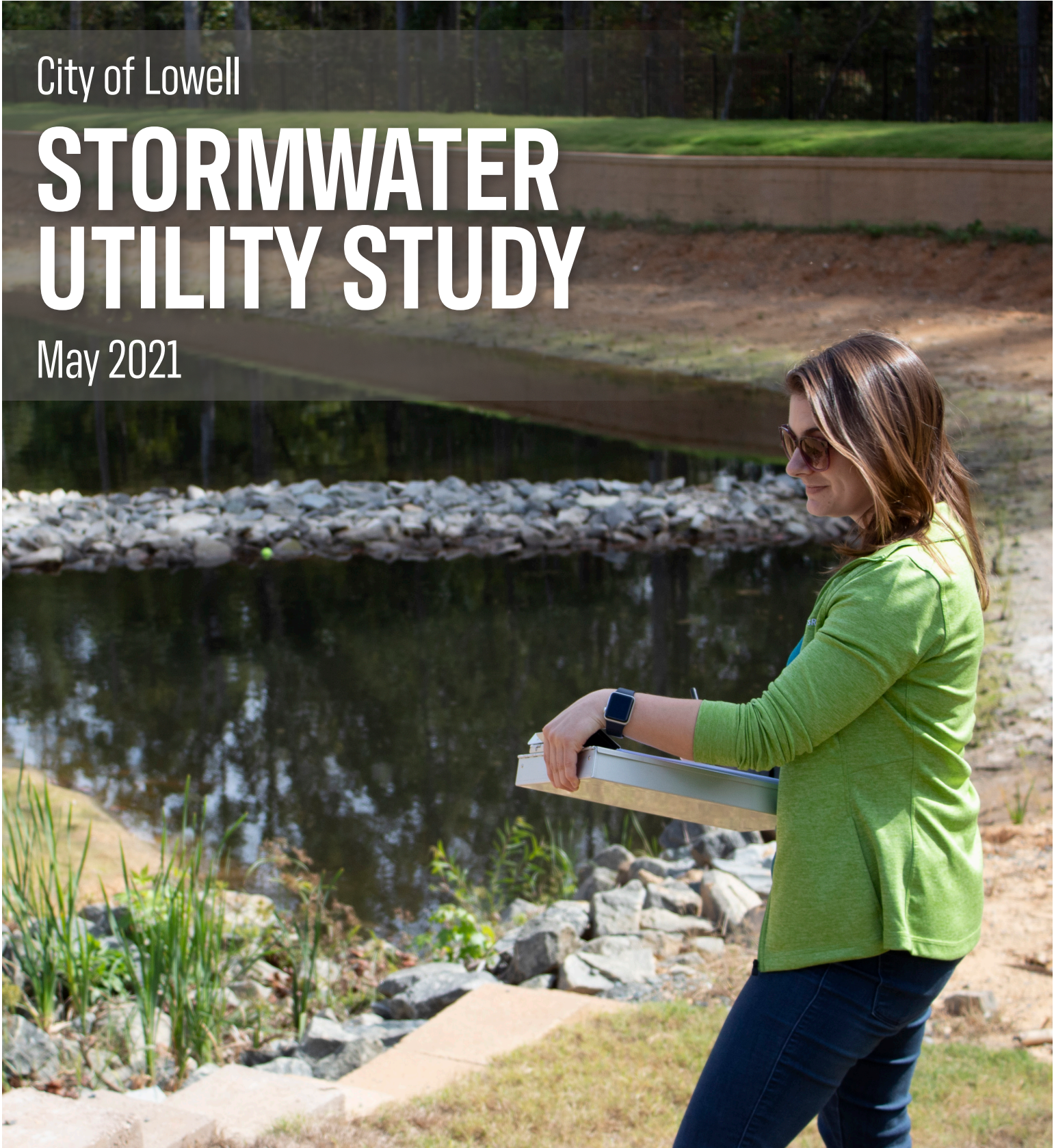


City of Lowell

# STORMWATER UTILITY STUDY

May 2021



**WithersRavenel**  
Our People. Your Success.

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## Introduction

The City of Lowell engaged WithersRavenel to help create a long-term financial plan for its Stormwater program so City staff may evaluate and enhance decision making and ensure sufficient, future funding for the program. The program historically has been funded by the general fund, but it is expected to expand and require additional support. As a result of the planned growth, it is imperative that the stormwater program continue to address community needs and adhere to National Pollutant Discharge Elimination System (NPDES) requirements of the Clean Water Act.

In conducting this study, WithersRavenel examined various fees, reviewed previously prepared studies and growth projections, and analyzed the financial impact projected changes would have on the fund and parcel owners. The following objectives were identified for the study:

- Review the database of parcels and impervious surfaces.
- Develop an operating budget for FY 2022.
- Project revenues and expenditures over ten years.
- Propose stormwater fees that fund operating and capital costs.
- Provide information to conduct fee benchmarking for similar municipal stormwater management programs.

Certain assumptions have been made with respect to conditions that may occur in the future. While these assumptions are reasonable for the purposes of this study, they are dependent upon future events and actual conditions may differ from those assumed. In addition, information has been used and relied upon which has been provided by others. This information includes, among other things, audited financial statements, annual operating budgets, and parcel information. While this information is deemed reliable, the information has not been independently verified and no assurances are offered with respect thereto. To the extent that actual future conditions differ from those assumed herein or provided by others, the actual results may differ from those anticipated.

This analysis addresses the impervious surface database, proposed budgets, the financial analysis, debt service obligations, stormwater fees, and presents findings and conclusions.

## Impervious Surface Database

The City of Lowell provided WithersRavenel two parcel databases originally compiled by the City of Gastonia. The databases are grouped into two categories: residential parcels and nonresidential parcels. The residential parcel list comprises a sample of all residential parcels to ascertain their average impervious surface. As per City of Gastonia calculations, the average residential impervious surface is 2,827 square feet. The City of Gastonia also indicated that the total count of residential parcels was 1,422.

The list of nonresidential parcels consists of 169 tracts. The range of square footages per parcel varied more than the residential list, ranging from 232 to 560,000 square feet, with an average of approximately 46,000 square feet per parcel. Furthermore, the nonresidential parcel list includes categories indicating each parcel's use. A count of parcels by use is depicted in the below table. As shown the most common categories are Mixed Use Commercial and Church/Religious.

**Table 1**  
**Non-Residential Parcel Counts by Category**

Mixed Use Commercial	22
Church/Religious	22
Automobile Sales	15
Government	13
General Retail	12
Commercial Land	10
Office	9
Industrial	9
Warehouse	6
Vehicle Repair	6
Apt Complex/Multi-Family	6
Parking Lot	5
Restaurant	4
Public Utilities	4
Schools/Colleges	3
Conv Store/Gas Station	3
Entertainment	2
Beauty/Barber Shop	2
Daycare	2
Car Wash	2
Office Warehouse	2
Department/Discount Store	2
House on Commercial Site	1
Bank/Savings & Loan	1
Fraternal/Veteran Org	1
Charitable	1
(blank)	1
Fire/Police Station	1
Retirement/Rest Home	1
Mini-Warehouse	1
Grand Total	169

This information serves as the foundation for stormwater fee development. As new impervious surfaces are created it will be important for the City to periodically update this database.

## Cost Opinions and Budget Development

The City provided WithersRavenel their stormwater management plan so cost estimates could be derived for the initial budget year and future years. Additionally, the City Manager provided WithersRavenel estimated stormwater budgets for FY 2021 and FY 2022. Costs were based upon existing public works expenses and projected new expenses. Portions of debt service from previously financed public works equipment was also allocated to the stormwater budgets. The resulting budgets are depicted in the below table:

**TABLE 2**  
**Initial Stormwater Budgets**

	<b>2021</b>	<b>2022</b>
<b>SALARIES AND BENEFITS</b>	<b>\$83,514</b>	<b>\$123,433</b>
<b>PROFESSIONAL SERVICES</b>	<b>0</b>	<b>50,000</b>
<b>MAINTENANCE AND REPAIRS</b>	<b>5,000</b>	<b>15,000</b>
<b>SUPPLIES</b>	<b>1,900</b>	<b>8,500</b>
<b>TRAVEL AND TRAINING</b>	<b>1,000</b>	<b>1,750</b>
<b>OTHER</b>	<b>1,500</b>	<b>3,350</b>
<b>PUBLIC OUTREACH</b>		<b>1,000</b>
<b>TOTAL OPERATING EXPENDITURES</b>	<b>92,914</b>	<b>203,033</b>
<b>DEBT SERVICE</b>	<b>16,133</b>	<b>34,278</b>
<b>CAPITAL OUTLAY</b>		
<b>TOTAL EXPENDITURES</b>	<b>\$109,047</b>	<b>\$237,311</b>

The largest expenditure in both budgets is Salaries and Benefits. Professional services are not planned in FY 2021 but is expected to cost approximately \$50,000 in FY2022 to include engineering and mapping services. Similarly, Maintenance and Repairs and Supplies will increase significantly in FY 2022 due to growth of the program. The program will more than double its costs between FY 2021 and FY 2022 with an overall budget of approximately \$237,000.

The program has one debt allocated to it in FY 2021. The debt was used to fund a leaf vacuum. It requires payments of \$15,064 through FY 2026 followed by a final payment of \$11,298 in FY 2027. Five additional loans will be partially allocated between the general fund and the stormwater program beginning in FY 2022. The loans are for the purchase of a backhoe, dump truck, a pickup, jet vac, and a push cam. The pickup truck loan will mature in FY 2024 and the push cam loan will mature in FY 2026. The remaining loans will mature in FY 2027 leaving no outstanding stormwater debt in FY 2028. Consequently, some financial capacity will become available to the program seven years from now and will be considered in the 10-year financial analysis. A summary of the existing debt packages is shown in Table 3.

**TABLE 3**  
**CITY OF LOWELL - STORMWATER FUND**  
**EXISTING DEBT SUMMARY**

NAME	YEAR 1 2022	YEAR 2 2023	YEAR 3 2024	YEAR 4 2025	YEAR 5 2026	YEAR 6 2027	YEAR 7 2028	YEAR 8 2029	YEAR 9 2030	YEAR 10 2031
BACKHOE (40%)	6,219	6,219	6,219	6,219	6,219	6,219				
F-750 Dump Truck (40% SW)	4,710	4,710	4,710	4,710	4,710	4,710				
Chevy 3500 (40% SW)	4,183	4,183	4,183							
Leaf Vacuum (100% SW)	15,064	15,064	15,064	15,064	15,064	11,298				
Jet Vac (25% SW)	2,801	2,801	2,801	2,801	2,801	2,801				
Push Cam (50% SW)	1,301	1,301	1,301	1,301	976					
<b>TOTAL</b>	<b>34,278</b>	<b>34,278</b>	<b>34,278</b>	<b>30,095</b>	<b>29,770</b>	<b>25,028</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Financial Analysis

Each of the columns in the financial model shown in Table 4 represents the City's proposed stormwater revenue and expenditures for a specific fiscal year. Revenues and expenditures from the current fiscal year appear in a column on the left side of the table followed by adjacent columns on the right showing projections for the following ten years. Each row in the table shows a revenue or expense line item from the projections. Revenues are listed in the top portion of the table followed by operating expenses, capital outlays, and debt payments.

After discussions with City staff, it is assumed that impervious surfaces and fee revenue will increase at an average annual rate of 3% over the next five years followed by 2% average annual growth thereafter. Regarding expenditures, salaries and benefits are projected to increase by an average annual rate of 4% and most other expenditure categories are projected to increase at an average annual rate of 3%. Additionally, one new position is projected to be added in FY 2023 at an additional cost of \$50,000. Supplies expense is also expected to increase to \$20,000 by FY 2024 and grow at a rate of 15% per year thereafter. Though the program has yet to establish a capital improvements plan, capital outlay has been assumed by City staff to average \$50,000 per year.

Several notable line items are highlighted in yellow including capital outlay, debt, and new revenue sources. Also highlighted are each fiscal year's net income or loss followed by projected fund balances. The proposed stormwater revenue over the next ten years is also highlighted in the table. These revenues are high enough to yield feasible operations for the fund, yet not so high as to create excessive fund balance or violate statutes. The impacts on the fund are summarized in Chart 5.

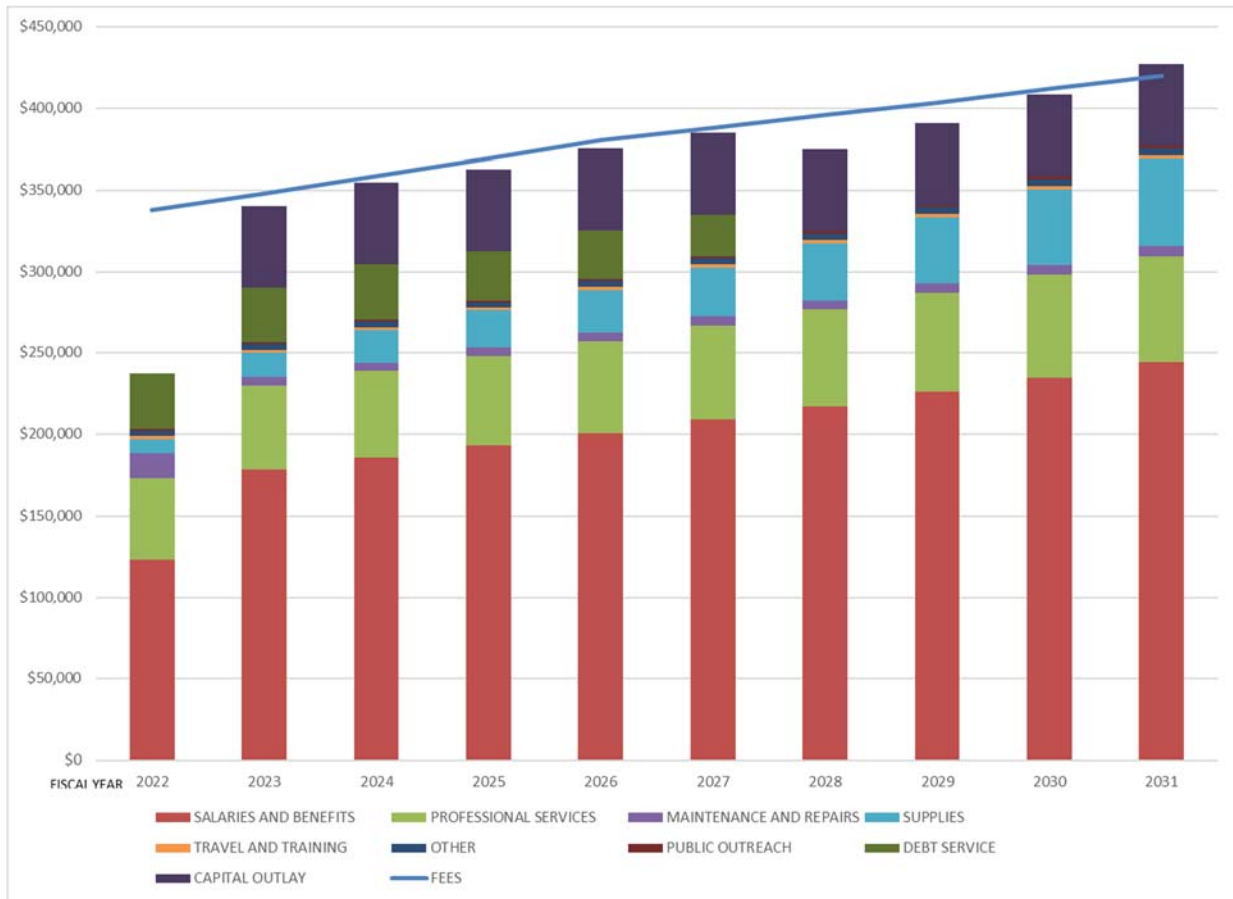


**TABLE 4**  
**CITY OF LOWELL STORMWATER PROGRAM**  
**FINANCIAL ANALYSIS WITH 50K ANNUAL CAPITAL OUTLAY**

LINE ITEM	BUDGET 2021	YEAR 1 2022	YEAR 2 2023	YEAR 3 2024	YEAR 4 2025	YEAR 5 2026	YEAR 6 2027	YEAR 7 2028	YEAR 8 2029	YEAR 9 2030	YEAR 10 2031
<b>REVENUES:</b>											
FEES		337,919	348,057	358,498	369,253	380,331	387,938	395,696	403,610	411,683	419,916
<b>NEW SOURCES OF REVENUE:</b>											
REVENUE FROM FEE INCREASE			0	0	0	0	0	0	0	0	0
PERCENTAGE INCREASE			0%	0%	0%	0%	0%	0%	0%	0%	0%
TOTAL REVENUES	0	337,919	348,057	358,498	369,253	380,331	387,938	395,696	403,610	411,683	419,916
<b>EXPENDITURES:</b>											
SALARIES AND BENEFITS	83,514	123,433	178,371	185,506	192,926	200,643	208,669	217,015	225,696	234,724	244,113
PROFESSIONAL SERVICES	0	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239
MAINTENANCE AND REPAIRS	5,000	15,000	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334
SUPPLIES	1,900	8,500	15,000	20,000	23,000	26,450	30,418	34,980	40,227	46,261	53,200
TRAVEL AND TRAINING	1,000	1,750	1,803	1,857	1,912	1,970	2,029	2,090	2,152	2,217	2,283
OTHER	1,500	3,350	3,451	3,554	3,661	3,770	3,884	4,000	4,120	4,244	4,371
PUBLIC OUTREACH		1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305
TOTAL OPERATING EXPENDITURES	92,914	203,033	256,154	270,172	282,532	295,698	309,749	324,778	340,889	358,200	376,845
DEBT SERVICE	16,133	34,278	34,278	34,278	30,095	29,770	25,028	0	0	0	0
CAPITAL OUTLAY			50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
TOTAL EXPENDITURES	109,047	237,311	340,431	354,450	362,627	375,467	384,777	374,778	390,889	408,200	426,845
NET INCOME	-109,047	100,608	7,625	4,049	6,626	4,864	3,161	20,918	12,721	3,482	-6,929
FUND BALANCE		100,608	108,233	112,282	118,908	123,772	126,933	147,851	160,572	164,055	157,126
FUND BALANCE / TOTAL EXPENDITURES		42.39%	31.79%	31.68%	32.79%	32.96%	32.99%	39.45%	41.08%	40.19%	36.81%
STORMWATER MONTHLY FEE		\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.75
STORMWATER ANNUAL FEE		\$ 81.00	\$ 81.00	\$ 81.00	\$ 81.00	\$ 81.00	\$ 81.00	\$ 81.00	\$ 81.00	\$ 81.00	\$ 81.00

**ASSUMPTIONS:**  
3% AVERAGE ANNUAL SYSTEM GROWTH DURING YEARS 2-5, 2% AVERAGE ANNUAL SYSTEM GROWTH DURING YEARS 6-10.  
OPERATING EXPENDITURES INCREASE BY AVERAGE ANNUAL RATES OF 3% TO 4%.

**Chart 5  
Projected Revenues and Expenditures**



A proposed new stormwater fee based upon the City's impervious surface database will help the City fund the proposed operating costs while minimizing general fund subsidy.

## Fee Modeling and Findings

The following considerations were made with City staff when developing a stormwater fee for FY 2022:

- Residential parcel owners would pay the same fixed fee each month regardless of impervious surface. Non-residential parcels pay a multiplier of the residential fee by dividing each impervious surface by the residential average or ERU (Equivalent Residential Unit) of 2,827 square feet. For example, a nonresidential parcel with double or 5,654 square feet of impervious surface would pay double the residential fee.
- A monthly fee of \$6.75 charged to residential parcels generates \$115,000 in the first year. The fee as an ERU applied to nonresidential parcels generates approximately \$223,000. The combined total is approximately \$338,000.
- Nonresidential parcel owners as a group would pay significantly more than residential parcel owners because their parcels usually contain significantly more impervious surface and typically generate significantly more stormwater runoff.

- The top ten nonresidential parcel owners would pay nearly 50% of all nonresidential fee revenue.
- The top ten nonresidential parcel owners pay a combined total of \$106,156 annually, equivalent to 1,310 residential parcels.
- Area municipalities charge monthly stormwater fees that range from \$1.80 to \$15.44 and average \$4.57, as shown in Table 5. However, any comparison of fees should consider how thoroughly each municipality addresses its stormwater needs, whether the fee fully supports stormwater operations, and NPDES requirements through its Levels of Service.

**Table 6  
Area Municipality Stormwater Fees**

<b>NAME</b>	<b>3000 SQ FT FEE</b>
CHARLOTTE	\$ 15.44
PINEVILLE	\$ 5.59
MECKLENBURG CO	\$ 5.15
BELMONT	\$ 5.00
CORNELIUS	\$ 4.80
HUNTERSVILLE	\$ 4.80
DALLAS	\$ 4.52
GASTONIA	\$ 3.25
BESSEMER CITY	\$ 3.07
CRAMERTON	\$ 3.00
KINGS MTN	\$ 2.50
MT HOLLY	\$ 2.50
SHELBY	\$ 2.50
RANLO	\$ 1.80

To analyze the proposed stormwater fees and, a fee model was created that shows the impact of various fee modifications. In proposing new fees, the objectives are to establish a financially sustainable fund yet not create excessive fund balances.

## Outcomes

As a result of the analysis, a stormwater fee of \$6.75 is proposed to begin financing system growth, inflation, and future capital needs. The proposed fee will maintain a minimal fund balance, support initial capital needs, and address growing operating costs while considering growth within the City.

## Conclusions

The Stormwater program currently recovers its system costs through general fund revenue. However, a more equitable method is to charge a stormwater fee which can be greater for those that potentially contribute more stormwater runoff from their parcels. The proposed stormwater fee will prepare for the phase-in of new operating and capital costs associated with a forthcoming capital improvements plan. The cost increases are estimated from City staff and the stormwater management plan and projections of future events. Since the program is in its initial development, it is recommended that the City review the assumptions and calculations each year using updated information to determine if adjustments are required to meet established financial objectives.