

DOCKET NO. W-354, SUB 400

Carolina Water Service, Inc. of North Carolina

In the Matter of

Application by Carolina Water Service, Inc. of)	APPLICATION FOR A GENERAL
North Carolina for Authority to Adjust and)	INCREASE IN RATES AND
Increase Rates and Charges for Water and)	APPROVAL OF A THREE-YEAR
Sewer Utility Service in All Service Areas of)	WATER AND SEWER INVESTMENT
North Carolina and Approval of a Three-Year)	PLAN
Water and Sewer Investment Plan		

APPENDIX 11

Schedule J

Capital Improvement Plan

WORK PAPER

WATER AND SEWER UTILITIES CAPITAL IMPROVEMENT PROGRAM

PREPARED FOR

Carolina Water Service, Inc. of North Carolina

29 JUNE 2022

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1.0 Introduction

Carolina Water Service, Inc. of North Carolina (CWSNC) is a part of the Corix Group of Companies that provides water, wastewater, and energy services to over 1.0 million customers in 16 states in the United States.

CWSNC operates with the following purpose and vision:

Purpose

"We help people enjoy a better life and communities thrive."

Vision

We are the preferred utility delivering solutions our customers want.

CWSNC's purpose and vision is supported by the company's dedicated focus to understand the needs of its customers, shareholders, and local communities to deliver services as a trusted and reliable partner and service provider.

To manage infrastructure integrity, reliability of service, and meet growth needs, CWSNC is providing its Water and Sewer Investment Plan (WSIP), for the following two categories of capital infrastructure investments:

- i. **CIP Program:** Water and Sewer Capital Improvement Plan Projects (CIP Program); and
- ii. **GL Spend Program:** Water and Sewer General Ledger Spend Projects (GL Spend Program).

1.1 Program Overview

- i. **CIP Program:** CWSNC's CIP Program includes capital projects that are identified and defined from a proactive asset management and best practices perspective. The water and sewer projects included in this proactive CIP include replacement, rehabilitation, and upgrades as applicable for water distribution and transmission facilities, water storage and treatment facilities, pump stations, major equipment, and other capital initiatives that can be identified, planned for, and executed over a defined timeframe. Generally, CWSNC plans for these projects taking into consideration available information on asset condition, maintenance history, planning studies, infrastructure requirements, and other strategic service delivery needs.
- i. **Water and Sewer General Ledger Spend Projects (GL Spend Program):** In addition to the CIP Program, CWSNC relies on its GL Spend Program for projects that are usually less than \$50,000 and less than a month to implement. In addition to planned GL spend, there are annual unforeseen challenges that can include small or large main breaks, sewer collection pipe collapses, pump failures, and other business operations challenges that occur without any forewarning in delivering water and sewer services. An adequate budget is necessary to react appropriately to these types of challenges. Consistent with utility industry best practices, the GL Spend Program provides CWSNC with the mechanism to effectively budget for and execute planned and reactive responses in a timely manner.

1.2 Purpose of the Work Paper

CWSNC has developed a well-defined WSIP of water and sewer projects for the three-year period starting April 1, 2023 through March 31, 2026 (Rate Filing Period), including both its CIP Program and the GL Spend Program. CWSNC is submitting a Rate Filing in June 2022 with the North Carolina Utilities Commission, for CWSNC's water and sewer utilities, for the Rate Filing Period defined. The three-year rate filing request includes distinct filing for the following two Rate Groups:

- CWS-NC Uniform Rate Group
- BF-FT-TC Rate Group

This CWSNC Water and Sewer WSIP Paper (Work Paper), provides a succinct summary of both (i) the Water and Sewer CIP Program and (ii) the GL Spend Program, which are an integral part of the current rate filing for the two Rate Groups. Specifically, the Work Paper provides insights into the types of Water and Sewer CIP projects, the magnitude of capital investments in both the CIP Program and the GL Spend Program and provides a more in-depth view of a select few projects in the CIP Program.

1.3 Work Paper Organization

The Work Paper is organized as follows:

- **Section 2.0: Overview of the Water and Sewer Utilities CIP.** Provides a summary of the water and sewer CIP projects, by CWSNC Rate Group;
- **Section 3.0: Development of the CIP Program and GL Spend Program.** Provides an overview of the key activities that CWSNC team engages in to develop the CIP Program and the GL Spend Program list of projects, budget, and expenditure schedule;
- **Section 4.0: Water and Sewer CIP – Key Project Highlights.** Provides a summary of a few select projects from both Rate Groups, that are included in the current rate filing; and
- **Section 5.0: Summary.** Provides a brief summary of the CIP Program and GL Spend Program, that are discussed in Section 2.0 through Section 4.0; and
- **Section 6.0: Appendices.** Provides project level summary and profile detail tables for both the CIP Program and the GL Spend Program schedule of projects.

2.0 Overview of the CIP Program and GL Spend Program

In this section, CWCSNC presents a comprehensive summary of the water and sewer CIP Program and the GL Spend Program, for the rate filing forecast period of April 1, 2023 through March 31, 2026. The CIP summary profile is presented first for the CIP Program projects in Sections 2.1.1 through 2.1.3, and for the GL Spend Program in Section 2.1.4. The capital projects are summarized by the two Rate Groups of CWS-NC Uniform and BF-FH-TC. In addition, the CIP projects are summarized by functional categories for both the CIP Program and the GL Spend Program.

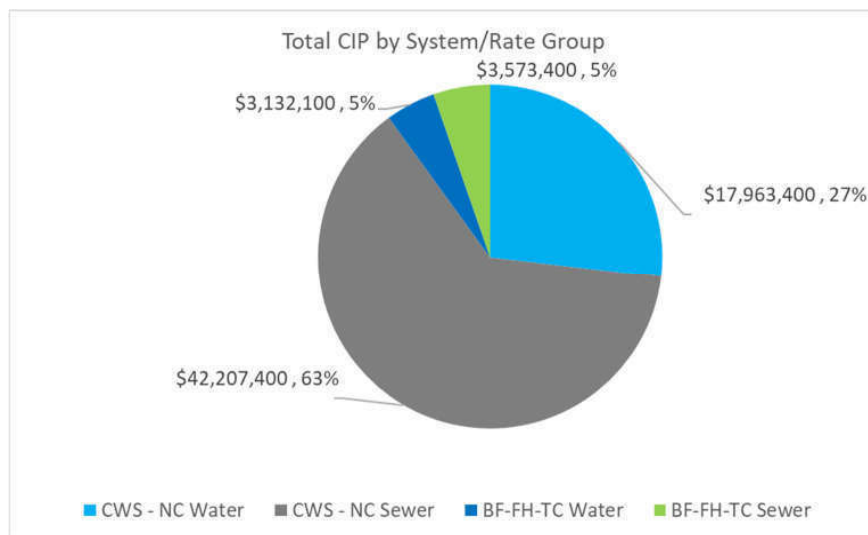
2.1 Summary of the CIP Schedule

2.1.1 Summary of the Overall CIP by CWSNC Rate Group

During the forecast period, the total Water and Sewer CIP budget for the **Uniform Rate Group** is estimated at \$60.2 Million, with \$42.2 Million designated for Sewer CIP projects. During the same forecast period, the total Water and Sewer CIP budget for the **BF-FT-TC rate group** is estimated at \$6.7 Million with \$3.7 Million designated for Sewer CIP projects. In the forecast period there are 105 projects defined for the CWS-NC Uniform Rate Group and 14 projects for the BF-FH-TC Rate Group.

Figure 1 presents the total Water and Sewer CIP for the forecast period, for the two rate groups.

Figure 1 Total Water and Sewer CIP by Rate Group



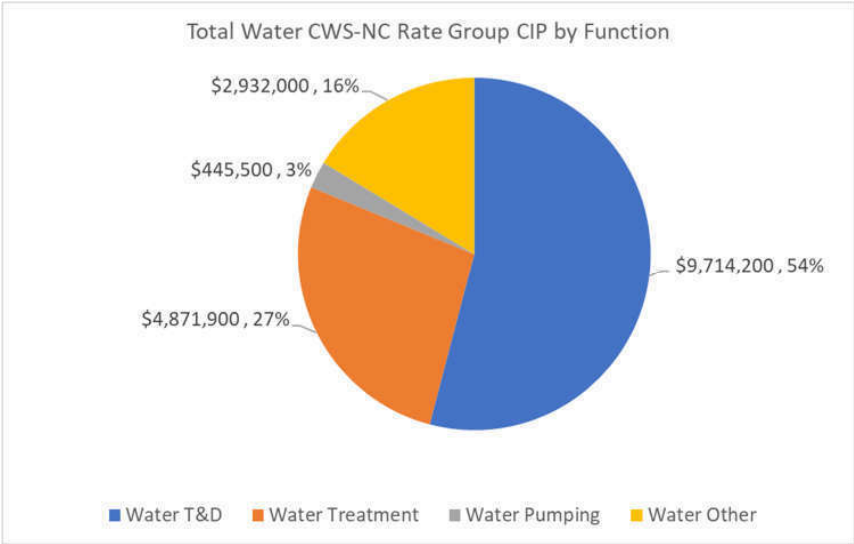
2.1.2 CWSNC Uniform Rate Group: Water and Sewer CIP

Water CIP: Figure 2 summarizes the anticipated capital project expenditure for the Water System by functional category, for the CWS-NC Uniform Rate Group. The Water CIP budget is aggregated under the four categories of (i) Water Transmission and Distribution (T&D); (ii) Water Treatment; (iii) Water Pumping; and (iv) Other projects.

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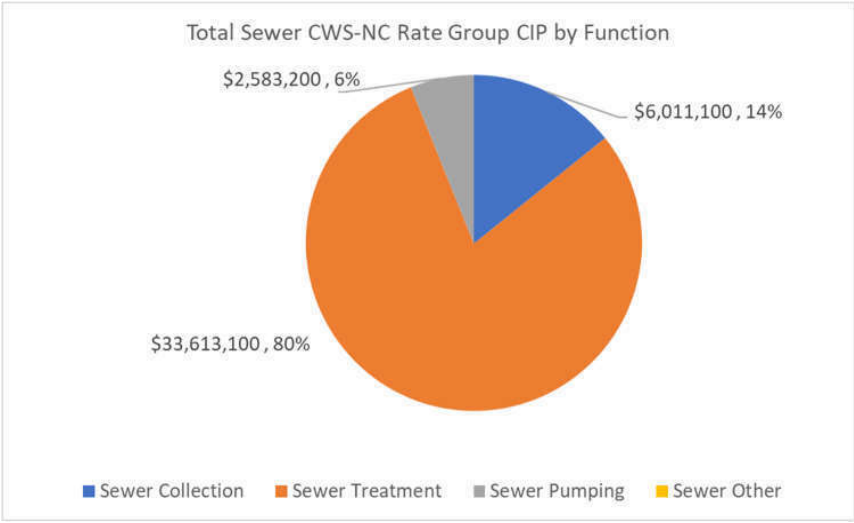
In the proposed Water CIP schedule for the forecast period, the Water Transmission and Distribution has the highest level of expenditure at approximately 54 percent of the total proposed water annual spend.

Figure 2 Annual Water CIP Expenditure by Functional Category



Sewer CIP: Figure 3 summarizes the capital project spend for the Sewer System by functional categories of Sewer Collection; Sewer Treatment; Sewer Pumping and other sewer projects. The highest level of CIP expenditure during the study period is estimated for Sewer Treatment, which accounts for approximately 80 percent of the annual sewer CIP budget planned for the CWS-NC Uniform Rate Group.

Figure 3 Annual Sewer CIP Expenditure by Functional Category

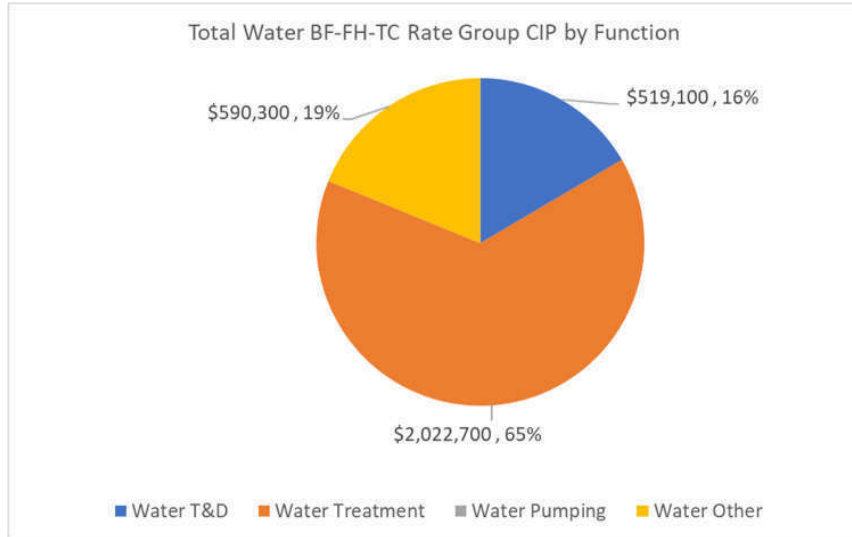


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2.1.3 BF-FT-TC Rate Group: Water and Sewer CIP

Water CIP: Figure 4 summarizes the capital project expenditure for the Water System by functional category for the BF-FT-TC rate group. Like the Uniform Rate Group, the highest level of CIP expenditure is estimated for the function of Water Treatment. This function accounts for approximately 65 percent of the annual water CIP expenditure in this rate group.

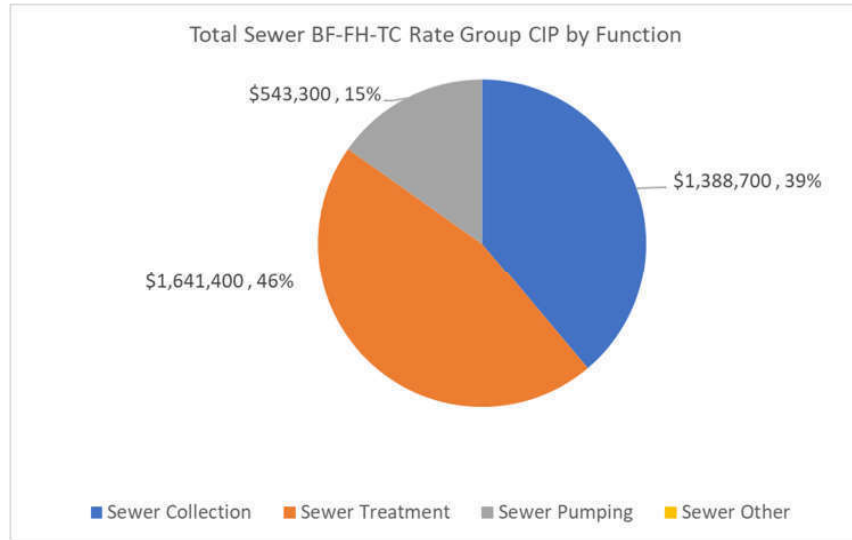
Figure 4 Annual Water CIP Expenditure by Functional Category



Sewer CIP: Figure 5 summarizes the capital project spend for the Sewer System by functional category. The function with the highest spend for the study period is Sewer Treatment. This function accounts for approximately 46 percent of the proposed annual sewer CIP expenditure for this rate group.

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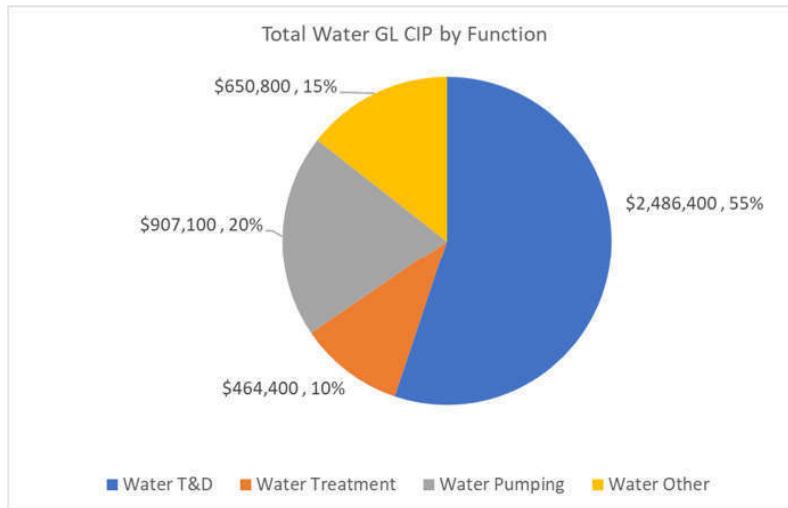
Figure 5 Annual Sewer CIP Expenditure by Functional Category



2.1.4 GL Spend Program: Water and Sewer CIP

Water GL CIP: Figure 6 summarizes the routine capital spend for the Water System by functional categories. The function with the highest spend for the study period is Water Transmission and Distribution. This function accounts for approximately 55 percent of the proposed annual spend. It is important to note that Service Lines are grouped together with this Function as well.

Figure 6 Annual Water General Ledger Spend by Functional Category

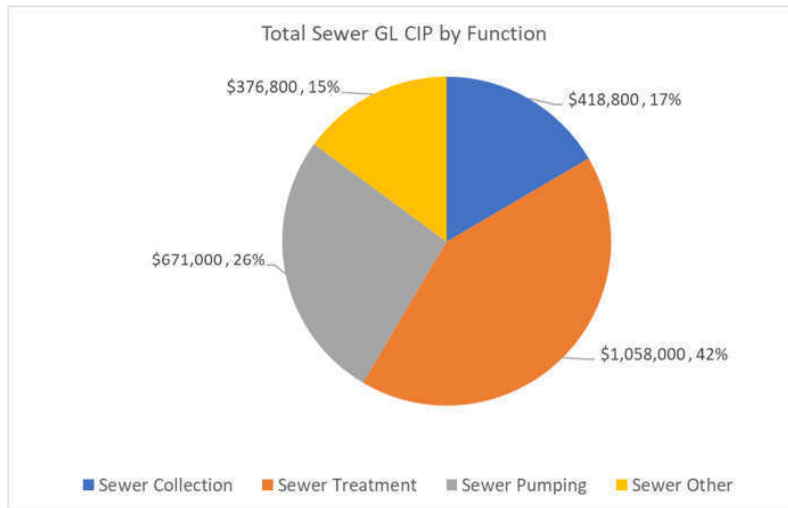


Sewer GL CIP: Figure 7 summarizes the routine capital spend for the Sewer System by functional categories. The function with the highest spend for the study period is for Sewer Treatment. This function accounts for approximately 42 percent of the annual spend. Another large functional and

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significant functional category is Sewer Pumping. Sewer Pumping is primarily represented by Pumping Equipment and this total accounts for approximately 26 percent of the annual spend.

Figure 7 Annual Sewer General Ledger Spend by Functional Category



2.1.5 Summary List of Projects in the CIP Program and the GL Spend Program

Summary CIP Program Schedule of Projects: The April 1, 2023 through March 31, 2026 CIP schedule for Water and Sewer CIP projects, for the two rate groups, is presented in the following order in the Appendix. The key attributes of the CIP schedule presented include the Project ID, System, Name of the Project, Rate Group, Utility Type, WSIP Period, NARUC Code of Accounts, Object Account, In Service Dates, Forecast EAC, Retirement Amount, Depreciation Rate, and Annualized Depreciation for each of those projects.

- [Appendix 1A](#) provides the CIP Schedule of Water Capital Projects for Rate Group CWS - NC Uniform.
- [Appendix 1B](#) provides the CIP Schedule of the Water Capital Projects for Rate Group BF-FH-TC.
- [Appendix 2A](#) provides the CIP Schedule of Sewer Capital Projects for Rate Group CWS - NC Uniform.
- [Appendix 2B](#) provides the CIP Schedule of Sewer Capital Projects for Rate Group BF-FH-TC.

Detailed CIP Program Profile of Projects: In addition to the summary, a more detailed CIP Profile for the Water and Sewer CIP projects, for the two rate groups, for April 1, 2023 through March 31, 2026, is also presented in the Appendix. The profile information provides details such as Project ID; Project Name; Rate Group; and Forecasted EAC. In addition, the profile information includes a brief description of the project and the project purpose. The profile tables included in the Appendix are as follows:

- [Appendix 3A](#) provides the Water Capital Project Profile for each project in Rate Group CWS - NC Uniform.
- [Appendix 3B](#) provides the Water Capital Project Profile for each project in Rate Group BF-FH-TC.

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- [Appendix 4A](#) provides the Sewer Capital Project Profile for each project in Rate Group CWS - NC Uniform. [Appendix 4B](#) provides the Sewer Capital Project Profile for each project in Rate Group BF-FH-TC.

Summary GL Spend Program Schedule of Projects: In addition, in this rate filing, CWSNC seeks cost recovery for the planned GL Capital Spend Program for April 1, 2023 through March 31, 2026 forecast period. The CIP schedule for the GL Spend Water and Sewer CIP projects, for the two rate groups, are also presented in the Appendix. The summary tables for the GL Capital Spend program, included in the Appendix, are as follows:

- [Appendix 5A](#) provides the GL Spend Schedule for Water Projects for Rate Group CWS - NC Uniform.
- [Appendix 5B](#) provides the GL Spend Schedule for Water Projects for Rate Group BF-FH-TC.
- [Appendix 6A](#) provides the GL Spend Schedule for Sewer Capital Projects for Rate Group CWS - NC Uniform.
- [Appendix 6B](#) provides the GL Spend Schedule for Sewer Capital Projects for Rate Group BF-FH-TC.

3.0 Development of the Projected CIP and GL Spend

CWSNC's capital planning development is an integral part of their asset management planning and budgeting process. CWSNC staff including project managers, engineering team members, financial staff, as well as operations staff are involved in the process of identifying the issues and the capital projects needed to address those issues proactively. These team members collectively contribute to project development including project cost estimates and the timing of execution for the projects. These professionals develop the requisite supporting documentation for each project, as appropriate, including oversight of the necessary engineering and technical feasibility studies and cost estimate details for the projects.

As a part of the annual capital budgeting process, CWSNC compiles all the documented and requested capital needs and utilizes a needs-based criteria to evaluate and prioritize the capital projects and determine the project's scope and impact to the water and sewer system. The needs-based criteria elements CWSNC staff use to determine the projects that are needed are as follows:

- Safety;
- Level of Service/Reliability;
- Regulatory Mandate/Compliance;
- Increase Capacity/Growth; and
- Financial Impact.

Upon determining CWSNC's CIP Program and GL Spend Program projects, CWSNC undertakes specific activities to move projects through the planning, engineering, and execution stages as a part of the project life cycle. Specific activities include:

- **Development of a Project Plan:** This activity involves the development of the project concept and an overall plan to perform the studies needed, initiate, execute, and commission the project;
- **Completion of an Engineering Feasibility Study:** This activity is performed on specific projects that require a detailed engineering and technical feasibility evaluation to determine the scope and benefit-cost analysis;
- **Cost Estimation:** An integral component of developing a business case for the project including the project budget is to develop a valid cost estimate that aligns with the defined project design and reflects market conditions; and
- **Project Schedule:** This activity involves defining a project execution schedule taking into consideration resources, engineering design, technology and equipment, and funding to execute the project.

The following sections provide detailed descriptions of the activities completed as a part of the CIP development process.

3.1 Project Plan

The Project Plan establishes the overall planning and execution framework from initiation through the commissioning of the project. Plans vary by project; however, elements of the Project Plan may include:

- Scope, Objectives, & Deliverables;
- Human Resource Management;
- Communication Management;
- Project Controls & Project Planning;
- Cost Management;
- Schedule Management,
- Risk Management
- Baseline Management & Control;
- Procurement / Contracts Management;
- Quality Management; and
- Health, Safety, & Environmental Plan.

Not all projects included in the WSIP require a detailed Project Plan. Projects that are complex in nature or have inherent risk require a Project Plan because of aspects such as multi-year duration of the project, execution capacity, funding availability, resource needs, and potential impact of any competing aspects integral to that project. On the other hand, the replacement of certain equipment such as back-up generators, vehicles and equipment, and the need for specific material and supplies, as an example, do not require the development and maintenance of a detailed Project Plan.

For the most part, GL Spend projects do not require a detailed project plan due to the immediate and sometimes unforeseen nature of projects associated with infrastructure failures, large main breaks, pump failures, and other challenges that can immediately disrupt the level of utility services provided to customers.

Finally, CWSNC views each Project Plan as a dynamic and living document that can be updated and maintained as projects move through their life cycle.

3.2 Engineering Feasibility

Projects that increase the system capacity or maintain the ability of the existing water and sewer system backbone facilities and/or require upgrades to the treatment facilities to meet regulatory requirements generally require an Engineering Feasibility Study. An Engineering Feasibility Study assesses and validates the engineering and technical viability of the solution alternatives, helps determine the best-fit solution, and determines the benefits of implementing a capital project. Typically, preliminary Engineering Feasibility Studies are conducted soon after the concept definition of a project to develop the technical information needed prior to conducting the final and detailed engineering assessments on the desired solution. In the case of a GL Spend project, Engineering Feasibility Studies are not typically

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completed because of the immediate need of the repair and the nature and impact of the repair on service delivery.

In many cases, Engineering Feasibility Studies are utilized to determine the inclusion of specific projects in a CIP. While this practice is not exclusive, conducting an Engineering Feasibility Study as a basis to include a project in a CIP outlines the significance and impact of that project on the existing system. In the case of CWSNC, an Engineering Feasibility study may be conducted prior to including projects in the CIP, but there are cases where the need and requirement for a project is significant to address critical issues proactively and is also understood by all stakeholders. In such cases, an Engineering Feasibility study is conducted after an initial estimate of the project is included in the CIP. For these and all projects, it is understood that specific refinements and adjustments will be made as the accuracy of the project needs are clear and the final, detailed engineering assessments are completed.

3.3 Estimating

The process of estimating CIP and GL Spend project resources is a significant effort that CWSNC undertakes to understand available project resources, such as labor, goods and materials, chemicals, and services, and determine the cost of these resources to be included in the CIP and GL Spend project cost. As a part of the annual capital budgeting cycle, CWSNC staff from Project Management and Engineering, Finance, and the Operations groups consult and deliberate to determine the appropriate method to estimate project cost and requirements. In some cases, an Engineering Feasibility study, industry metrics, and historical performance are utilized to estimate project costs. CWSNC estimates project cost and requirements on a project-by-project basis and maintains the flexibility to decide upon a scheduling method depending on the nature of the project.

3.4 Scheduling

As a part of scheduling CIP and GL Spend projects, CWSNC staff collaborates with internal and external stakeholders to define project timelines, taking into consideration compliance timeline stipulated for applicable regulatory requirements, impact on overall CIP budget, and the criticality of the project to address issues of service delivery, timing of funding availability and potential impact on customers. CWSNC staff from Project Management and Engineering, Finance, and Operations coordinate through all stages of the project planning stages. All CIP projects executed are assigned a Project Manager by region. The Project Manager is responsible for coordinating all aspects of the project which include interactions with CWSNC staff, regulators, contractors and consultants, and customers, in some cases. The efficient optimization of the scheduling function is a key component that supports the CWSNC in providing safe, reliable, and cost-effective services to customers.

4.0 Water and Sewer CIP – Key Project Highlights

In this section of the Work Paper, a select few Water and Sewer CIP projects from CWSNC's CIP Program, are discussed. The summary provides a description of the project and an overview of the estimated annual project spend over the Rate Filing Period. The individual projects detailed in this section are included in Appendix 3 and Appendix 4 for the Water and Sewer Systems, respectively.

4.1 Water CIP Highlights

4.1.1 Automated Meter Infrastructure (AMI) Program

CWSNC initiated an AMI Program in 2021, as portions of the water service area continue to utilize water meters that have been in service for over 20 years. The overall objective of the AMI Program is to improve the operations efficiency, reduce costs associated with reading and maintaining water meters, improve the accuracy of meter reading utilized to calculate customer bills, and enhance the ability to obtain more frequent meter read information to improve the awareness and resources available to customers related to water usage.

The AMI Program replaces existing customer analog meters, well and distribution system meters with automation to facilitate remote monitoring, and updates various Supervisory Control and Data Acquisition (SCADA) systems to be operated virtually and allow wells and booster systems to communicate.

If the AMI program is deferred, it would directly impact operations efficiency and require additional staff to maintain the current meter reading cycle and billing program.

Table 1 below provides a summary of the estimated annual spend of the AMI Program over the rate filing period.

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Table 1 AMI Program Annual Estimated Capital Spend

Project ID	Project Name	Rate Group	EAC
Automated Meter Infrastructure (AMI) Program:			
2022004	NC - 2022 - Chapel Hills - AMI Water Meter Replacement - 97	CWSNC Uniform	\$ 90,102
2022006	NC - 2022 - Conestee Falls - Well Improvements	CWSNC Uniform	488,070
2022008	NC - 2022 - Crestview - AMI Water Meter Replacement - 38	CWSNC Uniform	73,472
2022015	NC - 2022 - Hound Ears - AMI Water Meter Replacement - 2022 - 450	CWSNC Uniform	225,746
2022026	NC - 2022 - Sherwood Forest - SCADA Systems Replacement	CWSNC Uniform	80,819
2022027	NC - 2022 - Ski Mountain - AMI Water Meter Replacement - 2021 - 255	CWSNC Uniform	171,701
2022032	NC - 2022 - Wolf Laurel - AMI Water Meter Replacement - 2023 - 701	CWSNC Uniform	289,051
2023001	NC - 2023 - Bear Paw - AMI Water Meter Replacement - 2023 - 360	CWSNC Uniform	188,500
2023002	NC - 2023 - Bent Creek - AMI Water Meter Replacement - 2022 - 306	CWSNC Uniform	168,523
2023008	NC - 2023 - Carolina Trace - AMI Water Meter Replacement - 1800	CWSNC Uniform	757,459
2023015	NC - 2023 - Forest Hills - AMI Meters - 127	CWSNC Uniform	58,698
2023018	NC - 2023 - High Vista - AMI Water Meter Replacement - 2021 - 242	CWSNC Uniform	147,660
2023020	NC - 2023 - Riverbend - AMI Meters - 140	CWSNC Uniform	58,624
2023024	NC - 2023 - Sherwood Forest - AMI Water Meter Replacement - 2021- 259	CWSNC Uniform	128,766
2023026	NC - 2023 - The Ridges - AMI Water meter replacement (65)	CWSNC Uniform	66,316
2023028	NC - 2023 - Waterglyn - AMI Meters - 42	CWSNC Uniform	50,109
2023033	NC - 2023 - Woodhaven - AMI Meters - 80	CWSNC Uniform	78,904
2024011	NC - 2024 - Fairfield Harbour - AMI Water Meter Replacement - 1877	BF-FH-TC	826,055
Total AMI Program			\$ 3,948,573

Footnote:

- The FY 2022 Annual Estimated Project Spend represents the total aggregate of the actual monthly dollars spent [January through May] and a monthly estimate [June through December] over the twelve months of FY 2022.
- Column 10 [FY 2023 – FY 2025 Capital Spend Est.] represent the total estimated CIP that is forecasted to be spend over the Filing Period.

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4.1.2 NC - 2021 - Silverton - Wellhouse and Interconnect to Bradfield Farms

The Silverton Well System has 2 wells that maintain 62 existing connections. In addition, the well building and hydrotanks at Well 1 and Well 2 are in poor condition and require immediate repair. As a result of the existing condition of the assets of the Silverton Well System, CWSNC will repair Well 1 and Well 2, construct two new buildings for each well, replace the existing piping and pumps, and install an interconnection with the Bradfield Farms water system increasing overall reliability of the system.

The improvements at the Silverton Well System will interconnect with Bradfield Farms, improve the system’s capacity, and provide necessary redundancy. Improvements made at the Silverton Well System will decrease the need for frequent inspections and reduce annual operating and maintenance costs.

If the improvements at the Silverton Well System are deferred, CWSNC increases the risk associated with the reliability to supply water, potential disruptions to water service provided to the 62 connections and lose the opportunity to enhance operational efficiency of the well system.

Table 2 below provides a summary of the estimated annual spend of the Silverton Well System over the rate filing period.

Table 2 Silverton Well System Annual Estimated Capital Spend

Line	Project ID	Project Name	Rate Group	EAC
1	2021021	NC - 2021 - Silverton - Wellhouse and Interconnect to Bradfield Farms	BF-FH-TC	\$ 1,977,702

Footnote:

1. The FY 2022 Annual Estimated Project Spend represents the total aggregate of the actual monthly dollars spent [January through May] and a monthly estimate [June through December] over the twelve months of FY 2022.
2. Column 10 [FY 2023 – FY 2025 Capital Spend Est.] represent the total estimated CIP that is forecasted to be spend over the Filing Period.

4.1.3 NC - 2022 - Pinnacle Shores - Water Main Relocation - DOT road widening

The Pinnacle Shores Water Main Relocation is mandated because of a North Carolina Department of Transportation (NCDOT) streets and highway improvement project in Iredell County, North Carolina. The NCDOT will perform the water main relocations, but CWSNC will reimburse the NCDOT for the cost to relocate the water main.

As a result, the Pinnacle Shores Water Main Relocation project was included in the CWSNC CIP to reimburse the NCDOT upon the completion of this project.

Table 3 below provides a summary of the estimated annual spend of the Pinnacle Shores Water Main Relocation over the rate filing period.

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Table 3 Pinnacle Shores Water Main Relocation Annual Estimated Capital Spend

Line	Project ID	Project Name	Rate Group	EAC
1	2022023	NC - 2022 - Pinnacle Shores - Water Main Relocation - DOT road	CWSNC Uniform	\$ 1,352,635

Footnote:

- The FY 2022 Annual Estimated Project Spend represents the total aggregate of the actual monthly dollars spent [January through May] and a monthly estimate [June through December] over the twelve months of FY 2022.
- Column 10 [FY 2023 – FY 2025 Capital Spend Est.] represent the total estimated CIP that is forecasted to be spend over the Filing Period.

4.2 Sewer CIP Highlights

4.2.1 NC 2022 - Sugar Mountain WWTP Project

The Sugar Mountain Wastewater Treatment Plant (WWTP) serves approximately 1,400 customers and has a permitted capacity of 0.5 MGD. The project will be executed in two phases. The first phase includes the replacement of the chlorine contact tank and dichlorination basin with a piping and Ultraviolet (UV) system. The first phase also includes preparatory construction work related to the influent gravity sewer system to be built in phase two of the project.

The second phase of the Sugar Mountain WWTP project involves building a new influent structure, replacing and relocating the existing lift station with a mechanically cleaning auger and a new duplex equalization pump station, and completing the related piping and sitework.

This project is required to replace severely deteriorated chlorine contact tanks and dichlorination basins, replace a severely deteriorated influent structure, and relocate and replace the lift station.

Table 4 below provides a summary of the estimated annual spend of the Sugar Mountain WWTP Project over the rate filing period.

Table 4 Sugar Mountain WWTP Project Annual Estimated Capital Spend

Line	Project ID	Project Name	Rate Group	EAC
1		NC 2022 - Sugar Mountain WWTP Project:		
	2021022	Piping and UV System - Phase 1	CWSNC Uniform	\$ 1,645,986
	2021023	Auger, Pump Station, & Screen Replacement - Phase 2	CWSNC Uniform	839,237
		Total NC 2022 - Sugar Mountain WWTP Project		\$ 2,485,222

Footnote:

- The FY 2022 Annual Estimated Project Spend represents the total aggregate of the actual monthly dollars spent [January through May] and a monthly estimate [June through December] over the twelve months of FY 2022.
- Column 10 [FY 2023 – FY 2025 Capital Spend Est.] represent the total estimated CIP that is forecasted to be spend over the Filing Period.

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4.2.2 NC - 2022 - Brandywine Bay - WWTP SBR

The Brandywine Bay – WWTP SBR project is a result of a Notice of Violation (NOV) and a Notice of Intent to assess civil penalties (NOI) for effluent disposal method tendered by the NCDEQ, as well as the age and condition of the existing plant. CWSNC is replacing the Brandywine Bay 0.15 MGD Extended Aeration Plant (EAP). The plant, which is past its useful life, is being replaced with a 0.30 MGD Sequencing Batch Reactor (SBR) that contains a rapid rate infiltration discharge system.

Table 5 below provides a summary of the estimated annual spend of the Brandywine Bay – WWTP SBR Project over the rate filing period.

Table 5 Brandywine Bay – WWTP SBR Project Annual Estimated Capital Spend

Line	Project ID	Project Name	Rate Group	EAC
1	2018048	NC - 2022 - Brandywine Bay - WWTP SBR	CWSNC Uniform	\$13,866,453

Footnote:

- The FY 2022 Annual Estimated Project Spend represents the total aggregate of the actual monthly dollars spent [January through May] and a monthly estimate [June through December] over the twelve months of FY 2022.
- Column 10 [FY 2023 – FY 2025 Capital Spend Est.] represent the total estimated CIP that is forecasted to be spend over the Filing Period.

NC - 2022 - Fairfield Harbour - WWTP Rehab - To meet nitrogen effluent limits

The Fairfield Harbour WWTP is a 0.6 MGD plant that treats domestic wastewater flow. The planning and engineering studies for this project are complete. CWSNC has planned this CIP project to meet current National Pollution Discharge Elimination System (NPDES) permit requirements and extend the life of existing assets. The project involves the rehabilitation of multiple areas of the plant including the influent structures, aeration basins, SCADA systems, and electrical systems with the objective of eliminating the purchase of nitrogen credits to achieve compliance for the annual Total Nitrogen (TN) permit allocation that is tendered by the NCDEQ.

Table 6 below provides a summary of the estimated annual spend of the Fairfield Harbour – WWTP Rehabilitation Project over the rate filing period.

Table 6 Fairfield Harbour - WWTP Rehab Project Annual Estimated Capital Spend

Line	Project ID	Project Name	Rate Group	EAC
1	2022012	NC - 2022 - Fairfield Harbour - WWTP Rehab - To meet nitrogen effluent limits	BF-FH-TC	\$ 1,396,145

Footnote:

- The FY 2022 Annual Estimated Project Spend represents the total aggregate of the actual monthly dollars spent [January through May] and a monthly estimate [June through December] over the twelve months of FY 2022.
- Column 10 [FY 2023 – FY 2025 Capital Spend Est.] represent the total estimated CIP that is forecasted to be spend over the Filing Period.

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4.2.3 NC - 2024 - Danby - WWTP Replacement - 0.630 MGD

The Danby WWTP is a 0.62 MGD rated plant. The existing facility is in poor condition and requires improvements to operate the plant and maintain service reliability. Currently, the initial study phase of the project is complete, and the engineering phase will be initiated next. The project involves the complete replacement of the existing facility with either a Sequencing Batch Reactor (SBR) or a 0.313 MGD Membrane Bio Reactor (MBR) which will be determined as a part of the detailed engineering feasibility assessment.

Table 7 below provides a summary of the estimated annual spend of the Danby – WWTP Replacement Project over the rate filing period.

Table 7 Danby - WWTP Replacement - 0.630 MGD Project Annual Estimated Capital Spend

Line	Project ID	Project Name	Rate Group	EAC
1	2024006	NC - 2024 - Danby - WWTP Replacement - 0.630 MGD	CWSNC Uniform	\$14,052,312

Footnote:

1. The FY 2022 Annual Estimated Project Spend represents the total aggregate of the actual monthly dollars spent [January through May] and a monthly estimate [June through December] over the twelve months of FY 2022.
2. Column 10 [FY 2023 – FY 2025 Capital Spend Est.] represent the total estimated CIP that is forecasted to be spend over the Filing Period.

5.0 Summary

CWSNC has included a proposed CIP and GL Spend Program over the Rate Filing Period. The proposed CIP Program and GL Spend Program included in this rate filing are critical to maintain infrastructure integrity, to support CWSNC's proactive asset management practices, and to assure service efficiency and reliability. The proposed GL Spend Program enables CWSNC to sustain its efforts at being resilient and agile in responding to challenges and issues in an effective manner and to support timely management of smaller scale routine infrastructure, equipment, and other resource needs.

Over the Rate Filing Period, the CIP Program associated with the CWS-NC Uniform Rate Group is estimated at \$61.1 million of which \$21.0 million are Water System projects and the remaining \$40.1 million are Sewer System projects. The CIP Program associated with the BF-FH-TC Rate Group is estimated at \$5.8 million of which \$2.9 million are Water System projects and the remaining \$2.9 million are Sewer System projects. The total CIP Program project cost over the Rate Filing Period totals \$66.9 million.

The total CWS-NC Uniform Rate Group GL Spend over the Rate Filing Period is estimated to be \$20.4 million of which \$13.6 million and \$6.8 million are estimated for the Water and Sewer Systems, respectively. For the BF-FH-TC Rate Group, the GL Spend over the Filing Period is estimated to be \$2.5 million of which \$1.1 million and \$1.4 million are estimated for the Water and Sewer Systems, respectively. The total GL Spend Program project cost over the Rate Filing Period totals \$22.9 million.

Over the Rate Filing Period, the total capital project cost, inclusive of CIP Program and GL Spend Program cost, totals \$89.9 million.

The CWSNC utilizes a needs-based criteria and develops, where necessary, specific planning and engineering feasibility studies. In developing the CIP Program and GL Spend Program project schedule, CWSNC leverages, where available, historic operating and maintenance performance to determine the frequency and magnitude of investments in annual CIP and GL Spend Program requirements. Some of the large CIP Projects include the Danby WWTP Replacement project, the Brandywine Bay WWTP SBR project and the ongoing AMI Program.

The Danby WWTP Replacement and Brandywine Bay WWTP SBR projects address the need to replace existing wastewater treatment capacity within the Wastewater System at a combined total project cost of \$22.0 million. The total combined cost of these two projects represents about 33% of the total Water and Sewer System CIP of \$66.9 million over the Rate Filing Period.

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6.0 Appendix 1A

Carolina Water Service, Inc. of North Carolina | **WATER AND SEWER UTILITIES CAPITAL IMPROVEMENT PROGRAM**

7.0 Appendix 1B

Appendix 1B
 Water CIP Schedule: BF-FH-TC Rate Group

Line No.	Project ID	System	Project	Rate Group	Utility Type	WSIP Period	NARUC Account	Obj. Acct.	In-Service Date	Forecast EAC	Retirement Amount	Depreciation Rate	Annualized Depreciation
1	2021008	Fairfield Harbour	NC - 2021 - Fairfield Harbour - Distribution Leak Detection / Repairs	BF-FH-TC	Water	Base Case - WSIP Year 1	331.40	141232	8/31/2022	140,037	(4,227)	1.00%	1,358
2	2021021	Silverton	NC - 2021 - Silverton - Wellhouse and Interconnect to Bradfield Farms	BF-FH-TC	Water	WSIP Year 1	330.40	141231	12/31/2022	1,936,924	-	2.00%	38,738
3	2023013	Fairfield Harbour	NC - 2023 - Fairfield Harbour - Distribution Leak Detection / Repairs	BF-FH-TC	Water	WSIP Year 1	331.40	141232	12/31/2023	189,531	(5,721)	1.00%	1,838
4	2024011	Fairfield Harbour	NC - 2024 - Fairfield Harbour - AMI Water Meter Replacement - 1877	BF-FH-TC	Water	WSIP Year 2	334.40	141234	6/30/2024	590,316	(211,208)	3.33%	12,624
5	2024003	Bradfield Farms	NC - 2024 - Bradfield Farms - Wellhouse Replacement - Well #1 and 2 plus electrical and piping	BF-FH-TC	Water	WSIP Year 2	304.20	141204	9/30/2024	85,761	(10,452)	2.00%	1,506
6	2025011	Fairfield Harbour	NC - 2025 - Fairfield Harbour - Distribution Leak Detection / Repairs	BF-FH-TC	Water	WSIP Year 3	331.40	141232	6/30/2025	189,552	(5,721)	1.00%	1,838
7	Subtotal Water BF-FH-TC Rate Group									3,132,120	(237,329)		57,903

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8.0 Appendix 2A

Appendix 2A
Sewer CIP Schedule: CWSNC Uniform Rate Group

Line No.	Project ID	System	Project	Rate Group	Utility Type	WSIP Period	NARUC Account	Obj. Act.	In-Service Date	Forecast EAC	Retirement Amount	Depreciation Rate	Annualized Depreciation	
1	2021019	Sapphire Valley	NC - 2021 - Sapphire Valley - Sewer LS Replacement - #4 Dry Can to Submersible w/ generator	CWS - NC Uniform	Sewer	Base Case - WSIP Year 1	354.30	141208	5/31/2022	543,725	(35,952)	2.00%	10,155	
2	2022230	Carolina Trace	NC - 2022 - Carolina Trace - Bridge Gravity Sewer Line Replacement	CWS - NC Uniform	Sewer	Base Case - WSIP Year 1	361.20	141242	5/31/2022	214,661	(4,422)	1.00%	2,102	
3	2021005	Comestee Falls	NC - 2021 - Comestee Falls - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	Base Case - WSIP Year 1	361.20	141242	8/31/2022	366,890	(7,558)	1.00%	3,593	
4	2019029	Abington	NC - 2020 - Abington - Abington Sewer Collection Rehab - Phase 1 Creek Crossing	CWS - NC Uniform	Sewer	Base Case - WSIP Year 1	361.20	141242	8/31/2022	677,256	(13,951)	1.00%	6,633	
5	2021020	Sapphire Valley	NC - 2021 - Sapphire Valley - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	Base Case - WSIP Year 1	361.20	141242	9/30/2022	161,647	(3,330)	1.00%	1,583	
6	2022158	Mt. Carmel	NC - 2022 - Mt. Carmel - WWCS Improvement (Rehab, Clean, CCTV, Replacement, CIPP)	CWS - NC Uniform	Sewer	Base Case - WSIP Year 1	361.20	141242	9/30/2022	587,784	(12,108)	1.00%	5,757	
7	2021026	White Oak Estates	NC - 2021 - White Oak Estates - WWTP Improvements-Filter, I&C Upgrades, Chemical Storage, bypass to EQ	CWS - NC Uniform	Sewer	Base Case - WSIP Year 1	380.40	141253	9/30/2022	122,378	(36,570)	2.50%	2,145	
8	2022030	Sugar Mountain	NC - 2022 - Sugar Mountain - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 1	361.20	141242	1/31/2023	560,568	(11,547)	1.00%	5,490	
9	2023019	Hound Ears	NC - 2023 - Hound Ears - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 1	361.20	141242	1/31/2023	736,553	(15,172)	1.00%	7,214	
10	2022010	Elk River	NC - 2022 - Elk River - WWTP Improvement - Replace CL2 contact Basin, recast U1 & 2 Basins	CWS - NC Uniform	Sewer	WSIP Year 1	354.40	141209	3/31/2023	216,656	(35,734)	2.50%	4,523	
11	2024019	Nags head	NC - 2024 - Nags head - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 1	361.20	141242	3/31/2023	51,310	(1,057)	1.00%	503	
12	2021022	Sugar Mountain	NC - 2021 - Sugar Mountain - Piping and UV System - Phase 1	CWS - NC Uniform	Sewer	WSIP Year 1	380.40	141253	3/31/2023	1,645,986	(491,572)	2.50%	28,853	
13	2021023	Sugar Mountain	NC - 2022 - Sugar Mountain - Auger, IS, Screen	CWS - NC Uniform	Sewer	WSIP Year 1	380.40	141253	6/30/2023	839,237	(250,790)	2.50%	14,711	
14	2018048	Brandywine Bay	NC - 2022 - Brandywine Bay - WWTP SBR	CWS - NC Uniform	Sewer	WSIP Year 1	354.40	141209	9/30/2023	13,866,453	(2,287,038)	2.50%	289,485	
15	2023006	Brandywine Bay	NC - 2023 - Brandywine Bay - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 1	361.20	141242	10/31/2023	140,432	(3,309)	1.00%	1,573	
16	2023009	Carolina Trace	NC - 2023 - Carolina Trace - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 1	361.20	141242	10/31/2023	376,820	(7,762)	1.00%	3,691	
17	2023012	Comestee Falls	NC - 2023 - Comestee Falls - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 1	361.20	141242	10/31/2023	192,951	(3,974)	1.00%	1,890	
18	2023023	Sapphire Valley	NC - 2023 - Sapphire Valley - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 1	361.20	141242	10/31/2023	215,448	(4,438)	1.00%	2,110	
19	2024025	Sugar Mountain	NC - 2024 - Sugar Mountain - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 1	361.20	141242	10/31/2023	268,264	(5,526)	1.00%	2,627	
20	2023030	Wolf Laurel	NC - 2023 - Wolf Laurel - WWTP Replacement	CWS - NC Uniform	Sewer	WSIP Year 1	354.40	141209	12/31/2023	866,753	(142,956)	2.50%	18,095	
21	2022020	Kings Grant	NC - 2022 - Kings Grant - WWTP Improvements	CWS - NC Uniform	Sewer	WSIP Year 2	380.40	141253	5/31/2024	217,409	(64,969)	2.50%	3,811	
22	2022018	Hound Ears	NC - 2022 - Hound Ears - WWTP Improvements	CWS - NC Uniform	Sewer	WSIP Year 2	380.40	141253	5/31/2024	312,183	(93,290)	2.50%	5,472	
23	2023016	Hestron Park	NC - 2023 - Hestron Park - WWTP Interconnection - Install Sewer LS and FM to Brandywine Bay WWTP	CWS - NC Uniform	Sewer	WSIP Year 2	354.30	141208	6/30/2024	524,703	-	2.00%	10,494	
24	2024023	Sugar Mountain	NC - 2024 - Sugar Mountain - Sewer LS Rehab (3) - piping, rails, pumps, control panel	CWS - NC Uniform	Sewer	WSIP Year 2	354.30	141208	6/30/2024	241,240	(15,951)	2.00%	4,506	
25	2022003	Bent Creek	NC - 2023 - Bent Creek - WWTP Replacement -0.100 MGD	CWS - NC Uniform	Sewer	WSIP Year 2	354.40	141209	6/30/2024	1,600,000	(263,893)	2.50%	33,403	
26	2024021	Riverpointe	NC - 2024 - Riverpointe - Riverpointe WWTP aeration basin/digester replacement	CWS - NC Uniform	Sewer	WSIP Year 2	380.40	141253	9/30/2024	160,977	(48,105)	2.50%	2,822	
27	2024004	Comestee Falls	NC - 2024 - Comestee Falls - Replace or Rehab LS#7 and LS#9	CWS - NC Uniform	Sewer	WSIP Year 2	354.30	141208	9/30/2024	264,588	(17,485)	2.00%	4,942	
28	2024002	Bent Creek	NC - 2024 - Bent Creek - Lift Station rehab/ replacement	CWS - NC Uniform	Sewer	WSIP Year 2	354.30	141208	9/30/2024	91,231	(6,032)	2.00%	1,704	
29	2024018	Mt. Carmel	NC - 2024 - Mt. Carmel - Lift Station rehab/ replacement	CWS - NC Uniform	Sewer	WSIP Year 2	354.30	141208	9/30/2024	112,711	-	2.00%	2,254	
30	2024013	Hemby Acres WWTP	NC - 2024 - Hemby Acres WWTP - Replace valves and piping	CWS - NC Uniform	Sewer	WSIP Year 2	380.40	141253	9/30/2024	97,134	(29,027)	2.50%	1,703	
31	2024014	Hemby Acres	NC - 2024 - Hemby Acres WWTP - Rehab digester tanks	CWS - NC Uniform	Sewer	WSIP Year 2	380.40	141253	9/30/2024	95,524	(28,546)	2.50%	1,674	
32	2025004	Bent Creek	NC - 2025 - Bent Creek - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 3	361.20	141242	6/30/2025	133,993	(2,760)	1.00%	1,312	
33	2025007	Carolina Trace	NC - 2025 - Carolina Trace - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 3	361.20	141242	6/30/2025	379,104	(7,809)	1.00%	3,713	
34	2025009	Comestee Falls	NC - 2025 - Comestee Falls - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 3	361.20	141242	6/30/2025	303,283	(6,247)	1.00%	2,970	
35	2025021	Sapphire Valley	NC - 2025 - Sapphire Valley - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	CWS - NC Uniform	Sewer	WSIP Year 3	361.20	141242	6/30/2025	215,226	(4,436)	1.00%	2,109	
36	2025016	Hound Ears	NC - 2025 - Hound Ears - Bath House lift station replacement	CWS - NC Uniform	Sewer	WSIP Year 3	354.30	141208	6/30/2025	324,947	(21,486)	2.00%	6,069	
37	2024006	Danby	NC - 2024 - Danby - WWTP Replacement -0.630 MGD	CWS - NC Uniform	Sewer	WSIP Year 3	354.40	141209	9/30/2025	14,052,312	(2,317,692)	2.50%	293,366	
38	2025017	Nags Head	NC - 2025 - Nags Head - Lift Station Generators	CWS - NC Uniform	Sewer	WSIP Year 3	355.40	141240	9/30/2025	106,665	-	10.00%	10,667	
39	2025014	Hemby Acres	NC - 2025 - Hemby Acres - Replace old or broken clay pipe and rehab manholes.	CWS - NC Uniform	Sewer	WSIP Year 3	361.20	141242	9/30/2025	80,498	(1,658)	1.00%	788	
40	2025001	Abington	NC - 2025 - Abington - Rehab manholes because of I&D issues and Lift Stations	CWS - NC Uniform	Sewer	WSIP Year 3	354.30	141208	9/30/2025	162,759	(10,762)	2.00%	3,040	
41	2025010	Danby	NC - 2025 - Danby - Glen Finner L-S replace old control cabinets	CWS - NC Uniform	Sewer	WSIP Year 3	354.30	141208	9/30/2025	58,849	(3,891)	2.00%	1,099	
42	Subtotal Sewer CWSNC Rate Group										42,207,386	(6,319,116)		810,652

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9.0 Appendix 2B

Appendix 2B
Sewer CIP Schedule: BF-FH-TC Rate Group

Line No.	Project ID	System	Project	Rate Group	Utility Type	WSIP Period	NARUC Account	Obj. Acct.	In-Service Date	Forecast EAC	Retirement Amount	Depreciation Rate	Annualized Depreciation	
1	2023004	Bradfield Farms	NC - 2023 - Bradfield Farms - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	BF-FH-TC	Sewer	Base Case - WSIP Year 1	361.20	141242	8/31/2022	598,907	(12,337)	1.00%	5,866	
2	2022011	Fairfield Harbour	NC - 2022 - Fairfield Harbour - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	BF-FH-TC	Sewer	WSIP Year 1	361.20	141242	3/31/2023	249,159	(5,132)	1.00%	2,440	
3	2023014	Fairfield Harbour	NC - 2023 - Fairfield Harbour - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	BF-FH-TC	Sewer	WSIP Year 1	361.20	141242	10/31/2023	161,556	(3,328)	1.00%	1,582	
4	2022012	Fairfield Harbour	NC - 2022 - Fairfield Harbour - WWTP Rehab - To meet nitrogen effluent limits	BF-FH-TC	Sewer	WSIP Year 1	354.40	141209	12/31/2023	1,396,145	(230,271)	2.50%	29,147	
5	2023005	Bradfield Farms	NC - 2023 - Bradfield Farms - WWTP Improvement - Replace VHDs, Blowers, Motors, New Clarifiers	BF-FH-TC	Sewer	WSIP Year 2	380.40	141253	4/30/2024	188,553	(56,345)	2.50%	3,305	
6	2024012	Fairfield Harbour	NC - 2024 - Fairfield Harbour - Sewer LS Replacement (4 stations)	BF-FH-TC	Sewer	WSIP Year 2	354.30	141208	9/30/2024	543,302	(35,924)	2.00%	10,148	
7	2025012	Fairfield Harbour	NC - 2025 - Fairfield Harbour - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	BF-FH-TC	Sewer	WSIP Year 3	361.20	141242	6/30/2025	379,104	(7,809)	1.00%	3,713	
8	2025005	Bradfield Farms	NC - 2025 - Bradfield Farms - interconnect to cabarnus county for emergency's to take plants down for maintenance on wwtp's	BF-FH-TC	Sewer	WSIP Year 3	361.20	141242	9/30/2025	56,709	-	1.00%	567	
9	Subtotal Sewer BF-FH-TC Rate Group										3,573,435	(351,147)		56,768

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10.0 Appendix 3A

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Appendix 3A

Line	Project ID	Project Name	Region	Water/ Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
1	2020163	NC - 2021 - The Point - Interconnect with Town of Mooresville	The Point	Water	CWSNC Uniform	331.4	Jun-21	In 2017, the North Carolina Department of Environmental Quality (NCEQ) requested that an evaluation of possible solutions for water softener discharge be conducted to meet new effluent limits. The chosen solution was to use the water source from the Town of Mooresville through the existing interconnection and decommission 19 wells in the Pointe system. These wells are currently connected to three water treatment facilities that have water softening equipment. The project consist of constructing the facilities necessary to extend the interconnection with the Town of Mooresville, NC.	If the selected solution is not performed to meet the updated effluent limits and the requirements to treat total chloride and metals, the NCEQ will rescind the current CWSNC permit for softener discharge backwash. As such, the Town of Mooresville maintains an interconnection with CWSNC and an agreement to purchase of up to 655,000 gallons per day (GPD), so it was determined that water could be delivered at the required flow and pressure from the current Town of Mooresville interconnection.	\$3,456,982
2	2021002	NC - 2021 - Bear Paw - Drill New Well	Bear Paw	Water	CWSNC Uniform	307.2	Sep-21	The Bear Paw community has 365 premises and existing wells have a capacity of 103 kpd pumping at 12 hours per day. The wells are challenged to meet demand during drought periods, so this CIP project involves drilling and developing new wells, building structures, and treatment facilities.	The purpose of this project is to create redundancy for the existing water supply system of the Bear Paw Community and support the growth of 5-10 homes per year. The existing wells within the Bear Paw Community are stressed and the current rate of growth will deem the wells to be non-compliant with the NCEQ requirements. The new wells will meet the demands of the growing development and remain in compliance with the NCEQ requirements.	\$497,554
3	2021006	NC - 2021 - Crestview - Fracking Project	Crestview	Water	CWSNC Uniform	307.2	Jun-21	CWSNC owns and operates the water system for the Crestview community that maintains 37 connections. Crestview Well #1 was drilled approximately 5 years ago and is 1000 feet deep with a 6" diameter and did not meet capacity requirements. As such, CWSNC will drill another well to support servicing this community, and assess the total capacity of Well #1.	Crestview Well #1 is not producing the flow volumes need to support the 37 connections in the Crestview Community. Therefore, CWSNC will need to perform specific assessments, hydrofracturing, drawdown tests, and determine the nature of pumps and other wellhouse equipment that must be added to meet the flow volumes requirements necessary to serve the Crestview Community.	\$54,598
4	2021007	NC - 2021 - Crystal Mtn - Booster building/ booster pack to get out of pit	Crystal Mountain	Water	CWSNC Uniform	304.4	Jan-21	The Crystal Mountain project consist of replacing the current booster station that is at the end of its useful life to eradicate potential risk of injury to maintenance personnel.	The purpose of the Crystal Mountain project is to improve the reliability of existing service and reduce the potential risk of injury to maintenance personnel.	\$79,482
5	2021009	NC - 2021 - Heather Glen - Replace Hydrotanks (2)	Heather Glen	Water	CWSNC Uniform	330.4	Jun-22	The Heather Glen project consist of leak detection assessments for various systems in Western North Carolina using ASTERRA satellite imagery analysis to identify underground water leaks.	The purpose of the project is to identify system leaks and determine the areas of concern will require rehabilitation.	\$16,803
6	2021012	NC - 2021 - Linville Ridge - Split Rock booster station replacement	Linville Ridge	Water	CWSNC Uniform	304.4	Nov-20	The Linville Ridge project involves replacing booster pumps that are at the end of their useful life with a new tri-plex system along with completing specific upgrade to the SCADA system. In addition, the project includes the replacement of valves, piping, and other building improvements.	The purpose of the Linville Ridge project is to improve the reliability of existing service and reduce the potential risk of injury to maintenance personnel.	\$366,000
7	2021013	NC - 2021 - Mt. Mitchell - 30k ground storage tank	Mt. Mitchell	Water	CWSNC Uniform	330.4	Aug-21	The Mt. Mitchell project will replace completely a leaking ground storage tank by installing a new tank with valves, piping infrastructure, a SCADA system, specific controls, and building upgrades.	The purpose of the Mt. Michelle project is to replace a leaking tank which will reduce the cost to treat water and operate the system.	\$624,476
8	2021016	NC - 2021 - Rutledge Landing - Filters- Well 3 Rads	Rutledge Landing	Water	CWSNC Uniform	320.3	Mar-22	The Rutledge Landing project is a scoping study provide replacement treatment system for radium, manganese, and iron removal.	This corrective actions are mandated to stay in compliance with NCEQ requirements.	\$317,827
9	2022002	NC - 2022 - Bent Creek - Drill and Develop well at current office site with nearby pipe	Bent Creek	Water	CWSNC Uniform	307.2	Sep-21	CWSNC owns and operates the water system for the Bent Creek Community with 307 premise connections (303 active). CWSNC is proposing to drill a new well for redundancy and reduction of bulk water use which has an increased operational expense compared to running another community well by operations staff. It is unknown if the current piping configuration will handle additional flow increases from proposed well and if there will be need for contaminant treatment in addition to current treatment processes are chlorine and caustic only.	Bent Creek Well #2 was removed from service due to water quality issues. In order to reduce water purchased from the City of Asheville, we are proposing to begin the process of drilling and developing a new well on a parcel owned by CWSNC.	\$250,000
10	2022004	NC - 2022 - Chapel Hills - AMI Water Meter Replacement - 97	Chapel Hills	Water	CWSNC Uniform	334.4	Apr-22	The Chapel Hills AMI project will replace existing water meters with AMI.	The purpose of the project is to replace existing water meters with AMI to automate meter reading and reduce manhours.	\$39,828
11	2022005	NC - 2022 - Connetsee Falls - Leak Detection/Water main/service line replacement	Connetsee Falls	Water	CWSNC Uniform	331.4	Aug-20	The Connetsee Falls leak detection project will support the efforts to identify leaks and replace existing service lines.	The purpose of the Connetsee Falls project is to improve the reliability of existing service and reduce the financial exposure to CWSNC due to leaks and current maintenance requirements.	\$130,974
12	2022006	NC - 2022 - Connetsee Falls - Well Improvements	Connetsee Falls	Water	CWSNC Uniform	346.5	Dec-21	The current telemetry system at the water system for the Connetsee Falls Community in North Carolina is outdated and involves an assortment of SCADA technologies. The project will include an upgrade to the SCADA system to allow wells to communicate with tanks and boosters.	The purpose of the project is to upgrade the SCADA system to optimize communications and operations of the wells.	\$488,070
13	2022007	NC - 2022 - Connetsee Falls - Wellhouse Replacement - #4	Connetsee Falls	Water	CWSNC Uniform	304.2	Mar-22	CWSNC owns and operates Crystal Mountain Booster Station in Boone, North Carolina. The system currently serves 50 customers total. The existing subgrade booster station is 8 - 10 ft. deep and poses a safety hazard. The proposed replacement booster station will be based on an above-ground skid-mounted dual booster pack incorporating Variable Frequency Drives (VFD's) that will provide a more efficient means of operation. The new equipment will be enclosed in a new doghouse building.	Crystal Mountain booster station is an existing booster station that is not in good conditions, has reached the end of its useful life, and needs to be replaced.	\$200,000
14	2022008	NC - 2022 - Crestview - AMI Water Meter Replacement - 38	Crestview	Water	CWSNC Uniform	334.4	Apr-22	The Crestview AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$10,370

Line	Project ID	Project Name	Region	Water/Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
15	2022015	NC - 2022 - Hound Ears - AMI Water Meter Replacement - 2022 - 450	Hound Ears	Water	CWSNC Uniform	334.4	Apr-22	The Hound Ears AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$184,768
16	2022021	NC - 2022 - Linville Ridge - Replace PRV Valves - Install new Singer valves for all existing Ross valves	Linville Ridge	Water	CWSNC Uniform	331.4	Mar-21	CWSNC provides water service to the Linville Ridge community in Avery County, North Carolina. CWSNC provides water to 55 customers total. The pressure reducing valves (PRVs) in this community are 20-30 years old and are Ross valves. CWSNC desires to replace these valves with Singer valves due to maintenance costs and cheaper re-build kits. After initial receipt of valves and associated equipment, it was determined that the incorrect materials were ordered and would not suit the current set up. It was determined based on material conditions in Vista 1 and Cottage Cove that an overhaul of the existing material would be most beneficial for the system health. Upon inspection of the Vista 1 vault, it was noted that the system relief valve was not operational and requires replacement. It was also determined that the vault at Ridge Drive should both be moved out of the road for safety reasons, which would result in the construction of a new vault with new equipment.	The water system uses outdated PRV valves that require replacing.	\$86,344
17	2022023	NC - 2022 - Pinnacle Shores - Water Main Relocation - DOT road widening	Pinnacle Shores	Water	CWSNC Uniform	331.4	Feb-25	The Pinnacle Shores Water Main Relocation project involves the relocation of water mains as a result of the NCDOT street and highway improvements in Iredell County. The relocation will be performed by the NCDOT, however CORIX has to reimburse the cost of relocating the water mains to NCDOT.	The purpose of this project is to schedule capital funds to reimburse NCDOT for relocating water mains as part of the NCDOT road widening project.	\$1,352,635
18	2022025	NC - 2022 - Sherwood Forest - Leak Detection/Water main/service line replacement	Sherwood Forest	Water	CWSNC Uniform	331.4	Jul-20	The Sherwood Forest leak detection location services utilized to pin point water leaks in system. This project will support the efforts to identify leaks in the Sherwood Forest system and perform the necessary repairs.	The purpose of the Sherwood Forest Leak Detection project is to improve the reliability of existing service and reduce the financial exposure to CWSNC due to leaks and current maintenance requirements.	\$78,567
19	2022026	NC - 2022 - Sherwood Forest - SCADA Systems Replacement	Sherwood Forest	Water	CWSNC Uniform	346.5	Dec-21	The Sherwood Forest SCADA Systems Replacement project will replace existing wells and water distribution system with automation for remote monitoring.	The purpose of the project is to automate the system and reduce manhours visiting site.	\$80,819
20	2022027	NC - 2022 - Ski Mountain - AMI Water Meter Replacement - 2021 - 255	Ski Mountain	Water	CWSNC Uniform	334.4	Apr-22	The Ski Mountain AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$104,702
21	2022029	NC - 2022 - Stewarts Ridge - Well Improvement - Install rad filters - well #1	Stewarts Ridge	Water	CWSNC Uniform	320.3	Jan-21	The Stewarts Ridge project consist of the installation of RAD filters at Well #1 to remove manganese and iron.	The purpose of this project is to improve the ability of the Stewart Ridge facility to treat water flows and remain compliant with water treatment regulations.	\$87,339
22	2022031	NC - 2022 - Whispering Pines - Water Treatment - EP1 Chemical Feed (orthophosphate)	Whispering Pines	Water	CWSNC Uniform	320.3	Feb-21	The Whispering Pines Water Treatment plant project consist of installing a zinc ortho-phosphate feed system to serve as a corrosion inhibitor, install building and SCADA instrumentation	The purpose of the project is to improve the water treatment processes at the Whispering Pines Water Treatment facility and reduce operating cost.	\$268,108
23	2022032	NC - 2022 - Wolf Laurel - AMI Water Meter Replacement - 2023 - 701	Wolf Laurel	Water	CWSNC Uniform	334.4	Apr-22	The Wolf Laurel AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$289,051
24	2022067	NC - 2022 - Sapphire Valley - Booster Pumps station, waterline extension, remove Golf View tank, abandon existing line - Phase 2	Sapphire Valley	Water	CWSNC Uniform	330.4	Jan-21	CWSNC owns and operates the water system in the Sapphire Valley community in North Carolina. The Sapphire Valley community has 968 connections for the water system. CWSNC desires to complete the project in 2 phases. Phase 1 will consist of 1) removing well #10 hydro tank, 2) expanding existing wellhouse at 2195 Cherokee trail to accommodate future VFD Booster pumps, and 3) updating the piping for the future connection. Phase 2 will consist of 1) installing a new booster pump at 2195 Cherokee Trail, 2) extending the waterline at Golf View Road to the wellhouse as Cherokee Trail (approx. 2,000 linear feet), 3) removing hydro tank at 420 Golf View Road, and 4) abandoning the cross country line that runs up a steep mountain grade.	The 5,000-gallon ground storage tank at Sapphire Valley well 10 was installed in 2007. CWSNC has chosen to remove this hydro tank and replace with a booster pump station in the future.	\$525,000
25	2022163	NC - 2022 - State Cost Center - Upfit Costs	State Cost Center	Water	CWSNC Uniform	340.5	Mar-22	The State Cost Center AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$75,125
26	2022170	NC - 2022 - CONNESTEE FALLS - WELL 11 UPGRADE	Conneestee Falls	Water	CWSNC Uniform	320.3	Sep-21	The Conneestee Falls Well Upgrade project includes replacing fouled media in filter, performing building upgrades, and installing sand filtration ahead of media system filter.	The purpose of this project is to improve the operations of the well system in order to reduce the related operating and maintenance cost.	\$116,815
27	2022171	NC - 2022 - CONNESTEE FALLS - WELL 7 FILTER UPGRADES	Conneestee Falls	Water	CWSNC Uniform	320.3	Sep-21	The Conneestee Falls Well 7 project consist of replacing fouled media in filters, install a sand filtration system, perform building upgrades, and pave the road to well house.	The purpose of this project is to improve the ability of the Conneestee Falls Well 7 facility to treat water flows and upgrade the facility's building and common areas for safety.	\$82,121
28	2022229	NC - 2022 - SADDLEWOOD - WELL 1 AND 2 BUILDING REPLACEMENT	Saddlewood	Water	CWSNC Uniform	304.2	Mar-22	Saddlewood wells 1 and 2 in Gastonia, NC are part of a system with 126 connections where a total of 112 gallons per minute are delivered from the wells. Since 1994, the wells have intermittently exceeded the Fe and Mn test results. The high levels of Fe and Mn found at the wells interfere with the existing phosphate (PO4) treatment. Tests have also identified high levels of Cu and Pb in customer's inlet lines, leading to low pH levels that are causing corrosion issues to customers' plumbing. Final completion is targeted for the end of December 2023.	A corrosion control treatment (CCT) study will identify the necessary upgrades to the water system to remedy the issues identified at the wells. Currently, the project is in study for the determination of a filtration system rebuild for Well 2 that may involve sand filtration systems, which would require a larger well building. The PO4 treatment will also be updated for both wells.	\$660,924

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29	2023001	NC - 2023 - Bear Paw - AMI Water Meter Replacement - 2023 - 360	Bear Paw	Water	CWSNC Uniform	334.4	Apr-22	The Bear Paw AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$188,500
30	2023002	NC - 2023 - Bent Creek - AMI Water Meter Replacement - 2022 - 306	Bent Creek	Water	CWSNC Uniform	334.4	Apr-22	The Bent Creek AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$127,896
31	2023008	NC - 2023 - Carolina Trace - AMI Water Meter Replacement - 1800	Carolina Trace	Water	CWSNC Uniform	334.4	Apr-22	The Carolina Trace AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$586,726
32	2023011	NC - 2023 - Connetsee Falls - Install equipment for reduced well monitoring	Connetsee Falls	Water	CWSNC Uniform	311.3	Dec-22	The Connetsee Falls project involves installing equipment that will require less frequent monitoring of the well system supplying water to Connetsee Falls.	The purpose of this project is to install equipment that will require less frequent monitoring of the wells and result in efficiency and cost savings.	\$166,877
33	2023015	NC - 2023 - Forest Hills - AMI Meters - 127	Forest Hills	Water	CWSNC Uniform	334.4	Apr-22	The Forest Hills AMI Project will replace existing analog meters. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$58,698
34	2023017	NC - 2023 - High Meadows - Replace all of Tree Top and other sections of the distribution system main and valves	High Meadows	Water	CWSNC Uniform	331.4	Jun-22	The High Meadows project involves the relocation and replacement of main water lines and valves.	The relocation of the main water line will be performed to move the existing piping system from the center of a nearby roadway.	\$220,326
35	2023018	NC - 2023 - High Vista - AMI Water Meter Replacement - 2021 - 242	High Vista	Water	CWSNC Uniform	334.4	Apr-22	The High Vista AMI Project will replace existing analog meters. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$101,287
36	2023020	NC - 2023 - Riverbend - AMI Meters - 140	Riverbend	Water	CWSNC Uniform	334.4	Apr-22	The Riverbend AMI Project will replace existing analog meters. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$58,624
37	2023022	NC - 2023 - Sapphire Valley - Well 5 building replacement	Sapphire Valley	Water	CWSNC Uniform	304.2	Jun-22	The Sapphire Valley project consist of replacing the existing Well 5 building.	The purpose of the project is to replace the Well 5 building due to the age of the structure.	\$245,904
38	2023024	NC - 2023 - Sherwood Forest - AMI Water Meter Replacement - 2021 - 259	Sherwood Forest	Water	CWSNC Uniform	334.4	Apr-22	The Sherwood Forest AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$128,766
39	2023025	NC - 2023 - The Point - Decommission wells replaced by interconnect	The Point	Water	CWSNC Uniform	307.2	Dec-22	The Point project includes the decommissioning of an existing well and replacing a current interconnection with the installation of a new interconnection.	Currently, the existing interconnect is too close to another tank (the McKendree Tank), and the convoluted piping system to Chuckwood is causing overflow at McKendree when Chuckwood fills. The new interconnect will prevent this issue.	\$162,653
40	2023026	NC - 2023 - The Ridges - AMI Water meter replacement (65)	The Ridges	Water	CWSNC Uniform	334.4	Apr-22	The Ridges AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$27,205
41	2023027	NC - 2023 - Watauga Vista - Water Main Replacement - 2,000 LF, upsized to 6	Watauga Vista	Water	CWSNC Uniform	331.4	Jun-22	The Watauga Vista project involves the replacement of 2,000 feet of existing water line with larger 6" water line to increase capacity and flows.	The purpose of this project is to increase the capacity and flows of the Watauga Vista system.	\$215,326
42	2023028	NC - 2023 - Waterglyn - AMI Meters - 42	Waterglyn	Water	CWSNC Uniform	334.4	Apr-22	The Waterline AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$25,825
43	2023029	NC - 2023 - Whispering Pines - Water Main Replacement 10,600LF (Pine Lake and Country Club)	Whispering Pines	Water	CWSNC Uniform	331.4	Dec-22	The Whispering Pines project involves the replacement of 10,600 feet of existing water line in the Pine Lake and Country club.	The purpose of this project is to replace an old water main with a new one to improve service reliability.	\$980,937
44	2023031	NC - 2023 - Wolf Laurel - Water Main Replacement (3500 LF)	Wolf Laurel	Water	CWSNC Uniform	331.4	Jun-22	The Wolf Laurel - Water Main Replacement project consist of replacing an existing 3" water line with a 6" water line to increase flows because of new development with the area.	The purpose of this project is to increase the capacity available in the water main because the existing size can not handle future flows.	\$289,792
45	2023033	NC - 2023 - Woodhaven - AMI Meters - 80	Woodhaven	Water	CWSNC Uniform	334.4	Apr-22	The Woodhaven AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$42,565
46	2024005	NC - 2024 - Danby - new siding and roof replace as well as the controls inside building well#5	Danby	Water	CWSNC Uniform	304.2	Mar-23	The Danby system requires a siding and roof replacement and the controls inside well 5 will be replaced.	The purpose of the project is to update the Danby Well 5 facilities.	\$102,280
47	2024007	NC - 2024 - Danby - replace well #3 building and controls at danby	Danby	Water	CWSNC Uniform	304.2	Mar-23	The Danby system requires a replacement of the well 3 building as well as a replacement of the controls inside.	The purpose of this project is to update the Danby Well 3 facilities.	\$107,663
48	2024008	NC - 2024 - Eastwood Forest - Replace old building at Eastwood forest and with new one at well #1 with new controls and new 10,000 gallon storage tank	Eastwood Forest	Water	CWSNC Uniform	304.2	Mar-23	The Eastwood Forest system requires a replacement of one of its buildings along with a new building at well 1, fully equipped with new controls and a 10,000 gallon storage tank.	The purpose of the project is to update the Eastwood Forest Well 1 facilities.	\$139,962
49	2024009	NC - 2024 - Eastwood Forest - Well Replacement (2) - 2&3 enlarge them plus electrical and piping	Eastwood Forest	Water	CWSNC Uniform	307.2	Mar-23	The Eastwood Forest system wells 2 and 3 need to be enlarged and also require electrical system and piping upgrades.	The purpose of the project is to update the Eastwood Forest Well 2 and Well 3 facilities.	\$60,604

Line	Project ID	Project Name	Region	Water/ Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
50	2024010	NC - 2024 - Elk River - Drill New Well	Elk River	Water	CWSNC Uniform	307.2	Sep-22	The Elk River project consist of drilling a new well.	The purpose of the project is to increase the existing well capacity to increase the existing source of supply.	\$103,687
51	2024015	NC - 2024 - High Meadows - Replace Woodcrest Building	High Meadows	Water	CWSNC Uniform	304.2	Mar-23	The Woodcrest building at the High Meadows system needs replacement.	This project is to update Woodcrest building at the High Meadows system.	\$113,323
52	2024020	NC - 2024 - Red Bird - Well Replacement (2) - Both red bird lane well buildings and electrical	Red Bird	Water	CWSNC Uniform	304.2	Mar-23	The Red Bird project consist of replacing both well buildings and updating their electrical systems.	The purpose of this project is to update the Red Bird system well buildings.	\$70,018
53	2024022	NC - 2024 - Ski Mountain - Drill new well - Property acuis, engineering, test well hosue ect...	Ski Mountain	Water	CWSNC Uniform	307.2	Sep-22	The Ski Mountain project involves acquiring land for the new well, drilling and construction of the new well as well as monitoring equipment.	The purpose of this project is to drill a new well to provide additional supply to the Ski Mountain area.	\$546,289
54	2024027	NC - 2024 - Various - SCADA and Remote Monitoring, Caustic Feed System Upgrades	Various	Water	CWSNC Uniform	346.5	Jun-23	The various SCADA upgrades project is to upgrade the SCADA and remote monitoring systems, and the caustic feed systems at various facilities.	The purpose of the project is to automate the system and reduce manhours requiring site visits.	\$106,998
55	2025003	NC - 2025 - Beechbrook - Water Main Replacement on Beechbrook - (3500 LF) 2" - 4"	Beechbrook	Water	CWSNC Uniform	331.4	Jun-23	The Beechbrook water main project involves replacing the water main in the Beechbrook community. The main is 3,500 LF and sized between 2-4"	The purpose of this project is to replace the water main to maintain the distribution system.	\$292,452
56	2025006	NC - 2025 - Brandywine Bay - Morehead City Interconnect	Brandywine Bay	Water	CWSNC Uniform	331.4	Jun-23	The Brandywine Bay/Morehead City interconnect project involves installing an interconnect at Brandywine Bay to Morehead City.	The purpose of this project is to install an interconnection to provide redundancy.	\$107,780
57	2025013	NC - 2025 - Grandview - Replace main and valves or eliminate sections of system as we don't have that many customers	Grandview	Water	CWSNC Uniform	331.4	Jun-23	The Grandview main project involves replacing the water main and valves in the Grandview community.	The purpose of this project is to replace the water main to maintain the distribution system.	\$222,047
58	2025015	NC - 2025 - High Meadows - Purchase and install permanent generator at Camp Cheerio.	High Meadows	Water	CWSNC Uniform	310.2	Jun-24	The High Meadows project is to purchase and install a permanent generator at Camp Cheerio at the High Meadows system.	The purpose of this project is to improve the High Meadows system.	\$74,666
59	2025018	NC - 2025 - Oakdale - Water Main Replacement on Donlee Dr and Leigh Cir - (3500 LF) 2" - 4"	Oakdale	Water	CWSNC Uniform	331.4	Jun-23	The Oakdale water main project involves replacing the water main in the Oakdale community located on Donlee Dr and Leigh Cir. The main is 3,500 LF and sized between 2"-4"	The purpose of this project is to replace the water main to maintain the distribution system.	\$292,452
60	2025019	NC - 2025 - Riverbend - Leak detection/Main Replacement	Riverbend	Water	CWSNC Uniform	331.4	Jun-23	The Riverbend leak detection/main Replacement project will involve doing leak detection, repairs of leaks, and some water line replacement.	The purpose of this project is to replace the water main to maintain the distribution system.	\$108,254
61	2025023	NC - 2025 - Various - SCADA and Remote Monitoring, Caustic Feed System Upgrades	Various	Water	CWSNC Uniform	346.5	Sep-24	The various SCADA upgrades project is to upgrade the SCADA and remote monitoring systems, and the caustic feed systems at various facilities.	The purpose of the project is to automate the system and reduce manhours requiring site visits.	\$109,313
62	2025024	NC - 2025 - Waterglyn - SCADA System Installation	Waterglyn	Water	CWSNC Uniform	346.5	Sep-24	The Waterline SCADA project is to install a SCADA systems at the Waterline facilities.	The purpose of the project is to automate the system and reduce manhours requiring site visits.	\$80,181
63	2025025	NC - 2025 - Whispering Pines - Water Main Replacement (Thagards Lake)	Whispering Pines	Water	CWSNC Uniform	331.4	Dec-23	This Whispering Pines main project involves replacing the water main in the Whispering Pines community located near the Thagards Lake.	The purpose of this project is to replace the water main to maintain the distribution system.	\$1,092,229
64	2025026	NC - 2025 - Woodhaven - SCADA System Installation	Woodhaven	Water	CWSNC Uniform	346.5	Sep-24	The Woodhaven SCADA project will install a new SCADA system with automation for remote monitoring.	The purpose of the project is to automate the system and reduce manhours requiring site visits.	\$80,181

Carolina Water Service, Inc. of North Carolina | **WATER AND SEWER UTILITIES CAPITAL IMPROVEMENT PROGRAM**

11.0 Appendix 3B

Appendix 3B

Line	Project ID	Project Name	Region	Water/ Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
1	2021008	NC - 2021 - Fairfield Harbour - Distribution Leak Detection / Repairs	Fairfield Harbour	Water	BF-FH-TC	331.4	Aug-20	CWSCNC recently completed an inspection to understand the nature of the Distribution System leak to and the magnitude of Water System losses within the Fairfield Harbour System. As a result, further investigation is required to determine the locations of high water losses and the rectification measures necessary.	The purpose of the Fairfield Harbour project is to improve the reliability of existing service and reduce the financial exposure to CWSCNC due to leaks and current maintenance requirements.	\$140,037
2	2021021	NC - 2021 - Silverton - Wellhouse and Interconnect to Bradfield Farms	Silverton	Water	BF-FH-TC	330.4	Dec-20	The Silverton well system has 2 wells with 62 connections. The hydro tanks at Silverton wells 1 and 2 are deteriorating and need to be taken offline. The project involves replacing well 1 and 2 buildings, piping, pumps, and installing an interconnect with the Bradfield Farms water system.	The purpose of the project is to interconnect with the neighboring system to supply water to the 62 connections and improve redundancy. This will also avoid future inspections costs and maintenance costs.	\$1,936,924
3	2023013	NC - 2023 - Fairfield Harbour - Distribution Leak Detection / Repairs	Fairfield Harbour	Water	BF-FH-TC	331.4	Dec-21	The Fairfield Harbour leak detection location services utilized to pin point water leaks in system. This project will support the efforts to identify leaks in the Fairfield Harbour system and perform the necessary repairs.	The purpose of the Fairfield Harbour Leak Detection project is to improve the reliability of existing service and reduce the financial exposure to CWSCNC due to leaks and current maintenance requirements.	\$189,531
4	2024003	NC - 2024 - Bradfield Farms - Wellhouse Replacement - Well #1 and 2 plus electrical and piping	Bradfield Farms	Water	BF-FH-TC	304.2	Mar-23	The Bradfield Farms - Wellhouse Replacement project consist of replacing wells 1 and 2 at the Bradfield Farms system along with the electrical system and piping network.	This project is to update the electrical and piping system at Bradfield Farms.	\$85,761
5	2024011	NC - 2024 - Fairfield Harbour - AMI Water Meter Replacement - 1877	Fairfield Harbour	Water	BF-FH-TC	334.4	Jun-23	The Fairfield Harbour AMI Project will replace existing analog meters which are over 20 years old. The AMI meters will provide more accurate reading, support revenue collection, and improve customer service with the accessibility to real-time flow information.	The purpose of the project is to replace existing water meters with AMI to automate meter reading, reduce manhours associated with the meter reading function, and enhance revenue collection.	\$590,316
6	2025011	NC - 2025 - Fairfield Harbour - Distribution Leak Detection / Repairs	Fairfield Harbour	Water	BF-FH-TC	331.4	Jun-23	The Fairfield Harbour distribution project is to identify distribution leaks at the Fairfield Harbour system and identify modifications that need to be made.	The purpose of this project is to remedy leaks identified at the Fairfield Harbour system.	\$189,552

Carolina Water Service, Inc. of North Carolina | **WATER AND SEWER UTILITIES CAPITAL IMPROVEMENT PROGRAM**

12.0 Appendix 4A

Appendix 4A

Line	Project ID	Project Name	Region	Water/ Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
1	2018048	NC - 2022 - Brandywine Bay - WWTP SBR	Brandywine Bay	Sewer	CWSNC Uniform	354.4	Mar-20	Brandywine Bay WWTP is a 0.15 MGD extended aeration plant with 800 connections. The current plant will be replaced with a new 0.3 MGD sequencing batch reactor (SBR) with a rapid rate infiltration disposal system.	The purpose of the project is to remedy a Notice Of Violation (NOV) and an Intent Order Violation for effluent disposal method.	\$13,866,453
2	2019029	NC - 2020 - Abington - Abington Sewer Collection Rehab - Phase 1 Creek Crossing	Abington	Sewer	CWSNC Uniform	361.2	May-21	The Abington Sewer Collection Rehab project consist of the relocation and rehabilitation of a sewer line that was exposed from severe storm water erosion.	As a result of the exposed sewer line, a high risk of damage to the the sewer pipe exists due to debris being washed against the pipe, trees falling on the pipe, and/or lack of structural support which challenges the service integrity of the pipe. Due to the eminent threat and potential of the pipe failing, this project will rectify the integrity of the pipe and reduce the risk of the pipe failing.	\$677,256
3	2021005	NC - 2021 - Connestee Falls - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Connestee Falls	Sewer	CWSNC Uniform	361.2	May-21	The Connestee Falls project consist of the rehabilitation of existing gravity sewer lines by cleaning and installing CIPP liner and performing service renewals as part of Red Zone study for I&I.	The purpose of the project is to reduce the amount of I&I in the system to reduce O&M costs and better manage peak flows at the WWTP.	\$366,890
4	2021019	NC - 2021 - Sapphire Valley - Sewer LS Replacement - #41 Dry Can to Submersible w/generator	Sapphire Valley	Sewer	CWSNC Uniform	354.3	Nov-20	The Sapphire Valley project consist of replacing the lift station with a new precast wetwell, vaults, controls, submersible pumps, piping, valves, SCADA and LPG generator.	The current Sapphire Valley lift station is at the end of its useful life, so a great risk of failure exist along with the increase cost to operate this facility. This project will reduce the risk of failure and potentially reduce the cost to operate the facility.	\$543,725
5	2021020	NC - 2021 - Sapphire Valley - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Sapphire Valley	Sewer	CWSNC Uniform	361.2	Jun-21	The Sapphire Valley project consist of rehabilitation works to the existing gravity sewer lines by cleaning, installing CIPP liner, and service renewals as part of Red Zone study to determine the level of Inflow & Infiltration (I&I).	The purpose of the Sapphire Valley project is to improve the reliability of existing service and initiate the process to reduce I&I in the existing system.	\$161,647
6	2021022	NC - 2021 - Sugar Mountain - Piping and Chlorine Contact - Phase 1	Sugar Mountain	Sewer	CWSNC Uniform	380.4	Mar-21	The Sugar Mountain WWTP serves approximately 1,400 customers and has a permitted capacity of 0.5 MGD. This project will be completed in two phases. The first phase will include the replacement of the chlorine contact tank and dichlorination basin. It will also include the initial work related to the influent gravity sewer to prepare for the new influent structure.	The purpose of this project is to replace severely deteriorated chlorine contact tanks and dichlorination basins.	\$1,645,986
7	2021023	NC - 2022 - Sugar Mountain - Auger, PS, Screen	Sugar Mountain	Sewer	CWSNC Uniform	380.4	Jun-21	The second phase of the Sugar Mountain WWTP involves building a new influent structure, replace and relocate the lift station with a mechanically cleaned augur and a new duplex equalization pump station and related piping and sitework.	The purpose of this project is to replace severely deteriorated influent structure and relocate and replace the lift station.	\$839,237
8	2021026	NC - 2021 - White Oak Estates - WWTP Improvements- Filter, I&C Upgrades, Chemical Storage, bypass to EQ	White Oak Estates	Sewer	CWSNC Uniform	380.4	Sep-20	The White Oak Estates project consist of upgrading the existing plant processing equipment including IX vessels, new piping, and other SCADA upgrades.	The purpose of this project is to improve the ability of the White Oaks Estates to treat and monitor wastewater flow on a daily basis.	\$122,378

Line	Project ID	Project Name	Region	Water/ Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
9	2022003	NC - 2023 - Bent Creek - WWTP Replacement -0.100 MGD	Bent Creek	Sewer	CWSNC Uniform	354.4	Jun-22	Bent Creek WWTP is a 0.1 MGD plant. The facility doesn't have a mechanical screen or automated headworks or automatic sludge wasting system. The plant needs aeration basin rehabilitation and new equalization tank and there are general structural issues. This project will replace or upgrade existing WWTP and the initial engineering feasibility assessments will determine the required corrective actions.	The purpose of this project is to replace or upgrade many of the process systems at the facility because the facility has reached the end of its useful life or require general modernization.	\$1,600,000
10	2022010	NC - 2022 - Elk River - WWTP Improvement - Replace CL2 contact Basin, recoat U1 & 2 Basins	Elk River	Sewer	CWSNC Uniform	354.4	Mar-21	The Elk River WWTP project involves installing a new inlet splitter box and a bar screen and a new contact chambers with UV treatment at the WWTP. In addition, two manual crane hoists and two decant pumps will be installed at the WWTP along with grates with heavy duty screen over both processing plants to minimize the clogging due to shrubs and debris from nearby trees.	The purpose of this project is to repair equipment in certain sections of the WWTP and perform operations and safety improvements.	\$216,656
11	2022018	NC - 2022 - Hound Ears - WWTP Improvements - New headworks, auger & screen, Repair/recoat U1, recoat U2, new blowers and piping, VFDs	Hound Ears	Sewer	CWSNC Uniform	380.4	May-22	The Hound Ears WWTP is a 0.145 MGD plant. This project involves the repair and upgrade of specific equipment and structures which include inlet structures, process blowers, multiple concrete structures, system piping, and a minor fence repairs.	The purpose of this project is to repair structures and equipment. The inlet splitter box and divertor are deteriorated and the process blowers are antiquated and its is difficult to get equipment and parts to perform repairs. In addition, multiple concrete structures, system piping, and compound fencing require repair.	\$312,183
12	2022020	NC - 2022 - Kings Grant - WTP Improvement - Replace UV system and tankage, new pumps & VFDs at IFS, SCADA & composite Sampler	Kings Grant	Sewer	CWSNC Uniform	380.4	May-22	The Kings Grant project consist of replacing the UV system and tanks, new pumps & VFDs, SCADA, and a composite Sampler.	The purpose of this project is to improve the ability of the Kings Grant facility to treat and monitor water flows on a daily basis.	\$217,409
13	2022030	NC - 2022 - Sugar Mountain - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Sugar Mountain	Sewer	CWSNC Uniform	361.2	Oct-21	CWSCNC owns and operates wastewater collection system (WWCS) for the Sugar Mountain community located in Sugar Mountain, North Carolina. CWSNC desires to rehabilitate the collection system since the system varies in age. CWSNC will enlist Hydrostructures to review RedZone data to identify the problem areas and provide a bid package for repairs and rehabilitation.	The purpose of the project is to reduce the amount of I&I in the system to reduce O&M costs and peak flows at the WWTP.	\$560,568
14	2022158	NC - 2022 - Mt. Carmel - WWCS Improvement (Rehab, Clean, CCTV, Replacement, CIPP)	Mt. Carmel	Sewer	CWSNC Uniform	361.2	Jun-21	The Mt. Carmel project consist of the rehabilitation of existing gravity sewer lines by cleaning and installing CIPP liner and service renewals as part of Red Zone study for I&I.	The purpose of this project is to improve the ability of the Mt. Carmel system to collect wastewater flow on a daily basis.	\$587,784
15	2022230	NC - 2022 - Carolina Trace - Bridge Gravity Sewer Line Replacement	Carolina Trace	Sewer	CWSNC Uniform	361.2	Feb-21	The Carolina Trace project consist of the complete replacement of a Gravity Line.	The Gravity Line at Carolina Trace was found damaged and required a new piping system and other repairs.	\$214,661
16	2023006	NC - 2023 - Brandywine Bay - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Brandywine Bay	Sewer	CWSNC Uniform	361.2	Jul-22	The Brandywine Bay project consist of the rehabilitation of existing gravity sewer lines by cleaning and installing CIPP liner and performing service renewals as part of Red Zone study for I&I.	The purpose of the project is to reduce the amount of I&I in the system to reduce O&M costs and better manage peak flows at the WWTP.	\$160,632
17	2023009	NC - 2023 - Carolina Trace - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Carolina Trace	Sewer	CWSNC Uniform	361.2	Jul-22	This project is to implement improvements at the Carolina Trace WWCS. The improvements includes cleaning and rehabilitating the collection system, CCTV pipeline inspection, and CIPP repairs.	The purpose of the project is to appropriately maintain the collection system in order to reduce operating cost and prepare the system to handle wet weather events.	\$376,820

Line	Project ID	Project Name	Region	Water/ Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
18	2023012	NC - 2023 - Connestee Falls - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Connestee Falls	Sewer	CWSNC Uniform	361.2	Jul-22	The Connestee Falls WWCS project involves the rehabilitation of the existing gravity sewer lines by cleaning and installing CIPP liners and performing service renewals as part of Red Zone study for I&I.	The purpose of the project is to reduce the amount of I&I in the system to reduce O&M costs and better manage peak flows at the WWTP.	\$192,931
19	2023016	NC - 2023 - Hestron Park - WWTP Interconnection - Install Sewer LS and FM to Brandywine Bay WWTP	Hestron Park	Sewer	CWSNC Uniform	354.3	Dec-22	The Hestron Park WWTP Interconnection project involves installing a lift station and a sewer force main between Hestron Park WWTP and Brandywine Bay WWTP.	The purpose of this project is to install an interconnection between Hestron Park WWTP and Brandywine Bay WWTP to provide redundancy in order to maintain the reliability of service.	\$524,703
20	2023019	NC - 2023 - Hound Ears - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Hound Ears	Sewer	CWSNC Uniform	361.2	Oct-21	This project involves rehabilitation of the collection system in Hound Ears community. The rehabilitation will include cleaning, lining, or the replacement of the existing collection system piping based on the conditions of the respective pipes.	The purpose of the project is to reduce the amount of I&I in the system to reduce O&M costs and better manage peak flows at the WWTP.	\$736,553
21	2023023	NC - 2023 - Sapphire Valley - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Sapphire Valley	Sewer	CWSNC Uniform	361.2	Jul-22	The Sapphire Valley WWCS project involves the rehabilitation of the existing gravity sewer lines by cleaning and installing CIPP liners and performing service renewals as part of Red Zone study for I&I.	The purpose of the project is to reduce the amount of I&I in the system to reduce O&M costs and better manage peak flows at the WWTP.	\$215,448
22	2023030	NC - 2023 - Wolf Laurel - Wastewater treatment plant replacement - WWTP Replacement	Wolf Laurel	Sewer	CWSNC Uniform	354.4	Jun-20	The Wolf Laurel project involves replacing the existing Wolf Laurel wastewater treatment plant with a new WWTP.	The purpose of this project is to replace the plant to remain in compliance with NCDEQ regulations	\$866,753
23	2024002	NC - 2024 - Bent Creek - Lift Station rehab/replacement	Bent Creek	Sewer	CWSNC Uniform	354.3	Mar-23	The Bent Creek project consist of the rehabilitation or replacement of existing well system because it is at the end of its useful life.	The purpose of this project is to replace the lift station to maintain pumping capacity.	\$91,231
24	2024004	NC - 2024 - Connestee Falls - Replace or Rehab LS#7 and LS#9	Connestee Falls	Sewer	CWSNC Uniform	354.3	Mar-23	This project is to rehabilitate or replace lift stations at the Connestee Falls system.	The purpose of this project is to rehabilitate or replace an existing lift stations at Connestee Falls to maintain operational continuity.	\$264,588
25	2024006	NC - 2024 - Danby - WWTP Replacement - 0.630 MGD	Danby	Sewer	CWSNC Uniform	354.4	Mar-22	The Danby WWTP is a 0.63 MGD plant. This project involves the replacement of the existing facility with a 0.63 MGD Sequencing Batch Reactor (SBR) or a 0.313 MGD Membrane Bio Reactor (MBR).	The purpose of this project is to upgrade the plant to maintain service reliability.	\$14,052,312
26	2024013	NC - 2024 - Hemby Acres WWTP - Clean out both ponds at hemby and perform maintenance on concrete. Replace valves and piping	Hemby Acres WWTP	Sewer	CWSNC Uniform	380.4	Sep-22	The Hemby Acres WWTP requires cleaning at both of its ponds and concrete maintenance. In addition, the valves and piping system at the plant needs to be replaced.	This project is to update the Hemby Acres WWTP.	\$97,134
27	2024014	NC - 2024 - Hemby Acres WWTP - Rehab digester tanks	Hemby Acres	Sewer	CWSNC Uniform	380.4	Sep-22	The Hemby Acres WWTP requires rehabilitation for its digester tanks.	This project is to update the Hemby Acres WWTP.	\$95,524
28	2024018	NC - 2024 - Mt. Carmel - Lift Station rehab/replacement	Mt. Carmel	Sewer	CWSNC Uniform	354.3	Mar-23	The Mount Carmel project involves rehabilitating or replacing an existing wet well for the lift stations at Mount Carmel.	The purpose of this project is to rehabilitate or replace an existing wet well that is at the end of its useful life to ensure wastewater pumping capacity is maintained for Mount Carmel.	\$112,711
29	2024019	NC - 2024 - Nags head - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Nags head	Sewer	CWSNC Uniform	361.2	Dec-21	The Hydrostructures associated with this project will monitor and inspect the piping system at the wastewater collection system (WWCS) for the Nags Head community in Dare County, NC. They will also analyze RedZone data from 2017 to determine problem areas and provide a bid package for repairs.	The purpose of this project is to rehabilitate the current WWCS.	\$51,310

Line	Project ID	Project Name	Region	Water/ Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
30	2024021	NC - 2024 - Riverpointe - Riverpointe WWTP areation basin/digester replacement	Riverpointe	Sewer	CWSNC Uniform	380.4	Sep-22	The Riverpointe WWTP requires aeration and the replacement of the basin and digester.	The purpose of this project is to update the Riverpointe WWTP.	\$160,977
31	2024023	NC - 2024 - Sugar Mountain - Sewer LS Rehab (3) - piping, rails, pumps, control panel	Sugar Mountain	Sewer	CWSNC Uniform	354.3	Dec-22	The Sugar Mountain lift station project is to rehabilitate or replace lift stations at the Sugar Mountain system.	The purpose of this project is to rehabilitate or replace an existing lift stations at Sugar Mountain to maintain operational continuity.	\$241,240
32	2024025	NC - 2024 - Sugar Mountain - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Sugar Mountain	Sewer	CWSNC Uniform	361.2	Jul-22	The Sugar Mountain WWCS improvements project involves rehabilitation of the collection system in Sugar Mountain community. The rehabilitation will include cleaning and lining or replacement based on the condition of the pipes.	The purpose of this project is to reduce Inflow and Infiltration and peak flows at WWTP.	\$268,264
33	2025001	NC - 2025 - Abington - Rehab manholes because of I&I issues and Lift Stations	Abington	Sewer	CWSNC Uniform	354.3	Jun-24	The Abington project is to rehabilitate the manholes at Abington by the end of the 2025.	The purpose of this project is to rehab the manholes as they have experienced leakage and flow-through issues and will need to be cleaned, relined, and sealed.	\$162,759
34	2025004	NC - 2025 - Bent Creek - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Bent Creek	Sewer	CWSNC Uniform	361.2	Mar-24	The Bent Creek WWCS Improvements project is to rehab existing gravity sewer lines by cleaning and installing CIPP liner and service renewals as part of Red Zone study for I&I. Sanitary sewerage flows to CWS owned WWTP.	The purpose of this project is to reduce the amount of I&I in the system will help reduce O&M costs and peak flows at the WWTP.	\$133,993
35	2025007	NC - 2025 - Carolina Trace - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Carolina Trace	Sewer	CWSNC Uniform	361.2	Mar-24	The Carolina Trace WWCS improvements project is to rehab existing gravity sewer lines by cleaning and installing CIPP liner and service renewals as part of Red Zone study for I&I. Sanitary sewerage flows to CWS owned WWTP.	The purpose of this project is to reduce the amount of I&I in the system will help reduce O&M costs and peak flows at the WWTP.	\$379,104
36	2025009	NC - 2025 - Connestee Falls - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Connestee Falls	Sewer	CWSNC Uniform	361.2	Mar-24	The Connestee Falls WWCS improvements project is to rehab existing gravity sewer lines by cleaning and installing CIPP liner and service renewals as part of Red Zone study for I&I. Sanitary sewerage flows to CWS owned WWTP.	The purpose of this project is to reduce the amount of I&I in the system will help reduce O&M costs and peak flows at the WWTP.	\$303,283
37	2025010	NC - 2025 - Danby - Glen Finnan L-S replace old control cabinets	Danby	Sewer	CWSNC Uniform	354.3	Mar-24	The Danby Glen Finnan lift station project is to replace lift station control cabinets that are beyond their useful lives.	The purpose of this project is to replace an existing lift stations components at Danby to maintain operational continuity.	\$58,849
38	2025014	NC - 2025 - Hemby Acres - Replace old or broken clay pipe and rehab manholes.	Hemby Acres	Sewer	CWSNC Uniform	361.2	Jun-24	The Hemby Acres replacement project involves replacing the pipes and rehabbing the manholes in the Hemby Acres community.	The purpose of this project is to maintain the distribution system.	\$80,498
39	2025016	NC - 2025 - Hounds Ear - Bath House lift station replacement	Hound Ears	Sewer	CWSNC Uniform	354.3	Dec-23	The Hounds Ear Bath House lift station project involves replacing the lift station at the Hounds Ear Bath House.	The purpose of this project is to replace the lift station to maintain pumping capacity.	\$324,947
40	2025017	NC - 2025 - Nags Head - Lift Station Generators	Nags Head	Sewer	CWSNC Uniform	355.4	Jun-24	The Nags Head lift station project is to install new lift station generators at the Nags Head system.	The purpose of this project is to improve the Nags Head system.	\$106,665
41	2025021	NC - 2025 - Sapphire Valley - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Sapphire Valley	Sewer	CWSNC Uniform	361.2	Mar-24	The Sapphire Valley WWCS improvements project involves rehabilitating the existing gravity sewer lines by cleaning and installing CIPP liner and service renewals as part of Red Zone study for I&I. The sanitary sewerage from the system flows to CWS owned WWTP.	The purpose of this project is to rehabilitate the collection system to ensure system integrity.	\$215,326

Carolina Water Service, Inc. of North Carolina | **WATER AND SEWER UTILITIES CAPITAL IMPROVEMENT PROGRAM**

13.0 Appendix 4B

Appendix 4B

Line	Project ID	Project Name	Region	Water/ Sewer	Rate Group	NARUC	In Service Date	Project Description	Project Purpose	EAC
1	2022011	NC - 2022 - Fairfield Harbour - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Fairfield Harbour	Sewer	BF-FH-TC	361.2	Dec-21	The Fairfield Harbour WWCS Improvements project will consist of performing CCTV pipe inspections. Utilitech will repair defects found.	The purpose of this project is to evaluate the condition of the system.	\$249,159
2	2022012	NC - 2022 - Fairfield Harbour - WWTP Rehab - To meet nitrogen effluent limits	Fairfield Harbour	Sewer	BF-FH-TC	354.4	Dec-21	Fairfield Harbour WWTP is a 0.6 MGD plant treating domestic wastewater. This project involves rehabilitation to multiple areas including the influent structures, aeration basins, SCADA, electrical systems to achieve compliance for the annual Total Nitrogen (TN) permit allocation.	The purpose of this project is to meet current NPDES permit requirements and extend the life of the asset by performing the necessary repairs.	\$1,396,145
3	2023004	NC - 2023 - Bradfield Farms - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Bradfield Farms	Sewer	BF-FH-TC	361.2	May-21	The Bradfield Farms project consist of the rehabilitation of existing gravity sewer lines by cleaning and installing a CIPP liner (9,500 lin ft). In addition, The project includes the upgrade of the existing GIS system and ICOM reconciliations (11 unmatched) and CCTV review and repair/rehabilitation.	The purpose of this project is to improve the ability of the Bradfield Farms system to collect wastewater flow on a daily basis.	\$598,907
4	2023005	NC - 2023 - Bradfield Farms - WWTP Improvement - Replace VFDS, Blowers, Motors, New Clarifiers	Bradfield Farms	Sewer	BF-FH-TC	380.4	Apr-22	An inspection of the electrical system at the Bradfield Farms WWTP in Charlotte, NC revealed that the plant has contact voltage issues. Immediate corrective actions were assigned, which included grounding the fence and control panels at the plant using a copper cable. Long term corrective actions include the replacement of 30-year old control panels, conductors, and appurtenances that are technologically outdated.	The electrical system is not properly grounded and the project includes temporary grounding measures.	\$188,553
5	2023014	NC - 2023 - Fairfield Harbour - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Fairfield Harbour	Sewer	BF-FH-TC	361.2	Jul-22	The Fairfield Harbour WWCS project involves the rehabilitation of the existing gravity sewer lines by cleaning and installing CIPP liners and performing service renewals as part of Red Zone study for I&I.	The purpose of the project is to reduce the amount of I&I in the system to reduce O&M costs and better manage peak flows at the WWTP.	\$161,556
6	2024012	NC - 2024 - Fairfield Harbour - Sewer LS Replacement (4 stations)	Fairfield Harbour	Sewer	BF-FH-TC	354.3	Mar-23	The Fairfield Harbour project consist of rehabilitating or replacing the existing lift stations.	The purpose of this project is to rehabilitate or replace an existing lift stations at Fairfield Harbour to maintain operational continuity.	\$543,302
7	2025005	NC - 2025 - Bradfield Farms - interconnect to cabarrus county for emergency's to take plants down for maintenance on wwtp's	Bradfield Farms	Sewer	BF-FH-TC	361.2	Sep-23	The Bradfield Farms interconnect project involves installing an interconnect at Bradfield Farms to Cabarrus County for emergencies in order to take plants down for maintenance on the WWTPs.	The purpose of this project is to install an interconnection to provide redundancy and for emergency maintenance scenarios.	\$56,709
8	2025012	NC - 2025 - Fairfield Harbour - WWCS Improvements (Rehab - Clean, CCTV, CIPP, Replacement)	Fairfield Harbour	Sewer	BF-FH-TC	361.2	Mar-24	The Fairfield Harbour waste water collection system project is for the piping at the Fairfield Harbour system needs to be updated. Improvements will include cleaning and rehabilitation, CCTV pipeline inspection, and CIPP repairs.	This purpose of this project is to make improvements to the WWCS at Fairfield Harbour.	\$379,104

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14.0 Appendix 5A

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Appendix 5A
Water Emerging GL Spend Schedule: CWSNC Uniform Rate Group

Line No.	Spend Category	Rate Group	Utility Type	WSIP Period	NARUC Acct	Obj. Acct.	In-Service Date	Annualized Spend	Annualized Retirement	Depreciation Rate	Annualized Depreciation
1	Struct and Improv General Plant	CWS - NC Uniform	Water	Rolling	304.50	141203	Rolling In Service	19,141	(2,333)	2.00%	383
2	Struct and Improv Service Supplies	CWS - NC Uniform	Water	Rolling	304.20	141204	Rolling In Service	41,654	(5,076)	2.00%	833
3	Struct and Improv Water Treat Plt	CWS - NC Uniform	Water	Rolling	304.30	141205	Rolling In Service	70,355	(8,574)	2.00%	1,407
4	Struct and Improv Trans Dist Plt	CWS - NC Uniform	Water	Rolling	304.40	141206	Rolling In Service	10,964	(1,336)	2.00%	219
5	Wells and Springs	CWS - NC Uniform	Water	Rolling	307.20	141223	Rolling In Service	88,816	(13,889)	2.00%	1,776
6	Supply Mains	CWS - NC Uniform	Water	Rolling	309.20	141225	Rolling In Service	112,908	(3,408)	1.00%	1,129
7	Power Generation Equipment	CWS - NC Uniform	Water	Rolling	310.20	141226	Rolling In Service	1,298	(679)	10.00%	130
8	Electric Pump Equip Src Pump	CWS - NC Uniform	Water	Rolling	311.20	141227	Rolling In Service	173,887	(115,753)	14.29%	24,848
9	Electric Pump Equip WTP	CWS - NC Uniform	Water	Rolling	311.30	141228	Rolling In Service	388,855	(100,753)	3.33%	12,949
10	Electric Pump Equip Trans Dist	CWS - NC Uniform	Water	Rolling	311.40	141229	Rolling In Service	307,126	(204,446)	14.29%	43,888
11	Water Treatment Equipment	CWS - NC Uniform	Water	Rolling	320.30	141230	Rolling In Service	235,376	(61,974)	2.50%	5,884
12	Dist Resv and Standpipes	CWS - NC Uniform	Water	Rolling	330.40	141231	Rolling In Service	155,753	(17,374)	2.00%	3,115
13	Trans and Distr Mains	CWS - NC Uniform	Water	Rolling	331.40	141232	Rolling In Service	1,032,302	(31,159)	1.00%	10,323
14	Service Lines	CWS - NC Uniform	Water	Rolling	333.40	141233	Rolling In Service	998,861	(142,160)	2.00%	19,977
15	Meters	CWS - NC Uniform	Water	Rolling	334.40	141234	Rolling In Service	108,508	(38,823)	3.33%	3,613
16	Meter Installations	CWS - NC Uniform	Water	Rolling	334.40	141235	Rolling In Service	81,231	(29,063)	3.33%	2,705
17	Hydrants	CWS - NC Uniform	Water	Rolling	335.40	141236	Rolling In Service	71,888	(15,399)	2.50%	1,797
18	Backflow Prevention Devices	CWS - NC Uniform	Water	Rolling	336.40	141237	Rolling In Service	7,846	(5,676)	10.00%	785
19	Stores Equipment	CWS - NC Uniform	Water	Rolling	342.50	141305	Rolling In Service	3,871	(1,341)	3.33%	129
20	Lab Equipment	CWS - NC Uniform	Water	Rolling	344.50	141306	Rolling In Service	4,686	(3,103)	10.00%	469
21	Tool Shop Equipment	CWS - NC Uniform	Water	Rolling	343.50	141308	Rolling In Service	12,686	(6,257)	5.00%	634
22	Power Operated Equipment	CWS - NC Uniform	Water	Rolling	345.50	141309	Rolling In Service	13,717	(7,177)	10.00%	1,372
23	Communications Equipment	CWS - NC Uniform	Water	Rolling	346.50	141310	Rolling In Service	9,804	(5,129)	10.00%	980
24	Misc Equipment	CWS - NC Uniform	Water	Rolling	347.50	141311	Rolling In Service	11,156	(2,891)	3.33%	372
25	Vehicles	CWS - NC Uniform	Water	Rolling	341.50	141401	Rolling In Service	217,440	(217,440)	20.00%	43,488
26	Subtotal Water CWSNC Rate Group							4,180,129	(1,041,214)		183,206

Carolina Water Service, Inc. of North Carolina | **WATER AND SEWER UTILITIES CAPITAL IMPROVEMENT PROGRAM**

15.0 Appendix 5B

Appendix 5B
 Water Emerging GL Spend Schedule: BF-FH-TC Uniform Rate Group

Line No.	Spend Category	Rate Group	Utility Type	WSIP Period	NARUC Acct	Obj. Acct.	In-Service Date	Annualized Spend	Annualized Retirement	Depreciation Rate	Annualized Depreciation
1	Struct and Improv General Plant	BF-FH-TC	Water	Rolling	304.50	141203	Rolling In Service	377	(46)	2.00%	8
2	Struct and Improv Service Supplies	BF-FH-TC	Water	Rolling	304.20	141204	Rolling In Service	11,921	(1,453)	2.00%	238
3	Struct and Improv Water Treat Plt	BF-FH-TC	Water	Rolling	304.30	141205	Rolling In Service	1,373	(167)	2.00%	27
4	Wells and Springs	BF-FH-TC	Water	Rolling	307.20	141223	Rolling In Service	8,840	(1,382)	2.00%	177
5	Supply Mains	BF-FH-TC	Water	Rolling	309.20	141225	Rolling In Service	1,130	(34)	1.00%	11
6	Electric Pump Equip Src Pump	BF-FH-TC	Water	Rolling	311.20	141227	Rolling In Service	10,924	(7,272)	14.29%	1,561
7	Electric Pump Equip WTP	BF-FH-TC	Water	Rolling	311.30	141228	Rolling In Service	15,734	(4,077)	3.33%	524
8	Electric Pump Equip Trans Dist	BF-FH-TC	Water	Rolling	311.40	141229	Rolling In Service	10,579	(7,042)	14.29%	1,512
9	Water Treatment Equipment	BF-FH-TC	Water	Rolling	320.30	141230	Rolling In Service	6,082	(1,601)	2.50%	152
10	Dist Resv and Standpipes	BF-FH-TC	Water	Rolling	330.40	141231	Rolling In Service	50,794	(5,666)	2.00%	1,016
11	Trans and Distr Mains	BF-FH-TC	Water	Rolling	331.40	141232	Rolling In Service	33,866	(1,022)	1.00%	339
12	Service Lines	BF-FH-TC	Water	Rolling	333.40	141233	Rolling In Service	89,813	(12,782)	2.00%	1,796
13	Meters	BF-FH-TC	Water	Rolling	334.40	141234	Rolling In Service	20,092	(7,189)	3.33%	669
14	Meter Installations	BF-FH-TC	Water	Rolling	334.40	141235	Rolling In Service	11,753	(4,205)	3.33%	391
15	Hydrants	BF-FH-TC	Water	Rolling	335.40	141236	Rolling In Service	7,824	(1,676)	2.50%	196
16	Backflow Prevention Devices	BF-FH-TC	Water	Rolling	336.40	141237	Rolling In Service	135	(98)	10.00%	13
17	Stores Equipment	BF-FH-TC	Water	Rolling	342.50	141305	Rolling In Service	34	(12)	3.33%	1
18	Lab Equipment	BF-FH-TC	Water	Rolling	344.50	141306	Rolling In Service	915	(606)	10.00%	92
19	Tool Shop Equipment	BF-FH-TC	Water	Rolling	343.50	141308	Rolling In Service	2,989	(1,474)	5.00%	149
20	Power Operated Equipment	BF-FH-TC	Water	Rolling	345.50	141309	Rolling In Service	2,243	(1,173)	10.00%	224
21	Communications Equipment	BF-FH-TC	Water	Rolling	346.50	141310	Rolling In Service	14,937	(7,815)	10.00%	1,494
22	Misc Equipment	BF-FH-TC	Water	Rolling	347.50	141311	Rolling In Service	126	(33)	3.33%	4
23	Vehicles	BF-FH-TC	Water	Rolling	341.50	141401	Rolling In Service	26,120	(26,120)	20.00%	5,224
24	Subtotal Water BF-FH-TC Rate Group							328,600	(92,946)		15,819

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16.0 Appendix 6A

Appendix 6A
Sewer Emerging GL Spend Schedule: CWSNC Uniform Rate Group

Line No.	Spend Category	Rate Group	Utility Type	WSIP Period	NARUC Acct	Obj. Acct.	In-Service Date	Annualized Spend	Annualized Retirement	Depreciation Rate	Annualized Depreciation
1	Struct and Improv General Plant	CWS - NC Uniform	Sewer	Rolling	354.70	141203	Rolling In Service	29,713	(3,621)	2.00%	594
2	Struct and Improv Collect Plant	CWS - NC Uniform	Sewer	Rolling	354.20	141207	Rolling In Service	5,040	(788)	2.00%	101
3	Struct and Improv Pump Plant	CWS - NC Uniform	Sewer	Rolling	354.30	141208	Rolling In Service	48,298	(3,194)	2.00%	966
4	Struct and Improv Treatment Plant	CWS - NC Uniform	Sewer	Rolling	354.40	141209	Rolling In Service	59,857	(9,872)	2.50%	1,496
5	Struct and Improv Reclaim Wtr Dist	CWS - NC Uniform	Sewer	Rolling	354.60	141211	Rolling In Service	280	(84)	2.50%	7
6	Power Gen Equip Pump Plt	CWS - NC Uniform	Sewer	Rolling	355.30	141239	Rolling In Service	355	(185)	10.00%	35
7	Power Gen Equip Treat Plt	CWS - NC Uniform	Sewer	Rolling	355.40	141240	Rolling In Service	29,883	(15,635)	10.00%	2,988
8	Sewer Force Main	CWS - NC Uniform	Sewer	Rolling	360.20	141241	Rolling In Service	89,538	(2,683)	1.33%	1,191
9	Sewer Gravity Main	CWS - NC Uniform	Sewer	Rolling	361.20	141242	Rolling In Service	160,449	(3,305)	1.00%	1,604
10	Manholes	CWS - NC Uniform	Sewer	Rolling	361.20	141243	Rolling In Service	95,337	(2,282)	1.00%	953
11	Special Collection Structures	CWS - NC Uniform	Sewer	Rolling	362.20	141244	Rolling In Service	300	(47)	2.00%	6
12	Service to Customers	CWS - NC Uniform	Sewer	Rolling	363.20	141245	Rolling In Service	207,499	(6,217)	1.33%	2,760
13	Flow Measure Devices	CWS - NC Uniform	Sewer	Rolling	364.20	141246	Rolling In Service	9,860	(3,678)	4.00%	394
14	Flow Measure Install	CWS - NC Uniform	Sewer	Rolling	365.20	141247	Rolling In Service	29	(11)	4.00%	1
15	Receiving Wells	CWS - NC Uniform	Sewer	Rolling	370.30	141248	Rolling In Service	44,156	(4,697)	2.00%	883
16	Pumping Equip Pump Plt	CWS - NC Uniform	Sewer	Rolling	371.30	141249	Rolling In Service	560,414	(373,054)	14.29%	80,083
17	Pumping Equip Reclaim WTP	CWS - NC Uniform	Sewer	Rolling	371.50	141250	Rolling In Service	3,131	(2,084)	14.29%	447
18	Pumping Equip Rcl Wtr Dist	CWS - NC Uniform	Sewer	Rolling	371.60	141251	Rolling In Service	11,566	(7,699)	14.29%	1,653
19	Treat/Disp Equip Lagoon	CWS - NC Uniform	Sewer	Rolling	380.40	141252	Rolling In Service	8,155	(1,747)	2.50%	204
20	Treat/Disp Equip Trt Plt	CWS - NC Uniform	Sewer	Rolling	380.40	141253	Rolling In Service	356,423	(106,510)	2.50%	8,911
21	Treat/Disp Equip Rclm Wtr	CWS - NC Uniform	Sewer	Rolling	380.50	141254	Rolling In Service	12,013	(2,573)	2.50%	300
22	Plant Sewers Treatment Plt	CWS - NC Uniform	Sewer	Rolling	381.40	141255	Rolling In Service	76,044	(22,724)	2.50%	1,901
23	Plant Sewers Reclaim Wtr	CWS - NC Uniform	Sewer	Rolling	381.50	141256	Rolling In Service	240	(72)	2.50%	6
24	Outfall Lines	CWS - NC Uniform	Sewer	Rolling	382.40	141257	Rolling In Service	44,245	(1,403)	1.00%	442
25	Reuse Dist Reservoirs	CWS - NC Uniform	Sewer	Rolling	374.50	141263	Rolling In Service	27	(3)	2.00%	1
26	Reuse Transmission and Dist	CWS - NC Uniform	Sewer	Rolling	375.60	141264	Rolling In Service	11,370	(1,025)	2.00%	227
27	Other Tangible Plant	CWS - NC Uniform	Sewer	Rolling	389.10	141271	Rolling In Service	3,317	(991)	2.50%	83
28	Other Plant Collection	CWS - NC Uniform	Sewer	Rolling	389.20	141272	Rolling In Service	154	(22)	2.00%	3
29	Other Plant Pump	CWS - NC Uniform	Sewer	Rolling	389.30	141273	Rolling In Service	1,688	(278)	2.50%	42
30	Other Plant Treatment	CWS - NC Uniform	Sewer	Rolling	389.40	141274	Rolling In Service	18,549	(3,059)	2.50%	464
31	Stores Equipment	CWS - NC Uniform	Sewer	Rolling	392.70	141305	Rolling In Service	1,283	(444)	3.33%	43
32	Lab Equipment	CWS - NC Uniform	Sewer	Rolling	394.70	141306	Rolling In Service	11,572	(7,662)	10.00%	1,157
33	Tool Shop Equipment	CWS - NC Uniform	Sewer	Rolling	393.70	141308	Rolling In Service	8,107	(3,999)	5.00%	405
34	Power Operated Equipment	CWS - NC Uniform	Sewer	Rolling	395.70	141309	Rolling In Service	41,139	(21,525)	10.00%	4,114
35	Communications Equipment	CWS - NC Uniform	Sewer	Rolling	396.70	141310	Rolling In Service	12,515	(6,548)	10.00%	1,252
36	Misc Equipment	CWS - NC Uniform	Sewer	Rolling	397.70	141311	Rolling In Service	10,096	(2,616)	3.33%	336
37	Vehicles	CWS - NC Uniform	Sewer	Rolling	391.70	141401	Rolling In Service	129,720	(129,720)	20.00%	25,944
38	Service Lines	CWS - NC Uniform	Sewer	Rolling	-	141233	Rolling In Service	281	(40)	2.00%	6
39	Subtotal Sewer CWSNC Rate Group							2,102,642	(752,101)		142,005

Carolina Water Service, Inc. of North Carolina | **WATER AND SEWER UTILITIES CAPITAL IMPROVEMENT PROGRAM**

17.0 Appendix 6B

Appendix 6B
 Sewer Emerging GL Spend Schedule: BF-FH-TC Uniform Rate Group

Line No.	Spend Category	Rate Group	Utility Type	WSIP Period	NARUC Acct	Obj. Acct.	In-Service Date	Annualized Spend	Annualized Retirement	Depreciation Rate	Annualized Depreciation
1	Struct and Improv General Plant	BF-FH-TC	Sewer	Rolling	354.70	141203	Rolling In Service	19,106	(2,328)	2.00%	382
2	Struct and Improv Collect Plant	BF-FH-TC	Sewer	Rolling	354.20	141207	Rolling In Service	45	(7)	2.00%	1
3	Struct and Improv Pump Plant	BF-FH-TC	Sewer	Rolling	354.30	141208	Rolling In Service	2,641	(175)	2.00%	53
4	Struct and Improv Treatment Plant	BF-FH-TC	Sewer	Rolling	354.40	141209	Rolling In Service	12,580	(2,075)	2.50%	315
5	Power Gen Equip Pump Plt	BF-FH-TC	Sewer	Rolling	355.30	141239	Rolling In Service	20,845	(10,906)	10.00%	2,084
6	Sewer Force Main	BF-FH-TC	Sewer	Rolling	360.20	141241	Rolling In Service	11,311	(339)	1.33%	150
7	Sewer Gravity Main	BF-FH-TC	Sewer	Rolling	361.20	141242	Rolling In Service	49,048	(1,010)	1.00%	490
8	Manholes	BF-FH-TC	Sewer	Rolling	361.20	141243	Rolling In Service	7,274	(174)	1.00%	73
9	Service to Customers	BF-FH-TC	Sewer	Rolling	363.20	141245	Rolling In Service	107,042	(3,207)	1.33%	1,424
10	Flow Measure Devices	BF-FH-TC	Sewer	Rolling	364.20	141246	Rolling In Service	238	(89)	4.00%	10
11	Pumping Equip Pump Plt	BF-FH-TC	Sewer	Rolling	371.30	141249	Rolling In Service	36,538	(24,322)	14.29%	5,221
12	Pumping Equip Reclaim WTP	BF-FH-TC	Sewer	Rolling	371.50	141250	Rolling In Service	33,504	(22,303)	14.29%	4,788
13	Treat/Disp Equip Trt Plt	BF-FH-TC	Sewer	Rolling	380.40	141253	Rolling In Service	34,572	(10,331)	2.50%	864
14	Plant Sewers Treatment Plt	BF-FH-TC	Sewer	Rolling	381.40	141255	Rolling In Service	10,211	(3,051)	2.50%	255
15	Outfall Lines	BF-FH-TC	Sewer	Rolling	382.40	141257	Rolling In Service	15,305	(485)	1.00%	153
16	Reuse Transmission and Dist	BF-FH-TC	Sewer	Rolling	375.60	141264	Rolling In Service	350	(32)	2.00%	7
17	Other Plant Pump	BF-FH-TC	Sewer	Rolling	389.30	141273	Rolling In Service	171	(28)	2.50%	4
18	Other Plant Reclaim Water Trt	BF-FH-TC	Sewer	Rolling	389.50	141275	Rolling In Service	1,239	(265)	2.50%	31
19	Stores Equipment	BF-FH-TC	Sewer	Rolling	392.70	141305	Rolling In Service	14	(5)	3.33%	0
20	Lab Equipment	BF-FH-TC	Sewer	Rolling	394.70	141306	Rolling In Service	56	(37)	10.00%	6
21	Tool Shop Equipment	BF-FH-TC	Sewer	Rolling	393.70	141308	Rolling In Service	2,030	(1,001)	5.00%	101
22	Power Operated Equipment	BF-FH-TC	Sewer	Rolling	395.70	141309	Rolling In Service	2,045	(1,070)	10.00%	205
23	Communications Equipment	BF-FH-TC	Sewer	Rolling	396.70	141310	Rolling In Service	18,330	(9,591)	10.00%	1,833
24	Misc Equipment	BF-FH-TC	Sewer	Rolling	397.70	141311	Rolling In Service	10,823	(2,804)	3.33%	360
25	Vehicles	BF-FH-TC	Sewer	Rolling	391.70	141401	Rolling In Service	26,720	(26,720)	20.00%	5,344
26	Subtotal Sewer BF-FH-TC Rate Group							422,038	(122,357)		24,155