\$4,250	1999
Western Virginia Water Authority - Botetourt Co.	1,039	274	\$26.75		\$30.50		\$34.25		\$4,066	2019	\$2,000		\$3,000	
Western Virginia Water Authority - Franklin Co.	32	47	\$33.50		\$39.50		\$45.50		\$6,465	2019	\$2,000		\$3,000	
Western Virginia Water Authority - Roanoke City/County	49,218	8,687	\$26.75		\$30.50		\$34.25		\$4,066	2019	\$2,000		\$3,000	
West Point, Town of														2007
Windsor, Town of														2005
Wise County Public Service Authority	860	25	\$57.25		\$70.75		\$84.25		\$13,517	2019	\$1,200			
Wythe County	629	104	\$22.00		\$28.90		\$35.80		\$8,870	2015	\$500	2009		
Wytheville, Town of	3,865	688	\$18.43	\$36.86	\$24.56	\$49.12	\$30.69	\$61.38	\$6,452	2019	\$1,500			

⁴Participants provided wastewater treatment services by the Hampton Roads Sanitation District (HRSD): Chesapeake Public Utilities, City of Hampton, City of Portsmouth, Town of Smithfield, Gloucester County and James City Service Authority included the HRSD wastewater treatment charges in their responses. As a result, the data listed in the wastewater section of this report includes the HRSD wastewater treatment charges as follows: 3,000 gallons per month (or 401 cubic feet) - \$23.50; 4,000 gallons per month (or 535 cubic feet) - \$31.33; 5,000 gallons per month (or 668 cubic feet) - \$39.17 and 1,000,000 gallons per month (or 133,681 cubic feet) - \$7,833.68. In addition, the HRSD facility charge of \$1,895 for a 5/8-inch meter is included in the capital recovery charges included in this section of the report.

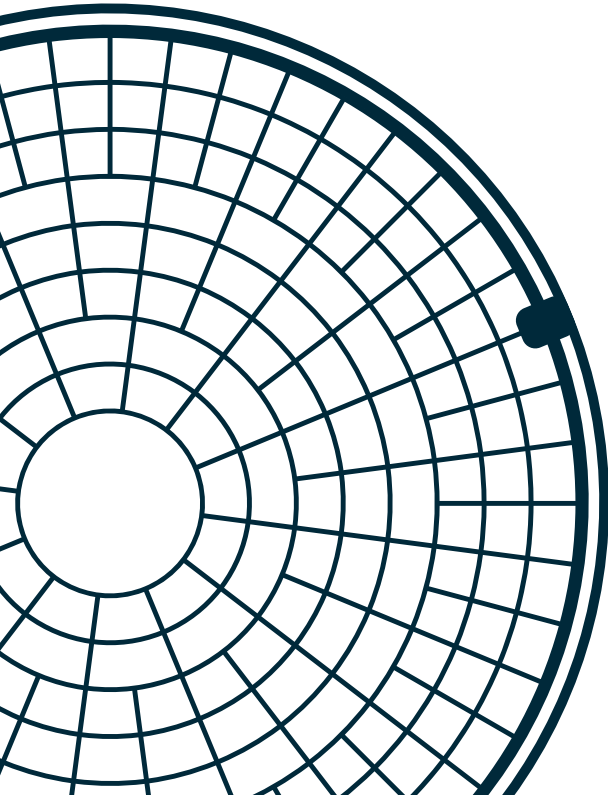


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**APPENDIX C:
FY2020-2021
PAY SCALE**

Grade	Position	Step	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
8	Chief WTP Operator	Annual	\$66,684.80	\$68,348.80	\$70,054.40	\$71,801.60	\$73,590.40	\$75,420.80	\$77,313.60	\$79,248.00	\$81,224.00	\$83,262.40	\$85,342.40	\$87,484.80	\$89,668.80	\$91,915.20	\$94,203.20	\$96,553.60	\$98,966.40	\$101,441.60	\$103,979.20	\$106,579.20	\$109,241.60	\$111,966.40	\$114,774.40	\$117,644.80
		Monthly	\$5,557.07	\$5,695.73	\$5,837.87	\$5,983.47	\$6,132.53	\$6,285.07	\$6,442.80	\$6,604.00	\$6,768.67	\$6,938.53	\$7,111.87	\$7,290.40	\$7,472.40	\$7,659.60	\$7,850.27	\$8,046.13	\$8,247.20	\$8,453.47	\$8,664.93	\$8,881.60	\$9,103.47	\$9,330.53	\$9,564.53	\$9,803.73
		Bi-Weekly	\$2,564.80	\$2,628.80	\$2,694.40	\$2,761.60	\$2,830.40	\$2,900.80	\$2,973.60	\$3,048.00	\$3,124.00	\$3,202.40	\$3,282.40	\$3,364.80	\$3,448.80	\$3,535.20	\$3,623.20	\$3,713.60	\$3,806.40	\$3,901.60	\$3,999.20	\$4,099.20	\$4,201.60	\$4,306.40	\$4,414.40	\$4,524.80
		Weekly	\$1,282.40	\$1,314.40	\$1,347.20	\$1,380.80	\$1,415.20	\$1,450.40	\$1,486.80	\$1,524.00	\$1,562.00	\$1,601.20	\$1,641.20	\$1,682.40	\$1,724.40	\$1,767.60	\$1,811.60	\$1,856.80	\$1,903.20	\$1,950.80	\$1,999.60	\$2,049.60	\$2,100.80	\$2,153.20	\$2,207.20	\$2,262.40
		Hourly	\$32.06	\$32.86	\$33.68	\$34.52	\$35.38	\$36.26	\$37.17	\$38.10	\$39.05	\$40.03	\$41.03	\$42.06	\$43.11	\$44.19	\$45.29	\$46.42	\$47.58	\$48.77	\$49.99	\$51.24	\$52.52	\$53.83	\$55.18	\$56.56
7	Utility Mechanic Supervisor	Annual	\$63,440.00	\$65,020.80	\$66,643.20	\$68,307.20	\$70,012.80	\$71,760.00	\$73,548.80	\$75,379.20	\$77,272.00	\$79,206.40	\$81,182.40	\$83,220.80	\$85,300.80	\$87,443.20	\$89,627.20	\$91,873.60	\$94,161.60	\$96,512.00	\$98,924.80	\$101,400.00	\$103,937.60	\$106,537.60	\$109,200.00	\$111,924.80
		Monthly	\$5,286.67	\$5,418.40	\$5,553.60	\$5,692.27	\$5,834.40	\$5,980.00	\$6,129.07	\$6,281.60	\$6,439.33	\$6,600.53	\$6,765.20	\$6,935.07	\$7,108.40	\$7,286.93	\$7,468.93	\$7,656.13	\$7,846.80	\$8,042.67	\$8,243.73	\$8,450.00	\$8,661.47	\$8,878.13	\$9,100.00	\$9,327.07
		Bi-Weekly	\$2,440.00	\$2,500.80	\$2,563.20	\$2,627.20	\$2,692.80	\$2,760.00	\$2,828.80	\$2,899.20	\$2,972.00	\$3,046.40	\$3,122.40	\$3,200.80	\$3,280.80	\$3,363.20	\$3,447.20	\$3,533.60	\$3,621.60	\$3,712.00	\$3,804.80	\$3,900.00	\$3,997.60	\$4,097.60	\$4,200.00	\$4,304.80
		Weekly	\$1,220.00	\$1,250.40	\$1,281.60	\$1,313.60	\$1,346.40	\$1,380.00	\$1,414.40	\$1,449.60	\$1,486.00	\$1,523.20	\$1,561.20	\$1,600.40	\$1,640.40	\$1,681.60	\$1,723.60	\$1,766.80	\$1,810.80	\$1,856.00	\$1,902.40	\$1,950.00	\$1,998.80	\$2,048.80	\$2,100.00	\$2,152.40
		Hourly	\$30.50	\$31.26	\$32.04	\$32.84	\$33.66	\$34.50	\$35.36	\$36.24	\$37.15	\$38.08	\$39.03	\$40.01	\$41.01	\$42.04	\$43.09	\$44.17	\$45.27	\$46.40	\$47.56	\$48.75	\$49.97	\$51.22	\$52.50	\$53.81
6	Laboratory Manager	Annual	\$60,403.20	\$61,921.60	\$63,460.80	\$65,041.60	\$66,664.00	\$68,328.00	\$70,033.60	\$71,780.80	\$73,569.60	\$75,400.00	\$77,292.80	\$79,227.20	\$81,203.20	\$83,241.60	\$85,321.60	\$87,464.00	\$89,648.00	\$91,894.40	\$94,182.40	\$96,532.80	\$98,945.60	\$101,420.80	\$103,958.40	\$106,558.40
		Monthly	\$5,033.60	\$5,160.13	\$5,288.40	\$5,420.13	\$5,555.33	\$5,694.00	\$5,836.13	\$5,981.73	\$6,130.80	\$6,283.33	\$6,441.07	\$6,602.27	\$6,766.93	\$6,936.80	\$7,110.13	\$7,288.67	\$7,470.67	\$7,657.87	\$7,848.53	\$8,044.40	\$8,245.47	\$8,451.73	\$8,663.20	\$8,879.87
		Bi-Weekly	\$2,323.20	\$2,381.60	\$2,440.80	\$2,501.60	\$2,564.00	\$2,628.00	\$2,693.60	\$2,760.80	\$2,829.60	\$2,900.00	\$2,972.80	\$3,047.20	\$3,123.20	\$3,201.60	\$3,281.60	\$3,364.00	\$3,448.00	\$3,534.40	\$3,622.40	\$3,712.80	\$3,805.60	\$3,900.80	\$3,998.40	\$4,098.40
		Weekly	\$1,161.60	\$1,190.80	\$1,220.40	\$1,250.80	\$1,282.00	\$1,314.00	\$1,346.80	\$1,380.40	\$1,414.80	\$1,450.00	\$1,486.40	\$1,523.60	\$1,561.60	\$1,600.80	\$1,640.80	\$1,682.00	\$1,724.00	\$1,767.20	\$1,811.20	\$1,856.40	\$1,902.80	\$1,950.40	\$1,999.20	\$2,049.20
		Hourly	\$29.04	\$29.77	\$30.51	\$31.27	\$32.05	\$32.85	\$33.67	\$34.51	\$35.37	\$36.25	\$37.16	\$38.09	\$39.04	\$40.02	\$41.02	\$42.05	\$43.10	\$44.18	\$45.28	\$46.41	\$47.57	\$48.76	\$49.98	\$51.23
5	Senior WTP Operator	Annual	\$52,083.20	\$53,393.60	\$54,724.80	\$56,097.60	\$57,491.20	\$58,926.40	\$60,403.20	\$61,921.60	\$63,460.80	\$65,041.60	\$66,664.00	\$68,328.00	\$70,033.60	\$71,780.80	\$73,569.60	\$75,400.00	\$77,292.80	\$79,227.20	\$81,203.20	\$83,241.60	\$85,321.60	\$87,464.00	\$89,648.00	\$91,894.40
		Monthly	\$4,340.27	\$4,449.47	\$4,560.40	\$4,674.80	\$4,790.93	\$4,910.53	\$5,033.60	\$5,160.13	\$5,288.40	\$5,420.13	\$5,555.33	\$5,694.00	\$5,836.13	\$5,981.73	\$6,130.80	\$6,283.33	\$6,441.07	\$6,602.27	\$6,766.93	\$6,936.80	\$7,110.13	\$7,288.67	\$7,470.67	\$7,657.87
		Bi-Weekly	\$2,003.20	\$2,053.60	\$2,104.80	\$2,157.60	\$2,211.20	\$2,266.40	\$2,323.20	\$2,381.60	\$2,440.80	\$2,501.60	\$2,564.00	\$2,628.00	\$2,693.60	\$2,760.80	\$2,829.60	\$2,900.00	\$2,972.80	\$3,047.20	\$3,123.20	\$3,201.60	\$3,281.60	\$3,364.00	\$3,448.00	\$3,534.40
		Weekly	\$1,001.60	\$1,026.80	\$1,052.40	\$1,078.80	\$1,105.60	\$1,133.20	\$1,161.60	\$1,190.80	\$1,220.40	\$1,250.80	\$1,282.00	\$1,314.00	\$1,346.80	\$1,380.40	\$1,414.80	\$1,450.00	\$1,486.40	\$1,523.60	\$1,561.60	\$1,600.80	\$1,640.80	\$1,682.00	\$1,724.00	\$1,767.20
		Hourly	\$25.04	\$25.67	\$26.31	\$26.97	\$27.64	\$28.33	\$29.04	\$29.77	\$30.51	\$31.27	\$32.05	\$32.85	\$33.67	\$34.51	\$35.37	\$36.25	\$37.16	\$38.09	\$39.04	\$40.02	\$41.02	\$42.05	\$43.10	\$44.18
4	WTP Operator Class I Utility Mechanic I	Annual	\$47,174.40	\$48,360.00	\$49,566.40	\$50,814.40	\$52,083.20	\$53,393.60	\$54,724.80	\$56,097.60	\$57,491.20	\$58,926.40	\$60,403.20	\$61,921.60	\$63,460.80	\$65,041.60	\$66,664.00	\$68,328.00	\$70,033.60	\$71,780.80	\$73,569.60	\$75,400.00	\$77,292.80	\$79,227.20	\$81,203.20	\$83,241.60
		Monthly	\$3,931.20	\$4,030.00	\$4,130.53	\$4,234.53	\$4,340.27	\$4,449.47	\$4,560.40	\$4,674.80	\$4,790.93	\$4,910.53	\$5,033.60	\$5,160.13	\$5,288.40	\$5,420.13	\$5,555.33	\$5,694.00	\$5,836.13	\$5,981.73	\$6,130.80	\$6,283.33	\$6,441.07	\$6,602.27	\$6,766.93	\$6,936.80
		Bi-Weekly	\$1,814.40	\$1,860.00	\$1,906.40	\$1,954.40	\$2,003.20	\$2,053.60	\$2,104.80	\$2,157.60	\$2,211.20	\$2,266.40	\$2,323.20	\$2,381.60	\$2,440.80	\$2,501.60	\$2,564.00	\$2,628.00	\$2,693.60	\$2,760.80	\$2,829.60	\$2,900.00	\$2,972.80	\$3,047.20	\$3,123.20	\$3,201.60
		Weekly	\$907.20	\$930.00	\$953.20	\$977.20	\$1,001.60	\$1,026.80	\$1,052.40	\$1,078.80	\$1,105.60	\$1,133.20	\$1,161.60	\$1,190.80	\$1,220.40	\$1,250.80	\$1,282.00	\$1,314.00	\$1,346.80	\$1,380.40	\$1,414.80	\$1,450.00	\$1,486.40	\$1,523.60	\$1,561.60	\$1,600.80
		Hourly	\$22.68	\$23.25	\$23.83	\$24.43	\$25.04	\$25.67	\$26.31	\$26.97	\$27.64	\$28.33	\$29.04	\$29.77	\$30.51	\$31.27	\$32.05	\$32.85	\$33.67	\$34.51	\$35.37	\$36.25	\$37.16	\$38.09	\$39.04	\$40.02
3	WTP Operator Class II Utility Mechanic II Executive Assistant	Annual	\$42,744.00	\$43,804.80	\$44,907.20	\$46,030.40	\$47,174.40	\$48,360.00	\$49,566.40	\$50,814.40	\$52,083.20	\$53,393.60	\$54,724.80	\$56,097.60	\$57,491.20	\$58,926.40	\$60,403.20	\$61,921.60	\$63,460.80	\$65,041.60	\$66,664.00	\$68,328.00	\$70,033.60	\$71,780.80	\$73,569.60	\$75,400.00
		Monthly	\$3,562.00	\$3,650.40	\$3,742.27	\$3,835.87	\$3,931.20	\$4,030.00	\$4,130.53	\$4,234.53	\$4,340.27	\$4,449.47	\$4,560.40	\$4,674.80	\$4,790.93	\$4,910.53	\$5,033.60	\$5,160.13	\$5,288.40	\$5,420.13	\$5,555.33	\$5,694.00	\$5,836.13	\$5,981.73	\$6,130.80	\$6,283.33
		Bi-Weekly	\$1,644.00	\$1,684.80	\$1,727.20	\$1,770.40	\$1,814.40	\$1,860.00	\$1,906.40	\$1,954.40	\$2,003.20	\$2,053.60	\$2,104.80	\$2,157.60	\$2,211.20	\$2,266.40	\$2,323.20	\$2,381.60	\$2,440.80	\$2,501.60	\$2,564.00	\$2,628.00	\$2,693.60	\$2,760.80	\$2,829.60	\$2,900.00
		Weekly	\$822.00	\$842.40	\$863.60	\$885.20	\$907.20	\$930.00	\$953.20	\$977.20	\$1,001.60	\$1,026.80	\$1,052.40	\$1,078.80	\$1,105.60	\$1,133.20	\$1,161.60	\$1,190.80	\$1,220.40	\$1,250.80	\$1,282.00	\$1,314.00	\$1,346.80	\$1,380.40	\$1,414.80	\$1,450.00
		Hourly	\$20.55	\$21.06	\$21.59	\$22.13	\$22.68	\$23.25	\$23.83	\$24.43	\$25.04	\$25.67	\$26.31	\$26.97	\$27.64	\$28.33	\$29.04	\$29.77	\$30.51	\$31.27	\$32.05	\$32.85	\$33.67	\$34.51	\$35.37	\$36.25
2	WTP Operator Class III	Annual	\$38,729.60	\$39,707.20	\$40,705.60	\$41,724.80	\$42,764.80	\$43,825.60	\$44,928.00	\$46,051.20	\$47,195.20	\$48,380.80	\$49,587.20	\$50,835.20	\$52,104.00	\$53,414.40	\$54,745.60	\$56,118.40	\$57,512.00	\$58,947.20	\$60,424.00	\$61,942.40	\$63,481.60	\$65,062.40	\$66,684.80	\$68,348.80
		Monthly	\$3,227.47	\$3,308.93	\$3,392.13	\$3,477.07	\$3,563.73	\$3,652.13	\$3,744.00	\$3,837.60	\$3,932.93	\$4,031.73	\$4,132.27	\$4,236.27	\$4,342.00	\$4,451.20	\$4,562.13	\$4,676.53	\$4,792.67	\$4,912.27	\$5,035.33	\$5,161.87	\$5,290.13	\$5,421.87	\$5,557.07	\$5,695.73
		Bi-Weekly	\$1,489.60	\$1,527.20	\$1,565.60	\$1,604.80	\$1,644.80	\$1,685.60	\$1,728.00	\$1,771.20	\$1,815.20	\$1,860.80	\$1,907.20	\$1,955.20	\$2,004.00	\$2,054.40	\$2,105.60	\$2,158.40	\$2,212.00	\$2,267.20	\$2,324.00	\$2,382.40	\$2,441.60	\$2,502.40	\$2,564.80	\$2,628.80
		Weekly	\$744.80	\$763.60	\$782.80	\$802.40	\$822.40	\$842.80	\$864.00	\$885.60	\$907.60	\$930.40	\$953.60	\$977.60	\$1,002.00	\$1,027.20	\$1,052.80	\$1,079.20	\$1,106.00	\$1,133.60	\$1,162.00	\$1,191.20	\$1,220.80	\$1,251.20	\$1,282.40	\$1,314.40
		Hourly	\$18.62	\$19.09	\$19.57	\$20.06	\$20.56	\$21.07	\$21.60	\$22.14	\$22.69	\$23.26	\$23.84	\$24.44	\$25.05	\$25.68	\$26.32	\$26.98	\$27.65	\$28.34	\$29.05	\$29.78	\$30.52	\$31.28	\$32.06	\$32.86
1	WTP Operator Trainee	Annual	\$35,06																							