WILSON'S MILLS UTILITY STUDY

Town of Wilson's Mills, NC

April 2025

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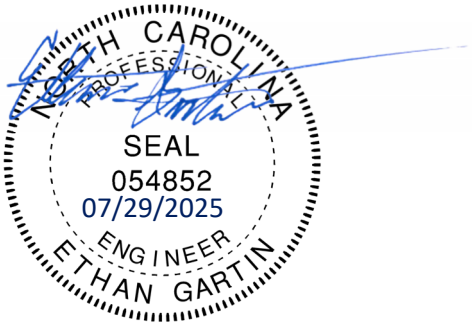
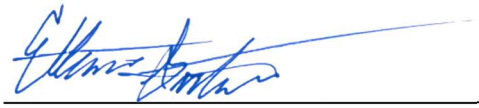


TRC PN: 573412

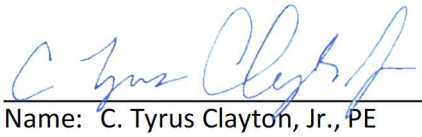
3RD PARTY REVIEW

This Report has been subjected to technical and quality reviews by:



04/21/2025

Name: Ethan Gartin, PE — Date
Project Manager



04/21/2025

Name: C. Tyrus Clayton, Jr., PE — Date
Quality Reviewer

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1. EXECUTIVE SUMMARY/INTRODUCTION

1.1 Executive Summary

TRC Engineers, Inc. performed the following analysis to determine the feasibility, necessary actions and costs required for the Town of Wilson's Mills to establish its own water and wastewater utility by acquiring infrastructure currently owned and operated by Johnston County. This project identified several recommended upgrades and determined an anticipated range of likely expenses and revenues should the Town proceed with adopting a new water/sewer utility. It is not recommended that the Town proceed with establishing a new water and sewer utility unless Johnston County agrees to transfer the necessary infrastructure assets at no cost to the Town. Otherwise, the affordability for the Town's residents would be impractical. Even in that case, however, it should be noted that the new utility will require relatively high rates compared to neighboring utilities.

2. ASSUMPTIONS AND LIMITATIONS

2.1 Assumptions and Limitations

- All information and findings presented in this report are based on data provided by the Town of Wilson's Mills and Johnston County. No physical inspections were performed with this study to verify data provided.
- Financial data or unit rates are based on those provided by Johnston County or estimated by TRC staff based on recent bid results for similar projects. Costs are likely to change over the next several years, so future use of this report should account for inflation and market adjustments where possible.

3. EXISTING FACILITIES

3.1 History

The Town of Wilson's Mills sanitary sewer and water distribution systems are currently owned and operated by the Johnston County. Most of the records therefore are kept and organized by the County as part of a greater system in conjunction with other County owned utilities, thus making it difficult for the Town to assess its utility assets as a separate entity. Based on the data provided by Johnson County, a summary of the Town's potential sewer and water assets are listed below with detailed information available for both systems available in the Appendix.

3.2 Wastewater Collection System

The sanitary sewer system within the boundary of the proposed service area of the Town of Wilson's Mills consists of approximately 119,000 LF of sewer pipe and 573 manholes. The breakdown of pipe material and diameter is available in the table below.

Table 1 – Sewer System Pipe Information

Sewer Pipe Material	Pipe Diameter (in)	Length of Pipe (ft)
PVC	2	170
	8	108,300
	12	5,330
Ductile Iron Pipe (DIP)	8	4,630
	12	510

Appendices A and B depict the existing sanitary sewer system, including the eight pump stations, within the Town's service area and the system age. The five-year maximum sewer flow mentioned below denotes the highest daily flow between the years 2018 and 2022.

- Ive's Landing Lift Station is located at 109 Hanford Dr. near the end of Westchase and Woodglen. The station has a pump capacity of 463,680 GPD with a permitted capacity of 185,472 GPD and a five-year maximum sewer flow of 89,352 GPD. A future flow of 7,000 GPD from the Knolls of the Neuse pump station has been permitted by Johnston County as of 2023 which allots Ive's Landing a remaining 89,120 GPD capacity for future use.

- Mill's Creek Lift station is located at 101 Forest Bend Way near Maple Tree Lane. The station has a 144,000 GPD pump capacity, with a permitted capacity of 46,080 GPD and a five-year maximum sewer flow of 10,800 GPD. An additional flow of 15,360 GPD is anticipated from the nearby Eason Creek development, plus 10,080 GPD from the 42 housing units that are current on septic but are capable of gravity draining to Mill's Creek station, leaving 9,840 GPD still available for future permitting.
- Lockwood Lift Station is located on 22 Lockwood Dr. near the intersection with Fire Department Rd. The station has a 259,200 GPD pump capacity, with a permitted capacity of 103,680 GPD and a five-year maximum sewer flow of 13,134 GPD. An additional flow of 35,040 GPD from the 146 housing units that are current on septic but are capable of gravity draining to Lockwood station, leaving 55,506 GPD still available for future permitting.
- Midstate Station is located on 5025 Wilson's Mills Rd. near Reedy Creek. The station has a 144,000 GPD pump capacity, with a permitted capacity of 57,600 GPD and a five-year maximum sewer flow of 39,735 GPD. According to Johnston County, the pumpstation is currently at capacity thus cannot accommodate any additional sewer flow for future development or septic users without a substantial upgrade/renovation.
- Clearwater Lift Station, also known as WTP Pump Station, is located on 600 Clearwater Dr. near the Clearwater Water Treatment Plant. The station has a 504,000 GPD pump capacity, with a permitted capacity of 201,600 GPD and a five-year maximum sewer flow of 28,858 GPD. A future flow of 94,320 GPD from the adjacent new residential development of Johnston Farms has been permitted by Johnston County as of 2023. Additionally, a sewer load of 37,500 GPD is anticipated from the nearby combined high school and middle school leaving 40,922 GPD still available for future permitting.
- Old Mill Lift Station is located at 110 Stoney Creek Cir. The station has a pump capacity of 197,280 GPD with a permitted capacity of 78,912 GPD and a five-year maximum sewer flow of 33,410 GPD. A future flow of 35,040 GPD from the neighborhood of Willis Crossing has been permitted by Johnston County as of 2023 which leaves Old Mill a remaining 10,462 GPD capacity for future use.
- Wilson's Mills Pumpstation is located at 200 Twin Creek Drive near US Highway 70 W. The station has a pump capacity of 720,000 GPD with a permitted capacity of 1,440,000 GPD

and a five-year maximum sewer flow of 185,410 GPD. The station also receives sewage from the previous listed pumpstations and the upcoming Southerland Mills development totaling an additional 293,320 GPD, leaving 726,930 GPD remaining for future permitting.

- Tralee Lift Station is located at 644 Tralee Dr. The station has a pump capacity of 259,200 GPD with a permitted capacity of 103,680 GPD and a five-year maximum sewer flow of 60,306 GPD. An additional flow of 23,040 GPD from the 96 housing units that are current on septic is expected, plus the upcoming residential development, Lee Properties, that will contribute an estimated 23,000 GPD as well. The pump station, including the anticipated septic and Lee Property load, will exceed the currently permitted capacity by approximately 43,000 GPD. However, the pumpstation itself is capable of handling the abovementioned sewer load with an additional 110,000 GPD remaining. Therefore, should the Town remain with the County for sewer operations, the Town will need to apply for more permit capacity prior to the Lee Properties development completion.
- Olive Branch Lift station, located 120 Reagan Crest Dr, bear Reedy Branch, is the most recent installation, constructed in 2023. The station has a pump capacity of 1,116,000 GPD with a permitted capacity of 446,400 GPD and no flow on current sewer data. It is not anticipated to take on any septic users in the future.

Figure 1 – Sewer System Pump Station Summary Flow Chart

Pump Station Name:	Knolls of the Neuse
Permitted Capacity (GPD):	153,792
Pump Station Capacity (GPD):	384,480
Max Daily Flow (2018 - 2022) (GPD):	71,408
Additional Flows:	
Permitted/Paper (GPD):	7,000
Exist. Septic & Future Develop. (GPD):	0
Remaining Permitted Capacity (GPD):	**75,384**

FM Size (inch): 6
Pump Rate (GPM): 267
Velocity (ft/sec): 3.03

Pump Station Name:	Ive's Landing
Permitted Capacity (GPD):	185,472
Pump Station Capacity (GPD):	463,680
Max Daily Flow (2018 - 2022) (GPD):	89,352
Additional Flows:	
Permitted/Paper (GPD):	7,000
Future Developments (GPD):	0
Remaining Permitted Capacity (GPD):	**89,120**

FM Size (inch): 6
Pump Rate (GPM): 322
Velocity (ft/sec): 3.65

Pump Station Name:	Mill Creek
Permitted Capacity (GPD):	46,080
Pump Station Capacity (GPD):	144,000
Max Daily Flow (2018 - 2022) (GPD):	10,800
Additional Flows:	
Permitted/Paper (GPD):	15,360
Exist. Septic & Future Develop. (GPD):	10,080
Remaining Permitted Capacity (GPD):	**9,840**

FM Size (inch): 4
Pump Rate (GPM): 100
Velocity (ft/sec): 2.55

Pump Station Name:	Lockwood
Permitted Capacity (GPD):	103,680
Pump Station Capacity (GPD):	259,200
Max Daily Flow (2018 - 2022) (GPD):	13,134
Additional Flows:	
Permitted/Paper (GPD):	0
Exist. Septic & Future Develop. (GPD):	35,040
Remaining Permitted Capacity (GPD):	**55,506**

FM Size (inch): 6
Pump Rate (GPM): 180
Velocity (ft/sec): 2.04

Pump Station Name:	Midstate
Permitted Capacity (GPD):	57,600
Pump Station Capacity (GPD):	144,000
Max Daily Flow (2018 - 2022) (GPD):	39,735
Additional Flows:	
Permitted/Paper (GPD):	0
Exist. Septic & Future Develop. (GPD):	0
Remaining Permitted Capacity (GPD):	**17,865**

FM Size (inch): 4
Pump Rate (GPM): 100
Velocity (ft/sec): 2.55

Pump Station Name:	Cleawater
Permitted Capacity (GPD):	201,600
Pump Station Capacity (GPD):	504,000
Max Daily Flow (2020 - 2022) (GPD):	28,858
Additional Flows:	
Permitted/Paper (GPD):	94,320
Exist. Septic & Future Develop. (GPD):	37,500
Remaining Permitted Capacity (GPD):	**40,922**

FM Size (inch): 4
Pump Rate (GPM): 350
Velocity (ft/sec): 8.94

Pump Station Name:	Old Mill
Permitted Capacity (GPD):	78,912
Pump Station Capacity (GPD):	197,280
Max Daily Flow (2020 - 2022) (GPD):	33,410
Additional Flows:	
Permitted/Paper (GPD):	35,040
Exist. Septic & Future Develop. (GPD):	0
Remaining Permitted Capacity (GPD):	**10,462**

FM Size (inch): 4
Pump Rate (GPM): 137
Velocity (ft/sec): 3.5

Pump Station Name:	Southerland Mills
Permitted Capacity (GPD):	No Data
Pump Station Capacity (GPD):	0
Max Daily Flow (2020 - 2022) (GPD):	0
Additional Flows:	
Permitted/Paper (GPD):	0
Exist. Septic & Future Develop. (GPD):	120,000
Remaining Permitted Capacity (GPD):	**No Data**

FM Size (inch):
Pump Rate (GPM):
Velocity (ft/sec):

GS Size (inch): 12
Flow Rate (GPD): 650437
Velocity (ft/sec): 2.55

Pump Station Name:	Wilson's Mills
Permitted Capacity (GPD):	1,440,000
Pump Station Capacity (GPD):	720,000
Max Daily Flow (2018 - 2022) (GPD):	185,410
Additional Flows:	
Permitted/Paper (GPD):	151,720
Exist. Septic & Future Develop. (GPD):	495,940
Remaining Permitted Capacity (GPD):	**606,930**

FM Size (inch): 10
Pump Rate (GPM): 500
Velocity (ft/sec): 2.04

Pump Station Name:	*Tralee
Permitted Capacity (GPD):	103,680
Pump Station Capacity (GPD):	259,200
Max Daily Flow (2018 - 2022) (GPD):	60,306
Additional Flows:	
Permitted/Paper (GPD):	0
Exist. Septic & Future Develop. (GPD):	86,400
Remaining Permitted Capacity (GPD):	**-43,026**

FM Size (inch): 6
Pump Rate (GPM): 180
Velocity (ft/sec): 2.04

Pump Station Name:	Olive Branch
Permitted Capacity (GPD):	446,400
Pump Station Capacity (GPD):	1,116,000
Max Daily Flow (- 2022) (GPD):	0
Additional Flows:	
Permitted/Paper (GPD):	61,560
Exist. Septic & Future Develop. (GPD):	0
Remaining Permitted Capacity (GPD):	**384,840**

FM Size (inch): 10
Pump Rate (GPM): 775
Velocity (ft/sec): 3.17

County Pump Station

**Note: The Lee Property addition to the Tralee pump station was identified after the capital projects analysis has been completed. Therefore, the property has been included in the mapping or cost estimating for this report. However, it is anticipated that a direct replacement of the existing pump should be sufficient to accommodate future growth and projected sewer load.*

3.3 Water Distribution System

The water distribution system within the Town's boundaries is currently comprised of two Water Districts: Wilson's Mills, to the east side of the town, and Little Creek, to the west. New extensions were added to provide potable water to the newly developed residential areas to the West. Unlike the sewer system, the water system is currently not under duress for upgrades and rehabilitation. A summary of the water system assets can be found in the subsequent Table. Detailed maps of the existing water system can be found in Appendix A.

Table 2 – Water System Asset Summary

	INFRASTRUCTURE	10"	8"	6"	4"	2"	Customers	Years Constructed
Wilsons Mills Water District Owned:								
WMWD - 1	Strickland Road			1,740			9	2000
WMWd - 2	Powell Dr & Walter Circle			1,275	772	686	18	2000
WMWD - 3	Jones Court				1,353		29	2000
WMWD - 4	Mitchner Dr, WM Road, Turnage Rd		4,010	7,350	150		50	2000
WMWD - 5	First St			527			2	2000
WMWD - 6	Main St (Uzzle Pd) & Jones Rd			9,871			44	2000
WMWD - 7	Fire Department Road		6,830				11	2000
WMWD - 8	Powhatan Rd (8") from 1025 Pow Rd to Prickett Ln		2,485				22	2000
	TOTAL WMWD		***13,325***	***20,763***	***2,275***	***686***	***185***	
Little Creek Water District Owned:								
LCWD - 1	Southerland Road		3,465	3,150			11	2003
LCWD - 2	Powhatan Rd & Caribou Lane	5,060			800	145	7	2003
LCWD - 3	Vinson Road			1,442			1	2003
	TOTAL LCWD	***5,060***	***3,465***	***4,592***	***800***	***145***	***19***	
Developer Constructed:								
1	Tralee Subdivision			17,559	341		303	2003, 2004, 2006, 2007, 2017, 2019, 2020
2	Lee Farms			6,438			92	2003
3	Twin Creek			1,395	529		1	2010, 2019, 2022
4	Uzzle Industrial		618	2,172		2,090	22	1999, 2023
5	Ellas Bend & Westfield			2,414	279		35	2008, 2013, 2014
6	Poplar Creek		1,039	1,485	1,783		81	1999, 2018
7	Cardinal Glen & Homeplace			8,278	273	490	69	1993, 1997, 1999
8	Powhatan Road (from Prickett to Fire Department)			5,388			17	1997
9	Mill Creek			2,397	1,328		87	2020, 2021
10	Eason Creek			2,088		213	44	2023
11	Ives Landing			6,743	1,062		119	2008, 2020
12	Lockwood Forest		1,812	5,210	907		111	2000, 2004, 2007, 2009
13	Parrish Ridge & Durant			3,030	1,168		80	1985, 2020
14	Family Dr, Fire Dept Rd		3,853	960		42	45	1985
15	Parker St			1,008			13	1985
16	Lowell Ct & Shearin Rd				481		6	2004
17	Clearwater S/D, Johnston Farms		11,486	59		67	204	1996, 2001
18	Old Mill Village			3,204	988		75	1997, 1999
19	Catawba			1,616			2	2016
20	Lou Circle				382		4	1999
21	Willow Branch			286	505		20	2001, 2002
22	US 70 Ext			461		781	0	1997, 2020
23	Cottages at Wilsons Mills		187	3,332			75	2020
24	Harrison Road			1,840			39	1985
25	East Hampton Subdivision		2,884			1,313	88	2020
	TOTAL		***21,879***	***77,363***	***10,026***	***4,996***	***1,632***	

4. FUTURE NEEDS AND GROWTH

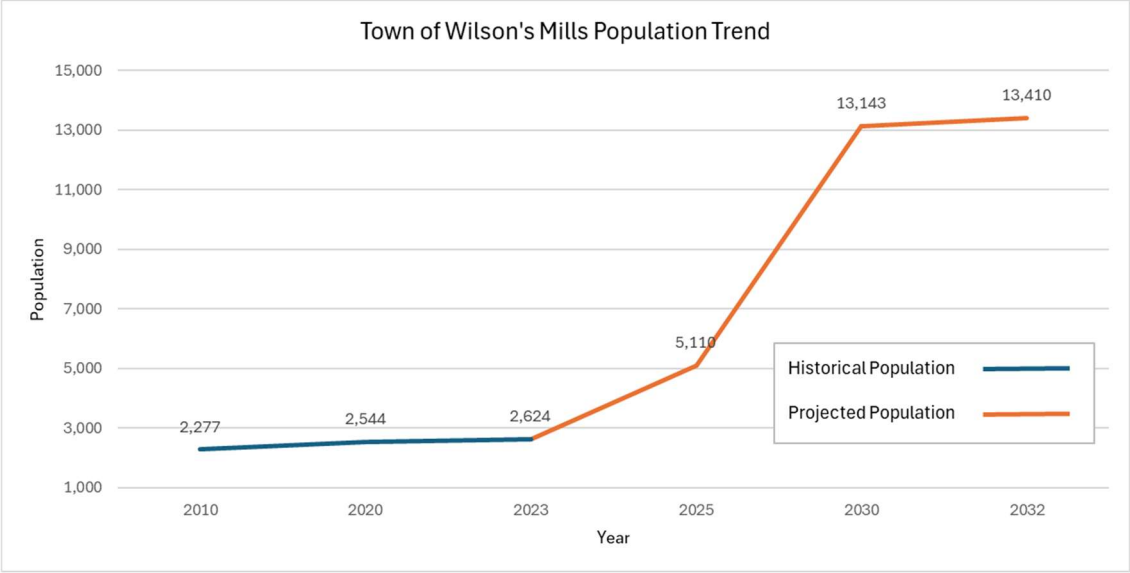
4.1 Population Trends

Johnston County nor the Town of Wilson's Mills was able to provide an estimated population, such as number of billing customers, or Town census, for calculation purposes. Therefore, historical population data for the Town was obtained from US Census data for the years 2010 to 2020. The Town, however, did provide residential building projections ranging from the years 2024 to 2032, that detailed the number of single-family homes (SFH), townhomes (TH), apartments (APT), and duplexes (DUPLEX). Per the Town's request, a 2.5x multiplier factor was used for SFH, TH, and apartments for persons per dwelling, and a 3x multiplier was used for duplexes.

Figure 2 depicts the projected population for the Wilson's Mills 10 years in the future using Town provided residential development projections (see Appendix G).

An 11.7% increase was observed from 2010 to 2020, which was applied to the 2020 population to project the 2023 population. From there, the residential dwellings data were used to forecast future populations which predicted rapid population growth until the year 2032.

Figure 2 – Population Trend



4.2 Known Developments and Septic Users

The Town anticipates several upcoming residential developments that are either currently in development with allocated utility flows, or will be developed in the future. Specifically, the subdivisions of Crescent Mills, Johnston Farm, Wilson's Ridge, Willis Crossing, and Southerland Mills. Appendix E showcases said developments with recommended sewer pump station installations to support the anticipated flow increase. Residential zones aside, the Town will also incorporate the sewer flow from the existing High School and Middle School. Refer to section 3.2 for projected sewer flows details.

In addition to the aforementioned developments, the it is recommended the Town integrate the existing residents on septic systems into the sewer system, notably the areas outlined in the Capital Improvement Projects sections of this report. Septic system users are identified via the Town provided 2009 septic tank survey as shown in Appendix C.

4.3 Recommended Anticipated Capital Improvement Projects and Priorities

The Town of Wilson's Mills intends to perform repair and rehabilitation of its sanitary sewer system along with necessary expansions, particularly of its existing septic users in the following three locations: the neighborhoods of Lockwood, Renee Dr., and Uzzles Pond Rd. The CIP projects are chosen based on the 2009 Capital Improvements Plan septic tank survey in conjunction with the Town's input. Refer to Appendix D for maps detailing the three CIP project locations mentioned above.

An overall summary of anticipated future sewer developments can be found in Appendix E, the figure includes known future residential developments, the drainage areas of known septic users and the pumpstations that can accommodate the additional sewer load should the Town incorporate them into the sewer system.

4.4 Wilson's Mills Sewer Capital Improvement Project Cost Estimation

The plan, as presented below, represents anticipated capital expenditures above regular maintenance as a total of $5,386,200.00 or an average yearly expenditure of approximately $538,620.00 over the next 10 years. It is recommended that a continuous investment of funds, as well as continued asset management and assessment, be applied to necessary repairs, infrastructure investments, and capital improvements to allow the Town to provide a reliable and economical service to their customers. The proposed capital improvement plan was created with the most critical replacements/rehabilitations in the earlier years and the less critical replacements/rehabilitations in the later years.

Table 3 – Estimated cost for Lockwood station CIP

TOWN OF WILSON'S MILLS SEWER CIP PROJECT – LOCKWOOD STATION				
Item Description	**Quantity**	**Unit**	**Unit Cost**	**Total Cost**
General				
Mobilization/Bonds	1	LS	$25,000	$25,000
Tie-ins	4	LS	$7,500	$30,000
Surveying and Staking	5	Days	$1,000	$5,000
Traffic Control	1	LS	$20,000	$20,000
Erosion and Sediment Control	1	LS	$15,000	$15,000
			Subtotal	*$95,000*
Sewer				
4" DIP Forcemain	4200	LS	$75	$315,000
Manhole Installation	47	LS	$10,000	$470,000
8" PVC Gravity Sewer Line	10,000	LF	$150	$1,500,000
Sewer Bypass	2	LS	$10,000	$20,000
Pump Station Installation	1	LS	$200,000	$200,000
			Subtotal	*$2,305,000*
			TOTAL	**$2,400,000**
			10% contingency	$240,000
			10% Engineering Cost	$240,000
			Permitting, Property, and Easement Costs	$65,000
			TOTAL ESTIMATED PROJECT COST	**$2,945,000**

Table 4 – Estimated cost for Renee Drive CIP

TOWN OF WILSON'S MILLS SEWER CIP PROJECT – RENEE DRIVE STATION				
Item Description	**Quantity**	**Unit**	**Unit Cost**	**Total Cost**
General				
Mobilization/Bonds	1	LS	$25,000	$25,000
Tie-ins	1	LS	$7,500	$7,500
Surveying and Staking	4	Days	$1,000	$4,000
Traffic Control	1	LS	$10,000	$10,000
Erosion and Sediment Control	1	LS	$10,000	$10,000
			Subtotal	*$56,500*
Sewer				
4" DIP Forcemain	5,800	LS	$75	$435,000
Manhole Installation	7	LS	$10,000	$70,000
8" PVC Gravity Sewer Line	4,100	LF	$150	$615,000
Sewer Bypass	1	LS	$10,000	$10,000
Pump Station Installation	1	LS	$200,000	$200,000
			Subtotal	*$1,330,000*
			TOTAL	**$1,386,500**
			10% contingency	$138,650
			10% Engineering Cost	$138,650
			Permitting, Property, and Easement Costs	$65,000
			TOTAL ESTIMATED PROJECT COST	**$1,728,800**

Table 5 – Estimated cost for Uzzles Pond Road CIP

TOWN OF WILSON'S MILLS SEWER CIP PROJECT – UZZLES POND ROAD STATION				
Item Description	**Quantity**	**Unit**	**Unit Cost**	**Total Cost**
General				
Mobilization/Bonds	1	LS	$25,000	$25,000
Tie-ins	1	LS	$7,500	$7,500
Surveying and Staking	2	Days	$1,000	$2,000
Traffic Control	1	LS	$10,000	$10,000
Erosion and Sediment Control	1	LS	$10,000	$10,000
			Subtotal	*$54,500*
Sewer				
Manhole Installation	7	LS	$10,000	$70,000
8" PVC Gravity Sewer Line	2,700	LF	$150	$405,000
Sewer Bypass	1	LS	$10,000	$10,000
			Subtotal	*$485,000*
			TOTAL	**$539,500**
			10% contingency	$53,950
			10% Engineering Cost	$53,950
			Permitting, Property, and Easement Costs	$65,000
			TOTAL ESTIMATED PROJECT COST	**$712,400**

5. METHODOLOGY

5.1 Sewer System

Current sewer flow values are derived from data gathered between 2018 and 2022. Pump permitted capacity and pump capacity values are from 2024 data. Permitted future flows and regulatory values such as the forcemain scour velocity and sewer flow estimates per user is derived from Johnston County's existing policies. Sewer gravity drainage area is determined by surface elevation and pump station capacity taking into account the estimated number of residential units and businesses that would potentially be able to drain in the pump station. Septic system criticality was derived from a 2009 study conducted by the Town that summarized septic users and the failure of each septic system. A map located in Appendix C provides the location of septic users in addition to their criticality.

5.1 Water System

The Town's water system is not in dire need of rehabilitation, unlike the sewer system, the primary concern is with the purchase of infrastructure and future cost evaluations. Johnston County provided a complete water inventory and values for potential purchase by the Town of Wilson's Mills for this assessment.

6. ESTABLISHMENT OF WATER AND WASTEWATER DEPARTMENT

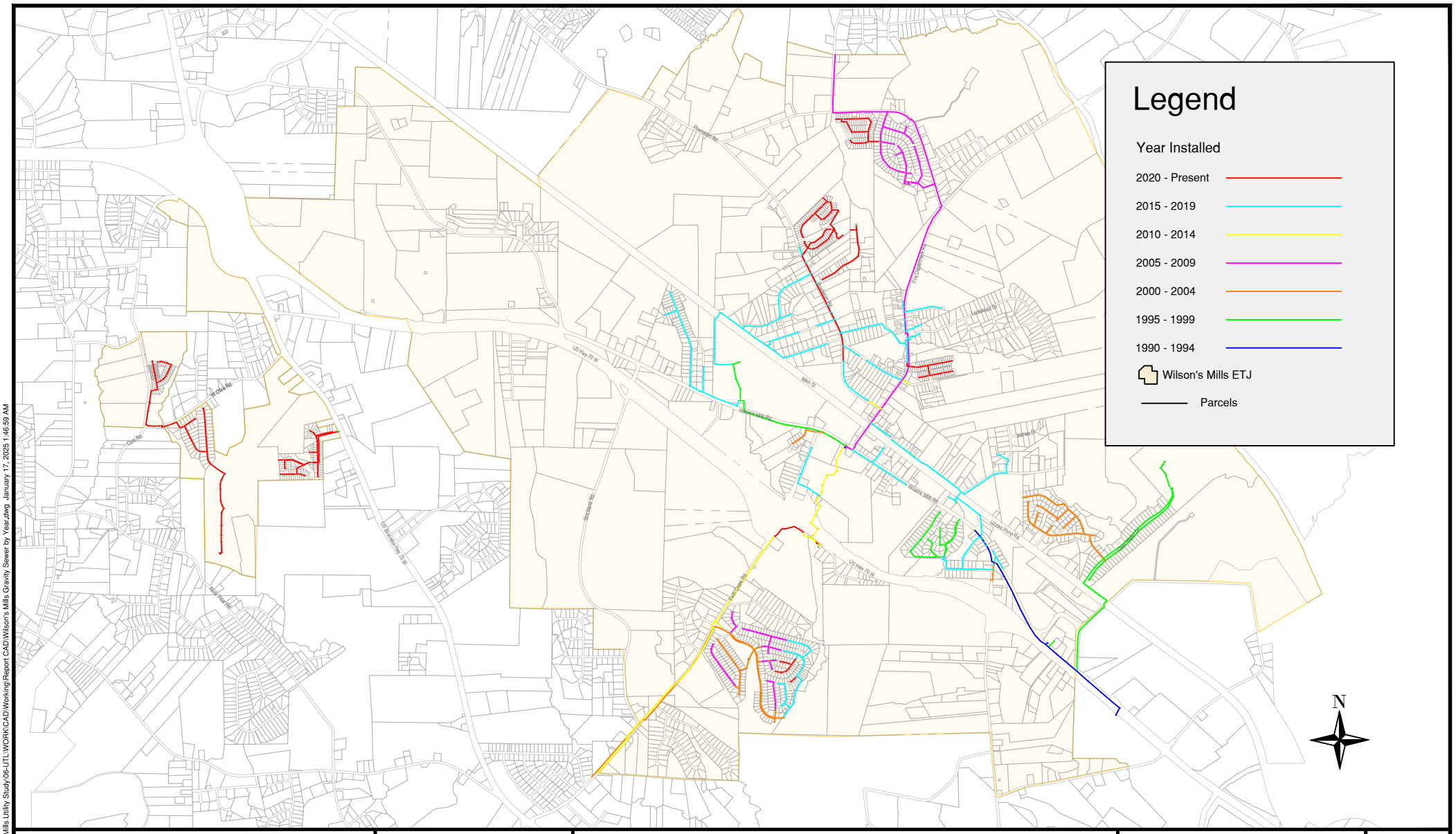
In order for the Town to take ownership of the water and sewer system, a functioning utility department would need to be formed for management, continued operation, maintenance, and customer billing. See Appendix F for the analysis and description of the cost to establish a new water and wastewater department.

7. CONCLUSIONS AND RECOMMENDATIONS

This project identified several recommended upgrades and determined a range of likely expenses and revenues that should be anticipated should the Town proceed with adopting a new water/sewer utility. It is anticipated that the Town will require $5,386,200.00 in capital expenses to upgrade its utilities upon establishment, or an average yearly expenditure of approximately $538,620.00 over the next 10 years. Additionally, the Town should only consider proceeding with establishing a new water/sewer utility should Johnston County agree to acquiesce the infrastructure at no cost. Should the County proceed with requiring the Town to purchase the infrastructure at the County's estimated value, the monthly costs for consumers would be exorbitant. Assuming a successful negotiation occurs, and no purchase fee is associated with the water/sewer infrastructure, then, as detailed in Appendix F, the Town can still anticipate the average user would be charged as much as $195.71 per month for water and sewer service.

APPENDIX A

WATER AND SEWER SYSTEM MAPPING



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DESIGNED: XOB
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CHECKED: EWG
DATE: 01/16/2025

WILSON'S MILLS SEWER SYSTEM BY YEAR

Town of Wilson's Mills

SCALE: 1" = 3,500'

PROJECT: 573412

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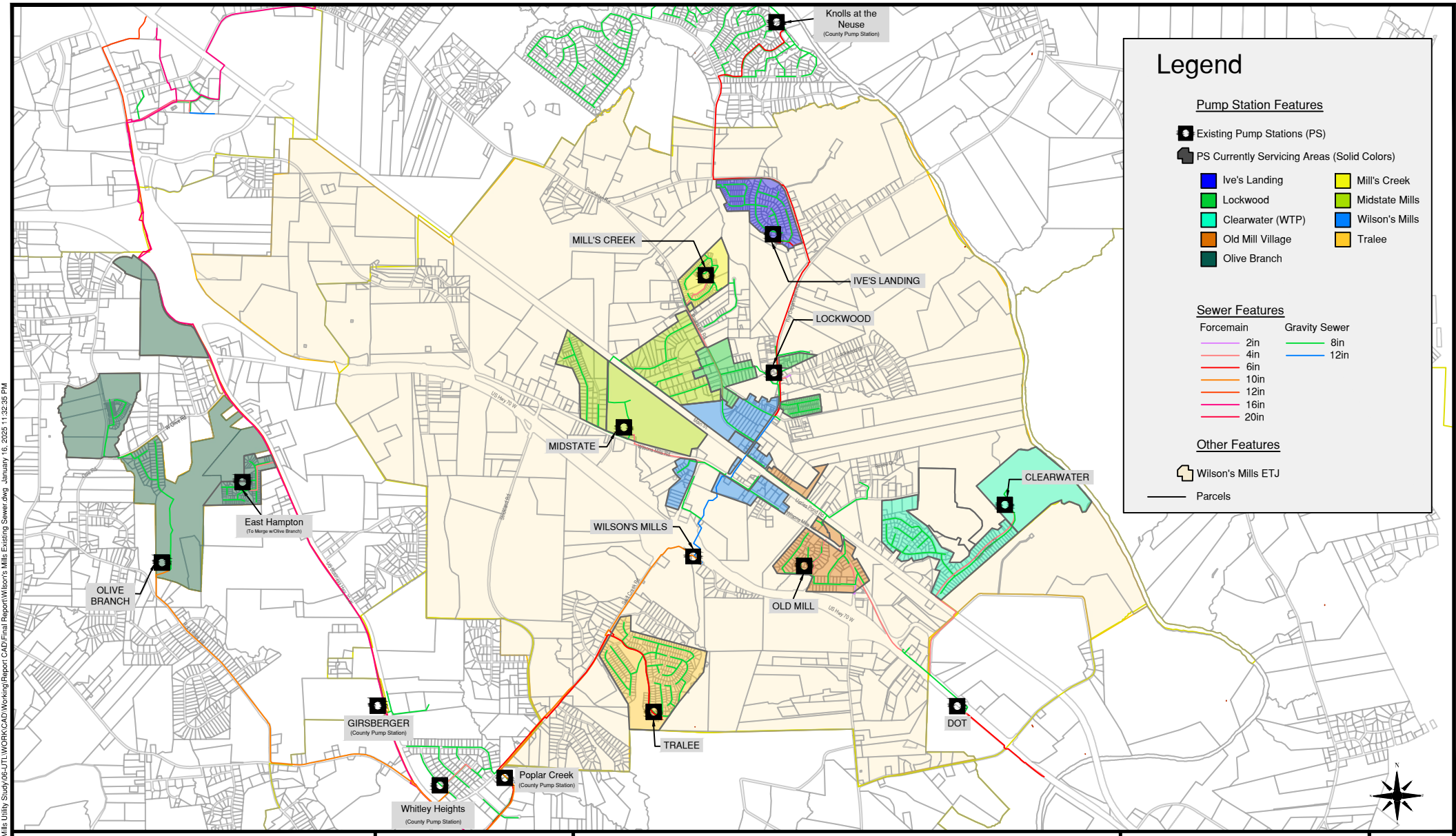

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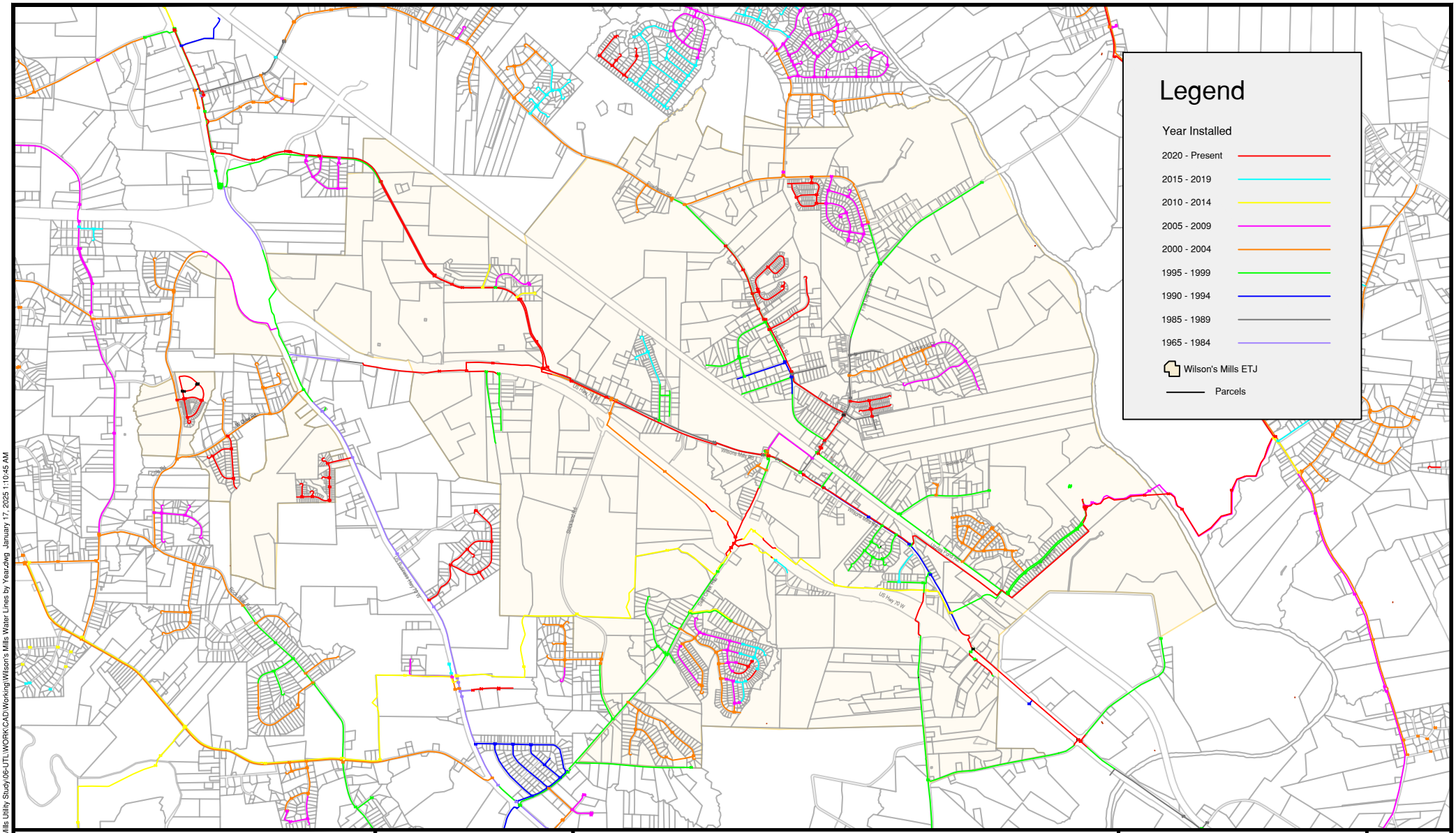
DATE: 01/16/2025

WILSON'S MILLS EXISTING SEWER SYSTEM

Town of Wilson's Mills

SCALE: 1" = 4000'

PROJECT: 573412



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DATE: 01/16/2025

WILSON'S MILLS WATER SYSTEM BY YEAR

Town of Wilson's Mills

SCALE: 1" = 4000'

PROJECT: 573412

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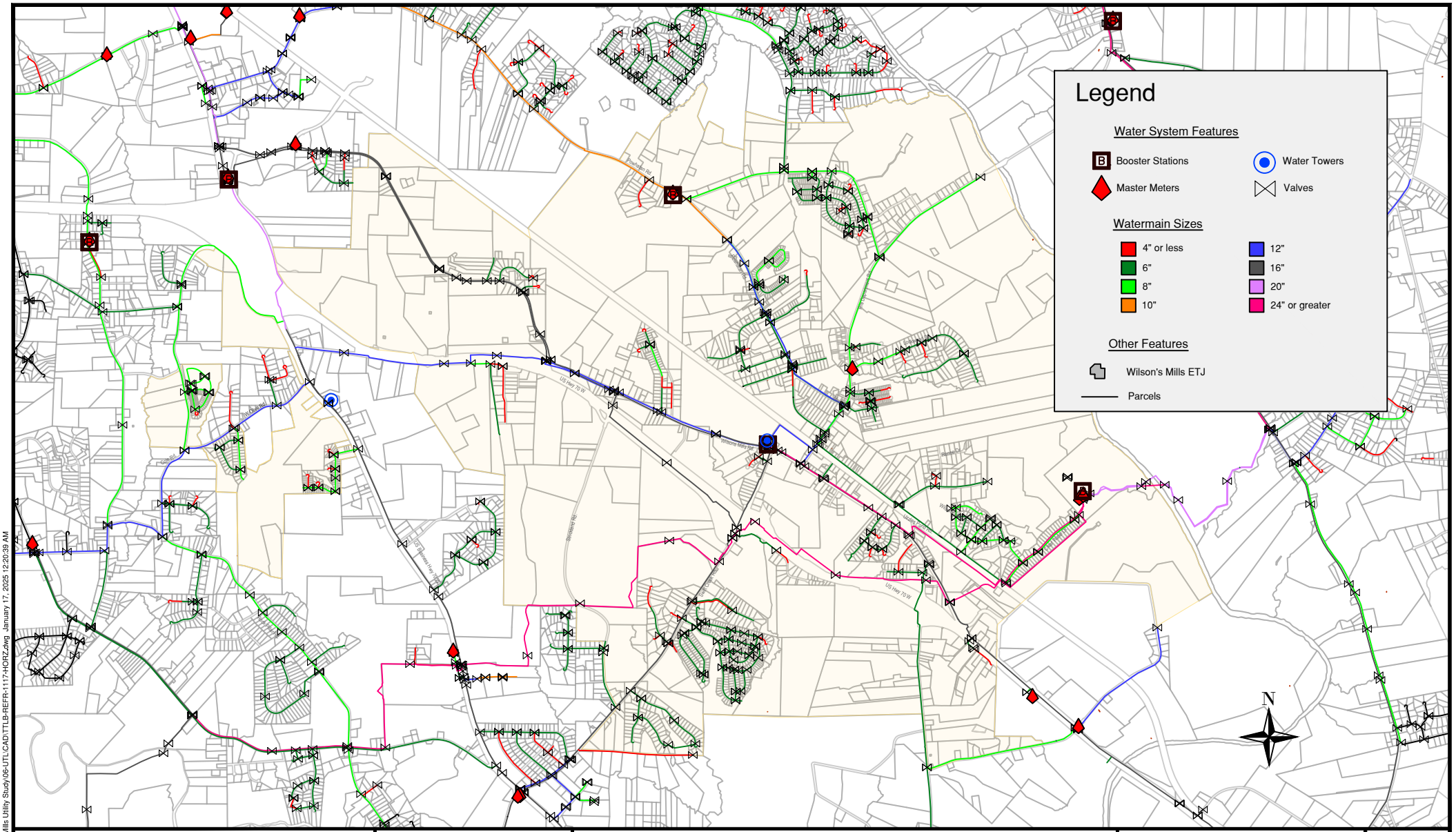

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WILSON'S MILLS EXISTING WATER SYSTEM

Town of Wilson's Mills

SCALE: 1" = 4000'

PROJECT: 573412

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APPENDIX B

SEWER SYSTEM ASSET INVENTORY SUMMARY

Appendix B. Table 1 – Manhole Inventory Summary

Johnston County MH ID	Depth (VF)	Rim Elevation (ft)	Diameter (ft)	Year Installed	Johnston County MH ID	Depth (VF)	Rim Elevation (ft)	Diameter (ft)	Year Installed	Johnston County MH ID	Depth (VF)	Rim Elevation (ft)	Diameter (ft)	Year Installed
DOT0174	N/A	N/A	4	1991	CL0168	N/A	N/A	4	2001	NN0061	7.50	N/A	4	2008
DOT0001	N/A	N/A	4	1991	NC0209	10.00	N/A	4	2002	NN0047	N/A	N/A	4	2008
DOT0173	N/A	N/A	4	1991	NC0114	6.00	N/A	4	2002	NN0049	10.60	N/A	4	2008
DOT0003	N/A	N/A	4	1991	NC0113	4.40	N/A	4	2002	NN0048	6.70	N/A	4	2008
DOT0002	N/A	N/A	4	1991	NC0117	7.70	N/A	4	2002	NN0050	N/A	N/A	4	2008
DOT0175	7.00	N/A	4	1991	NC0116	4.10	N/A	4	2002	NN0058	11.40	N/A	4	2008
DOT0176	6.00	N/A	4	1991	NC0115	3.50	N/A	4	2002	NN0059	19.10	N/A	4	2008
NC0177	6.00	N/A	4	1991	NC0141	11.45	N/A	4	2003	NN0057	23.80	N/A	5	2008
NC0178	6.00	N/A	4	1991	TR0142	10.05	N/A	4	2003	NN0062	8.80	N/A	4	2008
NC0053	N/A	N/A	4	1991	TR0143	8.30	N/A	4	2003	NN0063	5.30	N/A	4	2008
NC0179	12.00	N/A	4	1991	TR0144	8.80	N/A	4	2003	NN0046	5.80	N/A	4	2008
WM0018 (WW)	12.10	N/A	6	1994	TR0145	12.05	N/A	4	2003	NN0045	7.00	N/A	4	2008
NC0208	N/A	N/A	4	1995	TR0139	N/A	N/A	4	2003	WM0211	11.00	N/A	4	2008
NC0207	N/A	N/A	4	1995	TR0146	9.90	N/A	4	2003	WM0033	11.80	N/A	4	2010
NC0223	N/A	N/A	4	1995	TR0147	11.80	N/A	4	2003	NC0032	10.00	N/A	4	2010
NC0206	N/A	N/A	4	1995	TR0148	12.45	N/A	4	2003	NC0031	7.70	N/A	4	2010
DOT0172	N/A	N/A	4	1995	TR0149	8.80	N/A	4	2003	NC0030	8.30	N/A	4	2010
CL0196	N/A	N/A	4	1996	TR0040	9.90	N/A	4	2003	NC0029	14.30	N/A	4	2010
CL0195	N/A	N/A	4	1996	TR0150	13.45	N/A	4	2003	NC0028	16.30	N/A	4	2010
CL0194	N/A	N/A	4	1996	TR0151	15.45	N/A	4	2003	NC0027	10.50	N/A	4	2010
CL0197	N/A	N/A	4	1996	TR0152	10.50	N/A	4	2003	NC0026	9.80	N/A	4	2010
CL0198	N/A	N/A	4	1996	TR0153	10.50	N/A	4	2003	NC0025	12.30	N/A	4	2010
CL0199	N/A	N/A	4	1996	TR0154	10.10	N/A	4	2003	NC0024	8.20	N/A	4	2010
CL0200	N/A	N/A	4	1996	TR0155	9.05	N/A	4	2003	NC0023	5.60	N/A	4	2010
CL0218	N/A	N/A	4	1996	TR0156	9.05	N/A	4	2003	NC0022	10.80	N/A	4	2010
CL0201	N/A	N/A	4	1996	NC0160 (TB)	20.50	N/A	4	2003	NC0019	6.20	N/A	5	2010
CL0202	N/A	N/A	4	1996	TR0157	5.80	N/A	4	2003	NC0020	12.70	N/A	4	2010
CL0203	N/A	N/A	4	1996	TR0158	15.50	N/A	4	2003	NC0021	18.60	N/A	5	2010
CL0204	N/A	N/A	4	1996	TR0159	14.76	N/A	4	2003	WM0003	7.99	101.08	4	2011
CL0205	N/A	N/A	4	1996	TR0140	N/A	N/A	4	2004	WM0002	6.02	100.07	4	2011
OMV0190 (TB)	8.41	N/A	5	1997	TR0164	N/A	N/A	4	2004	WM0008	10.87	240.70	4	2011
OMV0189	N/A	N/A	4	1997	TR0163	N/A	N/A	4	2004	WM0014	10.76	236.59	4	2012
OMV0188	N/A	N/A	4	1997	TR0162	N/A	N/A	4	2004	WM0001	10.30	N/A	4	2012
OMV0187	N/A	N/A	4	1997	TR0161	N/A	N/A	4	2004	LW0022	12.27	205.72	4	2017
OMV0005	N/A	N/A	4	1997	TR0165	N/A	N/A	4	2004	LW0021	12.06	211.06	5	2017
OMV0004	N/A	N/A	4	1997	TR0166	N/A	N/A	4	2004	LW0020	6.96	221.96	4	2017
OMV0191	N/A	N/A	4	1997	TR0167	N/A	N/A	4	2004	LW0019	12.73	204.53	4	2017
OMV0192	N/A	N/A	4	1997	TR0217	N/A	N/A	4	2004	LW0013	19.56	N/A	5	2017
OMV0007	5.75	N/A	4	1997	TR0009	6.50	N/A	4	2006	LW0016 (BS)	15.48	N/A	5	2017
OMV0193	5.60	N/A	4	1997	TR0010	9.95	N/A	4	2006	LW0017 (WW)	23.03	N/A	8	2017
OMV0003	N/A	N/A	4	1997	TR0011	7.40	N/A	4	2006	LW0018 (MM)	N/A	N/A	4	2017
OMV0186	N/A	N/A	4	1997	TR0012	7.90	N/A	4	2006	LW0011	11.09	N/A	4	2017
OMV0185	N/A	N/A	4	1997	TR0002	8.60	N/A	4	2006	LW0012	7.92	N/A	4	2017
OMV0184	N/A	N/A	4	1997	TR0003	10.60	N/A	4	2006	LW0010	13.12	N/A	4	2017
OMV0002	N/A	N/A	4	1997	TR0004	10.10	N/A	4	2006	LW0014	3.66	N/A	4	2017
OMV0001	N/A	N/A	4	1997	TR0005	9.00	N/A	4	2006	LW0009	8.80	N/A	4	2017
OMV0183	N/A	N/A	4	1997	TR0006	7.70	N/A	4	2006	LW0008	11.56	N/A	4	2017
OMV0182	N/A	N/A	4	1997	TR0007	7.06	N/A	4	2006	LW0003	16.96	N/A	4	2017
OMV0181	N/A	N/A	4	1997	TR0008	6.10	N/A	4	2006	LW0002	16.78	N/A	4	2017
OMV0180	N/A	N/A	4	1997	WM0005	N/A	N/A	4	2007	LW0001	15.10	N/A	4	2017
OMV0006	4.21	N/A	4	1997	WM0006	N/A	N/A	4	2007	LW0005	14.45	N/A	4	2017
NC0215	9.00	N/A	4	1999	NN0175	8.30	N/A	4	2007	LW0004	15.90	N/A	4	2017
NC0216	10.00	N/A	4	1999	NC0054	14.80	N/A	4	2007	LW0006	10.97	N/A	4	2017
NC0214	7.00	N/A	4	1999	NC0055	9.10	N/A	4	2007	LW0015	9.26	N/A	4	2017
NC0213	6.00	N/A	4	1999	NC0056	15.20	N/A	5	2007	LW0007	4.90	N/A	4	2017
NC0212	6.00	N/A	4	1999	NC0057	13.60	N/A	4	2007	WM0011	14.96	204.48	4	2017
NC0210	5.00	N/A	4	1999	NC0058	12.70	N/A	4	2007	OMV0009	7.62	N/A	4	2017
CL0070	N/A	N/A	4	2001	WM0059	9.10	N/A	4	2007	OMV0008	14.96	N/A	4	2017
CL0069	N/A	N/A	4	2001	WM0060	9.60	N/A	4	2007	OMV0010	7.91	N/A	4	2017
CL0068	N/A	N/A	4	2001	WM0061	9.90	N/A	4	2007	OMV0013	9.74	N/A	4	2017
CL0067	N/A	N/A	4	2001	WM0062	9.00	N/A	4	2007	OMV0015 (WW)	23.07	N/A	6	2017
CL0107	N/A	N/A	4	2001	TR0042	10.60	N/A	4	2007	OMV0012	7.07	N/A	4	2017
CL0108	7.00	N/A	4	2001	TR0044	13.70	N/A	4	2007	OMV0011	6.35	N/A	4	2017
CL0109	10.00	N/A	4	2001	TR0043	7.50	N/A	4	2007	TR0001	10.93	N/A	4	2017
CL0110	7.00	N/A	4	2001	TR0041	7.40	N/A	4	2007	TR0014	10.33	N/A	4	2017
CL0064	N/A	N/A	4	2001	TR0046	12.70	N/A	4	2007	TR0015	8.81	N/A	4	2017
CL0065	N/A	N/A	4	2001	TR0045	7.30	N/A	4	2007	TR0013	8.13	N/A	4	2017
CL0066	N/A	N/A	4	2001	TR0047	8.00	N/A	4	2007	TR0016	8.14	N/A	4	2017
CL0106	7.00	N/A	4	2001	TR0048	11.00	N/A	4	2007	TR0017	7.61	N/A	4	2017
CL0105	5.00	N/A	4	2001	TR0039	9.00	N/A	4	2007	TR0018	6.53	N/A	4	2017
CL0104	3.00	N/A	4	2001	TR0038	10.20	N/A	4	2007	TR0019	7.13	N/A	4	2017
CL0098	5.00	N/A	4	2001	TR0034	11.10	N/A	4	2007	MM0059	12.96	249.00	4	2018
CL0099	4.00	N/A	4	2001	TR0035	11.60	N/A	4	2007	MM0058	13.55	250.86	4	2018
CL0100	6.00	N/A	4	2001	TR0036	10.80	N/A	4	2007	MM0055	7.95	247.42	4	2018
CL0001	5.70	N/A	4	2001	TR0037	6.40	N/A	4	2007	MM0054	7.41	259.94	4	2018
CL0101	6.00	N/A	4	2001	NN0052	11.46	251.12	4	2008	MM0057	7.89	249.44	4	2018
CL0103	11.00	N/A	4	2001	NN0051	N/A	N/A	4	2008	MM0056	6.11	248.47	4	2018
CL0102	9.00	N/A	4	2001	NN0038	12.90	N/A	4	2008	MM0041	3.23	249.65	4	2019
CL0112	6.00	N/A	4	2001	NN0039	12.90	N/A	4	2008	MM0040	11.03	252.40	4	2019
CL0111	8.00	N/A	4	2001	NN0037	6.40	N/A	4	2008	MM0039	15.14	255.40	4	2019
CL0074	N/A	N/A	4	2001	NN0040	12.30	N/A	4	2008	MM0035	11.23	249.86	4	2019
CL0063	N/A	N/A	4	2001	NN0042	11.30	N/A	4	2008	MM0038	14.23	249.86	4	2019
CL0073	N/A	N/A	4	2001	NN0041	6.10	N/A	4	2008	MM0036	12.59	249.53	4	2019
CL0072	N/A	N/A	4	2001	NN0043	7.70	N/A	4	2008	MM0037	13.40	248.54	4	2019
CL0071	N/A	N/A	4	2001	NN0044	6.70	N/A	4	2008	MM0034	13.66	248.07	4	2019
CL0097	N/A	N/A	4	2001	NN0053	8.80	N/A	4	2008	MM0033	N/A	N/A	4	2019
CL0096	N/A	N/A	4	2001	NN0054	9.10	N/A	4	2008	MM0028	12.67	246.23	4	2019
CL0095	N/A	N/A	4	2001	NN0055	8.70	N/A	4	2008	MM0027	10.93	243.73	4	2019
CL0094	N/A	N/A	4	2001	NN0056	12.50	N/A	4	2008	MM0026	17.50	248.50	4	2019
CL0093	N/A	N/A	4	2001	NN0060	16.20	N/A	5	2008	MM0025	N/A	N/A	5	2019

Appendix B. Table 1 – Manhole Inventory Summary (cont…)

Johnston County MH ID	Depth (VF)	Rim Elevation (ft)	Diameter (ft)	Year Installed	Johnston County MH ID	Depth (VF)	Rim Elevation (ft)	Diameter (ft)	Year Installed	Johnston County MH ID	Depth (VF)	Rim Elevation (ft)	Diameter (ft)	Year Installed
MM0052	8.21	248.61	4	2019	WM0110	7.61	237.61	4	2019	EH0009	8.86	236.50	4	2020
MM0029	N/A	N/A	4	2019	WM0089	7.90	210.00	4	2019	EH0010	6.47	238.22	4	2020
MM0030	N/A	N/A	4	2019	WM0116	5.52	208.06	4	2019	EH0008	10.74	235.67	4	2020
MM0031	N/A	N/A	4	2019	WM0117	5.45	208.54	4	2019	EH0027	11.83	236.58	4	2020
MM0032	13.57	241.04	4	2019	WM0115	7.79	211.28	4	2019	EH0021	10.67	233.85	4	2020
MM0001	15.14	241.07	4	2019	WM0088	14.44	214.86	4	2019	EH0014	12.29	233.93	4	2020
MM0002	16.78	242.15	4	2019	WM0087	12.27	211.04	4	2019	EH0025	15.32	235.77	4	2020
MM0024	15.22	242.30	4	2019	WM0076	14.17	211.43	4	2019	EH0028	15.69	235.03	4	2020
MM0042	15.88	244.53	4	2019	WM0075	12.06	208.35	4	2019	EH0015	7.90	234.03	4	2020
MM0048	11.51	243.99	4	2019	WM0074	11.11	206.51	4	2019	EH0017	6.55	233.65	4	2020
MM0049	8.75	245.86	4	2019	WM0084	10.48	206.72	4	2019	EH0020	7.38	235.99	4	2020
MM0050	18.95	260.05	4	2019	WM0085	9.54	206.38	4	2019	EH0019	8.79	239.05	4	2020
MM0051	8.76	251.66	4	2019	WM0086	8.34	205.82	4	2019	EH0022	7.60	234.13	4	2020
MM0043	16.55	246.26	4	2019	WM0012	9.20	204.00	4	2019	EH0018	10.16	237.86	4	2020
MM0044	8.62	239.43	4	2019	WM0079	8.59	201.60	4	2019	EH0026	11.76	240.31	4	2020
MM0047	8.91	241.44	4	2019	WM0078	9.75	202.07	4	2019	EH0023	5.05	238.88	4	2020
MM0046	11.80	246.13	4	2019	WM0077	11.41	202.91	4	2019	EH0024	9.03	238.29	4	2020
MM0045	15.23	251.12	4	2019	WM0029	12.28	203.40	4	2019	EH0016	7.39	237.50	4	2020
MM0003	9.29	233.25	4	2019	WM0028	11.35	202.83	4	2019	MCW0017	9.95	239.12	4	2021
MM0004	22.44	244.60	5	2019	WM0027	9.81	202.83	4	2019	MCW0025	8.05	236.47	4	2021
MM0005	11.52	232.28	4	2019	WM0026	9.26	N/A	4	2019	MCW0031	6.95	236.31	4	2021
MM0006	6.21	266.07	4	2019	WM0025	8.86	N/A	4	2019	MCW0029	7.11	237.29	4	2021
MM0007	3.48	222.12	4	2019	WM0080	9.35	N/A	4	2019	MCW0024	7.79	235.61	4	2021
MM0008	7.24	224.87	4	2019	WM0081	7.69	N/A	4	2019	MCW0018	7.40	234.82	4	2021
MM0009	13.23	229.21	4	2019	WM0082	5.11	N/A	4	2019	MCW0032	8.27	235.06	4	2021
MM0010	7.32	222.54	4	2019	WM0083	6.16	N/A	4	2019	MCW0027	8.33	235.66	4	2021
MM0023	6.47	216.48	4	2019	TR0063	8.51	156.07	4	2019	MCW0022	7.80	236.49	4	2021
MM0022	3.71	214.37	4	2019	TR0062	9.64	160.19	4	2019	MCW0019	7.91	237.11	4	2021
MM0021	4.02	215.52	4	2019	TR0061	9.92	164.41	4	2019	MCW0021	7.80	238.13	4	2021
MM0020	13.13	227.93	4	2019	TR0064	12.03	169.97	4	2019	MCW0023	6.55	237.77	4	2021
MM0013	11.92	232.71	4	2019	TR0060	5.35	170.00	4	2019	MCW0028	7.29	238.62	4	2021
MM0012	13.58	239.15	4	2019	TR0055	7.25	174.08	4	2019	MCW0035	7.13	239.75	4	2021
MM0011	12.23	243.06	4	2019	TR0056	7.79	180.56	4	2019	MCW0033	7.94	241.31	4	2021
MM0019	11.51	234.30	4	2019	TR0057	11.45	187.13	4	2019	MCW0034	4.52	240.22	4	2021
MM0018	11.25	239.04	4	2019	TR0053	7.19	186.96	4	2019	MCW0030	10.42	236.17	4	2021
MM0017	18.19	247.77	4	2019	TR0054	6.65	187.66	4	2019	MCW0020	7.30	232.80	4	2021
MM0016	20.11	251.21	4	2019	TR0049	7.00	190.79	4	2019	MCW0026	11.54	235.11	4	2021
MM0015	14.17	246.86	4	2019	TR0052	7.41	190.80	4	2019	MCW0015	12.87	235.77	4	2021
MM0014	10.53	244.32	4	2019	TR0051	6.45	210.28	4	2019	MCW0044	5.01	234.49	4	2023
LW0033	5.92	245.92	4	2019	TR0058	17.46	193.89	5	2019	MCW0036	5.00	233.59	4	2023
LW0032	7.99	247.13	4	2019	TR0050	6.29	202.61	4	2019	MCW0037	4.59	234.72	4	2023
MM0053	14.28	252.09	4	2019	TR0059	14.74	192.06	4	2019	OB00033	8.48	255.56	4	2023
LW0030	14.86	253.76	4	2019	IL0013	3.74	252.22	4	2020	OB00032	17.32	251.47	4	2023
LW0031	8.58	248.81	4	2019	IL0008	4.10	251.37	4	2020	OB00036	15.54	250.36	4	2023
LW0029	16.04	252.13	4	2019	IL0012	3.05	249.83	4	2020	OB00035	13.75	249.30	4	2023
LW0034	11.41	249.09	4	2019	IL0016	4.92	251.01	4	2020	OB00037	11.96	248.30	4	2023
LW0035	7.57	246.68	4	2019	IL0015	4.26	249.87	4	2020	OB00034	10.77	247.76	4	2023
LW0036	10.16	250.55	4	2019	IL0014	6.73	250.94	4	2020	OB00029	10.47	248.86	4	2023
LW0028	12.67	247.16	4	2019	IL0003	5.81	248.46	4	2020	OB00028	8.85	251.02	4	2023
LW0027	9.03	239.77	4	2019	IL0018	10.03	253.87	4	2020	OB00027	10.87	253.76	4	2023
LW0026	6.60	217.58	4	2019	IL0017	11.66	256.12	4	2020	OB00026	10.85	256.67	4	2023
LW0025	17.36	214.26	4	2019	IL0010	9.65	255.40	4	2020	OB00002	16.70	248.81	4	2023
LW0024	15.65	211.79	4	2019	IL0009	4.27	251.43	4	2020	OB00003	20.98	252.00	4	2023
LW0023	14.61	208.75	4	2019	IL0002	9.05	250.35	4	2020	OB00004	14.93	244.00	4	2023
LW0037	12.43	228.25	4	2019	IL0004	7.73	249.55	4	2020	OB00005	14.09	242.94	4	2023
WM0070	9.57	255.57	4	2019	IL0005	4.28	247.45	4	2020	OB00001	16.55	243.52	4	2023
WM0069	9.40	250.49	4	2019	IL0006	4.49	247.91	4	2020	OB00007	23.61	248.81	4	2023
WM0068	9.03	245.91	4	2019	IL0007	4.74	248.45	4	2020	OB00006	19.76	244.52	4	2023
WM0067	6.96	242.37	4	2019	IL0011	5.30	249.35	4	2020	OB00008	14.09	237.99	4	2023
WM0007	17.63	248.90	4	2019	IL0001	11.18	251.67	4	2020	OB00009	12.64	235.75	4	2023
WM0004	15.61	249.08	4	2019	MCW0008	15.14	237.55	4	2020	OB00010	12.35	235.02	4	2023
WM0064	6.84	242.11	4	2019	MCW0007	14.09	237.57	4	2020	OB00011	13.39	235.39	4	2023
WM0063	6.65	242.84	4	2019	MCW0012	13.32	238.16	4	2020	OB00012	16.00	236.82	4	2023
WM0065	8.96	246.21	4	2019	MCW0011	13.02	238.40	4	2020	MCW0038	4.20	235.61	4	2023
WM0066	8.69	248.69	4	2019	MCW0010	12.08	237.78	4	2020	MCW0039	4.41	236.89	4	2023
WM0010	13.54	230.80	4	2019	MCW0009	9.04	235.62	4	2020	MCW0043	4.23	237.66	4	2023
WM0104	13.78	232.30	4	2019	MCW0006	11.06	235.90	4	2020	MCW0042	4.53	239.17	4	2023
WM0105	11.31	231.34	4	2019	MCW0005	9.40	237.40	4	2020	MCW0041	4.42	240.76	4	2023
WM0022	N/A	N/A	4	2019	MCW0004	7.81	238.42	4	2020	MCW0040	5.84	244.09	4	2023
WM0024	N/A	N/A	4	2019	MCW0003	7.42	238.64	4	2020	OB00030	9.91	261.14	4	2023
WM0023	10.11	224.66	4	2019	MCW0002	9.30	241.34	4	2020	OB00031	9.72	259.81	4	2023
WM0031	10.04	225.11	4	2019	MCW0001	6.73	241.34	4	2020	OB00013	21.21	241.08	4	2023
WM0030	7.32	227.82	4	2019	MCW0016	6.73	240.65	4	2020	OB00014	18.95	237.79	4	2023
WM0021	12.31	228.21	4	2019	MCW0013	6.22	234.83	4	2020	OB00015	18.74	236.90	4	2023
WM0020	14.39	232.09	4	2019	LW0039	14.15	230.37	4	2020	OB00020	8.65	239.54	4	2023
WM0019	6.70	226.20	4	2019	LW0038	16.00	233.47	4	2020	OB00019	16.09	232.65	4	2023
WM0073	12.04	201.61	5	2019	LW0024	13.98	232.80	4	2020	OB00018	15.62	231.02	4	2023
WM0072	N/A	N/A	4	2019	LW0046	10.75	231.06	4	2020	OB00017	15.82	230.46	4	2023
WM0071	N/A	N/A	4	2019	LW0047	7.80	231.00	4	2020	OB00016	18.11	231.72	4	2023
WM0013	10.30	220.63	4	2019	LW0041	5.28	229.98	4	2020	OB00024	10.44	231.72	4	2023
WM0016	10.82	222.38	4	2019	LW0044	11.20	234.99	4	2020	OB00023	10.15	237.61	4	2023
WM0015	9.32	226.12	4	2019	LW0045	9.05	237.53	4	2020	OB00022	8.50	249.20	4	2023
WM0017	N/A	N/A	4	2019	LW0043	8.10	234.62	4	2020	OB00021	8.29	250.97	4	2023
WM0103	8.51	230.59	4	2019	LW0040	5.20	233.38	4	2020	OB00025	16.23	228.71	4	2023
WM0102	11.40	229.44	4	2019	WM0035	10.30	170.80	4	2020	OB00054	15.66	227.39	4	2023
WM0101	11.44	226.25	4	2019	WM0034	5.93	174.51	4	2020	OB00038	15.66	226.08	4	2023
WM0095	7.65	219.17	4	2019	TR0069	9.25	187.68	4	2020	OB00039	17.40	225.84	4	2023
WM0100	7.38	218.23	4	2019	TR0070	8.25	189.82	4	2020	OB00040	18.07	225.47	4	2023
WM0094	7.20	216.32	4	2019	TR0071	6.62	200.02	4	2020	OB00041	18.11	224.81	4	2023
WM0093	11.33	218.25	4	2019	TR0068	9.11	188.20	4	2020	OB00042	17.40	223.29	4	2023
WM0092	15.38	220.83	4	2019	TR0067	6.62	192.59	4	2020	OB00043	17.60	222.24	4	2023
WM0090	16.24	221.69	4	2019	TR0066	6.28	199.12	4	2020	OB00044	19.12	223.61	4	2023
WM0091	14.29	222.94	4	2019	TR0065	6.61	204.06	4	2020	OB00045	19.07	223.61	4	2023
WM0109	11.65	227.35	4	2019	EH0013	6.24	240.98	4	2020	OB00046	20.08	222.38	4	2023
WM0107	8.50	226.01	4	2019	EH0012	8.12	242.22	4	2020	OB00047	22.11	222.87	4	2023
WM0108	9.55	230.03	4	2019	EH0011	10.58	243.75	4	2020	OB00048	24.19	223.36	4	2023
WM0106	10.38	234.47	4	2019	EH0004	7.36	244.21	4	2020	OB00049	20.00	217.81	4	2023
WM0114	8.80	234.43	4	2019	EH0003	7.81	248.17	4	2020	OB00050	17.92	214.38	4	2023
WM0113	12.08	239.86	4	2019	EH0005	10.23	242.41	4	2020	OB00051	21.45	217.16	4	2023
WM0112	10.67	239.01	4	2019	EH0007	9.74	239.05	4	2020	OB00052 (G)	21.45	217.16	4	2023
WM0111	9.91	238.68	4	2019	EH0006	5.12	235.66	4	2020	OB00053 (WW)	33.29	216.26	4	2023

Appendix B. Table 2 – Sewer Forcemain Inventory Summary

Johnston County Pipe ID	Diameter	Material	Length	Year Installed
2413	1.5	PVC	532.78	2000
3745	2	PVC	189.02	2017
WM0135S	2	PVC	173.79	2017
DOT0635S	4	PVC	6519.77	1996
DOT0001S	4	PVC	3604.97	1994
WM0004S	4	PVC	2.05	2012
DOT0784S	4	PVC	1160.75	1997
WM0697S	4	PVC	2151.61	1999
WM0698S	4	PVC	384.61	1999
WM0084S	4	PVC	4178.42	2020
EH0013S	4	PVC	1475.65	2020
PC1532S	6	PVC	8602.01	2003
TR0117S	6	PVC	227.03	2010
WM0017S	6	PVC	1152.62	2017
WM1947S	6	PVC	5518.17	2007
WM0300S	6	PVC	773.35	2008
WM0003S	6	PVC	5496.54	2007
NS0116S	10	PVC	5292.68	2010
TR0109S	10	PVC	2728.18	2010
TR	10	PVC	901.34	2022
TR0112S	10	PVC	469.62	2010
TR0111S	10	PVC	71.53	2022
TR0110S	10	PVC	110.17	2010
Total LF 1.5" FM =			**533**	
Total LF 2" FM =			**363**	
Total LF 4" FM =			**19478**	
Total LF 6" FM =			**21770**	
Total LF 10" FM =			**9574**	

Appendix B. Table 3 – 8" PVC Gravity Sewer Inventory Summary

8" PVC Gravity Sewer Lines											
Starting MH ID	Ending MH ID	Length (LF)	Year Installed	Starting MH ID	Ending MH ID	Length (LF)	Year Installed	Starting MH ID	Ending MH ID	Length (LF)	Year Installed
IL0013	IL0008	145.54	2020	MCW0011	MCW0010	42.42	2020	MM0015	MM0014	237.34	2019
IL0008	IL0012	72.82	2020	MCW0010	MCW0009	138.06	2020	MM0014	MM0059	172.44	2018
IL0012	IL0016	125.09	2020	MCW0007	MCW0006	35.63	2020	MM0059	MM0058	193.94	2018
IL0016	IL0015	308.15	2020	MCW0006	MCW0005	250.98	2020	MM0058	MM0055	414.67	2018
IL0015	IL0014	185.61	2020	MCW0005	MCW0004	385.85	2020	MM0055	MM0054	351.20	2018
IL0014	IL0003	245.91	2020	MCW0004	MCW0003	113.17	2020	MM0055	MM0057	424.99	2018
IL0003	IL0018	273.15	2020	MCW0003	MCW0002	125.14	2020	MM0057	MM0056	85.11	2018
IL0018	IL0017	115.27	2020	MCW0002	MCW0001	135.32	2020	LW0033	LW0032	206.85	2019
IL0017	IL0010	310.72	2020	MCW0001	MCW0016	61.53	2020	LW0032	MM0053	214.68	2019
IL0010	IL0009	313.40	2020	MCW0044	MCW0036	118.31	2023	MM0053	LW0030	222.54	2019
IL0003	IL0002	261.03	2020	MCW0036	MCW0013	149.89	2023	LW0030	LW0031	269.70	2019
IL0002	IL0004	86.34	2020	MCW0036	MCW0037	329.23	2023	MM0053	LW0029	390.76	2019
IL0004	IL0005	287.72	2020	MCW0037	MCW0038	189.46	2023	LW0029	LW0034	353.72	2019
IL0005	IL0006	40.72	2020	MCW0038	MCW0039	186.95	2023	LW0034	LW0035	204.57	2019
IL0006	IL0007	32.86	2020	MCW0039	MCW0043	199.18	2023	LW0035	LW0036	273.30	2019
IL0007	IL0011	58.28	2020	MCW0043	MCW0042	295.80	2023	LW0029	LW0028	383.66	2019
IL0002	IL0001	151.49	2020	MCW0042	MCW0041	285.46	2023	LW0028	LW0027	359.25	2019
IL0001	NN0052	175.88	2020	MCW0041	MCW0040	347.71	2023	LW0027	LW0026	356.44	2019
NN0052	NN0051	354.52	2008	MM0041	MM0040	203.85	2019	LW0026	LW0025	169.12	2019
NN0052	NN0038	201.23	2008	MM0040	MM0039	228.46	2019	LW0025	LW0024	165.67	2019
NN0038	NN0039	200.10	2008	MM0039	MM0035	325.18	2019	LW0024	LW0023	382.01	2019
NN0039	NN0037	298.30	2008	MM0035	MM0038	297.18	2019	LW0023	LW0022	126.79	2019
NN0037	FORCE MAIN	125.52	2008	MM0035	MM0036	371.73	2019	LW0022	LW0019	81.47	2017
NN0039	NN0040	198.53	2008	MM0036	MM0037	399.32	2019	LW0019	LW0013	63.73	2017
NN0040	NN0042	395.78	2008	MM0037	MM0034	136.07	2019	LW0013	LW0016 (BS)	31.47	2017
NN0042	NN0041	186.37	2008	MM0034	MM0033	45.17	2019	LW0016 (BS)	LW0017 (WW)	17.31	2017
NN0042	NN0043	205.13	2008	MM0033	MM0028	103.58	2019	LW0017 (WW)	LOCKWOOD DR PS	2.94	2017
NN0043	NN0044	147.44	2008	MM0028	MM0027	146.59	2019	LW0013	LW0011	48.61	2017
NN0052	NN0053	299.99	2008	MM0027	MM0026	398.83	2019	LW0011	LW0010	190.14	2017
NN0053	NN0054	199.54	2008	MM0026	MM0025	56.45	2019	LW0010	LW0014	404.29	2017
NN0054	NN0055	252.24	2008	MM0025	MM0052	323.16	2019	LW0010	LW0009	51.38	2017
NN0055	NN0056	249.49	2008	MM0025	MM0029	257.39	2019	LW0009	LW0008	290.55	2017
NN0060	NN0061	123.92	2008	MM0029	MM0030	150.18	2019	LW0008	LW0003	219.35	2017
NN0060	NN0047	197.11	2008	MM0030	MM0031	133.07	2019	LW0003	LW0002	135.41	2017
NN0047	NN0049	359.37	2008	MM0031	MM0032	107.32	2019	LW0002	LW0001	147.47	2017
NN0049	NN0048	185.77	2008	MM0032	MM0001	326.24	2019	LW0003	LW0005	54.78	2017
NN0049	NN0050	206.33	2008	MM0001	MM0002	91.60	2019	LW0005	LW0004	301.99	2017
NN0060	NN0058	233.11	2008	MM0002	MM0024	397.00	2019	LW0004	LW0006	356.53	2017
NN0058	NN0059	53.01	2008	MM0024	MM0042	391.95	2019	LW0006	LW0015	93.55	2017
NN0058	NN0062	350.11	2008	MM0042	MM0048	68.81	2019	LW0015	LW0007	192.90	2017
NN0062	NN0063	226.45	2008	MM0048	MM0049	88.88	2019	LW0022	LW0021	51.14	2017
NN0063	NN0046	392.19	2008	MM0049	MM0050	403.80	2019	LW0021	LW0020	287.47	2017
NN0046	NN0045	384.53	2008	MM0050	MM0051	371.69	2019	LW0020	LW0037	168.59	2019
MCW0017	MCW0025	148.90	2021	MM0042	MM0043	244.17	2019	LW0037	LW0039	104.92	2020
MCW0025	MCW0031	196.35	2021	MM0043	MM0044	291.42	2019	LW0038	LW0042	212.68	2020
MCW0031	MCW0029	152.42	2021	MM0044	MM0047	392.58	2019	LW0042	LW0046	286.55	2020
MCW0025	MCW0024	91.64	2021	MM0047	MM0046	405.84	2019	LW0046	LW0047	394.07	2020
MCW0024	MCW0018	85.47	2021	MM0046	MM0045	396.18	2019	LW0047	LW0041	249.54	2020
MCW0018	MCW0032	121.35	2021	MM0002	MM0003	380.09	2019	LW0046	LW0044	269.87	2020
MCW0032	MCW0027	77.39	2021	MM0005	MM0006	146.32	2019	LW0044	LW0045	286.72	2020
MCW0027	MCW0022	246.29	2021	MM0008	MM0009	416.72	2019	LW0044	LW0043	392.88	2020
MCW0022	MCW0019	65.55	2021	MM0009	MM0010	185.86	2019	LW0043	LW0040	213.78	2020
MCW0019	MCW0021	236.29	2021	NC0215	NC0216	174.30	1999	WM0070	WM0069	400.04	2019
MCW0021	MCW0023	50.44	2021	NC0215	NC0214	403.47	1999	WM0069	WM0068	292.78	2019
MCW0021	MCW0028	187.59	2021	NC0214	NC0213	281.70	1999	WM0068	WM0067	323.29	2019
MCW0028	MCW0035	272.34	2021	NC0213	NC0212	310.10	1999	WM0067	NN0175	46.33	2019
MCW0035	MCW0033	150.27	2021	NC0212	vIIDSTATE MILLS P!	3.86	1999	NN0175	WM0003	49.14	2011
MCW0033	MCW0034	180.98	2021	NC0212	MM0023	39.24	2019	WM0003	WM0002	146.94	2011
MCW0032	MCW0030	158.08	2021	MM0021	MM0020	382.45	2019	WM0007	WM0004	209.43	2019
MCW0030	MCW0020	32.32	2021	MM0020	MM0013	362.42	2019	WM0004	WM0064	396.66	2019
MCW0020	MCW0026	400.02	2021	MM0013	MM0012	352.42	2019	WM0064	WM0063	161.80	2019
MCW0026	MCW0015	134.65	2021	MM0012	MM0011	321.44	2019	WM0063	WM0065	196.22	2019
MCW0015	Mills Creek PS	35.91	2020	MM0013	MM0019	91.44	2019	WM0065	WM0066	358.81	2019
MCW0008	Mills Creek PS	31.55	2020	MM0019	MM0018	286.37	2019	NC0057	WM0010	30.74	2019
MCW0008	MCW0007	25.50	2020	MM0018	MM0017	358.91	2019	WM0010	WM0104	268.50	2019
MCW0007	MCW0012	104.54	2020	MM0017	MM0016	321.14	2019	WM0104	WM0105	327.27	2019
MCW0012	MCW0011	109.32	2020	MM0016	MM0015	361.89	2019	WM0022	WM0061	1.57	2019

Appendix B. Table 3 – 8" PVC Gravity Sewer Inventory Summary (cont…)

8" PVC Gravity Sewer Lines											
Starting MH ID	Ending MH ID	Length (LF)	Year Installed	Starting MH ID	Ending MH ID	Length (LF)	Year Installed	Starting MH ID	Ending MH ID	Length (LF)	Year Installed
WM0022	WM0024	262.21	2019	OMV0013	OMV0003	129.56	1997	CL0204	CL0205	114.23	1996
WM0024	WM0023	344.72	2019	OMV0003	OMV0186	268.17	1997	CL0205	CLEARWATER PS	32.84	1996
WM0023	WM0031	87.16	2019	OMV0186	OMV0185	196.85	1997	CLEARWATER PS	NC0208	411.04	1995
WM0031	WM0030	404.27	2019	OMV0185	OMV0184	160.37	1997	NC0208	NC0207	187.71	1995
WM0023	WM0021	290.67	2019	OMV0003	OMV0002	278.18	1997	NC0207	NC0223	93.18	1995
WM0021	WM0020	406.51	2019	OMV0002	OMV0001	349.55	1997	NC0223	NC0206	95.26	1995
WM0020	WM0019	383.34	2019	OMV0001	OMV0183	173.54	1997	DOT0174	DOT0001	66.71	1991
WM0018	WM0211	46.32	1999	OMV0183	OMV0182	401.69	1997	DOT0001	DOT0173	112.16	1991
WM0211	WM0001	45.26	2012	OMV0182	OMV0181	453.12	1997	DOT0173	DOT0172	211.43	1995
WM0211	NC0210	393.53	1999	OMV0181	OMV0180	244.09	1997	DOT0173	DOT0003	252.07	1991
NC0210	NC0209	318.13	1999	OMV0180	OMV0006	201.31	1997	DOT0003	DOT0002	377.74	1991
NC0113	NC0117	241.48	2002	OMV0013	OMV0012	11.07	2017	DOT0002	DOT0175	371.61	1991
NC0117	NC0116	162.26	2002	OMV0012	OMV0011	30.74	2017	DOT0175	NC0176	359.08	1991
WM0073	WM0072	407.42	2019	OMV0011	OMV0189	205.66	1997	NC0176	NC0177	364.18	1991
WM0072	WM0071	259.90	2019	OMV0189	OMV0188	125.27	1997	NC0177	NC0178	375.12	1991
WM0071	WM0013	252.67	2019	OMV0188	OMV0187	130.98	1997	NC0178	NC0053	363.50	1991
WM0013	WM0016	12.68	2019	OMV0187	OMV0005	198.76	1997	NC0179	DOT PS	11.87	1991
WM0016	WM0015	416.79	2019	OMV0005	OMV0004	252.80	1997	TR0009	TR0010	163.08	2006
WM0015	WM0017	328.71	2019	OMV0188	OMV0191	225.37	1997	TR0010	TR0011	157.10	2006
WM0103	WM0102	381.25	2019	OMV0191	OMV0192	175.79	1997	TR0011	TR0012	93.17	2006
WM0102	WM0101	299.31	2019	OMV0192	OMV0007	154.24	1997	TR0012	NC0141	245.91	2006
WM0101	WM0095	302.01	2019	OMV0007	OMV0193	150.91	1997	NC0141	TR0142	237.15	2003
WM0095	WM0100	115.66	2019	CL0070	CL0069	394.47	2001	TR0142	TR0143	232.19	2003
WM0100	WM0094	388.56	2019	CL0069	CL0068	173.74	2001	TR0143	TR0144	189.31	2003
WM0094	WM0093	313.84	2019	CL0068	CL0067	399.76	2001	TR0144	TR0145	116.17	2003
WM0093	WM0092	360.99	2019	CL0067	CL0107	202.82	2001	TR0145	TR0139	285.60	2003
WM0092	WM0090	106.07	2019	CL0107	CL0108	167.36	2001	TR0139	TR0140	256.19	2003
WM0091	WM0109	407.94	2019	CL0108	CL0109	367.31	2001	TR0140	TR0164	188.98	2004
WM0109	WM0107	392.15	2019	CL0109	CL0110	48.17	2001	TR0164	TR0163	225.05	2004
WM0107	WM0108	150.43	2019	CL0109	CL0064	178.87	2001	TR0163	TR0162	400.89	2004
WM0108	WM0106	192.05	2019	CL0064	CL0065	352.87	2001	TR0162	TR0161	401.02	2004
WM0106	WM0114	134.36	2019	CL0065	CL0066	129.06	2001	TR0164	TR0165	98.30	2004
WM0114	WM0113	225.87	2019	CL0108	CL0106	273.47	2001	TR0165	TR0166	378.42	2004
WM0113	WM0112	111.39	2019	CL0106	CL0105	114.27	2001	TR0166	TR0167	154.79	2004
WM0112	WM0111	49.42	2019	CL0105	CL0104	347.08	2001	TR0166	TR0217	113.31	2004
WM0111	WM0110	272.08	2019	CL0106	CL0098	142.86	2001	TR0217	TR0002	400.56	2006
WM0089	WM0116	90.31	2019	CL0098	CL0099	240.22	2001	TR0002	TR0003	399.75	2006
WM0116	WM0115	117.43	2019	CL0099	CL0100	143.81	2001	TR0003	TR0004	208.09	2006
WM0116	WM0117	84.45	2019	CL0100	CL0001	203.51	2001	TR0004	TR0005	87.94	2006
WM0089	WM0088	343.21	2019	CL0001	CL0101	185.80	2001	TR0005	TR0006	87.59	2006
WM0088	WM0087	424.77	2019	CL0101	CL0103	397.71	2001	TR0006	TR0007	80.09	2006
WM0087	WM0076	305.95	2019	CL0103	CL0102	138.55	2001	TR0007	TR0008	62.22	2006
WM0076	WM0075	217.23	2019	CL0102	CL0112	86.39	2001	TR0145	TR0146	169.85	2003
WM0075	WM0074	78.05	2019	CL0112	CL0111	259.01	2001	TR0146	TR0042	98.07	2007
WM0074	WM0084	65.18	2019	CL0112	CL0074	379.82	2001	TR0042	TR0044	126.92	2007
WM0084	WM0085	125.25	2019	CL0074	CL0063	365.75	2001	TR0044	TR0041	175.67	2007
WM0085	WM0086	100.68	2019	CL0074	CL0073	152.93	2001	TR0044	TR0043	329.81	2007
WM0074	WM0012	175.38	2019	CL0073	CL0072	140.55	2001	TR0044	TR0046	284.52	2007
WM0012	WM0079	436.79	2019	CL0072	CL0071	399.68	2001	TR0046	TR0045	402.68	2007
WM0079	WM0078	90.11	2019	CL0100	CL0097	164.69	2001	TR0046	TR0047	398.50	2007
WM0078	WM0077	77.20	2019	CL0097	CL0096	129.84	2001	TR0047	TR0048	371.86	2007
WM0077	WM0011	224.60	2019	CL0097	CL0095	156.80	2001	TR0145	TR0147	183.51	2003
WM0011	WM0029	346.42	2019	CL0095	CL0094	144.81	2001	TR0147	TR0148	166.77	2003
WM0029	WM0028	49.96	2019	CL0094	CL0093	346.77	2001	TR0148	TR0149	75.75	2003
WM0028	WM0027	310.49	2019	CL0093	CL0168	168.33	2001	TR0149	TR0040	239.59	2007
WM0027	WM0026	104.42	2019	CL0168	CL0196	32.45	1996	TR0040	TR0039	165.87	2007
WM0026	WM0025	115.21	2019	CL0196	CL0195	264.49	1996	TR0040	TR0038	230.38	2007
WM0025	WM0080	195.34	2019	CL0195	CL0194	372.88	1996	TR0148	TR0150	204.36	2003
WM0080	WM0081	30.61	2019	CL0168	CL0197	263.06	1996	TR0150	TR0151	280.38	2003
WM0081	WM0083	195.98	2019	CL0197	CL0198	274.16	1996	TR0151	TR0152	327.48	2003
WM0081	WM0082	332.16	2019	CL0198	CL0199	331.96	1996	TR0152	TR0153	344.47	2003
WM0011	OMV0009	424.17	2017	CL0199	CL0200	360.35	1996	TR0153	TR0154	169.52	2003
OMV0009	OMV0008	206.27	2017	CL0200	CL0218	308.89	1996	TR0154	TR0155	170.58	2003
OMV0008	OMV0010	111.49	2017	CL0218	CL0201	410.00	1996	TR0155	TR0156	184.25	2003
OMV0010	OMV0013	57.80	2017	CL0201	CL0202	223.11	1996	TR0156	NC0160 (TB)	111.83	2003
OMV0013	OMV0190 (TB)	18.75	1997	CL0202	CL0203	297.10	1996	TR0156	TR0157	196.20	2003
OMV0190 (TB)	OMV0015 (WW)	6.74	2017	CL0203	CL0204	123.45	1996	TR0157	TR0034	255.42	2007

Appendix B. Table 3 – 8" PVC Gravity Sewer Inventory Summary (cont…)

8" PVC Gravity Sewer Lines											
Starting MH ID	**Ending MH ID**	**Length (LF)**	**Year Installed**	**Starting MH ID**	**Ending MH ID**	**Length (LF)**	**Year Installed**	**Starting MH ID**	**Ending MH ID**	**Length (LF)**	**Year Installed**
TR0034	TR0035	400.92	2007	TR0068	TR0067	97.18	2020	OB00028	OB00027	160.06	2023
TR0035	TR0036	86.95	2007	TR0067	TR0066	125.43	2020	OB00027	OB00026	83.98	2023
TR0036	TR0037	187.48	2007	TR0066	TR0065	142.51	2020	OB00032	OB00002	185.63	2023
TR0156	TR0158	156.23	2003	EH0013	EH0012	92.13	2020	OB00002	OB00003	169.14	2023
TR0158	TR0159	76.45	2003	EH0012	EH0011	112.67	2020	OB00003	OB00004	303.87	2023
TR0159	TR0001	139.36	2017	EH0011	EH0004	125.05	2020	OB00004	OB00005	28.22	2023
TR0001	TR0014	180.32	2017	EH0004	EH0003	321.29	2020	OB00005	OB00001	217.04	2023
TR0014	TR0015	187.53	2017	EH0011	EH0005	136.58	2020	OB00001	OB00007	350.05	2023
TR0015	TR0013	111.78	2017	EH0005	EH0007	302.20	2020	OB00007	OB00006	70.82	2023
TR0015	TR0016	122.81	2017	EH0007	EH0006	205.98	2020	OB00006	OB00008	139.61	2023
TR0016	TR0017	397.37	2017	EH0007	EH0009	266.05	2020	OB00008	OB00009	142.03	2023
TR0017	TR0018	85.86	2017	EH0009	EH0010	372.93	2020	OB00009	OB00010	78.50	2023
TR0018	TR0019	87.37	2017	EH0009	EH0008	214.91	2020	OB00010	OB00011	39.02	2023
TR0014	TR0063	155.12	2019	EH0008	EH0015	174.54	2020	OB00011	OB00012	238.73	2023
TR0063	TR0062	272.57	2019	EH0015	EH0022	36.62	2020	OB00012	OB00013	154.20	2023
TR0062	TR0061	380.09	2019	EH0022	EH0018	167.32	2020	OB00013	OB00014	187.29	2023
TR0061	TR0064	161.09	2019	EH0018	EH0026	154.05	2020	OB00014	OB00015	124.27	2023
TR0064	WM0035	109.58	2020	EH0026	EH0023	429.08	2020	OB00015	OB00020	332.81	2023
WM0035	WM0034	117.16	2020	EH0026	EH0024	106.34	2020	OB00015	OB00019	351.33	2023
TR0064	TR0060	239.37	2019	EH0024	EH0016	110.86	2020	OB00019	OB00018	323.84	2023
TR0060	TR0055	90.99	2019	EH0015	EH0017	315.63	2020	OB00018	OB00017	106.35	2023
TR0055	TR0056	117.59	2019	EH0017	EH0020	211.90	2020	OB00017	OB00016	207.84	2023
TR0056	TR0057	99.89	2019	EH0020	EH0019	215.12	2020	OB00016	OB00024	381.21	2023
TR0057	TR0053	287.54	2019	EH0008	EH0027	3.99	2020	OB00024	OB00023	394.08	2023
TR0053	TR0054	80.49	2019	EH0027	EH0021	167.68	2020	OB00023	OB00022	275.07	2023
TR0054	TR0049	101.41	2019	EH0021	EH0014	313.48	2020	OB00022	OB00021	102.07	2023
TR0049	TR0052	159.94	2019	EH0014	EH0025	208.66	2020	OB00016	OB00025	202.26	2023
TR0052	TR0051	360.39	2019	EH0025	EH0028	162.21	2020	OB00025	OB00054	124.00	2023
TR0057	TR0058	138.60	2019	OB00030	OB00031	91.97	2023	OB00054	OB00038	245.07	2023
TR0058	TR0050	368.81	2019	OB00031	OB00033	245.38	2023	OB00038	OB00039	222.25	2023
TR0058	TR0059	113.56	2019	OB00033	OB00032	238.31	2023	OB00039	OB00040	197.62	2023
TR0059	TR0069	206.45	2020	OB00032	OB00036	84.52	2023	OB00040	OB00041	105.84	2023
TR0069	TR0070	85.64	2020	OB00036	OB00035	114.12	2023	OB00041	OB00042	129.31	2023
TR0070	TR0071	221.19	2020	OB00035	OB00037	110.96	2023	OB00042	OB00043	314.30	2023
TR0069	TR0068	138.86	2020	OB00037	OB00034	58.88	2023	OB00043	OB00044	120.66	2023
OB00029	OB00028	127.91	2023	OB00034	OB00029	264.41	2023	OB00044	OB00045	91.36	2023
				OB00049	OB00050	263.34	2023	OB00045	OB00046	131.16	2023

Appendix B. Table 4 – 8" DIP, 12" PVC, 12" DIP, and 2" PVC Gravity Sewer Inventory Summary

8" DIP Gravity Sewer Lines			
Starting MH ID	**Ending MH ID**	**Length (LF)**	**Year Installed**
NN0056	NN0060	213.18	2008
NN0059	NN0057 (BS)	114.13	2008
NN0057 (BS)	IVES LANDING PS	37.37	2008
MM0003	MM0004	339.02	2019
MM0004	MM0005	231.86	2019
MM0006	MM0007	343.32	2019
MM0007	MM0008	267.36	2019
MM0010	NC0215	308.91	2019
MM0023	MM0022	147.65	2019
MM0022	MM0021	219.06	2019
LW0039	LW0038	59.33	2020
WM0014	WM0008	115.00	2011
WM0008	WM0007	309.48	2011
NC0209	NC0114	93.00	2002
NC0114	NC0113	111.24	2002
NC0116	NC0115	372.05	2002
WM0090	WM0091	94.58	2019
WM0090	WM0089	194.26	2019
NC0053	NC0179	213.67	1991
OB00046	OB00047	334.91	2023
OB00047	OB00048	252.89	2023
OB00048	OB00049	183.17	2023
OB00050	OB00051	50.75	2023
OB00051	OB00052 (G)	15.04	2023
OB00052 (G)	OB00053 (WW)	10.93	2023

12" PVC Gravity Sewer Lines			
Starting MH ID	**Ending MH ID**	**Length (LF)**	**Year Installed**
NN0175	NC0054	373.35	2007
NC0054	NC0055	395.93	2007
NC0055	WM0014	158.42	2007
WM0014	NC0056	241.30	2007
NC0056	NC0057	227.93	2007
NC0057	NC0058	279.47	2007
NC0058	WM0059	396.92	2007
WM0059	WM0060	83.55	2007
WM0060	WM0061	94.63	2007
WM0061	WM0062	157.42	2007
WM0062	WM0018	60.49	2007
WM0018	WM0033	58.64	2010
WM0033	NC0032	372.06	2010
NC0032	NC0031	287.87	2010
NC0031	NC0030	167.00	2010
NC0029	NC0028	307.00	2010
NC0028	NC0027	168.35	2010
NC0027	WM0073	128.72	2010
WM0073	NC0026	166.00	2010
NC0025	NC0024	263.27	2010
NC0024	NC0023	250.39	2010
NC0023	NC0022	238.65	2010
NC0019	NC0020	67.04	2010
NC0020	NC0021	310.82	2010
NC0021	PUMP STATION	72.63	2010

12" DIP Gravity Sewer Lines			
Starting MH ID	**Ending MH ID**	**Length (LF)**	**Year Installed**
NC0030	NC0029	123.41	2010
NC0026	NC0025	162.67	2010
NC0022	NC0019	221.63	2010

2" PVC Gravity Sewer Lines			
Starting MH ID	**Ending MH ID**	**Length (LF)**	**Year Installed**
LW0011	LW0012	172.55	2017

APPENDIX C

2009 SEPTIC SURVEY

CAPITAL IMPROVEMENTS PLAN
TOWN OF WILSON'S MILLS

December 2009

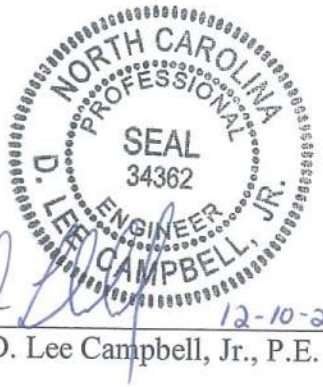
THE WOOTEN COMPANY

120 North Boylan Avenue
Raleigh, NC 27603
919.828.0531 F: 919.834.3589

TOWN OF WILSON'S MILLS

CAPITAL IMPROVEMENTS PLAN

December, 2009



D. Lee Campbell, Jr., P.E.

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GOAL STATEMENT

This Capital Improvements plan will be a planning tool for the Town of Wilson's Mills. In addition, the information provided should be a benchmark reference document by which the Town can measure progress. It will be used to help support future grant and loan applications as the Town begins to implement the individual projects. Finally, the following Capital Improvements Plan represents a vision of the Town's future and will guide local leaders and volunteers in appropriate, planned growth to better serve the needs of its citizens.

1 DESCRIPTION OF PROJECT AREA

1.1 Demographics

The 2008 census indicates the population of Johnston County as 163,428. This is approximately a 29 percent population growth since 2000. The 2008 census for the Town of Wilson's Mills is 1,598, which is approximately a 23 percent growth since 2000. The North Carolina Office of State Planning (OSP) has projected a 34.6 percent growth rate for Johnston County from 2010 to 2019, and 23 percent growth from 2020 to 2029. If Wilson's Mills follows a similar growth pattern as the County, which it has historically done, the population in Wilson's Mills for 2020 would be 2,151, and in 2030 would be 2,646 people.

In terms of percent growth, Johnston County was the fifth fastest growing county in the state of North Carolina between the years of 2000 and 2008. This is due in large part to factors such as proximity to the Triangle Area of Raleigh, Durham, and Chapel Hill, access to Interstates I-95 and I-40 that make transportation easy, and lower costs of living than nearby Wake County.

The median household income in 2007 for North Carolina was $44,772.00. The median household income for Wilson's Mills was $49,762.00. Information from

U.S. Census Bureau indicates that 9.4 percent of families within Wilson's Mills are below poverty level.

1.2 Land Area Configurations

The topography of the Town of Wilson's Mill ranges from gently sloping to slopes of approximately 8 percent, with elevations ranging from 140 feet to 260 feet above sea level. The majority of the soil types are considered native to the Costal Plain Region.

1.2.1 Hydrography

The Town is located just west of the Neuse River, and local streams, ditches, and storm drainage ultimately discharge to the Neuse River. The Town has several unnamed tributaries that are USGS "blue line" streams that are buffered, meaning that restrictions exist for how close structures are located or construction acitivities can take place to the stream. A USGS Quad map of the area is attached as Figure 1 in Appendix A.

1.2.2 Soils

According to the Soil Survey of Johnston County (1994), the predominant soils in the Wilson's Mill Area consist of Appling-Marlboro, Goldsboro, Marlboro, Norfolk, Rains, and Toisnot. A soils map is included as Figure 2 in Appendix A.

2 EXISTING FACILITIES

2.1 Wastewater System

The Town currently has no wastewater treatment facility that serves the town as a whole. For wastewater disposal, the majority of the town is served through individual waste treatment systems (i.e., septic systems). These systems are monitored by the Johnston County Health Department.

In surveys of existing septic systems conducted over the last 10 years, Johnston County Health Department personnel found concerns with the surveyed properties that included the following:

- Many septic systems were constructed in excess of 30 years ago
- Construction methods were dated to practices 30 years ago and standards have changed since the time of installation of septic systems
- Lack of system repair space due to small lot sizes and soil types in the area are classified as having severe limitations for repairs
- Site damage in areas over septic drain fields including pools, out-buildings, etc.
- The location of existing private wells limit available space for septic tank repairs, particularly along Mitchner Drive
- Four properties were classified as failures due to straight pipes discharging gray water and/or obvious discharge, and nineteen properties were classified as having a threat of imminent septic failures

A map showing the findings of the septic tank evaluations is included in Appendix B.

It should be noted that although the Town is aware of a number of septic tank failures and gray water straight piping instances, residents may have been unwilling to truthfully share this information with representatives from Environmental Health for fear of possible violations.

A survey of 193 residences was conducted in 2001. The study represented one of the Town's attempts to analyze the extent of septic failures throughout the town limits. Northwood Subdivision and Family Drive were areas included in both the current survey and the 2001 study, illustrating the need for a comprehensive study and evaluation of the Town's capital needs.

More recently, new subdivisions, including Lockwood Forest and Ives Landing, have been constructed within the Town limits that have installed septic systems in accordance with current state and local standards. Thus, these septic systems should be in adequate condition for the foreseeable future.

2.2 Wastewater Collection

Johnston County currently owns a single existing gravity sewer line in Wilson's Mills that extends to the intersection of Harrison and Fire Department Roads, and extends approximately 2,300 linear feet along Fire Department Road, and then approximately 2,600 more linear feet through an outfall easement to a pump station near U.S. Highway 70. The sewer is 12-inch diameter, constructed of PVC. The line was installed in 2007 as part of The Knolls at the Neuse subdivision project. The subdivision has a pump station with 4" force main that pumps into the gravity line discussed here. The line flows to a wastewater pump station that pumps back into the Johnston County sewer system.

A 12-inch sewer laid on minimum grade (0.22%) has a hydraulic capacity of nearly 600 gallons per minute (0.864 MGD). This capacity is adequate to serve as a main collector sewer line for the town now and in the future. The Town would currently be expected to have a flow of approximately 138,000 gallons per day. Using the population projections discussed above, a population increase of approximately 65% is expected over the next 20 years, and the wastewater would increase accordingly to approximately 264,000 gallons per day. This is well below the capacity of the existing sewer components.

2.3 Water System

The county water system extends throughout the Town of Wilson's Mills. Johnston County Public Utilities owns and maintains all public water lines. Customers are billed directly by Johnston County for their water service. The Town currently has no plans to own or maintain a water system in the future as the entire Town is currently served by the County and this service is adequate for current population and the projected future populations.

2.4 Town Hall

The Town currently uses a single building that is 2,320 square feet in size to house all of its departments, including Administration, Police, Planning/Zoning,

and the Town Council Chambers. The available space is not adequate, as employees routinely use hallways for work space. The Town will see some relief as plans for a new Community Center that will house the planning department is scheduled to begin construction in 2010. As the Town experiences the growth discussed above, additional town personnel will likely be required to assist with town operations. Additional space, beyond what is already needed, will be required.

3 RECOMMENDED IMPROVEMENTS

3.1 Sewer System Extension

In a Community Plan report published by the North Carolina Department of Commerce in December, 2006 residents and Town leaders provided input to what they thought was important for the town to grow. The top priority on that list was to provide sewer service within the Town. As previously stated, the majority of the existing septic systems that serve the Town are a minimum of 30 years old, and not constructed by today's standards. A new sewer system would improve the ground water and surface water quality in the area which is in close proximity to the Neuse River. Some of the local soils in the area are not ideal for wastewater treatment, and repair areas do not exist for a large portion of existing septic systems. When failures occur, untreated wastewater may runoff into nearby surface waters, causing pollution. Additionally, a central sewer collection system would provide a basis for new development that would allow the system to be extended for sewer service in lieu of constructing additional septic systems that eventually may fail.

In 2001, a Wastewater Collection System Preliminary Engineering Report was completed for the Town by The Wooten Company. In this report, it was determined that a conventional system consisting primarily of gravity sewer service, in conjunction with sewer pump stations and force mains, would best serve the Town. This was deemed a better solution than a pressure system

consisting of individual service pumps at each house due to high cost of maintenance associated with a pressure system.

The system proposed in the 2001 report has been reviewed and modified as necessary to serve new subdivisions that were not yet in place at the time. Also, one of the pump stations in operation in 2001 has been relocated, with gravity sewer being extended from the old pump station to the new pump station near U.S. Highway 70 as discussed previously. The total length of gravity sewer necessary to serve the majority of the parcels is approximately 99,900 linear feet. This includes 5,500 linear feet of 12-inch gravity sewer, with the remainder being 8-inch gravity sewer. In addition to the gravity sewer, a total of four sewer pump stations will be necessary due to the existing topography. The wastewater collected at these pump stations will be pumped through force mains to the gravity system. The size of the stations will likely be small in nature (less than 180 gallons per minute) with the force mains ranging in size from 4 to 6-inch in diameter. The sewer system layout is shown on the proposed sewer map in Appendix C. Total estimated project cost for the system is $8,426,200, which includes engineering and contingency. A detailed cost breakdown is shown in Appendix E. Note that this pricing is based on 2009 pricing and will need to be adjusted

Wilson's Mills does not have a large population, however the Town is spread out geographically. Therefore, a large quantity of gravity sewer is required to serve all of the parcels. It should be noted that while gravity sewer and sewer pumping stations are the primary collection system, the Town may choose to serve some outlying parcels with an individual service pump, or take over maintenance of the homeowner's septic system. This allows the town to provide equal service to all residents where it is not economically feasible to extend gravity sewer to a parcel.

3.1.1 Phasing and Regionalization of Sewer System

The proposed sewer map in Appendix C of this report shows the entire sewer system at its buildout completion. In order to make the construction of the sewer more feasible for the Town, it will likely be constructed in phases. Separating the project into three phases of roughly equal amounts would yield three projects of approximately $2.5-3 million each.

The first phase would extend sewer to the older portions of Town where septic tank failures have been most prevalent. This would alleviate environmental issues caused by the failing septic tanks. This extension would make use of the existing outfall sewer line previously discussed in this report. The second phase would be to extend sewer to business districts and additional older neighborhoods. This would help the Town to provide sewer to potential businesses, helping economic development. The third and final phase would be to extend sewer to newer subdivisions, and to relieve the existing sewer pump station located near U.S. Highway 70 and Swift Creek Road. This phase would provide service to all current residents, and ease some operation and maintenance by eliminating a pump station.

The Town of Wilson's Mills has had discussions with Johnston County regarding maintenance of the sewer system. The Town is willing to fund the system, then transfer ownership over to the County for operation and maintenance. This is logical since the County owns and operates the water system in Town as well as the existing sewer line previously discussed, and has the personnel to handle the operation and maintenance of the Town's system. The County has previously agreed to this type of arrangement, but this will need to be revisited prior to moving ahead with the sewer project.

3.2 New Town Hall

The second need identified by Town leaders is a new Town Hall. The Town has already outgrown the space it currently has, as documented above. Town staff regularly use hallways as work areas, and any new staff would not have adequate space to work. As previously mentioned, the Town will soon be constructing a

new community facility which will house the Parks and Recreation department, and serve as a recreation facility for citizens of Wilson's Mills.

The new Town Hall would house the Administration, Planning, and Utility Billing departments, as well as the Town Council Chambers. The existing Town Hall could then be renovated to house the Police Department. Based on population of the Town, and expectant growth rate, a facility with approximately 4,000 square feet is adequate to serve the town to meet these needs.

Current construction prices would indicate a price of up to $150 per square foot, or $600,000, for a new Town Hall. This price is for the building and site work, but does not include furniture, computer servers, or the land purchase. The total cost for the new Town Hall with all other needs is estimated at approximately $1,000,000 using 2009 construction prices.

3.3 Recreation Facilities/Parks

The Town of Wilson's Mills is placing an emphasis on providing parks and recreation centers for its citizens. Currently, the only athletic fields in Town are located at Wilson's Mills Elementary School. These fields are owned by Johnston County Schools.

The Town has plans to provide facilities for a new small park adjacent to the new Parks and Recreation building. This new park will have amenities such as a shelter with picnic tables, small walking trail, and playground equipment. The Town also wishes to provide larger recreation facilities which may be a place for activities such as baseball, softball, soccer, volleyball, tennis, walking trails, and other various recreational activities. A recreational facility that can support these types of activities may require up to 35 acres of land. The Town has expressed the possibility of splitting this larger facility to two sites, placing recreation facilities on each side of Town, allowing for easier access for the citizens. The exact location of such facilities would ultimately be determined by where the Town is able to purchase enough land to accommodate the facility.

A large park facility, or two facilities that contain all of the activities the Town would like to provide, is a high cost project, largely due to land acquisition costs on top of the necessary construction and equipment costs. Using Johnston County tax data, land values for vacant land in the area average around $5,500 per acre, meaning land acquisition costs may be around $200,000. Construction for similar facilities has been bid in the past 3 years for an approximate cost of $3,000,000, so a project of $3 to $4 million is a reasonable estimate. Breaking the project into phases may help the Town to get started on this type project. An example of a phased approach would be if the facilities are to be split on each side of Town to only construct one set of facilities and then add the other side later.

3.4 Sidewalks and Street Lights

Sidewalks allow pedestrians to move from place to place, and help create a sense of community. This allows for people to have access to parks, businesses, neighbors, and services without the use of their cars. Currently, the Town does not have sidewalks on any of their streets. Nearly all successful downtown and business districts have sidewalks. The Town of Wilson's Mills may be able to benefit by providing this alternative method of movement for citizens.

The Town has identified strategic areas where they desire to begin sidewalk construction for the Town. These areas have been shown in phases on a map attached in Appendix D. The phases generally start around the downtown district with the Town Hall, and move outward to residential communities from this area. The Town has identified approximately 37,500 linear feet of sidewalks to be constructed among all phases. The estimated construction costs for the construction of all sidewalks is $2,500,000.

Another consideration with sidewalk is whether to add curb and gutter to existing streets. Without curb and gutter, sidewalks must be placed on the back side of ditches, away from the road. This can lead to the acquisition of several easements through the sidewalk corridor. In some cases the roadside ditch may not be deep enough to adequately protect the pedestrian from an automobile and thus, curb

and gutter may be warranted in this situation. While curb and gutter may be more expensive, it generally allows for a more standard and uniform cross section of the street with new sidewalk. Adding curb and gutter to a project can increase costs by a factor of 2.5. This is not only due to to the curb and gutter, but also the storm drain piping and catch basin structures associated with this type of drainage system.

There are currently seven (7) existing street lights within the Town limits. The Town desires to add to the street lighting system in a phased approach as shown in Appendix D. The streetlights aid in pedestrian and motorist travel, and may provide a sense of security for residents traveling at night.

The proposed street lights will be added with a new phase planned for every 2 years. Phase 1 includes the addition of nine (9) street lights located mainly at intersections in the Town. The improvements for Phase 2 and Phase 3 include the addition of six (6) street lights for each phase. Street lights will be on a lease agreement with the local electrical service provider, currently Progress Energy. The standard length of lease is 10 years, with monthly costs ranging from $7.00 to $30.00 per light per month depending on the style of lighting chosen. There are also initial costs involved, up to approximately $200.00 per installation, but these can be rolled into monthly lease costs. With the full build out of 21 poles mentioned in this report, that would be initial costs of $4,200, and then assuming $30.00 per month each, a total of $630 per month, or $7,560 per year.

In order to provide safe sidewalks, the Town plans to incorporate street lights at the same time as sidewalks. This is logical to make the sidewalks safer after daylight hours, and also can help ensure poles are not in the way for sidewalk or curb and gutter construction.

3.5 Flooding

There are three areas that currently have flooding issues. The first area is a ditch located behind properties that front the north side of Main Street in a residential

area. The second area is near Antler Drive. This area had an old farm pond that was filled in. The surrounding properties have experienced problems since the pond was filled in. The final area is a blue line stream between Southerland Road and Country Valley place. The stream sometimes spills over the banks, causing flooding to surrounding properties.

A flood study or assessment would need to be developed in order to identify the causes and possible solutions for the flooding described above. In the meantime, simple solutions such as cleaning out the debris and trash from ditches or possibly increasing the existing storm culvert size could be explored.

4 Project Funding Sources

In order for the Town to achieve the goals of adding infrastructure and facilities described in this plan, the Town will likely need to pursue opportunities to receive grants and low interest loan money. Several state and federal agencies exist that are able to assist small towns, such as Wilson's Mills, with funding projects such as these presented herein.

Below is a list of different potential funding sources that may be able to provide assistance. These funding agencies have different requirements about when the applications for funds are to be submitted and thus, it is important that these submittal deadlines are researched and accounted for when planning the project timeline. It should be noted that utilizing a combination of the funding agencies may be beneficial to consider in achieving the goals.

4.1 USDA

Different agencies are available to fund different needs. The Town's primary and most costly need, a sewer system, could be eligible for funding from several sources. The United States Department of Agriculture can provide loans with 40 year terms and low interest rates. USDA has a Rural Development branch which funds rural communities with populations of less than 10,000 people. They provide funding for water and sewer system improvements as well as community

facilities such as town halls, police stations, and fire stations. Often the funds can be awarded in loans and grants to further assist the Town in the project financing. At this time, it does not appear that the Town of Wilson's Mills would qualify for grant funding through USDA due to its higher than average Median Household Income (MHI). This MHI figure also affects the interest rate available for payback on a loan from USDA.

4.2 NC Rural Center

The North Carolina Rural Center currently provides grants of up to $500,000 for water and sewer needs through their Supplemental Grants program. This program would require the Town to provide a certain percentage of matching funds, currently $0.50 on the dollar (which may come from other funding agencies). The money for the Rural Center to award may be appropriated by the North Carolina General Assembly each year. The Rural Center funds are typically used to serve as supplemental funds to water and sewer project where a "need" can be documented (e.g., failing septic systems).

4.3 Construction Grants and Loans

The Construction Grants and Loans section of the North Carolina Division of Water Quality has loan and grant programs specifically for sewer. These programs include the Clean Water State Revolving Fund (SRF), State Loan and Grant Program, and State and Tribal Assistance Grants (STAG).

The SRF program is money awarded to applicants based on an annual priority list. The money is primarily provided by the federal government and administered by the state. Written requests must be sent to the Construction Grants and Loans section to be placed on the priority list. The money is generally loaned at half of the market rate, on a repayment period of 20 year terms.

The State Loan and Grant Program is money that is appropriated by the state legislature, and the program may not always have money available. The terms are

similar to the SRF program in the loans are half the market interest value, typically 20 years in length.

The STAG program is a project identified as a "special needs" by an appropriations committee in Congress. The funds are from the federal Environmental Protection Agency. The grants are generally limited to 55% of the eligible project cost. The match may be awarded through another agency, or through an SRF loan.

4.4 CDBG

A Community Development Block Grant, administered through the North Carolina Department of Commerce, can be obtained to fund neighborhood revitalizations, and extend water and sewer to serve a targeted business. This is a grant program, and for neighborhood revitalization, requires that residents be low and moderate income. Due to the low and moderate income requirements, this funding may only be a resource for particular areas of Town. This could be a good source for sidewalk projects in such areas.

4.5 Clean Water Management Trust Fund

Clean Water Management Trust Fund grants are awarded by the State to restore water quality in the State's 17 river systems. This includes storm water treatment, sewer rehabilitation, and riparian buffers purchase or restoration among other items. This would be a possible source of funds to alleviate the water quality concerns associated with the failing or problematic septic systems (i.e., construction of a new Town sewer system).

4.6 Parks and Recreation Trust Fund

This money is awarded through the North Carolina Division of Parks and Recreation, and is a grant that can be used for the purchase of land or construction of parks on existing land. This is a grant program that requires a dollar for dollar

match from the Town. The match can be in the form of a cash funds match, or in land donated to the Town.

5.0 Timeline

The projects discussed in this document are not feasible to complete immediately, nor is it feasible to complete the projects simultaneously. The Town has provided input to this document about the priority of their needs. As previously stated, the sewer system is the Town's primary need. A Town Hall, sidewalks and recreation facilities are all needed as well. In order to assist the Town in planning, and to provide a goals "checklist" to measure progress in the Town, a schedule for the work discussed in this report is provided on the following page in Figure 1. This schedule outlines work to be done in Town over the next 30 years, with specific year by year goals listed for the first six years. It will be important for the Town to aggressively pursue funding opportunities in order to have adequate funds to complete these projects.

Figure 1: Capital Outlay Schedule

DESCRIPTION OF EXPENDITURES	PLANNING PERIOD						
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-30
Design of Sanitary Sewer, Phase I	$ 160,000						
Construction of Sanitary Sewer, Phase I[1]		$ 2,951,600					
Design of Sanitary Sewer, Phase II					$ 137,160		
Construction of Sanitary Sewer, Phase II[1]						$ 2,662,040	
Design of Sanitary Sewer, Phase III			$ 122,190				$ 122,190
Construction of Sanitary Sewer, Phase III[1]							$ 2,208,210
Design & Construct Phase 1 Sidewalks[2]			$ 350,000				
Design & Construct Phase 2 Sidewalks[2]				$ 350,000			
Design & Construct Phases 3 - 7 Sidewalks[2]							$ 1,750,000
Design Town Hall					$ 75,000		
Construction of Town Hall						$ 1,000,000	
Recreation Center, Phase 1							$ 1,750,000
Recreation Center, Phase 2							$ 1,750,000
TOTALS	$ 160,000	$ 2,951,600	$ 472,190	$ 350,000	$ 212,160	$ 3,662,040	$ 7,580,400

Notes
[1] Costs for Construction of Sewer includes contingency, easements, construction administration & observation, and sewer assessment fees
[2] Costs assume that sidewalks will be built without curb and gutter
All prices assumed for bid in 2010

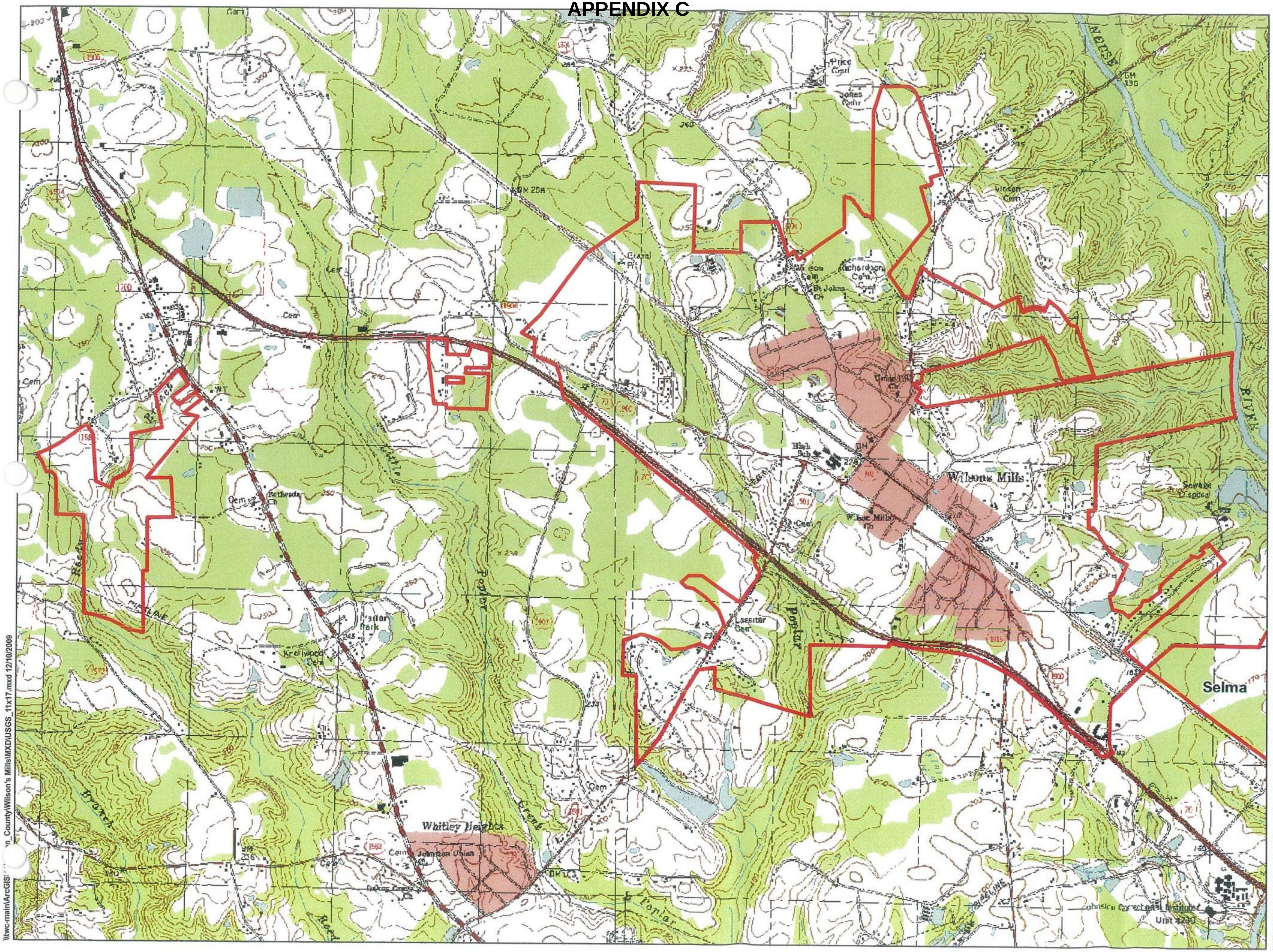
An additional item that does not appear in the capital outlay schedule above is updating this Capital Improvements Plan. While the schedule for work provided

herein is a goal for the Town, many factors may cause the schedule to change. Factors may include funding opportunities that arise, or opportunities that are not funded in a given fiscal year. Updating this document will allow the Town to use this document as a device for measuring progress as well, and serve as a reminder of projects that need to move forward. These thoughts should help the Town to keep their energy focused on aggressively pursuing the funding opportunities discussed.

This document should prove useful to funding agencies that the Town of Wilson's Mills is ready and eager to provide the services and amenities for its residents that will allow for controlled development and growth in the future as well as addressing the water quality issues currently facing the Town.

Appendix A – USGS, Soils, and Flood Maps

APPENDIX C



TOWN OF WILSON'S MILLS

USGS TOPOGRAPHIC MAP (POWHATEN & SELMA)

THE WOOTEN COMPANY

City Limits

0 2,000 4,000

Feet

1 inch = 2,000 feet

TOWN OF WILSON'S MILLS

ENVIRONMENTAL FEATURES MAP

THE WOOTEN COMPANY

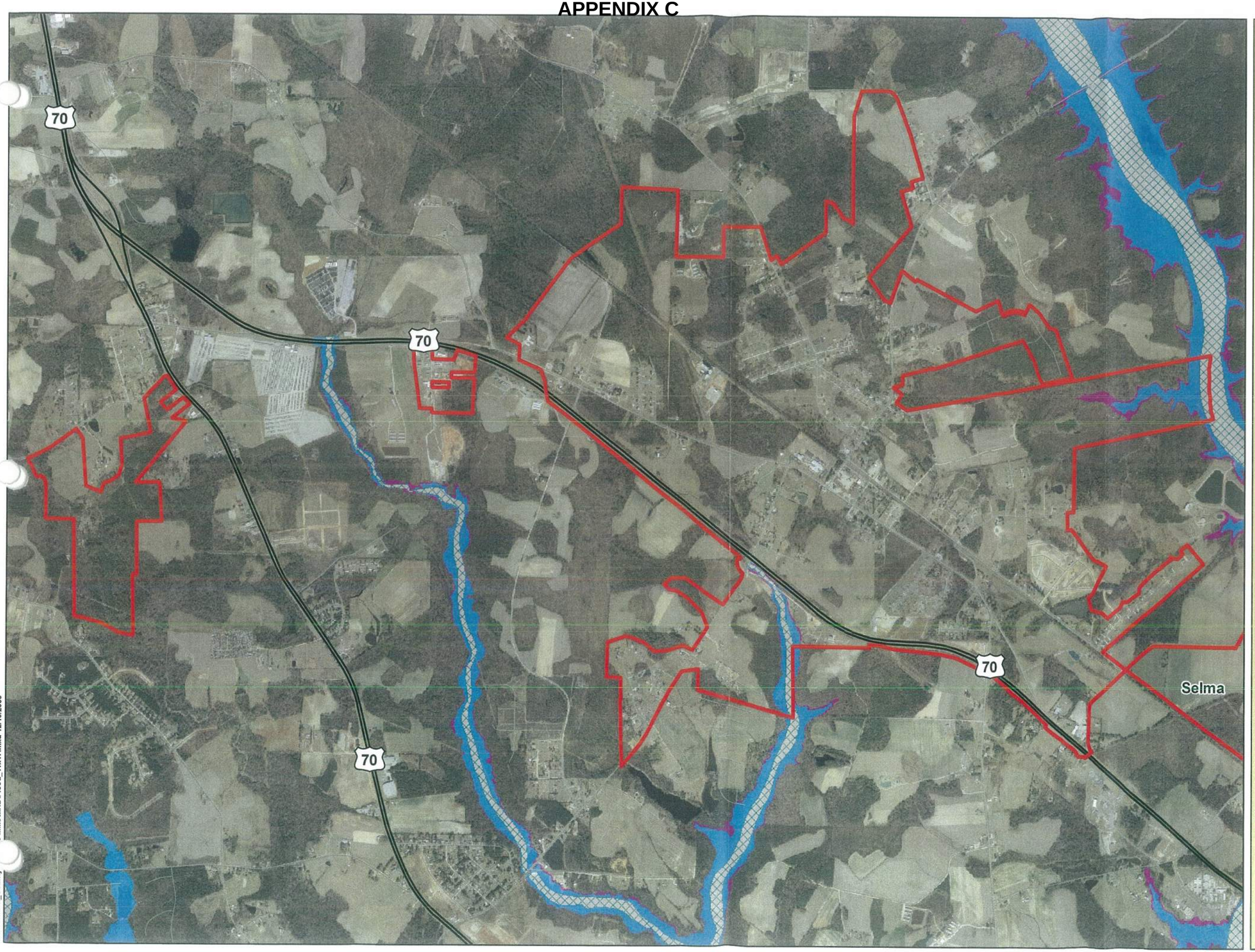
Soils
City Limits
US Route
Centerline

0 2,000 4,000
Feet

1 inch = 2,000 feet

Selma

70



TOWN OF WILSON'S MILLS

FLOODPLAIN FEATURES MAP

THE WOOTEN COMPANY

N

NC Flood Mapping Program

Flood Zones

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD (500 Year Floodplain)
- AE (100 Year Floodplain)
- AE (Floodway)
- City Limits
- US Route
- Centerline

0 2,000 4,000

Feet

1 inch = 2,000 feet

N:\Johnston_County\...'s Mills\MXD\Flood_11x17.mxd 12/10/2009

Appendix B – Septic Survey Map

APPENDIX C

SEPTIC TANK SURVEY

Town of Wilson's Mills

Johnston County, NC

September 9th, 2009

Legend

Sewer Features

Proposed

- Proposed Pump Station (PS)
- Temporary PS
- 2" Force Main (FM)
- 4" FM
- 4" FM Temporary
- 8" Gravity Sewer
- 12" Gravity Sewer

Existing

- Existing PS (County)
- Existing PS (Wilson's Mills)
- 4" FM
- 6" FM
- 8" FM
- 12" FM
- 8" Gravity Sewer
- 12" Gravity Sewer

Septic Tank Survey

Result (See Table Below)

- 1A
- 1A and 1B
- 1A and 1B and 2
- 1A and 1B and 3
- 1B
- 1B and 2
- 2
- Straight Pipe
- Sample Location
- City Limits
- Parcel
- US Route
- Centerline

Result	Description
1A	Septic Tank Failure
	Due to Soils
1B	Undersized Lots -
	No Repair Area
2	Threat of Eminent
	Failure
3	Visual Evidence
	of Surfacing

THE WOOTEN COMPANY

1 in = 500 feet

0 500 1,000

Feet

N:\Wake_County\Raleigh\city_limits_studyArea Bmxds\Septic_Tank_Survey_24x36_rev_090909.mxd 9/9/2009

Appendix C – Sewer System Mapping

PROPOSED SEWER
Wilson's Mills

Johnston County, NC

September 2, 2009

Legend

Sewer Features

Proposed
- Proposed Pump Station (PS)
- Temporary PS
- 2" Force Main (FM)
- 4" FM
- 4" FM Temporary
- 8" Gravity Sewer
- 12" Gravity Sewer

Existing
- Existing PS (County)
- Existing PS (Wilson's Mills)
- 4" FM
- 6" FM
- 8" FM
- 12" FM
- 8" Gravity Sewer
- 12" Gravity Sewer

Other Features
- Wilson's Mills
- Selma
- Parcel
- US Route
- Centerline
- 2' & 4' Contour
- 20' & 100' Contour

CDBG AREA

Release PS

Selma

THE WOOTEN COMPANY
ENGINEERING | PLANNING | ARCHITECTURE

1 in = 500 feet

0 500 1,000
Feet

N:\Johnston_County\Wilson's Mills\MXD\Proposed_Sewer_36x48_rev.mxd 10/12/2009

APPENDIX C

Appendix D – Sidewalk and Streetlight Map

APPENDIX C

PROPOSED SIDEWALKS & STREET LIGHTS
Wilson's Mills

Johnston County, NC

October 12, 2009

Legend

Proposed Sidewalk

Phase

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Proposed Street Light

Proposed Street Light

- Phase I
- Phase II
- Phase III

Other Features

- Existing Street Light
- Wilson's Mills
- Selma
- Parcel
- US Route
- Centerline

THE WOOTEN COMPANY
ENGINEERING | PLANNING | ARCHITECTURE

1 in = 800 feet

0 800 1,600
Feet

N:\Johnston_County\Wilson's Mills\MXD\Sidewalk_Street_Lights_Map_24x36.mxd 10/12/2009

Appendix E – Sewer System Cost Estimates

APPENDIX C

Wilson's Mills Capital Improvements Plan
Sewer System Improvements
Wilson's Mills, North Carolina

THE WOOTEN COMPANY

TWC No. 2875-K
12/8/2009

	DESCRIPTION	UNITS	TOTAL QUANTITY	UNIT COST	EXTENDED COST
	Sewer Project				
1	8" PVC Sewer Pipe, Depth 0'-12'	LF	82,200	$ 27.00	$ 2,219,400.00
2	8" PVC Sewer Pipe, Depth 12'-20'	LF	10,800	$ 41.00	$ 442,800.00
3	12" PVC Sewer Pipe, Depth 0'-12'	LF	5,500	$ 50.00	$ 275,000.00
4	4' Dia Manhole, Depth 0'-12'	EA	351	$ 1,900.00	$ 666,900.00
5	4' Dia Manhole, Depth 12'-20'	EA	43	$ 3,200.00	$ 137,600.00
6	Grinder Pump Station (50 gpm)	EA	1	$ 125,000.00	$ 125,000.00
7	Sanitary Sewer Pump Station (80 gpm)	EA	3	$ 225,000.00	$ 675,000.00
8	2" PVC Force Main	LF	5,200	$ 5.00	$ 26,000.00
9	4" PVC Force Main	LF	9,400	$ 8.00	$ 75,200.00
10	16" Steel Encasement Pipe with 8" DI Sanitary Sewer Main	LF	1,400	$ 175.00	$ 245,000.00
11	4" Sanitary Sewer Service-Same side of road as sewer main	EA	189	$ 575.00	$ 108,675.00
12	4" Sanitary Sewer Service-Opposite side of road as sewer main	EA	189	$ 1,000.00	$ 189,000.00
13	Connection to Existing Manhole (core drill)	EA	12	$ 1,300.00	$ 15,600.00
14	Wetland/Creek Crossing	LF	425	$ 200.00	$ 85,000.00
	Miscellaneous				
15	Driveway Repair	SY	4,000	$ 40.00	$ 160,000.00
16	Erosion Control (1.5% of Construction Cost)	LS	1	$ 84,000.00	$ 84,000.00
17	Rock Excavation	CY	2,000	$ 50.00	$ 100,000.00
18	Asphalt Pavement Patch	SY	1,000	$ 42.00	$ 42,000.00
19	Undercut of Unstable Soils for Pipe Foundation	CY	2,000	$ 25.00	$ 50,000.00
20	Surface Course/Overlay (Type SF9.5A)	SY	1,000	$ 10.00	$ 10,000.00

PRELIMINARY

Estimated Construction Cost	$ 5,732,175.00
Contingency (10%)	$ 573,130.00
Engineering (15%)	$ 859,695.00
Easement Acquisition (including survey & mapping)2	$ 354,000.00
Sewer Assessment Fees ($2,400 each)	$ 907,200.00
ESTIMATED TOTAL PROJECT COST	**$ 8,426,200.00**

NOTES:
[1]-Costs are estimated for project bid in 2009
[2]-Easement cost determined using $0.50/square foot

THE WOOTEN

APPENDIX C

Wilson's Mills Capital Improvements Plan - Phase 1
Sewer System Improvements
Wilson's Mills, North Carolina

THE WOOTEN COMPANY

TWC No. 2875-K
12/8/2009

	DESCRIPTION	UNITS	TOTAL QUANTITY	UNIT COST	EXTENDED COST
	Sewer Project - Phase 1				
1	8" PVC Sewer Pipe, Depth 0'-12'	LF	32,400	$ 27.00	$ 874,800.00
2	8" PVC Sewer Pipe, Depth 12'-20'	LF	3,000	$ 41.00	$ 123,000.00
3	4' Dia Manhole, Depth 0'-12'	EA	130	$ 1,900.00	$ 247,000.00
4	4' Dia Manhole, Depth 12'-20'	EA	12	$ 3,200.00	$ 38,400.00
5	Sanitary Sewer Pump Station (80 gpm)	EA	2	$ 225,000.00	$ 450,000.00
6	4" PVC Force Main	LF	4,100	$ 8.00	$ 32,800.00
7	16" Steel Encasement Pipe with 8" DI Sanitary Sewer Main	LF	450	$ 175.00	$ 78,750.00
8	4" Sanitary Sewer Service-Same side of road as sewer main	EA	87	$ 575.00	$ 50,025.00
9	4" Sanitary Sewer Service-Opposite side of road as sewer main	EA	87	$ 1,000.00	$ 87,000.00
10	Connection to Existing Manhole (core drill)	EA	7	$ 1,300.00	$ 9,100.00
11	Wetland/Creek Crossing	LF	100	$ 200.00	$ 20,000.00
	Miscellaneous				
12	Driveway Repair	SY	1,600	$ 40.00	$ 64,000.00
13	Erosion Control (1.5% of Construction Cost)	LS	1	$ 32,000.00	$ 32,000.00
14	Rock Excavation	CY	720	$ 50.00	$ 36,000.00
15	Asphalt Pavement Patch	SY	400	$ 42.00	$ 16,800.00
16	Undercut of Unstable Soils for Pipe Foundation	CY	720	$ 25.00	$ 18,000.00
17	Surface Course/Overlay (Type SF9.5A)	SY	400	$ 10.00	$ 4,000.00

PRELIMINARY

Estimated Construction Cost	$ 2,181,675.00
Contingency (10%)	$ 218,130.00
Engineering (15%)	$ 327,195.00
Easement Acquisition (including survey & mapping)2	$ 34,000.00
Sewer Assessment Fees ($2,400 each)	$ 417,600.00
ESTIMATED TOTAL PROJECT COST	**$ 3,178,600.00**

NOTES:
[1]-Costs are estimated for project bid in 2009
[2]-Easement cost determined using $0.50/square foot

THE WOOTEN

APPENDIX C

Wilson's Mills Capital Improvements Plan - Phase 2
Sewer System Improvements
Wilson's Mills, North Carolina

THE WOOTEN COMPANY

TWC No. 2875-K
12/8/2009

	DESCRIPTION	UNITS	TOTAL QUANTITY	UNIT COST	EXTENDED COST
	Sewer Project - Phase 2				
1	8" PVC Sewer Pipe, Depth 0'-12'	LF	26,500	$ 27.00	$ 715,500.00
2	8" PVC Sewer Pipe, Depth 12'-20'	LF	7,000	$ 41.00	$ 287,000.00
3	4' Dia Manhole, Depth 0'-12'	EA	106	$ 1,900.00	$ 201,400.00
4	4' Dia Manhole, Depth 12'-20'	EA	28	$ 3,200.00	$ 89,600.00
5	Grinder Pump Station (50 gpm)	EA	1	$ 125,000.00	$ 125,000.00
6	2" PVC Force Main	LF	5,200	$ 5.00	$ 26,000.00
7	16" Steel Encasement Pipe with 8" DI Sanitary Sewer Main	LF	650	$ 175.00	$ 113,750.00
8	4" Sanitary Sewer Service-Same side of road as sewer main	EA	78	$ 575.00	$ 44,850.00
9	4" Sanitary Sewer Service-Opposite side of road as sewer main	EA	78	$ 1,000.00	$ 78,000.00
10	Connection to Existing Manhole (core drill)	EA	3	$ 1,300.00	$ 3,900.00
11	Wetland/Creek Crossing	LF	150	$ 200.00	$ 30,000.00
	Miscellaneous				
12	Driveway Repair	SY	1,600	$ 40.00	$ 64,000.00
13	Erosion Control (1.5% of Construction Cost)	LS	1	$ 27,000.00	$ 27,000.00
14	Rock Excavation	CY	660	$ 50.00	$ 33,000.00
15	Asphalt Pavement Patch	SY	400	$ 42.00	$ 16,800.00
16	Undercut of Unstable Soils for Pipe Foundation	CY	660	$ 25.00	$ 16,500.00
17	Surface Course/Overlay (Type SF9.5A)	SY	400	$ 10.00	$ 4,000.00

PRELIMINARY

Estimated Construction Cost	$ 1,876,300.00
Contingency (10%)	$ 187,480.00
Engineering (15%)	$ 281,220.00
Easement Acquisition (including survey & mapping)2	$ 139,800.00
Sewer Assessment Fees ($2,400 each)	$ 374,400.00

ESTIMATED TOTAL PROJECT COST **$ 2,859,200.00**

NOTES:
[1]-Costs are estimated for project bid in 2009
[2]-Easement cost determined using $0.50/square foot

THE WOOTEN COMPANY

APPENDIX C

Wilson's Mills Capital Improvements Plan - Phase 3
Sewer System Improvements
Wilson's Mills, North Carolina

THE WOOTEN COMPANY

TWC No. 2875-K
12/8/2009

	DESCRIPTION	UNITS	TOTAL QUANTITY	UNIT COST	EXTENDED COST
	Sewer Project - Phase 3				
1	8" PVC Sewer Pipe, Depth 0'-12'	LF	23,300	$ 27.00	$ 629,100.00
2	8" PVC Sewer Pipe, Depth 12'-20'	LF	800	$ 41.00	$ 32,800.00
3	12" PVC Sewer Pipe, Depth 0'-12'	LF	5,500	$ 50.00	$ 275,000.00
4	4' Dia Manhole, Depth 0'-12'	EA	115	$ 1,900.00	$ 218,500.00
5	4' Dia Manhole, Depth 12'-20'	EA	3	$ 3,200.00	$ 9,600.00
6	Sanitary Sewer Pump Station (80 gpm)	EA	1	$ 225,000.00	$ 225,000.00
7	4" PVC Force Main	LF	5,300	$ 8.00	$ 42,400.00
8	16" Steel Encasement Pipe with 8" DI Sanitary Sewer Main	LF	300	$ 175.00	$ 52,500.00
9	4" Sanitary Sewer Service-Same side of road as sewer main	EA	24	$ 575.00	$ 13,800.00
10	4" Sanitary Sewer Service-Opposite side of road as sewer main	EA	24	$ 1,000.00	$ 24,000.00
11	Connection to Existing Manhole (core drill)	EA	2	$ 1,300.00	$ 2,600.00
12	Wetland/Creek Crossing	LF	175	$ 200.00	$ 35,000.00
	Miscellaneous				
13	Driveway Repair	SY	800	$ 40.00	$ 32,000.00
14	Erosion Control (1.5% of Construction Cost)	LS	1	$ 25,000.00	$ 25,000.00
15	Rock Excavation	CY	620	$ 50.00	$ 31,000.00
16	Asphalt Pavement Patch	SY	200	$ 42.00	$ 8,400.00
17	Undercut of Unstable Soils for Pipe Foundation	CY	620	$ 25.00	$ 15,500.00
18	Surface Course/Overlay (Type SF9.5A)	SY	200	$ 10.00	$ 2,000.00

PRELIMINARY

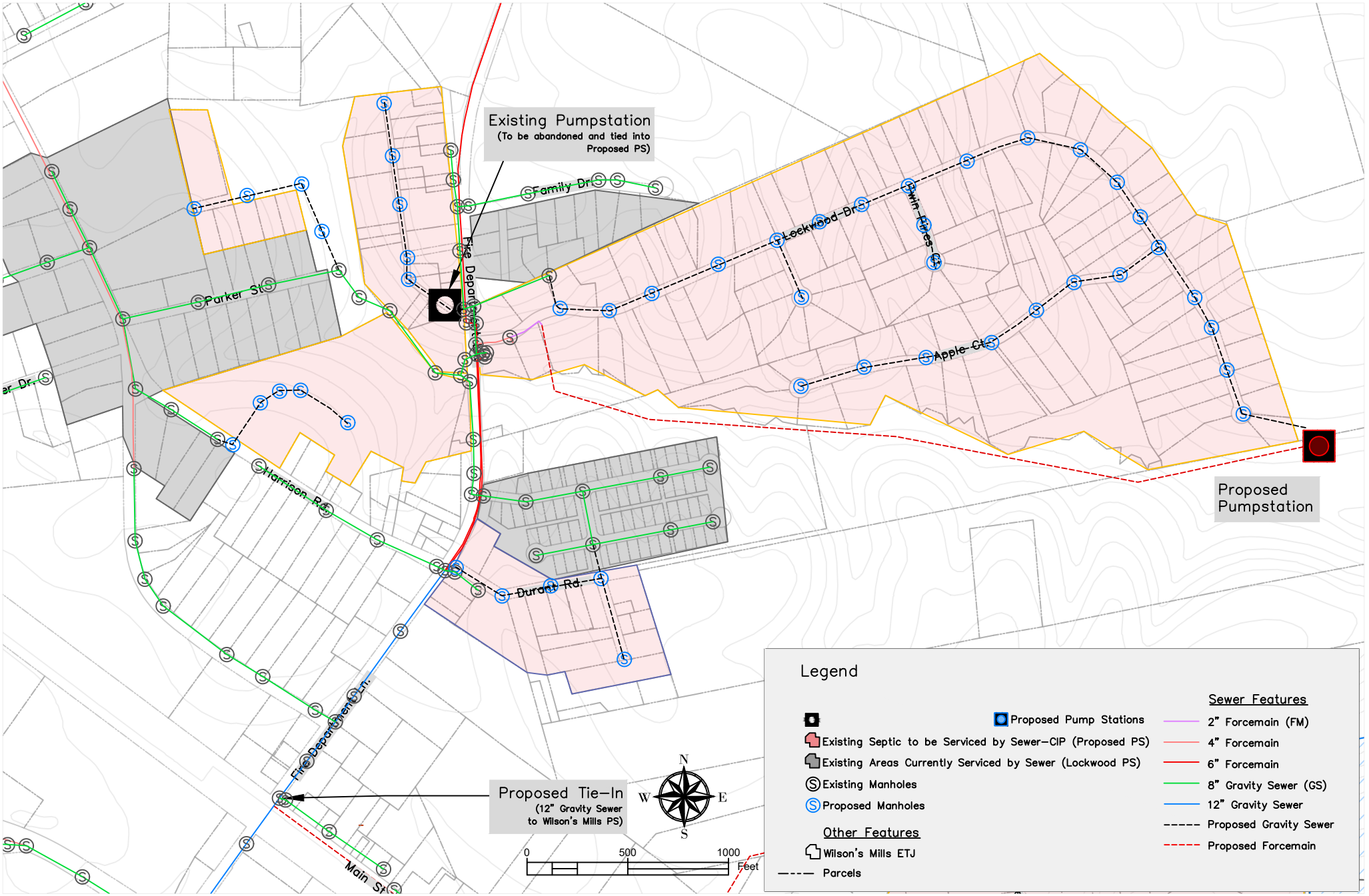
Estimated Construction Cost	$ 1,674,200.00
Contingency (10%)	$ 167,520.00
Engineering (15%)	$ 251,280.00
Easement Acquisition (including survey & mapping)2	$ 180,200.00
Sewer Assessment Fees ($2,400 each)	$ 115,200.00
ESTIMATED TOTAL PROJECT COST	**$ 2,388,400.00**

NOTES:
[1]-Costs are estimated for project bid in 2009
[2]-Easement cost determined using $0.50/square foot

THE WOOTEN COMPANY

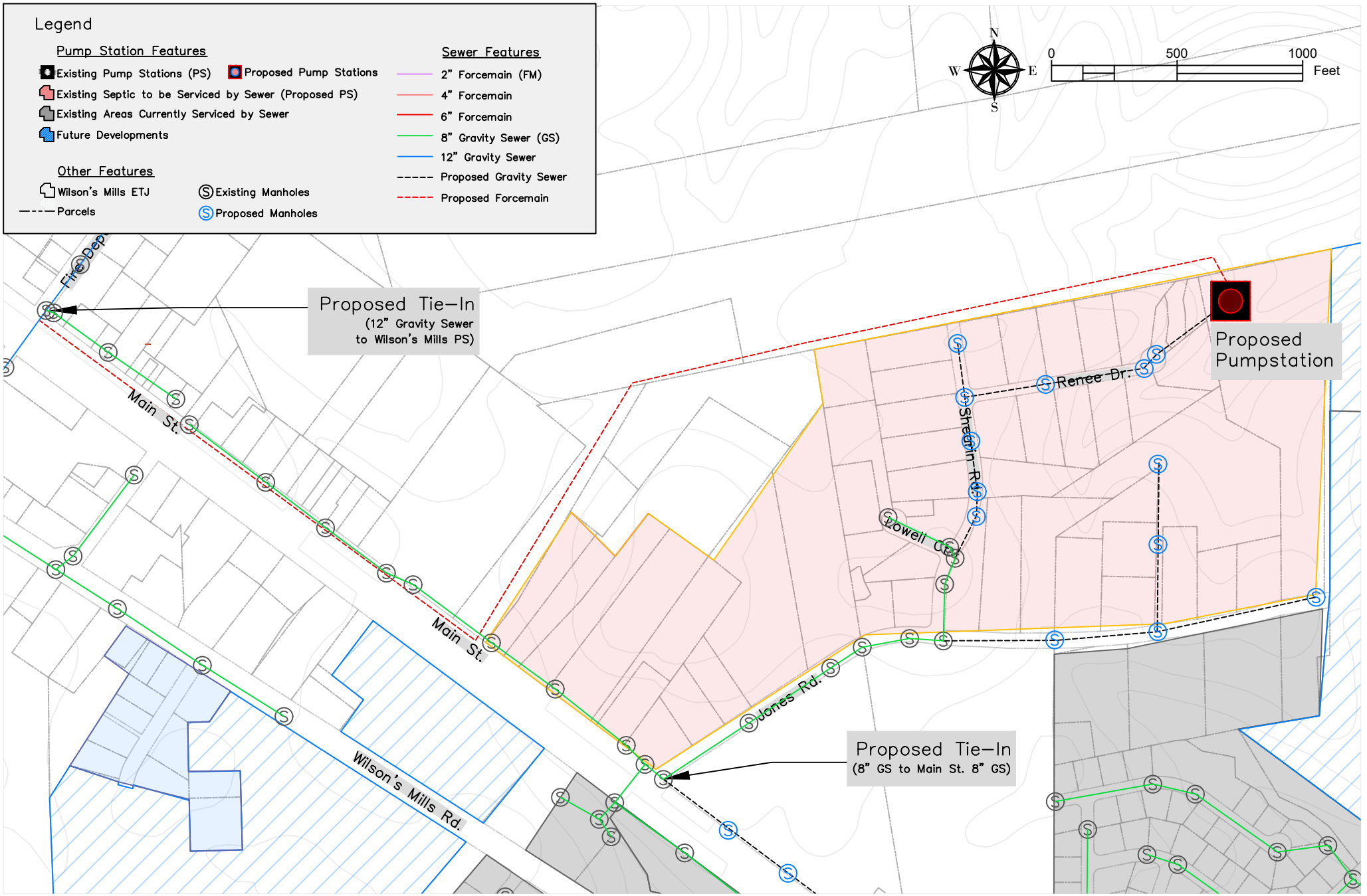
APPENDIX D

CAPITAL IMPROVEMENT PLAN



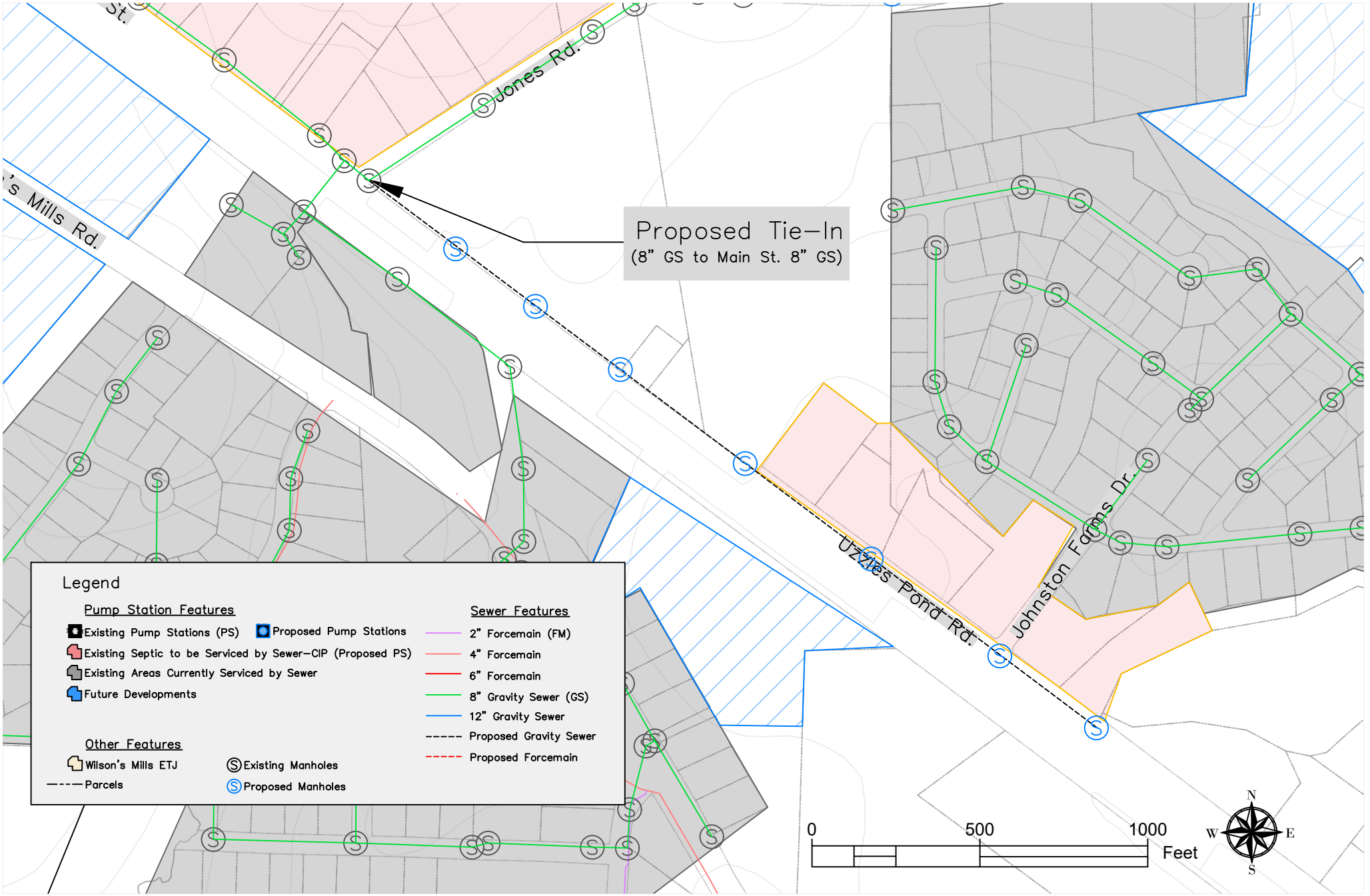
Septic to Sewer CIP - Lockwood

Town of Wilson's Mills, NC



Septic to Sewer CIP - Renee Rd.

Town of Wilson's Mills, NC



Septic to Sewer CIP - Uzzles Pond Rd.

Town of Wilson's Mills, NC

APPENDIX E

SEWER SYSTEM FUTURE DEVELOPMENTS AND PLANS

Legend

Pump Station Features

- Existing Pump Stations (PS)
- Proposed Pump Stations
- PS Currently Servicing Areas (Solid Colors)
- Additional Areas Available to be Serviced (Shaded)
- Existing Septic Customers Able to Connect to Sewer
- Existing Septic Customers with No Available Sewer Connection
  (May Connect to Sewer Later Pending Future Developments and New Pump Station Installations)

- Ive's Landing
- Lockwood
- Clearwater (WTP)
- Old Mill Village
- Olive Branch
- Mill's Creek
- Midstate Mills
- Wilson's Mills
- Tralee
- Future Developments

Sewer Features

- Existing Forcemain
- Existing Gravity Sewer
- Proposed Forcemain

Other Features

- Wilson's Mills ETJ
- Parcels

Southerland Mills
(500 units)
NEW PS

S1 - GS
(Southerland Mills)

MILL'S CREEK

Septic 2 (GS
Mill's Creek)

Eason
Creek
(Flow Accounted For)
MILL'S CREEK

IVE'S LANDING

Septic 3
(GS Mill Creek)

LOCKWOOD

Septic 4 (GS
Mill Creek)

Septic 5
(GS Lockwood)

Septic 6 (GS
Lockwood)

Septic 7 (FM
Lockwood)

Septic 6 (GS
Lockwood)

Proposed PS

Septic 8 (GS
Lockwood)

MIDSTATE

Septic 9 (GS
Wilson's Mills)

Septic 10 (GS
Wilson's Mills)

Septic 11 (GS
Wilson's Mills)

Septic 12 (GS
Wilson's Mills)

Septic 14 (FM
Wilson's Mills)

Proposed PS

Johnston
Farm
(600 units)
CLEARWATER PS

CLEARWATER

Septic 13 (GS
Wilson's Mills)

Wilson's
Ridge
(Flow Accounted For)
WILSON'S MILLS

Septic 15
(Wilson's Mills)

Combined Middle
& High School
(2,500 Students)
CLEARWATER PS

WILSON'S MILLS

Septic 17 (GS
Tralee)

Septic 16 (GS
Tralee)

OLD MILL

Willis
Crossing
(Flow Accounted For)
OLD MILL PS

Wilson's Mills

Cobalt Town

East
Hampton
(To Merge
w/Olive Branch)

Crescent Mills
(Flow Accounted For)
NEW PS

Proposed PS

Septic 19 (GS
Tralee)

Septic 18 (GS
Tralee)

Proposed 16" FM
(Crescent Mills to Reedy Creek)

OLIVE
BRANCH

GIRSBERGER
(County PS)

Septic 20 (GS
Popular
Creek)

TRALEE

DOT

N

TRC ENGINEERS, INC.

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Cary, NC 27511
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www.daa.com
NC Firm License # F-0591

• Richmond, VA • Newport News, VA
• Blacksburg, VA • Northern Virginia
• Charlottesville, VA • Virginia Beach, VA

DESIGNED: XOB
DRAWN: XOB
CHECKED: EWG
DATE: 01/16/2025

WILSON'S MILLS SEWER FUTURE DEVELOPMENT

Town of Wilson's Mills

SCALE: 1" = 4,000'

PROJECT: 573412

P:\2023\573412- Wilsons Mills Utility Study\06-UTL\WORK\CAD\Working\Report CAD\Final Report\Wilson's Mills Sewer Future Servicing.dwg January 17, 2025 2:47:34 AM

APPENDIX F

WATER AND WASTEWATER DEPARTMENT ESTABLISHMENT ANALYSIS

APPENDIX F

Water and Wastewater Department Establishment Analysis

INTRODUCTION

The operation and maintenance of a municipal utility is not a light undertaking. For a municipally owned utility to operate in the best interest of the health of its customers and other stakeholders, the municipal staff must possess technical knowledge and operational skills to manage the system. This entails the ability to possess and maintain the necessary certifications and training, understand and adhere to regulatory requirements, manage budgets and operational personnel, communicate effectively with stakeholders, and prioritize worker safety to provide a quality service at an affordable price. The Town of Wilson's Mills is considering the possibility of assuming operation and maintenance of its wastewater system from Johnston County in the near term potentially assume operation and maintenance of its water system at a future date.

ACQUIRING WATER AND WASTEWATER INFRASTRUCTURE

The first consideration in these undertakings is the cost of acquiring the relevant infrastructure for both the water and wastewater systems. Johnston County Public Utilities has provided an estimated purchase cost of both systems along with information on asset age and accumulated appreciation. The likely source of funding to purchase these assets would be via private financing. This discussion assumes a 20-year loan term at an annual interest rate of 5%.

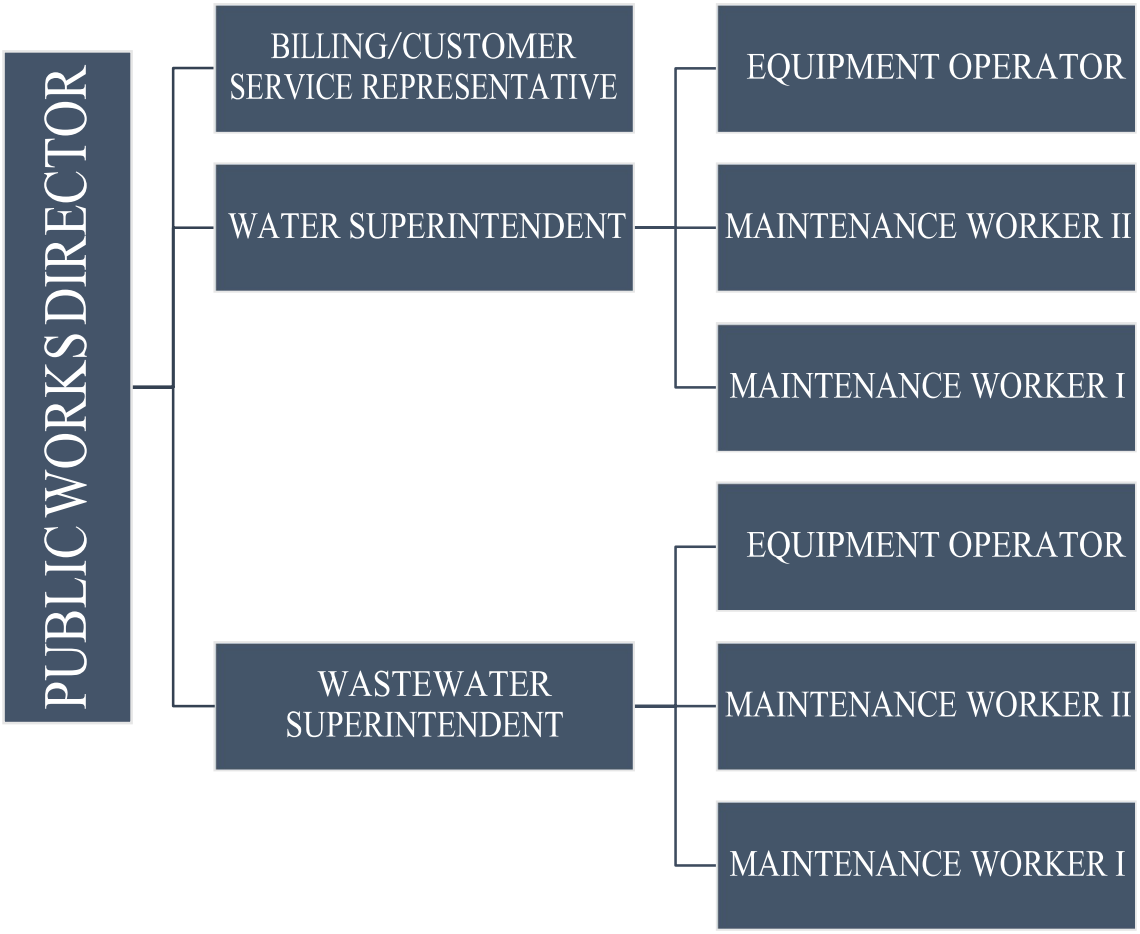
Water System Cost

PURCHASE PRICE	INTEREST RATE	TERM	ANNUAL PAYMENT	ANNUAL DEPRECIATION	ACCUMULATED DEPRECIATION
$ 6,950,476	5%	20	$ 557,724	$ 34,292	$ 731,883

Wastewater System Cost

PURCHASE PRICE	INTEREST RATE	TERM	ANNUAL PAYMENT	ANNUAL DEPRECIATION	ACCUMULATED DEPRECIATION
$ 15,053,821	5%	20	$ 1,207,958	$ 258,778	$ 2,198,065

WATER AND WASTEWATER ORGANIZATIONAL CHART



Over the next 20 years, the Wilson's Mills Water and Wastewater Utility is likely to grow to a size that needs separate water and wastewater teams led by a Public Works Director to manage operations. Future staffing and equipment costs are discussed with this scenario in mind.

STAFFING AND EQUIPMENT

The necessary staffing and equipment to operate a new Wilson's Mills Water and Wastewater Utility are critical to its success in providing quality service to its customers within federal and state regulatory guidelines.

The salary ranges for all positions are established at the likely 2025 values and assumes that hiring amounts will fall mid-range and that town benefits will add an additional 40% to the full cost of each employee. The cost for each position is increased a total of 5% each year for the purpose of this discussion.

POSITION	SALARY RANGE	AVERAGE SALARY	BENEFITS (40% OF SALARY)	SALARY AND BENEFITS PER POSITION BASE
PUBLIC WORKS DIRECTOR	$84K-$120K	$ 92,000	$ 36,800	$ 128,800
WATER SUPERINTENDENT	$45K-$63K	$ 54,000	$ 21,600	$ 75,600
WASTEWATER SUPERINTENDENT	$45K-$63K	$ 54,000	$ 21,600	$ 75,600
EQUIPMENT OPERATOR	$36K-$58K	$ 47,000	$ 18,800	$ 65,800
MAINTENANCE WORKER II	$39K-$52K	$ 45,000	$ 18,000	$ 63,000
MAINTENANCE WORKER I	$34K-$47K	$ 40,000	$ 16,000	$ 56,000
BILLING/CUSTOMER SERVICE	$42K-$60K	$ 50,000	$ 20,000	$ 70,000

To properly maintain a water and wastewater utility, the staff will likely need utility body trucks, a backhoe, dump truck, vacuum truck, wastewater jetter with camera, as well as the necessary computer, electronics, software, and meters for a radio read meter system. The need to purchase this equipment with installment purchase financing is assumed and costs for operation and maintenance are estimated for each piece of equipment begin with likely 2025 values and increasing the value by 5% each year to aid in the discussion of establishing the utility. Replacement of vehicles and equipment is assumed at the end of the financing period.

WILSON'S MILLS VEHICLE AND EQUIPMENT COST

DESCRIPTION	ESTIMATED PURCHASE PRICE	YEARS FINANCED AT ESTIMATED 5% INTEREST	ANNUAL PAYMENT	ANNUAL MAINTENANCE & UPKEEP AT 2% OF PURCHASE PRICE	MILES PER GALLON	MILES PER YEAR	AVERAGE FUEL PRICE PER GALLON	ANNUAL FUEL COST	TOTAL ANNUAL COST PER VEHICLE
WORK TRUCK 2025	$ 65,000	5	$ 15,013	$ 1,300.00	7	15,000	$ 3.50	$ 7,500.00	$ 23,813.00
WORK TRUCK 2027 (2)	$ 71,663	5	$ 16,552	$ 1,433.00	7	15,000	$ 3.50	$ 15,000.00	$ 32,985.00
WORK TRUCK 2030	$ 79,008	5	$ 18,249	$ 1,580.00	7	15,000	$ 3.50	$ 15,000.00	$ 34,829.00
WORK TRUCK 2032 (2)	$ 91,462	5	$ 21,125	$ 1,829.00	7	15,000	$ 3.50	$ 15,000.00	$ 37,954.00
WORK TRUCK 2033 (2)	$ 96,035	5	$ 22,182	$ 1,921.00	7	15,000	$ 3.50	$ 15,000.00	$ 39,103.00
WORK TRUCK 2034	$ 100,836	5	$ 23,291	$ 2,017.00	7	15,000	$ 3.50	$ 15,000.00	$ 40,308.00
WORK TRUCK 2036 (2)	$ 111,172	5	$ 25,678	$ 2,223.00	7	15,000	$ 3.50	$ 15,000.00	$ 42,901.00
WORK TRUCK 2038 (2)	$ 122,567	5	$ 28,310	$ 2,451.00	7	15,000	$ 3.50	$ 15,000.00	$ 45,761.00
WORK TRUCK 2039 (3)	$ 128,696	5	$ 29,725	$ 2,574.00	7	15,000	$ 3.50	$ 15,000.00	$ 47,299.00
WORK TRUCK 2041 (2)	$ 141,887	5	$ 32,772	$ 2,838.00	7	15,000	$ 3.50	$ 15,000.00	$ 50,610.00
WORK TRUCK 2043 (2)	$ 156,430	5	$ 36,131	$ 3,129.00	7	15,000	$ 3.50	$ 15,000.00	$ 54,260.00
BACKHOE 2027	$ 132,300	10	$ 17,133	$ 2,646.00	7	15,000	$ 3.50	$ 7,500.00	$ 27,279.00
BACKHOE 2037	$ 215,503	10	$ 27,909	$ 4,310.00	7	15,000	$ 3.50	$ 7,500.00	$ 39,719.00
DUMP TRUCK 2027	$ 110,250	10	$ 14,278	$ 2,205.00	7	15,000	$ 3.50	$ 7,500.00	$ 23,983.00
DUMP TRUCK 2037	$ 179,586	10	$ 23,257	$ 3,592.00	7	15,000	$ 3.50	$ 7,500.00	$ 34,349.00
VACUUM TRUCK 2027	$ 154,350	10	$ 19,989	$ 3,087.00	7	15,000	$ 3.50	$ 7,500.00	$ 30,576.00
VACUUM TRUCK 2037	$ 251,420	10	$ 32,560	$ 5,028.00	7	15,000	$ 3.50	$ 7,500.00	$ 45,088.00
SEWER JETTER & CAMERA 2027	$ 33,075	5	$ 7,639	$ 662.00	N/A	N/A	N/A	N/A	$ 8,301.00
SEWER JETTER & CAMERA 2037	$ 53,876	5	$ 12,444	$ 1,078.00	N/A	N/A	N/A	N/A	$ 13,522.00
COMPUTER/ELECTRONICS/SOFTWARE/NEW	$ 2,163,000	10	$ 280,118	$ 43,260.00	N/A	N/A	N/A	N/A	$ 323,378.40

WATER AND WASTEWATER OPERATIONS

The following discussion incorporates the information previously discussed into a 20-year plan to establish and grow a Wilson Mills Water and Wastewater Utility with a high-level visualization of debt, depreciation, and operations and calculations for likely base charges and commodity fees that assumes maximum costs with conservative user growth estimates and should be considered a worst-case scenario. The plan includes the Town's existing USDA debt (Attachment 1), incorporates proceeding with the capital projects identified in this study (Attachment 2), applies the straight-line depreciation that assumes a 50- year life with a 25% residual utilized by Johnston County for the subject infrastructure, and assumes the Town will recover the accumulated depreciation of the acquired infrastructure over time (Attachment 3).

Johnston County will still provide services if the Wilson Mills Water and Wastewater Utility is created. For the water system, the County will provide treated water for distribution under its bulk water policy. The County will provide transmission and treatment services for the wastewater collection system. The County has also indicated that the Town can contract for billing and operation and maintenance for the wastewater system at a rate of $3.10 per 1,000 gallons to aid in the transfer on infrastructure and creation of the utility (Attachment 4). The calculations begin with 2,163 water connections and 765 wastewater connections, assumes all are residential with a household size of 2.78 persons that each use 70 gallons of water per day, resulting in an average monthly water and wastewater utility bill for 6,000 gallons of usage.

ANALYZING THE WATER AND WASTEWATER 20-YEAR PLAN

YEAR 1A: Year 1A of the Wilson's Mills Water and Wastewater Utility 20-Year Plan (Attachment 5) assumes that the Town will finance the purchase of water and wastewater infrastructure at the full depreciated value and begin operations

immediately. The costs associated with this scenario result in a utility bill for the average user of $370.93. The wastewater base charge to provide funding for debt service and depreciation would be $180.55 per user and the corresponding water base charge would be $66.89 per user. For comparison, these customers are currently paying a wastewater base charge of $32.00 and a water base charge of $23.00 to Johnston County. The calculated commodity charges are also approximately 50% more than those currently charged by Johnston County. Utility charges of this magnitude are likely unaffordable for Wilson's Mills residents and neither the Johnston County Board of Commissioners nor the Wilson's Mills Town Council would pursue this path under the circumstances.

YEAR 1B: This alternate first year of the new Wilson's Mills Utility assumes that the Town has successfully negotiated with Johnston County to obtain the wastewater infrastructure without taking on additional debt. The Town does not currently possess the staff or resources to operate a wastewater utility; therefore, a transfer of operation over time is desirable. After successful transfer of the wastewater infrastructure, a contract with Johnston County for transmission, treatment, billing, and maintenance of the wastewater system would be the first step. Based on information from Johnston County, the presumed rate for contracted services per 1,000 gallons would be $1.30 for transmission, $3.65 for treatment, and $3.10 for billing and maintenance. The Town would also need to employ a Public Works Director with sufficient certifications and experience for water and wastewater system operations to liaise with Johnston County for a period of one to three years to become familiar with systems as well as a vehicle for the position. Proceeding under this scenario drops calculated base charge to $48.97; however, the commodity charge is still approximately 50% more than that of Johnston County,

YEAR 2: During the second year, the Town should update or upgrade its financial software for utility billing, hire a billing/customer service representative, and begin

billing and collecting for wastewater service with water usage data provided by Johnston County. Renegotiation of the Billing and O&M fee with Johnston County may be possible but is not factored into the cost of operations.

YEAR 3: The Public Works Director hires additional staff and purchases equipment, vehicles, and supplies, to take over full operation of the wastewater system and end payment for billing and operation assistance to Johnston County. The projection for this year also reflects the completed construction of recommended capital improvements as well as the addition of 206 new users the improvements will serve. The annual cost is based on financing for 20 years at 5% interest and applying straight line depreciation for 50 years with a 25% residual.

The additional staff needed are an equipment operator and maintenance workers. Equipment includes backhoe, dump truck, vacuum truck, wastewater jetter, and wastewater camera. These changes increase the wastewater commodity charge even more; however, it is likely that the number of wastewater users will grow at a quicker pace than projected.

YEAR 4: This would be the ideal time to add the water infrastructure to the utility assuming favorable negotiations with Johnston County. The utility would benefit from maximizing its staffing and equipment while supplementing the cost with additional revenue. The resulting likely base and commodity rates calculated are fairly low-low enough to make it less likely that Johnston County would consider transferring the assets at no cost.

YEARS 5-9: The Town maintains staffing and equipment levels as the system grows. Calculated rates are stable throughout this period.

YEARS 10-15: The utility staff and vehicle fleet grow with the addition of a Water Superintendent and additional maintenance worker creating a full crew to operate and

maintain the water assets. During this time, the capital improvements period of 10-years end and the calculated wastewater base charge drops.

YEARS 16-20: The utility staff gains a Wastewater Superintendent and additional worker to complete the positions outlined in the organizational chart. Projected system growth shows that rates remain steady.

CONCLUSION

The key to Wilson's Mills moving forward with creating a Water and Wastewater Utility is favorable negotiations with Johnston County to acquire the relevant infrastructure. The wastewater infrastructure would need to be at no cost while the water infrastructure would need to be less than its depreciated value if there is a cost at all. Before final decisions are made, a more detailed analysis of new water and wastewater users to be added to the systems should be completed and likely base and commodity fees recalculated to determine affordability for current and future users. Under the current scenarios and assumptions, a customer with both water and wastewater service in the newly created utility would pay an average of $195.71 per month for 6,000 gallons of usage. For the sake of comparison, refer to the table below for monthly bills for 6,000 gallons of usage computed by the NC Water and Water Rates Dashboard reflecting rates as of January 1, 2024.

UTILITY NAME	MONTHLY BILL
Johnston County Water Districts	$ 129.55
Selma	$ 144.37
Smithfield	$ 111.21
Four Oaks	$ 104.03
Clayton	$ 152.62

After running various scenarios, we estimate that monthly bills will be more in line with those of other Johnston County utilities when the number of users is greater than 6,000.

WILSON'S MILLS **Attachement 1**

EXISTING USDA DEBT REPAYMENT

2025-2044

SYSTEM YEAR	YEAR	USDA LIABILITY
1	2025	$ 135,328
2	2026	$ 134,895
3	2027	$ 135,430
4	2028	$ 135,900
5	2029	$ 136,310
6	2030	$ 135,584
7	2031	$ 135,584
8	2032	$ 135,584
9	2033	$ 135,584
10	2034	$ 135,584
11	2035	$ 135,596
12	2036	$ 135,596
13	2037	$ 135,596
14	2038	$ 135,596
15	2039	$ 135,596
16	2040	$ 135,417
17	2041	$ 135,417
18	2042	$ 135,417
19	2043	$ 135,417
20	2044	$ 135,417

TOWN OF WILSON'S MILLS, NORTH CAROLINA
Notes to the Financial Statements
For the Year Ended June 30, 2024

III. Detail Notes on All Funds (Continued)

B. Liabilities (continued)

Business-type Activities:

$373,000 USDA Water and Sewer Revenue Bonds, Series 2019B, issued for Water and Sewer system improvements. Principal and interest installments are due annually on June 1 at an annual interest rate of 2.75%. The balance of this loan is $349,000at June 30, 2024.

$2,630,000 USDA Water and Sewer Revenue Bonds, Series 2019A, issued for Water and Sewer system improvements. Principal and interest installments are due annually on June 1 at an annual interest rate of 3.25%. The balance of this loan is $2,453,603 at June 30, 2024.

a. Installment Purchase

Annual debt service requirements to maturity for governmental activities are as follows:

Year ended June 30:	Principal	Interest	Total
2025	$ 279,097	$ 46,924	$ 326,021
2026	290,250	35,771	326,021
2027	301,714	24,306	326,020
2028	313,632	12,388	326,020
	$ 1,184,693	$ 119,389	$ 1,304,082

Annual debt service requirements to maturity for business-type activities are as follows:

Year ended June 30:	Principal	Interest	Total
2025	$ 45,000	$ 90,328	$ 135,328
2026	46,000	88,895	134,895
2027	48,000	87,430	135,430
2028	50,000	85,900	135,900
2029	52,000	84,310	136,310
2030-2034	282,000	395,918	677,918
2035-2039	330,000	347,980	677,980
2040-2044	385,000	292,085	677,085
2045-2049	451,000	226,595	677,595
2050-2054	528,000	149,893	677,893
2055-2059	585,603	60,015	645,618
	$ 2,802,603	$ 1,909,349	$ 4,711,952

WILSON'S MILLS **Attachement 2**

CAPITAL IMPROVEMENTS FINANCING

Wilson's Mills Capital Improvement Costs			
	Cost	# Customers	Cost/Customer
Lockwood	$2,945,000	146	$20,171.23
Renee Dr	$1,728,800	50	$34,576.00
Uzzles Pond	$712,400	10	$71,240.00
Total	$5,386,200	206	$26,146.60

Capital Improvements:	$5,386,200
Interest Rate:	5%
Term (Years):	20
Annual Payment:	$432,203
Annual Deprecation:	$80,793

WILSON'S MILLS **Attachment 3**

GRADUATED RECOVERY OF ACCUMULATED DEPRECIATION

ACCUMULATED SEWER DEPRECIATION

YEAR	SEWER CONNECTIONS	SEWER DEPRECIATION RECOVERY
1	765	$ 11,470
2	1,917	$ 28,742
3	2,863	$ 42,926
4	3,809	$ 57,110
5	4,755	$ 71,293
6	5,701	$ 85,477
7	5,758	$ 86,332
8	5,816	$ 87,195
9	5,874	$ 88,067
10	5,932	$ 88,948
11	5,992	$ 89,837
12	6,052	$ 90,736
13	6,112	$ 91,643
14	6,173	$ 92,560
15	6,235	$ 93,485
16	6,297	$ 94,420
17	6,360	$ 95,364
18	6,424	$ 96,318
19	6,488	$ 97,281
20	6,553	$ 98,254
21	6,619	$ 99,236
22	6,685	$ 100,229
23	6,752	$ 101,231
24	6,819	$ 102,243
25	6,887	$ 103,266
26	6,963	$ 104,402
		$ 2,198,065

ACCUMULATED WATER DEPRECIATION

YEAR	WATER CONNECTIONS	WATER DEPRECIATION RECOVERY
1	2,163	$ 22,042
2	3,315	$ 22,307
3	4,261	$ 22,572
4	5,207	$ 22,847
5	6,153	$ 23,123
6	7,099	$ 23,398
7	7,170	$ 23,928
8	7,242	$ 24,468
9	7,314	$ 25,018
10	7,387	$ 25,589
11	7,461	$ 26,170
12	7,536	$ 26,761
13	7,611	$ 27,372
14	7,687	$ 27,994
15	7,764	$ 28,626
16	7,842	$ 29,278
17	7,920	$ 29,808
18	7,999	$ 30,480
19	8,079	$ 31,173
20	8,160	$ 31,876
21	8,242	$ 32,600
22	8,324	$ 33,344
23	8,407	$ 34,098
24	8,491	$ 34,872
25	8,576	$ 35,667
26	8,662	$ 36,472
		$ 731,883

WILSON'S MILLS WATER SYSTEM ESTIMATED COSTS PAID TO JOHNSTON COUNTY

YEAR	USERS	ESTIMATED SERVICE POPULATION	ESTIMATED ANNUAL WATER USE	MAX 15% UNACCOUNTED FOR WATER	TOTAL ESTIMATED MONTHLY CUSTOMER WATER PURCHASE	ESTIMATED MONTHLY COMMODITY COST	ANNUAL BASE CHARGE	TOTAL DUE ANNUALLY TO JOHNSTON COUNTY
1	2,163	6013	153,632,150	23,044,823	176,685,150	$ 636,067	$ 5,400	$ 641,467
2	3,315	9216	155,471,750	23,320,763	178,805,046	$ 643,698	$ 5,400	$ 649,083
3	4,261	11846	157,336,900	23,600,535	180,953,545	$ 651,433	$ 5,400	$ 656,805
4	5,207	14475	159,253,150	23,887,973	183,160,809	$ 659,379	$ 5,400	$ 664,739
5	6,153	17105	161,169,400	24,175,410	185,368,073	$ 667,325	$ 5,400	$ 672,672
6	7,099	19735	163,085,650	24,462,848	187,575,338	$ 675,271	$ 5,400	$ 680,606
7	7,170	19933	166,764,850	25,014,728	191,806,687	$ 690,504	$ 5,400	$ 695,838
8	7,242	20132	170,546,250	25,581,938	196,155,569	$ 706,160	$ 5,400	$ 711,494
9	7,314	20333	174,378,750	26,156,813	200,563,219	$ 722,028	$ 5,400	$ 727,361
10	7,387	20537	178,364,550	26,754,683	205,147,167	$ 738,530	$ 5,400	$ 743,863
11	7,461	20742	182,401,450	27,360,218	209,789,882	$ 755,244	$ 5,400	$ 760,577
12	7,536	20949	186,515,000	27,977,250	214,520,747	$ 772,275	$ 5,400	$ 777,608
13	7,611	21159	190,781,850	28,617,278	219,427,911	$ 789,940	$ 5,400	$ 795,273
14	7,687	21370	195,125,350	29,268,803	224,423,224	$ 807,924	$ 5,400	$ 813,256
15	7,764	21584	199,519,950	29,927,993	229,477,306	$ 826,118	$ 5,400	$ 831,451
16	7,842	21800	204,067,850	30,610,178	234,707,685	$ 844,948	$ 5,400	$ 850,280
17	7,920	22018	207,772,600	31,165,890	238,968,445	$ 860,286	$ 5,400	$ 865,618
18	7,999	22238	212,448,250	31,867,238	244,345,743	$ 879,645	$ 5,400	$ 884,977
19	8,079	22461	217,277,200	32,591,580	249,899,339	$ 899,638	$ 5,400	$ 904,969
20	8,160	22685	222,182,800	33,327,420	255,541,085	$ 919,948	$ 5,400	$ 925,279

Assumes 70 GPD/Person

Costs Based on Johnston County FY 24-25 Rates

WILSON'S MILLS SEWER SYSTEM ESTIMATED COSTS PAID TO JOHNSTON COUNTY

YEAR	USERS	ESTIMATED SERVICE POPULATION	ESTIMATED ANNUAL SEWER USE	ESTIMATED AVERAGE 5% I&I	ESTIMATED ANNUAL SEWER TRANSMITTED	ESTIMATED ANNUAL TRANSMISSION CHARGE	ANNUAL TREATMENT CHARGE	JOHNSTON COUNTY ANNUAL BILLING AND O&M FEE	TOTAL DUE ANNUALLY TO JOHNSTON COUNTY
1	765	2127	54,344,850	2,717,243	57,064,986	$ 74,184	$ 208,287	$ 168,469	$ 450,941
2	1,917	5329	136,155,950	6,807,798	142,970,996	$ 185,862	$ 521,844	$ 422,083	$ 1,129,790
3	2,863	7959	203,352,450	10,167,623	213,530,898	$ 277,590	$ 779,388		$ 1,056,978
4	3,809	10589	270,548,950	13,527,448	284,090,800	$ 369,318	$ 1,036,931		$ 1,406,249
5	4,755	13219	337,745,450	16,887,273	354,650,702	$ 461,046	$ 1,294,475		$ 1,755,521
6	5,701	15849	404,941,950	20,247,098	425,210,604	$ 552,774	$ 1,552,019		$ 2,104,792
7	5,758	16007	408,978,850	20,448,943	429,449,565	$ 558,284	$ 1,567,491		$ 2,125,775
8	5,816	16167	413,066,850	20,653,343	433,742,183	$ 563,865	$ 1,583,159		$ 2,147,024
9	5,874	16329	417,205,950	20,860,298	438,088,459	$ 569,515	$ 1,599,023		$ 2,168,538
10	5,932	16492	421,370,600	21,068,530	442,461,564	$ 575,200	$ 1,614,985		$ 2,190,185
11	5,992	16657	425,586,350	21,279,318	446,888,327	$ 580,955	$ 1,631,142		$ 2,212,097
12	6,052	16824	429,853,200	21,492,660	451,368,748	$ 586,779	$ 1,647,496		$ 2,234,275
13	6,112	16992	434,145,600	21,707,280	455,875,997	$ 592,639	$ 1,663,947		$ 2,256,586
14	6,173	17162	438,489,100	21,924,455	460,436,904	$ 598,568	$ 1,680,595		$ 2,279,163
15	6,235	17334	442,883,700	22,144,185	465,051,469	$ 604,567	$ 1,697,438		$ 2,302,005
16	6,297	17507	447,303,850	22,365,193	469,692,863	$ 610,601	$ 1,714,379		$ 2,324,980
17	6,360	17682	451,775,100	22,588,755	474,387,914	$ 616,704	$ 1,731,516		$ 2,348,220
18	6,424	17859	456,297,450	22,814,873	479,136,624	$ 622,878	$ 1,748,849		$ 2,371,726
19	6,488	18037	460,845,350	23,042,268	483,912,162	$ 629,086	$ 1,766,279		$ 2,395,365
20	6,553	18218	465,469,900	23,273,495	488,768,186	$ 635,399	$ 1,784,004		$ 2,419,403

Assumes 70 GPD/Person

Costs Based on Johnston County FY 24-25 Rates

TOWN OF WILSON'S MILLS

WATER AND WASTEWATER UTILITY 20-YEAR PLAN

DESCRIPTION	SYSTEM YEAR										
	1A	1B	2	3	4	5	6	7	8	9	10
WASTEWATER:											
DEBT & DEPRECIATION											
WASTEWATER SYSTEM PURCHASE	$ 1,207,958										
USDA DEBT	$ 135,328	$ 135,328	$ 134,895	$ 135,430	$ 135,900	$ 136,310	$ 135,584	$ 135,584	$ 135,584	$ 135,584	$ 135,584
CAPITAL IMPROVEMENTS-FINANCE 20 YEARS			$432,203	$432,203	$432,203	$432,203	$432,203	$432,203	$432,203	$432,203	$432,203
DEPRECIATION	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778
DEPRECIATION RECOVERY	$ 11,470	$ 11,470	$ 28,742	$ 42,926	$ 57,110	$ 71,293	$ 85,477	$ 86,332	$ 87,195	$ 88,067	$ 88,948
TOTAL DEBT & DEPRECIATION	$ 1,613,534	$ 405,576	$ 854,618	$ 869,337	$ 883,991	$ 898,584	$ 912,042	$ 912,897	$ 913,760	$ 914,632	$ 915,513
WASTEWATER USERS	765	765	1,917	2,863	3,809	4,755	5,701	5,758	5,816	5,874	5,932
SYSTEM DEVELOPMENT FEE-$5,000			5,327,797	4,297,797	4,297,797	4,297,797	4,297,797	-147,153	-144,302	-141,423	-138,515
MONTHLY BASE CHARGE	$ 175.77	$ 44.18	$ 93.10	$ 94.70	$ 96.30	$ 97.89	$ 99.35	$ 99.44	$ 99.54	$ 99.63	$ 99.73
OPERATIONS											
JOHNSTON COUNTY	$ 450,941	$ 450,941	$ 1,129,790	$ 1,056,978	$ 1,406,249	$ 1,755,521	$ 2,104,792	$ 2,125,775	$ 2,147,024	$ 2,168,538	$ 2,190,185
UTILITY STAFF	$ 128,801	$ 128,801	$ 208,742	$ 422,922	$ 244,238	$ 256,450	$ 269,273	$ 282,737	$ 296,874	$ 311,718	$ 439,590
VEHICLES & EQUIPMENT	$ 23,813	$ 23,813	$ 23,813	$ 179,922	$ 276,815	$ 276,815	$ 282,874	$ 282,874	$ 283,774	$ 283,774	$ 326,788
OTHER OPERATIONAL COSTS	$ 100,000	$ 100,000	$ 105,000	$ 110,250	$ 115,763	$ 121,551	$ 127,628	$ 134,010	$ 140,710	$ 147,746	$ 155,133
TOTAL OPERATIONS	$ 703,555	$ 703,555	$ 1,467,345	$ 1,770,072	$ 2,043,065	$ 2,410,337	$ 2,784,568	$ 2,825,396	$ 2,868,382	$ 2,911,776	$ 3,111,695
WASTEWATER SALES (GALLONS)	54,344,850	54,344,850	136,155,950	203,352,450	270,548,950	337,745,450	404,941,950	408,978,850	413,066,850	417,205,950	421,370,600
WASTEWATER COMMODITY CHARGE/1,000 GALLONS	$ 12.95	$ 12.95	$ 10.78	$ 8.70	$ 7.55	$ 7.14	$ 6.88	$ 6.91	$ 6.94	$ 6.98	$ 7.38
AVERAGE MONTHLY BILL (6,000 GALLONS)	$ 253.45	$ 121.86	$ 157.76	$ 146.93	$ 141.61	$ 140.71	$ 140.61	$ 140.89	$ 141.20	$ 141.51	$ 144.04
WATER:											
DEBT & DEPRECIATION											
WATER SYSTEM PURCHASE	$ 557,724										
DEPRECIATION	$ 34,292				$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292
DEPRECIATION RECOVERY	$ 22,042				$ 22,847	$ 23,123	$ 23,398	$ 23,928	$ 24,468	$ 25,018	$ 25,589
TOTAL DEBT & DEPRECIATION	$ 614,058				$ 57,139	$ 57,415	$ 57,690	$ 58,220	$ 58,760	$ 59,310	$ 59,881
WATER USERS	2,163				5,207	6,153	7,099	7,170	7,242	7,314	7,387
MONTHLY BASE CHARGE	$ 66.89				$ 0.91	$ 0.78	$ 0.68	$ 0.68	$ 0.68	$ 0.68	$ 0.68
OPERATIONS											
JOHNSTON COUNTY	$ 641,467				$ 664,739	$ 672,672	$ 680,606	$ 695,838	$ 711,494	$ 727,361	$ 743,863
UTILITY STAFF	$ 199,831				$ 199,831	$ 209,823	$ 220,314	$ 231,330	$ 242,897	$ 255,042	$ 359,664
VEHICLES & EQUIPMENT	$ 226,485				$ 226,485	$ 226,485	$ 231,442	$ 231,442	$ 232,179	$ 232,179	$ 267,371
OTHER OPERATIONAL COSTS	$ 75,000				$ 86,822	$ 91,163	$ 95,721	$ 100,507	$ 105,533	$ 110,809	$ 116,350
TOTAL OPERATIONS	$ 1,142,783				$ 1,177,877	$ 1,200,144	$ 1,228,084	$ 1,259,118	$ 1,292,103	$ 1,325,392	$ 1,487,249
WATER SALES (GALLONS)	153,632,150				159,253,150	161,169,400	163,085,650	166,764,850	170,546,250	174,378,750	178,364,550
WATER COMMODITY CHARGE/1,000 GALLONS	$ 7.44				$ 7.40	$ 7.45	$ 7.53	$ 7.55	$ 7.58	$ 7.60	$ 8.34
AVERAGE MONTHLY BILL (6,000 GALLONS)	$ 111.52				$ 45.29	$ 45.46	$ 45.86	$ 45.98	$ 46.14	$ 46.28	$ 50.71
TOTAL AVERAGE MONTHY WATER AND WASTEWATER BILL (6,000 GALLONS)	$ 364.97	$ 121.86	$ 157.76	$ 146.93	$ 186.90	$ 186.17	$ 186.47	$ 186.87	$ 187.34	$ 187.79	$ 194.75

TOWN OF WILSON'S MILLS

WATER AND WASTEWATER UTILITY 20-YEAR PLAN

DESCRIPTION	SYSTEM YEAR									
	11	12	13	14	15	16	17	18	19	20
WASTEWATER:										
DEBT & DEPRECIATION										
WASTEWATER SYSTEM PURCHASE										
USDA DEBT	$ 135,596	$ 135,596	$ 135,596	$ 135,596	$ 135,596	$ 135,417	$ 135,417	$ 135,417	$ 135,417	$ 135,417
CAPITAL IMPROVEMENTS-FINANCE 20 YEARS	$432,203	$432,203	$432,203	$432,203	$432,203	$432,203	$432,203	$432,203	$432,203	$432,203
DEPRECIATION	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778	$ 258,778
DEPRECIATION RECOVERY	$ 89,837	$ 90,736	$ 91,643	$ 92,560	$ 93,485	$ 94,420	$ 95,364	$ 96,318	$ 97,281	$ 98,254
TOTAL DEBT & DEPRECIATION	$ 916,414	$ 917,313	$ 918,220	$ 919,136	$ 920,062	$ 920,818	$ 921,762	$ 922,716	$ 923,679	$ 924,652
WASTEWATER USERS	5,992	6,052	6,112	6,173	6,235	6,297	6,360	6,424	6,488	6,553
SYSTEM DEVELOPMENT FEE-$5,000	-135,578	-132,612	-129,616	-126,590	-123,534	-120,448	-117,330	-114,181	-111,001	-107,789
MONTHLY BASE CHARGE	$ 99.83	$ 99.93	$ 100.02	$ 100.12	$ 100.22	$ 100.31	$ 100.41	$ 100.51	$ 100.62	$ 100.72
OPERATIONS										
JOHNSTON COUNTY	$ 2,212,097	$ 2,234,275	$ 2,256,586	$ 2,279,163	$ 2,302,005	$ 2,324,980	$ 2,348,220	$ 2,371,726	$ 2,395,365	$ 2,419,403
UTILITY STAFF	$ 461,570	$ 484,648	$ 508,881	$ 534,325	$ 561,042	$ 822,807	$ 863,947	$ 907,145	$ 952,502	$ 1,000,127
VEHICLES & EQUIPMENT	$ 329,801	$ 329,801	$ 363,205	$ 185,347	$ 192,671	$ 248,544	$ 248,544	$ 249,587	$ 249,587	$ 258,936
OTHER OPERATIONAL COSTS	$ 162,889	$ 171,034	$ 179,586	$ 188,565	$ 197,993	$ 207,893	$ 218,287	$ 229,202	$ 240,662	$ 252,695
TOTAL OPERATIONS	$ 3,166,357	$ 3,219,759	$ 3,308,258	$ 3,187,400	$ 3,253,711	$ 3,604,223	$ 3,678,999	$ 3,757,660	$ 3,838,116	$ 3,931,161
WASTEWATER SALES (GALLONS)	425,586,350	429,853,200	434,145,600	438,489,100	442,883,700	447,303,850	451,775,100	456,297,450	460,845,350	465,469,900
WASTEWATER COMMODITY CHARGE/1,000 GALLONS	$ 7.44	$ 7.49	$ 7.62	$ 7.27	$ 7.35	$ 8.06	$ 8.14	$ 8.24	$ 8.33	$ 8.45
AVERAGE MONTHLY BILL (6,000 GALLONS)	$ 144.47	$ 144.87	$ 145.74	$ 143.73	$ 144.30	$ 148.66	$ 149.27	$ 149.92	$ 150.59	$ 151.39
WATER:										
DEBT & DEPRECIATION										
WATER SYSTEM PURCHASE										
DEPRECIATION	$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292	$ 34,292
DEPRECIATION RECOVERY	$ 26,170	$ 26,761	$ 27,372	$ 27,994	$ 28,626	$ 29,278	$ 29,808	$ 30,480	$ 31,173	$ 31,876
TOTAL DEBT & DEPRECIATION	$ 60,462	$ 61,053	$ 61,664	$ 62,286	$ 62,918	$ 63,570	$ 64,100	$ 64,772	$ 65,465	$ 66,168
WATER USERS	7,461	7,536	7,611	7,687	7,764	7,842	7,920	7,999	8,079	8,160
MONTHLY BASE CHARGE	$ 0.68	$ 0.68	$ 0.68	$ 0.68	$ 0.68	$ 0.68	$ 0.67	$ 0.67	$ 0.68	$ 0.68
OPERATIONS										
JOHNSTON COUNTY	$ 760,577	$ 777,608	$ 795,273	$ 813,256	$ 831,451	$ 850,280	$ 865,618	$ 884,977	$ 904,969	$ 925,279
UTILITY STAFF	$ 377,648	$ 396,530	$ 416,357	$ 437,175	$ 459,034	$ 673,206	$ 706,866	$ 742,209	$ 779,320	$ 818,286
VEHICLES & EQUIPMENT	$ 269,837	$ 269,837	$ 297,167	$ 151,647	$ 157,639	$ 203,355	$ 203,355	$ 204,208	$ 204,208	$ 211,857
OTHER OPERATIONAL COSTS	$ 122,167	$ 128,275	$ 134,689	$ 141,424	$ 148,495	$ 155,920	$ 163,716	$ 171,901	$ 180,496	$ 189,521
TOTAL OPERATIONS	$ 1,530,229	$ 1,572,251	$ 1,643,487	$ 1,543,502	$ 1,596,619	$ 1,882,760	$ 1,939,555	$ 2,003,295	$ 2,068,994	$ 2,144,944
WATER SALES (GALLONS)	182,401,450	186,515,000	190,781,850	195,125,350	199,519,950	204,067,850	207,772,600	212,448,250	217,277,200	222,182,800
WATER COMMODITY CHARGE/1,000 GALLONS	$ 8.39	$ 8.43	$ 8.61	$ 7.91	$ 8.00	$ 9.23	$ 9.33	$ 9.43	$ 9.52	$ 9.65
AVERAGE MONTHLY BILL (6,000 GALLONS)	$ 51.02	$ 51.26	$ 52.37	$ 48.14	$ 48.69	$ 56.04	$ 56.68	$ 57.25	$ 57.81	$ 58.60
TOTAL AVERAGE MONTHY WATER AND WASTEWATER BILL (6,000 GALLONS)	$ 195.49	$ 196.13	$ 198.11	$ 191.88	$ 192.99	$ 204.69	$ 205.95	$ 207.17	$ 208.40	$ 210.00
									Average Monthly Bill	$ 195.71

APPENDIX G

WILSON'S MILLS FUTURE RESIDENTIAL DWELLING PLANNING

PROJECT		Value	COMPLETION YEAR 2024	2025	2026	2027	2028	2029	2030	2031	2032
Johnston Farms	SFH	489,501	0	0	0	73	72	72	74	39	N/A
	TH	342,777	0	0	0	40	40	40	40	40	28
Waterview Way	TH	319,000	0	13	13	N/A	N/A	N/A	N/A	N/A	N/A
Wilson's Ridge	SFH	350,000	20	40	40	12	0	0	0	0	0
	TH	320,000	25	60	60	60	90	0	0	0	0
Olive Branch	SFH	375,000	76	71	71	72	72	N/A	N/A	N/A	N/A
Wilson's Walk	SFH	365,000	50	50	51	51	N/A	N/A	N/A	N/A	N/A
	TH	275,000	73	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Eason Creek	SFH	341,763	24	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crescent Mills	SFH	422,500	86	86	86	86	87	86	N/A	N/A	N/A
	TH	315,000	65	65	65	66	65	65	N/A	N/A	N/A
Willis Crossings	APT	225,000	0	3	0	6	0	3	N/A	N/A	N/A
Southerland Mills	SFH	393,000	0	96	96	96	96	96	N/A	N/A	N/A
Cobalt Townes	TH	300,000	0	0	25	60	60	60	22	0	0
Midtown Village	SFH	375,000	0	0	25	50	0	0	0	0	0
	TH	315,000	0	0	0	50	75	75	26	0	0
	APT	275,000	0	0	0	0	192	0	0	0	0
Lee Property	SFH	375,000	0	0	25	26	0	0	0	0	0
	TH	315,000	0	0	25	25	50	50	45	0	0

Tralee	SFH	400,000	0	0	28	30	28	0	0	0	0
Mitchner Drive	DUPLEX	250,000	0	6	10	10	6	0	0	0	0
Catawba Drive	TH	315,000	0	6	10	10	6	0	0	0	0
Wade Eason Property	TH	315,000	0	0	0	30	32	0	0	0	0
Total structures built per year			419	574	630	853	971	547	207	79	28
Total Per Year	SFH		256	346	422	496	355	254	74	39	0
	TH		163	219	198	341	418	290	133	40	28
	APT		0	3	0	6	192	3	0	0	0
	DUPLEX		0	6	10	10	6	0	0	0	0
Average value per home	SFH	426,307									
	TH	312,420									
	APT	250,000									
	DUPLEX	250,000									

		2024	2025	2026	2027	2028	2029	2030	2031	2032
TOTAL PER YEAR	SFH	545,673	737,511	899,508	1,057,241	756,695	541,410	157,734	83,130	0
	TH	254,622	342,100	309,296	532,676	625,958	453,009	207,759	62,484	43,739
	APT	0	3,750	0	7,500	240,000	3,750	0	0	0
	DUPLEX	0	7,500	12,500	12,500	7,500	0	0	0	0
NEW TAX $$ PER YEAR		800,295	1,090,861	1,221,304	1,609,917	1,630,153	998,169	365,493	145,614	43,739

Total Estimated Revenue 2024-2032-Residential Only $7,905,545