



**CITY OF SOUTHPORT
BOARD OF ALDERMEN
SPECIAL CALLED MEETING AGENDA
WATER-SEWER MERGER**

113 W. MOORE STREET

January 10, 2024

9:00 AM

Agenda

Please turn off all cell phones

Meetings are open to the public. Face masks and social distancing may be used at the discretion of each individual. The Board of Aldermen reserve the right to make changes to this policy, as needed to help prevent the spread of the Coronavirus.

If you are not able to attend the Board of Aldermen meetings in person, the meeting will be available for you to watch via live-stream on the City of Southport website (<https://cityofsouthport.com/board-of-aldermen-meetings/>), Facebook page, and YouTube channel.

ETHICS STATEMENT:

"If any members know of any conflict of interest or the appearance of a conflict of interest concerning matters on the agenda, please so state at this time."

A. Call to Order

B. Invocation

C. Pledge of Allegiance

D. Approval of Agenda

E. Agenda

1. Overview of the Issues Needing to be Resolved for the Merger (B. Therrien, City Manager)
 - a. Annexation Lost
 - b. Use of Fund Balances
 - c. Do We Merge Water or Not? **Pgs 3-135**
 - d. Staffing Levels
 - e. Other Services We Give to the Residents
2. Appointment of Specialist Attorney to Assist in Negotiating and Developing the Legal Document with the County-Attorney Max MacAurley (B. Therrien, City Manager) **pgs 136-138**
3. Financial Overview of Fund Balances and Use of Funds/Grants (L. Flint, Finance Director) **139-160**
4. Staffing Options for Finance (Teresa Jones, Tax Collector) **pgs 161-167**
5. Staffing Options for Public Services (Tom Stanley, Director of Public Services) **pgs 168-177**
 - a. Water Supply Agreement

6. Questions Needed to Be Answered (Board of Aldermen)

- a. Should Water be Merged with the County?
- b. Reallocate \$1.263 Million of ARPA Funds out of Water/Sewer to a General Fund project-Resurfacing of Roads? Shoreline Stabilization?
- c. Positions to Keep with the City and Those to Go to the County
- d. Use of Fund Balance:
 - A. Set aside funds to pave roads after sewer projects.
 - B. Subsidize lower rates so customers are paying County rates.
 - C. Use some funding to offset loans.
- e. Collection of Other Fees; Where Payments Are To Be Made.

F. Mayor's Comments

G. Board Comments

H. Adjourn

MRF STUDY

Wastewater Merger/Regionalization Feasibility Study

City of Southport, NC

Prepared for



August 2023



David G. Malinauskas, P.E.
TWC # 3461-C

Wooten

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1.0 EXECUTIVE SUMMARY

The City of Southport (City) received a Merger/Regionalization Feasibility (MRF) Study grant to explore the feasibility of a merger between the City and Brunswick County (County) sewer systems and study the long-term viability of such a scenario. As part of this grant, other alternatives for long-term sewer service were also briefly evaluated, including regionalization with Oak Island and Brunswick Regional Water and Sewer H2GO (H2GO). The City currently discharges its wastewater into the County's system at a wholesale rate. The City does not own any treatment facilities but operates and maintains its sewer collection system. The County owns and operates much of the wastewater treatment facilities in Brunswick County and has its own collection system.

The Wooten Company examined current sewer rates, capital project needs, and capacity needs; reviewed previously prepared studies and master plans; and estimated the fiscal impact the evaluated alternatives would have on the City's customers. The following objectives were identified for the study:

- Review of the current systems and financial data to identify potential alternatives for merging or regionalizing public sewer between the City and the County and two other entities within Brunswick County.
- Present options for long-term viability of the City's wastewater collection system from the lens of estimated costs and potential savings from a merged or regionalized scenario.
- Evaluate financial and organizational impacts for each alternative, estimated annual operation and maintenance costs, and capital improvement projects.

Ultimately, four alternatives were evaluated: Retain Ownership & Operations, Merge with Brunswick County, Regionalization with Oak Island, and Regionalization with Brunswick Regional Water and Sewer H2GO. **Table 1** provides the present value (PV) of the four alternatives, in fiscal year 2027 (FY27) dollars, the relative present value cost per customer, and whether the alternative is financially feasible compared to the other alternatives.

Table 1. Summary of Alternatives

Alternative	Total Present Worth Cost	Total Present Worth Cost Per Customer	Feasible? (Yes/No)
<i>Retain Ownership & Operations</i>	\$96 million	\$29,873	Yes
<i>Merge with Brunswick County</i>	\$312 million	\$9,912	Yes
<i>Regionalization with Oak Island</i>	\$106 million	\$32,972	No
<i>Regionalization with Brunswick Regional Water and Sewer H2GO</i>	\$161 million	\$50,240	No

Alternatives 3 and 4 were disqualified from further consideration given their high present worth cost per customer of \$32,972 and \$50,240, respectively. Alternatives 1 and 2 remain feasible, but Alternative 1 has a higher present worth cost per customer because of its significantly lower

customer base of 3,212 customers compared to that of Alternative 2, which is projected to have 31,516 customers.

If the City wishes to divest itself of its sewer infrastructure and enjoy lower wastewater treatment costs from becoming a partner member with Brunswick County, a merged scenario between the City and County appears to be the simplest means towards regionalization and is the most financially feasible of the alternatives due to estimated cost savings for City customers. Under this scenario (Alternative 2), we recommend that the City negotiate with the County on the transfer of ownership of its sewer collection system assets – estimated to be approximately \$15.3 million (refer to Table 2). The City should also acknowledge the financial value of the personnel it employs given their technical and finance expertise, system knowledge, and regional loyalty, and explore opportunities for them to be employed by the County.

2.0 INTRODUCTION

2.1 PURPOSE

Utilities owned and managed by small communities may become liabilities in the face of economic instability or stressors. Recent natural disasters such as Hurricanes Florence and Matthew have burdened utility systems and, for smaller systems, can be particularly detrimental. Small communities may lack the financial resources to conduct additional maintenance, expansion, or future planning; these issues can be compounded by a struggle to attract and retain experienced utility staff.

The City of Southport (City) was fortunate to receive grant funding for a Merger/Regionalization Feasibility (MRF) Study to further evaluate the long-term viability of its sanitary sewer collection system. Therefore, the purpose of this MRF Study is to identify the practicality of a merger of the wastewater collection and disposal systems of the City with that of Brunswick County (County) because the two systems are already interconnected. For capital comparison purposes, regionalization alternatives with Oak Island and Brunswick Regional Water and Sewer H2GO (H2GO) are also evaluated as options.



As a coastal community, Southport can face operational challenges during hurricanes

2.2 SCOPE

This MRF Study includes an overview of sanitary sewer system operations, Geographic Information System (GIS) mapping, and development of opinions of probable cost for an interconnection of utility systems; analysis of customer demands and available plant capacities; and significant capital improvements needed in the City prior to consolidation. Armed with sewer use and financial data, alternative scenarios for physically and financially merging the sewer systems are created, or regional approaches to wastewater collection and disposal are evaluated to share operation and maintenance (O&M) costs on a regional scale. Conclusions can be drawn from these merged or regional scenarios and appropriate recommendations made for future actions.

3.0 EXISTING WASTEWATER SYSTEM

3.1 SEWER SYSTEMS

3.1.1 City of Southport

The City's collection system is depicted in **Figure 1**. The oldest portion of the City's collection system was constructed in the early 1900s and currently consists of approximately 35 miles of gravity sewer lines and 14 miles of force mains. Much of the system is composed of polyvinyl chloride (PVC) pipe; however, the downtown area is predominantly vitrified clay pipe (VCP) in the gravity sewer system. The Town also has 34 simplex and duplex pump stations that date back to the 1970s.

As part of the study, a high-level valuation of the collection system is warranted to use for negotiations with the County. Using available information from the City's 2019 Asset Management Plan (AMP), the City's system is broken down into five main components – Pump Stations, Force Mains, Force Main Valves, Gravity Sewer, and Manholes in **Table 2**. The estimated depreciated value of the entire collection system is \$15.3 million. Adding a lower range of 80% value and upper range of 120% value to account for different capacities, ages and conditions, the system is estimated to be valued from \$12.2 – \$18.4 million. A more detailed valuation should be performed in the event of system acquisition by another entity.

Table 2. City of Southport Collection System Valuation

Asset	Service Life, Yrs.	Unit	Avg. Unit Value	Total Quantity	Replacement Cost New (RCN)	Total Depreciated Value
<i>Pump Stations</i>	20	EA	\$500,000	34	\$17,000,000	\$2,275,000
<i>Force Mains, PVC</i>	100	LF	\$50	47,425	\$2,371,250	\$1,494,675
<i>Force Main Valves</i>	40	EA	\$7,500	34	\$255,000	\$62,625
<i>Gravity Sewer</i>	75-100	LF	\$100	185,000	\$18,500,000	\$9,533,418
<i>Manholes</i>	40	EA	\$7,500	891	\$6,682,500	\$1,946,625
TOTAL				233,384	\$44,808,750	\$15,312,343

Lower Range (80%) \$12,249,874

Upper Range (120%) \$18,374,811

Notes:

1. Gravity Sewer age percentages of total are estimated to be same percentages as Manholes.
2. Asset ages exceeding service life are given a 95% depreciated (salvage) value.
3. Rehabbed Manholes are considered new Manholes.
4. The Lower and Upper Depreciated Grand Total Ranges account for differences in asset sizes, capacities, and condition.
5. The above figures are rough estimates only - a true evaluation requires a more detailed analysis and is recommended.
6. The above is based upon current infrastructure (not future projects).
7. Total quantities are from City AIA documentation.



Figure 1
Sewer Utilities of the
City of Southport
and Brunswick County
August 2023

Legend

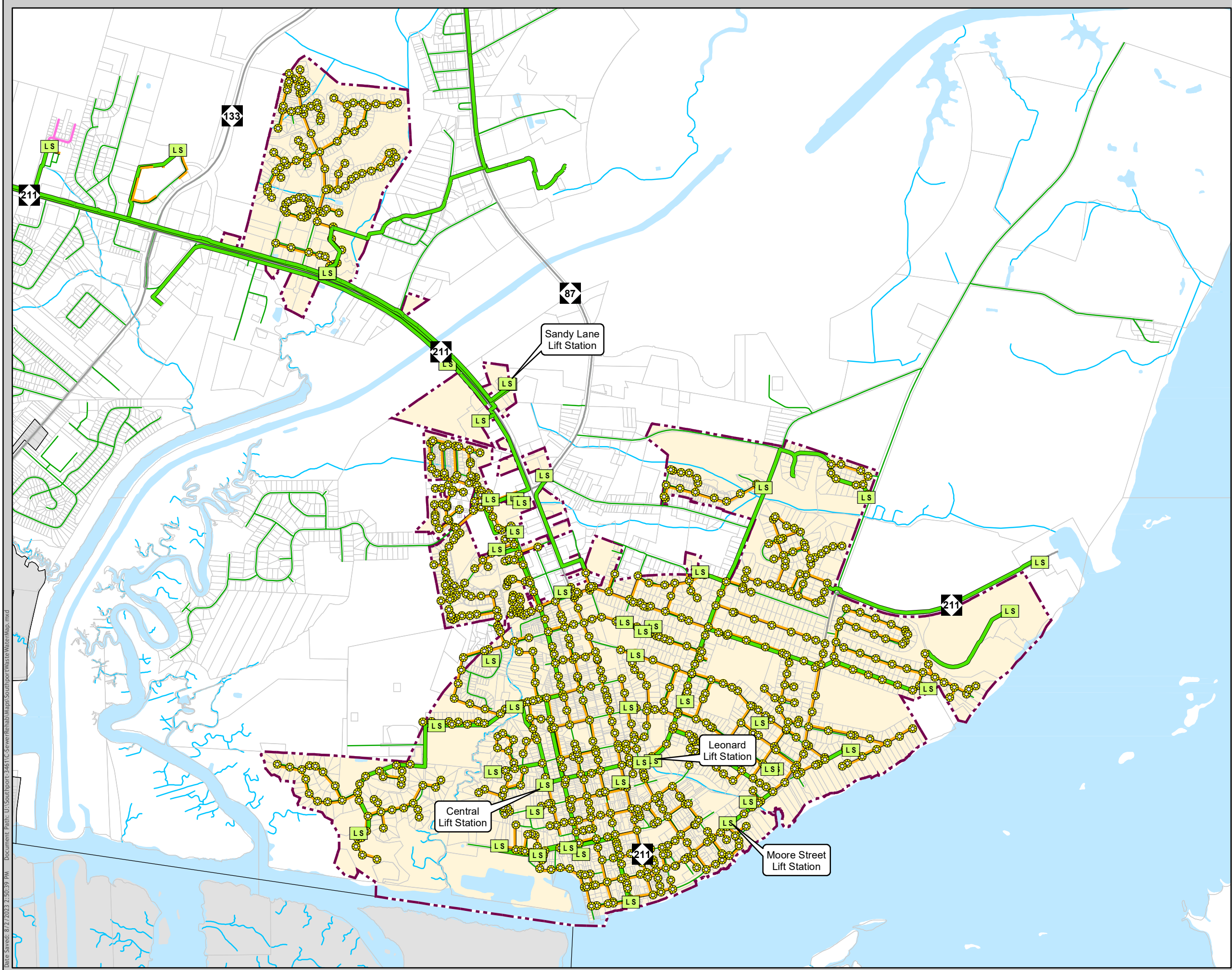
- Manhole
- LS Lift Station
- Forcemain
- Gravity Main
- Pressure Main
- NC Route
- Stream/Creek
- Pond/Canal/River/Ocean
- Parcel
- City of Southport
- Other Municipality



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Feet

Wooten

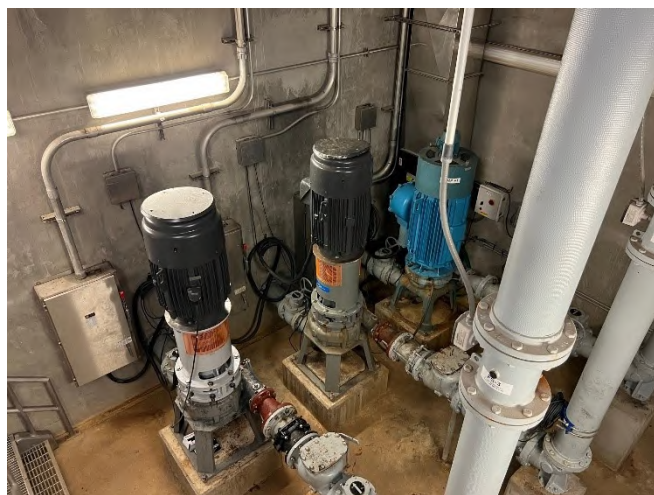
The Wooten Company makes every effort to produce and publish GIS maps using the most current and accurate information possible, however the maps are strictly for planning purposes only. The maps are compiled from recorded deeds, plats, and other public and private records and data. Users of the maps are hereby notified that the aforementioned public primary information sources should be consulted for verification of the information on this map. The Wooten Company assumes NO responsibility for the information contained on the maps unless the map is signed and sealed by a licensed Professional Land Surveyor. Please contact the GIS Group at (919) 828-0531 or lcohan@thewootencompany.com for data source information.



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In 2011, the City decommissioned its treatment facilities located at the terminus of West Street/State Road 1194. This action was a result of an agreement negotiated between the City and the County whereby the City became a member of the Brunswick County Regional Wastewater partnership. As stated in the City's AMP, the City once considered constructing its own wastewater treatment facility (WWTF) on 400 acres of land near the Military Ocean Terminal Sunny Point. Action to design and construct this facility did not take place.

The City therefore continues to rely upon the County for sewer disposal, but the City also maintains its collection system lines and lift stations (LS) apart from two relatively large LS that the County has agreed to lease and maintain to better accommodate their expanding system. The Sandy Lane LS conveys the City's sewer flows via force main along NC 210 to the West Brunswick Regional Water Reclamation Facility (WRF), which is owned and operated by the County. Details regarding the County's treatment systems, and planned capacity improvements, are detailed in the following sections of this MRF Study.



County-owned Sandy Lane LS

The City is actively planning significant infrastructure projects to update its collection system. These improvements will further reduce the infiltration and inflow (I&I) that enters the system and increases wastewater flow pumped to the County. The difference between the five-day dry average flow and peak flow following a rainfall event in the off-peak season of October through April, is a good indicator of infiltration/inflow (I&I). Nationally, a typical infiltration allowance of 500 gallons per day per inch of diameter per mile of pipe (gpd/inch-mile) is used, although lower rates are favorable¹. Infiltration

allowances for new systems are recommended to be no more than 200 gpd/inch-mile². At about 192 gpd/inch-mile, the City's infiltration rate can be considered average. Additional information on I&I and its effect on flow projections can be found in subsequent sections.

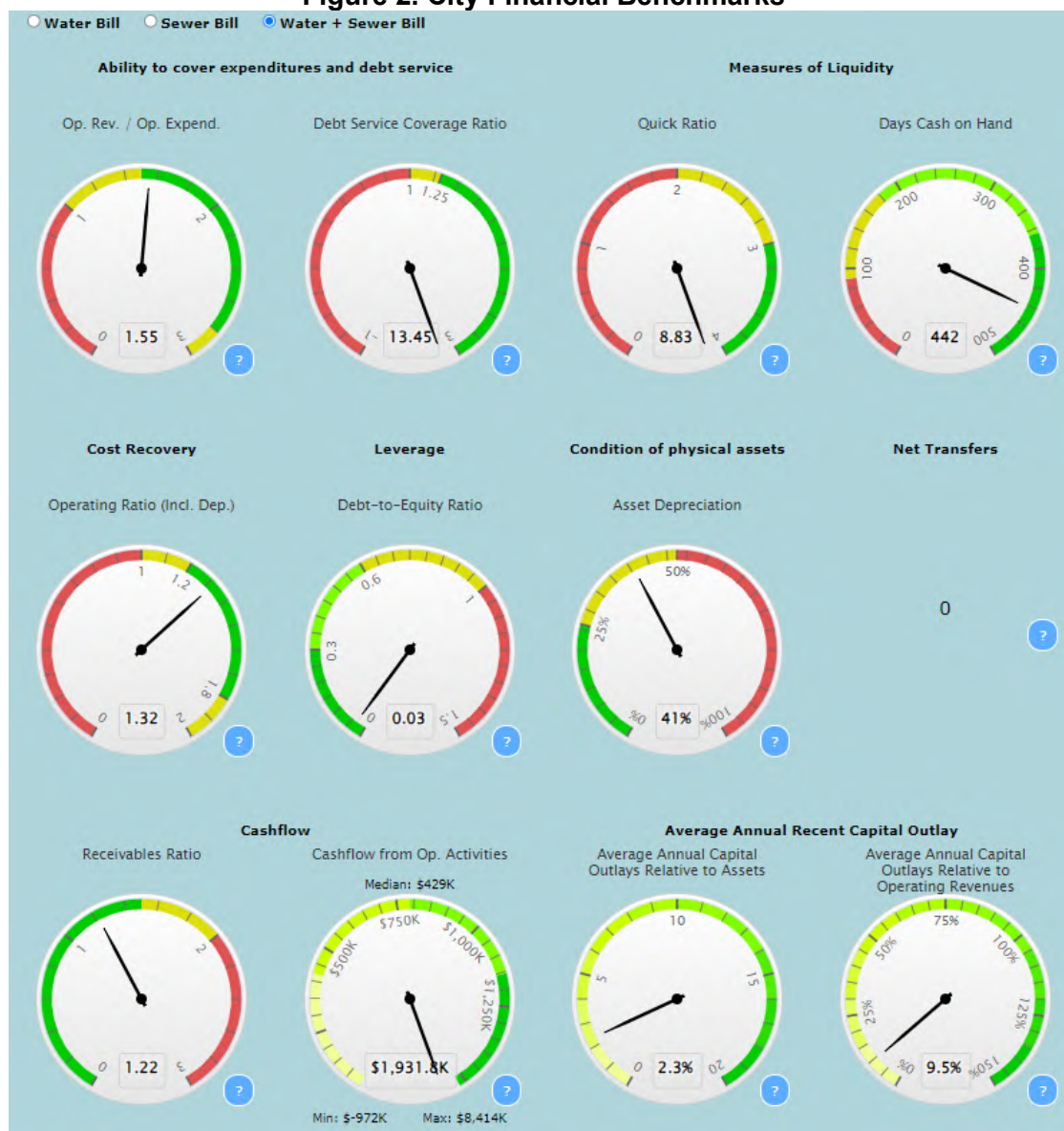
Financial Overview

The Water and Sewer Enterprise Fund for the City of Southport is healthy. The NC Water and Wastewater Rates Dashboard maintained by the Environmental Finance Center at the University of North Carolina, Chapel Hill provides valuable information indicating that the City can meet its financial obligations. A snapshot of the dashboard from dated February 8, 2023 shown in **Figure 2** indicates that Southport is adequately able to cover its expenditures and debt service, has high measures of liquidity, enjoys a high operating ratio, and manages a low debt-to-equity ratio. Also, cashflow has positive benchmarks.

¹ American Public Works Association Research Foundation. Prevention and Correction of Excessive Infiltration and Inflow into Sewer Systems – A Manual of Practice. EPA Publication No. 11022 EFF 01/71

² American Public Works Association Research Foundation. Control of Infiltration and Inflow into Sewer Systems. FWQA Publication No. 11022 EFF 12/70

Figure 2. City Financial Benchmarks



As part of the water and sewer enterprise fund, the City has an unrestricted fund balance of \$5.58 million in addition to ARPA funds of \$1.26 million for a total of \$6.84 million in set-aside utility funding. The City does not depend on interfund transfers to balance its water and sewer enterprise fund. It should also be noted that the unassigned General Fund balance is \$5.78 million for Southport.

Aside from the water and sewer enterprise fund, other financial indicators show that Southport is fiscally solvent. The fiscal year 2024 (FY24) budgeted property tax rate is revenue neutral at \$0.275 per 1,000 assessed value following the County's reevaluation. The 2021 Census median household income is \$68,301 and the poverty rate is 5.57%.

The potential loss of sewer fund revenue for Southport in a merger or regionalization scenario should be recognized. Revenues cover the cost of collection system operations and maintenance, bulk water purchase and sewer treatment charges paid to Brunswick County, capital outlay, and debt service.

Southport has an annual water and sewer operating budget of \$7.613 million for fiscal year 2023 (FY23). It is estimated that water system expenses total \$3.882 million (51%) and sewer expenses total \$3.73 million (49%). Examination of individual line items reveals that Southport may consider retaining, through other revenue streams, \$584,000 for water and \$584,000 for sewer expenditures (16% of total) while an acquiring utility partner would absorb \$3.3 million for water and \$3.1 million for sewer (84% of total) expenditures.

The \$1.16 million retained by Southport would be to cover a portion of personnel and fringe benefits expenditures for employees that work on other Town-owned systems (\$776k), professional fees (\$58K), vehicle and departmental supplies (\$15K), communications (\$4K), repair and maintenance of equipment and vehicles (\$8K), contract services (\$64k), insurance and bonding (\$19K), capital outlay expenditures (\$126K), and contingency (\$90k).

3.1.2 Brunswick County

The County provides public sewer service to a significant portion of Brunswick County. Due to growth, the County's West Brunswick Regional WRF was last expanded in 2009 to a capacity of 6.0 million gallons per day (MGD). In 2008, the City entered an agreement with the County and subsequently completed a connection to the regional transmission system to convey sewage to the West Brunswick Regional WRF for treatment.

As part of a subsequent interlocal agreement in 2020, the City is funding (refer to **APPENDIX A**) a 0.75-MGD treatment facility known as the Mulberry Branch WRF to supplement overall treatment capacity in the County's system and account for future capacity for the City. The facility will be located on property owned by the County near its existing Shallotte WWTF. The City of Southport will be responsible for paying its respective portion of treatment capacity needs regardless of treatment facility location.



The County treats sewer flows from the City at the West Brunswick Regional WRF

3.1.3 Summary

Table 3 presents wastewater capacity and average sewer use data for the City and County provided in the County's 2022 Local Water Supply Plan (LWSP). Southport has approximately 0.34 MGD of capacity remaining within the West Brunswick Regional WRF which has slightly more than 2 MGD capacity remaining. Due to future capacity shortages given high growth in their respective service areas, both the City and County are planning long-term wastewater capital improvements.

Table 3. Current System Capacity and Demands

	Permitted Capacity (MGD)	Average Demand/Use (MGD)	% of Capacity Used	Remaining Capacity (MGD)
<i>City of Southport</i>	0.75	0.41	55%	0.34
<i>West Brunswick Regional WRF</i>	6.00	3.94	66%	2.06

4.0 ANTICIPATED MAJOR SEWER IMPROVEMENTS

The cost and complexity of future sewer improvements should be considered for any anticipated sewer merger or regional system. While the City and County sewer systems are already connected, improvements are being planned and implemented to maintain long-term viability and resiliency of each system. Costs for these projects have associated debt service and will impact customer rate structures. As outlined herein, both the County and City are planning significant investment in their sewer systems.

4.1 CITY OF SOUTHPORT

The City's collection system dates to the early 1900's and the aged portions of the system must be rehabilitated or replaced. The City has been proactive in procuring funding for such improvements to reduce impact by I&I and improve operations and maintenance. Further, the City has identified the need to improve pumping at some of the City's lift stations – this effort is currently in design. The City's 2019 Asset Management Plan (AMP), revisited in September 2022, has a prioritized ranking system for the recommended sewer system improvements with urgent projects typically given a Priority 1 or 2 based on criticality.

Table 4 lists the Priority 1 improvements that represent immediate needs for the City's infrastructure. These projects include sewer system capacity expansion due to growth, planning and assessment of the existing sewer system, sewer rehabilitation to reduce I&I, and replacement/rehabilitation of aging sewer infrastructure. The costs presented below are estimates from the AMP and are not reflective of actual bid prices received, with exception for the updated cost of the Mulberry Branch WRF based on construction bids received from Brunswick County in August 2023 totaling \$46 million. Accordingly, the debt service cost is updated from \$1.713 million to \$2.679 million representing based on borrowing \$46 million over 20 years at an interest rate of 1.5%.

Also included in **Table 4** is the debt service associated with two revolving loans for projects to improve the City's system and facilities.

Table 4. Southport Capital Improvement Projects

Project	Annual Debt Service	Total Cost
<i>Mulberry Branch WRF</i>	\$2,679,000	\$46,000,000
<i>Pre-Construction Planning, Sewer Rehab, and Replacement Study</i>		\$400,000
<i>Find-and-Fix I&I Reduction</i>	\$537,726	\$9,835,000
<i>Downtown Sewer Replacement</i>	\$244,158	\$10,812,107
<i>Pump Station Rehabilitation and Replacement</i>		\$2,800,000
<i>Improvement of Wastewater Treatment Facilities & Enhancement of Wastewater Collection System</i>	\$110,929 in FY22	\$2,782,670
TOTAL		\$72,629,777

To summarize projected capital improvements totals, and corresponding debt service payments, the City of Southport has a projected fiscal year 2027 (FY27) debt service of \$83 million. This total is summarized as follows:

Mulberry Water Reclamation Facility	\$ 46.000 M
Find and Fix I&I Reduction	\$ 9.835 M
Downtown Sewer Replacement	\$ 10.812 M
WBRWRF Biosolids Processing Facility (refer to Table 5)	\$ 6.859 M
Transmission Midway Rd. to WB Treatment Facility (refer to Table 5)	\$ 9.185 M
FY27 TOTAL INDEBTEDNESS	\$ 82.691 M



The City is currently designing pump improvements at the Leonard Street LS

4.2 BRUNSWICK COUNTY

In similar fashion, the County has been proactive in identifying capital improvement needs in its sewer system. The County's 2023 Comprehensive Wastewater Master Plan provided recommended sewer system improvements for 5-, 10-, 15-, and 20-year increments. Due to the focus area of the Study, **Table 5** lists critical improvements to the West Brunswick Regional WRF and to the County's transmission system in proximity to Southport. The list below represents our understanding of projects that would impact a merged scenario with the City, but it may not be fully comprehensive. The West Brunswick Regional WRF Biosolids Processing Facility is to be funded by a rate increase to all participants—of which the City is only one—for 20 years. The City will reimburse the County for all debt service related to the transmission Midway Rd to West Brunswick Regional WRF project.

Table 5. Brunswick County Capital Improvement Projects

Project		Summary	Planning Period	Cost
<i>River Mist Pump Station Upgrade</i>		159,000 GPD upgrade	10-Year	\$250,000
<i>Sandy Lane Pump Station Upgrade</i>		276,000 GPD upgrade	15-Year	\$750,000
<i>West Brunswick Regional WRF 3.0 MGD Expansion Project</i>		Upgrades to effluent pump station, 443 acres of spray field acquisition, and 9,500 LF of 36" reuse force main, and 5,700 LF of 30" reuse force main	15-Year	\$121,622,393
<i>West Brunswick Regional WRF 4.3 MGD Expansion Project</i>		Upgrades to effluent pump station, 564 acres of spray field acquisition, and 6,000 LF of 18" reuse force main	20-Year	\$156,932,482
<i>Biosolids Improvements Project</i>		Installation of a biosolids dewatering system and cake storage facility	5-Year	\$7,160,000
<i>Transmission Midway Road to West Brunswick Regional WRF</i>	<i>Midway South Force Main Project</i>	Approximately 21,000 LF of 24" force main to be installed from the intersection of Midway Rd and HWY 211, going north along Midway Rd, to Gilbert Rd SE going west, until Benton Rd SE is reached.	10-Year	\$7,938,000
	<i>Gilbert Road Parallel Force Main Project</i>	Approximately 30,000 LF of 24" force main extending from the intersection of Benton Rd SE and Gilbert Rd SE, continuing northwest along Gilbert Rd SW until HWY17 is reached	20-Year	\$11,340,000
<i>Southport-Supply Road Force Main Project</i>		27,000 LF of 16" parallel force main to be installed from the intersection of South Fisher King Drive SE and HWY 211, continuing northwest along HWY 211, to Stone Chimney Rd SE, to HWY 17 and continuing until 600 LF southwest from the intersection of Benton Rd SE and HWY 17 is reached.	20-Year	\$7,654,500

5.0 WASTEWATER BILLING EVALUATION

For a merged or regional approach to sewer conveyance and disposal, after identification of the project needs for each alternative, the overall revenues compared with costs for each system must be evaluated. Subsequent sections of this report will evaluate the current budgets provided by each the County and City, and project costs on an overall basis using capital project costs and other factors. This section focuses on fiscal year 2022 (FY22) billing data.

5.1 CITY OF SOUTHPORT

Table 6 provides a summary of the wastewater billed for FY22. Commercial usage totaled approximately 39 million gallons (MG), or 33% of the total wastewater conveyed and 66% of total revenues. Residential usage accounted for 67% of flow and 34% of revenues. The information in **Table 6** utilizes the rate structure from FY22. This approach was taken as invoiced amounts/flows are not available for the current rate structure effective July 1, 2023.

Table 6. FY22 Billed Wastewater – City

	Residential	Commercial	Total
<i>Million Gallons (MG)/Year</i>	81	39	120
<i>Average MG/Month</i>	6.74	3.26	
<i>Average Million Gallons per Day (MGD)</i>	0.22	0.11	
<i>% of Total</i>	67%	33%	100%
<i>Max Month MGD</i>	0.25	0.13	
<i>Total Billed Per Year</i>	\$266,191	\$521,873	\$788,064
<i>% of Total</i>	34%	66%	100%
<i>Average Cost Per 1000 Gallons</i>	\$3.29	\$13.32	\$6.57

5.2 BRUNSWICK COUNTY

Table 7 provides a summary of the wastewater billed for FY22. The County's partners totaled approximately 1,361 MG, or 56% of the total wastewater treated and 18% of total revenues. Residential, commercial, and industrial customers contributed 44% of the wastewater flow and accounted for 82% of revenues.

Table 7. FY22 Billed Wastewater – County

	Residential/Commercial/Industrial	Local Utility Partners	Total
<i>Million Gallons (MG)/Year</i>	1,076	1,361	2,437
<i>Average MG/Month</i>	89.63	113.44	
<i>Average Million Gallons per Day (MGD)</i>	2.95	3.73	
<i>% of Total</i>	44%	56%	100%
<i>Max Month MGD</i>	3.49	5.14	
<i>Total Billed Per Year</i>	\$14,355,533	\$3,222,244	\$17,577,777
<i>% of Total</i>	82%	18%	100%
<i>Average Cost Per 1000 Gallons</i>	\$13.35	\$2.37	\$7.21

5.0 POPULATION AND WASTEWATER FLOW PROJECTIONS

Brunswick County and its communities are amongst the fastest growing in North Carolina, and regularly are represented on lists of places where people are moving. Business and industry follow rooftops, increasing demands on infrastructure.

Therefore, the next step in the evaluation is to project population and corresponding sewer flows to confirm whether planned capital improvements are sufficient to provide needed capacity and as a metric to represent local needs for utilities. In other words, this effort is to confirm whether the systems are growing and if the alternatives evaluated can provide a long-term solution to meet the needs of a growing customer base. Also, Southport is affected by seasonal trends—summer months see an increase in population due to tourism. This trend is expected to continue as Southport remains a popular destination.

5.1 POPULATION PROJECTIONS

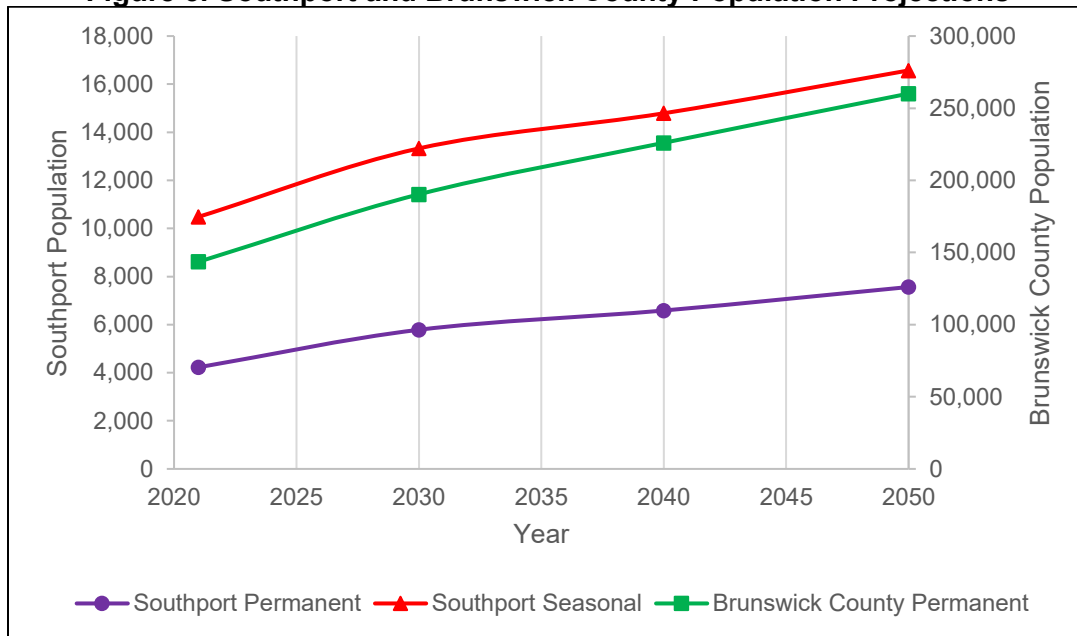
Table 8 provides the population projections for Southport and Brunswick County through 2050. The Office of State Budget and Management (OSBM) certified 2021 population estimates are presented for a baseline. Brunswick County's projections are drawn from the OSBM's population growth tables.

Southport's permanent population was predicted through 2050 by taking an average of the growth rates contained in the City's complete 2020 LWSP and provisional 2022 LWSP and demonstrated between the OSBM 2020 base and certified 2021 estimates. Southport's seasonal population through 2050 was estimated with the assistance of the Cape Fear Council of Governments (COG). **Figure 3** is a visual presentation of Southport's permanent and seasonal population projections.

Table 8. Southport and Brunswick County Population Projections

Year	2021	2030	2040	2050
<i>Southport Permanent Population</i>	4,226	5,786	6,587	7,564
<i>Southport Seasonal Population</i>	10,484	13,328	14,789	16,570
<i>Brunswick County Permanent Population</i>	143,550	190,301	225,987	260,121

Figure 3. Southport and Brunswick County Population Projections



5.2 FLOW PROJECTIONS

5.2.1 City of Southport

As discussed with County staff, the maximum flow month of the year was used as a baseline per County standards. It was assumed that the City had the same number of sewer connections in 2021 as noted in its 2020 LWSP. The City's customer base is anticipated to grow annually by 5% from the 2021 base year.

I&I affects all sewer collection systems. While the City is actively planning projects to reduce flows from I&I, it must be accounted for during any flow projection analysis. A brief review of recent flow data was performed to account for the effects of I&I on the City's system. According to the National Oceanic & Atmospheric Administration (NOAA), Southport experienced a rainfall event of 0.79 inches on October 13, 2022, which was preceded by a five-day period of no precipitation. The average of the metered flows of the five days prior (October 8 through October 12) was subtracted from the peak metered flow measured on October 14. This difference of approximately 54,000 gallons was assumed to be the daily average I&I.

Average and maximum month average flows were calculated using the City's 2021 total wastewater flows as billed by the County from the 2022-revisited AMP. These averages were subsequently adjusted for a 25% reduction in I&I to account for the City's significant, and funded, pipeline and manhole replacement projects being planned. The flow projections through year 2050 based on the adjusted values for 2021 are shown in **Table 9**.

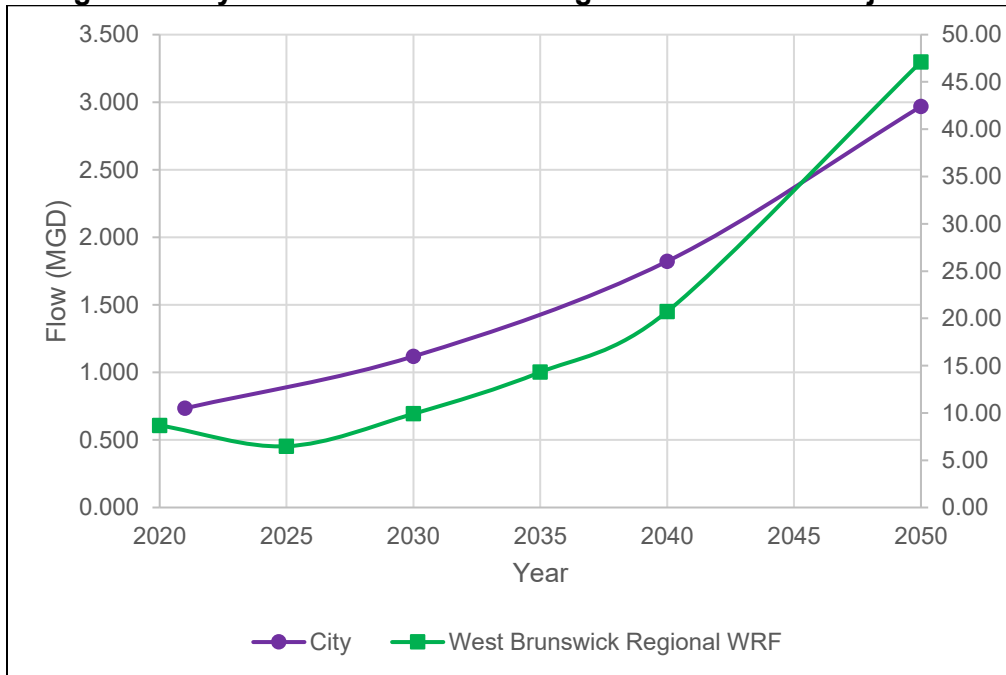
Table 9. City Flow Projections

MGD	2021	2030	2040	2050
<i>Average Month Flow</i>	0.539			
<i>Maximum Month Average Flow</i>	0.735			
<i>I&I based on October 2022</i>	0.054			
<i>Adjusted Average Month Flow (25% I&I Reduction)</i>	0.526			
<i>Adjusted Maximum Month Average Flow (25% I&I Reduction)</i>	0.721			
<i>Projected Customers</i>	2,517	3,905	6,361	10,362
<i>Projected Average Month Flow</i>		0.82	1.33	2.16
<i>Projected Maximum Month Average Flow</i>		1.12	1.82	2.97

5.2.2 Summary

Figure 4 shows the projected maximum month average flows in **Table 9** and the expected flows to the West Brunswick Regional WRF per the County's 2023 Comprehensive Wastewater Master Plan. The document projected at five-, 10-, 15-, 20-year, and buildout planning periods from a base year of 2020. It is assumed here that buildout will be achieved in 2050. For purposes of this Study, it was assumed that capacity needs of the County's sewer collection and treatment systems will be improved as needed to capture the City's future flows.

Figure 4. City and West Brunswick Regional WRF Flow Projections



6.0 SEWER SYSTEM OPERATING BUDGET AND PERSONNEL

With capital projects identified, review of overall revenues identified, and flow projections performed, a high-level evaluation of the current sewer operating budgets for the City and the County is necessary in order to help provide a basis for a possible utility system merger in the future.

6.1 SEWER COST OF OPERATIONS COMPARISON

Table 10 shows a summary of the resulting unit costs of operation from **Table 6** and **Table 7**. The FY22 sewer “billed” flow (metered consumption) and the current budgets were used to determine an overall unit cost per thousand gallons. The City’s fiscal year 2023 (FY23) average cost per thousand gallons is also included for comparison purposes which indicates that the cost of operation is \$2.03 higher. While the City’s wastewater volume only rose about 3% between FY22 and FY23, the change in the City’s sewer rates reflected the increase in the City’s cost of operation.

Table 10. Unit Costs of Operation

Sewer System	Fiscal Year	Total Charges	Wastewater Billed (MG)	Average Cost/1000 gallons
City of Southport	FY22	\$788,064	120	\$6.57
	FY23	\$1,063,442	124	\$8.60
Brunswick County	FY22	\$17,577,777	2,437	\$7.21

6.2 SEWER RATES

After comparing the overall sewer operations costs for each system, it is helpful to compare actual sewer rates from typical residential users. A typical residential customer using 5,000 gallons per month is used for comparison purposes.

6.2.1 City of Southport

Table 11 shows the monthly bill for a typical residential user within the City limits. These rates were effective July 2023. The City includes 1,000 gallons in its base charge and charges \$7.23 per 1,000 gallons above the minimum. The City’s newly adopted rates incorporate anticipated future debt service per communication with City staff.

Table 11. City Sewer Rate

Base Rate	1,001 - 5,000 gallons (per 1,000)	Units above Base	Total Bill
\$78.54	\$7.23	4	\$107.46

6.2.2 Brunswick County

Table 12 shows the monthly bill for a typical (single-family) residential user. These rates were effective July 2023. The County includes 3,000 gallons in its base charge and charges \$6.50 per 1,000 gallons above the minimum.

Table 12. County Sewer Rate

Base Rate	Over 3,000 gallons (per 1,000)	Units above Base	Total Bill
\$39.00	\$6.50	2	\$52.00

6.2.3 Summary

Comparing **Table 11** and **Table 12**, a City customer pays \$107.46 monthly while a County customer pays \$52.00 monthly for 5,000 gallons usage, a difference of \$55.46.

This cost difference is significant. The cost difference is likely attributed to the economies of scale associated with the County's larger customer base and that the City's new rates reflect anticipated debt service payments for the proposed infrastructure improvements identified herein. A merger of the City's sewer system with the County's sewer system will allow for a larger customer base over which to spread planned O&M and capital improvements. Should the City decide not to move forward with sewer system consolidation, it can be anticipated that existing O&M and planned AMP projects will escalate in years ahead given inflationary pressures.

6.3 HIGH LEVEL SEWER EXPENDITURE COMPARISON

The FY22 salaries and fringe benefits, operating expenditures, repairs and maintenance, and the annual debt service are the major sewer expenditures used for comparison purposes in **Table 13**. Comparing the differences may indicate potential cost sharing, or potentially savings, due to the economies of scale of operating a larger system.

Also, a significant cost difference when comparing salaries and wages with number of personnel could indicate the probability of operational complexities within the system that require higher levels of personnel training. The County's average "salaries and fringe benefits" for the operation of its sewer system is approximately 7% higher than that for the City based on the number of personnel required for both systems.

Table 13. FY22 Major Sewer Expenditures

Sewer System	Salaries & Fringe Benefits	Operating Expenditures	Repairs & Maintenance	Debt Service	Personnel
City of Southport	\$373,984	\$203,724	\$231,996	\$110,929	5.4338
Brunswick County	\$4,394,236	\$5,056,811	\$1,720,234	\$15,049,801	59.25

7.0 ALTERNATIVES ANALYSIS

As a historically rural, coastal region, Brunswick County has only recently experienced rapid growth. Some of this can be attributed to the extension of I-40 to Wilmington, some from high quality of life and interest from retirees, and some from the availability of public water and sewer infrastructure that has been developed over the past few decades. However, due to the environmentally sensitive nature of the area, and increasing regulations on sewer treatment and disposal, options are limited for treatment. These features helped drive the search for alternatives.

To identify whether regional approaches would be feasible, permitted capacities of existing treatment facilities in Brunswick County were investigated; this information is summarized in **Table 14**. The City has an agreement with the County to provide additional wastewater treatment capacity at the Mulberry Branch WRF (refer to **APPENDIX B**), and the two systems are already interconnected. Other options for wastewater disposal are limited due to distance or capacity constraints keeping in mind that the City is projected to have an average daily flow of 2.2 MGD and maximum daily flow of 3.0 MGD in year 2050. Other than the Mulberry Branch WRF, the two options that remain are the Oak Island Fish Factory Road WRF and Belville Wastewater Treatment Plant (WWTP).

Table 14. Capacities of Facilities in Brunswick County

Wastewater Treatment Facility		Approx. Distance from Southport (miles)	Treatment Facility Type	Permit Number	Permitted Capacity (MGD)	Average Daily Flow (MGD)*	Remaining Capacity (MGD)	Potential Feasible Solution (Y/N)
Carolina Shores WWTP	Brunswick County	32.85	Extended Aeration	NC0044873	0.530	0.370	0.160	N (capacity)
Northeast Brunswick Regional WWTP		23.86	Extended Aeration	NC0086819	4.975	2.482	2.493	N (distance)
Ocean Isle Beach WWTP		24.81	Sequencing Batch Reactor	WQ0006085	1.050	0.361	0.689	N (capacity)
Shallotte WWTF		21.12	Facultative Lagoon	WQ0000798	0.500	0.252	0.248	N (capacity)
West Brunswick Regional WRF		16.18	Extended Aeration	WQ0023693	6.000	4.027	1.973	N (capacity)
Sea Trail WWTP		27.84	Extended Aeration	WQ0012748	0.300	0.137	0.163	N (to be decommissioned)
Fish Factory Road WRF	Oak Island	2.42	Extended Aeration	WQ0005790	0.400	0.143	0.257	Y
Oak Island Satellite WRF		5.14	Membrane Bioreactor	WQ0031857	0.400	0.078	0.322	N (reserved)
Belville WWTP	H2GO	20.20	Extended Aeration	NC0075540	0.650	0.454	0.197	Y
*Sources: Brunswick County Public Utilities, Wastewater Collection and Treatment System Annual Report, July 1, 2022, through June 30, 2023; Town of Oak Island, Annual Wastewater Treatment and Collection Report, July 1, 2020 - June 30, 2021; and Brunswick Regional Water and Sewer H2GO, 2022 Annual Performance Report, Belville Wastewater Treatment Plant								

Evaluation of the alternatives was conducted using a 20 year present worth analysis. Operations, maintenance, and capital outlay costs from the County's 2022 Comprehensive Annual Financial Report and the City's Financial Statements for the Year Ended June 30, 2022 were adjusted to FY27 using a 4.0% annual cost escalation factor. These were then projected over a 20-year timeframe using a present worth discount factor of 4.6%. This lump sum was then added to the capital cost for each alternative.

The 20-year present worth total was then divided by the projected number of customers for FY27 assuming an annual 5.0% customer growth scenario. This generates a present worth cost per customer for comparison purposes.

7.1 ALTERNATIVE 1: RETAIN OWNERSHIP & OPERATIONS

This alternative maintains the current situation, whereby the City continues to own, operate, and maintain its collection system and receive revenue through sewer sales. The City would continue to pump its wastewater to Brunswick County for treatment and disposal. The City would incur debt service for all sewer system associated projects identified in **Table 4**.

7.1.1 *Advantages and Disadvantages*

Advantages:

- Southport retains ownership and remains in control of the future of its wastewater collection system utility. Without merging, the City can make its own decisions about capital projects to address sewer capacity needs and its local impacts.
- The City retains revenues from sewer sales, helping offset costs for employees partially funded by sewer revenues.
- The City continues to have a negotiated interlocal agreement with Brunswick County for wastewater treatment and disposal.

Disadvantages:

- The City must determine ways to manage planned expenditures, including major capital improvement costs, through periodic rate adjustments (costs are spread out over a smaller number of customers).
- The City will remain responsible for all costs associated with current and future capital improvement projects.
- Sewer rates will remain higher for residential and commercial users which may limit future growth in its service area.
- The City may be limited in recruiting future heavy commercial and industrial customers as allotted sewer capacity will need to be negotiated with Brunswick County.
- By operating as a stand-alone system, the incentive to merge and opportunities for cost savings are diminished.

7.1.2 *Cost Summary*

Table 15 shows the estimated present value (PV) of this alternative in 2027 dollars per City customer. O&M costs are assumed to escalate at 4% annually using the FY22 water and sewer expenditures budget as a baseline. For this alternative, bulk sewer treatment charges are expected to increase 4% annually and capital outlay is expected to account for 10% of recurring expenditures.

The City's FY27 debt service of approximately \$4.2 million includes \$2.68 million annually for construction of the Mulberry WRF, \$537K for Find & Fix I/I Reduction, \$244K for Downtown Sewer Replacement. This adjustment also replaces Series 2005 Revolving Loan with Series 2009 Revolving Loan, and it adds \$74K for WBRWRF Biosolids Processing Facility and \$652K for Transmission Midway Rd to WB Facility.

Table 15. Present Worth Analysis of Alternative #1

Alternative #1	FY22 Base	Base Adjustment	Adjusted Base	Adjusted FY27
Operation & Maintenance				
<i>Salaries & Fringe Benefits</i>	\$ 373,984	\$ -	\$ 373,984	\$ 455,008
<i>Operating Expenditures</i>	\$ 203,724	\$ -	\$ 203,724	\$ 247,861
<i>Repairs & Maintenance</i>	\$ 231,996	\$ -	\$ 231,996	\$ 282,259
<i>Sewer Bulk Treatment Charges</i>	\$ 1,303,338	\$ -	\$ 1,303,338	\$ 1,585,710
<i>Capital Outlay</i>	\$ -	\$ 50,000	\$ 50,000	\$ 60,833
<i>Debt Service</i>	\$ 110,929	\$ 4,111,000	\$ 4,221,929	\$ 4,221,929
Total Recurring Expenditures	\$ 2,223,971			\$ 6,853,600
<i>No. of Sewer Customers</i>	2,517			3,213
<i>Avg Monthly Charge per Customer</i>	\$ 73.63			\$ 177.76
PRESENT WORTH ANALYSIS				
	Mulberry Branch WRF Capital Cost Value	\$	46,000,000	
	County-owned Capital Imp Cost (WBRWRF Biosolids + Trans. Midway to WBRWRF)	\$	16,044,000	
	O&M + Capital Outlay Value (exc. Debt Service)	\$	2,631,671	
	Interest Factor		4.6%	
	20 Year Present Worth O&M + Capital Outlay Value	\$	33,937,894	
	Total	\$	95,981,894	
	PV per Customer	\$	29,873	
Notes:				
1. FY22 Base Salaries & Fringe Benefits and Operating Expenditures reflect 50% of total costs for Water and Sewer Ent. Fund Budget.				
2. Capital Outlay is adjusted to represent approx. 10% of total recurring expenditures.				
3. Debt service adjustment includes \$2.68M for Mulberry WRF Expansion, \$537K for Find & Fix I/I Reduction, \$244K for Downtown Sewer Replacement. Replaces Series 2005 RL with Series 2009 RL. Also adds \$74K for WBRWRF Biosolids Processing Facility and \$652K for Transmission Midway Rd to WB Facility.				

The cost summary table shows that estimated rates for sewer service per customer will continue to increase due to inflationary factors; the City will be less able to spread costs due to a smaller overall customer base. The projected 20-year present worth total is \$96.0 million generating a cost per customer of \$29,873 based on 3,213 connections.

7.2 ALTERNATIVE 2: MERGE WITH BRUNSWICK COUNTY

According to the Journal AWWA, fewer than 100 sales and purchases of water utilities by privately owned utilities occur annually; sales and purchases by municipal water systems tend to occur even less frequently, and then only usually between neighboring municipalities³. Southport is in a unique position in that Brunswick County's system is its ultimate terminus.

For this alternative, the potential exists that the City would no longer need to employ sewer system associated staff; there is the need to see to the future of current municipal employees—whether it be by providing job placement services or arranging for their retention as part of the County workforce. The City will also forgo revenue from sewer sales. The County would take over ownership, operation, and maintenance of the City's sewer collection system.

Issues of equity and fairness can arise when one system absorbs another entity with a significant amount of debt and pushes that debt onto their existing customer base⁴. Consequently, the City's projected debt service of approximately \$83 million will be a large negotiating factor. As the County is the local government unit with the ninth largest total outstanding water and wastewater debt as of 2017⁵, the County may choose to assess a separate surcharge on the City's former customers to cover the newly acquired debt service payment and adjust it accordingly as debt expires.

7.2.1 *Advantages and Disadvantages*

Advantages:

- Southport would no longer be solely financially responsible for repairing, operating and maintaining its sewer system.
- The City can negotiate its sewer rates as a member with Brunswick County instead of paying a bulk wholesale rate. This new rate is expected to be approximately 60% of the current bulk rate.
- The City's sewer system and administrative personnel may be hired by Brunswick County to continue to operate and maintain Southport's system.
- Lower sewer rates for the City's customers will result from becoming part of a larger system with a higher number of customers providing economies of scale savings.

Disadvantages:

- The City relinquishes control of its collection system as an asset valued at approximately \$15.3 million (refer to **Table 2**).
- The City has less control over its future; Brunswick County will make decisions regarding the sewer system which could affect industry recruitment and local needs/goals.

³ Mastracchio, J., McCartney, A., Fedder, T., Bui, A., King, P., Lane, M. (2020). How much is it worth? An overview of valuing water utilities. *Journal AWWA*, 112(8), 32-43. <https://doi.org/10.1002/awwa.1554>

⁴ Atkins, M. (2018). *The state of water and wastewater utility debt in North Carolina* [Master's project, Duke University]. DukeSpace. <https://hdl.handle.net/10161/16572>

⁵ Atkins, M. (2018). *The state of water and wastewater utility debt in North Carolina* [Master's project, Duke University]. DukeSpace. <https://hdl.handle.net/10161/16572>

- The City loses revenues from sewer sales and must find other means to fund sewer related personnel or eliminate those positions.

7.2.2 *Cost Summary*

Table 16 shows the estimated PV of this alternative in 2027 dollars per County customer. Current City customers are assumed to become County customers. O&M costs are assumed to escalate at 4% annually using the FY22 sewer expenditures budget as a baseline. For this alternative, bulk sewer treatment charges are expected to be 60% of current Brunswick County charges with Southport becoming a partner of the Brunswick County system. And capital outlay is expected to account for 10% of recurring expenditures.

The County's projected FY27 debt service of approximately \$19.3 million includes the new \$4.2 million in debt service from the City for construction of the Mulberry WRF, Find & Fix I/I Reduction, Downtown Sewer Replacement. This adjustment also replaces Series 2005 Revolving Loan with Series 2009 Revolving Loan, and it adds the WBRWRF Biosolids Processing Facility and Transmission Midway Rd to WB Facility improvements.

Table 16. Present Worth Analysis of Alternative #2

Alternative #2	FY22 Base	Base Adjustment	Adjusted Base	Adjusted FY27
Operation & Maintenance				
Salaries & Fringe Benefits	\$ 4,394,236	\$ 373,984	\$ 4,768,220	\$ 5,801,268
Operating Expenditures	\$ 5,056,811	\$ 203,724	\$ 5,260,535	\$ 6,400,245
Repairs & Maintenance	\$ 1,720,234	\$ 231,996	\$ 1,952,230	\$ 2,375,186
Sewer Bulk Treatment Charges	\$ -	\$ 782,000	\$ 782,000	\$ 951,423
Capital Outlay	\$ 3,692,441	\$ (500,000)	\$ 3,192,441	\$ 3,884,093
Debt Service	\$ 15,049,801	\$ 4,221,929	\$ 19,271,730	\$ 19,271,730
Total Recurring Expenditures	\$ 29,913,523		\$ 35,227,156	\$ 38,683,945
No. of Sewer Customers	22,176			31,516
Avg Monthly Charge per Customer	\$ 112.41			\$ 102.29
PRESENT WORTH ANALYSIS				
Mulberry Branch WRF Capital Cost Value			\$	46,000,000
County-owned Capital Imp Cost (WBRWRF Biosolids + Trans. Midway to WBRWRF)			\$	16,044,000
O&M + Capital Outlay Value (exc. Debt Service)			\$	19,412,215
Interest Factor				4.6%
20 Year Present Worth O&M + Capital Outlay Value			\$	250,338,954
Total			\$	312,382,954
PV per Customer			\$	9,912
Notes:				
1. Base Adjustment Salaries & Fringe Benefits and Operating Expenditures reflect 50% of total costs for Water and Sewer Ent. Fund Budget.				
2. Bulk sewer treatment adjustment of \$782K assumes new Brunswick Co. member rate will be 60% of existing bulk customer rate.				
3. Capital Outlay is adjusted to represent approx. 10% of total recurring expenditures.				
4. City Debt service adjustment includes \$2.68M for Mulberry WRF Expansion, \$537K for Find & Fix I/I Reduction, and \$244K for Downtown Sewer Replacement. Replaces Series 2005 RL with Series 2009 RL.				
5. County Debt service adjustment includes \$74K for WBRWRF Biosolids Processing Facility and \$652K for Transmission Midway Rd to WB Facility.				

Under this scenario, acquisition of the City's collection system, valued at approximately \$15.3 million, by the County could be negotiated but is not included in **Table 16**. (Refer to **APPENDIX C** for a more detailed valuation of the City's collection system.)

The projected 20-year present worth total is \$312 million generating a cost per customer of \$9,912 based on 31,516 connections.

7.3 ALTERNATIVE 3: REGIONALIZATION WITH OAK ISLAND

This alternative involves the installation of a 16-inch force main conveying sewage from the lift station on Sandy Lane to Oak Island's Fish Factory Road WRF, a distance of 3.4 miles. The City would incur debt service on all associated projects identified in **Table 4**, except that for Mulberry Branch WRF. As part of this alternative, upgrade and expansion of the WRF would be required to accept 1.5 MGD of projected flow from the City. Using a conservative estimate of \$30/gallon, the plant expansion alone could be north of \$45 million.

For this alternative, it is assumed that the City would negotiate a similar wholesale bulk sewer treatment agreement with Oak Island as it currently has with the County. The two systems would not merge and the City would be responsible for the capital improvements, associated debt service, and continued O&M costs for its collection system.

A figure for this route is provided in **APPENDIX D**. The construction cost estimate is provided in **Table 17**. Note the cost to the City to transfer ownership of the lift station and sever its financial partnership with the County is not included in the estimate.

Table 17. Preliminary Cost Opinion – Oak Island Sewer System Connection

Description	Quantity		Unit Cost	Total Cost
<i>Oak Island Fish Factory Road WRF Expansion (Additional 1.5 MGD)</i>	1	LS	\$45,000,000	\$45,000,000
<i>16" Force Main</i>	20,000	LF	\$350	\$7,000,000
<i>Stream Crossing</i>	3	EA	\$30,000	\$90,000
<i>Erosion Control</i>	1	LS	\$75,000	\$75,000
<i>Pavement and Driveway Repair</i>	5,000	SY	\$75	\$375,000
Total Construction Costs				\$52,540,000
Easements and Right-of-Way (R/W)				\$300,000
Engineering / Inspection				\$7,881,000
Legal / Administrative				\$40,000
Contingency (15%)				\$7,881,000
Total Project Cost				\$68,642,000

7.3.1 Cost Summary

Table 18 shows the estimated PV of this alternative in 2027 dollars per City customer. O&M costs are assumed to escalate at 4% annually using the FY22 water and sewer expenditures budget as a baseline. For this alternative, bulk sewer treatment charges are expected to be 15% higher than Brunswick County and capital outlay is expected to account for 10% of recurring expenditures.

In FY27, the City's debt service payment for its system improvements is \$817,000. The additional \$3.998 million is based on a 20-year low interest loan to cover the capital improvements of

\$68.642 million identified in **Table 17** for a total of \$4.815 million. This adjustment also removes the Series 2005 Revolving Loan.

Table 18. Present Worth Analysis of Alternative #3

Alternative #3	FY22 Base	Base Adjustment	Adjusted Base	Adjusted FY27
<i>Operation & Maintenance</i>				
<i>Salaries & Fringe Benefits</i>	\$ 373,984	\$ -	\$ 373,984	\$ 455,008
<i>Operating Expenditures</i>	\$ 203,724	\$ -	\$ 203,724	\$ 247,861
<i>Repairs & Maintenance</i>	\$ 231,996	\$ -	\$ 231,996	\$ 282,259
<i>Sewer Bulk Treatment Charges</i>	\$ 1,303,338	\$ 200,000	\$ 1,503,338	\$ 1,829,041
<i>Capital Outlay</i>	\$ -	\$ 64,000	\$ 64,000	\$ 77,866
<i>Debt Service</i>	\$ 110,929	\$ 4,704,175	\$ 4,815,104	\$ 4,815,104
Total Recurring Expenditures	\$ 2,113,042		\$ 2,377,042	\$ 7,707,138
<i>No. of Sewer Customers</i>	2,517			3,213
<i>Avg Monthly Charge per Customer</i>	\$ 69.96			\$ 199.89
PRESENT WORTH ANALYSIS				
			Oak Island WRF Capital Imp Cost	\$ 68,642,000
			O&M + Capital Outlay Value (exc. Debt Service)	\$ 2,892,034
			Interest Factor	4.6%
			20 Year Present Worth O&M + Capital Outlay Value	\$ 37,295,532
			Total	\$ 105,937,532
			PV per Customer	\$ 32,972
Notes:				
1. Base Adjustment Salaries & Fringe Benefits and Operating Expenditures reflect 50% of total costs for Water and Sewer Ent. Fund Budget.				
2. Bulk sewer treatment adjustment assumes negotiated rate with Oak Island will be 15% higher than ex. Agreement rate with Brunswick Co.				
3. Capital Outlay is adjusted to represent approx. 10% of total recurring expenditures.				
4. Debt service adjustment includes \$3.99M for Oak Island WRF Transmission & Expansion, \$537K for Find & Fix I/I Reduction, \$244K for Downtown Sewer Replacement. Replaces Series 2005 RL with Series 2009 RL.				

The projected 20-year present worth total is \$106 million generating a cost per customer of \$32,972 based on 3,213 connections. Ultimately, due to capacity concerns of the Fish Factory Road WRF and overall associated capital costs to upgrade and expand it, this alternative is deemed infeasible and is removed from further consideration.

7.4 ALTERNATIVE 4: REGIONALIZATION WITH BRUNSWICK REGIONAL WATER AND SEWER H2GO

This alternative involves the installation of a 16-inch force main conveying sewage from the Sandy Lane LS to H2GO's Belville WWTP. Due to the 23.8-mile distance between Sandy Lane LS and Belville, it is assumed that two intermediate LS will be necessary. The City would incur debt service on all associated projects identified in **Table 4**, except that for Mulberry Branch WRF. As part of this alternative, upgrade and expansion of the Belville WWTP would be required to accept 1.5 MGD of projected flow from the City. Using a conservative estimate of \$30/gallon, the plant expansion alone could be north of \$45 million.

Like Alternative 3, it is assumed that Southport would negotiate a similar wholesale bulk sewer treatment agreement with H2GO as it currently has with the County. The two systems would not merge and the City would be responsible for the capital improvements, associated debt service, and continued O&M costs for its collection system.

A figure for this route is provided in **APPENDIX E** and the construction cost estimate is provided in **Table 19**. The cost to the City to transfer ownership of the lift station and sever the financial partnership with the County is not included in the estimate.

Table 19. Preliminary Cost Opinion – H2GO Sewer System Connection

Description	Quantity		Unit Cost	Total Cost
<i>H2GO Belville WWTP Expansion (Additional 1.5 MGD)</i>	1	LS	\$45,000,000	\$45,000,000
<i>16" Force Main</i>	130,000	LF	\$350	\$45,500,000
<i>Stream Crossing</i>	6	EA	\$30,000	\$180,000
<i>Railroad Crossing</i>	50	LF	\$1,500	\$75,000
<i>Wastewater Pump Station</i>	2	EA	\$1,200,000	\$2,400,000
<i>Erosion Control</i>	1	LS	\$250,000	\$250,000
<i>Pavement and Driveway Repair</i>	20,000	SY	\$75	\$1,500,000
Total Construction Costs				\$94,905,000
Easements and R/W				\$300,000
Engineering / Inspection				\$14,235,750
Legal / Administrative				\$40,000
Contingency (15%)				\$14,235,750
Total Project Cost				\$123,716,500

7.4.1 Cost Summary

Table 20 shows the PV of this alternative in 2027 dollars per City customer. O&M costs are assumed to escalate at 4% annually using the FY22 water and sewer expenditures budget as a baseline. For this alternative, bulk sewer treatment charges are expected to be 15% higher than Brunswick County and capital outlay is expected to account for 10% of recurring expenditures. In 2027, the City's debt service payment for its system improvements is \$817,000. The additional \$7.206 million is based on a 20-year low interest loan to cover the capital improvements of

\$123.717 million identified in **Table 19** for a total of \$8.023 million. This adjustment also removes the Series 2005 Revolving Loan.

Table 20. Present Worth Analysis of Alternative #4

Alternative #4	FY22 Base	Base Adjustment	Adjusted Base	Adjusted FY27
Operation & Maintenance				
Salaries & Fringe Benefits	\$ 373,984	\$ -	\$ 373,984	\$ 455,008
Operating Expenditures	\$ 203,724	\$ -	\$ 203,724	\$ 247,861
Repairs & Maintenance	\$ 231,996	\$ -	\$ 231,996	\$ 282,259
Sewer Bulk Treatment Charges	\$ 1,303,338	\$ 200,000	\$ 1,503,338	\$ 1,829,041
Capital Outlay	\$ -	\$ 90,000	\$ 90,000	\$ 109,499
Debt Service	\$ 110,929	\$ 7,912,030	\$ 8,022,959	\$ 8,022,959
Total Recurring Expenditures	\$ 2,223,971		\$ 10,426,000	\$ 10,946,626
No. of Sewer Customers	2,517			3,213
Avg Monthly Charge per Customer	\$ 73.63			\$ 283.91
PRESENT WORTH ANALYSIS				
			Belville WWTP Capital Imp Cost	\$ 123,716,500
			O&M + Capital Outlay Value (exc. Debt Service)	\$ 2,923,667
			Interest Factor	4.6%
			20 Year Present Worth O&M + Capital Outlay Value	\$ 37,703,469
			Total	\$ 161,419,969
			PV per Customer	\$ 50,240
Notes:				
1. Base Adjustment Salaries & Fringe Benefits and Operating Expenditures reflect 50% of total costs for Water and Sewer Ent. Fund Budget.				
2. Bulk sewer treatment adjustment assumes negotiated rate with BRH2GO will be 15% higher than ex. Agreement rate with Brunswick Co.				
3. Capital Outlay is adjusted to represent approx. 10% of total recurring expenditures.				
4. Debt service adjustment includes \$7.21M for Belville WWTP Transmission & Expansion, \$537K for Find & Fix I/I Reduction, \$244K for Downtown Sewer Replacement. Replaces Series 2005 RL with Series 2009 RL.				

The projected 20-year present worth total is \$161 million generating a cost per customer of \$50,240 based on 3,213 connections. Ultimately, due to capacity concerns of the Belville WWTP and overall associated capital costs to upgrade and expand it, this alternative is deemed infeasible and is removed from further consideration.

8.0 CONCLUSIONS & RECOMMENDATIONS

There is limited availability of wastewater treatment capacity in Brunswick County. Due to significant growth in the region, considerable strain has been placed upon both conveyance and treatment systems. Much investment is therefore planned by both the City and County to implement projects to ensure the sewer systems are operating efficiently and have capacity to serve both existing and anticipated customers. By investigating merger or regional approaches to sewer collection, conveyance, and treatment/disposal, the City is proactively investigating means to share costs and provide the most viable, feasible, and long-term solution.

After evaluation of four alternatives, two alternatives remain viable. The City of Southport can continue to operate independently and pay for its pro rata upgrade of the Mulberry Branch WRF or it can merge with Brunswick County and benefit from a higher customer base and economies of scale cost savings. Operation and maintenance cost savings from regional negotiations with Oak Island and H2GO may also be realized, but the capital costs associated with building new infrastructure to pump wastewater to both entities outweigh any O&M savings.

Table 21. Summary of Alternatives

Alternative	Total Present Worth Cost	Total Present Worth Cost Per Customer	Feasible? (Yes/No)
<i>Retain Ownership & Operations</i>	\$96 million	\$29,873	Yes
<i>Merge with Brunswick County</i>	\$312 million	\$9,912	Yes
<i>Regionalization with Oak Island</i>	\$106 million	\$32,972	No
<i>Regionalization with Brunswick Regional Water and Sewer H2GO</i>	\$161 million	\$50,240	No

If the City wishes to divest itself of its sewer infrastructure, a merged scenario between the City and County appears to be the simplest and most cost-effective means towards regionalization. It is the most feasible of the three alternatives involving regionalization or merger.

Construction of a new treatment facility for Southport was not investigated as there are significant headwinds towards construction of new facilities including costs, challenges obtaining discharge permitting, and lack of land availability. Establishment of a new regional authority to manage wastewater in the area would take years to develop, even if there was appetite for such an arrangement.

Southport and Brunswick County are already interconnected, with the County providing ultimate conveyance and disposal of the City's sewer flows. AMP-identified projects are planned for implementation so that the current arrangement can be maintained well into the future—primarily the Mulberry Branch WRF expansion slated for construction in 2024. The City is also planning the replacement of much of its older collection system in the downtown area. These improvements will reduce I&I and provide much needed upgrades to the City's collection system. And lastly,

based upon financial information provided, and estimated future costs, overall cost per customer is lower if the City's system becomes part of a larger system.

It should be noted that such an arrangement would mean loss of sewer revenues, and the dedicated sewer system workforce would no longer be needed; however, the County may elect to hire the City's staff to continue operations of the City's system plus other facilities owned and operated by Brunswick County.

Transfer of debt service would also be negotiated as the overall debts owed would not be able to be divested. The projected debt service for the City totals \$83 million and could be higher based on negotiated construction bids for the Mulberry Branch WRF estimated to be \$46 million.

Lastly, the City has both physical assets and personnel assets that should be used in negotiations if system consolidation is to occur. The City's collection system assets of \$15.3 million (refer to **Table 2**) could be financially evaluated as they will be ultimately conveyed to the County. Likewise, the City employs valuable personnel assets with technical and finance skills, system knowledge, and regional loyalty that would be extremely valuable in the continued operation, maintenance and repair of the City's existing system and forthcoming investment in the Mulberry Branch WRF plus other County-owned facilities.

APPENDIX A

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
SHADIESKAF
Director



NORTH CAROLINA
Environmental Quality

Rec'd 10/19/2022
met

September 6, 2022

Mr. Gordon Hargrove, City Manager
City of Southport
1029 N. Howe Street
Southport, NC 28461

Subject: Plans and Specifications Funding
Approval
City of Southport
Wastewater Treatment and Disposal
Project No.: CS370714-03

Dear Mr. Hargrove:

The Division of Water Infrastructure (Division) has concluded its review of the project construction plans and specifications for the subject project. Based on this review, the Division has determined that the project is eligible for funding as follows:

Eligible

Shallotte Wastewater Treatment Facility

Modification of an existing 0.5 MGD wastewater treatment facility including abandonment of 13-acre spray irrigation area (Fields 1A and 1B); installation of 3,500 LF of 16-inch influent force main from US 17 to the new headworks; headworks with dual flowmeters, 1.25 MGD rotary drum screen and manual bar screen, 1.25 MGD grit removal system, and odor control system; installation of an influent pump station with triplex 825 GPM VFD pumps to either convey to Shallotte WWTF or EQ, and triplex 650 GPM VFD pumps to convey to Mulberry Branch WRF; installation of a 0.32 MG equalization tank including a jet aeration system with 2,900 GPM pump and two 450 SCFM positive displacement blowers; installation of a concrete channel between Lagoon 1 and Lagoon 2, piping between Lagoon 2 and Lagoon 3, septic receiving station; and a new 11-acre spray irrigation system with 7,800 LF of 12-inch force main; electrical and control buildings (pre-fabricated) and a 200 kW generator; and all associated piping, valves, controls, and appurtenances.

Mulberry Branch Water Reclamation Facility

installation of a 0.75 MGD water reclamation facility including 2,900 LF of 10-inch force main from headworks; anaerobic selector consisting of 9,600 gallon denitrification tank, 81,200 gallon Bio-P tank, and 15,400 gallon selector tank; dual 458,500 gallon oxidation ditches consisting of an inlet distribution box, a jet aeration system with six 1,775 GPM pumps and three 785 SCFM VFD blowers; dual 35-foot diameter 16-foot side wider



North Carolina Department of Environmental Quality | Division of Water Infrastructure
512 N. Salisbury Street | 1633 Mail Service Center | Raleigh, North Carolina 27699-1633
919.707.9160

depth clarifiers; triplex 788 GPM VFD RAS pumps, dual 250 GPM VFD WAS pumps, and dual 350 GPM scum pumps; dual 235 ft² effluent disc filters with backwash pumps; UV disinfection consisting of two channels with each channel containing two 12-bulb banks and turbidity sensor; effluent and non-potable pump station consisting of triplex 650 GPM pumps, an in-line magnetic flowmeter, and dual 60 GPM pumps for non-potable on-site use; an effluent autosampler; installation of 750,000 GPD high-rate infiltration system including three (3) basins, 7,100 LF 12-inch effluent force main to basins, and 8,300 LF of gravity drain groundwater lowering system with two outfalls and level spreader; 2,500 LF of 8-inch force main to the existing diversion pump station; one 594,520 gallon aerobic digester including jet aeration system with one 5,856 GPM pump and three 580 SCFM VFD blowers; sludge transfer pump station with two 740 GPM pumps; drain pump station with dual 800 GPM pumps; 6,700 square yards of asphalt paving, 15,000 linear feet of gravel access road; lab building, and RAS/WAS pump building (per-cast concrete), a 1,000 kW generator; and all associated piping, valves, controls, and appurtenances.

Non Eligible

Paving of roadways in excess of the excavated area. Spare parts, service contracts, maintenance contracts, and extended warranties.

Change orders caused by subsurface conditions that could have been reasonably discovered as part of an investigation may not be eligible for funding.

Submit any addenda for the subject project plans and specifications no less than seven days before the bid opening.

You must receive all encroachments and permit approvals prior to opening bids.

Attached is one copy of the Project Bid Information Form. The form must be submitted to your assigned DWI, Grant Management Unit (GMU) project manager. You can reach your GMU project manager, Rick.Riddle, by email at rick.riddle@ncdenr.gov or by phone at 919-707-9050. Upon review and approval of this information, the Division will authorize you to make the proposed award by issuing the *Authority to Award*. Do not proceed with construction until you have received the *Authority to Award*.

If the bids received exceed the amount established through the funding offer, and local funds are not adequate to award contract(s), it will be necessary to consider all alternatives including bid negotiations, requesting additional funds, redesign, and rebidding. You must consult with the Division prior to rejecting all bids. If additional funds are required to complete a project, they may be provided with a loan or increase. Change order eligibility will be limited to those items necessary to complete the scope of work in the executed contract.

You must comply with all applicable SRF requirements included in the approved bid documents. Please note the following Davis-Bacon requirements:

Mr. Gordon Hargrove, City Manager
September 6, 2022
Page 3 of 3

1. If a new wage determination becomes available ten or more days before bid opening, you must issue an addendum incorporating it into the bid documents.
2. If it takes longer than 90 days to execute contracts and the wage determination changes, then you must incorporate the new wage determination into the contract.

Projects funded through the CWSRF program must comply with the federal Brooks Act for the selection of architectural, surveying, and engineering services. CWSRF projects cannot be exempted from qualification-based selection of these services under N.C.G.S. 143-64.32. You must submit the *Professional Engineering Services Procurement Certification* on our website to document compliance for any services to be reimbursed. Any services that were not selected in compliance with federal requirements are not eligible for reimbursement.

Neither the State nor Federal Government, nor any of its departments, agencies or employees is or will be a party to the invitation to bids, addenda, any resulting contracts or contract negotiations/changes.

Attached is one set of the final approved plans and specifications to you. One set of plans and specifications identical to the approved set must be available at the project site at all times.

The Division Construction Manager assigned to this project is Bryan Lievre, PE who can be reached by phone at (910) 434-6063 or by email at Bryan.Lievre@ncdenr.gov. Please contact him to schedule the preconstruction meeting.

If you have any questions, please contact Ali Ajami, PhD by phone at (919) 707-9183 or by email at Ali.Ajami@ncdenr.gov.

Sincerely,



Ken Pohlig, PE, Supervisor
Wastewater Projects Unit

Attachments: Approved Plans and Specifications
Project Bid Information Form

cc: Carter Hubard, PE, WK Dickson & Co., Inc., Wilmington, NC
John Nichols, PE, Public Utility Director, Brunswick County
Ken Pohlig, PE, (via email)
Mark Hubbard, PE (via email)
Ali Ajami (via email)
Bryan Lievre, PE (via email)
SRF File (PS/PSAL)

PROJECT BID INFORMATION

Applicant _____ Project Number _____

Address _____

Bid Information to be forwarded with the cost summary

- (a) Tabulations of all bids received (sealed by engineer).
- (b) Copies of the bid(s) and bid bond the applicant wishes to accept.
- (c) Resolution of tentative award from the governing board.
- (d) Engineer's recommendation of award letter.
- (e) Proof of advertisement.
- (f) MBE/WBE documents: (see MBE/WBE instructions)
- (g) American Iron and Steel Certification (not applicable to all projects)
- (h) If negotiations took place to get the project within budget, all information associated with the negotiations must be submitted.

These items, and this form must be submitted to your assigned DWI, Grant Management Unit project manager. Contact Mark Hubbard if you do not know who your project manager is.

Addenda

All addenda must be submitted to your DWI project engineer for approval prior to opening bids. Changes to the scope of the project may result in funding being rescinded.

Please Note that the following items must be submitted before any reimbursements will be made. All items in the below list are submitted to Pam Whitley of DWI.

- Capital Project Ordinance
- Site Certificate
- Closing costs
- Executed Construction Contracts (DWI will approve by letter)
- A/E contracts (DWI will approve by letter)
- A/E Brooks Act Compliance Certification (applicable to certain Federal projects)
- Federal ID and DUNS numbers (form was provided with the Loan Offer package)
- LGC must receive the executed promissory note (see guidance document for details on when the promissory note is generated)

Mailing Address: Division of Water Infrastructure
1633 Mail Service Center
Raleigh, NC 27699-1633

PROJECT COST SUMMARY (as-bid)		
List contractor names below:	TOTAL	ELIGIBLE*
1.	\$	\$
2.		
3.		
4.		
5.		
EQUIPMENT AND MATERIALS		
SUBTOTAL	\$	\$
PLANNING AND DESIGN (attach contract)		
CONSTRUCTION PHASE ENGINEERING		
CONTINGENCY (5% of construction)		
LEGAL, TESTING, ETC.		
OTHER (specify) ➡		
REAL PROPERTY ACQUISITION COSTS**		
CLOSING COSTS (Not eligible in CWSRF)		
TOTAL	\$	\$

*Please see eligibility guidance for a full accounting of eligible costs. ** Please use the form provided on the website in addition to land cost invoices.

REVENUE SOURCES FOR PROJECT CONSTRUCTION	
List funds that are available for this project	AMOUNT
DENR FUNDING (specify) ➡	\$
CASH	
GENERAL OBLIGATION or REVENUE BONDS	
OTHER AGENCY (specify) ➡	
OTHER AGENCY (specify) ➡	
OTHER (specify) ➡	
OTHER (specify) ➡	
TOTAL	\$

The undersigned representative of the Recipient certifies that the information contained above and in any attached statements and material in support thereof is true and correct to the best of his or her knowledge.

Signature of Authorized Representative

Name and Title (type or print)

Date

**STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER INFRASTRUCTURE**

Funding Offer and Acceptance

Legal Name and Address of Award Recipient

City of Southport
1029 N. Howe Street
Southport, NC 28461

Project Number: CS370714-03

CFDA Number: 66.458

Funding Program

	☐	Additional Amount for	Previous Total	Total Offered
Drinking Water	☒	Funding Increases		
Wastewater	☒			\$29,783,014
State Revolving Fund (SRF)	☒			
State Reserve Loan (SRP)	☐			
State Reserve Grant (SRP)	☐			
State Emergency Loan (SEL)	☐			
Asset Inventory & Assessment Grant (AIA)	☐			
Merger/Regionalization Feasibility Grant (MRF)	☐			

Project Description:

Expansion of the Shallotte WWTP

Total Financial Assistance Offer:

\$29,783,014

Total Project Cost:

\$29,783,014

Estimated Closing Fee*:

\$595,660

For Loans

Principal Forgiveness:

\$0

Interest Rate:

1.16% Per Annum

Maximum Loan Term:

20 Years

**Estimated closing fee calculated based on grant and loan amount.*

Pursuant to North Carolina General Statute 159G:

- The applicant is eligible under Federal and State law,
- The project is eligible under Federal and State law, and
- The project has been approved by the Department of Environmental Quality as having sufficient priority to receive financial assistance,

The Department of Environmental Quality, acting on behalf of the State of North Carolina, hereby offers the financial assistance described in this document.

For The State of North Carolina:

**Shadi Eskaf, Director, Division of Water Infrastructure
North Carolina Department of Environmental Quality**

Shadi Eskaf
Signature

2/18/2022

Date

On Behalf of:

Name of Representative in Resolution:

City of Southport

Joseph P. Hatem, M.D., M.P.H.

Title (Type or Print):

Mayor, City of Southport

I, the undersigned, being duly authorized to take such action, as evidenced by the attached CERTIFIED COPY OF AUTHORIZATION BY THE APPLICANT'S GOVERNING BODY, do hereby accept this Financial Award Offer and will comply with the Assurances and the Standard Conditions.

Joseph P. Hatem MD
Signature

06/03/2022

Date

STANDARD CONDITIONS FOR FEDERAL SRF LOANS

1. The following "super cross cutters" apply to SRF projects and may be found in the Public Policy Requirements section of the EPA General Terms and Conditions for each year's appropriation. This document can be found at www.epa.gov/ogd/tc.htm. Please note that nothing is submitted to the State's SRF program offices regarding compliance with these items.
 - (a) Title VI of the Civil Rights Act of 1964
 - (b) Section 504 of the Rehabilitation Act of 1973
 - (c) The Age Discrimination Act of 1975
 - (d) Section 13 of the Federal Water Pollution Control Act Amendments of 1972
2. Acquisition of Real Property must comply with all applicable provisions of the Uniform Relocation and Real Property Acquisition Policies Act of 1970 (PL 92-646), as amended. The applicant shall certify that it has or will have a fee simple or such other estate or interest in the site of the project, including necessary easements and rights-of-way, to assure undisturbed use and possession for the purpose of construction and operation for the estimated life of the project using a certification form provided by DEQ.
3. Specific MBE/WBE (DBE) forms and instructions are provided that are to be included in the contract specifications. These forms will assist with documenting positive efforts made by recipients, their consultants and contractors to utilize disadvantaged businesses enterprises. Such efforts should allow DBEs the maximum feasible opportunity to compete for subagreements and subcontracts to be performed. Documentation of efforts made to utilize DBE firms must be maintained by all recipients, and construction contractors, and made available upon request.
4. Subrecipients shall fully comply with Subpart C of 2 CFR Part 180 entitled, "Responsibilities of Participants Regarding Transactions Doing Business with Other Persons," as implemented and supplemented by 2 CFR Part 1532. Recipient is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 2 CFR Part 180, entitled "Covered Transactions," includes a term or condition requiring compliance with Subpart C. Recipient is responsible for further requiring the inclusion of a similar term or condition in any subsequent lower tier covered transactions. Subrecipients may access suspension and debarment information at: <http://www.sam.gov>. This system allows subrecipients to perform searches determining whether an entity or individual is excluded from receiving Federal assistance.
5. The construction contract(s) requires the contractor to adhere to Davis Bacon and Related Acts Provisions and Procedures as listed in the Code of Federal Regulations Chapter 29 Part 5 Section 5 (29 CFR 5.5). Public Law pertaining to this is also enacted in Title 40, United States Code, Subtitle II Section 3141 through Section 3148.
6. As required by H.R. 3547, "Consolidated Appropriations Act, 2014" Section 436, Division G, Title IV, this project is subject to American Iron and Steel provisions. The State provides detailed requirements to be included in the construction contract specifications.
7. Section 603(d)(1)(E) of the Federal Water Pollution Control Act requires subject to develop and implement a Fiscal Sustainability Plan (FSP) for projects that involve the repair, replacement or expansion of publicly owned treatment works. Note that FSPs are not required for new treatment works. The certification provided must be submitted regarding compliance with this section of the Act.
8. Section 602(b)(14) of the Clean Water Act requires projects receiving CWSRF funding to comply with Federal engineering procurement guidelines. The State provides a certification form that must be completed prior to receiving funds for any engineering services covered under this funding offer.
9. This project may be funded with bond proceeds pursuant to S.L. 2015-280. Therefore, the applicant must adhere to the Division's procedures for federal tax compliance for projects receiving bond proceeds pursuant to S.L. 2015-280 Connect NC Bond Act of 2015, which assures that the infrastructure will not be used or operated in a way that would create private business use, unless such use or operation is approved by the State.

ASSURANCES

1. The Applicant intends to construct the project or cause it to be constructed to final completion in accordance with the Application approved for financial assistance by the Division.
The recipient acknowledges that in the event a milestone contained in the most recent Clean Water State Revolving Fund Intended Use Plan and/or the Letter of Intent to Fund is missed, the Department of Environmental Quality will rescind this Funding Offer.
2. The Applicant is responsible for paying for the costs ineligible for SRF funding.
3. The construction of the project, including the letting of contracts in connection therewith, conforms to the applicable requirements of State and local laws and ordinances.
4. As of the acceptance of this Funding Award Offer, steps A-D in the SRF Guidance will be complete. These Assurances, likewise, incorporate the most recent version of the SRF Guidance, and the Applicant hereby certifies by accepting this Funding Award Offer that it will adhere to the subsequent steps in the SRF Guidance document. The remaining steps generally govern project design, bidding, contracting, inspection, reimbursements, closeout and repayment.
5. The Applicant will provide and maintain adequate engineering supervision and inspection.
6. The recipient agrees to establish and maintain a financial management system that adequately accounts for revenues and expenditures. Adequate accounting and fiscal records will be maintained during the construction of the project and these records will be retained and made available for a period of at least three years following completion of the project.
7. All SRF funds loaned shall be expended solely for carrying out the approved project, and an audit shall be performed in accordance with G.S. 159-34. Partial disbursements on this loan will be made promptly upon request, subject to adequate documentation of incurred eligible costs, and subject to the recipient's compliance with the Standard Conditions of this Award. The Applicant agrees to make prompt payment to its contractor, and to retain only such amount as allowed by North Carolina General Statute.
8. The applicant will expend all of the requisitioned funds for the purpose of paying the costs of the project within three (3) banking days following the receipt of the funds from the State. Please note that the State is not a party to the construction contract(s) and the Applicant is expected to uphold its contract obligations regarding timely payment.

Acknowledgement of Standard Conditions and Assurances

The Applicant hereby gives assurance to the Department of Environmental Quality that the declarations, assurances, representations, and statements made by the Applicant in the Application; and all documents, amendments, and communications filed with the Department of Environmental Quality by the Applicant in support of its request for financial assistance will be fulfilled.

Signature

06/03/2022
Date



Water Infrastructure
ENVIRONMENTAL QUALITY

CERTIFICATION REGARDING UNIFORM RELOCATION
ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES
(URLAP) ACT OF 1970

Applicant: City of Southport

Project No.: CS370714-03

Project Name: Expansion of the Shallotte WWTP

Please check appropriate boxes:

I certify that all real property (including easements) has been acquired or condemnation proceedings have been entered into for property thereby providing legal access for this project.

AND

☒ I certify to the best of my knowledge and belief that the acquisition of property specifically for the above referenced project is in compliance with the URLAP Act of 1970 (the Uniform Act). The acquisition either:

☒ Acquisition of real property did not result in the displacement of any person, business or farm operation. or relocation was involved in the land acquisition, the Federal Highway Administration (FHA) was contacted for technical assistance.

OR

Compliance with the Uniform Act does not apply because the land and/or easements associated with the above referenced project were acquired prior to the inception of the project. Date land acquired: _____

I understand that a false statement on this certification may be grounds for rejection or termination of this loan.

Gordon Hargrove
Signature of Applicant's Authorized Representative or Attorney

06/03/2022

Date

Gordon Hargrove, City Manager, City of Southport
Typed Name and Title

CERTIFICATION
SALES-TAX REIMBURSEMENT

FOR FUNDING PROGRAMS IN THE
DIVISION OF WATER INFRASTRUCTURE

Unit of Government: City of Southport

Project Number: CS370714-03

Please indicate whether the Unit of Government noted above will be or will not be requesting reimbursement from the Department of Revenue (DOR) for sales taxes relating to this project. If the Unit of Government will be requesting reimbursement from the DOR then payment requests to the DWI should include Sales-Tax Certifications with each payment request.

Please check one of the boxes below:

☐ The Unit of Government will not request reimbursement from the DOR. Therefore, sales tax will be included with the reimbursement request to the Division of Water Infrastructure (DWI).

☒ The Unit of Government will request reimbursement from the DOR. Therefore, sales tax will be reduced and shown on the payment request form on the line Program Income.

Gordon Hargrove, City Manager, City of Southport

(Printed Name and Title of Authorized Representative)

Gordon Hargrove

(Signature of Authorized Representative)

06/03/2022

(Date)

Submit to: NC Dept. of Environment & Natural Resources
Division of Water Infrastructure
Pam Whitley, Project Management Branch
1633 Mail Service Center
Raleigh, NC 27699-1633

EXHIBIT B

**PRE-COMPLETION
ANNUAL PROJECT CERTIFICATION FORM**

Note--This certification is to be provided if the Project has not yet been completed. Once a Project has been completed, the Annual Private Business Use Certification Form set forth in Exhibit C should be used.

Local Government Providing Certification: City of Southport

Local Government Representative Submitting Certification: Gordon Hargrove

(1) Project: CS370714-03

Cost of Project:	\$ 30,451,306
Amount Funded from Loan or Grant Proceeds	\$ 29,783,014
Other Sources of Project Funding	\$668,292 (City Water/Sewer fund balance)
Have all Loan or Grant Proceeds Allocated to the Project Been Spent?	No
If no, how much of the Loan or Grant proceeds allocated to the Project remain?	100%
Actual/Anticipated Placed In-Service Date	TBD

(2) Please check and complete, as applicable, one of the following:

I certify that the responses set forth in the Local Government's completed Questionnaire for Federal Tax Compliance completed for the Project remains accurate and complete.

☒ Yes

☐ No

If the answer is No, please provide details:

Fiscal Year covered by this certification: July 1st _____ to June 30th _____

Date: 06/03/2022
 Signature: Gordon Hargrove
 Printed Name: Gordon Hargrove
 Title: City Manager

9. In addition to the items listed above, will any third party business, nonprofit organization or any other entity, including the federal government, have any other contractual rights with respect to the Project, such as the right to approve charges for the use of the Project, the right to determine who may or may not use the Project, the right to restrict activities conducted at the Project or similar contractual rights with respect to the Project?

☐ Yes

☒ No

If "Yes," please describe the other contractual rights anticipated with respect to the Project and identify the party to whom the rights will be granted.

I understand that the information provided in response to the above questions will be relied upon by the State and its bond counsel in rendering legal opinions in connection with the issuance of tax-exempt obligations and that such opinions will be relied upon by the purchasers of such obligations. I also certify that I am familiar with the Project and am authorized to provide the information provided herein, which is true to the best of my knowledge.

By delivering this Project Questionnaire, the responding Unit of Local Government agrees that it will maintain or cause to be maintained, in hard copy or in electronic form capable of reproducing hard copies, all material and relevant records related to the use of the Project for the entire term that any of the State's Connect NC Bonds that financed the Project or any portion thereof are outstanding, or any obligations that refund (including through a series of refundings) the Bonds or any portion thereof, plus six years after the final maturity or prepayment date of thereof. Such records to be maintained include, but are not limited to, documentation evidencing the expenditure of the proceeds of loan or grant funded by the Bonds and other funds for the cost of the Project, records of any private business use of the Project (e.g., copies of all management contracts, leases and research agreements) and records of any change of use with respect to the Project. If requested by DEQ, the responding Unit of Local Government will provide such records to DEQ as it deems would be useful in evidencing the State's compliance with applicable federal tax or other laws.

In addition, by delivering this Project Questionnaire, the responding Unit of Local Government agrees that it will take such action, or refrain from taking any action, as the case may be, so that the answers to the questions set forth above remain true and correct at all times, unless such action (or inaction) is approved by the North Carolina Department of State Treasurer.

Name of Unit: City of Southport

By: Gordon Hargrove

Name: Gordon Hargrove

Title: City Manager

Date: 06/03/2022

EXHIBIT A

**To: Units of Local Government requesting Loans or Grants to be funded from
Connect NC Bond Proceeds**

From: NC Department of Environmental Quality

Re: Questionnaire for federal tax compliance

Your Unit of Local Government is receiving this questionnaire because it has applied for a loan or grant from the North Carolina Water Infrastructure Fund pursuant to Chapter 159G of the North Carolina General Statutes, and the loan or grant would be funded from the proceeds of the State of North Carolina's Connect NC Bonds (S.L. 2015-280, Connect NC Bond Act of 2015). Attached is a Project Questionnaire each Unit of Local Government requesting such a loan or grant is required to complete and return to the Department of Environmental Quality ("DEQ"). This Project Questionnaire is intended to elicit information that will enable the State and its bond counsels to determine if a given project raises tax concerns. Specifically, this Project Questionnaire is designed to address the ability of the State to finance the Projects using federally tax-exempt obligations pursuant to the Internal Revenue Code and the regulations promulgated thereunder.

If the answers to the questionnaire indicate that there are not foreseeable tax issues, then the proposed Project will proceed to the next step in the approval process. If the answers to the questionnaire indicate that there are federal tax issues to be resolved, then DEQ will send it to the Department of State Treasurer's bond counsel for further review.

Please return the completed Project Questionnaire to DEQ at _____. A separate questionnaire should be completed for each application for a loan or grant undertaken by your Unit of Local Government.

Failure to respond to this Project Questionnaire in a timely manner may hamper the timeliness of bond proceeds being allocated to the Project.

Project/Agency contact information:

Unit of Local Government	City of Southport
Contact Name and Title	Gordon Hargrove, City Manager
Mailing Address	1029 N.Howe Street, Southport, NC 28461
E-mail Address	ghargrove@cityofsouthport.com
Phone Number	(910) 467-6555
Project Name	Expansion of the Shallotte WWTP
DEQ Project No.	CS370714-03
Actual/Anticipated Placed in Service Date	TBD
Date of Questionnaire	06/03/2022

1. Will any portion of the Project be jointly owned by any third parties, businesses, nonprofit organizations, other state or local governments, or any other entity (including the federal government)?

☒ Yes

☐ No

If "Yes," please describe the portion of the Project that will be leased under such an arrangement.

Brunswick County owns the wastewater treatment plant and will also own the expansion.

2. Will any portion of the Project be leased to any third parties, businesses, nonprofit organizations, other state or local governments, or any other entity (including the federal government)? The answer will be "No" if (i) the term of the use under the arrangement, including all renewal options (see Note below), is not longer than 50 days, (ii) the arrangement is a negotiated arm's-length arrangement and compensation under the arrangement is at fair market value, and (iii) the Project was not financed for a principal purpose of providing it to that specific third party.

☐ Yes ☒ No

If "Yes," please describe the portion of the Project that will be leased under such an arrangement.

[Note—a "renewal option" means a provision under a contract, lease or similar agreement under which either party has a legally enforceable right to renew the arrangement. Thus, a provision under which a contract is automatically renewed for a given period absent cancellation by either party, but either party can cancel without penalty, is not a renewal option (even if the arrangement is expected to be renewed).]

3. Will any portion of the Project be managed or operated by any third party, business, nonprofit organization, other state or local government, or any other entity (including the federal government)?

☐ Yes ☒ No

If "Yes," provide a copy of the management/operation agreement. If it is anticipated that such an agreement will be entered into in the future, please provide a description of the anticipated arrangement, including the name of the manager (if known), the term of the arrangement and how compensation will be determined under the arrangement.

4. Do you anticipate that any portion of the Project will be sold to any entity (including the federal government)?

☐ Yes ☒ No

If "Yes," please list the portion of the Project that you anticipate selling.

5. Will any customer of your utility system have preferred rights with respect to the output or operation of the Project that are different from other customers of the utility system, such as reserved capacity, a reserved amount of output, the right to require the hours of operation of the Project, the right to purchase all or a portion of its requirements to the exclusion of other customers of the utility or preferential pricing that is not offered to all other similarly situated customers.

☐ Yes

☒ No

If "Yes," please describe.

6. Will any portion of the Project be used for research sponsored by any entity other than a State or local government? For these purposes, include research arrangements sponsored by the federal government.

☐ Yes

☒ No

If "Yes," please list the portion of the Project that has been, or will be, used for sponsored research.

7. Will any portion of the Project be subject to a naming rights agreement with any entity (including the federal government)?

☐ Yes

☒ No

If "Yes," please describe the details of the naming rights agreement.

8. Will any portion of the Project be financed with funds other than the loan or grant requested?

☐ Yes

☒ No

If "Yes," please list the anticipated source (e.g. other tax-exempt bonds, cash, grants, etc.) and amount of the funding per additional source.

FEDERAL ID & DUNS # REQUEST MEMO

TO: All Loan and Grants Recipients

SUBJECT: Federal Identification Number

Please be advised that all local government units receiving grant or loan funds from the State of North Carolina must supply their Federal Identification Number to this office upon acceptance of your loan/grant offer. Therefore, please provide the information below and return to:

Division of Water Infrastructure
1633 Mail Service Center
Raleigh, North Carolina 27699-1633

RECIPIENT: City of Southport

PROJECT NUMBER: CS370714-03

FEDERAL IDENTIFICATION NUMBER: 56-6001338

DUNS NUMBER: 08632772

APPENDIX B

**WEST BRUNSWICK REGIONAL WASTEWATER SYSTEM
SEWER SERVICE REGIONAL PARTICIPANT AGREEMENT**

THIS SEWER SERVICE REGIONAL PARTICIPANT AGREEMENT, dated as of the 2 day of November, 2020 by and between the COUNTY OF BRUNSWICK, a political subdivision of the State of North Carolina (the "County"), and the CITY OF SOUTHPORT, a municipal corporation organized under the laws of the State of North Carolina (the "City" or "Participant") is made pursuant to North Carolina General Statutes, Article 20, Part 1 of Chapter 160A; Article 16, Part 1 of Chapter 160A; and Article 15 of Chapter 153A, and in consideration of the promises made to one another in this Agreement, as follows:

SECTION 1

PURPOSES AND INTENT OF AGREEMENT

1.1 The purpose of this Agreement is to affirm a regional inter-governmental approach to the provision of wastewater treatment services and to provide and fund the expansion of wastewater treatment services for the benefit of the City of Southport and unincorporated areas of Brunswick County. The availability of these services is vital to the public health, welfare, and economic growth of these units of local government.

1.2 Brunswick County owns and operates the West Brunswick Regional Wastewater Reclamation Facility, the Shallotte Wastewater Treatment Plant, associated regional pump stations, sewer transmission force mains and effluent disposal facilities (together comprising the "West Brunswick Regional Wastewater System" or "West System"), with daily treatment capacity of 6.5 million gallons. The County has participation agreements with the Towns of Holden Beach, Oak Island, and Shallotte for guaranteed capacity in the System, along with the County itself. The City of Southport, while not being a participant in the system, had leased capacity of 0.75 MGD in the West System. Increasing levels of use among all participants diminished the excess capacity available for continued lease without further plant expansion.

1.3 The City of Southport has a current and long-term need for an additional wastewater treatment capacity for its citizens. On February 10, 2020, the City of Southport unanimously passed a motion stating its desire to join the County's West Brunswick Regional Wastewater System and requesting an allocation of treatment capacity in the amount of 750,000 gallons per day.

1.4 Participation in the West System provides the benefits of regional cooperation, which include the ability to use available excess capacity in the system subject to permit requirements, as well as lower operating costs and maintenance. The County remains responsible for State permit compliance, as well as for the legal, financial, and administrative details of operating the System.

1.5 The County, with funding assistance from the City of Southport, will construct a 0.75 MGD expansion of the West System for wastewater treatment and effluent disposal, and the City of Southport will purchase 0.75 MGD of transmission capacity in the existing system, pursuant to terms outlined herein.

1.6 The County and the City have determined that participating in a regional wastewater treatment and transmission system creates economies of scale and a long-term secure source of high-quality wastewater treatment with savings and other tangible and intangible benefits for system users.

1.7 The County and the City have previously entered into agreements related to sewer service as follows:

- a) 2008 Short Term Use of County's Treatment Capacity in the West Brunswick Regional Wastewater Treatment System by the City of Southport;
- b) 2011 City of Southport Sewer Transmission Facilities Agreement;
- c) 2012 Modification Agreement (of the 2011 Agreement);
- d) 2015 Amendment No. 1 to the 2008 Short Term Use Agreement;
- e) 2017 Sewer Service Agreement; and
- f) 2018 Interlocal Agreement for Funding of Wastewater Plant Expansion Between Brunswick County and the City of Southport.

1.8 The County and City acknowledge and agree that all of the agreements listed in the preceding section are terminated, null, and void.

1.9 Within 30 days after execution of this Agreement, the City will convey to the County its rights, title, and interests in the Sandy Lane Pump Station, the wastewater meter vault on Highway 211 near Dutchman's Acres Subdivision, and the 16" effluent Force Main downstream of the Sandy Lane Pump Station (Sandy Lane Pump Station to its connection with the County's force main on Highway 211 near St. James Drive). (The City may tie future force mains or gravity sewers into the receiving manhole at the Sandy Lane Pump Station.) If the Sandy Lane Pump Station is encumbered by debt related to its construction when this Agreement is executed, then the County will work with the City to pay off such debt so that ownership may be conveyed unencumbered and free of claims to the satisfaction of the County. In addition, the City acknowledges that it will continue to honor and

effectuate the property rights assignments and transfers granting unrestricted access and use of easements, lands, interests, and rights in lands required for the operation, maintenance, construction, re-construction, and expansion of the Sandy Lane Pump Station, the wastewater meter vault on Highway 211 near Dutchman's Acres Subdivision, the 16" effluent Force Main downstream of the Sandy Lane Pump Station, and the County's force main that runs from Boiling Spring Lakes to the Rivermist Pump Station through the Wescott Estates and Rivermist subdivisions. The easements and rights of way on the road leading from the Sandy Lane Pump Station to North Howe Street are specifically included in this conveyance.

1.10 The City of Southport shall have the sole right to provide wastewater service to any parcel or property within its municipal limits, as well as any other property connected and being served by the city as of the date of this agreement. The complete list of properties located outside the city limits that are connected and being provided wastewater service by the City are contained in Exhibit B. Execution of this agreement shall not require the exchange of any customers between the City and the County. The County shall continue to provide wastewater service to subdivisions it currently services and to any future phases thereof.

The property owner of any other parcel may pursue, and be provided, wastewater service from any public provider willing, able, and legally permitted to do so; however, neither the County nor the City may install wastewater collection system pipes in the same public street or road rights-of-way alongside or directly across from where the other party has already installed and is maintaining wastewater collection system pipes, without the other party's consent.

SECTION 2

PLANT EXPANSION TO ACCOMMODATE CITY

2.1 Brunswick County will construct a 0.75 MGD expansion of the West Brunswick Regional Wastewater System such that the system will have a total treatment capacity of 7.25 MGD. Construction will also include effluent reuse lines to designated effluent reuse locations and effluent disposal systems at the effluent reuse sites.

2.2 Once the City becomes a Participant in the West Brunswick Regional Wastewater System, the County agrees to provide the City sewer service in the amount of seven hundred fifty thousand gallons per day (gpd).

2.3 Brunswick County will initiate future expansions and calculate participant costs and allocations in accordance with the West Brunswick Regional Wastewater Project Policy Guidelines and Rules and Regulations for Rendering Sewer Service, as amended and in effect at the time.

SECTION 3

PROJECT FINANCING

3.1 The City will be financially responsible for all design, construction, and financing costs related to the improvements made to serve the City of Southport relative to the 0.75 MGD expansion. The elements of those costs are set out in more detail in Section 3.3.

3.2 In addition to the expansion costs described in detail hereafter, Participant agrees to pay, on an ongoing basis, the County's Monthly Service Charge for sewer treatment and transmission service and to assume the Participant's obligations set forth herein. All obligations of the County for payments under this contract shall be limited to the funding provisions described herein or from revenues derived by the County from the operation of the Sewer System. The Participant covenants and agrees to maintain rates and charges for all services furnished by its sewer collection system which shall at all times be sufficient to satisfy and discharge its obligations under this contract and under any other agreement relating to the financing of the Project, in addition to the Participant's other operations and maintenance costs or any debt service of the Participant secured by a pledge of revenues.

3.3 The City promises to pay the County Capital Charges following award of the construction contract and/or when SRF loan proceeds are available to the City and the County has incurred reimbursable projects costs. Capital Charges shall be actual costs incurred and agreed upon capital contributions for use of existing infrastructure. Based on preliminary budget estimates, the cost of design and construction of expanding the West System to add 0.75 MGD of capacity would be approximately \$25,760,000. This estimated total cost figure consists of the expansion design, permitting and construction cost estimate of \$18,338,881 and the 0.75 MGD transmission capacity payment for capital contribution toward existing transmission line infrastructure of \$7,421,119, for a total plant and capacity expansion estimated to cost \$25,760,000. The \$7,421,119 payment for capital contribution toward existing transmission line infrastructure and engineering costs incurred through the bidding period shall be due within 30 days of the Brunswick County Board of Commissioners awarding the construction contract for the "Project."

3.4 All costs associated with the completion of the 0.75 MGD treatment and effluent disposal expansion, including engineering, design, and construction, will be paid for by the City of Southport. This portion of the cost is estimated at \$18,338,881. Also, the cost for participation in system transmission capacity of 0.75 MGD is \$7,421,119, for a total plant and capacity expansion estimated to cost \$25,760,000.

3.5 The County will construct, own, and operate the expansion and the West System.

3.6 The City represents that it has an agreement with the Division of Water Infrastructure for use of the proceeds of DWI's loan to Southport to reimburse the County for the engineering, design, and construction of the expansion to the County's system, and for the purchase of existing transmission system allocation, but that the City shall remain the applicant and loan recipient.

3.7 The City agrees to commit the loan proceeds for the use and/or reimbursement of the County for engineering, design, transmission capacity purchase, and construction of expansion to the West System in such a manner as the County deems necessary to provide the City with transmission capacity and treatment of 0.75 MGD of wastewater, depending upon final construction costs and the amount of total loan proceeds available.

3.8 The City shall comply with all steps necessary to secure the loan to finance the costs of the design and construction of the Project. The City shall comply with all loan requirements of the Division of Water Infrastructure and shall comply with regulations to ensure that project services are reimbursable to the maximum extent possible.

3.9 The County agrees to design and construct the Project in accordance with the requirements of the NC DEQ Division of Water Infrastructure including approval of the plans and specifications, approval of change orders and related construction documentation, as specified in the Loan Agreement to be executed by and between NC DEQ Division of Water Infrastructure and the City. The County agrees to advertise the Project for bids and award the bids in accordance with the NC DEQ Division of Water Infrastructure requirements. The County agrees to provide such documentation to the City or NC DEQ about the Project as required for approval by the NC DEQ Division of Water Infrastructure. Costs paid by the County for engineering design expenses prior to award of the SRF proceeds will be submitted as project costs for reimbursement as soon as the SRF loan proceeds are available to the City and reimbursement made in the manner described hereafter.

3.10 The County shall submit to the City a written requisition for all costs to be reimbursed for each month, together with any documents or other items required by the City or Division of Water Infrastructure staff. Upon receipt of any eligible invoices received by the 5th of each month, the City will process and submit a requisition for loan proceeds to the Division of Water Infrastructure within five (5) business days. Upon receipt of funds from the State Water Infrastructure Authority or Division of Water Infrastructure, the City shall, on its next scheduled accounts payable run, remit such funds to the County.

3.11 The Project will be accounted for in a manner consistent with generally accepted accounting principles and in consult with independent accounting firms engaged by both the City and County and the Local Government Commission of North

Carolina in an effort to ensure that neither entity incurs audit exceptions. It is anticipated that the assets will be owned by the County and shown as assets in the County's audited financial statements. The Loan, debt service payments for which will be made by the City, will be shown as a liability in the City's audited financial statements. Payments made by the City to the County pursuant to this Interlocal Agreement will be treated as contributed capital from the City and will offset the costs of the Project paid by the County to the contractors.

3.12 If the City is unable to fund the expansion as described above and the County elects to finance the project through the issuance of revenue bonds, together with any other funds the County elects to use, then the County shall be entitled to recalculate the Capital Charge provided for herein and the City shall be liable for reimbursement payments to the County commensurate and at the same time as the County's debt service payments.

3.13 The County and the City agree to cooperate with each other and provide information to the other, as requested, regarding the City's procurement of project financing as contemplated herein and the submission of requisitions for loan proceeds and regarding the County's design, bidding, contracting, and construction processes, such cooperation to include, but not be limited to, making available design plans and specifications, providing access to the expansion construction site, and sharing information about the status of design, bidding, contracting and construction, any change orders, and other matters that may adversely affect costs. The County agrees to construct the plant expansion and transmission line infrastructure and place them in operation with all reasonable dispatch and thereafter to operate and maintain them in a prudent and economical manner.

SECTION 4

STANDARD PROVISIONS FOR SEWER SERVICE

4.1 In order to receive sewer service from the County, the Participant agrees to be bound by these Standard Provisions.

4.2 Definitions. The following words as used in this Sewer Service Agreement shall have the following meanings.

"Act" shall mean The State and Local Government Revenue Bond Act, constituting Article 5 of Chapter 159 of the General Statutes of North Carolina, as amended.

"Advances for Construction" shall mean those funds advanced by the County for planning, project management, acquisition, engineering, legal or construction costs of the Project.

"Ancillary Service Facilities" shall mean those facilities of the Sewer System that have been identified by the County in its sole discretion as directly or indirectly benefiting only the Participant using them and which have no system-wide benefit, and shall include, but are not limited to, (i) the tap to the County's pipeline, and (ii) the meter installation.

"Annual Budget" shall mean the budget or amended budget of the County for each Fiscal Year with regard to the Sewer System.

"Bonds" shall mean the bonds of the County or any other evidence of indebtedness issued by the County or any financing obligation executed by the County to raise funds for the Cost of the Project or to pay for Improvements.

"Bond Order" shall mean the bond order or other resolution or order adopted or financing document executed by the County authorizing issuance of the Bonds, together with all orders amendatory thereof and supplemental thereto.

"Capital Charge" shall mean a periodic payment charged by the County to a Participant for making sewer service available in those cases where the County has advanced funds to pay for Improvements needed to make such sewer service available.

"Capital Expenses" shall mean an obligation incurred to acquire new physical assets and/or incurred to acquire the replacement and/or upgrade of existing physical assets and to be paid from sources other than Current Expenses, i.e. Renewal and Replacement Fund, debt proceeds and designated retained earnings.

"Connection Charge" shall mean a separate charge covering the Cost of Ancillary Service Facilities that is not included as a component of the County's Monthly Service Charges as defined in the Rules and Regulations.

"Cost" shall mean cost as defined in North Carolina General Statute 162A-2(3) and shall include "cost of an undertaking" as that phrase is defined in G. S. 159-81(3).

"County" shall mean the County of Brunswick, a Political Subdivision of the State of North Carolina.

"County Sewer Use Ordinance" shall mean the Sewer Use Ordinance of the County as defined in Section 4.11 of these Standard Provisions.

"Current Expenses" shall mean the County's ongoing and recurring expenses during each Fiscal Year for operation and maintenance of the Sewer System as determined in accordance with generally accepted accounting principles including, but not limited to, all administrative, general and commercial expenses, insurance

and surety bond premiums, payments for the billing and collection of rents, rates, fees or other charges imposed or charged by the County for the use of the Sewer System, legal expenses paid to outside sources, any taxes which may be lawfully imposed on the Sewer System or the income or operations thereof or the property forming a part thereof, usual expenses of maintenance, repair and operation, including cost of power and administrative expenses and salaries, refunds, any other current expenses required to be paid by the County under the provisions of the Bond Order or by law, all to the extent properly and directly attributable to the Sewer System, and the expenses, liabilities and compensation of the Trustee. "Current Expenses" does not include any reserves for operation, maintenance or repair, any allowance for depreciation, amortization, interest on Bonds or other long term indebtedness or similar charges, any expenditure for which the County has made, Connection Charges or any reimbursement of Advances for Construction.

"Debt Service" shall mean the sum of money required to pay installments of principal and interest on indebtedness incurred by the County for the Sewer System in a Fiscal Year.

"Fiscal Year" shall mean the period commencing on July 1 of any year and ending on June 30 of the following year, or such other fiscal year, which the County may adopt.

"Improvements" shall mean any additions, enlargements, improvements, extensions, alterations, fixtures, equipment, land, appurtenances or other facilities to or for the Project.

"Monthly Service Charge(s)" shall mean the rates of charge for sewer service established pursuant to Section 4.12. of these Standard Provisions and the Section 4.1 of the Rules and Regulations.

"Oversight Committee" shall mean the committee established under Section 6.1 of the Rules and Regulations.

"Participant" shall mean a governmental unit, which enters into a Sewer Service Agreement with the County. Southport shall become a Participant once the "Project" is capable of accepting sewage for treatment and has paid all County Capital Charges up to the amount of the SRF funds estimated at \$25,795,747. If project costs exceed the funds available through SRF and the City has paid the County up to the SRF funding level, additional Capital Charges may still be due, but "Monthly Service Charges" per Section 4.12 shall be paid at the West Brunswick Regional Wastewater System Participant's wholesale rate. Until then, Southport will continue to pay the commercial rate for monthly sewer treatment; however, the standard commercial sewer Capital Recovery Fees and Sewer Transmission Capital Recovery Fees shall not apply so long as the City continues to pay County Capital Charges when due..

“Participant’s Service Facilities” shall mean the sewer collection and transmission facilities owned by a Participant and commencing at the connection on the Participant’s side of the County’s meter and servicing the sewer collection system, customers or other facilities of such Participant.

“Participant Sewer Use Ordinance” shall mean an ordinance conforming to State and Federal regulations and requirements adopted by each Participant engaging in the sewer collection and/or treatment business regulating the operation and maintenance of its sewer collection and/or sewer treatment facilities.

“Point of Delivery” shall mean the point or points mutually agreeable to the County and a Participant where the County shall accept delivery of sewage from a Participant.

“Political Subdivision” shall mean a municipal corporation, county or other political subdivision of the State.

“Project” shall mean the Project described in Section 1.5 and Section 2 of this Agreement.

“Rules and Regulations” shall mean the rules and regulations adopted from time to time by the County for administering the Sewer System.

“Sewer Service Agreement” shall mean the agreement, as amended, between the County and a Participant for the purchase and sale of sewer treatment capacity, including the Standard Provisions.

“Sewer System” shall mean the Project plus any Improvements.

“Standard Provisions” shall mean the Standard Provisions to Sewer Service Agreements, as amended from time to time.

“State” shall mean the State of North Carolina.

“System Development Charge” is a charge for a Participant’s share of capital construction costs and shall have the same meaning as System Development Charge as defined in Section 4.2 of the Rules and Regulations, as amended from time to time.

“Trustee” shall mean the Trustee at the time serving as such under the Bond Order.

4.3 Warranties. The County and each Participant represents and warrants that each has full power and authority to enter into and perform any and all provisions of the Sewer Service Agreement between the County and the Participant.

4.4 Sewer Service. Subject to the other terms of this Sewer Service Agreement, the County will furnish sewer service to each Participant in accordance with the Participant's Sewer Service Agreement. Each Participant will discharge or deliver wastewater to the Sewer System for treatment at a mutually agreeable Point of Delivery through a meter(s) in accordance with the Rules and Regulations. The County and the Participant engaging in the sewer business shall cause to be in force, at all times, a State approved sewer use ordinance and shall abide by and enforce the provisions and requirements of the same.

4.5 County to Provide All Sewer Treatment. So long as the County is capable of providing to a Participant its sewage treatment needs, a Participant shall not acquire or produce sewer treatment capacity from any source other than the County, nor allow treatment of sewage within its jurisdiction by any other entity, without the express written consent of the County, which consent shall not unreasonably be withheld.

4.6 Meters. Procedures for the installation, operation, maintenance, calibration, and reading of meters and adjustment of meter readings shall be set forth in the Rules and Regulations.

4.7 Operation of Sewer System. The County shall operate and maintain, or cause to be operated and maintained, the Sewer System in a safe, efficient and economical manner, making all necessary and proper repairs, replacements and renewals, consistent with good business and operating practices for comparable facilities and in accordance with applicable standards of regulatory bodies. Current Expenses in any Fiscal Year shall not exceed an amount that is reasonable and necessary and that is designated as Current Expenses in the County's Annual Budget for such Fiscal Year.

4.8 Inspection of the System. If requested by the Technical Review Committee hereinafter established in the Policy Guidelines and Rules and Regulations for Rendering Sewer Service, the County shall cause a consulting engineering firm experienced in wastewater treatment plant operation to inspect the Sewer System at least once every twelve (12) months and to submit a report identifying any operational, maintenance, or repair problems of the Sewer System and setting forth for the next ensuing (twelve) 12-month period (i) recommendations as to any revisions that should be made in the methods of operation or maintenance of the Sewer System and any repairs that must be made to maintain the Sewer System in such period, together with an estimate of the cost of such repairs and methods, (ii) an estimate as to the amount of adequate reserves for extraordinary repairs, renewals and replacements to the system in such period, (iii) an estimate as to the staffing requirements of the County for the Sewer System for such period, and (iv) an estimate as to any additional insurance that may be needed to insure the County against loss due to casualty loss or damage to the Sewer System. The County

shall be obligated to undertake any action recommended in the engineer's report, which the County would be required to take to comply with Section 4.7. of these Standard Provisions. A Participant may at its own cost and expense cause a consulting engineer to inspect the Sewer System at least once every twelve (12) months upon sixty (60) days' notice to the County. A copy of the Participant's inspection report shall be provided to the County.

4.9 Insurance. The County shall carry at all times insurance covering all properties belonging to the Sewer System as are customarily insured, against loss or damage from such causes as are customarily insured against by enterprises of a similar nature and of a type and form as may be required by the Bond Order. The County also shall carry workers' compensation insurance, use and occupancy insurance, employer's liability insurance, boiler and machinery insurance, public officials liability insurance, automobile liability insurance, and commercial general liability insurance insuring against bodily injury and property damage arising out of the operations of the County. Such insurance shall be maintained with a financially responsible insurance company or companies, authorized and qualified under the laws of the State to assume the risk thereof. The proceeds of insurance shall be applied as provided in the Bond Order. If the County determines, and so certifies to the Trustee, that the amount of insurance coverage required by this Section or by the Bond Order is not available on reasonable terms and conditions, the insurance coverage required by this Section and the Bond Order may be modified in accordance with such determination, and the coverage as modified shall constitute the minimum requirements of this Section and the Bond Order.

4.10 Observance of Regulations. Each Participant covenants and agrees to observe the Rules and Regulations which have been adopted by the County (and as they may be amended) respecting the use of and services furnished by the Sewer System or legally required by any other authorized regulatory body.

4.11 Observance of Sewer Use Ordinance. Each Participant covenants and agrees to observe the Sewer Use Ordinance of the County adopted November 21, 1994, as amended (the "County Sewer Use Ordinance"), respecting discharge of wastewater to the Sewer System. Any Participant that operates a sewer collection and transmission system agrees (i) to cause its own customers to comply with the Participant's Sewer Use Ordinance or the County Sewer Use Ordinance, whichever is more stringent, and (ii) to adopt and at all times maintain in effect and enforce a State approved sewer use ordinance for its own system which shall require compliance with the County Sewer Use Ordinance notwithstanding the provisions of the Participant's Sewer Use Ordinance. A Participant's Sewer Use Ordinance shall also require that any customer of the Participant which intends to discharge non-domestic strength wastewater to the Participant's wastewater collection system shall first make application to the Participant. A Participant shall be responsible to the County for any damage to the Sewer System caused by its own customers and/or civil

penalties assessed for violation of the County Sewer Use Ordinance or the County's discharge/non-discharge permit for the Project.

4.12 Monthly Service Charge. The County shall fix and determine on an annual basis a Monthly Service Charge for sewer treatment furnished to all Participants. Monthly Service Charges shall be established by the County at such levels as may be necessary to provide funds, together with other available funds, at least sufficient in the aggregate at all times to pay (i) Current Expenses, and (ii) Capital Expenses in each fiscal year for which Debt Service is not incurred and (iii) the Debt Service on financing obligations of the County for the Sewer System as the same become due, including all debt service reserves and other funds, coverage, accounts and reserves as may be required by any order or resolution authorizing the issuance of bonds, including the Bond Order. A Participant will receive a credit against its payment obligation under this Section for any amount paid under Section 3. The County shall be entitled to revise its Monthly Service Charges through an annual budget for a fiscal year to be presented for review by the Oversight Committee by March 1st of each year to comply with this Section. The Brunswick County Board of Commissioners shall take action establishing the Monthly Service Charge, effective July 1, on the first Monday in April. Monthly billings to a Participant shall be determined by applying the rates determined pursuant to this Section to the total amount of sewage treated for each Participant as obtained from the County's meter readings. The County may present charges based on budget estimates, subject to adjustment based on actual meter readings. The monthly billings and payments of the Participant are based on a rate that it estimated to provide funding adequate for actual and necessary operating expenditures and debt service of the West Brunswick Regional Wastewater Project. Since the rate for billing is based on estimated revenues and expenditures it will be necessary for Participants in the plant to make a "true up" payment annually in the event actual expenditures are in excess of actual revenues or in the event actual annual revenues are in excess of expenditures, surpluses will either be credited back to the Participants or based upon the recommendation of the Oversight Committee, be placed into the Capital Replacement Reserve Fund.

4.13 Payment. Each Participant covenants and agrees to pay promptly when due the County's Monthly Service Charges as determined in accordance with this Article and billed to the Participant from time to time and the Capital Charge by wire transfer to the account provided in written directions from the County. Payment for sewerage treated for a Participant during any month is due in full as provided in the Rules and Regulations at the office of the County. Payment of Monthly Service Charge shall be due notwithstanding that a Participant disputes the accuracy or legality thereof or notwithstanding that the County curtails or interrupts service to the Participant pursuant to these Standard Provisions. There shall be no free sewer service rendered by the County. Nothing contained herein shall require a Participant to pay for sewer treatment the County is incapable of delivering or providing.

4.14 Disputes. Even if a Participant disagrees with Monthly Service Charges received from the County for any given service period, the Participant shall be obligated to pay, in full, said Monthly Service Charges, but can do so "under protest". The "protest" shall be resolved according to the provisions of this Agreement.

If a Participant disputes all or part of any Monthly Service Charge or other payment due to the County, the Participant shall within fifteen (15) days of learning of the nature of the dispute notify the County in writing that the charges are disputed, the grounds for the dispute, and the amount in dispute. Failure to have made the full payment as provided in Section 4.13. hereof will result in the County, at its option, denying the Participant's claim. Upon receipt of notification of dispute, representatives of the County and the Participant shall meet within fifteen (15) days to resolve such dispute. The County and the Participant shall promptly and continuously attempt to resolve the dispute within five (5) business days of meeting. In the event that it is determined that the Participant shall have overpaid, it shall receive a credit for the overpayment. If the dispute cannot be thus resolved, each party shall thereafter be entitled to exercise any remedies available at law or in equity including non-binding mediation.

4.15 Limitation. Nothing herein shall prevent the County and a Participant from limiting the obligation of any Political Subdivision to pay Monthly Service Charges and the County's other rates and charges to or from non-tax revenues of the Political Subdivision so that a Sewer Service Agreement with such Political Subdivision will not constitute a debt secured by a pledge of the Political Subdivision's faith and credit which has not been approved in accordance with the provisions of Article V, Section 4 of the Constitution of North Carolina.

4.16 Bills. As a convenience to the Participants, the County will mail each Participant a bill not later than the date for mailing provided for in the Rules and Regulations covering sewer treatment provided during the previous month. All bills shall be sent to the address of the premises being served by the County, unless a Participant notifies the County in writing of some other address to which bills are to be mailed. Failure to receive bills will not be considered justification for non-payment of amounts due, nor permit an extension of the date when the account will be considered delinquent. The County may, at any time, correct any bills for service that may be in error.

4.17 Interest. Interest on delinquent Monthly Service Charges shall accrue during the period of non-payment at the rate of 10% per annum, subject to periodic adjustment by the County subsequent to review by the Oversight Committee.

4.18 Credits. The County will by lump sum payment within ninety (90) days of the date a determination is made that a refund is due, refund any Monthly Service Charges or other charges or parts thereof that the County or a court of competent

jurisdiction by final judgment determines were (a) inaccurate, illegal or otherwise not entitled to be collected or (b) paid in the immediately preceding Fiscal Year in excess of the amounts required for such Fiscal Year under clause (iii) of the second sentence of Section 4.12. Rather than making a refund by lump sum payment, the County may at its option make refunds in successive monthly installments over such ninety (90)-day period or may make the refund in the form of a credit to future amounts due to the County by the Participant over such ninety (90)-day period. Interest shall accrue on the refund at the same per annum rate specified in Section 4.17.

4.19 System Development Charges; Connection Charges. The County shall, in accordance with the Rules and Regulations, Sections 4.2 and 4.3, collect from Participants who apply for new or expanded service a System Development Charge and such Connection Charges as are appropriate to the service being provided by the County.

4.20 Industrial Wastewater. The County shall require all Industrial and other Participants who generate wastewater other than domestic strength wastewater to pre-treat its wastewater so that when it is discharged to the Sewer System it is of domestic strength as defined in the latest version of the Sewer Use Ordinance. If for any reason a Participant discharges wastewater to the Sewer System, which exceeds domestic strength, the County agrees to surcharge such Participant so that the Monthly Service Charges charged other Participants are not impacted by the added cost incurred by the County in treating the non-domestic strength wastewater.

The Participant shall not allow a customer, or itself, to dilute a high-strength wastewater as a method of treatment of said wastewater in order to comply with the County's Sewer Use Ordinance.

4.21 Limitations on Service; Curtailment. Any duty or obligation of the County to meet a Participant's sewer treatment needs, over and above any stated capacity the County contracts to provide in the Sewer Service Agreement with the Participant, is subject to limitations upon the County's ability to do so caused by (i) the amount of sewage discharge permitted or available to the County, (ii) obligations of the County pursuant to Sewer Service Agreements to provide sewer service to other Participants, (iii) the capacity of the Sewer System and (iv) completion of any Improvements the County elects to make to enable it to provide sewer service to a Participant.

4.22 Temporary Interruptions. The County may at any time shut down the Sewer System in case of an accident, or for the purpose of making connections, alterations, repairs, changes or for any other lawful reasons. The County will endeavor to give as much notice as possible in advance of any interruption of service. It is the obligation of Participants and not the County to protect the Participant's

facilities connected with the Sewer System so that damage will not occur if service is suspended without notice.

4.23 Shut Off for Default; Acceleration and Notices. If payments of Monthly Service Charges or Capital Charges due from a Participant remain delinquent for a period of more than thirty (30) days, the County may take one (1) or any combination of the following remedial steps:

- (i) service may, where permitted by applicable laws and regulations of the State, be suspended by the County;
- (ii) the County, by written notice to the Participant, may declare an amount equal to the then outstanding Monthly Service Charges, Capital Charges and accrued interest thereon to be immediately due and payable as liquidated damages under this Sewer Service Agreement and not as a penalty, whereon the same shall become immediately due and payable; or
- (iii) the County may take whatever action at law or in equity may appear necessary or desirable to collect the amounts then due and thereafter to become due, or to enforce performance and observation of any obligation, agreement or covenant of the Participant under this Sewer Service Agreement.

The County will give each Participant twenty-four (24) hours' notice prior to suspending service on account of non-payment of rates and charges. The County may also suspend service after thirty (30) days' notice when a Participant violates any terms of a Sewer Service Agreement with the County or any rule or regulation and fails to remedy or cure such violation within the thirty (30) day notice period.

4.24 Sewer Service to New Participants. After notification of the Oversight Committee and all other Participants, the County shall only provide sewer service to new Participants pursuant to a Sewer Service Agreement.

4.25 Future Financing. The County may, in its sole discretion, incur debt to pay for Project Cost overruns or Improvements.

4.26. Construction and other Cooperation. The County and each Participant currently constructing wastewater collection systems agree to cooperate with each other during design and construction of the Project and their sewer collection systems, such assistance to include, but not be limited to, exchange and review of design plans and specifications, providing access to each other's work sites and easements for purposes of connecting to the Project and sharing information about start and completion dates, change orders and other matters that may adversely affect Costs. Each such Participant agrees to construct its respective wastewater collection system and place it in operation with all reasonable dispatch and thereafter

to operate and maintain it in a prudent and economical manner. The same shall be true for all subsequent additions and Improvements as required to provide sewer services to all Participants, both current and future.

4.27 Books and Records. The County and City shall keep proper books and records related to this project in accordance with generally accepted accounting principles which each party shall make available for inspection to the other at reasonable times upon request. The County shall cause an annual audit of its books and records to be made by an independent certified public accountant at the end of each Fiscal Year. An allocated portion of the audit expense shall be a part of the O&M cost of the project.

SECTION 5

TERM, TERMINATION, AND RENEWAL OF AGREEMENT

5.1 This Sewer Service Agreement shall be in full force and effect for a period ending at forty (40) years from the date of its execution.

5.2 This Agreement may otherwise be terminated only by mutual agreement of the parties. A mutually agreeable termination of this agreement will be on such terms as the parties may agree at the time in question. Each party hereto reserves to itself all legal rights and remedies available at law or in equity in the event of any other breach of this agreement by the other.

5.3 This Agreement may be amended by mutual agreement of the parties, adopted with the same formality as the original.

SECTION 6

REPRESENTATIONS AND COVENANTS

6.1 Each party to this Agreement represents to the other party each of the following as of the effective date of this Agreement, and covenants with the other party that each such representation will remain true and correct:

6.1.1 It has full power and authority to enter into this Agreement, and to enter into and carry out the transactions contemplated by this Agreement.

6.1.2 It has by proper action authorized the execution and delivery of this Agreement and is not in default under any provisions of this Agreement.

6.1.3 The execution, delivery and performance of this Agreement does not violate or conflict with or require any consent or waiver under any of the terms or conditions in its governing documents or any material contract to which it is a party or by which any of its assets are bound or affected, or any

law, rule, regulation, order, writ, judgment, decree or other legal or regulatory determination applicable to it.

6.1.4 This Agreement constitutes a legal, valid and binding obligation enforceable at law and in equity in accordance with its terms and, to the extent that certain remedies under this Agreement require or may require enforcement by a court, such principles of equity as the court having jurisdiction may impose.

6.1.5 It will comply with all applicable federal, state and local laws with respect to any activities conducted under or pursuant to this Agreement.

6.1.6 No elected or appointed official or employee has any interest (financial, employment, or other) in the transactions contemplated by this Agreement.

6.1.7 It will take no act (or engage in any failure to act) that will prevent, delay, obstruct, frustrate, or otherwise impair or undermine the activities conducted under or pursuant to this Agreement, except as may be necessary to enforce this Agreement or ensure compliance with applicable laws, regulations, and ordinances.

SECTION 7

MISCELLANEOUS PROVISIONS

7.1 Exhibits. All exhibits referenced in this Agreement are incorporated herein by reference as integral parts of this Agreement.

7.2 Amendment to Agreement. This Agreement may be modified or amended only by written amendments that are approved and signed on behalf of both Parties in the same manner as original adoption.

7.3 Notices. All notices required or permitted by this Agreement must be in writing. Any notice will be deemed given (i) on the date delivered by hand or (ii) on the date it is received by mail, as evidenced by the date shown on a United States mail registered mail receipt, in any case addressed as follows:

If to Brunswick County, as follows:

Brunswick County
Attn.: County Manager
P.O. Box 249
Bolivia, NC 28422

If to Southport as follows:

City of Southport
Attn: City Manager
1029 N. Howe St
Southport, NC 28461

Any party may designate a different address for communications by notice given under this Section to the other party. Whenever in this Agreement the giving of notice is required, the giving of such notice may be waived in writing by the Party entitled to receive such notice, and in any such case the giving or receipt of such notice will not be a condition precedent to the validity of any action taken in reliance upon such waiver.

7.4 No Third-Party Beneficiaries. Nothing in this Agreement shall give any person other than the parties any rights to enforce any provision of this Agreement. There are no intended third-party beneficiaries of this Agreement.

7.5 Survival of Representations and Covenants. All representations and covenants made by the parties in this Agreement shall survive the delivery of this Agreement.

7.6 Successors and Assigns. Each Sewer Service Agreement, including these Standard Provisions, shall be binding upon, inure to the benefit of and be enforceable by the parties thereto and their respective successors and assigns; provided, however, that neither a Participant nor the County may assign their rights, liabilities and obligations hereunder without the consent of the other party except that the County may assign all Sewer Service Agreements to the Trustee without the consent of any Participant.

7.7 Severability. If any provision of this Agreement is held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision of this Agreement.

7.8 Entire Contract. This Agreement, including its Exhibits, constitutes the entire Agreement between the parties with respect to its subject matter.

7.9 Action by a Party. Any references to approvals or other actions by any party will be deemed to be references to actions taken by the party's Governing Board or taken pursuant to express, specific direction given by the party's Governing Board or a person delegated by that Board to give approval or take action.

7.10 Personnel. All responsibilities of the parties under this Agreement will be performed by personnel employed by them or under contract to them.

7.11 Waiver. Any party's failure to insist upon the strict performance of any provision of a Sewer Service Agreement, or to exercise any right based upon a breach thereof, or the acceptance of any performance during such breach, shall not constitute a waiver of any rights under the Sewer Service Agreement.

7.12 Counterparts. Sewer Service Agreements may be executed in several counterparts, any of which shall be regarded for all purposes as one original.

7.13 Controlling Law. This Agreement shall be construed and enforced in accordance with the laws of the State of North Carolina.

7.14 Effective Date. This Agreement shall become effective upon vote of adoption by the governing boards of each party at the date of the last required signature by authorized representatives of the parties.

IN WITNESS WHEREOF, the parties hereto, acting by and through their duly authorized representatives pursuant to the resolutions of their respective governing bodies, have caused this Agreement to be executed as of the day and year first above written.

THE COUNTY OF BRUNSWICK

ATTEST:

Amber White
Clerk



By: [Signature]
Chairman

CITY OF SOUTHPORT

ATTEST:

Anga Shannon
City Clerk

(SEAL)

By: Joseph P. Hatten
Mayor



This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.

Finance Officer, City of Southport

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.



Finance Officer, County of Brunswick

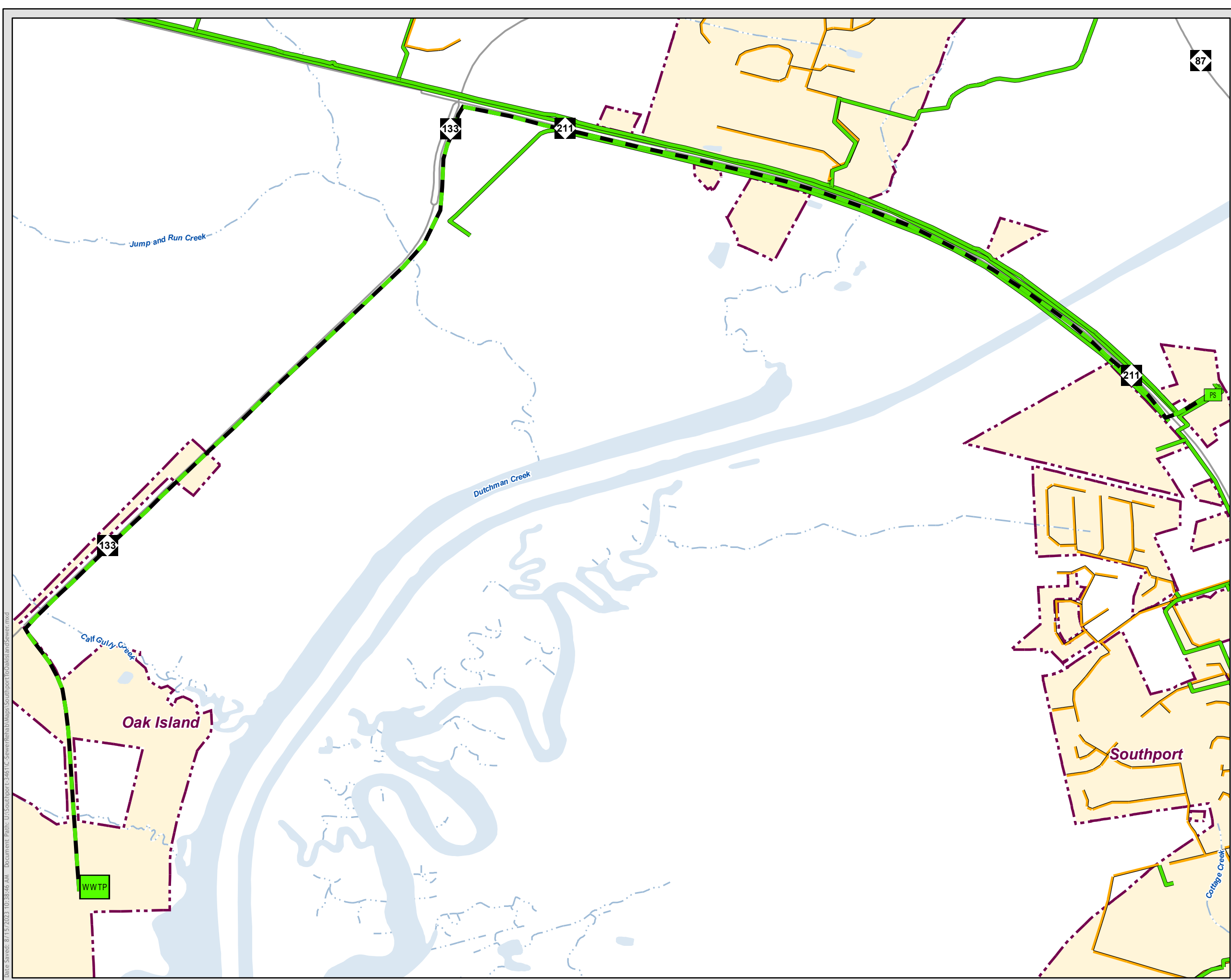
APPENDIX C

Southport Collection System Estimated Valuation						50+ Years of Age				41-50 Years of Age				31-40 Years of Age				21-30 Years of Age				11-20 Years of Age				0-10 Years of Age				Total																								
						Older than 1974				1974-1983				1984-1993				1994-2003				2004-2013				2014-2023																												
	Service Life, Yrs.	Unit	Avg. Unit Value	Total Quantity	Replacement Cost New (RCN)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)		Depreciated Value																							
Pump Stations	20	EA	\$ 500,000	34	\$ 17,000,000	0%	-	95%	\$ -	71%	24	95%	\$ 600,000	3%	1	95%	\$ 25,000	6%	2	90%	\$ 100,000	18%	6	60%	\$ 1,200,000	3%	1	30%	\$ 350,000		\$ 2,275,000																							
Force Mains, PVC	100	LF	\$ 50	47,425	\$ 2,371,250	0%	-	75%	\$ -	47%	22,127	50%	\$ 553,175	11%	5,299	40%	\$ 158,970	10%	4,605	30%	\$ 161,175	30%	14,275	20%	\$ 571,000	2%	1,119	10%	\$ 50,355	\$ 1,494,675																								
Force Main Valves	40	EA	\$ 7,500	34	\$ 255,000	0%	-	95%	\$ -	56%	19	95%	\$ 7,125	3%	1	80%	\$ 1,500	3%	1	60%	\$ 3,000	29%	10	40%	\$ 45,000	3%	1	20%	\$ 6,000	\$ 62,625																								
Gravity Sewer	75-100	LF	\$ 100	185,000	\$ 18,500,000	47%	86,998	75%	\$ 2,174,944	4%	7,475	50%	\$ 373,737	5%	9,136	40%	\$ 548,148	10%	17,649	30%	\$ 1,235,410	29%	53,569	20%	\$ 4,285,522	5%	10,174	10%	\$ 915,657	\$ 9,533,418																								
Manholes	40	EA	\$ 7,500	891	\$ 6,682,500	47%	419	95%	\$ 157,125	4%	36	95%	\$ 13,500	5%	44	80%	\$ 66,000	10%	85	60%	\$ 255,000	29%	258	40%	\$ 1,161,000	5%	49	20%	\$ 294,000	\$ 1,946,625																								
TOTAL				233,384	\$ 44,808,750	87,417				\$ 2,332,069				29,681				\$ 1,547,537				14,481				\$ 799,618				22,342				\$ 1,754,585				68,118				\$ 7,262,522				11,344				\$ 1,616,012				\$ 15,312,343

Lower Range (80%) \$ 12,249,874
Upper Range (120%) \$ 18,374,811

- Notes:
- Gravity Sewer age percentages of total are estimated to be same percentages as Manholes.
 - Asset ages exceeding service life are given a 95% depreciated (salvage) value.
 - Rehabbed Manholes are considered new Manholes.
 - The Lower and Upper Depreciated Grand Total Ranges account for differences in asset sizes, capacities, and condition.
 - The above figures are rough estimates only - a true evaluation requires a more detailed analysis and is recommended.
 - The above is based upon current infrastructure (not future projects).
 - Total quantities are from City AIA documentation.

APPENDIX D



Alternative #3 - Regionalization with Oak Island

August 2023

Legend

- PS Pump Station
- WWTP WWTP
- Proposed Route
- Forcemain
- Gravity Main
- NC Route
- Stream/Creek
- Pond/Canal/River/Ocean
- Municipal Boundary



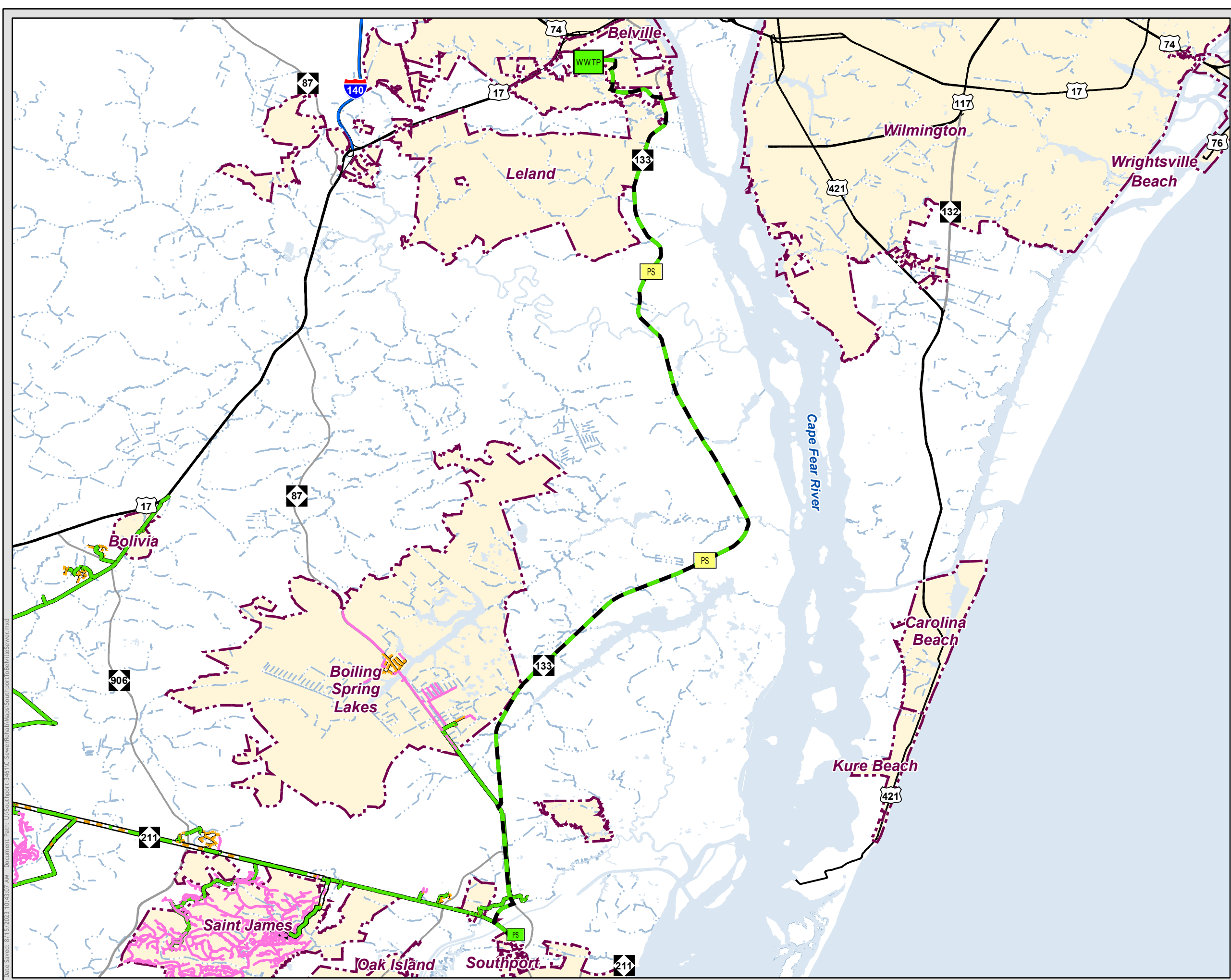
0 500 1,000
Feet

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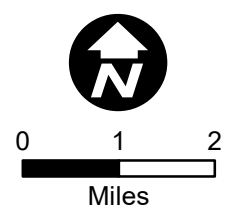
APPENDIX E



Alternative #4 - Regionalization with H2GO

August 2023

- Legend**
- PS New Pump Station
 - PS Pump Station
 - WWTP WWTP
 - Proposed Route
 - Abandoned
 - Effluent
 - Forcemain
 - Gravity Main
 - Pressure Main
 - Interstate
 - US Route
 - NC Route
 - Ramp
 - Stream/Creek
 - Pond/Canal/River/Ocean
 - Municipal Boundary



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MRF STUDY

Water Merger/Regionalization Feasibility Study

City of Southport, NC

Prepared for



September 2023

David G. Malinauskas, P.E.
TWC # 3461-B

Wooten

272 North Front Street, Suite 401
Wilmington, NC 28401
(910) 660-0520

License F-0115

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DRAFT

1.0 EXECUTIVE SUMMARY

DRAFT

2.0 INTRODUCTION

2.1 PURPOSE

Utilities owned and managed by small communities may become liabilities in the face of economic instability or stressors. Small communities may lack the financial resources to conduct additional maintenance, expansion, or future planning; these issues can be compounded by a struggle to attract and retain experienced utility staff.

The City of Southport (City) was fortunate to receive grant funding for a Merger/Regionalization Feasibility (MRF) Study to further evaluate the long-term viability of its water distribution system. Therefore, the purpose of this MRF Study is to identify the practicality of a merger of the water distribution systems of the City with that of Brunswick County (County) because the two systems are already interconnected. For capital comparison purposes, regionalization with Brunswick Regional Water and Sewer H2GO (H2GO) is also evaluated as an option. Lastly, costs for a new water supply source to be owned and operated by Southport was investigated at a high level to determine feasibility.

2.2 SCOPE

This MRF Study includes an overview of water system operations, Geographic Information System (GIS) mapping, and development of opinions of probable cost for an interconnection of utility systems; analysis of customer demands and available plant capacities; and significant capital improvements needed in the City prior to consolidation. Prepared with water use and financial data, alternative scenarios for physically and financially merging the water systems are created, or regional approaches to water treatment and distribution are evaluated to share operation and maintenance (O&M) costs on a regional scale. Conclusions can be drawn from these merged or regional scenarios and appropriate recommendations made for future actions.

3.0 EXISTING WATER SYSTEM

3.1 WATER SYSTEMS

3.1.1 *City of Southport*

The City's distribution system is depicted in **Figure 1**. The City's system can trace its origins to the early 1900s. Currently, the distribution system contains about 44 miles of lines ranging in size from 2-inch to 12-inch. Much of the system is composed of polyvinyl chloride (PVC) pipe installed since about 1970; however, there is cast iron inventory remaining in the central city area from the 1930s.

In 2008 the City decommissioned its existing water supply wells and began purchasing all potable water from the County; the City continues to maintain and operate its distribution system which consists of three (3) interconnections with the County system as well as a 150,000-gallon elevated storage tank currently out of service. The City's wholesale bulk water service agreement with the County is provided in **APPENDIX A**.

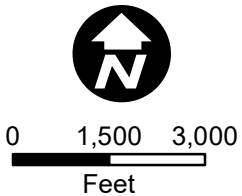
In addition, in 2004, the City partnered financially with the County to allow for the construction of a 1-million-gallon tank to help overcome system pressure and fire protection inadequacies. This tank went on-line in early 2008 and is located on County property on the northeast side of the intersection of NC Highways 211 and 87. The City owns 351,800 gallons of the 1-MG tank capacity and has plans to purchase an additional 115,000 gallons before the end of 2023.





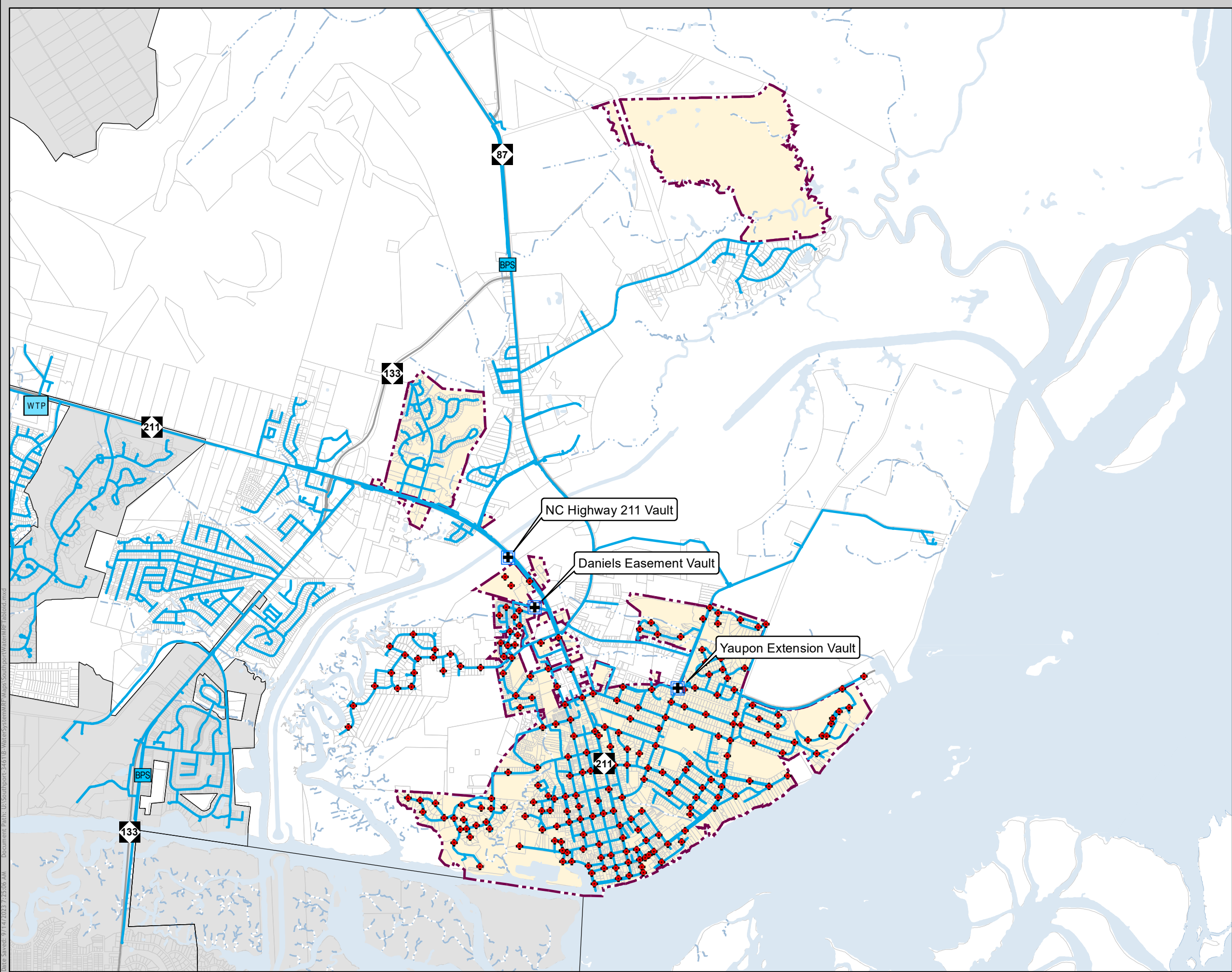
Figure 1
Water Utilities of the
City of Southport
and Brunswick County
September 2023

- Legend**
- Hydrant
 - Interconnect
 - Booster Pump Station
 - Water Treatment Plant
 - Water Main
 - NC Route
 - Stream/Creek
 - Pond/Canal/River/Ocean
 - Parcel
 - City of Southport
 - Other Municipality



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As part of the study, a high-level evaluation of the distribution system is warranted for use in negotiations with the County. Using available information from the City's 2021 Drinking Water System Asset Management Plan (AMP), the City's system is broken down into five main components—Interconnects, Tanks, Waterline Valves, Water Pipe, and Hydrants in **Table 1**. The estimated depreciated value of the entire distribution system is \$16.8 million. Adding a lower range of 80% value and upper range of 120% value to account for different capacities, ages, and conditions, the system is estimated to be valued from \$13.4 to \$20.1 million. A more detailed valuation should be performed in the event of system acquisition by another entity.

Table 1. City of Southport Distribution System Valuation

Asset	Service Life, Yrs.	Unit	Avg. Unit Value	Total Quantity	Replacement Cost New (RCN)	Total Depreciated Value
<i>Interconnects</i>	40	EA	\$25,000	3	\$75,000	\$25,988
<i>Tanks</i>	60	EA	\$2,000,000	1	\$2,000,000	\$1,400,000
<i>Waterline Valves</i>	40	EA	\$4,500	257	\$1,156,500	\$513,029
<i>Water Pipe</i>	75	LF	\$100	235,166	\$23,516,600	\$14,314,684
<i>Hydrants</i>	40	EA	\$5,000	224	\$1,120,000	\$505,120
TOTAL				235,651	\$27,868,100	\$16,758,820

Lower Range (80%) \$13,407,056

Upper Range (120%) \$20,110,585

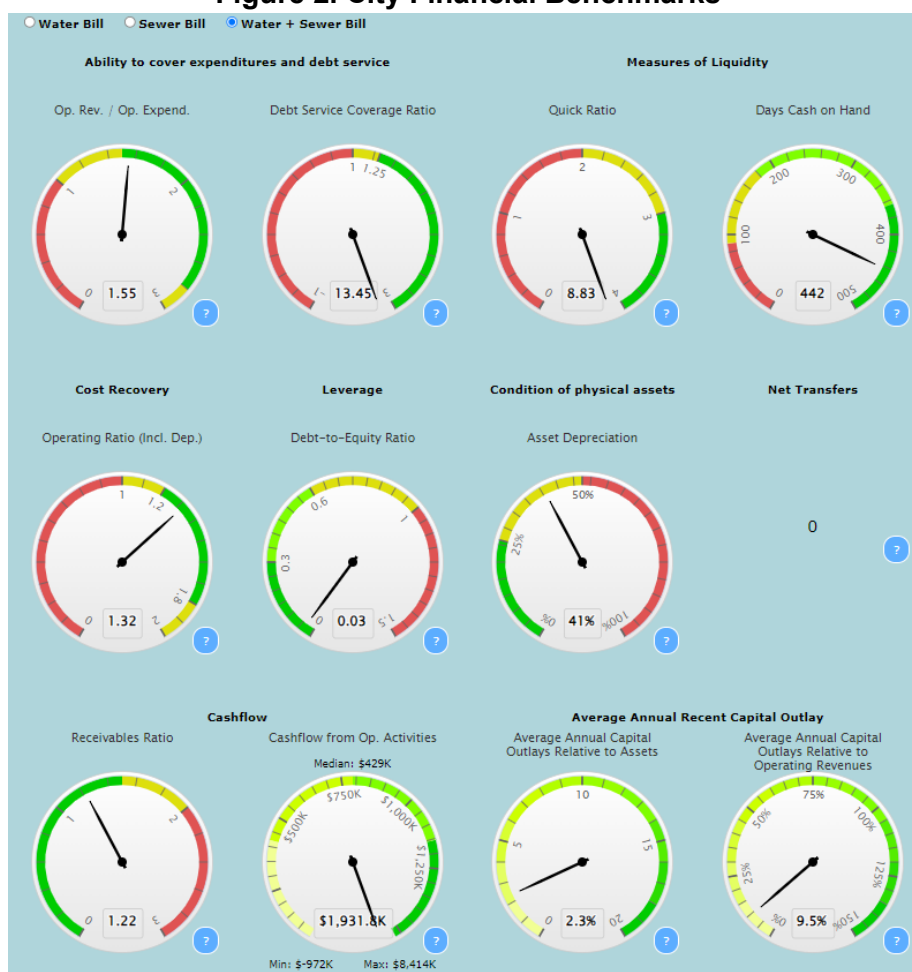
Notes:

1. Asset ages exceeding service life are given a 95% depreciated (salvage) value.
2. The Lower and Upper Depreciated Grand Total Ranges account for differences in asset sizes, capacities, and condition.
3. The above figures are rough estimates only - a true evaluation requires a more detailed analysis and is recommended.
4. The above is based upon current infrastructure (not future projects).
5. Total quantities are from City AIA documentation.
6. The 150,000-gallon elevated storage tank located near the corner of Howe and Brown Streets, currently out of service, is not included in this valuation. The value presented for "Tanks" represents partial ownership of the tank at Highway 211 and 87.

3.1.2 Financial Overview

The Water and Sewer Enterprise Fund for the City of Southport is healthy. The NC Water and Wastewater Rates Dashboard maintained by the Environmental Finance Center at the University of North Carolina, Chapel Hill provides valuable information indicating that the City can meet its financial obligations. A snapshot of the dashboard dated February 8, 2023 shown in **Figure 2** indicates that Southport is adequately able to cover its expenditures and debt service, has high measures of liquidity, enjoys a high operating ratio, and manages a low debt-to-equity ratio. Also, cashflow has positive benchmarks.

Figure 2. City Financial Benchmarks



As part of the water and sewer enterprise fund, the City has an unrestricted fund balance of \$5.58 million in addition to ARPA funds of \$1.26 million for a total of \$6.84 million in set-aside utility funding. The City does not depend on interfund transfers to balance its water and sewer enterprise fund. It should also be noted that the unassigned General Fund balance is \$5.78 million for Southport.

Aside from the water and sewer enterprise fund, other financial indicators show that Southport is fiscally solvent. The fiscal year 2024 (FY24) budgeted property tax rate is revenue neutral at \$0.275 per 1,000 assessed value following the County's reevaluation. The 2021 Census median household income is \$68,301 and the poverty rate is 5.57%.

The fiscal year 2023 (FY23) trial balance revenues for the water and sewer fund are shown in **Table 2**. The potential loss of water fund revenue for Southport in a merger or regionalization scenario should be recognized. Revenues cover the cost of distribution system staffing, operations and maintenance, water purchases paid to Brunswick County, capital outlay, and debt service. Further, this revenue assists the City with partial funding of other City budget items and must be accounted for if water sales revenue is no longer available.

Table 2. Southport Water/Sewer Trial Balance Revenues

Account Number	Description	Budget Amount	% Water	\$ Water	% Sewer	\$ Sewer
REVENUE						
DEPT 91						
31-91-3350-0400	Water Inventory Asset Grant	\$ -				
31-91-3420-0200	FEMA Reimbursement WS	\$ -				
31-91-3470-0890	WW Treatment Env Study	\$ -				
31-91-3720-0000	Water Sales	\$ 2,055,672	100%	\$2,055,672	0%	\$0
31-91-3720-0100	Water/Sewer Tap Fees	\$ 75,885	50%	\$37,943	50%	\$37,943
31-91-3720-0200	Sewer Impact Fees	\$ -				
31-91-3720-0300	Water Impact Fees	\$ -				
31-91-3720-0400	Service Charges	\$ 26,095	50%	\$13,048	50%	\$13,048
31-91-3740-0000	Sewer Sales	\$ 3,850,000	0%	\$0	100%	\$3,850,000
31-91-3780-0000	Transfer From System Dev Cap	\$ 780,983	11%	\$87,515	89%	\$693,468
31-91-3780-1000	Transfer From General Fund	\$ -				
31-91-3831-0000	Interest Earned	\$ -				
31-91-3833-0005	Donations UB	\$ -				
31-91-3835-0000	Sale of Fixed Assets	\$ -				
31-91-3839-0000	Miscellaneous Revenues	\$ 22,925	50%	\$11,463	50%	\$11,463
31-91-3839-0200	Insurance Recovery	\$ -				
31-91-3839-0500	Credit Card Fee	\$ -				
31-91-3920-0000	Proceeds From Financing	\$ 631,977	50%	\$315,989	50%	\$315,989
31-91-3991-0000	Appropriated Fund Balance	\$ 169,403	50%	\$84,701	50%	\$84,701
31-91-3991-0100	Undesignated Revenue	\$ -				
31-91 REVENUE Total:		\$ 7,612,940		\$ 2,606,329		\$ 5,006,610
REVENUE						
DEPT 92						
32-92-3720-0200	Sewer Development Fees	\$ 693,468	0%	\$0	100%	\$693,468
32-92-3720-0300	Water Development Fees	\$ 87,515	100%	\$87,515	0%	\$0
32-92 REVENUE Total:		\$ 780,983		\$ 87,515		\$ 693,468

Southport has an annual water and sewer operating budget of \$7.613 million for FY23 inclusive of \$781,000 in system development fees. The City is projected to lose \$2.606 million in water system operating revenues, inclusive of \$88,000 in water development fees, under a merged water utilities scenario.

From a water and sewer budget expenses analysis, it is estimated that water system expenses total \$3.88 million (51%) and sewer expenses total \$3.73 million (49%). Examination of individual line items reveals that Southport may consider retaining, through other revenue streams, \$584,000 for water and \$584,000 for sewer expenditures (16% of total) while an acquiring utility partner would absorb \$3.3 million for water and \$3.1 million for sewer (84% of total) expenditures.

The \$1.16 million retained by Southport would be to cover a portion of personnel and fringe benefits expenditures for employees that work on other Town-owned systems (\$776,000), professional fees (\$58,000), vehicle and departmental supplies (\$15,000), communications

(\$4,000), repair and maintenance of equipment and vehicles (\$8,000), contract services (\$64,000), insurance and bonding (\$19,000), capital outlay expenditures (\$126,000), and contingency (\$90,000).

3.1.3 *Brunswick County*

Figure 3 depicts the water treatment plant (WTP) service areas for Brunswick County. All the County's water customers and wholesale water customers receive either all or part of their water from the Northwest WTP. The facility is currently under construction to expand its filter capacity from 24 million gallons per day (MGD) to 48 MGD; the project will also provide a low-pressure reverse osmosis treatment capacity of no less than 36 MGD. The Northwest WTP takes water from the Cape Fear River above Lock and Dam #1 in Bladen County through a contract with Lower Cape Fear Water and Sewer Authority (LCFWASA).

Within the City of Southport's service area, water from the Northwest WTP is blended with water from the Highway 211 (211) WTP. The 211 WTP draws from a series of groundwater wells drilled into the Castle Hayne Aquifer. The 211 WTP is rated for 6.0 MGD, but due to limitations of the supply from the existing wells, the facility has historically operated at a maximum rate of 5.0 MGD.

3.1.4 *Summary*

According to the City's provisional 2022 Local Water Supply Plan (LWSP), June was the month with the greatest average daily use of 0.6172 MGD. Similarly, the County had its greatest one-day system demand of 29.234 MGD on June 25, 2022, nearly reaching its current water system capacity of 30 MGD shared between the Northwest and 211 facilities.

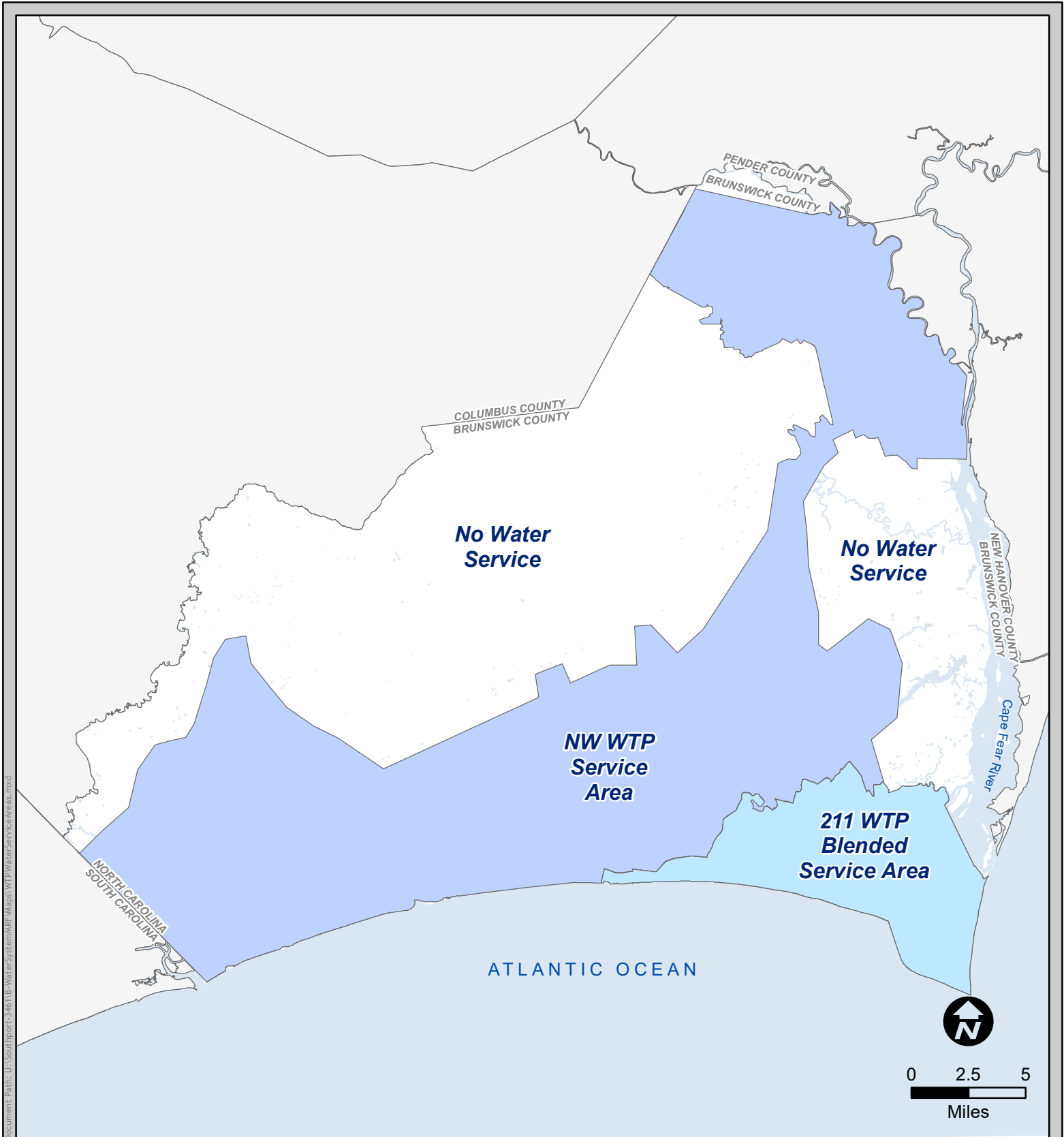


Figure 3
Water Plant
Service Areas
 Brunswick County, NC
 September 2023

Legend

- 211 WTP Blended Service Area
- NW WTP Service Area
- County Boundary
- River/Ocean

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4.0 ANTICIPATED MAJOR WATER IMPROVEMENTS

The cost and complexity of future water improvements should be considered for any anticipated water merger or regional system. While the City and County water systems are already connected, improvements are being planned and implemented to maintain long-term viability and resiliency of each system. Costs for these projects have associated debt service and will impact customer rate structures.

4.1 CITY OF SOUTHPORT

The City's Capital Project (Fund 23) line annually has about \$1.2 million reserved across all departments. The City's 2021 AMP included a Capital Improvement Plan (CIP) for capital projects extending over a 10-year horizon with 2021 as its base year. The first five years (2021-2026) of the plan addressed capital improvements for assets determined to be in either poor condition or that have reached the end of their useful life. **Table 3** identifies projects identified in the CIP that are still yet to be constructed. For purposes of this Study, no debt service is anticipated with these projects.

Table 3. City of Southport Capital Improvement Projects

Project	Year to Conduct	Cost
<i>Hydrants, Fair Condition, Installed 1985</i>	2025	\$94,500
<i>Minet V4 Collector</i>	2026	\$53,248
<i>Repeater Pole Units</i>		\$11,632
<i>Node units</i>	2027	\$408,070
<i>Meter Software, Service Fees, and Charges</i>		\$130,000
<i>6" Valve, Fair Condition, Installed 1992</i>		\$1,800
<i>Hydrants, Fair Condition, Installed 1990</i>	2030	\$248,500
<i>TOTAL</i>		\$947,750

4.2 BRUNSWICK COUNTY

The County's Draft 2023 Water Treatment and Distribution Master Plan provides recommended water system improvements for a 20-year CIP. **Table 4** lists critical improvements to the 211 WTP and to the County's transmission system in proximity to Southport totaling approximately \$80 million.

Table 4. Brunswick County Capital Improvement Projects

Project	Summary	Completion Year	Cost
<i>211 WTP Treatment Upgrades</i>	Improvements to the lime product and residual handling process	2027	\$52,983,000
<i>211 WTP HSPS Rehab and Replacement</i>	Three 200 HP pumps requiring rehab or replacement	2027	\$3,328,000
<i>211 WTP Wellfield AC Pipe Replacement</i>	Approximately 22,000 LF of AC pipe ranging from 6" – 14" replacement	2027	\$9,821,000
<i>211 WTP Wellfield Maintenance</i>	Annual (periodic) maintenance and rehab to restore well capacity and longevity	2027	\$981,000
<i>211 WTP West Transmission</i>	24" parallel/new main on Southport Supply Rd from 211 WTP to Middleton Ave	2030	\$13,646,000
TOTAL			\$80,759,000

5.0 WATER BILLING EVALUATION

For a merged or regional approach to water treatment and distribution, after identification of the project needs for each alternative, the overall revenues compared with costs for each system must be evaluated. Subsequent sections of this report will evaluate the current budgets provided by each the County and City, and project costs on an overall basis using capital project costs and other factors. This section focuses on FY22 billing data.

5.1 CITY OF SOUTHPORT

Table 5 provides a summary of the water billed for FY22 for residential and commercial customers. This approach was taken as invoiced amounts/flows are not available for the current rate structure effective July 1, 2023. Commercial usage totaled approximately 36 MG, or 31% of the total annual water demand and 48% of total revenues. Residential usage totaled 78 MG and accounted for 69% of demand and 52% of annual revenues.

Table 5. FY22 Billed Water – City

	Residential	Commercial	Total
<i>Million Gallons (MG)/Year</i>	78	36	114
<i>Average MG/Month</i>	6.50	2.97	
<i>Average Million Gallons per Day (MGD)</i>	0.21	0.10	
<i>% of Total</i>	69%	31%	100%
<i>Max Month MGD</i>	0.25	0.12	
<i>Total Billed Per Year</i>	\$305,128	\$283,324	\$588,451
<i>% of Total</i>	52%	48%	100%
<i>Average Cost Per 1000 Gallons</i>	\$3.91	\$7.95	\$5.18

5.2 BRUNSWICK COUNTY

Table 6 provides a summary of the water billed by Brunswick County for FY22 using the same approach as the City of Southport. The County's wholesale customers totaled approximately 2,305 MG, or 47% of the total water demand and accounted for 40% of total revenues. Residential, commercial, and industrial customers consumed 2,565 MG or 53% of the water demand and accounted for 60% of revenues.

Table 6. FY22 Billed Water – County

	Residential/Commercial	Wholesale	Industrial	Total
<i>Million Gallons (MG)/Year</i>	2,027	2,305	538	4,870
<i>Average MG/Month</i>	168.92	192.09	44.80	
<i>Average Million Gallons per Day (MGD)</i>	5.55	6.32	1.47	
<i>% of Total</i>	42%	47%	11%	100%
<i>Max Month MGD</i>	7.08	9.28	1.95	
<i>Total Billed Per Year</i>	\$12,014,900	\$9,296,693	\$2,196,238	\$23,507,831
<i>% of Total</i>	51%	40%	9%	100%
<i>Average Cost Per 1000 Gallons</i>	\$5.93	\$4.03	\$4.08	\$4.83

6.0 POPULATION AND WATER DEMAND PROJECTIONS

6.1 POPULATION PROJECTIONS

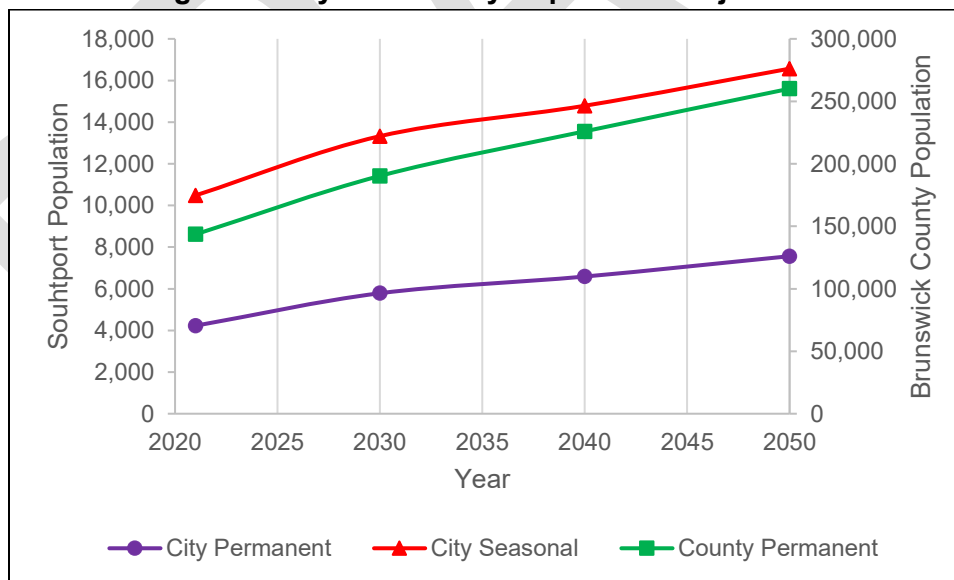
6.1.1 Through 2050

Table 7 provides the population projections for the City and County through 2050. The Office of State Budget and Management (OSBM) certified 2021 population estimates are presented for a baseline. The County's projections are drawn from the OSBM's population growth tables. The City's permanent population was predicted through 2050 taking an average of the growth rates contained in the City's complete 2020 LWSP and provisional 2022 LWSP and demonstrated between the OSBM 2020 base and certified 2021 estimates. The City's seasonal population through 2050 was estimated with the assistance of the Cape Fear Council of Governments (COG). **Figure 4** is a visual presentation of the City's permanent and seasonal population projections.

Table 7. City and County Population Projections

Year	2021	2030	2040	2050
<i>City Permanent Population</i>	4,226	5,786	6,587	7,564
<i>City Seasonal Population</i>	10,484	13,328	14,789	16,570
<i>County Permanent Population</i>	143,550	190,301	225,987	260,121

Figure 4. City and County Population Projections



6.1.2 Build-Out

The Cape Fear COG presented their Buildout Analysis for the City of Southport on September 9, 2023. The buildout does not have a time horizon and imagines maximum allocation of development to vacant lots. **Table 8** provides a summary of the two scenarios. The population

increase is based upon the addition of 2.43 persons per new housing unit. These housing units may be in extraterritorial jurisdiction (ETJ) or corporate limits.

Table 8. Population Estimates at Buildout

Scenario	2021	Additional Persons	Potential Population
<i>Based on Existing Zoning</i>	4,226	11,304	15,530
<i>Based on Modified Zoning</i>		22,605	26,831

The modified zoning estimate anticipates currently industrial-zoned land will be utilized for future residential development and considers increased residential densities in currently vacant R-10 (single and two-family residences with 10,000 square foot minimum lots) and R-20 (single and two-family residences with 20,000 square foot minimum lots without public water and sewer, and 15,000 square foot minimum lots with either public water or sewer) zoning districts.

6.2 DEMAND PROJECTIONS

According to the City's 2020 LWSP, the City's 3,244 customers had a total average demand of 0.51 MGD. July had the highest maximum day use of 2020 with 0.95 MGD. Variance to FY22 billing records can be attributed to water loss and other factors. The City estimated that water loss is roughly 18%.

The City's customer base is anticipated to grow annually by 5% from the 2020 base year. The flow projections through 2050 are shown in **Table 9** and shows that average water demand could total 2.20 MGD or 430% of current demands. Because the City must meet maximum day demands for water supply, this demand scenario is used for evaluation of alternatives.

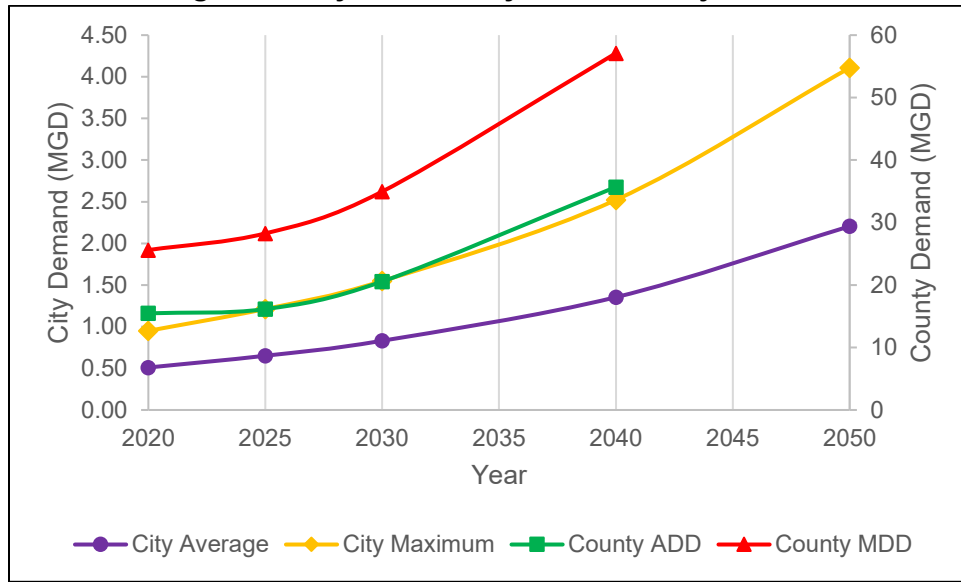
Table 9. City Demand Projections

Year	2020	2025	2030	2040	2050
<i>City Customers</i>	3,244	4,141	5,286	8,611	14,027
<i>City Demand - Average Daily (MGD)</i>	0.51	0.65	0.83	1.35	2.21
<i>City Demand - Maximum Day (MGD)</i>	0.95	1.21	1.55	2.52	4.11

6.3 SUMMARY

Figure 5 is a visual presentation of the projected demands in **Table 9** and the expected average day demand (ADD) and Maximum Daily Demand (MDD) from the County's Draft 2023 Water Treatment and Distribution Master Plan. For purposes of the MRF Study, it was assumed that capacity needs of the County's water distribution and treatment systems will be improved as needed to capture the City's future demand.

Figure 5. City and County Demand Projections



7.0 WATER SYSTEM OPERATING BUDGET AND PERSONNEL

The comparison and evaluation of the current water operating budgets for the City and the County is necessary to help provide a basis for a possible utility system merger in the future.

7.1 WATER COST OF OPERATIONS COMPARISON

Table 10 shows the resulting unit costs of operation. The FY22 water “billed” flow (metered consumption) and the current budgets were used to determine the unit cost per thousand-gallons. The City’s average cost is more than 7% higher than that for the County on an overall per gallon basis.

Table 10. Unit Costs of Operation

Water System	FY22 Total Charges	FY22 Water Billed (MG)	Average Cost/1000 gallons
<i>City of Southport</i>	\$588,451	114	\$5.18
<i>Brunswick County</i>	\$23,507,831	4,870	\$4.83

7.2 WATER RATES

After comparing the overall unit costs for each system, it is helpful to compare actual water rates from typical residential users. A typical residential customer using 5,000 gallons per month is used for comparison purposes.

7.2.1 *City of Southport*

Table 11 shows the monthly bill for a typical residential user within the City limits using 5,000 gallons of water monthly based on rates effective July 1, 2023.

Table 11. City Residential Water Rate

Base Rate	1,001 – 3,000 gallons (per 1,000)	3,001 – 5,000 gallons (per 1,000)	Total Bill
\$26.45	\$8.73	\$10.45	\$64.81

7.2.2 *Brunswick County*

Table 12 shows the monthly bill for a typical residential user with a ¾” retail meter using 5,000 gallons of water monthly based on rates effective July 1, 2023.

Table 12. County Residential Water Rate

Base Rate	0-4,999 gallons (per 1,000)	Total Bill
\$16.00	\$4.15	\$36.75

The \$28.06 difference between water rates for a residential is notable. Not only is the base rate \$10.45 higher for the City, the County maintains a single variable rate of \$4.15 for the first 5,000 gallons while the City has two higher variable rates of \$8.73 and \$10.45 at the 1,000 and 3,000 gallon thresholds, respectively.

7.3 HIGH LEVEL WATER EXPENDITURE COMPARISON

The FY22 salaries and fringe benefits, operating expenditures, repairs and maintenance, and the annual debt service are the major water expenditures used for comparison purposes in **Table 13**. Comparing the differences may indicate potential cost sharing, or potentially savings, due to the economies of scale of operating a larger system.

Also, a significant cost difference when comparing salaries and wages with number of personnel could indicate the probability of operational complexities within the system that require higher levels of personnel training. The County's average "salaries and wages" for the operation of its water system is approximately 70% higher than that for the City based on the number of personnel required for both systems.

Table 13. FY22 Major Water Expenditures

Water System	Salaries & Fringe Benefits	Operating Expenditures	Repairs & Maintenance (R&M)	Debt Service	Personnel
<i>City of Southport</i>	\$373,984	\$196,047	\$0	\$0	7.4
<i>Brunswick County</i>	\$7,968,594	\$8,116,933	\$5,294,529	\$3,227,386	94.8

On a per employee basis, shown in **Table 14**, the County operates at \$259,709 per employee and the City operates at \$76,681; but historically the City does not have the same level of Repairs and Maintenance or Debt Service costs that are presently incurred by the County. When excluding the Repairs & Maintenance and Debt Service costs for the County, the County's per employee closes by \$90,000 leaving a differential gap of \$93,000 between the City and County on a per employee basis.

Table 14. FY22 Total Expenditures per Employee

Water System	Total Expenditures	Personnel	Total per Employee	Total per Employee, exc. R&M & Debt Service
<i>City of Southport</i>	\$570,031	7.4	\$76,681	\$76,681
<i>Brunswick County</i>	\$24,607,442	94.8	\$259,709	\$169,768

8.0 ALTERNATIVES

The Cape Fear River Basin is the largest river basin in North Carolina—and its most industrialized¹. However, that industrial activity has also been linked to the presence of per- and polyfluoroalkyl substances (PFAS), specifically hexafluoropropylene oxide-dimer acid, otherwise known by its trade name GenX. In June 2017, the North Carolina Department of Environmental Quality (NCDEQ) and the North Carolina Department of Health and Human Services began investigating the presence of GenX in the Cape Fear River. In November 2021, NCDEQ “determined that Chemours is responsible for contamination of groundwater monitoring wells and water supply wells in New Hanover County and potentially Pender, Columbus, and Brunswick counties.”²

In February 2019, a Consent Order between NCDEQ, Cape Fear River Watch, and Chemours was signed; in 2022, the Consent Order incorporated the U.S. Environmental Protection Agency (USEPA)’s health advisory level for GenX of 10 parts per trillion (ppt). Private well sampling funded by Chemours began in February 2022 and is still ongoing. As part of the Four Counties Sampling Program, more than 5,500 residences have been sampled. In Brunswick County alone, over 50 wells exceeded 10 ppt for GenX, and more than 100 wells have PFAS (other than GenX) levels above 10 ppt or a total sum of PFAS above 70 ppt³.

The PFAS contamination of the Cape Fear River Basin and the ever-evolving regulatory landscape helped drive the search for alternatives. To identify whether regional approaches would be feasible, permitted capacities of existing treatment facilities in Brunswick County were investigated; this information is summarized in **Table 15**. The County’s three-phase expansion of the Northwest WTP will feature reverse osmosis, which is effective at removing PFAS, according to the USEPA. The County anticipates the RO system to go online in late 2023, with final completion in early 2024. The H2GO WTP, which went online in 2023, also uses RO.

¹ North Carolina Office of Environmental Education and Public Affairs. (2018). Cape Fear River Basin [Brochure]. Retrieved from <https://www.eenorthcarolina.org/documents/files/cape-fear-river-basin>

² North Carolina Department of Environmental Quality. (2021, November 3). DEQ expands actions required by Chemours to address GenX/PFAS contamination [Press release]. Retrieved from <https://www.deq.nc.gov/news/press-releases/2021/11/03/deq-expands-actions-required-chemours-address-genxpfas-contamination>

³ Chemours. (2023). Consent Order Progress Report for Second Quarter 2023. Retrieved from https://www.chemours.com/en/-/media/files/corporate/fayetteville-works/2q2023-quarterly-progress-report_0.pdf?rev=b70e36f180a6472da4381e86ec66fa97&hash=6B1BDF9B12B3F533C1EB45DE61583F6D

Table 15. Capacities of Facilities in Brunswick County

Water Treatment Facility		Approx. Distance from Southport (miles)	Treatment Facility Type	Permit Number	Permitted Capacity (MGD)	Potential Feasible Solution (Y/N)
Northwest WTP/Hood Creek WTP	Brunswick County	26.49	Surface Water	NC0057533	24	Y
Beaverdam Creek WTP/211 WTF		4.30	Groundwater	NC0040061	6.0	
H2GO WTP	H2GO	18.98	Groundwater	NC0089613	6.0	Y

Evaluation of the alternatives was conducted using a 20-year present worth analysis. Present worth analysis involves comparing mutually exclusive alternatives by converting their future cash flows to equivalent present monetary units. From this a present value (PV) is calculated – PV is the current value of a future sum of money or stream of cash flows given a specified discount rate; here, the current year is assumed to be FY27. The alternative with the smallest PV is the least costly alternative to implement; non-monetary elements are not factored into the analysis. Operations, maintenance, and capital outlay costs from the County's 2022 Comprehensive Annual Financial Report and the City's Financial Statements for the Year Ended June 30, 2022 were adjusted to FY27 using a 4.0% annual cost escalation factor. These annual O&M costs were assumed to be constant over a 20-year timeframe and converted to a single FY27 cash value using a present worth discount factor of 4.6%. This lump sum payment was then added to the expected FY27 capital cost for each alternative.

The PV from an annual payment of A over n years with discount rate r is found from the formula below:

$$PV = A \left[\frac{(1 + r)^n - 1}{r(1 + r)^n} \right]$$

The total PV was then divided by the projected number of customers for FY27 assuming an annual 5.0% customer growth scenario. This generates a PV cost per customer for comparison purposes.

8.1 ALTERNATIVE 1: RETAIN OWNERSHIP & OPERATIONS

This alternative maintains the current situation, whereby the City continues to own, operate, and maintain its distribution system and receives revenue through water sales. The City would continue to purchase finished water from Brunswick County through a wholesale customer rate.

8.1.1 Advantages and Disadvantages

Advantages:

- The City retains ownership and remains in control of the future of its water distribution system utility. Without merging, the City can make its own decisions about capital projects to address water capacity and quality needs and its local impacts.

- The City retains revenues from water sales, helping offset costs for employees partially funded by water revenues.
- The City continues to have a negotiated interlocal agreement with Brunswick County for water purchase.

Disadvantages:

- The City determines ways to manage planned expenditures, including major capital improvement costs, through periodic customer rate adjustments (costs are spread out over a smaller number of customers).
- The City remains responsible for all costs associated with current and future capital improvement projects.
- Water rates likely remain higher for residential and commercial users which may limit future growth in the City's service area.
- The City may be limited in recruiting future heavy commercial and industrial customers as allotted water capacity will continue to be negotiated with the County.
- By operating as a stand-alone system, incentives to merge systems and opportunities for economies of scale cost savings are diminished.

8.1.2 Cost Summary

Table 16 shows the estimated present value (PV) of this alternative in 2027 dollars per City customer. O&M costs (including Adjusted Base salaries and fringe benefits, operating expenditures, repairs and maintenance, water purchases, and capital outlay) are assumed to escalate at 4% annually using the FY22 water and sewer expenditures budget as a baseline. For this alternative, bulk water purchases are expected to increase 4% annually and capital outlay is a new line item that is expected to account for 10% of recurring expenditures.

Table 16. Present Worth Analysis of Alternative #1

Alternative #1	FY22 Base	Base Adjustment	Adjusted Base	Adjusted FY27
<i>Operation & Maintenance</i>				
Salaries & Fringe Benefits	\$ 373,984	\$ -	\$ 373,984	\$ 455,008
Operating Expenditures	\$ 196,047	\$ -	\$ 196,047	\$ 238,521
Repairs & Maintenance	\$ -	\$ -	\$ -	\$ -
Water Purchases	\$ 825,515	\$ -	\$ 825,515	\$ 1,004,365
Capital Outlay	\$ -	\$ 150,000	\$ 150,000	\$ 182,498
Debt Service	\$ -	\$ -	\$ -	\$ -
Total Expenditures	\$ 1,395,546			\$ 1,880,392
No. of Water Customers	3,244			4,141
Avg Monthly Charge per Customer	\$ 35.85			\$ 37.84
PRESENT WORTH ANALYSIS				
O&M + Capital Outlay Value (exc. Debt Service)			\$	1,880,392
Interest Factor				4.6%
20 Year Present Worth O&M + Capital Outlay Value			\$	24,249,447
Total			\$	24,249,447
PV per Customer			\$	5,856
Notes:				
1. FY22 Base Salaries & Fringe Benefits and Operating Expenditures reflect 50% of total costs for Water and Sewer Ent. Fund Budget.				
2. Capital Outlay is adjusted to represent approx. 10% of total recurring expenditures.				

The cost summary table shows that estimated rates for water service per customer will continue to increase due to inflationary factors; the City will be less able to spread costs due to a smaller overall customer base. The projected 20-year present worth total is \$24.2 million generating a cost per customer of \$5,856 based on 4,141 connections.

8.2 ALTERNATIVE 2: MERGE WITH BRUNSWICK COUNTY

According to the Journal AWWA, fewer than 100 sales and purchases of water utilities by privately owned utilities occur annually; sales and purchases by municipal water systems tend to occur even less frequently, and then only usually between neighboring municipalities⁴. The City is in a unique position in that it purchases water at a wholesale rate from the County.

For this alternative, the potential exists that the City would no longer need to employ water system associated staff as the County would maintain and repair the water system; but the City's water

⁴ Mastracchio, J., McCartney, A., Fedder, T., Bui, A., King, P., Lane, M. (2020). How much is it worth? An overview of valuing water utilities. *Journal AWWA*, 112(8), 32-43. <https://doi.org/10.1002/awwa.1554>

system employees may in turn be retained by Brunswick County Public Utilities Department. The City will also forgo revenues from water sales. The County would assume ownership, operation, and maintenance of the City's water distribution system.

8.2.1 Advantages and Disadvantages

Advantages:

- The City would continue to depend on Brunswick County for reliable water supply.
- As a member entity, the City would no longer be solely financially responsible for operating, maintaining, and repairing its water distribution system.
- City customers would pay a negotiated rate as part of the County's system, and the City would no longer pay a bulk wholesale rate to the County. The new negotiated member rate is expected to be approximately 60% of the current bulk wholesale rate.
- The City's water system and administrative personnel may be hired by the County to continue to operate and maintain the City's system.
- Lower water rates for the City's customers would likely result from becoming part of a larger system with a higher number of customers providing economies of scale savings.

Disadvantages:

- The City relinquishes control of its distribution system as an asset valued at approximately \$16.8 million (refer to **Table 1**).
- The City has less control over its planned future expansion of its water system; the County, in consultation with the City, may make decisions regarding available water system capacity which could affect industry recruitment and local needs/goals.
- The City loses revenues from water sales and must find other means to fund water-related personnel or eliminate those positions. Revenues lost must be compensated for by other means to maintain staffing and help fund other budget items funded via water sales.
- This revenue loss may result in increased taxes and fees to fund this deficit. **Table 17** apportions the Revenue Departments 31-91 and 32-92 from January to December 2023 between water and sewer sectors. The revenue breakdown for 32-92 account numbers is reflected in the line item for 31-91-3780-0000. Water sales comprise more than 25% of the total \$7.6 million budgeted for 31-91.

Table 17. Southport Water/Sewer Trial Balance Revenues

Account Number	Description	Budget Amount	% Water	\$ Water	% Sewer	\$ Sewer
REVENUE						
DEPT 91						
31-91-3350-0400	Water Inventory Asset Grant	\$ -				
31-91-3420-0200	FEMA Reimbursement WS	\$ -				
31-91-3470-0890	WW Treatment Env Study	\$ -				
31-91-3720-0000	Water Sales	\$ 2,055,672	100%	\$2,055,672	0%	\$0
31-91-3720-0100	Water/Sewer Tap Fees	\$ 75,885	50%	\$37,943	50%	\$37,943
31-91-3720-0200	Sewer Impact Fees	\$ -				
31-91-3720-0300	Water Impact Fees	\$ -				
31-91-3720-0400	Service Charges	\$ 26,095	50%	\$13,048	50%	\$13,048
31-91-3740-0000	Sewer Sales	\$ 3,850,000	0%	\$0	100%	\$3,850,000
31-91-3780-0000	Transfer From System Dev Cap	\$ 780,983	11%	\$87,515	89%	\$693,468
31-91-3780-1000	Transfer From General Fund	\$ -				
31-91-3831-0000	Interest Earned	\$ -				
31-91-3833-0005	Donations UB	\$ -				
31-91-3835-0000	Sale of Fixed Assets	\$ -				
31-91-3839-0000	Miscellaneous Revenues	\$ 22,925	50%	\$11,463	50%	\$11,463
31-91-3839-0200	Insurance Recovery	\$ -				
31-91-3839-0500	Credit Card Fee	\$ -				
31-91-3920-0000	Proceeds From Financing	\$ 631,977	50%	\$315,989	50%	\$315,989
31-91-3991-0000	Appropriated Fund Balance	\$ 169,403	50%	\$84,701	50%	\$84,701
31-91-3991-0100	Undesignated Revenue	\$ -				
31-91 REVENUE Total:		\$ 7,612,940		\$ 2,606,329		\$ 5,006,610
REVENUE						
DEPT 92						
32-92-3720-0200	Sewer Development Fees	\$ 693,468	0%	\$0	100%	\$693,468
32-92-3720-0300	Water Development Fees	\$ 87,515	100%	\$87,515	0%	\$0
32-92 REVENUE Total:		\$ 780,983		\$ 87,515		\$ 693,468

8.2.2 Cost Summary

Table 18 shows the estimated PV of this alternative in 2027 dollars per County customer. Current City customers are assumed to become County customers. O&M costs (including Adjusted Base salaries and fringe benefits, operating expenditures, repairs and maintenance, water purchases, and capital outlay) are assumed to escalate at 4% annually using the FY22 water expenditures budget as a baseline. For this alternative, bulk water purchase charges are assumed to be 60% of current County charges with the City becoming a partner of the County system. And capital outlay has been adjusted to account for 10% of recurring expenditures.

Table 18. Present Worth Analysis of Alternative #2

Alternative #2	FY22 Base	Base Adjustment	Adjusted Base	Adjusted FY27
<i>Operation & Maintenance</i>				
Salaries & Fringe Benefits	\$ 7,968,594	\$ 373,984	\$ 8,342,578	\$ 10,150,021
Operating Expenditures	\$ 8,116,933	\$ 196,047	\$ 8,312,980	\$ 10,114,011
Repairs & Maintenance	\$ 5,294,529	\$ -	\$ 5,294,529	\$ 6,441,604
Water Purchases	\$ -	\$ 495,000	\$ 495,000	\$ 602,243
Capital Outlay	\$ 4,018,506	\$ (1,200,000)	\$ 2,818,506	\$ 3,429,144
Debt Service	\$ 3,227,386	\$ -	\$ 3,227,386	\$ 3,227,386
Total Recurring Expenditures	\$ 28,625,948		\$ 28,490,979	\$ 33,964,409
No. of Water Customers	51,180			69,462
Avg Monthly Charge per Customer	\$ 46.61			\$ 40.75
PRESENT WORTH ANALYSIS				
O&M + Capital Outlay Value (exc. Debt Service)				\$ 30,737,023
Interest Factor				4.6%
20 Year Present Worth O&M + Capital Outlay Value				\$ 396,383,119
Total				\$ 396,383,119
PV per Customer				\$ 5,706
Notes:				
1. Base Adjustment Salaries & Fringe Benefits and Operating Expenditures reflect 50% of total costs for Water and Sewer Ent. Fund Budget.				
2. Bulk water purchase adjustment of \$495K assumes new Brunswick Co. member rate will be 60% of existing bulk customer rate.				
3. Capital Outlay is adjusted to represent approx. 10% of total recurring expenditures.				

Under this scenario, acquisition of the City's distribution system, valued at approximately \$16.8 million, by the County could be negotiated but is not included in **Table 18**. (Refer to **APPENDIX B** for a more detailed valuation of the City's distribution system.)

The projected 20-year present worth total is \$396 million generating a cost per customer of \$5,706 based on 69,462 connections.

8.3 ALTERNATIVE 3: REGIONALIZATION WITH BRUNSWICK REGIONAL WATER AND SEWER H2GO

This alternative involves the installation of a 12-inch distribution line conveying finished water from the one (1)-MG Leland Industrial Park tank owned by H2GO to a new 750,000-gallon tank. Due to distance between Leland and Southport, it is assumed two booster pump stations (BPS) will be necessary.

It is assumed that the City would negotiate a similar wholesale bulk water purchase agreement with H2GO as it currently has with the County. The two systems would not merge and the City would continue to be responsible for the capital improvements, associated debt service, and continued O&M costs for its distribution system.

A figure for this route is provided in **APPENDIX C**. The construction cost estimate is provided in **Table 19**. The credit to the City to transfer its existing storage capacity of the 1-MG tank to the County is not included in the estimate. And the City continues to manage its own distribution system.

Table 19. Preliminary Cost Opinion – H2GO Water System Connection

Description	Quantity		Unit Cost	Total Cost
16" PVC C900 Watermain	120,000	LF	\$400	\$48,000,000
Stream Crossing	3	EA	\$25,000	\$75,000
Railroad Crossing	50	LF	\$1,000	\$50,000
Sedimentation & Erosion Control	1	LS	\$480,000	\$480,000
Pavement and Driveway Repair	8,000	SY	\$75	\$600,000
Finished Water Booster Station	2	EA	\$600,000	\$1,200,000
H2GO WTP Expansion (3.5 MGD)	3,500,000	GAL	\$30	\$70,000,000
New Elevated Storage Tank	750,000	GAL	\$5	\$3,750,000
Total Construction Costs				\$124,155,000
Contingency (15%)				\$18,623,000
Easements & Right of Way				\$621,000
Engineering & Inspection				\$17,382,000
Legal & Administrative				\$1,242,000
Total Project Cost				\$162,023,000

8.3.1 Cost Summary

Table 20 shows the PV of this alternative in 2027 dollars per City customer. O&M costs (including Adjusted Base salaries and fringe benefits, operating expenditures, repairs and maintenance, water purchases, and capital outlay) are assumed to escalate at 4% annually using the FY22 water and sewer expenditures budget as a baseline. For this alternative, bulk water purchase charges are expected to be 15% higher than the County and capital outlay is expected to account for 10% of recurring expenditures.

In 2027, the City's debt service is based on a 20-year low interest loan to cover the capital improvements of \$162.023 million identified in **Table 19** for a total of \$9.437 million.

Table 20. Present Worth Analysis of Alternative #3

Alternative #3	FY22 Base	Base Adjustment	Adjusted Base	Adjusted FY27
<i>Operation & Maintenance</i>				
Salaries & Fringe Benefits	\$ 373,984	\$ -	\$ 373,984	\$ 455,008
Operating Expenditures	\$ 196,047	\$ -	\$ 196,047	\$ 238,521
Repairs & Maintenance	\$ -	\$ -	\$ -	\$ -
Water Purchases	\$ 825,515	\$ 123,827	\$ 949,342	\$ 1,155,020
Capital Outlay	\$ -	\$ 160,000	\$ 160,000	\$ 194,664
Debt Service	\$ -	\$ 9,437,149	\$ 9,437,149	\$ 9,437,149
Total Expenditures	\$ 1,395,546			\$ 11,480,363
No. of Water Customers	3,244			4,141
Avg Monthly Charge per Customer	\$ 35.85			\$ 231.03
PRESENT WORTH ANALYSIS				
H2GO Connection Capital Imp Cost			\$	162,023,000
O&M + Capital Outlay Value (exc. Debt Service)			\$	2,043,214
Interest Factor				4.6%
20 Year Present Worth O&M + Capital Outlay Value			\$	26,349,182
Total			\$	188,372,182
PV per Customer			\$	45,490
Notes:				
1. FY22 Base Salaries & Fringe Benefits and Operating Expenditures reflect 50% of total costs for Water and Sewer Ent. Fund Budget.				
2. Bulk water purchase adjustment assumes negotiated rate with BRH2GO will be 15% higher than ex. Agreement rate with Brunswick Co.				
3. Capital Outlay is adjusted to represent approx. 10% of total recurring expenditures.				
4. Debt service adjustment for H2GO Connection.				

The projected 20-year present worth total is \$188 million generating a cost per customer of \$45,490 based on 4,141 connections. Ultimately, due to capacity concerns of the H2GO WTP and overall associated capital costs to upgrade and expand it, this alternative is deemed infeasible and is removed from further consideration.

8.4 ALTERNATIVE #4: NEW REVERSE OSMOSIS WATER TREATMENT PLANT

This alternative involves the City constructing a new reverse osmosis water treatment plant for the City's long-term water supply. While significant headwinds prevent this from being a feasible alternative, for purposes of this Study, presentation of this approach shows how it compares with the other alternatives presented.

Reverse osmosis is an effective means for treating groundwater (and surface water) and aligns well with water supply needs; further, it has been successfully permitted and constructed in the region. However, construction of a new water treatment plant would mean that the City abandons its long-term arrangement with the County for water supply. This alone provides logistical challenges and is not an immediate solution. Planning, design, and construction of a new water plant, should sufficient groundwater supply be found, would take at least five years. Challenges also include permitting hurdles, overall costs, and land availability to list a few.

The construction cost estimate is provided in **Table 21**. In this alternative, the City will maintain its share of the 1-MG tank and rehabilitate its existing offline tank.

Table 21. Preliminary Cost Opinion – City Reverse Osmosis Water Treatment Plant

Description	Quantity		Unit Cost	Total Cost
Above Ground Well Cost	3	EA	\$1,000,000	\$3,000,000
Raw Water Transmission	20,000	LF	\$100	\$2,000,000
Rehabilitate Existing Tank	1	LS	\$750,000	\$750,000
RO Interior Process Piping	1	LS	\$2,000,000	\$2,000,000
Below Ground Yard Piping	1	LS	\$2,500,000	\$2,500,000
Civil and Site Work	1	LS	\$4,000,000	\$4,000,000
Process Equipment and Installation	1	EA	\$8,000,000	\$8,000,000
Structural (concrete and metalwork)	1	EA	\$3,500,000	\$3,500,000
Architectural RO Building	1	EA	\$5,000,000	\$5,000,000
SCADA System	1	EA	\$2,000,000	\$2,000,000
RO Building Plumbing	1	EA	\$400,000	\$400,000
RO Building HVAC	1	EA	\$1,500,000	\$1,500,000
WTP 3.5 MGD (including Generator and Supplemental Storage)	1	LS	\$60,000,000	\$60,000,000
Site Electrical	1	LS	\$900,000	\$900,000
Well Site Electrical	3	EA	\$330,000	\$990,000
Portable Generators	2	EA	\$185,000	\$370,000
Total Construction Costs				\$96,910,000
Contingency (15%)				\$14,537,000
Land Purchase				\$250,000
Engineering & Inspection				\$14,537,000
Legal & Administrative				\$1,938,000
Total Project Cost				\$128,172,000

8.4.1 Cost Summary

Table 22 shows the PV of this alternative in 2027 dollars per City customer. O&M costs (including Adjusted Base salaries and fringe benefits, operating expenditures, repairs and maintenance, and capital outlay) are assumed to escalate at 4% annually using the FY22 water and sewer

expenditures budget as a baseline. For this alternative, capital outlay is expected to account for 10% of recurring expenditures.

In 2027, the City's debt service is based on a 20-year low interest loan to cover the capital improvements of \$128.172 million identified in **Table 21** for a total of \$7.465 million.

Table 22. Present Worth Analysis of Alternative #4

Alternative #4	FY22 Base	Base Adjustment	Adjusted Base	Adjusted FY27
<i>Operation & Maintenance</i>				
Salaries & Fringe Benefits	\$ 373,984	\$ 112,195	\$ 486,179	\$ 591,511
Operating Expenditures	\$ 196,047	\$ 58,814	\$ 254,861	\$ 310,077
Repairs & Maintenance	\$ -	\$ 500,000	\$ 500,000	\$ 608,326
Water Purchases	\$ 825,515	\$ (825,515)	\$ -	\$ -
Capital Outlay	\$ -	\$ 140,000	\$ 140,000	\$ 170,331
Debt Service	\$ -	\$ 7,465,472	\$ 7,465,472	\$ 7,465,472
Total Expenditures	\$ 1,395,546			\$ 9,145,718
No. of Water Customers	3,244			4,141
Avg Monthly Charge per Customer	\$ 35.85			\$ 184.05
PRESENT WORTH ANALYSIS				
New RO WTP Capital Imp Cost				\$ 128,172,000
O&M + Capital Outlay Value (exc. Debt Service)				\$ 1,680,246
Interest Factor				4.6%
20 Year Present Worth O&M + Capital Outlay Value				\$ 21,668,367
Total				\$ 149,840,367
PV per Customer				\$ 36,185
Notes:				
1. FY22 Base Salaries & Fringe Benefits and Operating Expenditures reflect 50% of total costs for Water and Sewer Ent. Fund Budget.				
2. Salaries & Fringe Benefits and Operating Expenditures in Adjusted Base reflects 30% increase from FY22 Base to account for the new WTP operations.				
3. Capital Outlay is adjusted to represent approx. 10% of total recurring expenditures.				
4. Debt service adjustment for WTP construction.				

The projected 20-year present worth total is \$150 million generating a cost per customer of \$36,185 based on 4,141 connections.

9.0 CONCLUSIONS & RECOMMENDATIONS

By investigating merger or regional approaches to water treatment, transmission, and distribution, the City is proactively investigating means to share costs and provide the most viable, feasible, and long-term solution.

After evaluation of three alternatives, two alternatives remain viable. The City can continue to operate independently and pay for its water supply or it can merge with Brunswick County and benefit from a higher customer base and economies of scale cost savings. Operation and maintenance cost savings from regional negotiations with H2GO may also be realized, but the capital costs associated with building new infrastructure to pump water to the City outweigh any O&M savings.

Table 23. Summary of Alternatives

Alternative	Total Present Worth Cost	Total Present Worth Cost Per Customer	Feasible? (Yes/No)
<i>Retain Ownership & Operations</i>	\$24 million	\$5,856	Yes
<i>Merge with Brunswick County</i>	\$396 million	\$5,706	Yes
<i>Regionalization with Brunswick Regional Water and Sewer H2GO</i>	\$188 million	\$45,490	No
<i>New Reverse Osmosis Water Treatment Plant</i>	\$150 million	\$36,185	No

If the City wishes to divest itself of its water infrastructure, a merged scenario between the City and County appears to be the simplest and most cost-effective means towards regionalization. It is the most feasible of the two alternatives involving regionalization or merger. Furthermore, as the City is pursuing merger of its wastewater collection system with the County's, there could be efficiencies gained from operating both systems by the County (ultimately lowering costs per each).

Construction of a new RO WTP for the City was not investigated further as there are significant headwinds towards construction of new facilities including costs, uncertainty of supply source, and challenges obtaining permitting. Establishment of a new regional authority to manage water in the area would take years to develop, even if there was appetite for such an arrangement.

The City and County are already interconnected, with the County providing the City's water supply. AMP- and CIP-identified projects are planned for implementation so that the current arrangement can be maintained well into the future. And, based upon financial information provided, and estimated future costs, overall cost per customer is lower if the City's system becomes part of a larger system.

It should be noted that such an arrangement would mean loss of water revenues, and the dedicated water system workforce would no longer be needed; however, the County may elect to hire the City's staff to continue operations of the City's system plus other facilities owned and operated by the County.

Lastly, the City has both physical assets and personnel assets that should be used in negotiations if system consolidation is to occur. The City's distribution system assets of \$16.8 million (refer to **Table 1**) could be financially evaluated as they will be ultimately transferred to the County. Likewise, the City employs valuable personnel assets with technical and finance skills, system knowledge, and regional loyalty that would be extremely valuable in the continued operation, maintenance and repair of the City's existing system and forthcoming investment in County-owned facilities.

DRAFT

APPENDIX A

WHOLESALE BULK WATER SERVICE AGREEMENT
(EXCLUSIVE WITH MINIMUM PURCHASES)

THIS WHOLESALE BULK WATER SERVICE AGREEMENT, (this “Agreement”) dated as of the 1st day of July 2021, by and between the COUNTY OF BRUNSWICK, a political subdivision of the State of North Carolina (the “County”), and the CITY OF SOUTHPORT, a municipal corporation organized under the laws of the State of North Carolina (“City”) is made pursuant to North Carolina General Statutes, Article 20, Part 1 of Chapter 160A; Article 16, Part 1 of Chapter 160A; and Article 15 of Chapter 153A, and in consideration of the promises made to one another in this Agreement, as follows:

WHEREAS, City desires to obtain an adequate and dependable water supply from the County; and

WHEREAS, County owns and operates a water system with a capacity currently capable of serving the present customers of the County’s system and the estimated number of water users to be served by the City; and

WHEREAS, City acknowledges and understands that this Agreement establishes a minimum amount of treated water that the City is obligated to pay for; and

WHEREAS, City acknowledges and understands that County determines the rates to be paid by the City; and

WHEREAS, City is voluntarily entering into this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the County agrees to furnish water, and City agrees to pay for water, upon the terms and conditions and for the consideration hereinafter set forth, to wit:

SECTION 1
DEFINITION OF TERMS

1.1 Definitions. The following terms and expressions as used in this Agreement, unless the context clearly shows otherwise, shall have the following meanings:

(a) “Monthly Minimum Usage” means the minimum amount of treated water City must compensate the County for during the Monthly Payment Period, and each month thereafter, regardless of whether Customer actually takes such quantity of water.

(b) “Monthly Payment” means the amount of money to be paid to the County by City during each Monthly Payment Period.

(c) “Monthly Payment Period” means any calendar month.

(d) “Agreement Date” means the effective date of this Agreement as set forth on the first page hereof.

(e) “Customer” means any customer with which the County contracts to furnish water.

(f) “Daily Average” means the total annual volume delivered to the City divided by the number of days in the calendar year provided at the Point(s) of Delivery.

(g) “Emergency Condition” means a condition that threatens the public’s health, safety, or welfare.

(h) “City’s Peaking Factor” means the annual peak day demand of the City as determined from the total water volume going through all of the City’s Point(s) of Delivery during the peak day divided by the annual average daily demand.

(i) “Point of Delivery” means the metering point(s) between the provision of service by the County to City, all facilities upstream of which shall be the sole responsibility of the County, and all facilities downstream of which shall be the sole responsibility of the City. There may be multiple Point of Delivery locations for the City. The meter, meter vault, associated check valves, and valves are the property of the County.

(j) “System” means, collectively, the water storage, treatment, transmission, distribution, and supply components comprising an entity’s potable water infrastructure.

SECTION 2

WATER SERVICE

2.1 Minimum Take-or-Pay Quantity. The County agrees to sell to the City at the Point(s) of Delivery defined hereafter, and City agrees to purchase and take at said Point(s) of Delivery, treated water provided at a rate no greater than the Maximum Instantaneous Demand and pressure stated herein. City agrees to pay the monthly Minimum Usage Charge as indicated on the County’s published rate and fee sheet (with payment required whether or not the actual amount is taken) as consideration for the provision of treated water.

2.2 Minimum meter size. The minimum meter size for new or replacement meters shall be 8”. No meter shall be downsized without mutual Agreement from both parties.

2.3 Maximum Instantaneous Demand. The maximum instantaneous demand through any single meter of City during the term of this Agreement shall not exceed either the maximum instantaneous demand capacity of the meter according to the manufacturer’s meter specifications or the following standard maximum instantaneous demands based on meter size, whichever is less:

<u>Meter Size</u>	<u>Rate</u>
6”	900 gpm
8”	1700 gpm
10”	2200 gpm
12”	3100 gpm

County shall not be obligated to supply water at a rate above the maximum instantaneous demand specified herein. If a meter registers over the maximum instantaneous demand rate three or more times in any thirty-day period, the County shall have the right to install a larger size meter and appurtenances at the City’s expense. The City shall be obligated to pay monthly fees based on the new meter size in accordance with the County’s standard rate and fee sheet.

2.4 Daily Demand. To provide for the public’s health and welfare, the County will use its best efforts to develop additional treatment capacity for all customers of the water system as needed to meet the water treatment needs of all customers and will use sound financial planning to provide funds through rates, user

fees, and related charges to provide the requisite facilities to meet such needs. The daily supply available to each customer is subject to limitations upon the County's ability to meet such demands caused by (a) the amount of raw water available to the County through its wells and from its allocated capacity in the Lower Cape Fear Water & Sewer Authority raw water system, (b) the amount of water available from the Cape Fear River as part of the regulatory-determined "safe yield" or actually available during drought conditions, (c) the obligations of the County pursuant to Water Service Agreements to deliver treated water to other customers, (d) the capacity of the water system, (e) completion of any improvements the County elects to make to enable it to provide additional treated water to its Customers. Upon request by the County, City shall provide a map detailing areas supplied or to be supplied by the City as well as updated, estimated peak day demands and annual water system demands for the current year and the next four years at a minimum.

2.5 Quality. The County agrees to furnish the City, at the Point of Delivery specified herein, potable treated water meeting applicable quality standards of the North Carolina Department of Environmental Quality, Division of Water Resources. It is acknowledged by both parties that currently, the County primarily uses chloramines as a residual disinfectant but must change to free chlorine for some period each year, and this may result in changes in taste and odor. The County will provide advance notification of these changes to the City. The City acknowledges that the water quality and responsibility for flushing downstream of the Point(s) of Delivery is the City's responsibility.

2.6 Point(s) of Delivery. The three Points of Delivery for the City are at:

- a) Behind 1635 N. Howe Street (8" meter)
- b) E. Leonard Street and Yaupon Drive (8" meter)
- c) On Southport-Supply Road SE between Walmart entrance and the canal (6" meter)

City agrees to contract with the County for storage capacity or construct adequate water storage so that the maximum rate of delivery will not exceed the maximum instantaneous demand stated herein and so that the City's Peaking Factor does not exceed 3.0 (annual peak day demand divided by annual average daily demand).

The County may approve new delivery points providing water service to locations within the City's jurisdiction. The City agrees to furnish the site at the Point of Delivery. City shall design and construct a separate vault for the new Point of Delivery in accordance with County specifications and details. The County will review and approve the design before construction. The vault will include the billing meter, control valve, isolation valves, various appurtenances, and appropriate SCADA equipment. The City shall bear all costs associated with such installation and shall

deed and dedicate the facilities to the County upon completion and acceptance by the County.

2.7 Water Pressure. County shall furnish water at operating pressures as required by the North Carolina Department of Environmental Quality, Division of Water Resources at the Point(s) of Delivery. If City requires greater pressure than that which meets the regulatory requirements, then City shall bear the cost of providing such greater pressure. Emergency failures of pressure or supply due to line breaks, power failure, flood, fire, and use of water to fight fire, earthquake, hurricane, unavailability or contamination of raw water, or other catastrophe shall excuse County from this provision for such reasonable period of time as may be necessary to effectuate repairs and restore service.

2.8 Meter Reading. The County shall provide a meter reading at or near the end of each calendar month that may be used in conjunction with the previous reading to approximate the flow through the meter during the calendar month. The City shall have access to the meter for reading purposes only, but the County shall perform all adjustments and maintenance.

2.9 Testing of meters. The County may, at any point, and the City may request in writing not more than once in any twelve (12) month time period, the County to test or return the meter to the manufacturer for assessment. If upon any test, the percentage of inaccuracy of any billing meter equipment is found to be in excess of three percent (3%), registration thereof shall be corrected for a period extending back to the time when such inaccuracy began if such time is ascertainable, and if such time is not ascertainable, then for a period extending back one-half (1/2) of the time elapsed since the last date of calibration, but in no event further back than a period of twelve (12) months. If for any reason any billing meters are out of repair so that the amount of water delivered cannot be ascertained or computed from the reading thereof, the water delivered through the period such billing meters are out of service or out of repair shall be estimated upon the basis of the best data available. Otherwise, the amount of water delivered during such period may be estimated (a) by correcting the error if the percentage of the error is ascertainable by calibration tests or mathematical calculation, or (b) estimating the quantity of delivery by deliveries during the preceding periods under similar conditions when the billing meter or meters were registering accurately. The County shall bear the cost of meter testing or assessment performed at the City's request if the meter is found to be reading in excess of 103% of actual flow amounts through the meter; otherwise, these costs shall be paid by the City.

2.10 County as Exclusive Water Provider. The City shall not acquire or produce water from any source other than the County; provided, however, the City may at all times without the County's consent obtain treated water from, and

maintain, repair, and replace treated water systems in existence and owned and operated by the City at the time the City first purchased water from the County. Increasing the capacity of these systems is allowed only with written authorization from the County.

2.11 Temporary Interruptions. The County may at any time shut off the water due to accident, emergency to make connections, alterations, repairs, and changes to the water system. The County will use its best efforts to give notice in advance of water service interruptions when such interruptions can be reasonably expected. It is the obligation of the City to protect the City's facilities so that damage will not occur if water is shut off without notice.

2.12 Curtailment. It is recognized by both parties that curtailment measures may have to be implemented to meet an emergency condition. If the County reduces the amount of treated water available to its customers, it will reduce the supply available to each user in accordance with the latest approved Water Shortage Response Plan. The City agrees to approve and enforce the County's Water Shortage Response Plan and Water Ordinance, or similar Plan and Ordinance no less stringent, for its ratepayers.

2.13 County Facilities. If the City annexes or otherwise expands its boundaries into areas served by County facilities, City acknowledges the County's right to provide service within these areas.

SECTION 3 **PAYMENT AND BILLING**

3.1 Rates and Fees. Rates and fees are determined using the cost-of-service principles described in manual M-1 by the American Water Works Association (AWWA), as they may be amended from time to time. The County shall review and amend its rates and fees annually and publish these prior to July 1 of each year. City agrees to pay applicable wholesale rates, fees, and charges assessed by the County as indicated on the approved Rate and Fee schedule. Current wholesale rates, which are subject to change, include a Base Service Charge, Minimum Usage Charge, and a volumetric rate per 1000 gallons used.

3.2 Billing. On a monthly basis, County shall bill City for water service provided through each bulk meter. The bills shall be payable within 30 days of the date of the invoice.

3.3 Maximum Daily Demand. The County and the City recognize that the City's Water Service Agreement constitutes an essential part of the County's financing plan and Capital Improvement Plan. The City shall make a payment each

month throughout the term of this Agreement in accordance with the County's published rates and fees. The size and number of meters (Points of Delivery) impact the revenue available for expansion, operation, and maintenance of the system and may not be altered without the County's consent.

3.4 Limitation on Resale. After the date of this Agreement, unless required to do otherwise by an applicable regulatory authority or a court of competent jurisdiction, City shall not enter into, renew, or amend with regard to the volume of water to be supplied, any agreement to provide wholesale or new retail water for use outside its corporate boundaries unless the County approves each such Agreement. The City may continue to provide water service to locations that it currently serves outside of its corporate boundaries as of the date of this Agreement. City shall not become a party to any contract for the sale of water to another water provider ("water-wheeling"). The County will use its best efforts to furnish and remain in a position to furnish water sufficient for all reasonable treated water requirements of the City, but its obligation shall be limited to the amount of treated water available to it from the system during routine operation.

SECTION 4

WATER STORAGE

4.1 Water Storage Background. The Public Water Supply Section of the North Carolina Department of Environmental Quality requires utilities providing potable water to its customers to have at least one-half of its average annual daily demand in water storage capacity. The City previously met this requirement through the now-expired Water Sale, and Purchase Contract executed initially on September 10, 1980, by assignment of 236,800 gallons of storage capacity in the County's Smithville Water Tank. The City desires to acquire 230,000 gallons of additional storage capacity within three years to accommodate additional development within the City.

4.2 Water Allocation Assignment. The City of Southport and Brunswick County mutually agree that Brunswick County will assign 351,800 gallons of water storage capacity in its water transmission and distribution system to the City of Southport (236,800 gallons previously assigned plus 115,000 additional). A copy of the executed Agreement will be sent to the Public Water Supply Section of the North Carolina Department of Environment and Natural Resources.

4.3 Capital Contribution. The City of Southport agrees to pay Brunswick County a capital cost of \$460,000 (four hundred sixty thousand) for 115,000 gallons of additional assigned storage capacity in the County-owned water system. An initial

payment of \$46,000 shall be due on or before July 1, 2021, and nine annual payments of \$53,171.62 due July 1 of each subsequent year. Failure to make said payment(s) shall void this section, and the County will notify the NCDEQ that the County is no longer allocating capacity in the County system for the City.

4.4 Maintenance Contribution. The City of Southport agrees to pay the apportioned annual cost of maintaining 351,800 gallons of water storage capacity in the Brunswick County water distribution system. The County currently maintains its water storage tanks through an annual tank maintenance agreement (FY 2021 maintenance cost for 351,800 gallons is \$7,604). Brunswick County shall submit an invoice annually on, or about, July 1 of each year to the City for its share of the cost of maintaining water storage during the upcoming fiscal year and shall include supporting documentation from the tank maintenance firm. This shall be an ongoing cost for the life of the Agreement. Failure to make said payment(s) shall void this section, and the County will notify the NC DEQ that the County is no longer allocating capacity in the County system for the City.

4.5 Storage Option. Brunswick County agrees to extend an option to purchase an additional 115,000 gallons of storage capacity to the City of Southport through December 31, 2023. Upon written confirmation of exercise of the option prior to December 31, 2023, the County and City may amend the Water Sale and Purchase Agreement to provide an additional 115,000 gallons of elevated storage at a capital cost of \$460,000. In addition to the \$460,000 capital charge, the City shall be responsible for the annual maintenance costs associated with a total of 466,800 gallons of elevated storage for the life of the Agreement.

SECTION 5

TERM, TERMINATION, AND RENEWAL OF AGREEMENT

5.1 This Water Service Agreement shall be in full force and effect for a period ending June 30, 2061. Following the term, this Agreement shall automatically renew for one (1) year terms unless a party gives notice to the other party of non-renewal not less than one hundred eighty (180) days before the expiration of the then-current term.

5.2 This Agreement may otherwise be terminated only by mutual Agreement of the parties. A mutually agreeable termination of this Agreement will be on such terms as the parties may agree at the time in question. Each party hereto reserves to itself all legal rights and remedies available at law or in equity in the event of any other breach of this Agreement by the other.

5.3 This Agreement may be renewed or amended by mutual Agreement of the parties, adopted with the same formality as the original.

SECTION 6

REPRESENTATIONS AND COVENANTS

6.1 Each party to this Agreement represents to the other party each of the following as of the effective date of this Agreement, and covenants with the other party that each such representation will remain true and correct:

6.1.1 It has full power and authority to enter into this Agreement, and to enter into and carry out the transactions contemplated by this Agreement.

6.1.2 It has by proper action authorized the execution and delivery of this Agreement and is not in default under any provisions of this Agreement.

6.1.3 The execution, delivery, and performance of this Agreement does not violate or conflict with or require any consent or waiver under any of the terms or conditions in its governing documents or any material Agreement to which it is a party or by which any of its assets are bound or affected, or any law, rule, regulation, order, writ, judgment, decree or other legal or regulatory determination applicable to it.

6.1.4 This Agreement constitutes a legal, valid, and binding obligation enforceable at law and in equity in accordance with its terms and, to the extent that certain remedies under this Agreement require or may require enforcement by a court, such principles of equity as the court having jurisdiction may impose.

6.1.5 It will comply with all applicable federal, state, and local laws with respect to any activities conducted under or pursuant to this Agreement.

6.1.6 No elected or appointed official or employee has any interest (financial, employment, or other) in the transactions contemplated by this Agreement.

6.1.7 It will take no act (or engage in any failure to act) that will prevent, delay, obstruct, frustrate, or otherwise impair or undermine the activities conducted under or pursuant to this Agreement, except as may be necessary to enforce this Agreement or ensure compliance with applicable laws, regulations, and ordinances.

SECTION 7

MISCELLANEOUS PROVISIONS

7.1 Exhibits. All exhibits referenced in this Agreement are incorporated herein by reference as integral parts of this Agreement.

7.2 Amendment to Agreement. This Agreement may be modified or amended only by written amendments that are approved and signed on behalf of both parties in the same manner as the original adoption.

7.3 No assignment without consent. Neither party shall assign this Agreement (or assign any right or delegate any obligation contained herein whether such assignment is of service, of payment, or otherwise) without the prior written consent of the other party hereto. Any such assignment without the prior written consent of the other party hereto shall be void. An assignee shall acquire no rights, and County shall not recognize any assignment in violation of this provision.

7.4 Governing law and venue. This Agreement shall be governed by applicable federal law and by the State of North Carolina laws without regard for its choice of law provisions. All actions relating to this Agreement shall be brought in the General Court of Justice of the State of North Carolina in Brunswick County or the Federal District Court for the Eastern District of North Carolina, Wilmington division.

7.5 Dispute resolution. Should a dispute arise as to the terms of this Agreement, both parties agree that neither may initiate binding arbitration. The parties may agree to non-binding mediation of any dispute prior to bringing any suit or action.

7.6 Governmental Immunity. To the extent applicable, each party does not waive its governmental immunity by entering into this Agreement and fully retains all immunities and defenses provided by law with regard to any action based on this Agreement.

7.7 Non-Waiver. Failure by a party at any time to require the performance of any of the provisions of this Agreement shall in no way affect the party's right hereunder to enforce the same, nor shall any waiver by a party of any breach be held to be a waiver of any succeeding breach or a waiver of this Section.

7.8 No Third-Party Beneficiaries. Nothing in this Agreement shall give any person other than the parties any rights to enforce any provision of this Agreement. There are no intended third-party beneficiaries of this Agreement.

7.9 Entire Agreement. This Agreement constitutes the entire Agreement between the parties with respect to the subject matter herein. There are no other representations, understandings, or agreements between the parties with respect to

such subject matter. This Agreement supersedes all prior agreements, negotiations, representations, and proposals, written or oral.

7.10 Headings. The headings in this Agreement are for convenience of reference only and shall not define or limit any of the terms or provisions hereof.

7.11 Severability. The invalidity of one or more of the phrases, sentences, clauses, or sections contained in this Agreement shall not affect the validity of the remaining portion of the Agreement so long as the material purposes of this Agreement can be determined and effectuated. If a provision of this Agreement is held to be unenforceable, then both parties shall be relieved of all obligations arising under such provision, but only to the extent that such provision is unenforceable, and this Agreement shall be deemed amended by modifying such provision to the extent necessary to make it enforceable while preserving its intent.

7.12 Notices

- a. Delivery of Notices. Any notice, consent, or other communication required or contemplated by this Agreement shall be in writing and shall be delivered in person, by U.S. mail, by overnight courier, by electronic mail, or by facsimile to the intended recipient at the address set forth below.
- b. Effective Date of Notices. Any notice shall be effective upon the date of receipt by the intended recipient. Any notice sent by facsimile or electronic mail shall also be simultaneously sent by mail deposited with the U.S. Postal Service or by overnight courier.
- c. Notice Address. Communications that relate to any breach, default, termination, delay in performance, prevention of performance, modification, extension, amendment, or waiver of any provision of this Agreement shall be sent to:
 - i. For the County: Brunswick County Manager
P.O. Box 249
Bolivia, NC 28422
Fax: 910-253-2022
 - ii. For the City: City of Southport
Attn: City Manager
1029 N. Howe Street
Southport, NC 28461

7.13 Signatures. Together with any amendments or modifications, this Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which shall be considered the same Agreement. This Agreement may also be executed electronically. By signing electronically, the parties indicate their intent to comply with the Electronic Commerce in Government Act (N.C.G.S § 66-358.1 et seq.) and the Uniform Electronic Transactions Act (N.C.G.S § 66-311 et seq.). Delivery of an executed counterpart of this Agreement by either electronic means or by facsimile shall be as effective as a manually executed counterpart.

BRUNSWICK COUNTY

By: Randy Thompson

Printed Name: Randy Thompson

Title: Chairman

Date: 6-21-2021



CITY OF SOUTHPORT

By: Joseph P. Hatem

Printed Name: {Customer Signatory Name} Joseph P. Hatem

Title: {City Signatory Title} Mayor

Date: 6/10/2021

"This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act."

Julie A. Miller
Julie A. Miller, Director of Fiscal Operations
Brunswick County, North Carolina

APPROVED AS TO FORM

Robert V. Shaver, Jr.
Robert V. Shaver, Jr., County Attorney /
Bryan W. Batton, Assistant County Attorney

APPENDIX B

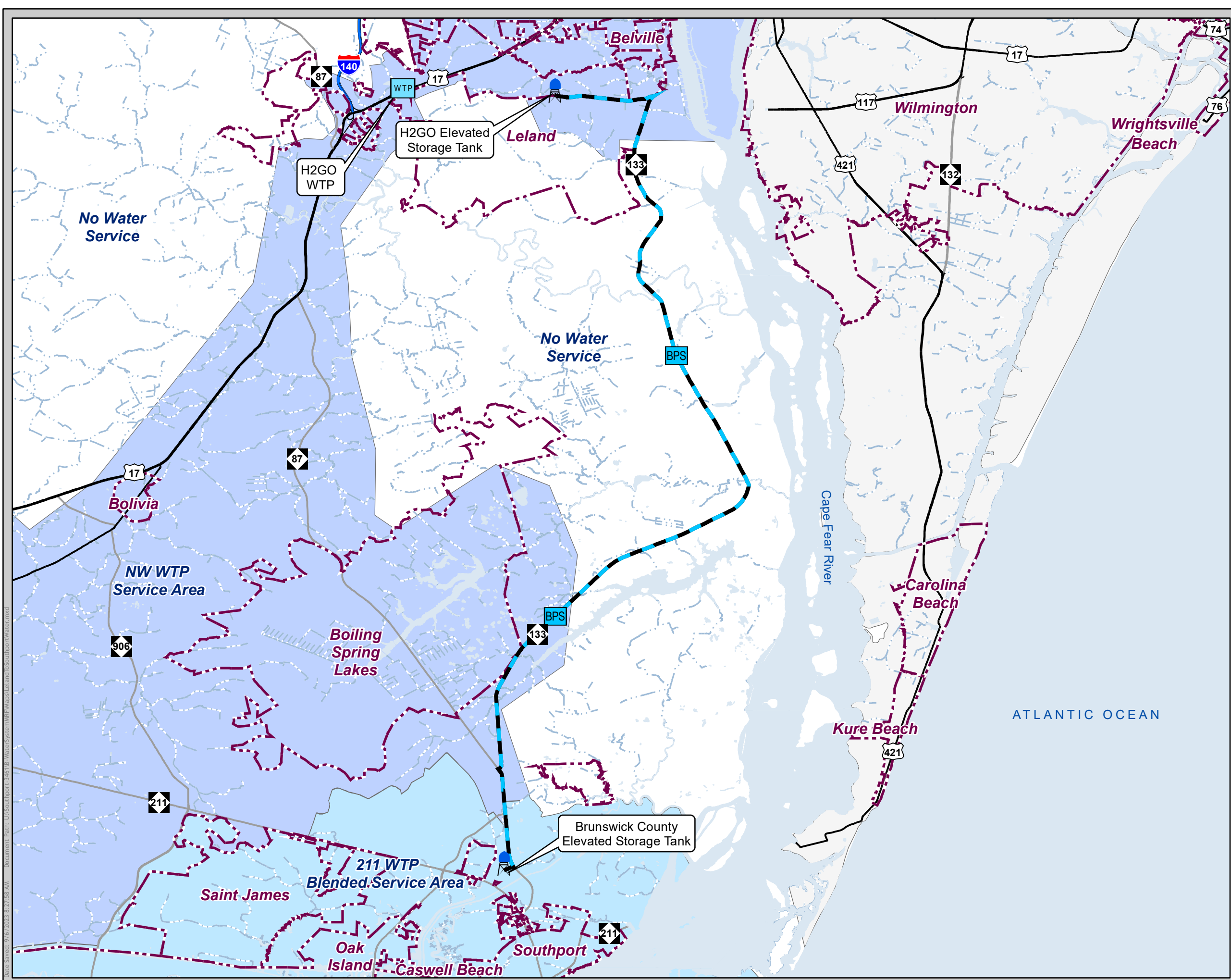
Southport Collection System Estimated Valuation						45+ Years of Age				35-44 Years of Age				25-34 Years of Age				15-24 Years of Age				0-14 Years of Age				Total Depreciated Value
						Older than 1980 / Very Poor				1980-1989 / Poor				1990-1999 / Fair or Average				2000-2009 / Good				2010-Present / Excellent				
	Service Life, Yrs.	Unit	Avg. Unit Value	Total Quantity	Replacement Cost New (RCN)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	% of Total	Approx Qty	Deprec. Factor	RCN Less Depreciation (RCNLD)	
Interconnects	40	EA	\$ 25,000	3	\$ 75,000	33%	1	95%	\$ 1,238	0%	-	80%	\$ -	33%	1	60%	\$ 9,900	33%	1	40%	\$ 14,850	0%	-	20%	\$ -	\$ 25,988
Tanks	60	EA	\$ 2,000,000	1	\$ 2,000,000	0%	-	75%	\$ -	0%	-	60%	\$ -	0%	-	45%	\$ -	100%	1	30%	\$ 1,400,000	0%	-	15%	\$ -	\$ 1,400,000
Waterline Valves	40	EA	\$ 4,500	257	\$ 1,156,500	14%	36	95%	\$ 8,101	6%	16	80%	\$ 14,410	27%	70	60%	\$ 126,012	53%	135	40%	\$ 364,506	0%	-	20%	\$ -	\$ 513,029
Water Pipe	75	LF	\$ 100	235,166	\$ 23,516,600	53%	125,213	50%	\$ 6,260,648	12%	29,323	40%	\$ 1,759,371	12%	28,163	30%	\$ 1,971,444	17%	39,868	20%	\$ 3,189,415	5%	12,598	10%	\$ 1,133,806	\$ 14,314,684
Hydrants	40	EA	\$ 5,000	224	\$ 1,120,000	2%	4	95%	\$ 1,120	8%	18	80%	\$ 17,920	54%	121	60%	\$ 241,920	35%	78	40%	\$ 235,200	1%	2	20%	\$ 8,960	\$ 505,120
TOTAL				235,651	\$ 27,868,100		125,254		\$ 6,271,107		29,357		\$ 1,791,701		28,355		\$ 2,349,276		40,083		\$ 5,203,971		12,600		\$ 1,142,766	\$ 16,758,820

Lower Range (80%) \$ 13,407,056
Upper Range (120%) \$ 20,110,585

Notes:

- Asset ages exceeding service life are given a 95% depreciated (salvage) value.
- The Lower and Upper Depreciated Grand Total Ranges account for differences in asset sizes, capacities, and condition.
- The above figures are rough estimates only - a true evaluation requires a more detailed analysis and is recommended.
- The above is based upon current infrastructure (not future projects).
- Total quantities are from City AIA documentation.
- The 150,000-gallon elevated storage tank located near the corner of Howe and Brown Streets, currently out of service, is not included in this valuation. The value presented for "Tanks" represents partial ownership of the tank at Highway 211 and 87.

APPENDIX C



Alternative #3 - Regionalization with H2GO

September 2023

Legend

- Elevated Tank
- Booster Pump Station
- WTP
- Proposed Route
- Interstate
- US Route
- NC Route
- Ramp
- Stream/Creek
- Pond/Canal/River/Ocean
- 211 WTP Blended Service Area
- NW WTP Service Area
- Municipal Boundary



0 1 2
Miles

Wooten

The Wooten Company makes every effort to produce and publish GIS maps using the most current and accurate information possible, however the maps are strictly for planning purposes only. The maps are compiled from recorded deeds, plats, and other public and private records and data. Users of the maps are hereby notified that the aforementioned public primary information sources should be consulted for verification of the information on this map. The Wooten Company assumes NO responsibility for the information contained on the maps unless the map is signed and sealed by a licensed Professional Land Surveyor. Please contact the GIS Group at (919) 828-0531 or toohan@thewootencompany.com for data source information.

Dorothy Dutton

From: Bonnie Therrien
<btherrien@cityofsouthport.com>
Sent: Tuesday, January 2, 2024 9:01 AM
To: Dorothy Dutton
Subject: FW: Draft Engagement letter

Dorrie – This will be going in the Water/Sewer Agenda for the 10th.

From: Mac McCarley <macmccarley374@gmail.com>
Sent: Tuesday, December 26, 2023 1:31 PM
To: Bonnie Therrien <btherrien@cityofsouthport.com>
Subject: Draft Engagement letter

Dear Bonnie,

Thank you for the opportunity to provide legal services to the Town of Southport regarding a potential utility merger with Brunswick County. The purpose of this email is to confirm the terms of this engagement.

The client for purposes of this engagement is the Town, and unless agreed in writing I will not be representing any other entity or individual related to the client, such as elected or appointed officials, employees or other individuals associated with the Town. The primary scope of the representation is for the potential utility merger matter and I will not take on other matters without the request and approval of an appropriate official of the Town. Any additional matters will be billed at the same rate as the utility merger work. The scope of this engagement does not include the review of the Town's insurance policies to determine if coverage is available for any claims that have or may be asserted, or for notifying the Town's insurance carrier of any claims or matters, or for any matters related to outstanding or contemplated public debt. For debt related matters we agree that the Town's bond counsel will be consulted for advice.

My rate to the Town for the services under this engagement will be \$495/hour unless and until the Town agrees in writing to a change. I will charge for travel and other related expenses as necessary to carry out the representation.

This email constitutes the entire agreement between the Town of Southport and McCarley Law, PLLC. No retainer is required and I will not accept any client funds to be held in trust. All fees and expenses will be invoiced on a monthly statement emailed to you and you agree to pay the invoiced amounts within 30 days.

Either party may terminate this engagement with or without notice and without cause. The representation will terminate when we have approved and executed a utility merger agreement with Brunswick County or when either party terminates the engagement in writing to the other party.

If this email correctly reflects your understanding of the terms of the engagement please have an appropriate official execute a return email stating your approval.

I appreciate the opportunity to work with you on this matter and look forward to starting on the project.

Sincerely,

Mac McCarley
McCarley Law, PLLC

From: Mac McCarley <macmccarley374@gmail.com>
Sent: Tuesday, December 26, 2023 11:10 AM
To: Bonnie Therrien <btherrien@cityofsouthport.com>
Subject: brief professional biography

Bonnie,

In response to your request, below is a brief professional biography. Please let me know if you need anything else.

Education

BA (1974, major in Religion) and JD (1977) from UNC Chapel Hill

Professional positions

Assistant General Counsel, NC League of Municipalities, 1977-81
Lawyer/lobbyist covering land use and environmental issues

City Attorney, Greenville, NC, 1981-1994

City Attorney, Charlotte, NC 1994-2012

Significant projects included the New Start Light Rail System; Negotiated with the NBA to return an expansion franchise to Charlotte; negotiated NBA Arena deal with the Bob Johnson organization; represented the City in intervention motions in South Carolina vs North Carolina, 130 S. Ct. 854 (2010), an original jurisdiction water rights case in the US Supreme Court; negotiated the contract between the City and the DNC for the 2012 Democratic National Convention to be held in Charlotte; led the negotiations for NASCAR Hall of Fame deal; and City portion of Knights Stadium minor league baseball deal.

Partner, Parker Poe Adams & Bernstein, 2012-2022

Partner in the Government & Public Policy practice of Parker Poe out of the Charlotte Office. Significant projects included several minor league baseball stadium deals (most recent were High Point Rockers and Gastonia Honey Hunters); Negotiated Arena Use agreements for the Charlotte Checkers of the American Hockey League; represented the City of Las Vegas to rewrite their 60 year old Liquor Code; redistricting projects for Greensboro and Charlotte city councils after the 2020 Census; mediated the statutory budget dispute between the Charlotte Mecklenburg Schools and the Mecklenburg County Board of Commissioners.

Town Attorney (part-time), Town of Southern Pines, 2022 - present

McCarley Law, PLLC, 2022-present

Significant Water & Sewer projects:

- Represented the City of Sanford in negotiating and drafting an Interlocal Agreement to provide sewer service to the Moncure Megasite
- Represented Union County in defending its Interbasin Transfer Certificate to take water from the Yadkin/Pee Dee basin
- Represented the Town of Shallotte in a Merger Agreement of the water system with Brunswick County

- Represented the City of Sanford in an Interlocal Agreement with Fuquay-Varina and Holly Springs for the towns to purchase a portion of the planned expansion of Sanford's water treatment plant
- Represented the City of Sanford in the merger of the Pittsboro utility system into the City System
- Currently representing the City of Sanford in the merger of the Siler City utility system into the Sanford System

Water-Sewer Merger Financial Analysis





Agenda

Benefits and Challenges

Projected Customer Savings

Impact to General Fund

Funding the Gap

Fund Balance

Appendix

Water-Sewer Merger

Benefits and Challenges



Benefits

- **Significant Reduction in Customers' Utility Costs**
 - ❖ The typical residential customer with both water and sewer service is projected to save **\$775 annually**
- **Long-term maintenance and improvements to system transfer to County**

Challenges

- **New funding is needed for continuing City services currently paid by the Water-Sewer fund. **\$1.35 million** is required if both Water & Sewer are merged and **\$0.7 million** if only Sewer is merged.**
- **Infrastructure projects with identified funding may need to be completed by the City prior to asset transfer to avoid loss of funding.**
- **The City will have to transfer significant cash to the County**

Projected Customer Utility Savings



Bottom Line Up Front

- There will be significant savings for utility customers by merging
- Each customer's savings depends on numerous factors including the services used, the size of the water meter, and location within or outside of city limits

Projected Utility Cost Savings for Southport Customers

Methodology

- Twelve months (October 2022 – September 2023) of consumption in gallons was pulled individually for every Southport customer by month – 3,597 water meters
- The current billing rates for both Southport and Brunswick County were applied to the water, sewer, and irrigation consumption of each customer and compared
- Correct rates were applied in each customer's situation: residential vs. commercial, inside vs. outside City limits, and size of water meter

Results

- The **typical residential customer** within city limits with a $\frac{3}{4}$ inch water meter will realize annual savings of \$583 on sewer and \$192 on water for a **total annual savings of \$775.**
- Full merger of **both water and sewer** will result in an average **53% savings.** Aggregate dollar savings total of **\$3.422 million.**
- **Sewer-only** merger will result in an average **56.5%** savings on the sewer portion of the utility cost. Aggregate dollar savings of **\$2.228 million.**

The typical residential customer within City limits can expect annual savings of \$775



Estimated Average Monthly Cost & Annual Savings

Account Type	City Limits	Water Meters		Monthly Avg - Southport Rates			Monthly Avg - Brunswick Co Rates			Average Annual Savings		
		Size	Count	Water	Sewer	Irrigation	Water	Sewer	Irrigation	Water	Sewer	Irrigation
Residential	Inside	¾"	2,524	\$43.10	\$91.94	\$109.55	\$27.07	\$43.37	\$48.09	\$192.38	\$582.87	\$737.54
		1"	58	\$54.01	\$100.03	\$120.26	\$35.94	\$48.32	\$53.44	\$216.90	\$620.60	\$801.85
		1½"	4	\$60.75	\$105.48	\$157.29	\$41.38	\$53.70	\$69.22	\$232.47	\$621.41	\$1,056.80
		2"	2	\$36.71	\$86.91	\$333.61	\$32.58	\$39.59	\$167.42	\$49.58	\$567.82	\$1,994.25
	Outside	¾"	224	\$78.59	\$183.84	\$80.53	\$30.43	\$42.37	\$21.72	\$577.99	\$1,697.70	\$705.69
		1"	14	\$169.54			\$63.51			\$1,272.36		
		2"	1	\$1,289.41	\$1,744.48		\$377.80	\$507.11		\$10,939.25	\$14,848.48	

Commercial	Inside	¾"	218	\$80.17	\$237.71	\$174.96	\$37.49	\$88.14	\$67.84	\$512.06	\$1,794.83	\$1,285.36
		1"	33	\$239.39	\$438.56	\$123.31	\$113.13	\$166.31	\$44.60	\$1,515.08	\$3,266.96	\$944.52
		1½"	13	\$210.51	\$398.15	\$259.47	\$102.81	\$149.90	\$97.73	\$1,292.47	\$2,979.10	\$1,940.84
		2"	20	\$454.35	\$807.43	\$353.61	\$195.26	\$304.81	\$139.63	\$3,109.09	\$6,031.48	\$2,567.75
		3"	3	\$355.30	\$593.83	\$140.75	\$145.10	\$224.95	\$53.34	\$2,522.40	\$4,426.62	\$1,048.88
		4"	1	\$8,268.29	\$11,869.32		\$3,285.05	\$4,453.08		\$59,798.89	\$88,994.84	
		6"	1	\$1,098.13			\$2,111.00			(\$12,154.44)	See Note Below	
	Outside	¾"	16	\$99.70	\$344.95	\$47.43	\$32.09	\$87.38	\$11.25	\$811.37	\$3,090.87	\$434.24
		1"	2	\$62.73			\$25.11			\$451.43		
		1½"	1	\$61.58			\$27.84			\$404.78		
		2"	1	\$694.18	\$1,184.39	\$0.00	\$199.08	\$299.69	\$0.00	\$5,941.22	\$10,616.38	

Note: The Morningside Marina has a 6-inch water meter. Brunswick County charges for a minimum of 500,000 gallons/month for 6-inch meters, which far exceeds the marina's actual consumption. Under the prevailing County policy, the marina's water cost will nearly double. This is the only customer that would experience higher costs in a merger.

Impact to General Fund



Bottom Line Up Front

- The Water & Sewer fund is funding City services that will continue post-merger
- These costs will transfer to the General Fund and require new revenue sources to fund

Summary of Financial Impact of Water & Sewer Revenue Loss

	Baseline As-Is	Merge Sewer Only	Merge Both
Revenue - Continuing	\$7,891,000	\$2,950,500	\$0
Costs - Continuing			
Personnel Costs	\$1,261,661	\$1,261,661	\$1,004,422
Non-Personnel Costs	\$4,933,581	\$2,390,495	\$340,908
Total Costs	\$6,195,242	\$3,652,156	\$1,345,330
Net Cost/(Contribution)	(\$1,695,758)	\$701,656	\$1,345,330

Discussion:

- At current billing rates and cost structure, the Water & Sewer Fund pays for direct and shared city services and will grow by about \$1.7 million annually. This fund balance is necessary for required system capital improvements.
- Shared city services will continue after the merger, and the cost for those services will transfer to the General Fund. If only Sewer is merged, the estimated cost transfer to the General fund is \$0.7 million. If both Sewer and Water are merged, the estimated cost transfer is \$1.35 million.
- Replacement revenue sources for the General Fund are needed to absorb this cost transfer.

Water & Sewer Fund Revenue

Name	Attributed To			Ongoing Revenue If	
	Water	Sewer	Total	Keep Water	Merge Both
Water Sales	\$2,700,000		\$2,700,000	\$2,700,000	-
System Development Fees - Water	\$100,000		\$100,000	\$100,000	-
Sewer Sales		\$4,000,000	\$4,000,000	\$0	-
System Development Fees - Sewer		\$590,000	\$590,000	\$0	-
Interest Earned	\$125,000	\$125,000	\$250,000	\$25,000	-
Water/Sewer Tap Fees	\$87,500	\$87,500	\$175,000	\$87,500	-
Service Charges	\$25,000	\$25,000	\$50,000	\$25,000	-
Miscellaneous Revenues	\$12,500	\$12,500	\$25,000	\$12,500	-
Donations - Utility Bills	\$500	\$500	\$1,000	\$500	-
Total Revenue	\$3,050,500	\$4,840,500	\$7,891,000	\$2,950,500	-



Wages, Benefits, & FICA Taxes Funded by Water & Sewer Fund

			If Merge Both Sewer & Water	
<u>Administration</u>	<u>Count</u>	<u>Current</u>	<u>Retain</u>	<u>Eliminate</u>
Mayor & Board of Aldermen	7	\$29,071	\$29,071	
City Manager	1	\$62,438	\$62,438	
Assist City Manager/City Clerk	1	\$48,720	\$48,720	
HR Director	1	\$36,846	\$36,846	
Deputy City Clerk	1	\$30,661	\$30,661	
		\$207,736	\$207,736	\$0
<u>Public Works</u>	<u>Count</u>			
Public Works Director	1	\$104,858	\$104,858	
Water/Meter Tech - Supv	1	\$101,092		\$101,092
Water/Meter Tech	1	\$69,456		\$69,456
Public Works Supervisor	1	\$67,475	\$67,475	
Public Works Tech *	4/1	\$245,975	\$192,984	\$52,992
Engineers	2	\$157,655	\$157,655	
Administrative Specialist	1	\$64,846	\$64,846	
		\$811,357	\$587,817	\$223,540
<u>Finance</u>				
Finance Director	1	\$50,853	\$50,853	
Deputy Finance Director	1	\$33,204	\$33,204	
Accounts Payable	1	\$31,310	\$31,310	
Payroll/Benefits Technician	1	\$26,629	\$26,629	
Tax Collector/Finance Specialist	1	\$38,017	\$38,017	
Customer Service Rep - FT	1	\$26,774	\$26,774	
Customer Service Rep - PT	2	\$12,450		\$12,450
Utility Billing Specialist	1	\$21,249		\$21,249
Accounting Tech - PT	1	\$2,083	\$2,083	
		\$242,567	\$208,868	\$33,699
Total		\$1,261,661	\$1,004,422	\$257,239

* Two approved and budgeted Public Works Tech vacancies will not be filled in addition to eliminating one currently filled position

Non-Personnel Costs Funded by Water & Sewer Fund

Expense Category	Description	Attributed To			Ongoing Costs If		Comments
		Water	Sewer	Total	Keep Water	Merge Both	
Purchase of Water for Resale	Purchased from Brunswick County	\$1,590,000	\$0	\$1,590,000	\$1,590,000	\$0	
Purchase of Sewage Treatment Services	Purchased from Brunswick County	\$0	\$976,343	\$976,343	\$0	\$0	
Water & Sewer Maintenance Services & Supplies	Materials and services to maintain automated meter reading system, water and sewer infrastructure, Southport water tank, high pressure hoses and nozzles, and water quality analysis	\$151,579	\$792,500	\$944,079	\$151,579	\$15,000	Assumes City retains Water Tank and maintenance in a full merger
Occupancy Costs	Utilities, Property & Liability Insurance, landline and cell phones, on-call answering service	\$66,100	\$66,100	\$132,200	\$132,200	\$130,680	Utilities and Insurance are for all City buildings
Repair & Maintenance of Equipment	Maintenance and repairs for backhoe, skid steer, mini-excavator, generators, and compressors	\$9,750	\$9,750	\$19,500	\$19,500	\$19,500	Assumes retaining all existing equipment
Repair & Maintenance of Vehicles	Maintenance and repairs for pickup trucks, vacuum truck, jet truck, dump trucks	\$11,025	\$11,025	\$22,050	\$18,375	\$14,700	Assumes retaining all vehicles other than two pickup trucks
Equipment & Vehicle Supplies	Fuel, tires, and supplies for vehicles and equipment	\$15,000	\$15,000	\$30,000	\$30,000	\$20,000	
Administrative Costs	811 & Locating Services, software licenses, office equipment leases, printing & postage, infrastructure planning, solid waste removal, audit fees, State Public Works System permits, certifications, and dues	\$64,076	\$64,076	\$128,152	\$70,226	\$36,800	Audit fees, software licenses and equipment leases continue in a full merger
Other Employee Costs	Worker's Comp insurance, uniforms, PPE, training & travel	\$21,277	\$21,277	\$42,554	\$23,443	\$19,943	Costs for continuing employees
Departmental Supplies	General Office Supplies, generator fuel, computers, stone & asphalt for utility repairs	\$23,000	\$23,000	\$46,000	\$34,500	\$22,460	
Other Costs	Contributions to Neighbors 4 Neighbors program, cost for County to provide sewer readings for Rivermist residents	\$6,825	\$10,970	\$17,795	\$0	\$6,825	Assumes continuation of Neighbors 4 Neighbors at 50% of historical levels
Capital		\$529,922	\$331,750	\$861,672	\$320,672	\$55,000	Ongoing costs for replacement of high pressure jet nozzles and lease of pickup trucks
Total Non-Personnel Costs		\$2,488,554	\$2,321,791	\$4,810,345	\$2,390,495	\$340,908	



Funding the Gap



Bottom Line Up Front

- New revenue must be identified to fund continuing City services that currently receive funding from the Water & Sewer fund
- There is a potential to repurpose existing ARPA funds for short-term relief in the first post-merger year
- Long-term revenue replacement strategies could include an increase to the City's ad valorem tax rate

Potential Short-Term Use of ARPA Funds

Reallocate \$1,263,964 of ARPA funds that the Board directed to the Wastewater Expansion Project in a February 9, 2023 resolution. With a Sewer merger, the City will no longer participate in funding the wastewater expansion.

- The City has received this cash and it is currently accounted for in a unique fund code and is not included in the \$12.4M cash balance in the Water & Sewer Fund.
- The ARPA rules allow the funds to be used for revenue replacement. Funds must be obligated by December 2024 and spent by December 2026.
- The Board could consider reallocating these funds to the General Fund for the purpose of replacing a portion of the lost Water & Sewer Revenue in the first year of the merger, road paving, shoreline stabilization or other capital costs.



Estimate of Potential Ad Valorum Tax Impact

	Merge Sewer/ Keep Water	Merge Both
Replacement Funding Needed	\$701,656	\$1,345,330
New Rate if Replaced with Ad Valorum Tax	\$0.324	\$0.369

Utility Savings

Inside City Limits

Residential	\$1,411,444	\$1,826,912
Commercial	\$693,861	\$968,186
Total Utility Savings Inside City Limits	\$2,105,305	\$2,795,099
Savings Multiple - City Customers	3.00	2.08

Outside City Limits

Residential	\$90,538	\$237,980
Commercial	\$32,252	\$51,740
Total Utility Savings Outside City Limits	\$122,790	\$289,720
Total Utility Savings All Customers	\$2,228,095	\$3,084,818

Discussion

- A merger will eliminate revenue for ongoing city services that must be replaced
- If that revenue is replaced by ad valorum taxes, the City's tax rate would increase from \$0.275 to \$0.324 for a Sewer-only merger or to \$0.369 for a merger of both systems.
- **Ad Valorum taxes are paid only by City residents. In this scenario revenue lost from non-City customers would be replaced by City residents.**
- Overall, City customers would save 3 times the additional tax in a Sewer-only merger, and 2 times the additional tax in a merger of both systems.

Comparison of Utility Savings and Potential Tax Increase

Estimated Average Utility Savings by Meter Size

Account Type	City Limits	Water Meters		Average Annual Savings	
		Size	Count	Water & Sewer	Irrigation
Residential	Inside	¾"	2,524	\$775.25	\$737.54
		1"	58	\$837.50	\$801.85
		1½"	4	\$853.88	\$1,056.80
		2"	2	\$617.39	\$1,994.25
	Outside	¾"	224	\$2,275.69	\$705.69
		1"	14	\$1,272.36	
		2"	1	\$25,787.73	

Commercial	Inside	¾"	218	\$2,306.89	\$1,285.36
		1"	33	\$4,782.04	\$944.52
		1½"	13	\$4,271.57	\$1,940.84
		2"	20	\$9,140.57	\$2,567.75
		3"	3	\$6,949.02	\$1,048.88
		4"	1	\$148,793.73	
	Outside	6"	1	(\$12,154.44)	
		¾"	16	\$3,902.24	\$434.24
		1"	2	\$451.43	
		1½"	1	\$404.78	
		2"	1	\$16,557.61	

Ad Valorem Tax Increase from Current \$0.275

Property Taxable Value	Potential Tax Rates	
	Sewer-Only Merger	Full Merger
	<u>\$0.324</u>	<u>\$0.369</u>
\$100,000	\$49	\$94
\$200,000	\$98	\$187
\$300,000	\$147	\$281
\$400,000	\$196	\$375
\$500,000	\$244	\$469
\$600,000	\$293	\$562
\$700,000	\$342	\$656
\$800,000	\$391	\$750
\$900,000	\$440	\$843
\$1,000,000	\$489	\$937

The typical City resident with a ¾" meter receiving water and sewer service will have utility savings in a full merger (\$775) that exceed a tax increase on property up to \$800,000 in assessed value (\$750).

Fund Balance



Bottom Line Up Front

- The Water-Sewer Fund balance contains net assets valued at \$27 million, including \$12.4 million in cash
- Decisions on which assets to retain and convey must be made
- Opportunities to use cash now should be explored

Fund Balance Description

- A Fund Balance is defined as the amount that Asset values exceed Liability values. In private industry this would be referred to as Equity.
- The Assets in Southport's Water & Sewer Fund Balance consist of the depreciated value of the system infrastructure, land associated with the system, vehicles and equipment purchased by the fund, amounts due from customers, and Cash that has accumulated from utility payments.
- The Liabilities in Southport's Water & Sewer Fund Balance consist primarily of future pension and retirement obligations to current employees, a state revolving loan, current amounts payable to vendors and employees, and customer deposits on-hand.
- The net difference between assets and liabilities changes routinely as customers are invoiced and pay their utility bills, and as the City pays its employees and vendors and makes investments.
- As of 1/4/2024 Southport's Water & Sewer Fund Balance was \$27.0 million, of which \$12.4 million was Cash. This amount represents 34% of the City's total cash.



Water & Sewer Fund Balance

<u>Assets</u>	<u>Balance as of 1/4/2024</u>	<u>Liabilities</u>	<u>Balance as of 1/4/2024</u>
Cash	\$12,422,310	Accounts Payable	\$61,149
Accounts Receivable	502,986	Accrued Wages	52,747
Land	2,827,985	Security Deposits	94,037
Water & Sewer System	20,813,369	Impact Fees	173,970
Vehicles	730,710	Loan-NC Revolving Fund	589,188
Equipment	919,357	Pension/OPEB Liability	1,602,677
CIP	75,000	Lease/Other Liabilities	140,284
Right to Use Asset	158,916	Total Liabilities	\$2,714,052
Deferred Outflow Resources Pen	212,513		
Deferred Outflows of Resources	194,795	Fund Balance	
Accumulated Depreciation	(9,135,871)	Fund Balance	\$23,494,825
		Fund Bal Reserved For Capital	3,575,590
		Net Position GASB 68	(62,397)
		Total Fund Balance	\$27,008,018
Total Assets	\$29,722,070	Total Liabilities & Fund Balance	\$29,722,070



Fund Balance Considerations

1. Reallocate Pension & OPEB liability and funding from Water & Sewer to General Fund

- The City will retain the liability for pension and OPEB expense for all employees unless an employee is hired by Brunswick County as part of a merger. Recommend that the Board direct these liabilities and an equal amount of cash, as valued at the time of the merger, to be transferred from the Water & Sewer Fund to the General Fund. These liabilities currently equal \$1.6 million.

2. Decisions must be made on assets to retain in a merger and those values moved to the General Fund

- Water tower
- Sunny Point land
- Equipment & Vehicles

3. Using available Cash for immediate rate reduction is possible. Options include:

- Reducing all customers rates to County rates
- Reducing rates for City residents to County rates and reducing rates of non-City customers to a different rate



Appendix



Current City and County Utility Rates

Current Southport Water & Sewer Rates

		Sewer - Residential		Sewer - Commercial	
Tier	Gallons Used	Inside	Outside	Inside	Outside
0	Base	\$78.54	\$154.24	\$138.81	\$208.22
1	1001-5000	\$7.23	\$18.07	\$14.45	\$21.68
2	5001+	\$8.68	\$21.68	\$17.34	\$26.02

		Water - Residential		Water - Commercial	
Tier	Gallons Used	Inside	Outside	Inside	Outside
0	Base	\$26.45	\$43.00	\$37.49	\$56.23
1	1001-3000	\$8.73	\$13.09	\$8.73	\$13.09
2	3001-5000	\$10.45	\$15.67	\$10.45	\$15.67
3	5001+	\$12.17	\$16.98	\$12.17	\$16.98

		Irrigation	
Tier	Gallons Used	Inside	Outside
0	Base	\$15.30	\$22.95
1	1-5000	\$12.54	\$18.81
2	5001+	\$15.03	\$22.54

Current Brunswick County Water & Sewer Rates

Water

3/4" Retail Meter		1" Retail Meter		1.5" Retail Meter		2" Retail Meter	
<u>Gallons</u>	<u>Per 1000</u>	<u>Gallons</u>	<u>Per 1000</u>	<u>Gallons</u>	<u>Per 1000</u>	<u>Gallons</u>	<u>Per 1000</u>
Base	\$16.00	Base	\$20.00	Base	\$22.00	Base	\$24.00
0-4999	\$4.15	0-4999	\$4.15	0-4999	\$4.15	0-19,999	\$4.15
5000-20,000	\$4.80	5000-20,000	\$4.80	5000-20,000	\$4.80	20,000-100,000	\$4.80
>20,000	\$5.70	>20,000	\$5.70	>20,000	\$5.70	>100,000	\$5.70

3" Retail Meter		4" Retail Meter ¹		6" Retail Meter ²	
<u>Gallons</u>	<u>Per 1000</u>	<u>Gallons</u>	<u>Per 1000</u>	<u>Gallons</u>	<u>Per 1000</u>
Base	\$28.00	Base	\$32.00	Base	\$36.00
0-49,999	\$4.15	0-250,000	\$4.15	0-500,000	\$4.15
50,000-250,000	\$4.80	250,001-500,000	\$4.80	500,001-750,000	\$4.80
>250,000	\$5.70	>500,000	\$5.70	>750,000	\$5.70

Sewer

Single Family Residential		Commercial	
<u>Gallons Used</u>	<u>Per 1000</u>	<u>Gallons Used</u>	<u>Per 1000</u>
Base	\$39.00	Base	\$45.00
0-3000	\$0.00	>0	\$6.50
>3,000	\$6.50		

Irrigation

Residential		Commercial	
<u>Gallons</u>	<u>Per 1000</u>	<u>Gallons</u>	<u>Per 1000</u>
Base	\$5.00	Base	\$5.00
0-4999	\$4.80	0-19,999	\$4.80
5000-20,000	\$6.50	20,000-100,000	\$6.50
>20,000	\$8.30	>100,000	\$8.30

¹ 4" water meters have a 250,000 gallon per month minimum. Monthly minimum cost = \$1,037.50

² 6" water meters have a 500,000 gallon per month minimum. Monthly minimum cost = \$2,075.00.

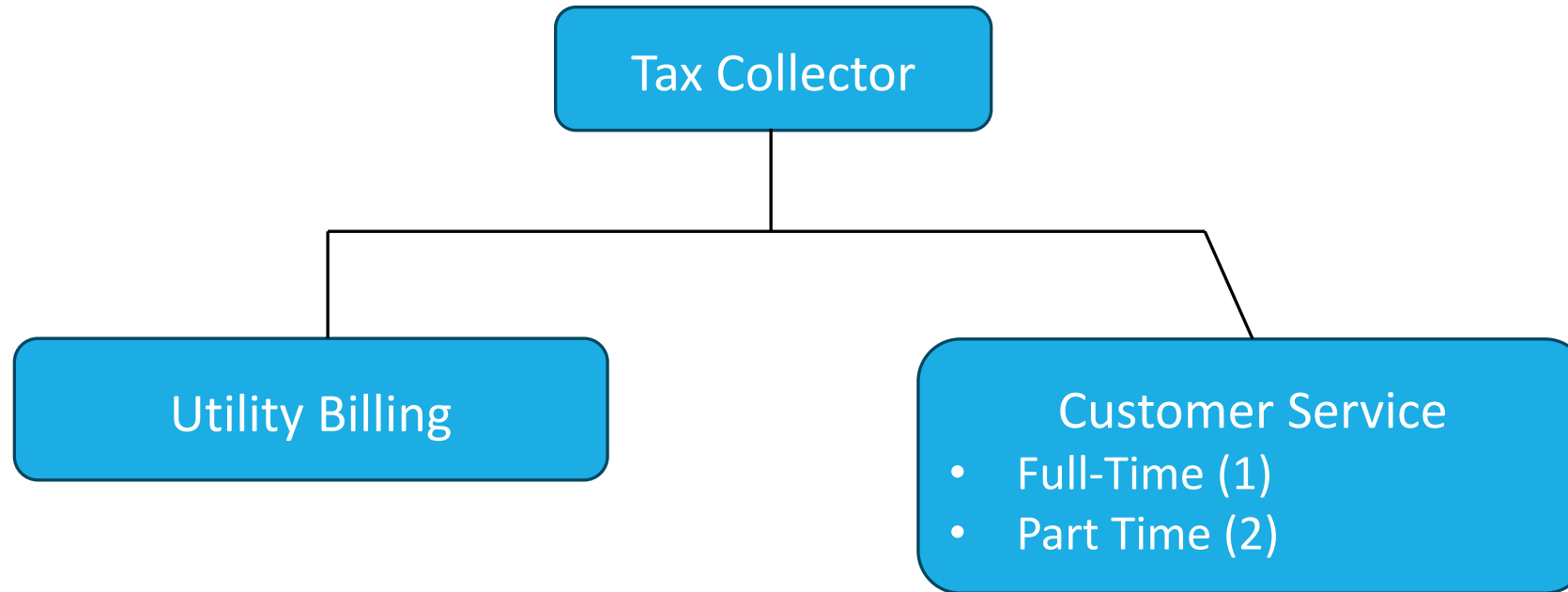


Water/Sewer Merger

Impact on Utility Department Staffing



Utility Billing & Customer Service Staff



Tax Collector/Utility Department Manager Job Functions

Function	Frequency	Approx Count	Sewer Only Merger	Full Merger
Manage Utility billing functions including approving new account applications, researching and resolving issues, resolving customer disputes, act as back-up for Utility Billing Tech	Daily		✓	
Staff window and phones as needed to provide coverage for CSR lunches and absences	As needed		✓	✓
Reconcile bank statements	Monthly	7	✓	✓
Coordinate City tax issues with County including new address assignments, tax rate changes, prepare annexation tax bills, prepare annual reports.	As needed		✓	✓
Issue Beer & Wine licenses	As needed		✓	✓
Receive, review and monitor occupancy taxes	Monthly			
Submit and coordinate claims for Debt Setoff with NC Dept of Revenue	As needed		✓	✓
Process returned checks and ACH payments	As needed		✓	✓

Utility Billing Specialist Job Functions

Function	Frequency	Approx Count	Sewer Only Merger	Full Merger
Create invoices for Water & Sewer including recycle & yard debris	Monthly	3,000	✓	
Create invoices for Electric – Load Management	Monthly	30	✓	✓
Pull meter read data into billing system	Monthly	3,500	✓	
Review meter read data, identify suspect readings, and research	Monthly	50-100	✓	
Create work orders for suspect meters	Monthly	50-100	✓	
Process bank drafts for ACH payments	Monthly	1,500	✓	
Issue orders for disconnecting & reconnecting service	Monthly	25-50	✓	
Research customer questions/adjust accounts as needed	Daily	5-10	✓	

Customer Service Representative Job Functions

Function	Frequency	Count	Sewer Only Merger	Full Merger
Staff City Hall Customer Service Window 8:30 – 5:00	Daily		✓	✓
Answer City's main phone number, answer questions, direct calls	Daily	25-50	✓	✓
Create work orders based on customer calls	Daily		✓	✓
Accept & process customer in-person and drop box Water & Sewer payments	Daily		✓	
Accept and account for all City revenue: Parks, Fire & Rescue, Police, Tourism, Occupancy Taxes, Beer & Wine licenses, etc. Create bank deposits.	Daily		✓	✓
Take and evaluate applications for new Water & Sewer accounts. Establish new accounts in billing system.	Daily		✓	
Take and evaluate applications for new Electric accounts document new accounts for BEMC	Daily		✓	✓
Process returned checks and ACH				

Decisions that will impact Staffing Requirements

❖ Full Merger vs. Sewer Only

- If sewer only is merged, there can be no reduction to current staffing levels.
- If a full merger is approved, we can eliminate the Utility Billing Specialist position. The CSR and Utility Department Supervisor will need to absorb the remaining duties from this position.

❖ Recycling & Yard Debris

- How will pickup of Recycle/Yard debris be handled? Currently billed with water-sewer. If City decides to bill directly would require current staffing levels.

❖ City Hall Hours

- Eliminating PT CSR's may not be possible, even in a full merger scenario, if the City Hall customer window remains open from 8:30-5:00 daily. PT CSR's are needed to provide full coverage during those hours. Reduction of scheduled hours may be considered, based on remaining workload, if needed.





Discussion

Closing Remark(s)



Public Services Department

Current Staffing

Water- Water/Meter Tech, Supervisor
Meter Tech

Streets- Public Services Supervisor
Public Services Tech x5
Vacant – Public Services Tech x2

- There is no specific Sewer Division of Public Services. The sewer functions are performed by the Streets Division. Also, although there are two designated water employees, the bulk of the water system maintenance is performed by the Streets Division.
- Buildings Maintenance- Facilities Maintenance Tech
Vacant



Current Vacant Streets Positions

***Public Services Tech x2: Approved for 2023/24 Vacant*
Promotion to Foreman- Not Implemented**

These positions were added to the budget in 2023. Their purpose was to begin preventative maintenance on streets/sidewalks/stormwater/water/sewer. With the potential merger discussion beginning, it was decided to not fill these two positions as they may not be needed after the merger. There was also a promotion to foreman added for a current employee that has not taken affect due to not filling vacancies.

Current Workload

(Streets workload does not include 2 designated water employee's duties.)

- 240 hours per week
- Sewer – 62 hours per week
- Water - 70 hours per week
- Streets - 12 hours per week
- Signage- 10 hours per week
- Street Sweeping - 6 hours per week
- Work Orders - 80 hours per week (300 work orders per month/15 day)
- Sidewalks - Minimal, as time permits or urgency
- Stormwater - Minimal, as time permits or urgency



Current Work Week

- Daily
 - ½ Day daily water and sewer- 3 People Water & 2 People Sewer (sometimes collective)
 - ½ Day work orders- Average 300 per Month or 15 per day



Going Forward with a Sewer & Water Merger

Typical Work Crews Needed

Paving

1 Operator

1 Truck Driver

2 Ground Men

1 Foreman

Stormwater Repair

1 Operator

1 Truck Driver

2 Ground Men

1 Foreman

Stormwater Cleaning

3 Men

Sign Repair

2 Men

Sidewalk Repair

3 Men



Proposed Work Week (Full Merger)

- 1 Day Paving
- 1 Day Stormwater Repair
- 1 Day Paving & Stormwater Repair Prep and Sidewalk Repair
- 1 Day Stormwater Cleaning and Sign Repair
- 1 Day of Street Sweeping & Work Orders - A majority of work orders will be eliminated because many are water and sewer related.



Proposed Staffing (Full Merger)

- Streets- Public Services Supervisor
Public Services Tech x4
- Do Not Fill Vacant 2023 Positions
- One Public Services Tech will move to the vacant Buildings Maintenance position.
IF Water is not merged, we would keep the 2 water positions and need to fill the vacant Buildings Maintenance Tech.



Proposed Work Week KEEPING Water System

- 2 Days Paving/Storm/Water Repair
 - 1 Day Paving/Storm/Water Repair Prep & Sidewalk Repair
 - 1 Day Stormwater Cleaning and Sign Repair
 - 1 Day of Street Sweeping & Work Orders- Will have a reduction due to no sewer but will still have water.
-
- By performing Paving, Stormwater Repair & Cleaning along with Sign Repairs proactively we may reduce the number of work orders and emergencies related to such. This was the reason for the added 2023 position that were not filled due to potential merger discussions.



Additional Considerations

Two things to keep in mind: We currently have two projects that can affect future manpower needs of Public Services.

- The first is the Building Assessment Survey which has shown a need for additional maintenance of City owned buildings.
- The second is the Storm Water Mapping & Planning Project. This project will include a Capital Improvement Plan. The plan is likely to include projects or improvements that may be performed by city staff in addition to contracted work.

