City of

NORTH EAST | MARYLAND

Water Utility Rate Study

Final Report

May 2, 2017

WILLDAN FINANCIAL SERVICES

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May 2, 2017

Mr. Kendrick S. Natale II
Director of Finance and Administration
Town of North East
106 South Main Street
North East, Maryland 21901

Mr. Natale,

Willdan Financial Services ("Willdan") is pleased to present this report on the Water Utility Rate Study ("Study") conducted for the Town of North East ("Town").

This analysis has been prepared using generally accepted rate study techniques. The Town's accounting, budgeting, customer billing, and capital improvement lists were the primary sources of data used in the study. The conclusions enclosed within this report provide the Town with a cost of service based rate structure and planned rate adjustment scenarios to provide funding for continued operations. The focus of this study is to ensure the Town will have sufficient water revenues to meet operational and capital obligations through the projection period and to recommend rates that correspond with general rate setting principles. This report provides a summary of our findings.

It was a pleasure working with you and other staff members at the Town. Thank you for the support and cooperation extended throughout the study.

Sincerely,

WILLDAN FINANCIAL SERVICES

Robert P. Ryall
Principal Consultant

Section 1 - Introduction

1.1. Introduction

Willdan Financial Services ("Willdan") was retained by the Town of North East, Maryland ("Town") to conduct a Water Utility Rate Study ("Study") for the Town's water enterprise fund ("Utility"). This report details the results of the Study for the six-year period fiscal year (FY) 2017-2022, the results of which are presented in this Study Report.

The results presented herein consist of a Revenue Sufficiency, Cost of Service, and Rate Design Analysis for the Utility as well as an update of the Town's Major Facilities Fee and Connection Fee. The financial plan (Revenue Sufficiency) was designed to provide revenues sufficient to fund the ongoing operating expenses and capital costs necessary to operate the Utility, while meeting the financial requirements and goals set forth by the Town for the Utility. The focus of this component of the study is annual revenue increases needed by the Utility to fund ongoing operating expenses and capital costs.

The Revenue Sufficiency analysis provides a basis for the annual revenue needs of the Utility. The Cost of Service analysis provides a review and update of a water rate differential that reasonably recovers allocated costs for in-town and out-of-town customers in accordance with the March 5, 2002, Water Service Agreement between the Town and Cecil County ("Water Service Agreement"). The Rate Design portion of this study considers the findings of the Revenue Sufficiency and Cost of Service analysis in the development of water rates that equitably recover the necessary funding for the Utility.

The Major Facilities Fee is updated using the Town's fixed asset listing for FY2016, the last year audited financial statements are available. The Town's Connection Fee is updated using current employee costs and task time data provided by the Town.

Further, in the development of the Study, a significant amount of historical review and analysis has been performed, together with the application of assumptions based on prudent financial, operational and ratemaking relationships. In the preparation of the Study, certain assumptions have been made with respect to conditions that may occur in the future. While it is believed that these assumptions are reasonable for the purpose of this Study, they are dependent upon future events and actual conditions may differ from those assumed herein. In addition, this Study used and relied upon certain information provided by Town staff. This information includes, among other things, the Town's audited financial

statements, annual operating budgets, five-year capital improvement plan, historical customer billing data, periodic reports, and other information and data provided by the Town, its independent auditors, and other sources. While the sources are believed to be reliable, there has been no independent verification of the information and no assurances are offered with respect thereto. To the extent that future conditions differ from those assumed herein or provided by others, the actual results may vary from those projected.

1.2. Organization of this Report

This Study Report presents an overview of the rate-making concepts employed in the development of the analysis contained herein, followed by a discussion of the data, assumptions and results associated with the analysis. Appendices with detailed schedules are presented for further investigation into the data, assumptions and calculations used in the development of this Study Report. The report is organized as follows:

- Section 1 - Introduction
- Section 2 – Overview of Utility Rate-Making Principles, Processes, and Issues
- Section 3 – Revenue Sufficiency Analysis Development and Results
- Section 4 – Cost of Service
- Section 5 – Rate Design
- Section 6 – Bill Comparison
- Section 7 – Major Facilities Fee
- Section 8 - Connection Fee
- Section 9 – Conclusions and Recommendations
- Appendix A –Revenue Sufficiency Analysis Schedules
- Appendix B – Cost of Service Schedules
- Appendix C –Rate Design Schedules

Section 2 - Overview of Utility Rate-Making Principles, Processes, and Issues

2.1. Introduction

Rate analyses are typically performed every few years to ensure that revenues from rates are adequately funding utility operations, maintenance, and future capital needs. This rate analysis utilized generally accepted rate-making principles which resulted in the development of rates that are projected to: 1) generate sufficient revenue to meet the financial requirements of the water utility, 2) address the need to recover costs from users in a manner which conforms to the Water Service Agreement and 3) meet the rate design goals of the Utility. A discussion of some of the key principles of rate-making, and how the processes employed herein are guided by those principles, is presented below.

2.2. Discussion of General Rate-Making Principles

While the individual rates for each utility vary based on a variety of factors, the development of rates should be consistent with general rate-making principles set forth in utility rate-making practice and literature. In addition, as the primary goal of the Utility is to provide reliable water service, the primary goal of this Study was that the rates generate sufficient revenue to provide the Utility with the resources to provide reliable service to the Town and recover costs from in-town and out-of-town customers in a manner that conforms to the Water Service Agreement. The principles by which rate practitioners are guided include designing rates that strike a reasonable balance between several key principles. In general, rates designed should:

- Generate a stable rate revenue stream which, when combined with other sources of funds, is sufficient to meet the financial requirements and goals of the utility
- Be fair and equitable – that is, they should generate revenue from customer classes which is reasonably in proportion to the cost to provide service to that customer class
- Be easy to understand by customers
- Be easy to administer by the utility
- Minimize customer impact

2.3. The Revenue Sufficiency Process

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the Utility, a determination of the annual rate revenue required must be completed. This rate revenue, combined with other sources of funds, is evaluated to determine whether the total revenue is sufficient to meet those fiscal requirements. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis results in the identification of revenue requirements of the system, such as operating expenses, capital expenses, debt service expense (including a provision for debt service coverage), transfers out and the maintenance of unrestricted reserves at appropriate levels. These revenue requirements are then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet projected revenue requirements. To the extent that the existing revenue stream is not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases are calculated which would be required in order to provide revenue sufficient to meet those needs.

2.4. Rate Design Process

The Revenue Sufficiency process described in the preceding sections provides a basis for the review and update of a schedule of rates that recovers costs from in-town and out-of-town customers in conformance with the Water Services Agreement. The rate design process for this Study maintains the Town's existing rate structure consisting of a volumetric rate and minimum usage level.

Section 3 - Revenue Sufficiency Analysis Development and Results

3.1. Revenue Sufficiency Analysis

3.1.1 General Methodology

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the Utility, a determination of the annual revenue from rates which, combined with other sources of funds, will provide sufficient funds to meet those fiscal requirements must first be completed. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis resulted in the identification of revenue requirements of the Utility, such as operating expenses, capital expenses, and the maintenance of both unrestricted reserves at appropriate levels. These revenue requirements were then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet requirements. To the extent that the existing revenue stream was not sufficient to meet the annual revenue requirements of the Utility, a series of rate revenue increases were calculated to provide revenue sufficient to meet those needs.

In addition, the Revenue Sufficiency Analysis resulted in the identification of a capital project funding plan for the forecast period which identified the need to fund capital projects in FY2017-2022 through the use of the Utility's available funds and future debt. Scenarios that included different combinations of current cash and future debt were reviewed during the Study.

The Capital Improvement Plan (CIP), including the timing of projects and estimated costs, was provided by the Utility. Willdan relied on this information and the CIP was fully integrated into the Revenue Sufficiency Analysis.

3.1.2 Data Items

Key data items reviewed, discussed and incorporated into the Revenue Sufficiency Analysis were:

- Financial management goals of the Utility
- FY2016 Comprehensive Annual Financial Report (CAFR)
- FY2017 Operating Budget
- Capital Improvements Plan (CIP)
- Loan documents and amortization schedules associated with outstanding debt
- Customer billing data
- General assumptions related to:
  - Customer growth
  - Cost escalation factors
  - New debt

A discussion of the use of each of the above data items is presented below.

3.1.3 Fund Balances Related to the FY2016 Comprehensive Annual Financial Report (CAFR)

To better understand what funds the Utility had on hand to start the forecast period, a detailed review of the Town's financial statements, the FY2016 CAFR, was conducted and reviewed with staff. Assumptions were made to estimate the actual funds available to the Utility at the end of FY2016, and therefore at the beginning of FY2017, based on discussions with staff. A summary of these fund balances, as adjusted for use in this analysis, is presented below in Table 3-1.

Table 3-1 Utility Fund Balances as of June 30, 2016		
Description	Water Fund	
	Operating	Major Facilities Fee
Current Assets:		
Cash and cash equivalents	$ 1,294,887	$ 0
Restricted cash	0	1,048,880
Service charges receivable	570,070	0
Prepaid exenses	34,195	0
Inventories	44,344	0
Due from general fund	0	0
Subtotal	$ 1,943,496	$ 1,048,880
Current Liabilities:		
Accounts payable	$ (90,127)	$ 0
Accrued expenses	(56,830)	0
Due to General Fund	(351,772)	0
Current portion, long-term oblig	(591,223)	0
Subtotal	$ (1,089,952)	$ 0
Adjustments:		
Restricted cash	$ 0	$ 0
Inventories	(44,344)	0
Current portion, long-term oblig	591,223	0
Subtotal	$ 546,879	$ 0
Net Beginning Balances (Curr Assets less Current Liabilities - with Adjustments)	$ 1,400,423	$ 1,048,880

Source - Audited Financial Statements Year Ended June 30, 2016.

A more detailed presentation of the fund balances presented above is presented in Schedule A-2 in the Appendix.

3.1.4 Budgeted and Projected Revenue and Expenses

Staff provided the FY2017 Budget, and associated line-item expense detail, as the basis for the projection of financial performance for FY2017. Reported revenue was obtained from the City's financial statements and was used as the basis for projecting Utility revenue. Projected revenue for FY2017-2022 was developed assuming no annual growth in customers and, further, by any adopted or projected rate increases during the forecast period. In addition, line-item projected expenses for FY2017-2022 were developed using cost escalation factors as discussed in Section 3.1.8; General Assumptions.

Cost escalation factors were reviewed by staff and were used to project line-item costs beyond the FY2017 budget. Those factors were applied based on line-item cost classifications.

A summary of the budgeted and projected revenues and expenses are presented below in Tables 3-2 and 3-3, respectively.

Table 3-2
Forecasted Utility Fund Revenues

Description	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Water Fund:						
Rate Revenue	$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
Miscellaneous Revenue	9,100	9,100	9,100	9,100	9,100	9,100
Service Charge Penitalies	78,318	78,318	78,318	78,318	78,318	78,318
Total	$ 2,311,682	$ 2,645,322	$ 2,773,217	$ 2,867,220	$ 2,964,513	$ 3,065,211
Major Facilities Fee:						
Fees Collected	$ 14,000	$ 14,000	$ 14,000	$ 14,000	$ 14,000	$ 14,000
Connection Fee:						
Fees Collected	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000

Table 3-3 Water
Forecasted Utility Fund Operating Expenses

Description	FY2017	FY2018	FY2019[1]	FY2020	FY2021	FY2022
Water Fund:						
Water Administration	$ 592,627	$ 573,249	$ 592,867	$ 613,555	$ 660,395	$ 658,469
Water Operations	1,295,604	1,338,136	1,326,340	1,353,031	1,420,783	1,448,730
Total Water Fund	$ 1,888,231	$ 1,911,385	$ 1,919,207	$ 1,966,586	$ 2,081,178	$ 2,107,199

Notes:
1 - the reduction in Water Operations expenses is due primarily to one time Construction Services costs in FY2018.

A more detailed presentation of the line-item budgeted and projected revenues and expenses for the water fund is presented in Schedules A-3 and A-4, respectively, in the Appendix.

3.1.5 Capital Improvements Plan (CIP)

The Utility provided Willdan with a forecast of capital requirements for the FY2017 – 2022 forecast period. A summary table of the water CIP for the FY2017 – 2022 forecast period is presented below in Table 3-4. A more detailed CIP, including the timing and funding source for each respective project, is presented in Schedules A-5 and A-7, respectively, in the Appendix.

Table 3-4
Utility Capital Improvement Program

Description	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Meter Relocation	$ 125,000	$ 0	$ 0	$ 0	$ 0	$ 0
Razor Strap PS Upgrades	25,000	0	0	0	0	0
Hydrant Locks	0	0	0	0	0	0
Dredge Leslie WTP Pond	120,000	0	0	0	0	0
Irishtown Tank Inspection	20,000	0	0	0	0	0
Bayview Tank Inspection	20,000	0	0	0	0	0
Rolling Mill WTP Butterfly Valve Actuator	0	0	0	0	0	0
Remove Old Flying J Meter Pit	0	0	0	0	0	0
New Fence at Bayberry Tank	0	0	0	0	0	0
Valve Replacement	0	0	0	0	0	0
Storage Shed at Rolling Mill WTP	0	0	0	0	0	0
Hydrant Replacement	0	5,000	5,000	5,000	5,000	5,000
Rolling Mill WTP Underground Tank Maintenance	0	0	0	0	0	100,000
Bayview Tank Repainting	0	880,000	0	0	0	0
Replace Bridges to Leslie WTP Raw Water PS	0	10,000	0	0	0	0
Irishtown BPS Building Rehabilitation/separate CL2 Room	0	0	30,000	0	0	0
WM - Razor Strap Road - BPS to Red Toad Road	0	300,000	0	0	0	0
WM - Race Street - Cecil Avenue to Mill Lane	0	0	70,000	0	0	0
WM - Mill Lane - End to Main Street	0	0	45,000	0	0	0
WM - Irishtown Road - BPS to Rowles Lane	0	0	87,500	0	0	0
Replace Remaining Water Meters	0	0	0	0	0	0
Acquire North East Business Center Tank	0	250,000	0	0	0	0
Construct New BPS at North East Business Center	0	200,000	0	0	0	0
Service Line Replacement	0	5,000	5,000	5,000	5,000	5,000
Remove Northwoods PRV	0	0	0	18,000	0	0
Powder Activated Carbon System at Rolling Mill WTP	0	0	0	18,000	0	0
Powder Activated Carbon System at Leslie WTP	0	0	0	30,000	0	0
Tank Mixers at all Distribution System Storage Tanks	0	0	420,000	0	0	0
Clean Leslie WTP Clearwell	0	0	0	0	11,000	0
Generator Switch Gear at Tidal Water PS	0	9,000	0	0	0	0
SCADA Upgrades	0	0	0	0	0	50,000
Replace RM WTP Finished Water PS	0	0	0	0	0	160,000
WM - School House Lane - Route 272 to Irishtown Road	0	0	0	0	0	70,000
WM - Colonial Circle - School House Lane to School House Lane	0	0	0	0	0	72,500
WM - Valley Forge Road - Colonial Circle to Colonial Circle	0	0	0	0	0	30,000
WM - Brandywine Place - Colonial Circle to Irishtown Road	0	0	0	0	0	10,000
WM - Salem Court - Colonial Circle to End	0	0	0	0	0	5,400
WM - Lexington Court - Colonial Circle to End	0	0	0	0	0	5,400
WM - Valley Forge Place - Valley Forge Road to End	0	0	0	0	0	7,200
Valve Replacement	0	0	0	0	0	7,000
Service Line Replacement	0	0	0	0	0	5,000
Hydrant Replacement	0	0	0	0	0	5,000
Irishtown Tank Maintenance	0	0	0	0	0	10,000
Total	$ 310,000	$ 1,659,000	$ 662,500	$ 76,000	$ 21,000	$ 547,500

3.1.6 Outstanding Debt Service

Many utilities utilize long-term debt to fund capital assets. Debt obligations generally carry some form of covenants associated with the debt that require a minimum debt service coverage be maintained, or exceeded, in each year of the forecast period. The Town currently has two outstanding loans; the Drinking Water Bond, Series 2007A and the Drinking Water bond, Series 2009. Both loans are issued by the Maryland Water Quality Administration. Based on discussions with the Town, the loans are secured by the full faith of the Town and do not carry a covenant for debt service coverage.

3.1.7 Customer Billing Data

As part of the Study, the Town provided customer billing information for FY2016. The billing information included identification of customer type, including in-town and out-of-town customers, the unit count for multi-unit customers, the amount of usage billed, and the dollar bill amount for each billing event.

3.1.8 General Assumptions

In order to develop the financial and rate projections, certain assumptions were made with regard to elements of the revenue sufficiency analysis. A summary of those assumptions is presented below.

3.1.8.1. Growth

Based on discussion with Town staff, it was assumed that there would be no annual growth in the customer base and requisite flows during the forecast period.

3.1.8.2. Operating Projections

For the purposes of forecasting Operating requirements of the Utility, the line-item operating budget for the Utility was reviewed with the Town and operating expenses were projected based on one of the following escalation factors:

- Personnel – 3.0%
- Other Insurance – 6.0%
- Group Insurance – 10.0%
- Purchased Services – 2.0%
- Supplies – 2.0%

3.1.8.3. Minimum Unrestricted Working Capital Balance – Operating Fund

In order to minimize rate impacts, the Utility has developed a goal of maintaining an unrestricted working capital operating fund reserve amount greater than or equal to approximately 90 days of operating expenses. The analysis presented herein projects a minimum unrestricted working capital operating fund reserve of at least 90 days of operating expenses during the forecast period.

3.1.8.4. Future Debt

In order to fund the capital needs of the utility, future debt is forecasted to be required. Payments associated with this debt are assumed to be level annual payments and are forecasted using an interest rate of 3.5% and 20-year term.

3.1.9 Results of the Revenue Sufficiency Analysis

After a thorough review of the above-mentioned data elements, the resulting financial plan presented herein is the embodiment of the data, assumptions and review process undertaken with staff in several meetings.

3.1.9.1. Revenue Increases Required

The revenue requirements and financial goals of the Utility during the forecast period necessitate the need for additional revenue in the form of customer revenue increases.

Table 3-5 below presents a summary of the projected customer revenue increases required during the forecast period in order for the Utility to meet its financial goals.

Table 3-5
Water Utility Fund Revenue Increases

Description	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Water Fund						
Water Sales Revenue	$ 2,180,651	$ 2,180,652	$ 2,180,653	$ 2,180,654	$ 2,180,655	$ 2,180,656
Additional Rate Revenue From Adjustments:						
FY2017 @ 2%	$ 43,613	$ 43,613	$ 43,613	$ 43,613	$ 43,613	$ 43,613
FY2018 @ 15%		333,640	333,640	333,640	333,640	333,640
FY2019 @ 5%			127,895	127,895	127,895	127,895
FY2020 @ 3.5%				94,003	94,003	94,003
FY2021 @ 3.5%					97,293	97,293
FY2022 @ 3.5%						100,699
Total Additional Water Rate Revenue	$ 43,613	$ 377,253	$ 505,148	$ 599,151	$ 696,444	$ 797,143
Total Rate Revenue	$ 2,224,264	$ 2,557,905	$ 2,685,801	$ 2,779,805	$ 2,877,099	$ 2,977,799
Other Operating Revenue	$ 87,418	$ 87,418	$ 87,418	$ 87,418	$ 87,418	$ 87,418
Interest Earnings	2,000	1,000	1,000	1,000	1,000	1,000
Total Operating Revenue	$ 2,313,682	$ 2,646,323	$ 2,774,219	$ 2,868,223	$ 2,965,517	$ 3,066,217

3.1.9.2. Capital Project Funding

With capital project funding needs projected during the forecast period, it is imperative the Utility develop a financial plan which provides for the full funding of the CIP.

Table 3-6 below presents the summary capital project funding projections, by funding source and by year, for FY2017 through FY2022, considering the Capital Improvement Programs provided by the Town for the Utility.

A more detailed presentation of the capital project funding plan is presented in Schedule A-6 in the Appendix.

Table 3-6
Capital Improvements Program Funding Plans

Description	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Water Fund						
Capital Improvement Program	$ 310,000	$ 1,659,000	$ 662,500	$ 76,000	$ 21,000	$ 547,500
Funding Sources:						
Major Facilities Fees	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Connection Fees	10,000	10,000	10,000	10,000	10,000	10,000
Operating Fund	300,000	649,000	652,500	66,000	11,000	537,500
New Debt	0	1,000,000	0	0	0	0
Total Funding	$ 310,000	$ 1,659,000	$ 662,500	$ 76,000	$ 21,000	$ 547,500

3.2. Summary of the Revenue Sufficiency Analysis

The Revenue Sufficiency Analysis presented herein utilized generally accepted rate-making principles which resulted in the development of a rate plan which is projected to generate sufficient revenue to meet the financial requirements of the Utility during the forecast period.

3.2.1.1. Summary of Revenue Sufficiency Analysis

The resulting financial plan presented herein includes a series of rate revenue increases, presented earlier in Table 3-5. The rate revenue increases provide for funding of projected revenue requirements during the forecast period and provide revenue to meet the financial goals of the Utility as documented in this Report.

The summary of Revenue Sufficiency Analysis is presented below in Tables 3-7. A more detailed presentation of the financial plan, including fund balance reconciliations for each fund, is presented in Schedule A-1 in the Appendix.

Table 3-7 Water Summary of the Water Revenue Sufficiency Analysis						
Description	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Revenue from City Rates						
Water Sales Revenue	$ 2,180,651	$ 2,180,651	$ 2,180,651	$ 2,180,651	$ 2,180,651	$ 2,180,651
Total Sales Revenue	$ 2,180,651	$ 2,180,651	$ 2,180,651	$ 2,180,651	$ 2,180,651	$ 2,180,651
Additional Rate Revenue from Adjustments						
FY 2017 @ 2%	$ 43,613	$ 43,613	$ 43,613	$ 43,613	$ 43,613	$ 43,613
FY 2018 @ 15%		333,640	333,640	333,640	333,640	333,640
FY 2019 @ 5%			127,895	127,895	127,895	127,895
FY 2020 @ 3.5%				94,003	94,003	94,003
FY 2021 @ 3.5%					97,293	97,293
FY 2022 @ 3.5%						100,698
Total Additional Rate Revenue	$ 43,613	$ 377,253	$ 505,148	$ 599,151	$ 696,444	$ 797,142
Rate Rev. From Aquired System	0	0	0	0	0	0
Total Rate Revenue	$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
Other Revenue						
Other Operating Revenue	87,418	87,418	87,418	87,418	87,418	87,418
Interest Earnings	2,000	1,000	1,000	1,000	1,000	1,000
Total Operating Revenue	$ 2,313,682	$ 2,646,322	$ 2,774,217	$ 2,868,220	$ 2,965,513	$ 3,066,211
Expenditures						
Operating Expenses	$ (1,888,231)	$ (1,911,385)	$ (1,919,207)	$ (1,966,586)	$ (2,081,178)	$ (2,107,199)
Net Revenue	$ 425,451	$ 734,937	$ 855,010	$ 901,634	$ 884,335	$ 959,012
Net Revenue Available for Coverage	$ 425,451	$ 734,937	$ 855,010	$ 901,634	$ 884,335	$ 959,012
Non-Operating Expenses:						
Minor Capital	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Projects Funded with Existing Reserves/Current Cash	(300,000)	(649,000)	(652,500)	(66,000)	(11,000)	(537,500)
Transfers Out	0	0	0	0	0	0
Non Operating Expenses	0	0	0	0	0	0
Total Non-Operating Expenses	$ (300,000)	$ (649,000)	$ (652,500)	$ (66,000)	$ (11,000)	$ (537,500)
Transfer in From Major Facilities Fund	$ 0	$ 500,000	$ 500,000	$ 0	$ 0	$ 0
Debt Service:						
Existing Debt Service	$ (639,184)	$ (639,184)	$ (639,184)	$ (639,184)	$ (639,184)	$ (639,184)
New Debt Service	0	(70,000)	(70,000)	(70,000)	(70,000)	(70,000)
Total Debt Service for Coverage	$ (639,184)	$ (709,184)	$ (709,184)	$ (709,184)	$ (709,184)	$ (709,184)
Debt Service Coverage						
Debt Service Coverage	0.67	1.04	1.21	1.27	1.25	1.35
Net Cash Flow	$ (513,733)	$ (123,247)	$ (6,674)	$ 126,450	$ 164,151	$ (287,672)

Table 3-7 Water (continued) Summary of the Water Revenue Sufficiency Analysis						
Description	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Fund Balances						
Water Operating Fund:						
Beginning Year Balance	$ 1,400,423	$ 886,690	$ 763,443	$ 756,769	$ 883,219	$ 1,047,370
Net Income from Operations	(513,733)	(123,247)	(6,674)	126,450	164,151	(287,672)
Ending Balance	$ 886,690	$ 763,443	$ 756,769	$ 883,219	$ 1,047,370	$ 759,698
Operating Reserve - Months of O&M	6	5	5	5	6	4
Water Operating Fund Reserve Target						
Operating Reserve Target - 3 Months of O&M	$ 472,058	$ 477,846	$ 479,802	$ 491,647	$ 520,295	$ 526,800
Connection Fees Fund:						
Beginning Year Balance	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Connection Fees	10,000	10,000	10,000	10,000	10,000	10,000
Interest Earnings	0	0	0	0	0	0
Use of Funds	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)
Ending Balance	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Major Facilities Fees Fund:						
Beginning Year Balance	$ 1,048,880	$ 1,063,880	$ 578,880	$ 93,880	$ 107,880	$ 121,880
Major Facilities Fees	14,000	14,000	14,000	14,000	14,000	14,000
Interest Earnings	1,000	1,000	1,000	0	0	0
Transfer for Debt Service	0	(500,000)	(500,000)	0	0	0
Ending Balance	$ 1,063,880	$ 578,880	$ 93,880	$ 107,880	$ 121,880	$ 135,880

Table 3-7 Water (continued) Summary of the Water Revenue Sufficiency Analysis						
Description	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Capital Program Funding						
Annual Capital Needs:						
System Acquisition	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Meter Relocation	125,000	0	0	0	0	0
Razor Strap PS Upgrades	25,000	0	0	0	0	0
Hydrant Locks	0	0	0	0	0	0
Dredge Leslie WTP Pond	120,000	0	0	0	0	0
Irishtown Tank Inspection	20,000	0	0	0	0	0
Bayview Tank Inspection	20,000	0	0	0	0	0
Rolling Mill WTP Butterfly Valve Actuator	0	0	0	0	0	0
Remove Old Flying J Meter Pit	0	0	0	0	0	0
New Fence at Bayberry Tank	0	0	0	0	0	0
Valve Replacement	0	0	0	0	0	0
Storage Shed at Rolling Mill WTP	0	0	0	0	0	0
Hydrant Replacement	0	5,000	5,000	5,000	5,000	5,000
Rolling Mill WTP Underground Tank Maintenance	0	0	0	0	0	100,000
Bayview Tank Repainting	0	880,000	0	0	0	0
Replace Bridges to Leslie WTP Raw Water PS	0	10,000	0	0	0	0
Irishtown BPS Building Rehabilitation/separate CL2 Room	0	0	30,000	0	0	0
WM - Razor Strap Road - BPS to Red Toad Road	0	300,000	0	0	0	0
WM - Race Street - Cecil Avenue to Mill Lane	0	0	70,000	0	0	0
WM - Mill Lane - End to Main Street	0	0	45,000	0	0	0
WM - Irishtown Road - BPS to Rowles Lane	0	0	87,500	0	0	0
Replace Remaining Water Meters	0	0	0	0	0	0
Acquire North East Business Center Tank	0	250,000	0	0	0	0
Construct New BPS at North East Business Center	0	200,000	0	0	0	0
Service Line Replacement	0	5,000	5,000	5,000	5,000	5,000
Remove Northwoods PRV	0	0	0	18,000	0	0
Powder Activated Carbon System at Rolling Mill WTP	0	0	0	18,000	0	0
Powder Activated Carbon System at Leslie WTP	0	0	0	30,000	0	0
Tank Mixers at all Distribution System Storage Tanks	0	0	420,000	0	0	0
Clean Leslie WTP Clearwell	0	0	0	0	11,000	0
Generator Switch Gear at Tidal Water PS	0	9,000	0	0	0	0
SCADA Upgrades	0	0	0	0	0	50,000

Table 3-7 Water (continued) Summary of the Water Revenue Sufficiency Analysis						
Description	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Replace RM WTP Finished Water PS	0	0	0	0	0	160,000
WM - School House Lane - Route 272 to Irishtown Road	0	0	0	0	0	70,000
WM - Colonial Circle - School House Lane to School House Lane	0	0	0	0	0	72,500
WM - Valley Forge Road - Colonial Circle to Colonial Circle	0	0	0	0	0	30,000
WM - Brandywine Place - Colonial Circle to Irishtown Road	0	0	0	0	0	10,000
WM - Salem Court - Colonial Circle to End	0	0	0	0	0	5,400
WM - Lexington Court - Colonial Circle to	0	0	0	0	0	5,400
WM - Valley Forge Place - Valley Forge Road to End	0	0	0	0	0	7,200
Valve Replacement	0	0	0	0	0	7,000
Service Line Replacement	0	0	0	0	0	5,000
Hydrant Replacement	0	0	0	0	0	5,000
Irishtown Tank Maintenance	0	0	0	0	0	10,000
Total Capital Program	$ 310,000	$ 1,659,000	$ 662,500	$ 76,000	$ 21,000	$ 547,500
Funding Sources:						
Operating Revenue	$ 300,000	$ 649,000	$ 652,500	$ 66,000	$ 11,000	$ 537,500
Connection Fees	10,000	10,000	10,000	10,000	10,000	10,000
Major Facilities Fees	0	0	0	0	0	0
Debt	0	1,000,000	0	0	0	0
Total Capital Program Funding	$ 310,000	$ 1,659,000	$ 662,500	$ 76,000	$ 21,000	$ 547,500

Section 4 - Cost of Service

On January 31, 2017, the Maryland Public Service Commission issued Order Number 85410 in the matter of petition of Cecil County, Maryland for the Public Service Commission to set rates for water service provided by the Town of North East, Maryland within Cecil County (Case Number 9190). The case arose from a dispute between Cecil County and the Town of North East over the amount the Town charged certain County residence for water service (out-of-town customers). The Public Service Commission order resulted in a multiplier of 2.21 for out-of-town customers served by the Town. The cost of service analysis completed for this engagement follows the rate making procedures outlined in the Public Service Commission order.

4.1. General

There are two generally accepted methods to cost of service; the cash basis and the utility basis. The cash basis generally includes operation and maintenance costs, the payment of principal and interest on debt, contributions to specific reserve requirements, and funded capital improvements. The utility basis generally includes operation and maintenance cost, annual depreciation costs, and return on rate base. The utility basis is typically used by private or investor owned utilities; however, is also commonly used by municipalities to establish rates for outside or wholesale customers. The Public Service Commission order utilized the utilities basis for establishing rates for County customers.

4.2. Operating and Maintenance Expenses

As discussed above, one of the components to the utilities basis of cost of service is the operation and maintenance costs of the Utility. The operation and maintenance costs, and offsetting non-rate revenue, were obtained from the Town's FY2016 financial statements. The Town also provided the associated trial balance which includes more detail for non-rate revenue. Pursuant to the Public Service Commission order, operation and maintenance costs are allocated to out-of-town customers based on their proportion of total dwelling units served. Schedule B-1 provides a summary of allocated operation and maintenance expenses.

4.3. Return on Rate Base

A component of the utilities basis cost of service is the determination of Return on Rate Base. The Return on Rate Base is determined by multiplying the rate base by a fair rate of return. The proper rate of return

is often a subject of discussions in rate cases. For the purposes of this analysis, the Rate of Return is established as the Utility's Weighted Average Cost of Capital; as was completed in the Public Service Commission's order. Calculation of Weighted Average Cost of Capital, as provided on Schedule B-2, used Debt and Fund Equity reported in the Town's FY2016 financial statements and associated supporting documents.

Rate Base, as established in the Public Service Commission order, is the Utility's depreciated original cost. The Town provided a detail asset listing which included contributed and non-contributed assets, original and depreciated costs, and identified the service area associated with each asset; serving in-town customers, out-of-town customers, or both in-town and out-of-town customers. The calculation of Return on Rate Base is provided on Schedule B-3.

4.4. Annual Depreciation

The Town provided detailed Annual Depreciation for FY2016. The detail included contributed and non-contributed assets as well as service area detail; serving in-town customers, out-of-town customers, or both in-town and out-of-town customers. A summary of Annual Depreciation is provided in Schedule B-4.

4.5. Allocation of Costs

Each of the components presented above, Operation and Maintenance Costs, Return on Rate Base, and Annual Depreciation, are allocated as either direct assignments (such as depreciation of assets service only out-of-town customers) or based on the proportion of dwelling units served by the Town in FY2016 (49.10% of served dwelling units were out-of-town). Schedule B-5 provides a summary of the Allocation of costs to out-of-town customers.

4.6. Summary of the Cost of Service Analysis

The final step in the cost of service analysis is the development of FY2016 unit costs for both in-town and out-of-town customers. Schedules B-6 and B-7 provide the unit cost development for both out-of-town and in-town customers. For the purposes of this study, unit costs are used to determine the appropriate cost of service multiplier for out-of-town customers. As previously mentioned, the Public Service Commission order established an out-of-town multiplier of 2.21. The Water Service Agreement between

the Town and Cecil County, establishes a multiplier of 2.0; or out-of-town rates that are double the rates of in-town customers.

The cost of service analysis shows that, based on FY2016 data (the last available audited financial statements) and using cost of service calculation procedures as conducted in the Public Service Commission order, the cost of service based multiplier for out-of-town customers is 2.05. For the development of out-of-town rates, the Town has instructed the use of the 2.0 multiplier established in the Water Service Agreement between the Town and County.

Section 5 - Rate Design

The revenue requirement and cost of service study described in the preceding section of this Report provides a basis for the review and update of a schedule of rates that recovers costs of the system. This section of the Report provides supporting detail around the development of the rate structures developed as part of this study.

5.1. Development of User Rates

The User Rates developed as part of this study follow a similar structure as the Town's existing rates. These rates consist of a quarterly minimum charge equal to 5,000 gallons of usage. Over 5,000 gallons of usage, customers are charged a volumetric rate per 1,000 gallons of water used. Pursuant to the Water Service Contract, out-of-town customers are charged 2-times the rate of in-town customers. Using the existing rate structure and Water Services Contract requirements, the following rates in Table 5-1 are calculated for the Town. Additional detail with respect to the development of these rates can be found in Appendix C-1.

Table 5-1
Development of Water Rates

Description	Existing FY2017	Calculated FY2018	FY2019	FY2020	FY2021	FY2022
Rate Revneue Requirement	NA	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
Equivalent Units	NA	272,340	272,340	272,340	272,340	272,340
In-Town Rates:						
Rate per 1,000 gal	$ 7.81	$ 9.62	$ 10.10	$ 10.45	$ 10.82	$ 11.20
Minimum Charge (rate X 5)	$ 39.05	$ 48.10	$ 50.50	$ 52.25	$ 54.10	$ 56.00
Out-of-Town Rates (2X):						
Rate per 1,000 gal	$ 17.27	$ 19.24	$ 20.20	$ 20.90	$ 21.64	$ 22.40
Minimum Charge (rate X 5)	$ 86.35	$ 96.20	$ 101.00	$ 104.50	$ 108.20	$ 112.00
Out-of-Town Ratio:						
Rate per 1,000 gal	221%	200%	200%	200%	200%	200%
Minimum Charge (rate X 5)	221%	200%	200%	200%	200%	200%

5.2. Rate Recommendations

The proposed water rates follow the same structure as existing rates which include a minimum charged based on 5,000 gallons or quarterly water use. Modifications to the water rate structure include the development of out-of-town rates at 2-times the in-town rate, based on the Water Services Contract.

Table 5-2 below presents the Town's existing rates as well as recommended rates for the FY2018 through FY2022 projection period.

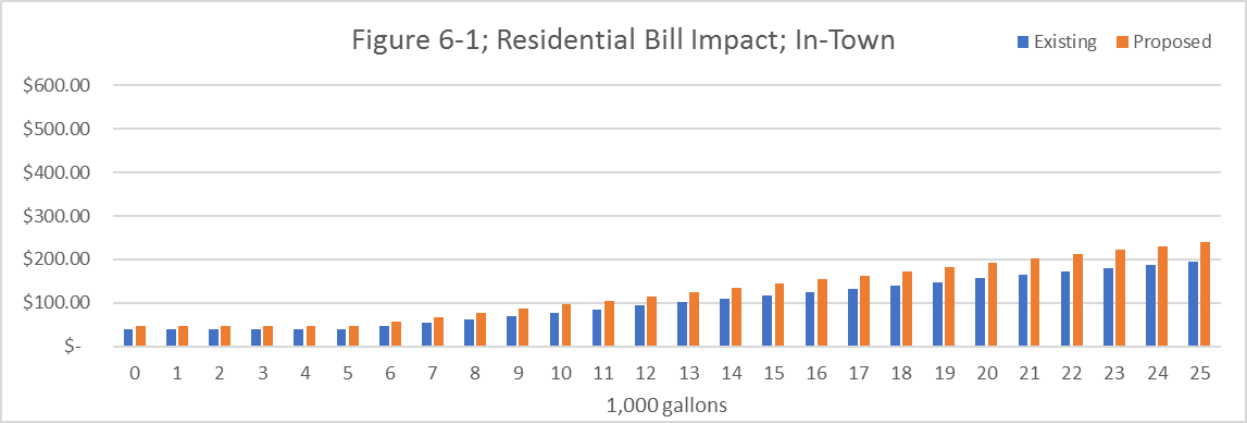
Table 5-2
Existing and Proposed Water Rates

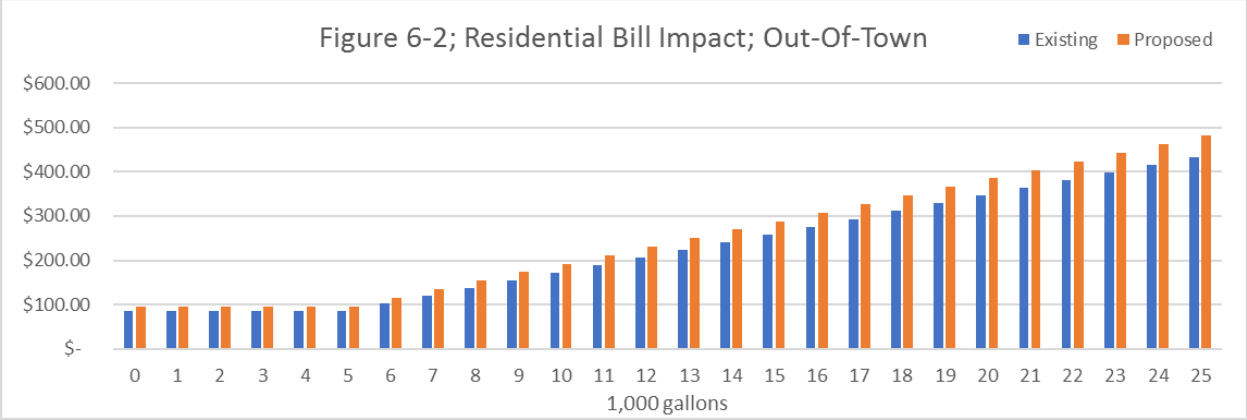
Description	Existing FY2017	Calculated FY2018	FY2019	FY2020	FY2021	FY2022
In-Town						
0 - 5,000 Gallons*	$ 39.05	$ 48.10	$ 50.50	$ 52.25	$ 54.10	$ 56.00
Over 5,000 Gallons	$ 7.81	$ 9.62	$ 10.10	$ 10.45	$ 10.82	$ 11.20
Ready to Serve	$ 19.53	$ 24.05	$ 25.25	$ 26.13	$ 27.05	$ 28.00
Bulk Water Sales	$ 39.05	$ 48.10	$ 50.50	$ 52.25	$ 54.10	$ 56.00
Out-Of-Town						
0 - 5,000 Gallons*	$ 86.35	$ 96.20	$ 101.00	$ 104.50	$ 108.20	$ 112.00
Over 5,000 Gallons	$ 17.27	$ 19.24	$ 20.20	$ 20.90	$ 21.64	$ 22.40
Ready to Serve	$ 43.18	$ 48.10	$ 50.50	$ 52.25	$ 54.10	$ 56.00
Bulk Water Sales	$ 39.05	$ 48.10	$ 50.50	$ 52.25	$ 54.10	$ 56.00

* Per Equivalent Residential Unit (ERU)

Section 6 - Customer Impact

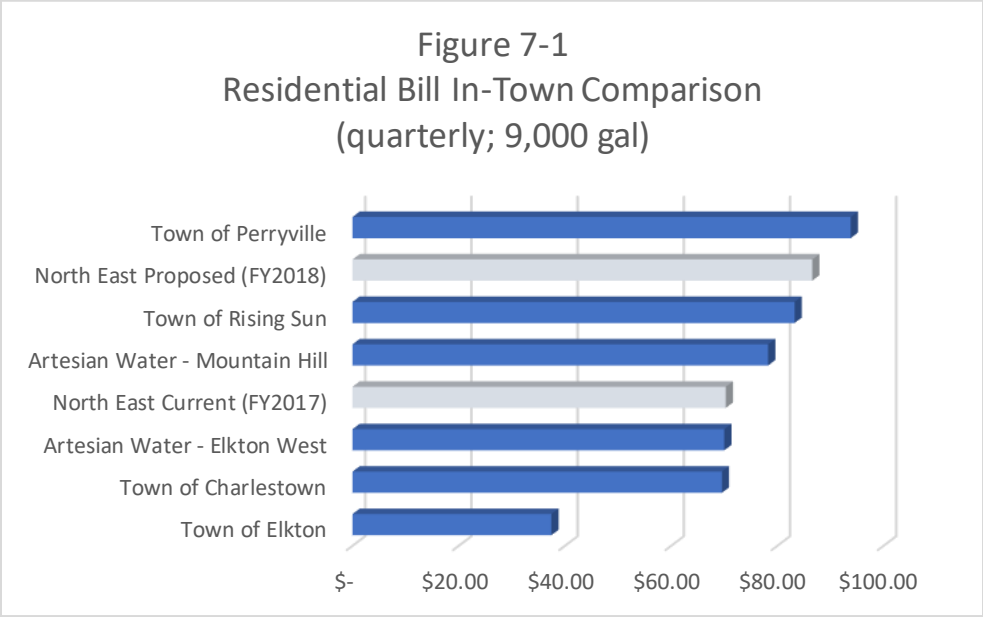
In order to provide a review of the impact the proposed rates will have on customers, a comparison of bills under existing rates and under proposed rates was completed for both in-town and out-of-town Residential customers. The results of this comparison are provided in Figures 6-1 and 6-2 below:





Section 7 - Bill Comparison

While operational structures and facilities vary greatly between water systems, as do financial dynamics and policies such as levels of funding associated with routine rehabilitation and replacement of aging system components, levels of borrowing, and funding of reserves. Rate comparisons provide stakeholders a nominal barometer of the proposed rates in relation to surrounding or similar communities. Figure 7-1 below provides the estimated quarterly bill for an in-town Residential water customer in comparison to other local communities.



Section 8 - Major Facilities Fee

8.1. Background

The Town's Major Facilities Fee (MFF) is intended to recover a share of the cost of major supply, treatment, storage, and pumping facilities from new customers that connect to the system. While these kinds of fees are called connection fees in some jurisdictions, they are not to be confused with the Connection Fee in North East that is designed to recover different expenses. While North East's Connection Fee recovers the specific costs associated with making a new connection to the system and setting up a new account; the Major Facilities Fee is designed to pay for the new customer's proportionate share of major facilities of the water system.

The components of water systems are typically constructed in large "blocks" of capacity; it is not economical to add small increments of capacity as each new customer connects to the system. As a result, water systems will typically construct large increments of capacity to accommodate future customers. This capacity is often financed with long term debt with the repayment of the debt typically the obligation of existing customers. Essentially, the Town fronts extra capacity until new connections to the system are made and use that capacity. The intent of the Major Facilities Fee is to recover a proportionate share of the cost of capacity from the new customers.

8.2. General Description of Major Facilities Fees

Major Facilities Fees are typically used to pay for capital projects related to growth or available capacity. These fees are one-time charges to customers when they connect to the system or to developers as part of the permitting or subdivision process.

There are some principals that are common to these kinds of fees. Generally, the fee must be designed to fund facilities required by or used by the new connections. There must be a reasonable relationship (rational nexus) between the amount of the fee and the cost to provide facilities, and the revenues should be used to pay for the facilities that are used by the new connection. These facilities are distinguishable from taxes in that the revenues are not for general purpose; rather they are intended to be used to pay for facilities that are needed by the new connection. There are several principals to consider in developing a methodology to derive and assess major facilities fees.

- The fee is proportionate to the proposed impact
- The fee proceeds are used to provide infrastructure serving the growth area (which may be the entire service area)
- The fee methodology is uniform and consistent

8.3. Calculation of the Unit Cost

There are two primary steps involved in calculating the Major Facilities Fee. First the cost per unit of service (cost per gallon of use) must be derived. This is typically based on historic or projected costs and system capacities. In some jurisdictions, the use of the replacement cost may be used. The second step involves the application of the unit cost. This can be somewhat difficult, as major facilities fees are often levied on properties prior to any actual use that can provide a basis for the charges. There are two generally recognized methods used to calculate the costs related to providing capacity in water systems:

- System Buy-In Method
- Marginal/Incremental Method

8.4. System Buy-In Method

Under this method, new customers are required to "buy-in" to the existing system, with a major facilities fee that reflects the prior investment made by existing customers. The basis for a buy-in method is that new customers should be charged for capacity based on the value of available capacity in the existing system. To the extent there is available capacity in the existing systems to serve growth, the buy-in method is generally a reasonable basis for determining growth-related costs. New customers are put on an equal footing with the existing customers that have paid for the system; they buy their share of capacity from the existing customers. However, if the existing system has limited available capacity, and the cost of providing additional capacity is higher than the cost of the existing facilities, a buy-in method will result in insufficient revenues to fully fund the cost of facilities needed for growth.

Under the buy-in method the unit cost of the major facilities fee can be calculated by dividing the value of the existing water system by the system capacity. The equity value is often determined by taking the depreciable book value of the system less any grants or other contributions. The capacity is often determined using the nominal capacity of treatment facilities.

8.5. Marginal/Incremental Method

The marginal/Incremental Method to calculating a major facilities fee is based on the principal that new system users should be responsible for the cost of the next or marginal increments of capacity that needs to be constructed. The capital improvement plan is used to estimate cost and capacities of growth related projects. The objective of the marginal method is to reflect the fact that capacity is no longer available for new customers and that expensive new capacity must be built in order to provide service to new customers. This method is appropriate when available facilities are nearing capacity and cannot accommodate new growth.

8.6. Application of Unit Cost

Once the cost per unit is derived a method is needed that can be used to apply this cost to properties that have yet to be developed or whose use may change over time. Often, major facilities fees are based on measurable factors such as the size of the water meter or estimated number of residential units.

One must be careful to be consistent in the use of units. If the cost per gallon per day is based on average annual or daily demands, it should be assessed on that basis. If the unit cost is based on peak capacity needs, then the peak demands of a property should be used to calculate the major facilities fee.

The Town has historically used an "ERU" or Equivalent Residential unit as the basis for levying the major Facilities Fee. Under the Town's current Resolution 2016-06-02 an ERU is equal to 250 gallons per day of water use.

8.7. Calculation of Recommended Major Facilities Fee

The Town's capital improvement plan includes primarily repair and maintenance related projects. As such, it is appropriate to use the buy-in method for calculating the Towns MFFs. The first step is to determine the value of the system. Table 8-1 provides the system value and calculation of the MFF. The table represents the calculation of the MFF using the depreciated original cost of the facilities and the estimated replacement cost less depreciation, both provided by the Town. The calculation includes only the assets that are major facilities and does not include the costs associated with distribution pipes, meters, etc.

Table 8-1
Major Facilities Fee Calculation

Major Facilities	Replacement Cost	Accumulated Depreciation	Depreciated Asset Value
Assets That Serve In-Town Customers			
Bayberry Water Tower	$ 1,250,174	$ (256,058)	$ 994,116
Land	48,350	-	48,350
Subtotal In-Town Major Facilities	$ 1,298,524	$ (256,058)	$ 1,042,466
Assets That Serve Out-Of-Town Customers			
Land	$ 60,500	$ -	$ 60,500
Irishtown Road Water Storage Tank	656,875	(656,875)	-
Irishtown Booster Pumping Station	267,563	(267,563)	-
Raxorstrap Road Booster Pumping Station	309,875	(309,875)	-
Pressure Regulating Station No. 4	45,875	(18,350)	27,525
Pressure Regulating Station No. 5	37,625	(15,050)	22,575
Pressure Regulating Station No. 6	26,375	(21,979)	4,396
Pressure Regulating Station No. 7	26,375	(14,067)	12,308
Subtotal In-Town Major Facilities	$ 1,431,063	$ (1,303,759)	$ 127,304
Assets That Serve All Customers			
Rolling Mill Water Treatment Plant	$ 18,673,015	$ (3,974,121)	$ 14,698,894
RMWTP Raceway Pipeline	307,610	(94,439)	213,171
Rolling Mill High Service Pump Station	459,094	(459,094)	0
Rolling Mills Solids Handling Building	625,219	(625,219)	0
Rolling Mills Finished Water Tanks	1,305,000	(1,305,000)	0
Town Park Tidal Water Pump Station	0	0	0
Leslie Water Treatment Plant	2,450,437	(663,695)	1,786,742
Leslie Raw Water Pump Station	280,844	(234,036)	46,808
Leslie WTS and Booster Station	87,109	(28,573)	58,536
Land	851,600	0	851,600
Town Hall (30% Share Cost)	370,914	(210,184)	160,730
Payment Window (30% Share Cost)	5,944	(594)	5,350
Subtotal In-Town Major Facilities	$ 25,416,786	$ (7,594,955)	$ 17,821,831
Total Asset Value	$ 28,146,373	$ (9,154,772)	$ 18,991,601
Cash on Hand			$ 2,449,303
Net Value			$ 21,440,904
Capacity of Water Treatment Plants (MGD)			
Rolling Mill			1.383
Leslie			0.325
Total Capacity			1.708
Cost per gallon per day of capacity			$ 12.55
Average Daily Use per ERU[1]			250
Cost per ERU			$ 3,138.31
Administration @ 5%			156.92
Total Charge per ERU			$ 3,295.22
Recommended Charge per ERU			$ 3,295.00

Notes:
1 - Town's established average for residential consumption is 250 gpd per ERU.

Because the Town has cash on hand for the debt on existing facilities and to construct new facilities, this is also an asset. The calculation includes approximately $2.45 million for the value of cash on hand. The net value of the core major facilities of the Town's water system is approximately $19.0 million based on replacement cost.

The next step is the determination of the capacity of the water system. As shown in Table 8-1, the capacity of the system is 1.708 million gallons per day (mgd). This is the permitted daily average for the Town's two water facilities.

Taking the depreciated original cost of the system divided by the average capacity results in a cost of $12.55 per gallon per day of capacity. Multiplying the 250 gallons per day of use per ERU times the cost per gallon per day results in a cost of $3,138 per ERU. An additional 5% of this cost is included for administrative costs bringing the recommended MFF to $3,295.

Section 9 - Connection Fee

9.1. Connection Fee

The Town's Connection Fee is intended to recover the Town's direct costs associated with the provision of new water service connections. The revenues derived from the Connection Fee are allocated to the water system and offset the amount needed to be recovered through the water rates each year. The costs being recovered through this fee include the initial customer set-up in the system, the development and recording of the water service agreements, engineering reviews related to the connection, plus the costs associated with the meter, backflow preventer, and vault.

The Town has analyzed the process and procedure involved in setting up a new account and connection, the employees that are typically involved, and the typical time involved with each task as well as the cost of the meter, backflow preventer, and vault. Table 9-1 presents these estimates and the calculation of the Connection Fee. Based on these estimates we recommend a Connection Fee of $2,524 per connection.

Table 9-1
Connection Fee Calculation

Action/Direct Cost	Employee	Estimated Time (Hrs.)[1]	Cost[1]
Requires Development Expense Agreement including Engineering Review, Engineering Inspection and Legal Fee Deposit. An Escrow account is set up and maintained.	Director of Finance	6	$ 254
Requires review of water utility plans, coordinate comments from property owner's engineering and Town Engineer and Water Plant Supervisor to ensure plans are approved and signed.	Director of Planning	10	391
Water Service Agreement must be drafted, mailed and executed after Town Board Approval. Once returned, must be recorded by hand carrying to County Administration Building and then to the Clerk of the Court's at the County Courthouse.	Town Administrator	1	$ 59
Assign street address where applicable, assign meter number, type address folder. File appropriate paperwork. Street address for properties located outside of Town are obtained by calling the County Planning Office.	Utility Clerk	0.5	$ 18
Obtain construction cost estimated and inspection fee amount from Town Engineer for the Public Works Agreement, draft Public Works Agreement, obtain necessary signatures and bond or letter of credit, and record Public Works Agreement by hand carrying Agreement to County Administration Building and Clerk of the Court at County Courthouse.	Director of Planning	10	$ 391
Engineering Review/Inspection Escrow accounts must be made and maintained.	Director of Finance	6	$ 254
Ready to serve account set and billed quarterly.	Utility Clerk	2	73
Ensure Permanent Utility Easement and Plats executed and recorded. This required back and forth between property owner's engineer, Town Engineer, and Town Attorney.	Director of Planning	10	391
Responding to the Cecil County Health Department inquiry, written verification is faxed to the Health Department that municipal water is available.	Director of Planning	0.50	20
Collection of Connection and Major Facilities Fees prior to issuance of Building permit.	Utility Clerk	0.25	9
Once request is received to install the meter, the new meter installation request sheet is completed and faxed to Severn Trent.	Utility Clerk	0.75	27
After the meter is installed, sets up billing account in computer, removes account from the ready to serve billing and completes the meter sheet for the meter book.	Utility Clerk	1	37
Cost of 1-inch meter	Direct Equipment Cost[1]		343
Cost of backflow preventer	Direct Equipment Cost[1]		159
Cost of vault	Direct Equipment Cost[1]		97
Total Costs			$ 2,524

Notes:
1 - Time Estimates, Costs, and Direct Equipment Cost provided by the Town.

Section 10 - Conclusions and Recommendations

10.1. Conclusions

- Projected operating revenues and operating expenses for the forecast period were developed by, and/or in consultation with, Town staff and are based upon reasonable assumptions and projections.
- The projected capital project expenses have been developed by Town staff to address Utility system capital needs over the forecast period.
- Based on the conclusions above, we are of the opinion that the financial projections presented herein demonstrate the Utility's ability to meet its obligations with regard to:
    - Operating expenses,
    - Non-operating expenses,
    - Capital project expenses, and
    - Key financial policies, including:
        - Generating and maintaining an unrestricted operating reserve balance in an amount at least equal to 90 days of operating expenses,
        - While the Town does not have a legal debt service coverage requirement, for the purpose of this forecast we have assumed a debt service coverage of 1.00

10.2. Recommendations

- It is recommended that the Town implement the proposed rates and charges presented in this Report for FY2018 through FY2022, effective July 1 of each fiscal year.
- It is recommended that the Town update the revenue sufficiency analysis portion of this study each year to ensure projected revenue is sufficient to fund projected expenses going forward as assumptions made during this analysis may change and have a material impact upon the analysis.
- It is recommended the Town update the current Major Facilities Fee and Connection Fee based on the fees calculated as part of this study.

Appendix

North East, MD Water Rate Study
Pro Forma with Debt Service Coverage and Fund Balance Reconciliation

Line No		Reference	2017	2018	2019	2020	2021	2022
	Operating							
1	***Water and Sewer Rate Revenue Increases***		***2.00%***	***15.00%***	***5.00%***	***3.50%***	***3.50%***	***3.50%***
	% of Year Rate Increase Effective		***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***
2	**Beginning Unrestricted Fund Balance**	Sch A - 2, Line 17	**$ 1,400,423**	**$ 886,690**	**$ 763,443**	**$ 756,769**	**$ 883,219**	**$ 1,047,370**
3	Service Fees (Rates)	Sch A - 3, Line 2	$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
4	Acquired System	Sch A - 3, Line 3	-	-	-	-	-	-
5	Rate Revenue 3	Sch A - 3, Line 4	-	-	-	-	-	-
6	Rate Revenue 4	Sch A - 3, Line 5	-	-	-	-	-	-
7	Rate Revenue 5	Sch A - 3, Line 6	-	-	-	-	-	-
8	Rate Revenue 6	Sch A - 3, Line 7	-	-	-	-	-	-
9	Rate Revenue 7	Sch A - 3, Line 8	-	-	-	-	-	-
10	Rate Revenue 8	Sch A - 3, Line 9	-	-	-	-	-	-
11	Rate Revenue 9	Sch A - 3, Line 10	-	-	-	-	-	-
12	Rate Revenue 10	Sch A - 3, Line 11	-	-	-	-	-	-
13	Total Rate Revenue		$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
14	Other Operating Revenue	Sch A - 3, Line 12	87,418	87,418	87,418	87,418	87,418	87,418
15	Interest Income - Operating Fund	Calc	2,000	1,000	1,000	1,000	1,000	1,000
16	Total Operating Revenue		$ 2,313,682	$ 2,646,322	$ 2,774,217	$ 2,868,220	$ 2,965,513	$ 3,066,211
17	Operating Expenses	Sch A - 4, Line 2	(1,888,231)	(1,911,385)	(1,919,207)	(1,966,586)	(2,081,178)	(2,107,199)
18	Net Revenue		$ 425,451	$ 734,937	$ 855,010	$ 901,634	$ 884,335	$ 959,012
	Plus:							
	Other Sources of Funds							
19	Transfers In (MFF)	Sch A - 3, Line 13	-	500,000	500,000	-	-	-
	Less:							
	Other Uses of Funds							
20	Minor Capital	Sch A - 4, Line 4	$ -	$ -	$ -	$ -	$ -	$ -
21	Major Capital Funded with Existing Reserves/Current Cash	Sch A - 7, Line 11	(300,000)	(649,000)	(652,500)	(66,000)	(11,000)	(537,500)
22	Transfers Out	Sch A - 4, Line 5	-	-	-	-	-	-
23	Non Operating Expenses	Sch A - 4, Line 3	-	-	-	-	-	-
24	Existing Debt Service	Sch A - 4, Line 6	(639,184)	(639,184)	(639,184)	(639,184)	(639,184)	(639,184)
25	New Debt Service	Sch A - 4, Line 7	-	(70,000)	(70,000)	(70,000)	(70,000)	(70,000)
26	**Net Cash Flow**		**$ (513,733)**	**$ (123,247)**	**$ (6,674)**	**$ 126,450**	**$ 164,151**	**$ (287,672)**
27	Ending Unrestricted Fund Balance		$ 886,690	$ 763,443	$ 756,769	$ 883,219	$ 1,047,370	$ 759,698
28	*Days of O&M*		*171*	*146*	*144*	*164*	*184*	*132*
29	Target Unrestricted Fund Balance	Target	472,058	477,846	479,802	491,647	520,295	526,800
	Debt Service Coverage Calculations:							
	Revenue Bond Debt Service Coverage							
	Rate Covenant Debt Service Coverage Test:							
30	Net Revenue Available for Debt Service Coverage Test		$ 425,451	$ 734,937	$ 855,010	$ 901,634	$ 884,335	$ 959,012
	Revenue Bond Debt Service:							
31	Existing Debt Service		639,184	639,184	639,184	639,184	639,184	639,184
32	New Debt Service		-	70,000	70,000	70,000	70,000	70,000
33	Total Revenue Bond Debt Service		$ 639,184	$ 709,184	$ 709,184	$ 709,184	$ 709,184	$ 709,184
34	**Debt Service Coverage - Rate Covenant**		**0.67**	**1.04**	**1.21**	**1.27**	**1.25**	**1.35**
35	*Debt Service Coverage Requirement*		*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
	Parity Debt Service Coverage Test:							
36	Net Revenue Available for Debt Service Coverage Test		$ 425,451	$ 734,937	$ 855,010	$ 901,634	$ 884,335	$ 959,012
37	Maximum Revenue Bond Debt Service		639,184	709,184	709,184	709,184	709,184	709,184
38	**Debt Service Coverage - Parity Test**		**0.67**	**1.04**	**1.21**	**1.27**	**1.25**	**1.35**
39	*Debt Service Coverage Target*		*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*

North East, MD Water Rate Study

Pro Forma with Debt Service Coverage and Fund Balance Reconciliation

Line No		Reference	2017	2018	2019	2020	2021	2022
	Connection Fees							
40	Beginning Balance	Sch A - 2, Line 17	$ -	$ -	$ -	$ -	$ -	$ -
41	Sources of Funds	Sch A - 3, Line 14	10,000	10,000	10,000	10,000	10,000	10,000
42	Interest Earnings	Calc	-	-	-	-	-	-
43	Uses of Funds other Than Major Capital	Sch A - 4, Line 13	-	-	-	-	-	-
44	Major Capital Funded with Connection Fees	Sch A - 7, Line 10	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)
45	Ending Balance		$ -	$ -	$ -	$ -	$ -	$ -
	Major Facilities Fees							
46	Beginning Balance	Sch A - 2, Line 17	$ 1,048,880	$ 1,063,880	$ 578,880	$ 93,880	$ 107,880	$ 121,880
47	Sources of Funds	Sch A - 3, Line 15	14,000	14,000	14,000	14,000	14,000	14,000
48	Interest Earnings	Calc	1,000	1,000	1,000	-	-	-
49	Uses of Funds other Than Major Capital	Sch A - 4, Line 16	-	(500,000)	(500,000)	-	-	-
50	Major Capital Funded with Major Facilities Fees	Sch A - 7, Line 9	-	-	-	-	-	-
51	Ending Balance		$ 1,063,880	$ 578,880	$ 93,880	$ 107,880	$ 121,880	$ 135,880

North East, MD Water Rate Study
Beginning Fund Balance Reconciliation

BEGINNING BALANCES

Line No:		Operating	Connection Fees	Major Facilities Fees	Cash	Fund 5	Fund 6	Fund 7	Fund 8	Fund 9	Fund 10
1	**Current Assets:**										
2	Cash and cash equivalents	$ 1,294,887									
3	Restricted cash	-		1,048,880							
4	Service charges receivable	570,070									
5	Prepaid exenses	34,195									
6	Inventories	44,344									
7	Due from general fund	-									
8	**Total Current Assets**	**$ 1,943,496**	**$ -**	**$ 1,048,880**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
	Current Liabilities:										
9	Accounts payable	$ 90,127									
10	Accrued expenses	56,830									
10	Due to General Fund	351,772									
11	Current portion, long-term obligations	591,223									
12	Total Current Liabilities	$ 1,089,952	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Adjustments:										
13	Restricted cash	-									
14	Inventories	(44,344)									
15	Current portion, long-term obligations	591,223									
16	Net Adjustments	$ 546,879	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	**Net Beginning Balances (Curr Assets less Current Liabilities - with Adjustments)**	**$ 1,400,423**	**$ -**	**$ 1,048,880**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

North East, MD Water Rate Study

Revenue

Summary

Line No:	Code	Description	2017	2018	2019	2020	2021	2022
1								
2	RR1	Service Fees (Rates)	$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
3	RR2	Acquired System	-	-	-	-	-	-
4	RR3	Rate Revenue 3	-	-	-	-	-	-
5	RR4	Rate Revenue 4	-	-	-	-	-	-
6	RR5	Rate Revenue 5	-	-	-	-	-	-
7	RR6	Rate Revenue 6	-	-	-	-	-	-
8	RR7	Rate Revenue 7	-	-	-	-	-	-
9	RR8	Rate Revenue 8	-	-	-	-	-	-
10	RR9	Rate Revenue 9	-	-	-	-	-	-
11	RR10	Rate Revenue 10	-	-	-	-	-	-
12	OR	Other Operating Revenue	87,418	87,418	87,418	87,418	87,418	87,418
13	TRIN	Transfers In	-	500,000	500,000	-	-	-
14	Sources - Fund 2	Sources of Funds - Fund 2	10,000	10,000	10,000	10,000	10,000	10,000
15	Sources - Fund 3	Sources of Funds - Fund 3	14,000	14,000	14,000	14,000	14,000	14,000
16	Sources - Fund 4	Sources of Funds - Fund 4	-	-	-	-	-	-
17	Sources - Fund 5	Sources of Funds - Fund 5	-	-	-	-	-	-
18	Sources - Fund 6	Sources of Funds - Fund 6	-	-	-	-	-	-
19	Sources - Fund 7	Sources of Funds - Fund 7	-	-	-	-	-	-
20	Sources - Fund 8	Sources of Funds - Fund 8	-	-	-	-	-	-
21	Sources - Fund 9	Sources of Funds - Fund 9	-	-	-	-	-	-
22	Sources - Fund 10	Sources of Funds - Fund 10	-	-	-	-	-	-
23	INT - Fund 1	Interest Earnings - Fund 1	4,000	2,000	2,000	2,000	2,000	3,000
24	INT - Fund 2	Interest Earnings - Fund 2	-	-	-	-	-	-
25	INT - Fund 3	Interest Earnings - Fund 3	3,000	3,000	1,000	-	-	-
26	INT - Fund 4	Interest Earnings - Fund 4	-	-	-	-	-	-
27	INT - Fund 5	Interest Earnings - Fund 5	-	-	-	-	-	-
28	INT - Fund 6	Interest Earnings - Fund 6	-	-	-	-	-	-
29	INT - Fund 7	Interest Earnings - Fund 7	-	-	-	-	-	-
30	INT - Fund 8	Interest Earnings - Fund 8	-	-	-	-	-	-
31	INT - Fund 9	Interest Earnings - Fund 9	-	-	-	-	-	-
32	INT - Fund 10	Interest Earnings - Fund 10	-	-	-	-	-	-

North East, MD Water Rate Study
Revenue

Detail

	Code	Description	2017	2018	2019	2020	2021	2022
34		**Operating**			127,895			
35	RR1 - BEFORE GROWTH AND RATE INCR	Service Fees (Rates)	$ 2,180,651	$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095
36	RR1 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
37		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
38		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
39	**RR1**	Total Service Fees (Rates) - After Revenue Increase	$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
40	RR2 - BEFORE GROWTH AND RATE INCR	Acquired System	$ -	$ -	$ -	$ -	$ -	$ -
41	RR2 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
42		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
43		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
44	**RR2**	Total Acquired System - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -
45	RR3 - BEFORE GROWTH AND RATE INCR	Rate Revenue 3	$ -	$ -	$ -	$ -	$ -	$ -
46	RR3 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
47		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
48		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
49	**RR3**	Total Rate Revenue 3 - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -
50	RR4 - BEFORE GROWTH AND RATE INCR	Rate Revenue 4	$ -	$ -	$ -	$ -	$ -	$ -
51	RR4 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
52		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
53		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
54	**RR4**	Total Rate Revenue 4 - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -
55	RR5 - BEFORE GROWTH AND RATE INCR	Rate Revenue 5	$ -	$ -	$ -	$ -	$ -	$ -
56	RR5 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
57		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
58		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
59	**RR5**	Total Rate Revenue 5 - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -
60	RR6 - BEFORE GROWTH AND RATE INCR	Rate Revenue 6	$ -	$ -	$ -	$ -	$ -	$ -
61	RR6 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
62		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
63		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
64	**RR6**	Total Rate Revenue 6 - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -

North East, MD Water Rate Study
Revenue

65	RR7 - BEFORE GROWTH AND RATE INCR	Rate Revenue 7	$ -	$ -	$ -	$ -	$ -	$ -
66	RR7 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
67		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
68		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
69	**RR7**	Total Rate Revenue 7 - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -
70	RR8 - BEFORE GROWTH AND RATE INCR	Rate Revenue 8	$ -	$ -	$ -	$ -	$ -	$ -
71	RR8 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
72		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
73		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
74	**RR8**	Total Rate Revenue 8 - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -
75	RR9 - BEFORE GROWTH AND RATE INCR	Rate Revenue 9	$ -	$ -	$ -	$ -	$ -	$ -
76	RR9 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
77		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
78		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
79	**RR9**	Total Rate Revenue 9 - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -
80	RR10 - BEFORE GROWTH AND RATE INCR	Rate Revenue 10	$ -	$ -	$ -	$ -	$ -	$ -
81	RR10 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
82		Revenue Increase	2.00%	15.00%	5.00%	3.50%	3.50%	3.50%
83		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
84	**RR10**	Total Rate Revenue 10 - After Revenue Increase	$ -	$ -	$ -	$ -	$ -	$ -
		For Use In Rate Design Section - Do Not Alter:	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
85		Total Rate Revenue - w/ Partial Year Rate Increase (as applicable)	$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
86		Total Rate Revenue - w/ Full Year Rate Increase	$ 2,224,264	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
87		Total Full Year Operating Revenue Requirement	2,313,682	2,646,322	2,774,217	2,868,220	2,965,513	3,066,211

North East, MD Water Rate Study
Revenue

88	**OR**	Miscellaneous revenue		9,100		9,100		9,100		9,100		9,100
89	**OR**	Service charge penalties		78,318		78,318		78,318		78,318		78,318
90	**TRIN**	Transfer From MFF		-		500,000		500,000		-		-
91		Interest Earning Calculation										
92		Average Balance	$	1,400,423	$	886,690	$	763,443	$	756,769	$	883,219	$	1,047,370
93		Assumed Interest Earnings Rate		0.3%		0.3%		0.3%		0.3%		0.3%		0.3%
94	**INT - Fund 1**	Projected Interest Earnings	$	4,000	$	2,000	$	2,000	$	2,000	$	2,000	$	3,000
95		**Connection Fees**										
96		Operating Revenue		10,000		10,000		10,000		10,000		10,000		10,000
97		Non Operating Revenue		-		-		-		-		-		-
98		Transfers In		-		-		-		-		-		-
99	**Sources - Fund 2**	Total Sources		10,000		10,000		10,000		10,000		10,000		10,000
100		Interest Earnings Calculation										
101		Average Balance	$	-	$	-	$	-	$	-	$	-	$	-
102		Assumed Interest Earnings Rate		0.3%		0.3%		0.3%		0.3%		0.3%		0.3%
103	**INT - Fund 2**	Projected Interest Earnings	$	-	$	-	$	-	$	-	$	-	$	-

North East, MD Water Rate Study
Revenue

104		**Major Facilities Fees**						
105		Operating Revenue	14,000	14,000	14,000	14,000	14,000	14,000
106		Non Operating Revenue	-	-	-	-	-	-
107		Transfers In	-	-	-	-	-	-
108	**Sources - Fund 3**	Total Sources	14,000	14,000	14,000	14,000	14,000	14,000
109		Interest Earnings Calculation						
110		Average Balance	$ 1,048,880	$ 1,063,880	$ 578,880	$ 93,880	$ 107,880	$ 121,880
111		Assumed Interest Earnings Rate	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
112	**INT - Fund 3**	Projected Interest Earnings	$ 3,000	$ 3,000	$ 1,000	$ -	$ -	$ -

North East, MD Water Rate Study
Expenses Other than Major Capital Expenses

Line No:

Summary - Operating

	FUND #	Expense Code	Description	2017	2018	2019	2020	2021	2022
2	1	Operating	Operating	$ 1,888,231	$ 1,911,385	$ 1,919,207	$ 1,966,586	$ 2,081,178	$ 2,107,199
3	1	Non Operating	Non Operating	-	-	-	-	-	-
4	1	Minor Capital	Minor Capital	-	-	-	-	-	-
5	1	Transfers	Transfers	-	-	-	-	-	-
6	1	Existing Bond Debt Service	Existing Bond Debt Service	639,184	639,184	639,184	639,184	639,184	639,184
7	1	New Bond Debt Service	New Bond Debt Service	-	-	-	-	-	-
8	1	Existing SRF Debt Service	Existing SRF Debt Service	-	-	-	-	-	-
9	1	New SRF Debt Service	New SRF Debt Service	-	-	-	-	-	-
10			**TOTAL**	**2,527,415**	**2,550,569**	**2,558,391**	**2,605,770**	**2,720,362**	**2,746,383**

Summary - Connection Fees

	FUND #	Expense Code	Description	2017	2018	2019	2020	2021	2022
12	2	Operating	Operating	-	-	-	-	-	-
13			**TOTAL**	**-**	**-**	**-**	**-**	**-**	**-**

Summary - Major Facilities Fees

	FUND #	Expense Code	Description	2017	2018	2019	2020	2021	2022
15	3	Operating	Operating	-	500,000	500,000	-	-	-
16			**TOTAL**	**-**	**500,000**	**500,000**	**-**	**-**	**-**

Summary - Cash

	FUND #	Expense Code	Description	2017	2018	2019	2020	2021	2022
18	4	Operating	Operating	-	-	-	-	-	-
19			**TOTAL**	**-**	**-**	**-**	**-**	**-**	**-**

Detail

	FUND #	Cost Allocation Code	Cost Escalation Factor Code	Expense Code	Annual Expense Escalation Factor	EXPENSES	2017	2018	2019	2020	2021	2022
39						**Detail**						
	FUND 1											
40						**Water Administration**						
41	1		Personnel	Operating	3.0%	Salaries-Regular Employees	273,776	281,989	290,449	299,162	308,137	317,381
42	1		Personnel	Operating	3.0%	Overtime-Time and Half	4,697	4,838	4,983	5,132	5,286	5,445
43	1		Group Insurance	Operating	10.0%	Group Insurance-Health	34,737	38,211	42,032	46,235	50,859	55,945
44	1		Group Insurance	Operating	10.0%	Group Insurance-Deductible	15,800	17,380	19,118	21,030	23,133	25,446
45	1		Group Insurance	Operating	10.0%	Group Insurance-Dental	3,429	3,772	4,149	4,564	5,020	5,522
46	1		Group Insurance	Operating	10.0%	Group Insurance-Vision	639	703	773	850	935	1,029
47	1		Group Insurance	Operating	10.0%	Group Insurance-Life	842	926	1,019	1,121	1,233	1,356
48	1		Personnel	Operating	3.0%	Social Security Tax	17,265	17,783	18,316	18,865	19,431	20,014
49	1		Personnel	Operating	3.0%	Medicare Tax	4,038	4,159	4,284	4,413	4,545	4,681
50	1		Personnel	Operating	3.0%	Retirement Contributions	14,800	15,244	15,701	16,172	16,657	17,157
51	1		Personnel	Operating	3.0%	Unemployment Insurance Tax	1,296	1,335	1,375	1,416	1,458	1,502
52	1		Personnel	Operating	3.0%	Workers Compensation Insurance	3,023	3,114	3,207	3,303	3,402	3,504
53	1		Purchases Services	Operating	2.0%	Professional Service-Legal	10,000	10,200	10,404	10,612	10,824	11,040
54	1		Purchases Services	Operating	2.0%	Professional Service-Auditing	16,000	16,320	16,646	16,979	17,319	17,665
55	1		Purchases Services	Operating	2.0%	Professional Service-Data Processing	10,000	10,200	10,404	10,612	10,824	11,040
56	1		Purchases Services	Operating	2.0%	Professional Service-Computer Repair	2,000	2,040	2,081	2,123	2,165	2,208
57	1		Purchases Services	Operating	2.0%	Professional Service-Software Support	5,000	5,100	5,202	5,306	5,412	5,520
58	1		Purchases Services	Operating	2.0%	Professional Service-Rate Studies	25,000	-	-	-	25,000	-
59	1		Purchases Services	Operating	2.0%	Professional Service-Cleaning Services	500	510	520	530	541	552
60	1		Purchases Services	Operating	2.0%	Professional Service-R&M Services	1,000	1,020	1,040	1,061	1,082	1,104
61	1		Purchases Services	Operating	2.0%	Professional Service-R&M Vehicles	250	255	260	265	270	275
62	1		Purchases Services	Operating	2.0%	Construction Services	13,000	-	-	-	-	-
63	1		Other Insurance	Operating	6.0%	Insurance-Property	34,000	36,040	38,202	40,494	42,924	45,499
64	1		Other Insurance	Operating	6.0%	Insurance-Auto	212	225	239	253	268	284
65	1		Other Insurance	Operating	6.0%	Insurance-Public Official Liability	1,541	1,633	1,731	1,835	1,945	2,062
66	1		Other Insurance	Operating	6.0%	Insurance-Bonds	250	265	281	298	316	335
67	1		Purchases Services	Operating	2.0%	Communications-Telephone	5,400	5,508	5,618	5,730	5,845	5,962

North East, MD Water Rate Study
Expenses Other than Major Capital Expenses

68	1	Purchases Services	Operating	2.0%	Advertising	500	510	520	530	541	552
69	1	Purchases Services	Operating	2.0%	Travel-Meals & Mileage Rembr	500	510	520	530	541	552
70	1	Purchases Services	Operating	2.0%	Training	2,050	2,091	2,133	2,176	2,220	2,264
71	1	Purchases Services	Operating	2.0%	Supplies Office	7,000	7,140	7,283	7,429	7,578	7,730
72	1	Purchases Services	Operating	2.0%	Supplies Postage	2,200	2,244	2,289	2,335	2,382	2,430
73	1	Purchases Services	Operating	2.0%	Supplies Natural Gas	1,200	1,224	1,248	1,273	1,298	1,324
74	1	Purchases Services	Operating	2.0%	Supplies Electricity	2,300	2,346	2,393	2,441	2,490	2,540
75	1	Purchases Services	Operating	2.0%	Supplies gasoline	1,600	1,632	1,665	1,698	1,732	1,767
76	1	Purchases Services	Operating	0.0%	Contingency	50,000	50,000	50,000	50,000	50,000	50,000
77	1	Purchases Services	Operating	2.0%	Bond Princ	-	-	-	-	-	-
78	1	Purchases Services	Operating	2.0%	Bond Princ	-	-	-	-	-	-
79	1	Other Financing	Operating	0.0%	Bond Admin Fee	26,782	26,782	26,782	26,782	26,782	26,782
80					**Water Operations**						
81	1	Personnel	Operating	3.0%	Salaries-Regular	250,299	257,808	265,542	273,508	281,713	290,164
82	1	Personnel	Operating	3.0%	Overtime-Time and a half	34,595	35,633	36,702	37,803	38,937	40,105
83	1	Group Insurance	Operating	10.0%	Group Insurance Health	34,345	37,780	41,558	45,714	50,285	55,314
84	1	Group Insurance	Operating	10.0%	Group Insurance Deductible	13,500	14,850	16,335	17,969	19,766	21,743
85	1	Group Insurance	Operating	10.0%	Group Insurance Dental	3,898	4,288	4,717	5,189	5,708	6,279
86	1	Group Insurance	Operating	10.0%	Group Insurance Vision	626	689	758	834	917	1,009
87	1	Group Insurance	Operating	10.0%	Group Insurance Life	741	815	897	987	1,086	1,195
88	1	Personnel	Operating	3.0%	Retiree Health Care	5,710	5,881	6,057	6,239	6,426	6,619
89	1	Personnel	Operating	3.0%	Social Security Tax	17,663	18,193	18,739	19,301	19,880	20,476
90	1	Personnel	Operating	3.0%	Medicare Tax	4,131	4,255	4,383	4,514	4,649	4,788
91	1	Personnel	Operating	3.0%	Retirement Contributions	14,750	15,193	15,649	16,118	16,602	17,100
92	1	Personnel	Operating	3.0%	Unemployment Insurance Tax	1,140	1,174	1,209	1,245	1,282	1,320
93	1	Personnel	Operating	3.0%	Workers Compensation Insurance	4,102	4,225	4,352	4,483	4,617	4,756
94	1	Purchases Services	Operating	2.0%	Professional Services - Design/Engineering (regular)	30,000	30,600	31,212	31,836	32,473	33,122
95	1	Purchases Services	Operating	2.0%	Professional Services - Design/Engineering (CIP)	40,000	87,000	42,000	34,250	66,250	57,050
96	1	Purchases Services	Operating	2.0%	Professional Services - Inspections	-	-	-	-	-	-
97	1	Purchases Services	Operating	2.0%	Utility Service Sewage	19,000	19,380	19,768	20,163	20,566	20,977
98	1	Purchases Services	Operating	2.0%	Professional Services - R&M Services	62,500	63,750	65,025	66,326	67,653	69,006
99	1	Purchases Services	Operating	2.0%	Professional Services - R&M Vehicles	1,000	1,020	1,040	1,061	1,082	1,104
100	1	Purchases Services	Operating	2.0%	Professional Services - R&M Lines	190,000	193,800	197,676	201,630	205,663	209,776
101	1	Purchases Services	Operating	2.0%	Professional Services - Valve Repairs	34,000	34,680	35,374	36,081	36,803	37,539
102	1	Purchases Services	Operating	2.0%	Construction Services	-	-	-	-	-	-
103	1	Purchases Services	Operating	2.0%	OT Service Sludge Hauling	10,106	10,308	10,514	10,724	10,938	11,157
104	1	Purchases Services	Operating	2.0%	OT Service - Telementary	4,400	4,488	4,578	4,670	4,763	4,858
105	1	Purchases Services	Operating	2.0%	OT Service - Lab	10,400	10,608	10,820	11,036	11,257	11,482
106	1	Other Insurance	Operating	6.0%	Insurance Auto	969	1,027	1,089	1,154	1,223	1,296
107	1	Other Insurance	Operating	6.0%	Insurance General Liability	929	985	1,044	1,107	1,173	1,243
108	1	Purchases Services	Operating	2.0%	Communications Telephone	10,655	10,868	11,085	11,307	11,533	11,764
109	1	Purchases Services	Operating	2.0%	Advertising	270	275	281	287	293	299
110	1	Purchases Services	Operating	2.0%	Travel Meals & Mileage	400	408	416	424	432	441
111	1	Purchases Services	Operating	2.0%	Training	1,400	1,428	1,457	1,486	1,516	1,546
112	1	Purchases Services	Operating	2.0%	Training-Operators Lic Renewal	375	383	391	399	407	415
113	1	Supplies	Operating	2.0%	Supplies Office	2,000	2,040	2,081	2,123	2,165	2,208
114	1	Supplies	Operating	2.0%	Supplies Postage	180	184	188	192	196	200
115	1	Supplies	Operating	2.0%	Supplies Uniforms	1,500	1,530	1,561	1,592	1,624	1,656
116	1	Supplies	Operating	2.0%	Supplies Tools & Equipment	2,370	2,417	2,465	2,514	2,564	2,615
117	1	Supplies	Operating	2.0%	Supplies Chemicals	208,000	212,160	216,403	220,731	225,146	229,649
118	1	Supplies	Operating	2.0%	Supplies Lines	32,000	32,640	33,293	33,959	34,638	35,331
119	1	Supplies	Operating	2.0%	Supplies Meters	7,200	7,344	7,491	7,641	7,794	7,950
120	1	Supplies	Operating	2.0%	Supplies Lab	12,350	12,597	12,849	13,106	13,368	13,635
121	1	Supplies	Operating	2.0%	Supplies Safety	3,000	3,060	3,121	3,183	3,247	3,312
121	1	Supplies	Operating	2.0%	Supplies Natural Gas	44,000	44,880	45,778	46,694	47,628	48,581
122	1	Supplies	Operating	2.0%	Supplies Electricity	137,000	139,740	142,535	145,386	148,294	151,260
123	1	Supplies	Operating	2.0%	Supplies Gasoline	6,000	6,120	6,242	6,367	6,494	6,624
124	1	Purchases Services	Operating	2.0%	Membership Dues and Subscription	100	102	104	106	108	110
125	1	Purchases Services	Operating	2.0%	Miscellaneous	1,500	1,530	1,561	1,592	1,624	1,656
126	1	Purchases Services	Operating	2.0%	Fixed Assets Less Than $5000	7,500	-	-	-	-	-
127	1	Purchases Services	Operating	2.0%	Fixed Assets Machinery	9,000	-	-	-	-	-
128	1	Purchases Services	Operating	2.0%	Fixed Assets Buildings	20,000	-	-	-	-	-

North East, MD Water Rate Study
Expenses Other than Major Capital Expenses

					Debt Service						
129	1	NA	Existing Bond Debt Service		Water System Improvements - Phs 6, 6a, 7	570,434	570,434	570,434	570,434	570,434	570,434
130	1	NA	Existing Bond Debt Service		Water System Improvements - Phs 5	68,750	68,750	68,750	68,750	68,750	68,750
					From CAFR						
129	1	NA		0.0%	Principal	591,223	593,313	595,411	597,517	599,633	
131	1	NA		0.0%	Interest	47,962	45,872	43,772	41,666	39,552	

North East, MD Water Rate Study
CIP

Line No:	Funding Sources: Major Facilities Fees	Connection Fees	Operating	Description	2017	2018	2019	2020	2021	2022
				Capital Projects						
1	0%	0%	100%	System Acquisition		-				
2	0%	100%	100%	Meter Relocation	125,000					
3	0%	100%	100%	Razor Strap PS Upgrades	25,000					
4	0%	100%	100%	Hydrant Locks	-					
5	0%	100%	100%	Dredge Leslie WTP Pond	120,000					
6	0%	100%	100%	Irishtown Tank Inspection	20,000					
7	0%	100%	100%	Bayview Tank Inspection	20,000					
8	0%	100%	100%	Rolling Mill WTP Butterfly Valve Actuator	-					
9	0%	100%	100%	Remove Old Flying J Meter Pit	-					
10	0%	100%	100%	New Fence at Bayberry Tank	-					
11	0%	100%	100%	Valve Replacement	-					
12	0%	100%	100%	Storage Shed at Rolling Mill WTP	-					
13	0%	100%	100%	Hydrant Replacement	-	5,000	5,000	5,000	5,000	5,000
14	0%	100%	100%	Rolling Mill WTP Underground Tank Maintenance						100,000
15	0%	100%	100%	Bayview Tank Repainting		880,000				
16	0%	100%	100%	Replace Bridges to Leslie WTP Raw Water PS		10,000				
17	0%	100%	100%	Irishtown BPS Building Rehabilitation/separate CL2 Room			30,000			
18	0%	100%	100%	WM - Razor Strap Road - BPS to Red Toad Road		300,000				
19	0%	100%	100%	WM - Race Street - Cecil Avenue to Mill Lane			70,000			
20	0%	100%	100%	WM - Mill Lane - End to Main Street			45,000			
21	0%	100%	100%	WM - Irishtown Road - BPS to Rowles Lane			87,500			
22	0%	100%	100%	Replace Remaining Water Meters		-				
23	0%	100%	100%	Acquire North East Business Center Tank		250,000				
24	0%	100%	100%	Construct New BPS at North East Business Center		200,000				
25	0%	100%	100%	Service Line Replacement	-	5,000	5,000	5,000	5,000	5,000
26	0%	100%	100%	Remove Northwoods PRV				18,000		
27	0%	100%	100%	Powder Activated Carbon System at Rolling Mill WTP				18,000		
28	0%	100%	100%	Powder Activated Carbon System at Leslie WTP				30,000		
29	0%	100%	100%	Tank Mixers at all Distribution System Storage Tanks			420,000			
30	0%	100%	100%	Clean Leslie WTP Clearwell					11,000	
31	0%	100%	100%	Generator Switch Gear at Tidal Water PS		9,000				
32	0%	100%	100%	SCADA Upgrades						50,000
33	0%	100%	100%	Replace RM WTP Finished Water PS						160,000
34	0%	100%	100%	WM - School House Lane - Route 272 to Irishtown Road						70,000
35	0%	100%	100%	WM - Colonial Circle - School House Lane to School House Lane						72,500
36	0%	100%	100%	WM - Valley Forge Road - Colonial Circle to Colonial Circle						30,000
37	0%	100%	100%	WM - Brandywine Place - Colonial Circle to Irishtown Road						10,000
38	0%	100%	100%	WM - Salem Court - Colonial Circle to End						5,400
39	0%	100%	100%	WM - Lexington Court - Colonial Circle to End						5,400

North East, MD Water Rate Study
CIP

Line No:	Funding Sources: Major Facilities Fees	Connection Fees	Operating	Description	2017	2018	2019	2020	2021	2022
40	0%	100%	100%	WM - Valley Forge Place - Valley Forge Road to End						7,200
41	0%	100%	100%	Valve Replacement						7,000
42	0%	100%	100%	Service Line Replacement						5,000
43	0%	100%	100%	Hydrant Replacement						5,000
44	0%	100%	100%	Irishtown Tank Maintenance						10,000
45	0%	100%	100%	Construct 3 E Zone WST & Booster Station						
46	0%	100%	100%	Razor Strap BPS Upgrades						
47	0%	100%	100%	Valve Replacement						
48	0%	100%	100%	Service Line Replacement						
49	0%	100%	100%	Hydrant Replacement						
50	0%	100%	100%	SCADA Upgrades						
51	0%	100%	100%	Repaint Leslie Tank						
				Total	**$ 310,000**	**$ 1,659,000**	**$ 662,500**	**$ 76,000**	**$ 21,000**	**$ 547,500**

New Debt Service
Revenue Bond Debt Service

		2017	2018	2019	2020	2021	2022
Annual New Debt Required		-	1,000,000	-	-	-	-
Debt Bundle Every	**1**	**---**	**2018**	**---**	**---**	**---**	**---**

Line No.	Fiscal Year	Term (Yrs)	Rate	Issuance Costs	Capital Project Proceeds Required	Issuance Costs	Total Debt Required	Years to Issue Debt	Debt Bundle	X Year Delay in Debt Service	2017	2018	2019	2020	2021	2022
1	2017	20	3.5%	0.0%	$ -	$ -	$ -	---	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
2	2018	20	3.5%	0.0%	$ 1,000,000	$ -	$ 1,000,000	2018	$ 1,000,000	0	$ -	$ 70,000	$ 70,000	$ 70,000	$ 70,000	$ 70,000
3	2019	20	3.5%	0.0%	$ -	$ -	$ -	2019	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
4	2020	20	3.5%	0.0%	$ -	$ -	$ -	2020	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
5	2021	20	3.5%	0.0%	$ -	$ -	$ -	2021	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
6	2022	20	3.5%	0.0%	$ -	$ -	$ -	2022	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
7	2023	20	3.5%	0.0%	$ -	$ -	$ -	2023	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
8	2024	20	3.5%	0.0%	$ -	$ -	$ -	2024	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
9	2025	20	3.5%	0.0%	$ -	$ -	$ -	2025	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
10	2026	20	3.5%	0.0%	$ -	$ -	$ -	2026	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
11	2027	20	3.5%	0.0%	$ -	$ -	$ -	2027	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
12	2028	20	3.5%	0.0%	$ -	$ -	$ -	2028	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
13	2029	20	3.5%	0.0%	$ -	$ -	$ -	2029	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
14	2030	20	3.5%	0.0%	$ -	$ -	$ -	2030	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
15	2031	20	3.5%	0.0%	$ -	$ -	$ -	2031	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
16	2032	20	3.5%	0.0%	$ -	$ -	$ -	2032	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
17	2033	20	3.5%	0.0%	$ -	$ -	$ -	2033	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
18	2034	20	3.5%	0.0%	$ -	$ -	$ -	2034	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
19	2035	20	3.5%	0.0%	$ -	$ -	$ -	2035	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
20	2036	20	3.5%	0.0%	$ -	$ -	$ -	2036	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
21	2037	20	3.5%	0.0%	$ -	$ -	$ -	2037	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
22	2038	20	3.5%	0.0%	$ -	$ -	$ -	2038	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
23	2039	20	3.5%	0.0%	$ -	$ -	$ -	2039	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
24	2040	20	3.5%	0.0%	$ -	$ -	$ -	2040	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
25	2041	20	3.5%	0.0%	$ -	$ -	$ -	2041	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
26	2042	20	3.5%	0.0%	$ -	$ -	$ -	2042	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
27	2043	20	3.5%	0.0%	$ -	$ -	$ -	2043	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
28	2044	20	3.5%	0.0%	$ -	$ -	$ -	2044	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
29	2045	20	3.5%	0.0%	$ -	$ -	$ -	2045	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
30	2046	20	3.5%	0.0%	$ -	$ -	$ -	2046	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -
					Cumulative Annual New Bond Debt Service						**$ -**	**$ 70,000**	**$ 70,000**	**$ 70,000**	**$ 70,000**	**$ 70,000**

North East, MD Water Rate Study
CIP Funding

Line No:		2017	2018	2019	2020	2021	2022
1	**Capital Project Costs**	**$ 310,000**	**$ 1,659,000**	**$ 662,500**	**$ 76,000**	**$ 21,000**	**$ 547,500**
	Funding Sources						
2	Fund 10	-	-	-	-	-	-
3	Fund 9	-	-	-	-	-	-
4	Fund 8	-	-	-	-	-	-
5	Fund 7	-	-	-	-	-	-
6	Fund 6	-	-	-	-	-	-
7	Fund 5	-	-	-	-	-	-
8	Cash	-	-	-	-	-	-
9	Major Facilities Fees	-	-	-	-	-	-
10	Connection Fees	10,000	10,000	10,000	10,000	10,000	10,000
11	Operating	300,000	649,000	652,500	66,000	11,000	537,500
12	New Bonds	-	1,000,000	-	-	-	-
13	New SRF	-	-	-	-	-	-
14							
15	**otal Project Funding**	**$ 310,000**	**$ 1,659,000**	**$ 662,500**	**$ 76,000**	**$ 21,000**	**$ 547,500**
16	**Variance**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Schedule B-1
North East, MD Water Rate Study
Allocation of Operating & Maintenance Expenses

Line No.	Description	Total O&M[1]	Allocation[3]	Outside Town O&M
	Other Non-Rate Revenue[1]:			
1	Penalties - Returned Check Fee	$ 780	49.10%	$ 383
2	Penalties - Second Notice Fee	34,048	49.10%	16,719
3	Penalties - Shut Off Fee	14,805	49.10%	7,270
4	Penalties - Pull Meter Fee	29,465	49.10%	14,468
5	Connection Fees	27,500	49.10%	13,503
6	Major Facilities Fees	0	49.10%	0
7	Miscellaneous	8,320	49.10%	4,086
8	Revenues	$ 114,918		$ 56,428
	Operating Expenses[2]:			
9	Salaries	$ 678,595	49.10%	$ 333,210
10	Employee Benefits and Payroll Taxes	201,477	49.10%	98,931
11	Repairs and Maintenance	473,519	49.10%	232,512
12	Supplies	198,060	49.10%	97,253
13	Utilities	189,363	49.10%	92,983
14	Insurance	34,045	49.10%	16,717
15	Professional Fees	147,318	49.10%	72,338
16	Office Expense	22,688	49.10%	11,140
17	Miscellaneous	9,786	49.10%	4,805
18	Depreciation	NA		
19	Total Operating Expenses	$ 1,954,851		$ 959,890
20	Net Operating Income	$ 1,839,933		$ 903,462

Notes:
1 - Source: Trial Balance; Year Ended June 30, 2016; page 21.
2 - Source: Audited Financial Statements; Year Ended June 30, 2016; page 21.
3 - Based on Equivalent Dweling Units (EDUs)

Schedule B-2
North East, MD Water Rate Study
Calculation of Weighted Average Cost of Capital

Line No.	Description				Rate[4]	WACC
	Debt					
1	Series 2009 Bonds[1]	$	643,592	2.81%	0.000%	0.000%
2	Series 2007A Bonds[1]		11,990,289	52.38%	0.400%	0.210%
3	Long-Term Debt	$	12,633,881	55.20%	0.380%	
	Fund Equity					
4	Invested in Capital Assets, Net of Related Debt[2]	$	13,586,099	59.36%		
5	Restricted for Capital Projects[2]		1,048,880	4.58%		
6	Unrestricted[2]		1,353,313	5.91%		
7	LESS: Net Contributions[3]		(5,732,897)	-25.05%		
8	Investor Capital	$	10,255,395	44.80%	4.292%	1.923%
9	Total Capital	$	22,889,276		2.133%	2.133%

Notes:
1 - Source: Audited Financial Statements; Year Ended June 30, 2016; page 33.
2 - Source: Audited Financial Statements; Year Ended June 30, 2016; page 20.
3 - Provided by Town; file "Water Asset Depreciation - June 30th 2016"
4 - As determined in PSC Case No. 9190

Schedule B-3
North East, MD Water Rate Study
Calculation of Return on Rate Base

Line No.	Description	In-Town Only	Out-of-Town Only	Both	Total
	Origional Cost				
1	Non-Contributed Assets[1]	$ 3,846,435	$ 2,474,954	$ 22,167,669	$ 28,489,057
2	Contributions[1]	1,653,376	5,135,636	1,600,600	8,389,612
3	Assets (Origional Cost)	$ 5,499,810	$ 7,610,590	$ 23,768,269	$ 36,878,669
	Accumulated Depreciation				
4	Non-Contributed Assets[1]	$ 1,827,488	$ 1,676,946	$ 5,013,872	$ 8,518,307
5	Contributions[1]	356,959	1,344,318	955,438	2,656,715
6	Accumulated Depreciation	$ 2,184,447	$ 3,021,265	$ 5,969,310	$ 11,175,022
7	Rate Base	$ 2,018,946	$ 798,007	$ 17,153,797	$ 19,970,750
8	45 Days Working Capital[2]			241,009	241,009
9	Total Rate Base	$ 2,018,946	$ 798,007	$ 17,394,806	$ 20,211,759
10	Wighted Average Cost of Capital[3]	2.133%	2.133%	2.133%	
11	Return on Rate Base	$ 43,055	$ 17,018	$ 370,951	$ 431,024

Notes:
1 - Provided by Town; file "Water Asset Depreciation - June 30th 2016"
2 - As determined in PSC Case No. 9190
3 - See Schedule B-2

Schedule B-4
North East, MD Water Rate Study
Annual Depreciation Costs

Line No.	Description	In-Town Only	Out-of-Town Only	Both	Total
	Annual Depreciation				
1	Non-Contributed Assets[1]	$ 84,645	$ 37,834	$ 655,104	$ 777,582
2	Contributions[1]	26,645	75,204	53,353	155,203
3	Assets (Origional Cost)	$ 111,289	$ 113,038	$ 708,458	$ 932,785

Notes:
1 - Provided by Town; file "Water Asset Depreciation - June 30th 2016"

Schedule B-5
North East, MD Water Rate Study
Allocation of Costs

Line No.	Description	Total	Allocation %	Out-of-Town Amount
1	O&M[1]	$ 1,954,851	49.10%	$ 959,890
	Return on Rate Base[2]			
2	In-Town Only	$ 43,055	0.00%	$ 0
3	Out-of-Town Only	17,018	100.00%	17,018
4	Both	370,951	49.10%	182,148
5	Subtotal RoRB	$ 431,024		$ 199,166
	Depreciation[3]			
6	In-Town Only	$ 84,645	0.00%	$ 0
7	Out-of-Town Only	37,834	100.00%	37,834
8	Both	655,104	49.10%	321,676
9	Subtotal Depreciation	$ 777,582		$ 359,509
6	Total Expenses	$ 3,163,457		$ 1,518,565
10	Less Other Revenue[1]	$ (114,918)	49.10%	$ (56,428)
11	Revenue Requirement	$ 3,048,539		$ 1,462,137
	Units			90,479
	Rate			$ 16.17

Notes:
1 - See Schedule B-1
2 - See Schedule B-3
3 - See Schedule B-4

Schedule B-6
North East, MD Water Rate Study
Out-of-Town Rate Development

Line No.	Description		Calculations
1	Out-of-Town Allocation[1]	$	1,462,137
2	Effective Sales (1,000 gal)		
3	Metered Sales (above minimum)		53,524
4	Minimum Sales		36,955
5	Total Sales		90,479
6	Rate per 1,000 gal	$	16.17
7	Minimum Charge (rate X 5)	$	80.85
	Revenue Check:		
8	Sales (> 5,000 gal)		53,524
9	Rate ($/1,000 gal)	$	16.17
10	Sales Revenue	$	865,478
11	Min. Charge Accts.		7,390
12	Charge ($/unit)	$	80.85
13	Revenue	$	597,482
14	Total Revenue	$	1,462,959
15	Out-of-Town Allocation	$	1,462,137
16	Variance	$	822

Notes:
1 - See Schedule B-5

Schedule B-7
North East, MD Water Rate Study
In-Town Rate Development

Line No.	Description		Calculations 2016
1	Revenue Requirement[1]	$	2,180,651
2	Less:		
3	Other Operating Revenue		
4	Rate Revenue Requirement		2,180,651
5	Less Out-of-Town Allocation	$	(1,462,137)
6	In-Town Rate Revenue Req.	$	718,514
7	Effective Sales (1,000 gal)		
8	Metered Sales (above minimum)		53,083
9	Minimum Sales		38,300
10	Total Sales		91,383
11	Rate per 1,000 gal	$	7.87
12	Minimum Charge (rate X 5)	$	39.35
	Out-of-Town Rates:		
13	Rate per 1,000 gal	$	16.17
14	Minimum Charge (rate X 5)	$	80.85
	Out-of-Town Ratio:		
15	Rate per 1,000 gal		205%
16	Minimum Charge (rate X 5)		205%
	Revenue Check:		
17	Sales (> 5,000 gal)		53,083
18	Rate ($/1,000 gal)	$	7.87
19	Sales Revenue	$	417,764
20	Min. Charge Accts.		7,660
21	Charge ($/unit)	$	39.35
22	Revenue	$	301,421
23	Total Revenue	$	719,185
24	In-Town Requirement	$	718,514
25	Variance	$	671

Notes:
1 - Source: Audited Financial Statements; Year Ended June 30, 2016; page 21.

Schedule C-1
North East, MD Water Rate Study
Rate Development

Line No.	Description	Calculations 2018	2019	2020	2021	2022
1	Revenue Requirement[1]	$ 2,646,322	$ 2,774,217	$ 2,868,220	$ 2,965,513	$ 3,066,211
2	Less:					
3	Other Operating Revenue	(87,418)	(87,418)	(87,418)	(87,418)	(87,418)
4	Interest Income - Operating Fund	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)
5	Acquired System Revenue	-	-	-	-	-
6	Rate Revenue Requirement	2,557,904	2,685,799	2,779,802	2,877,095	2,977,793
7	Billing Data Adjustment %	2.33%	2.33%	2.33%	2.35%	2.35%
8	Billing Data Adjustment $	$ 59,706	$ 62,692	$ 64,886	$ 67,612	$ 69,978
9	Rate Revenue Requirement Adjusted	2,617,610	2,748,491	2,844,688	2,944,707	3,047,771
10	Water Sales (1,000 gal)					
	In-Town					
11	Metered Sales (above minimum)	53,083	53,083	53,083	53,083	53,083
12	Minimum Sales	38,300	38,300	38,300	38,300	38,300
13	Total Sales	91,383	91,383	91,383	91,383	91,383
	Out-Of-Town					
14	Metered Sales (above minimum)	53,524	53,524	53,524	53,524	53,524
15	Minimum Sales	36,955	36,955	36,955	36,955	36,955
16	Total Sales	90,479	90,479	90,479	90,479	90,479
17	Equivalent Units (2X Out-Of-Town)	272,340	272,340	272,340	272,340	272,340
	In-Town Rates:					
18	Rate per 1,000 gal	$ 9.62	$ 10.10	$ 10.45	$ 10.82	$ 11.20
19	Minimum Charge (rate X 5)	$ 48.10	$ 50.50	$ 52.25	$ 54.10	$ 56.00
		123.18%	104.99%	103.47%	103.54%	103.51%
	Out-of-Town Rates (2X):					
20	Rate per 1,000 gal	$ 19.24	$ 20.20	$ 20.90	$ 21.64	$ 22.40
21	Minimum Charge (rate X 5)	$ 96.20	$ 101.00	$ 104.50	$ 108.20	$ 112.00
	Out-of-Town Ratio:					
22	Rate per 1,000 gal	200%	200%	200%	200%	200%
23	Minimum Charge (rate X 5)	200%	200%	200%	200%	200%
	Revenue Check:					
	In-Town					
24	Sales (> 5,000 gal)	53,083	53,083	53,083	53,083	53,083
25	Rate ($/1,000 gal)	$ 9.62	$ 10.10	$ 10.45	$ 10.82	$ 11.20
26	Sales Revenue	$ 510,660	$ 536,140	$ 554,719	$ 574,359	$ 594,531
27	Min. Charge Accts.	7,660	7,660	7,660	7,660	7,660
28	Charge ($/unit)	$ 48.10	$ 50.50	$ 52.25	$ 54.10	$ 56.00
29	Revenue	$ 368,446	$ 386,830	$ 400,235	$ 414,406	$ 428,960
	Out-Of-Town					
30	Sales (> 5,000 gal)	53,524	53,524	53,524	53,524	53,524
31	Rate ($/1,000 gal)	$ 19.24	$ 20.20	$ 20.90	$ 21.64	$ 22.40
32	Sales Revenue	$ 1,029,795	$ 1,081,178	$ 1,118,645	$ 1,158,252	$ 1,198,930
33	Min. Charge Accts.	7,390	7,390	7,390	7,390	7,390
34	Charge ($/unit)	$ 96.20	$ 101.00	$ 104.50	$ 108.20	$ 112.00
35	Revenue	$ 710,918	$ 746,390	$ 772,255	$ 799,598	$ 827,680
34	Total Revenue	$ 2,619,819	$ 2,750,538	$ 2,845,853	$ 2,946,616	$ 3,050,101
36	Revenue Requirement	$ 2,557,904	$ 2,685,799	$ 2,779,802	$ 2,877,095	$ 2,977,793
37	Variance	$ 61,915	$ 64,739	$ 66,051	$ 69,521	$ 72,308
38	Billing Data Adjustment	2.42%	2.41%	2.38%	2.42%	2.43%

Notes:
1 - See Schedule A-1; Line 16