

City Council Workshop

November 5, 2018



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Item 2

Presentation of the Stormwater
Advisory Committee's Final Report
to include the Stormwater Utility
Rate Study



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Stormwater Management

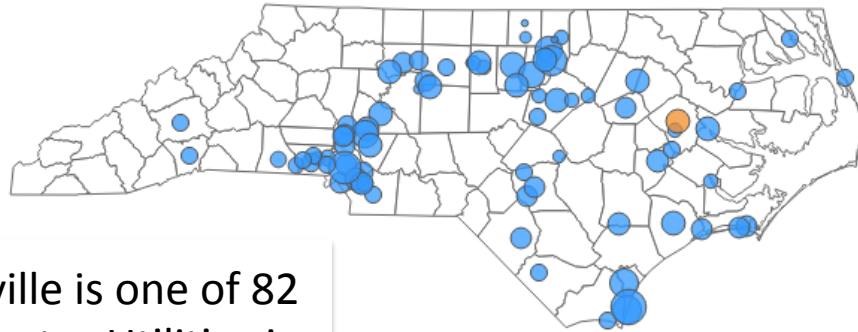
Recommendations of the Stormwater Advisory Committee

November 5, 2018



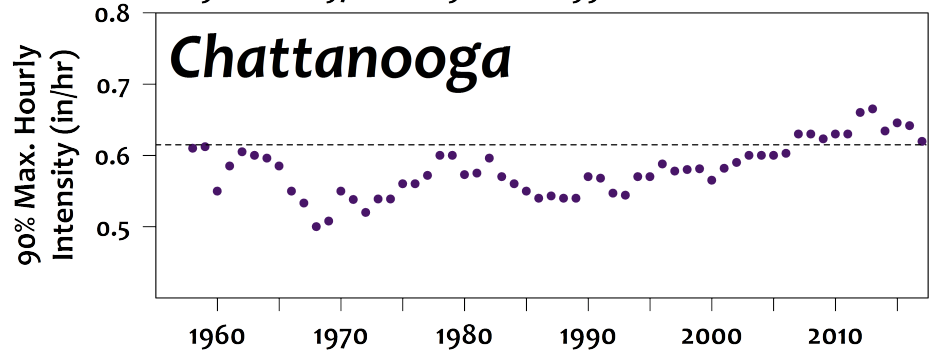
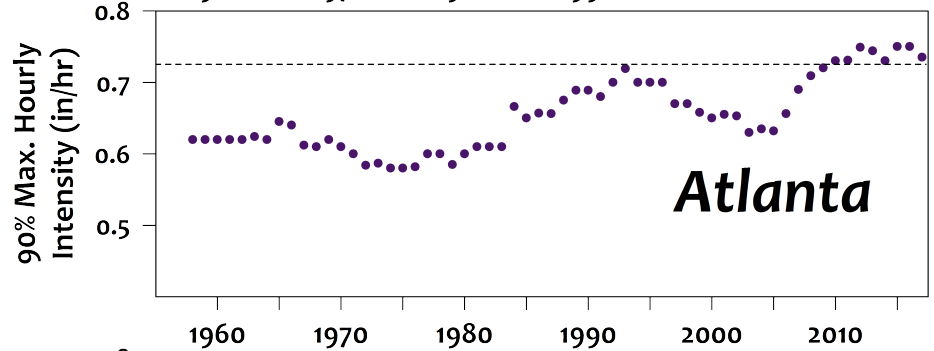
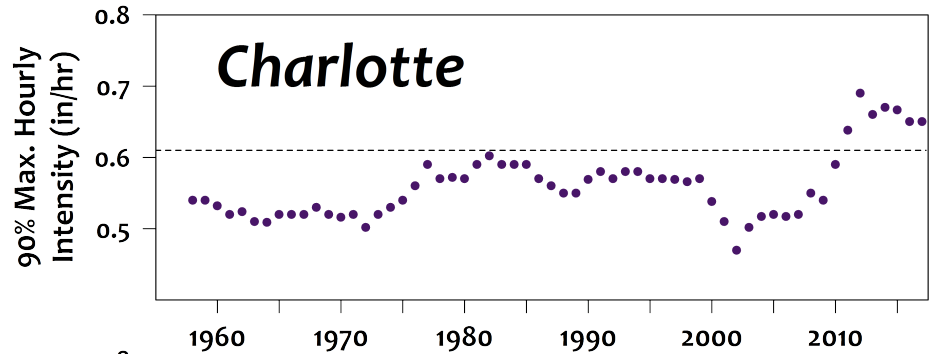
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Stormwater Utilities in NC



Greenville is one of 82
Stormwater Utilities in
North Carolina

Increasing Storm Intensity



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Study Process

- Storm Water Advisory Committee (SWAC) developed by City Council to review the City's Stormwater program and utility
- Enlisted a consultant team to:
 - Examine stormwater program needs
 - Develop funding options for consideration
 - Prepare a report summarizing the outcome



SWAC Members

- Tom Best, Chairman
- Drake Brinkley, Vice Chairman
- Donnie Brewer, PE
- Matt Butler
- Michelle Clements, PE
- Jon Day
- Don Edwards
- Joni Torres
- Beth Ward
- Landon Weaver
- Cassius Williams

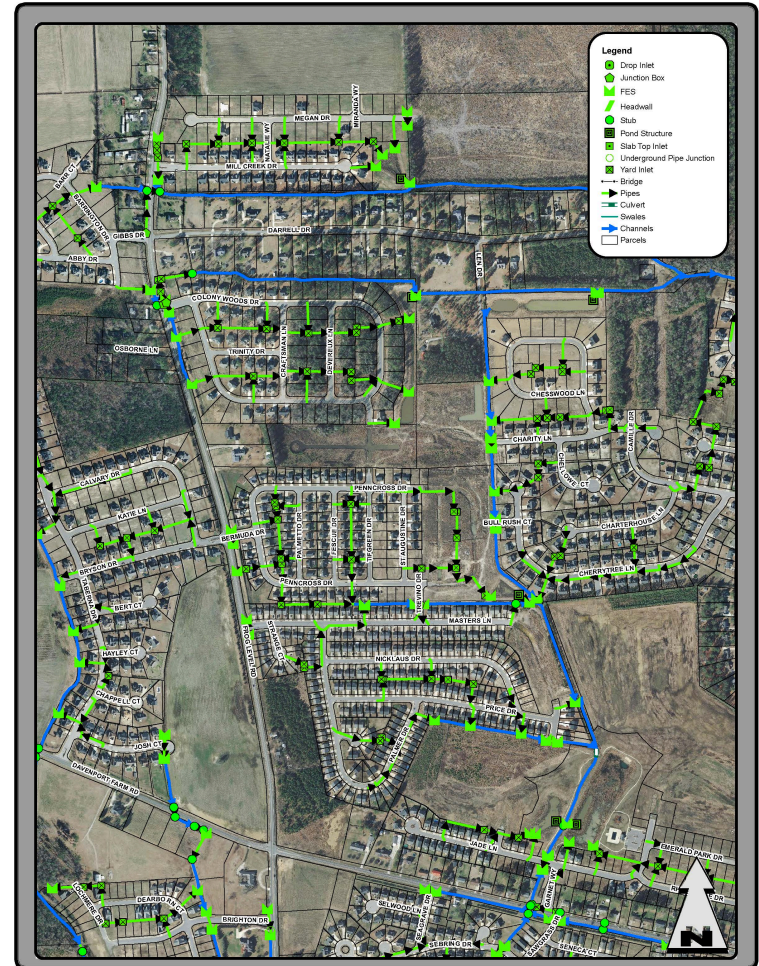


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Major SWAC Topics

- Extent of Service – where & what
- Level of Service – type, frequency, wait time
- Capital Project Prioritization
- Financial Analysis – fee structure and rates required to meet needs
- Ordinance/Policy recommendation

Stormwater Collection System



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Current Drainage System

- 237 Miles of Storm Drainage Pipes
- 17,000 Structures
- 97 Culverts (typically under roadways)
- 2913 Outfalls (where pipes discharge)
- 95 Miles of City Maintained Open Drainage



System Understanding

Unlike many other communities
Greenville has;

- Complete inventory of the system, and
- Watershed Master Plans identifying system needs

Allows full understanding of needs
and associated costs



Extent of Service Evaluation

Extent of Service – (What/Where)

- Public vs Private Property
- Geographical Boundaries (City, ETJ and beyond)
- Components of System - Streams, pipes, lakes, stormwater control measures (BMP/SCM's)

Public Water



Current City Policy

- Within City ROW/Public Property
 - City maintains all infrastructure
- Outside of Right of Way
 - Limited Maintenance (repairs/improvements)
 - Drainage Assistance Program (Piping)
 - Ditch and Stream Stabilization Program
 - Must Convey “Public” Runoff

Extent of Service Challenges

- A narrow extent of service may not be able to serve the community/citizen expectations
- Broad extent of service may not be financially sustainable
- Considered the current extent of service vs the desired extent of service



Public vs Private Property

- 20-30 yrs ago, most NC cities only maintained inside the ROW
- Cary, Asheville, & Wilmington still maintain only within ROW
- Others now provide some service on private property due to:
 - Aging infrastructure and inability to pay for repairs
 - Pressure/expectations due to SW Utility Fees



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Drainage on Private Property

Options SWAC Considered:

- Continue with the current policy with clarifications
- Consider modifications to the current limitations/extent
- Take over maintenance of private and public systems



SWAC Recommendation:

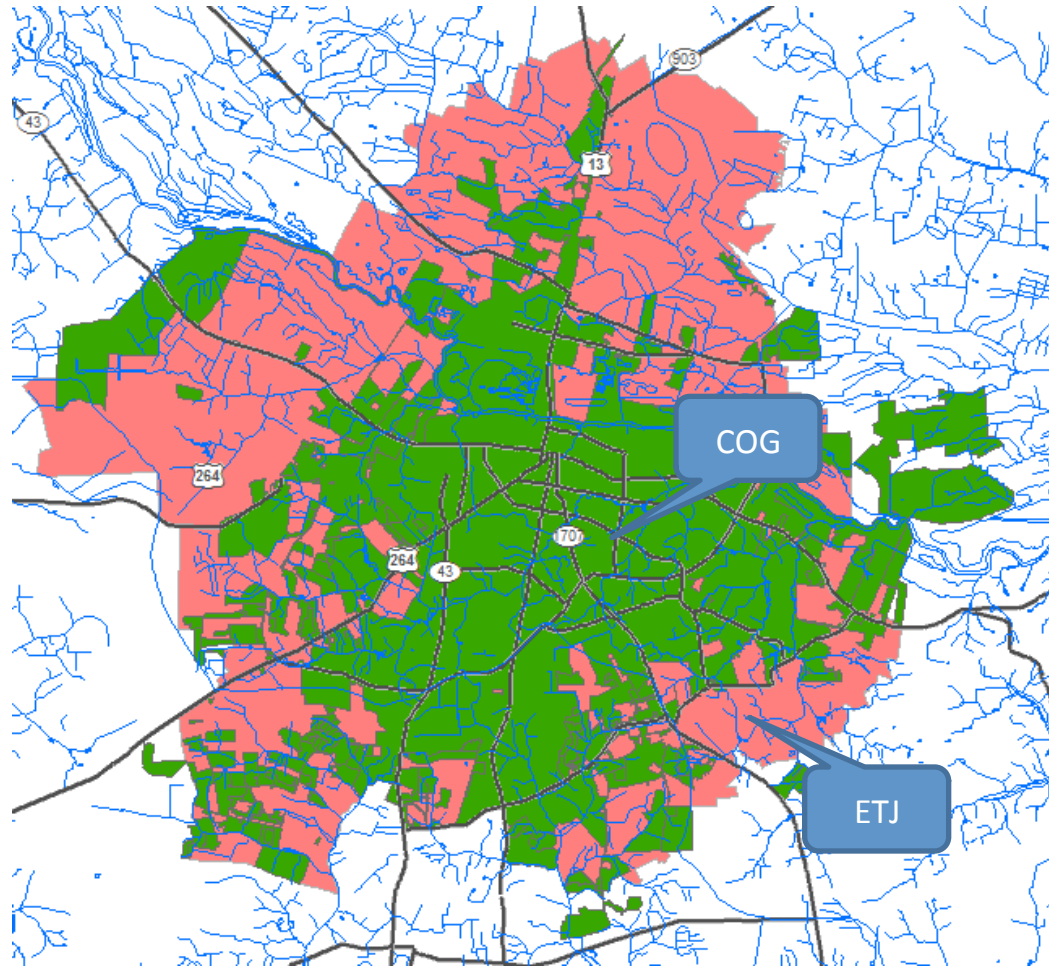
- The City should maintain the drainage system that conveys public water (not including private BMP's ponds, dams, etc.)
- "Public" Water – stormwater runoff from improved publicly owned rights-of-way



City Limits vs ETJ

- Currently the City does not maintain the drainage system outside of the City limits.
- City accepts drainage system for maintenance when annexed into City





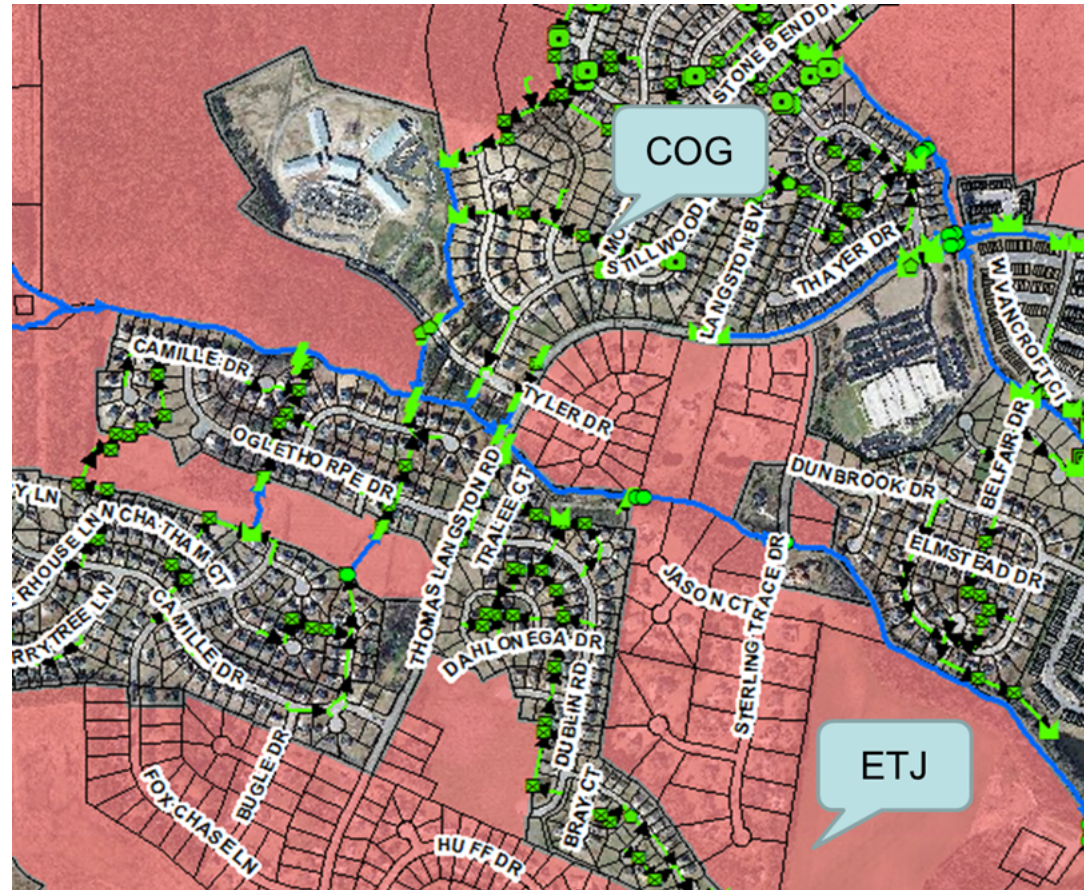
City Limits vs ETJ

Where might limited City maintenance be appropriate?

- NCDOT roadways where City interests are impacted
- Where drainage crosses ETJ back into City limits



City Limits vs ETJ



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SWAC Recommendation:

- Limited maintenance in the ETJ

“The city may, at its own discretion, accept responsibility for or assist in the repair or improvement of storm drainage infrastructure located outside of the city’s corporate limits where the City Engineer has determined that there is a direct benefit to the City and its residents.”

Private BMP/SCM Maintenance

Some communities accept maintenance due to:

- Challenge in getting owners to maintain (HOA's)
- Some cities only assist in repair in event of failure



SWAC Recommendation:

No maintenance of private BMP's
(may consider at a later date)



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Level of Service

- Type and magnitude of benefits derived from the City's Stormwater Program
- Can be used to evaluate the performance of stormwater programs
 - Is the program adequate or should the level of service be increased?
- For review, stormwater program broken down into 3 major components

Major Components

- Program Management – Administration & Management, Engineering Operations, and Regulatory Compliance
- Operation and Maintenance - Day to day maintenance of the drainage system
- Capital Improvement - Large investments in drainage improvements



Evaluating Level of Service

Grading system employed

- "A" thru "E"
- For each program category, the stakeholder group and staff considered the current grade & if a higher or lower grade was desired
- Individual results compiled and compared

Program Management

Activities include:

- Administration - billing, finance, auditing, citizen concerns
- Engineering Operations - strategic and master planning, design, project management, streambank stabilization, asset management and system inventory
- Regulatory Compliance - development review, inspection, NPDES permit programs, floodplain regulation



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Program Management

- Proactive vs. Reactive Management
- Upfront investment will save on Capital Expenditures (CIP)
 - Construction inspection to ensure correct design and installation
 - Floodplain regulation to keep improvements out of harm's way
 - Asset management to identify needs



Program Management Category

| Level of Service Grade | Program Management and Regulatory Compliance |
|------------------------|--|
| A | Comprehensive program planning, aggressive state and federal regulatory compliance that exceeds minimum requirements in all cases, state of the art practices, full program implementation |
| B | Basin master planning, above average state and federal regulatory compliance that exceeds minimum requirements in most cases, systematic program implementation |
| C | Limited planning, average state and federal regulatory compliance that exceeds minimum requirements in some cases, priority program implementation |
| D | Minimal planning, minimum required state and federal compliance, partial program implementation |
| E | No planning, minimum required state and federal compliance, minimal program implementation |

SWAC's
desired level
of service is B



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Program Management SWAC Recommendation

Recommended Level B

- Regular master plan updates
- Inspection of 50% of new infrastructure
- Routine condition assessment of infrastructure (20-yr cycle)
- Staff for inspections and asset mgmt.
- Staff to manage the utility billing/revenue



Operation & Maintenance (O&M)

Activities Include:

- Inspection, cleaning, repairs to – inlets, pipes, roadway culverts, bridges, ditches, public dams & stormwater controls
- Stream inspection and clearing of vegetation and sediment to maintain flow and prevent flooding



O&M

- Includes up front cost for proactive maintenance for staff and equipment
- Proactive maintenance provides long term cost savings
 - Reduction in damages during storm events
 - Rehabilitation and maintenance costs less than replacement



O&M Category

| Level of Service Grade | Operations and Maintenance |
|------------------------|---|
| A | Fully preventative and proactive maintenance, state of the art practices |
| B | Fully routine and partially inspections based maintenance |
| C | Limited routine maintenance, limited inspection based maintenance, partially reactive maintenance |
| D | No routine or inspection based maintenance, reactive maintenance only |
| E | Limited reactive maintenance |

SWAC's desired level of service is B



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SWAC Recommendations for O&M:

Recommended Level B for Operations & Maintenance

- Clean/inspect all culverts twice per year
- Clean/inspect all open channels annually
- Clean/inspect all inlets every 2.5 yrs
- Clean/inspect all pipes every 10 yrs
- Add staff, vehicles, equipment & materials (open/closed system)

Capital Improvement

Capital Projects

- Major improvements (Town Creek Culvert)
- Reduce Flooding & Improve Water Quality
- Per Watershed Master Plan



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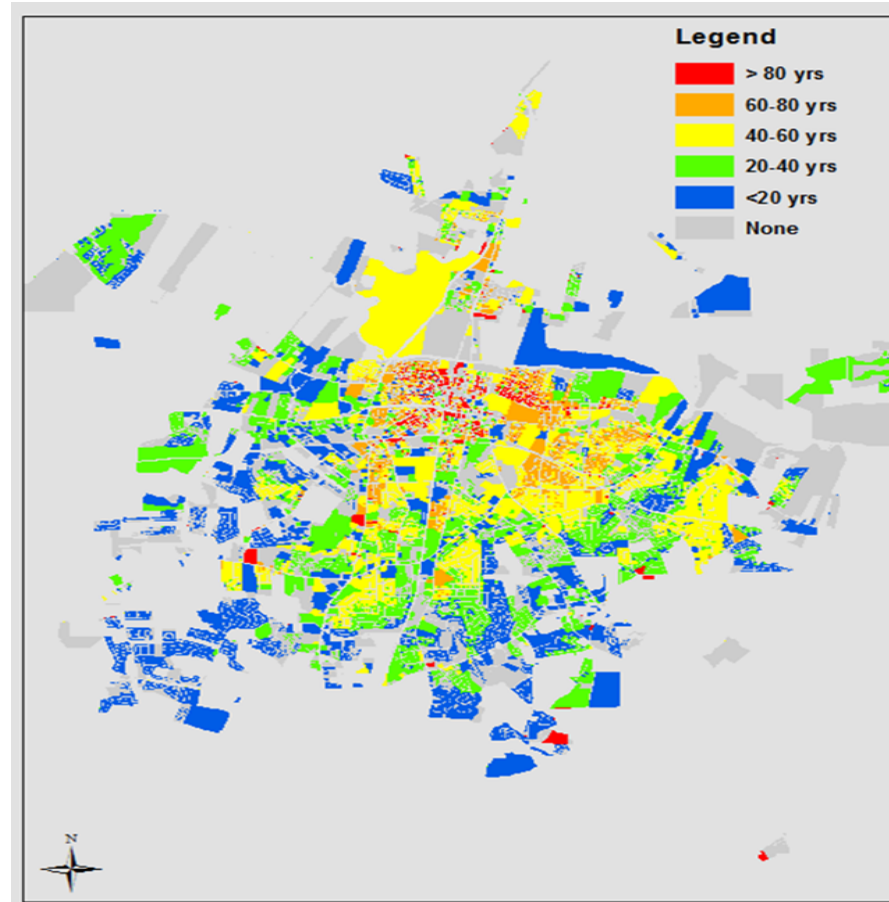
Capital Improvement

Capital Replacement

- Replace infrastructure at end of useful life (forecasted 40-yr life)
- Proactively manage aging assets and develop a sustainable stormwater program similar to water/sewer and electric utilities
- Most SW utilities defer that need but will pay for eventually



Stormwater Infrastructure - Age



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Capital Improvement Needs

Total Capital Costs \$ 150-170M

- Flood Control Primary \$ 80-95M
- Flood Control Secondary \$ 40M
- Streambank Stabilization \$ 12.5M
- Water Quality \$ 20.5M



Capital Replacement Needs

Replacement of pipes and structures based on a 40-year life cycle

| | Full Life Cycle Costs | Annual Costs |
|-------------------------|-----------------------|--------------------|
| Pipes | \$219M | \$5,475,000 |
| Structures | \$51M | \$1,275,000 |
| Less Secondary projects | -\$40M | -\$1,000,000 |
| Total Costs | \$230M | \$5,750,000 |



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CIP Category

| Level of Service Grade | Capital Improvement (CIP) |
|------------------------|---|
| A | All known CIP needs completed in 10 years |
| B | All known CIP needs completed in 20 years |
| C | All known CIP needs completed in 30 years |
| D | All known CIP needs completed in 40 years |
| E | All known CIP needs completed in 50 years |

SWAC's desired level of service is B/C



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SWAC Recommendation for CIP:

- No specific service level selected
- Recommended an increase in CIP funding for implementing high priority projects and for replacement of aging infrastructure
- The Predicted Financial Impact is presented in the following section

Corresponding Stormwater Program Needs – Summary

| | Impact |
|---|-----------------------|
| Maintain private carrying public runoff | minimal |
| Limited service in ETJ | minor |
| Increase LOS for Program Mgmt. | \$296,000 annual |
| Increase LOS for O & M | \$1,166,000 annual |
| Currently identified CIP needs | \$170M total (25 yrs) |
| Cost to replace aging infrastructure | \$230M total (40 yrs) |

Note: Costs are associated with desired increase in LOS and not expansion of the extent of the system

Revenue Requirements



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NC Peer Communities

Residential Customers 2018 Monthly Rates*

- Carolina Beach - \$12.10
- Charlotte - \$10.28
- Creedmore \$8.92
- Kure Beach - \$8.71
- Wilmington - \$8.11

* Rates for a residential property with 2,000 sq. ft. of impervious area

NC Peer Communities

Residential Customers 2018 Monthly Rates*

| | |
|------------------|--------|
| – Stem - | \$7.33 |
| – Kannapolis - | \$7.25 |
| – Durham - | \$6.75 |
| – Hillsborough - | \$6.25 |
| – Butner - | \$5.58 |

* Rates for a residential property with 2,000 sq. ft. of impervious area

NC Peer Communities

Residential Customers 2018 Monthly Rates*

| | |
|------------------|--------|
| – Washington - | \$5.50 |
| – Chapel Hill - | \$5.36 |
| – Greenville - | \$5.35 |
| – Jacksonville - | \$5.00 |
| – Rocky Mount - | \$5.00 |

* Rates for a residential property with 2,000 sq. ft. of impervious area

| Revenue Requirements | FY2018 | FY2019 | FY 2020 | FY2021 | FY2022 | FY2023 | FY2024 |
|---|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Project Management | \$2,444 | \$1,333 | \$1,694 | \$1,838 | \$1,866 | \$1,891 | \$1,918 |
| Operations and Maintenance | \$1,475 | \$1,785 | \$2,101 | \$2,419 | \$2,476 | \$2,529 | \$2,585 |
| Capital | \$2,010 | \$4,221 | \$4,435 | \$5,823 | \$7,474 | \$9,788 | \$12,146 |
| Total Revenue to be Recovered from Rates | \$5,929 | \$7,339 | \$8,230 | \$10,080 | \$11,816 | \$14,208 | \$16,649 |



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*units in thousands

Funding Sources and Revenue Options



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SWAC Recommendations:

- Rate structure change (1 change)
- Policy changes (3 changes)
 - The rate structure change and the policy changes are expected to result in approximately an additional \$1.1 million in revenue
- Rate change (increase rates)



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Rate Structure and Policy Changes

- Rate Structure Change
 - Include a fixed administrative charge to all rate payers of \$1.20 per month
- Policy Changes
 - Implement a 1 ERU minimum charge per unit for multi-unit buildings
 - Collaborate with GUC to identify strategies and billing practices for stormwater only rate payers
 - Develop a reserve fund for emergencies



SWAC Recommended Utility Rates:

Increase utility rates over a 6-year period to reach the targeted amount using rounded rates as described in the table below

| Rate Calculation | Current Rates | Recommended Rate (FY2024) |
|-------------------------------|---------------|---------------------------|
| Administrative rate per month | \$0.00 | \$1.20 |
| Rate per ERU per month | \$5.35 | \$14.00 |
| Total Rate | \$5.35 | \$15.20 |



SWAC Recommendations - Stormwater Utility Budget

| | Current | Recommended Rates (FY2024) |
|----------------------------|----------------|----------------------------|
| Project Management | \$2,444 | \$1,918 |
| Operations and Maintenance | \$1,475 | \$2,585 |
| Capital | \$2,010 | \$12,146 |
| Total | \$5,929 | \$16,649 |

*units in thousands



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Capital Spending Plan



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Capital Spending Plan

Projects should be scheduled and prioritized based upon the following capital plan table



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Capital Priority Projects

St. Andrews Dr. Streambank
Stabilization – \$3,430,000

Elm St. Secondary System –

\$3,310,000

Arlington Blvd. Secondary System – \$1,540,000

Greens Mill Run Primary System – \$6,560,000



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Capital Priority Projects

| | |
|--------------------------------------|---------------|
| Swift Creek UT1 Primary System | – \$8,050,000 |
| Greenbriar Dr. Secondary System | – \$770,000 |
| Forest Hill Dr. Stream Stabilization | – \$820,000 |



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Additional On-Going Capital Project

Streambank Stabilization

Assistance Program – **\$200,000/yr**

Replacement of Existing
Infrastructure Condition

(On-call Repairs) – **\$1,500,000/yr**



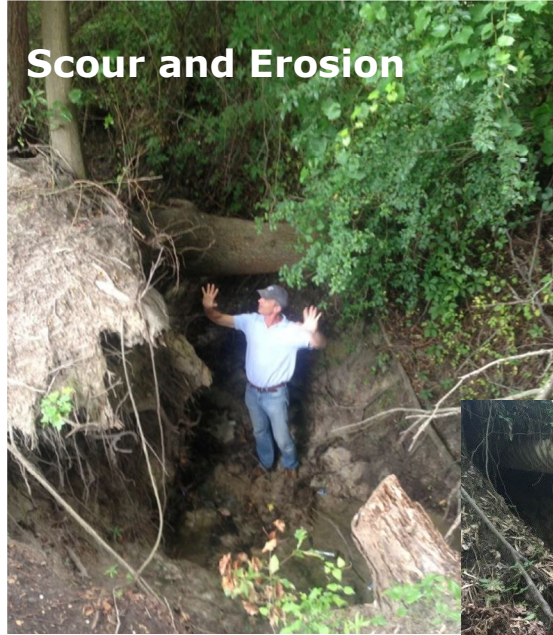
Capital Projects: St. Andrews Dr. Streambank Stabilization



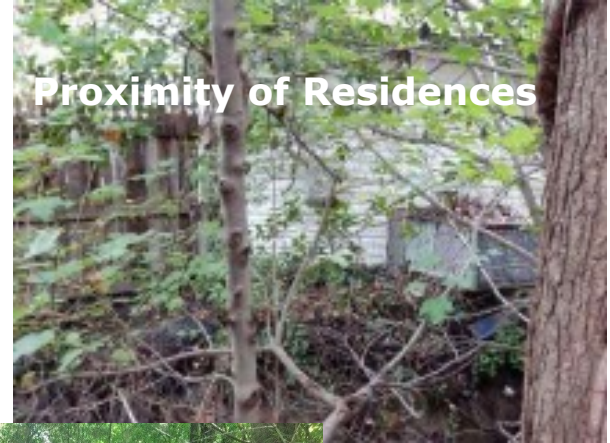
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St. Andrews Dr. Streambank Stabilization – Estimate \$3.4 million

Scour and Erosion



Proximity of Residences



Undermined Infrastructure



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Elm St. Secondary System – Est - \$3.3 million

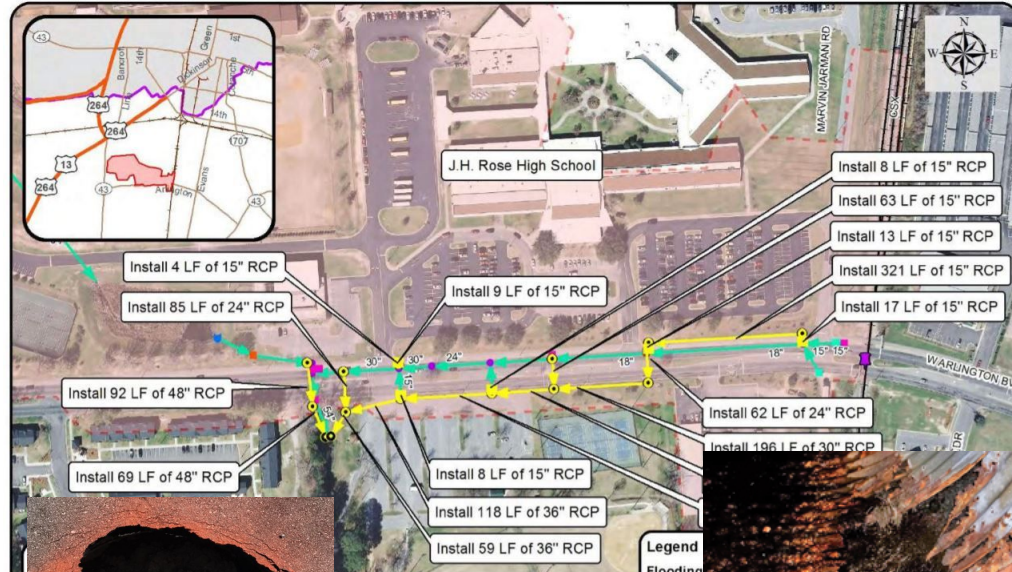


Pipe Failures



Sinkholes

Arlington Blvd. – Est \$1.5 million (underway)



Pipe Failures



Sinkholes

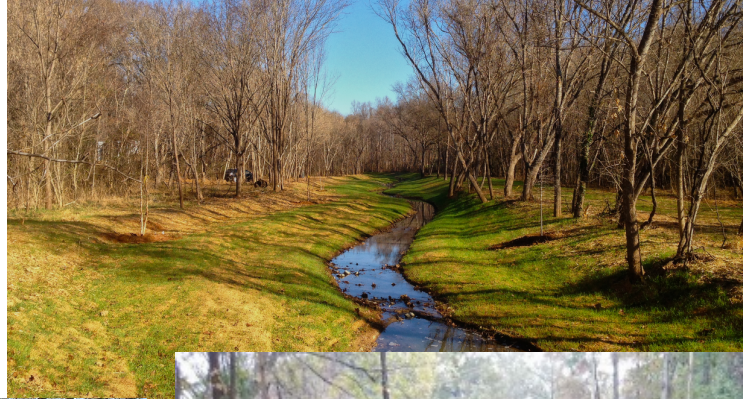


Greens Mill Run – \$6.6 million

Street and Property Flooding



Floodplain Benching



Stream Stabilization



Culvert Upgrades



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**Thank you to the
SWAC for their
dedication and time**



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Pocket Slides



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Options to Reduce Costs

- Regulations to reduce future problems
 - Downstream impacts (10% rule)
 - Limit development in floodplain (Raleigh 50%)
- Proactive inspection and maint.
- Stop maintaining on private property
- Reduce level of service

Stormwater Utility Cash Flow – SWAC Recommendations

| Stormwater Fund | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | FY 2025 | FY 2026 | FY 2027 |
|---------------------------------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Beginning Balance | \$ 4,800,238 | \$ 4,661,810 | \$ 3,171,458 | \$ 2,110,325 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 |
| Source of Funds | | | | | | | | | | |
| Rate Revenues | \$ 5,790,570 | \$ 5,848,476 | \$ 7,167,387 | \$ 9,469,352 | \$ 11,816,641 | \$ 14,209,928 | \$ 16,649,899 | \$ 16,816,398 | \$ 16,984,562 | \$ 17,154,407 |
| Revenue Adjustments | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Other Operating Revenue | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Non-Operating Revenue | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Debt Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Interest Income | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total - Sources of Funds | \$ 5,790,570 | \$ 5,848,476 | \$ 7,167,387 | \$ 9,469,352 | \$ 11,816,641 | \$ 14,209,928 | \$ 16,649,899 | \$ 16,816,398 | \$ 16,984,562 | \$ 17,154,407 |
| Uses of Funds | | | | | | | | | | |
| Stormwater Administration | \$ 1,781,627 | \$ 533,868 | \$ 535,583 | \$ 535,624 | \$ 535,625 | \$ 535,625 | \$ 535,625 | \$ 535,625 | \$ 535,625 | \$ 535,625 |
| Stormwater Street Maintenance | \$ 1,459,986 | \$ 1,506,585 | \$ 1,554,844 | \$ 1,604,828 | \$ 1,656,606 | \$ 1,710,248 | \$ 1,765,829 | \$ 1,823,426 | \$ 1,883,120 | \$ 1,944,994 |
| Stormwater Buildings & Grounds | \$ 15,000 | \$ 15,000 | \$ 15,000 | \$ 15,000 | \$ 15,000 | \$ 15,000 | \$ 15,000 | \$ 15,000 | \$ 15,000 | \$ 15,000 |
| Stormwater Engineering | \$ 662,291 | \$ 681,221 | \$ 700,761 | \$ 720,932 | \$ 741,757 | \$ 763,261 | \$ 785,469 | \$ 808,405 | \$ 832,099 | \$ 856,576 |
| Engineering Operational - New | \$ - | \$ 118,080 | \$ 238,522 | \$ 359,010 | \$ 361,420 | \$ 361,468 | \$ 361,469 | \$ 361,469 | \$ 361,469 | \$ 361,469 |
| Maintenance Operational - New | \$ - | \$ 262,800 | \$ 530,856 | \$ 799,017 | \$ 804,380 | \$ 804,488 | \$ 804,490 | \$ 804,490 | \$ 804,490 | \$ 804,490 |
| Stormwater Engineering - New Override | \$ - | \$ - | \$ 218,000 | \$ 222,360 | \$ 226,807 | \$ 231,343 | \$ 235,970 | \$ 240,690 | \$ 245,503 | \$ 250,413 |
| Existing Debt Service | \$ 481,274 | \$ 481,274 | \$ 481,274 | \$ 2,053,106 | \$ 2,320,938 | \$ 2,320,938 | \$ 2,320,938 | \$ 2,320,938 | \$ 2,320,938 | \$ 2,320,938 |
| Proposed Debt Service | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Rate Funded Capital | \$ 1,528,820 | \$ 1,605,261 | \$ 1,685,524 | \$ 1,769,800 | \$ 1,858,290 | \$ 1,951,205 | \$ 2,048,765 | \$ 2,151,203 | \$ 2,258,763 | \$ 2,371,702 |
| Fund Balance Capital | \$ - | \$ 2,134,739 | \$ 1,268,157 | \$ - | \$ 295,817 | \$ 1,516,351 | \$ 2,776,344 | \$ 1,755,151 | \$ 1,727,555 | \$ 1,693,200 |
| Additional Capital | \$ - | \$ - | \$ 1,000,000 | \$ 2,000,000 | \$ 3,000,000 | \$ 4,000,000 | \$ 5,000,000 | \$ 6,000,000 | \$ 6,000,000 | \$ 6,000,000 |
| Total - Use of Funds | \$ 5,928,998 | \$ 7,338,828 | \$ 8,228,520 | \$ 10,079,677 | \$ 11,816,641 | \$ 14,209,928 | \$ 16,649,899 | \$ 16,816,398 | \$ 16,984,562 | \$ 17,154,407 |
| Ending Balance | \$ 4,661,810 | \$ 3,171,458 | \$ 2,110,325 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 | \$ 1,500,000 |
| Total Capital | \$ 1,528,820 | \$ 3,740,000 | \$ 3,953,681 | \$ 3,769,800 | \$ 5,154,107 | \$ 7,467,556 | \$ 9,825,109 | \$ 9,906,354 | \$ 9,986,318 | \$ 10,064,902 |



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Minimum and Vacant Unit Charges

- Vacant Units
 - The City should attempt to work with GUC to charge vacant units for the stormwater fee
 - There is some uncertainty in whether implementing this billing policy change will be feasible, so the revenue impact from vacant units was conservatively modeled
- Minimum Charge of 1 ERU
 - There should be a minimum 1 ERU charge so that all units are charged at least 1 ERU



Fixed Administrative Charge

- The group agreed that there should be a fixed administrative charge.
- Each line item was allocated to either the administrative charge or the impervious area charge.
- Items allocated to the administrative charge are costs that are constant on a per parcel basis regardless of how much impervious area is on the parcel.



Other Considerations

- **CIP:** \$1,000,000/year set aside for CIP needs
- **Inflation:** Varies from 2% to 5% depending on the type of expense
- **Rate Base Growth:** 1% growth in equivalent residential units per year



Other Considerations

- **Collection Rate:** 92% collection rate on billed impervious area
- **Reserve Funds:** Fund balance shall not fall below \$1.5 million



Regulatory Climate

- External regulatory programs – Sediment Control Act; Phase 2 NPDES; Tar-Pam NSW
- Current political climate is “less government” so few if any significant new regulatory burdens are anticipated in the near future



Ordinance/Policy Revisions

Maintenance of infrastructure on non-City owned property

- SWAC recommended responsibility for those portions of the drainage system (excluding BMP's) that convey runoff from City property or "public water".
- The ordinance is unclear regarding what constitutes "public water"
- For clarity and consistency, recommend definition of "Public Water" be adopted



Ordinance/Policy Revisions

Maintenance of infrastructure outside of the City's Corporate Limits

- SWAC recommended responsibility for infrastructure outside of the City's Corporate Limits should be limited to those situations where there is a direct benefit to the City.
- Modify Subsection 9-9-14 (C) to read: "The City may at its own discretion, accept responsibility for or assist in the repair or improvement of storm drainage infrastructure located outside of the city's corporate limits where the City Engineer has determined that there is a direct benefit to the City and its residents."



Ordinance/Policy Revisions

Ordinance/Policy Changes not directly discussed by the SWAC but identified as additional potential changes to be considered)

- The City may want to consider converting the ordinances under Section 9-9-13 and 14 into Council Policies
 - more easily modified based on the current desires of the Council,
 - Council can approve variances to them should the need arise,
 - City cannot be held responsible for strict adherence to them.



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Ordinance/Policy Revisions

Clarify responsibility for natural streams –

- Section 9-9-14 establishes that the City will accept responsibility for necessary structures located within a City right-of-way in four (4) natural streams.
- Appears the intent was to accept responsibility for maintaining flow even on private property. May need to clarify that responsibility



Ordinance/Policy Revisions

Clarify the determining authority

- The ordinances under 9-9-13 & 14 vary in their reference to decisions by the Director of PW, City Engineer, and City Engineering Division.
- A single entity should be used throughout drainage related ordinances.



Ordinance/Policy Revisions

Billing and Rate Structure Modifications

- Several changes to the Code of Ordinances will be required to implement the billing and rate structure recommendations made by the SWAC.
- Section 8-3-2 Definitions
 - Add a definition for Administrative charge



Ordinance/Policy Revisions

Billing/Rate Structure Modifications

- Section 8-3-6 Schedule of Fees and Charges
 - Language added specifying the “Charge per Account” and referencing the Manual Fees where the fees are contained.
- Language added specifying a minimum charge of 1 ERU.
- Section 8-3-7 Billing and Collection
 - Language added should the City decide to bill for vacant units.



Maintained Streams

City responsible for maintenance of:

- Greens Mill Run,
- Fornes Branch, from Greens Mill Run to NC 43
- Reedy Branch, from Greens Mill Run to Greenville Boulevard; and
- Jurisdictional streams within the limits of a city drainage project.

City Maintenance is for flow of the stream.

Drainage Assistance Program

City participates in installation of pipes for existing ditches under certain conditions:

- <48" pipes / 300' minimum length
- Not a blue-line stream / in City Limits
- All owners participate / donated easements
- Owners pay materials
- Low Priority



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Drainage Assistance Program

City participates in repairs to failing pipes (sink holes, etc.) in limited cases

- Failure on private property will impact public property
- Repair beyond owner's capability
- Participation levels vary



Stormwater Needs

Engineering Operational: Includes inventory and assessment, new infrastructure inspection, asset management, and easement acquisition

| | Annual Costs |
|-------------------------------|------------------|
| Inventory and Assessment | \$188,000 |
| New Infrastructure Inspection | \$345,000 |
| Asset Management | \$123,000 |
| Easement Acquisition | TBD |
| Total Costs | \$656,000 |

Other Peer Communities

- Philadelphia
 - \$16.01 for residential properties (non-residential rate structure has an impervious area and gross area components)
- Seattle
 - Tiered residential based on parcel size
 - \$21.64 per month for a residential home located on a 2,000-2,999 sq. ft. parcel
- DC Water
 - \$23.00/ERU/month for FY 2019
 - \$25.58/ERU/month for FY 2020



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These rows need to be grouped into the same categories we already discussed: PM, O&M, CIP

| Revenue Requirements | FY2018 | FY2019 | FY 2020 | FY2021 | FY2022 | FY2023 | FY2024 |
|---|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Stormwater Administration | \$1,782 | \$534 | \$536 | \$536 | \$536 | \$536 | \$536 |
| Stormwater Street Maintenance | \$1,460 | \$1,507 | \$1,555 | \$1,605 | \$1,657 | \$1,710 | \$1,766 |
| Stormwater Buildings & Grounds | \$15 | \$15 | \$15 | \$15 | \$15 | \$15 | \$15 |
| Stormwater Engineering | \$662 | \$681 | \$919 | \$943 | \$969 | \$994 | \$1,021 |
| Engineering Operational – New | \$0 | \$118 | \$239 | \$359 | \$361 | \$361 | \$361 |
| Maintenance Operational – New | \$0 | \$263 | \$531 | \$799 | \$804 | \$804 | \$804 |
| Debt Service | \$481 | \$481 | \$481 | \$2,053 | \$2,321 | \$2,321 | \$2,321 |
| Capital | \$1,529 | \$3,740 | \$3,954 | \$3,770 | \$5,153 | \$7,467 | \$9,825 |
| Total Revenue to be Recovered from Rates | \$5,929 | \$7,339 | \$8,230 | \$10,080 | \$11,816 | \$14,208 | \$16,649 |

*units in thousands



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Recommended Utility Rates

Increase utility rates over a 6-year period to reach the targeted amount using rounded rates as described in the table below

Columns should be Current rate and SWAC recommended rate (FY 2024). Remove other years and avg.

| Rate Calculation | Current Rates | FY2020 | FY2021 | FY2022 | FY2023 | FY2024 | 5-Year Average Rate |
|-------------------------------|---------------|--------|--------|---------|---------|---------|---------------------|
| Administrative rate per month | \$0.00 | \$1.20 | \$1.20 | \$1.20 | \$1.20 | \$1.20 | \$1.20 |
| Rate per ERU per month | \$5.35 | \$6.00 | \$8.00 | \$10.00 | \$12.00 | \$14.00 | \$10.00 |
| Total Rate | \$5.35 | \$7.20 | \$9.20 | \$11.20 | \$13.20 | \$15.20 | \$11.20 |



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Residential Customer Impacts

Under the recommended rate structure, residential charges would be as follows:

| Tier | Impervious Area (Sq. Ft.) | Current Rates | FY2020 | FY2021 | FY2022 | FY2023 | FY2024 |
|------|---------------------------|---------------|---------|---------|---------|---------|---------|
| I | 200 – 2,000 | \$5.35 | \$7.20 | \$9.20 | \$11.20 | \$13.20 | \$15.00 |
| II | 2,001 – 4,000 | \$10.70 | \$13.20 | \$17.20 | \$21.20 | \$25.20 | \$29.20 |
| III | 4,001 – 6,000 | \$16.05 | \$19.20 | \$25.20 | \$31.20 | \$37.20 | \$43.20 |
| IV | Over 6,000 | \$21.40 | \$25.20 | \$33.20 | \$41.20 | \$49.20 | \$57.20 |

Columns should be Current rate and SWAC recommended rate (FY 2024). Remove other years and avg.



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Stormwater Utility Budget – SWAC Recommendations

Columns should be Current rate and SWAC recommended rate (FY 2024). Remove other years and avg.

| | FY2018 | FY2019 | FY 2020 | FY2021 | FY2022 | FY2023 | FY2024 |
|--------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Operations | \$3,919 | \$3,118 | \$3,795 | \$4,257 | \$4,342 | \$4,420 | \$4,503 |
| Debt Service | \$481 | \$481 | \$481 | \$2,053 | \$2,321 | \$2,321 | \$2,321 |
| Capital | \$1,529 | \$3,740 | \$3,954 | \$3,770 | \$5,153 | \$7,467 | \$9,825 |
| Total | \$5,929 | \$7,339 | \$8,230 | \$10,080 | \$11,816 | \$14,208 | \$16,649 |

*units in thousands



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City Council Workshop

November 5, 2018



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