

Impervious Area Updates and Stormwater Utility Rate Assessment

April 7, 2025



Update the stormwater utility billing database based on new impervious area data to accurately assess fees to non-residential properties

Provide guidance on which tiered structure, if any, to move forward with developing.



Phase 1: Collection and Processing of New Aerial Imagery

Phase 2: Impervious Area Analysis

Phase 3: Stormwater Utility Rate Structure Evaluation



- Develop recommendations for a Tiered Residential Rate Structure
 - Fair and equitable
 - Simple and understandable
 - Easily applied
 - Similar to other North Carolina Phase 1 MS4 communities
 - Generate sufficient revenue to support program goals

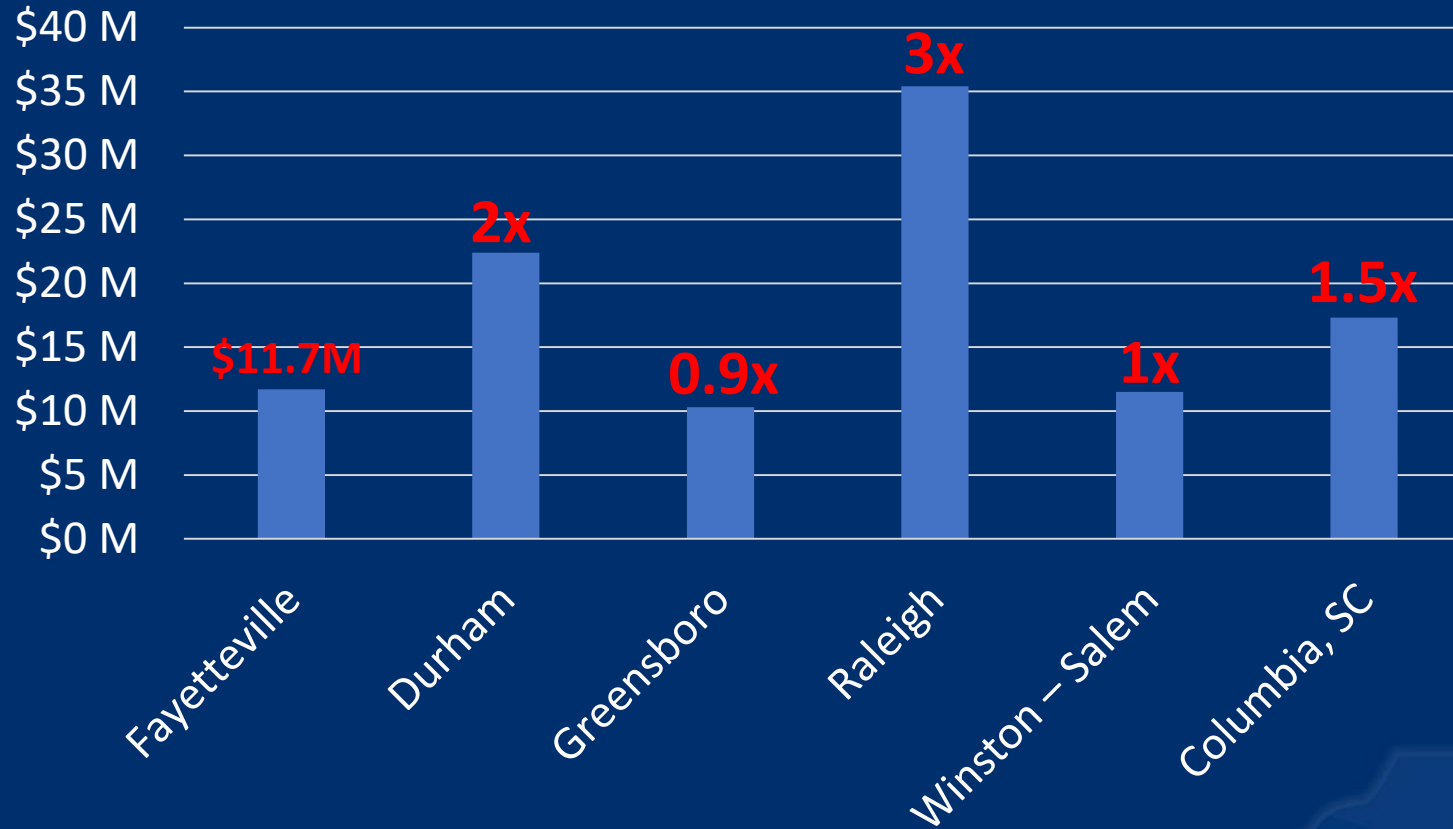


Benchmarking Results

	Fayetteville	Durham	Greensboro	Raleigh	Winston – Salem	Columbia, SC
Physical Area (sq mi)	148	113	130	147	133	137
Population	209,749	296,186	302,296	482,295	252,975	142,426
Growth Trend	0.6%	4.4%	1.0%	3.1%	1.4%	4.1%
Residential Accounts	63,644	79,900	75,000	119,167	Unk	27,600
Non-residential Accounts	5,859 (9%)	6,400 (8%)	15,000 (20%)	16,413 (14%)	Unk	2,400 (9%)
Total SW Utility Revenue (FY 23-24 Budget)	\$11.7 M	\$22.4 M	\$10.3 M	\$35.4 M	\$11.5 M	\$17.3 M
Total SW Budget (FY 23-24 Budget)	\$20.0 M	\$29.1 M	\$12.5 M	\$36.4 M	\$12.6 M	\$18.3 M
FTE's	59	81	87	79	Unk	Unk

Benchmarking Results

Total SW Utility Revenue (FY 23-24 Adopted Budget)



SW Fee Revenue / capita	\$56	\$76	\$34	\$73	\$45	\$122
SW Fee Revenue / sq mi	\$79K	\$196K	\$80K	\$240K	\$86K	\$126K



- ERU = Equivalent Residential Unit (Average Residential Impervious Area)
- Delineated impervious area for a random sampling of over 2,000 single family residential parcels to check size of ERU

Equivalent Residential Unit Analysis		
Existing ERU (sq ft) building footprints only	Calculated ERU (sq ft) building footprints only	Percent Increase
2,266	2,329	< 3%



Warehouse



Additional Impervious Area	163,929 sq ft
Additional ERUs Billed	72
Annual Fee Increase (\$7/ERU)	\$6,048

Elementary School

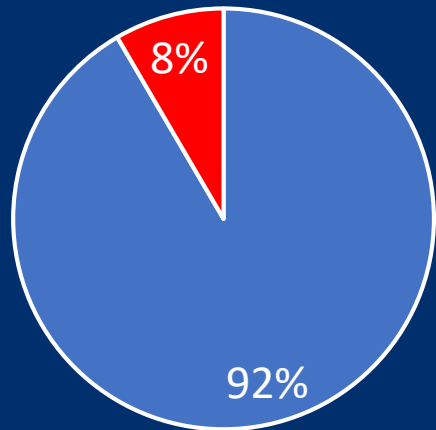


Additional Impervious Area	27,235 sq ft
Additional ERUs Billed	12
Annual Fee Increase (\$7/ERU)	\$1,008

Current Rate Framework

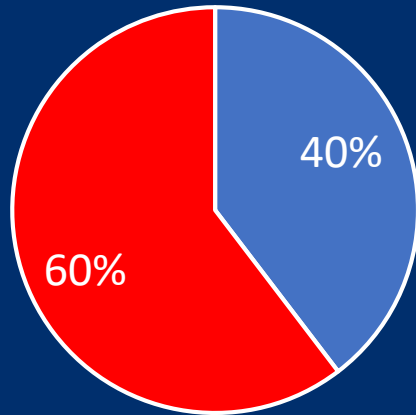
- Flat Rate, Currently \$7 per month

Percentage of Accounts



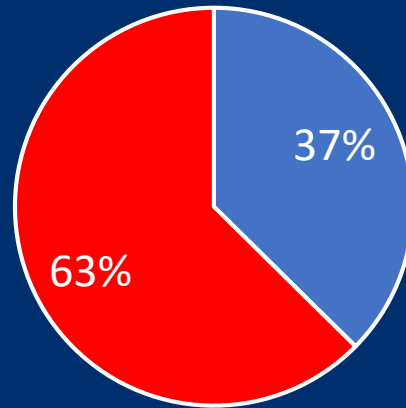
Residential
 Commercial

Percentage of Revenues



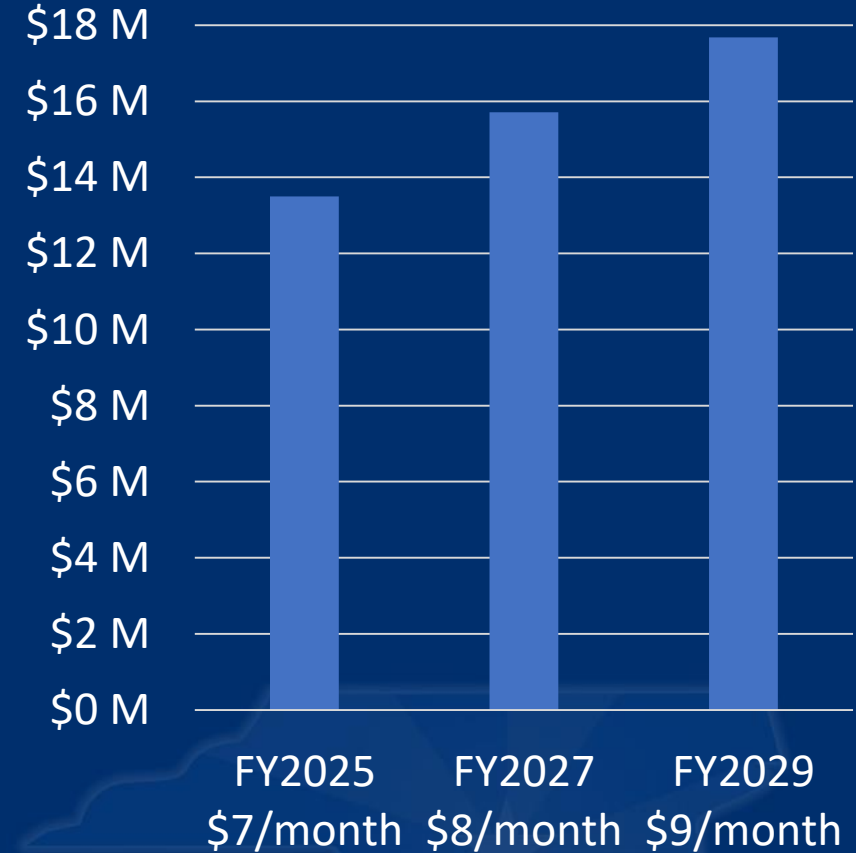
Residential
 Commercial

Percentage of Impervious Area



Residential
 Commercial

Projected Revenues



Capital Projects

- Driven by robust watershed master planning program
 - Funding Needs Identified
 - Top Projects - \$200 M
 - All Projects - \$500 M
 - **Additional funding will be needed to address projects that come out of on-going watershed studies**

Administrative Support

- Increase to support program needs

System Maintenance

- System Size (**ROW ONLY**)
 - 280 miles of piped drainage
 - 75 miles of open channel
 - 10 miles of culverts
 - 55 Stormwater Control Measures
- System Value (gross estimate)
 - **+ \$400 M**
- Strategic Asset Management Plan

Regulatory Compliance

- NPDES MS4 Compliance – Increase maintenance and inspection of private and public SCMs
- Development Services
- Impaired Waters
- Water Quality Monitoring – increase frequency

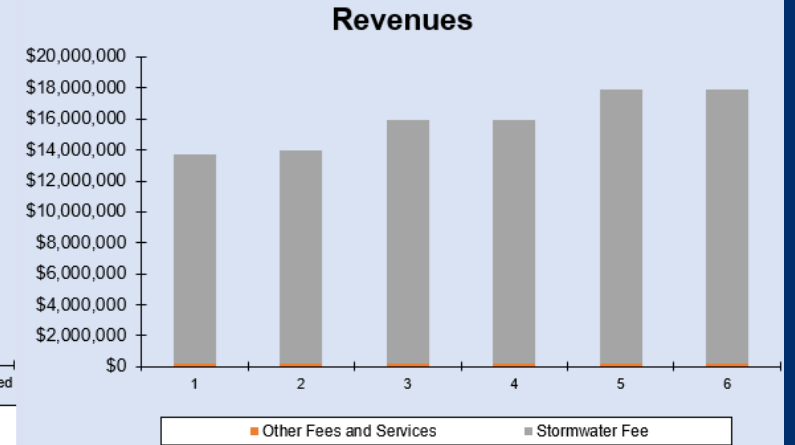
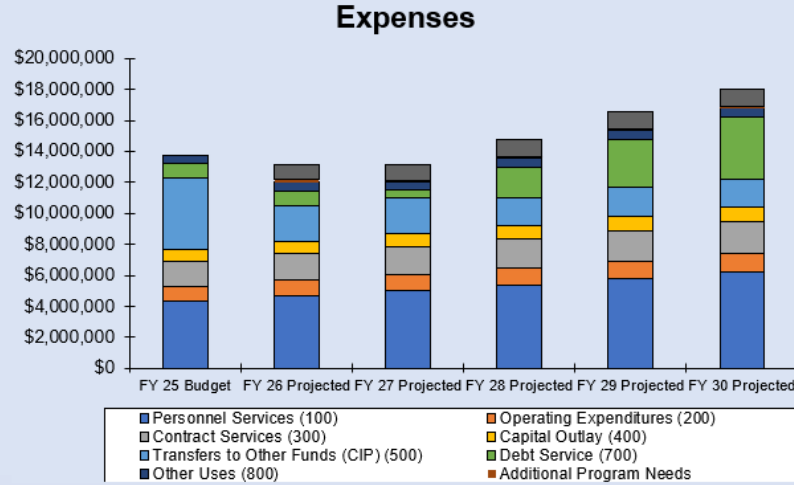
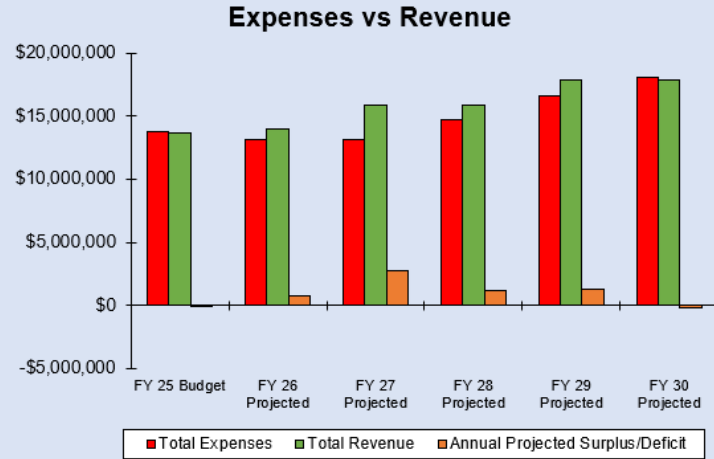
Factor	Expense Increase	Revenue Decrease
Inflation	2.3% ↑	
System Growth	2.0% ↑	
Wage Increases	4.0% ↑	
Collection Rate		2.0% ↓
Billing Credits		2.0% ↓

Program Needs

- Additional CIP Revenue
- Strategic Asset Management Plan
- Strategic Water Quality Monitoring Strategy
- Increase in SCM inspection and maintenance
- Funding analysis for priority CIP



Projection Charts



Projection Numerical Summary

Totals						
	FY 25 Budget	FY 26 Projected	FY 27 Projected	FY 28 Projected	FY 29 Projected	FY 30 Projected
Total Expenses	\$ 13,748,575	\$ 13,165,542	\$ 13,150,900	\$ 14,730,245	\$ 16,589,443	\$ 18,049,935
Total Revenue	\$ 13,676,155	\$ 13,929,685	\$ 15,897,982	\$ 15,902,234	\$ 17,870,724	\$ 17,875,174
Annual Projected Surplus/Deficit	\$ (72,420)	\$ 764,143	\$ 2,747,082	\$ 1,171,989	\$ 1,281,281	\$ (174,761)

Expense Breakdown						
	FY 25 Budget	FY 26 Projected	FY 27 Projected	FY 28 Projected	FY 29 Projected	FY 30 Projected
Personnel Services (100)	\$ 4,382,466	\$ 4,700,195	\$ 5,040,959	\$ 5,406,428	\$ 5,798,394	\$ 6,218,778
Operating Expenditures (200)	\$ 918,037	\$ 968,988	\$ 1,022,767	\$ 1,079,530	\$ 1,139,444	\$ 1,202,684
Contract Services (300)	\$ 1,644,137	\$ 1,714,835	\$ 1,788,573	\$ 1,865,481	\$ 1,945,697	\$ 2,029,362
Capital Outlay (400)	\$ 772,400	\$ 805,613	\$ 840,255	\$ 876,386	\$ 914,070	\$ 953,375
Transfers to Other Funds (CIP) (500)	\$ 4,555,755	\$ 2,312,116	\$ 2,305,288	\$ 1,746,125	\$ 1,858,591	\$ 1,796,978
Debt Service (700)	\$ 920,387	\$ 920,628	\$ 478,824	\$ 2,021,692	\$ 3,135,948	\$ 3,986,342
Other Uses (800)	\$ 555,393	\$ 568,167	\$ 581,235	\$ 594,603	\$ 608,279	\$ 622,270
Additional Program Needs	\$ -	\$ 175,000	\$ 50,000	\$ 52,150	\$ 54,392	\$ 56,731
Additional Needs Identified by City	\$ -	\$ 1,000,000	\$ 1,043,000	\$ 1,087,849	\$ 1,134,627	\$ 1,183,415

Revenue Breakdown						
	FY 25 Budget	FY 26 Projected	FY 27 Projected	FY 28 Projected	FY 29 Projected	FY 30 Projected
Annual Stormwater Fee (\$/ERU)	\$ 84	\$ 84	\$ 96	\$ 96	\$ 108	\$ 108
Stormwater Fee	\$ 13,499,520	\$ 13,748,988	\$ 15,713,129	\$ 15,713,129	\$ 17,677,270	\$ 17,677,270
Other Fees and Services	\$ 176,635	\$ 180,698	\$ 184,854	\$ 189,105	\$ 193,455	\$ 197,904

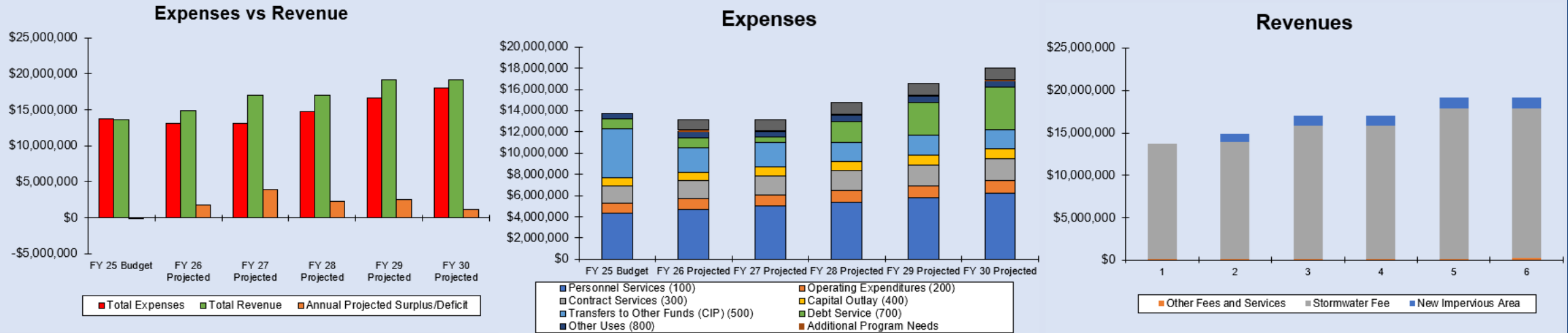
Additional Annual CIP Funding

Additional Annual CIP Funding	Rate Needed to Generate Additional Annual CIP Funding		
	FY2026	FY2027/FY2028	FY2029/FY2030
-	\$7	\$8	\$9
\$1M	\$7.50	\$8.50	\$9.50
\$2M	\$8.01	\$9.01	\$10.01
\$5M	\$9.51	\$10.52	\$11.52
\$10M	\$12.03	\$13.03	\$14.04
\$15M	\$14.54	\$15.55	\$16.55
\$20M	\$17.05	\$18.06	\$19.07



Future Projections with Updated Impervious Area for Commercial Rate Payers

Projection Charts



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Total Revenue	\$ 13,676,155	\$ 14,929,685	\$ 17,040,839	\$ 17,045,091	\$ 19,156,439	\$ 19,160,888
Annual Projected Surplus/Deficit	\$ (72,420)	\$ 1,764,143	\$ 3,889,939	\$ 2,314,846	\$ 2,566,996	\$ 1,110,953

Expense Breakdown						
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Personnel Services (100)	\$ 4,382,466	\$ 4,700,195	\$ 5,040,959	\$ 5,406,428	\$ 5,798,394	\$ 6,218,778
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Stormwater Fee	\$ 13,499,520	\$ 13,748,988	\$ 15,713,129	\$ 15,713,129	\$ 17,677,270	\$ 17,677,270
Other Fees and Services	\$ 176,635	\$ 180,698	\$ 184,854	\$ 189,105	\$ 193,455	\$ 197,904
New Impervious Area	\$ -	\$ 1,000,000	\$ 1,142,857	\$ 1,142,857	\$ 1,285,714	\$ 1,285,714

Residential Rates Comparison

Fayetteville		Durham		Greensboro		Raleigh		Winston-Salem		Columbia, SC	
ERU (sq ft)	Rate	Impervious Area Range (sq ft)	Rate	Impervious Area Range (sq ft)	Rate	Impervious Area Range (sq ft)	Rate	Impervious Area Range (sq ft)	Rate	ERU (sq ft)	Rate
2,266	\$7.00	<2,000	\$4.95	600-1,999	\$1.80	400-1,000	\$3.06	1-2,000	\$4.59	2,454	\$14.15
		2,000-4,000	\$10.25	2,000-2,899	\$3.24	1,001-3,870	\$7.65	2,001-4,000	\$4.86		
		>4,000	\$20.53	>2,900	\$4.68	3,871-6,620	\$13.01	4,001-6,000	\$7.29		
						6,621-9,500	\$22.19	>6,000	\$9.72		

Tier	Percentage of Parcels	Impervious Area (Buildings) (sq ft)	Monthly Rate	Annual Rate
Tier 1	67%	≤ 2,266	\$7.00	\$84
Tier 2	27%	2,267 – 3,399	\$10.50	\$126
Tier 3	6%	≥ 3,400	\$14.00	\$168

Less than 1 ERU
 1-1.5x ERU
 Greater than 1.5x ERU

Additional Revenue Generated (\$7/ERU/month) **\$1.03 M**



Tier	Percentage of Parcels	Impervious Area (Buildings) (sq ft)	Monthly Rate	Annual Rate
Tier 1	26%	≤ 1,600	\$5.25	\$63
Tier 2	42%	1,601 – 2,300	\$7.00	\$84
Tier 3	31%	≥ 2,300	\$10.50	\$126

Additional Revenue Generated
(\$7/ERU/month)

\$491.6 K

Tier	Percentage of Parcels	Impervious Area (Buildings) (sq ft)	Monthly Rate	Annual Rate
Tier 1	77%	<2500	\$7.00	\$84
Tier 2	22%	2501-4800	\$14.00	\$168
Tier 3	1%	>4800	\$21.00	\$252

**Additional Revenue Generated
(\$7/ERU/month)**

\$1.28 M

- Develop recommendations for a Tiered Rate Structure
 - Fair and equitable
 - Simple and understandable
 - Easily applied
 - Similar to other North Carolina Phase 1 MS4 communities
 - Generate sufficient revenue to support program goals



- **ERU Size**
 - Leave as-is
- **Impervious Area**
 - Update billing database with new impervious area for FY26
 - Overall increase (Some increases, some decreases)
 - **Data reconciliation pending**
- **Rate Structure**
 - Continue with flat rate with future rate increase in FY27 & FY29
 - Pursue one of Tiered Options presented in FY26 with future rate increase in FY27 & FY29
- **Program Needs**
 - Additional CIP Revenue
 - Strategic Asset Management Plan
 - Strategic Water Quality Monitoring Strategy
 - Increase in SCM inspection and maintenance
 - Funding analysis for priority CIP





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