



TOWN OF BLACK MOUNTAIN

Town Hall, 160 Midland Avenue, Black Mountain, NC 28711

Date: May 13, 2021 Time: 8:30 a.m.

Special Call Agenda

*The agenda and all related documentation may be accessed electronically via Wi-Fi in Town Hall. From your laptop or smartphone, access the Town's website at www.townofblackmountain.org. Click on **Town Government** and select **Mayor and Town Council** to download materials for all Town board meetings.*

 **Conserve resources; print only when necessary.**

The Town of Black Mountain is committed to providing accessible facilities, programs and services for all people in compliance with the American with Disabilities Act (ADA). Hearing assistive devices are available at the door.

Should you need other assistance or accommodation for this meeting, please contact Town Clerk Savannah Parrish at 419-9310, or by email at savannah.parrish@townofblackmountain.org (828) 419-9300 / TDD (800) 735-2962

1. CALL TO ORDER

- Welcome

2. NEW BUSINESS

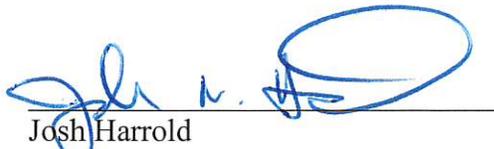
- A. Black Mountain Library Discussion
- B. Stormwater Presentation – Planning Director Jessica Trotman

3. COMMUNICATION FROM STAFF

- A. Town Attorney – Ron Sneed
- B. Town Manager – Josh Harrold

4. COMMUNICATION FROM MAYOR AND TOWN COUNCIL

5. ADJOURNMENT



Josh Harrold
Town Manager



PUBLIC NOTICE

SPECIAL CALL MEETING

Thursday, May 13, 2021 at 8:30 a.m.

The Black Mountain Town Council will hold a **SPECIAL CALL MEETING** on Thursday, May 13, 2021 at 8:30 a.m. in the Board Room in the Town Hall Building, 160 Midland Avenue, Black Mountain, NC. The purpose of this meeting is to discuss a stormwater utility structure and Buncombe County's proposed library consolidation plan.

There are three ways the public can participate in the meeting:

1. **Join the meeting through YouTube Live on your computer or smart device. * Citizens will be able to comment at the appropriate time using the chat feature to enter their comments. *Citizen video feeds will not be enabled. There is no password.**

https://www.youtube.com/channel/UCWJmKy_6LVe7VFXUrHwpESA

There is no cost associated with the software or attending the meeting and there are toll free number options to dial in to listen live only.

2. **Join the meeting by telephone (listen only).**

Call toll free **877 853 5247 or 888 788 0099**

Meeting ID: 820 175 2195

Passcode: 916686

3. **Email or call in your citizen comments or questions prior to the meeting.**

Call in comments prior to meeting: Town Clerk at 828-419-9310

Email comments to: Comments@townofblackmountain.org.

The Town is making every effort to ensure that the public is able to not only listen to the meeting, but also to participate in the public comment portion of the Board meeting, while still maintaining all of the Town's statutory requirements and keeping the public safe. **During the meeting, if at any time inappropriate content is detected the electronic meeting will be ended by the host.**

Savannah M. Parrish
Savannah M. Parrish
Town Clerk

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Please visit www.townofblackmountain.org to obtain agenda packets and other meeting information.

Posted to the Town Bulletin Board 04/16/21

Stormwater Utility Proposal

Prepared for:

Josh Harrold, Town Manager

Town of Black Mountain Town Council

May 2021

Introduction

What is the NPDES Permit?

NPDES stands for National Pollutant Discharge Elimination System.

NPDES MS4 permits require the implementation of a comprehensive stormwater management program to reduce pollutants in stormwater runoff to the Maximum Extent Practicable (MEP). The MEP is based upon implementation of six Minimum Control Measures (MCMs) throughout the MS4s jurisdictional area:

- Public Education & Outreach
- Public Involvement & Participation
- Illicit Discharge Detection & Elimination
- Construction Site Runoff Controls
- Post-Construction Site Runoff Controls
- Pollution Prevention & Good Housekeeping for Municipal Operations

What is the MS4?

MS4 Stands for Municipal Separate Storm Sewer System (MS4).

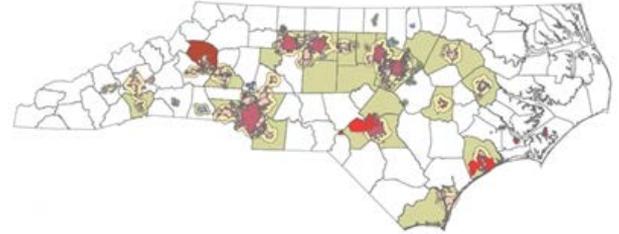
It is conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man made channels, or storm drains) owned or operated by the United States, a State, city, town, county, district, association, or other public body that discharges to waters of the United States or waters of the State that is designed or used for collecting or conveying stormwater.

Why is Black Mountain an MS4 Community?

The following criteria issued by the EPA is considered in the determination of MS4 status.

Discharge to sensitive waters

- High population density
- High growth or growth potential
- Contiguity to a Urbanized Area
- Significant contributor of pollutants to waters of the United States
- Ineffective protection of water quality concerns by other programs

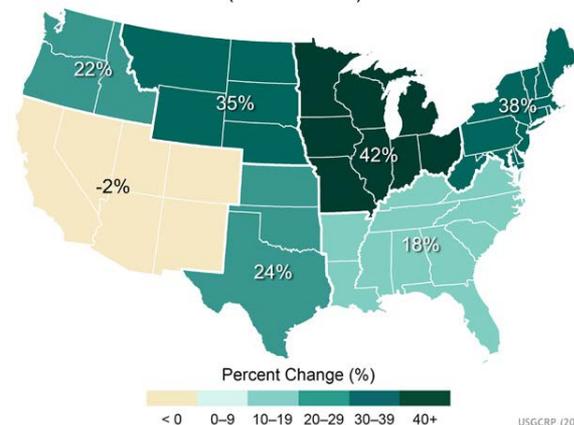


Note: An Urbanized Area (UA) is a densely settled core of census tracts and/or census blocks that have population of at >50,000 people along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core.

Stormwater is a growing concern.

- August 1, 2017 to date, there have been 1 200-year, 2 100-year, 3 50-year, 3 25-year, 17 10-year and 17-5 year rain events (NOAA).
- Over the next 30-50 years, precipitation in this part of the country is anticipated in increase 5-10% particularly in the winter and spring months (NOAA).
- Town stormwater infrastructure is undersided and aging.
- Stormwater runoff is now the number one source of surface water pollution in the United States.

Observed Change in Total Annual Precipitation
Falling in the Heaviest 1% of Events
(1901 - 2016)



Evolution of Regulatory Conditions

- 1970 EPA Established
- 1972 Clean Water Act – NPDES
- 1973 NPDES Wastewater Permits
- 1974 Safe Drinking Water Act
- 1987 Water Quality Act
- 1990 Phase I Stormwater Rule from EPA
- 1999 Phase II Stormwater Rules from EPA
- 2010 Town of Black Mountain is issued first NPDES permit
- 2020 Town is audited and issued a Notice of Violation

Stormwater Regulation Information

Preliminary Audit Results: Notice of Violation

The Town has been issued a notice of deficiency by NC DEQ. A notice of deficiency sets a series of administrative needs to be completed by staff and the Board of Alderman.

- Submit a written response to the Notice (30 days) - *complete*
- Conduct a self-audit of the MCMs DEMLR didn't audit (120 days) - *complete*
- Develop a SWMP addressing all the deficiencies (120 days) - *under review*
- Submit an NPDES MS4 permit application within 30 days of DEMLR approving the SWMP

General Industrial Permit Required

A finding from the audit includes the need for a general industrial permit to be issued for the Public Works facility on Black Mountain Avenue.

This facility will be subject to NPDES and General Industrial permits. These permits have been applied for, but have not been issued.

Compliance and Penalties

Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action.

- All NPDES MS4 permits are subject to federal and/or state compliance and enforcement actions.
- Compliance with the requirements of a state-issued Notice of Deficiency or Notice of Violation, and/or issuance of civil penalties from DEMLR, does not preclude the EPA from carrying out its own enforcement case against the permittee.
- Under state law, a daily civil penalty of not more than \$25,000 per violation may be assessed against any person who fails to act in accordance with the requirements of a permit.
- Under federal law, a daily civil penalty of not more than \$37,500 per violation may be assessed against any person who violates a permit condition.

Funding is required for permit compliance.

PART 2: STORMWATER MANAGEMENT PROGRAM

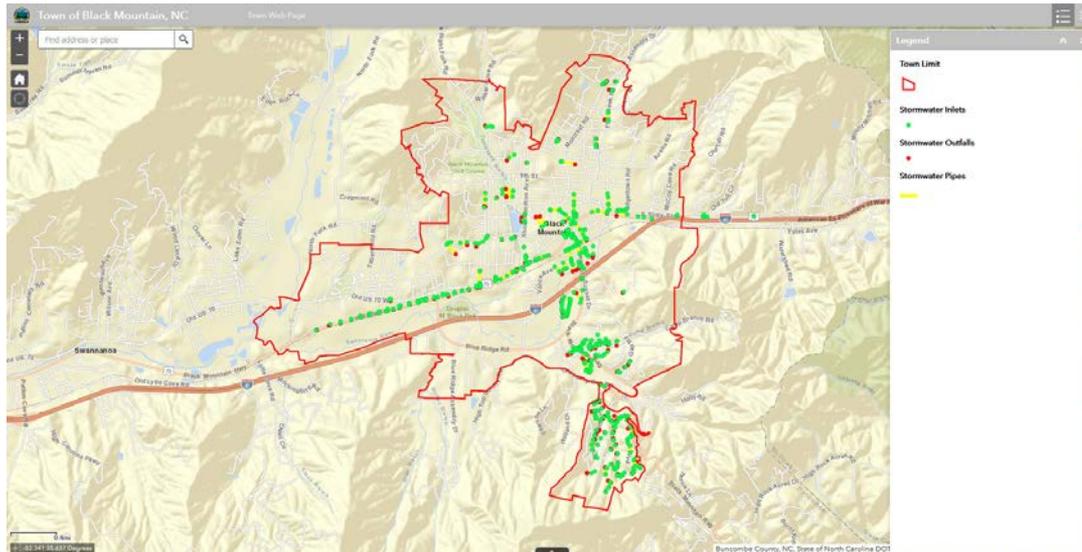
2.1 Program Implementation

The permittee shall implement, manage and oversee all provisions of its approved SWMP to control, to the maximum extent practical, the discharge of pollutants associated with stormwater runoff and illicit discharges, including spills and illegal dumping, from its MS4. This includes, but is not limited to, the following areas:

2.1.1 The permittee shall maintain adequate funding and staffing to implement and manage the provisions of the SWMP and meet all requirements of this permit.

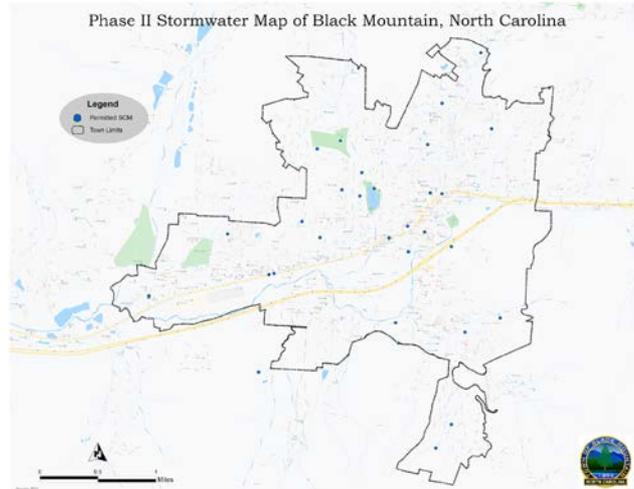
Existing MS4

The Town's MS4 system is comprised of inlets, outfalls, curb and gutter, and pipes which discharge into surface waters of the state, primarily the Swannanoa River. The Town of Black Mountain has 537 inlets, 138 outfalls. The condition of these inlets and outfalls is not known. Locations, size, conditions and connections to the MS4 are unknown.



Post-Construction SCMs

There are nearly 60 stormwater control measures installed on private property constructed under the requirement of the Phase II Post-Construction Stormwater Ordinance. The function and maintenance of each must be managed and reported as part of the stormwater management plan.



Town Owned Stormwater Control Measures

There are six stormwater control measures installed on town-owned property, and more are called for in the Upper Swannanoa Watershed Improvement Plan. These SCMs must be inspected and proper function maintained. The 2020 inspections found most SCMs required improved maintenance, minor repairs and more staff education on how to protect green infrastructure.

The town can explore easements or partnerships with private property owners to install SCMs as recommended after all options on publicly owned property have been completed.

Locally Adopted Regulations Related to Stormwater

The Town is required to maintain and enforce post-construction stormwater and illicit discharge and connection ordinances by the NPDES permit. It is also required to have, or to delegate sedimentation and erosion control, which is permitted and enforced through Buncombe County. In addition to these rules, the Town has also adopted the following:

- Phase II Post Construction Ordinance
- Illicit Discharge Connection Ordinance
- Flood Protection
- Flood Hazard
- Sedimentation & Erosion Control (implemented by Buncombe County)

Community Engagement

Engagement Efforts Summary

The stormwater utility largely responds to federal compliance, but whenever possible the needs and preferences of the community are considered. To inform the utility structure and activities, staff conducted two online surveys. Staff will regularly check in with the community through a variety of ways to seek opportunities to align community needs and the permit requirements whenever possible.

The first considering general understanding of stormwater and the second specifically related to the activities and fees associated with stormwater management.

First Survey: General Stormwater Awareness

A general stormwater survey was conducted to learn more about the citizens understanding and experience with stormwater in town.

93 citizens responded.

The survey indicated the participants had a reasonable understanding of where stormwater comes, but showed weak awareness of town stormwater programming. The survey showed localized flooding is experienced from failures in the actual MS4 system, and more than half of the participants have some sort of stormwater drain on the property.

Second Survey: Stormwater Service and Fees

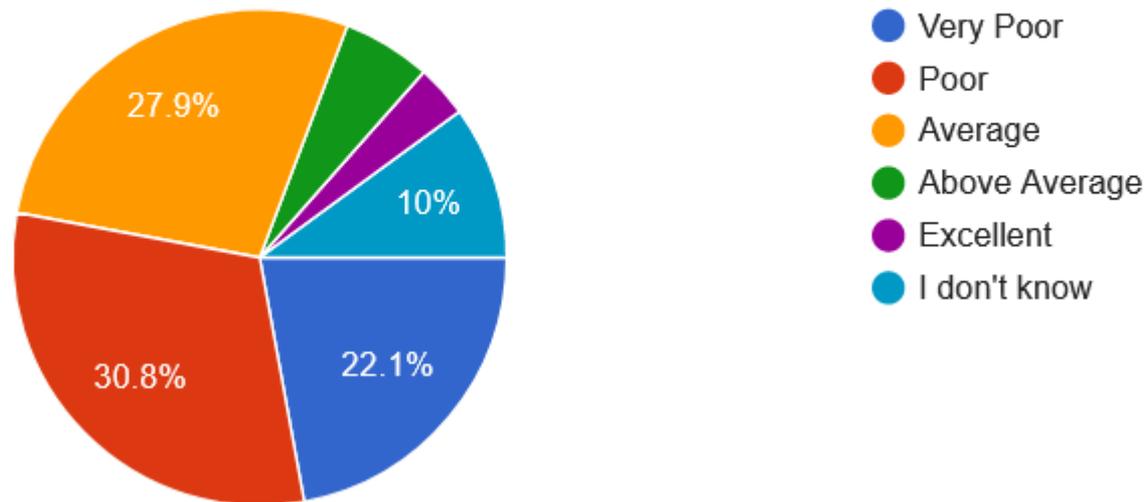
A survey was developed to learn more about the community's experience with stormwater and explore willingness to pay for improved stormwater services.

380 citizens participated in the survey.

Overall, the survey participants expressed interest in improved stormwater services, but support for a utility fee was more divided, with a one-third being willing to pay a fee, one-third not being willing and one-third would maybe support a utility fee.

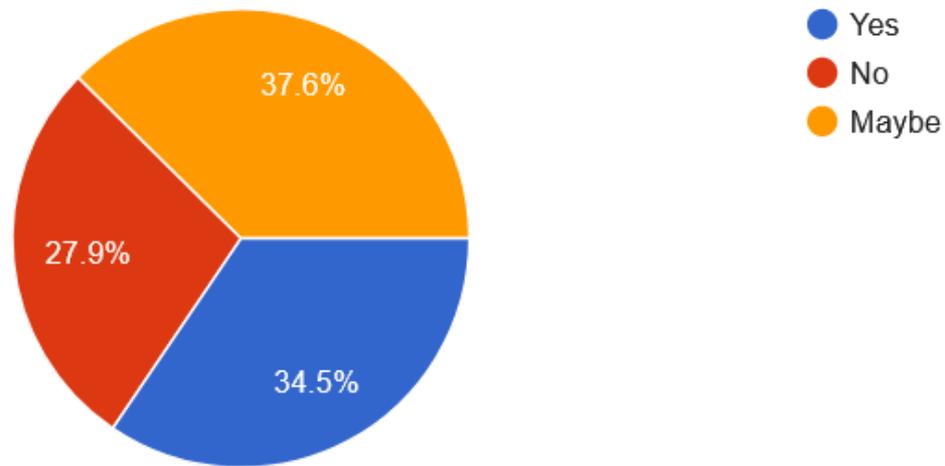
How do you rate your current stormwater rate of service?

380 responses



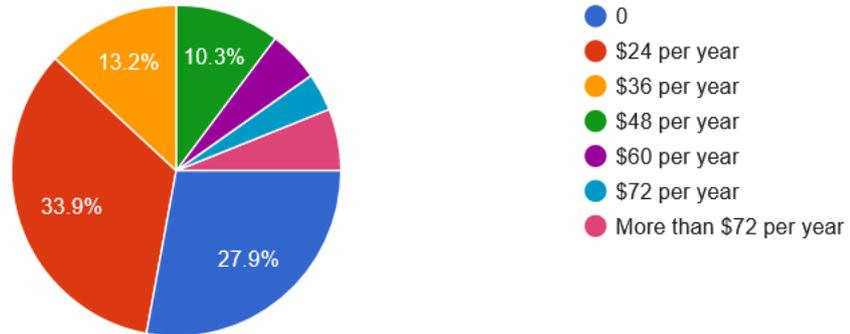
Would you be willing pay an annual stormwater fee to support improving the stormwater rate of service?

380 responses



For a single residential dwelling, what would you consider paying to improve the stormwater rate of service?

380 responses



What is a Stormwater Utility?

What is a stormwater utility?

A stormwater utility, operating much like an electric or water utility, may collect fees related to the control and treatment of stormwater that can be used to fund a municipal stormwater management program. It provides maintenance, improvements, planning, regulation, permitting and administrative functions for the Town's stormwater collection system.

Funds from generated from a utility are maintained in an enterprise fund which is dedicated and protected for only use of the stormwater program.

Why develop a stormwater utility & where does the money go?



Revenue

Generate a stable source of revenue for watershed & stormwater improvement projects



Community

Create a flexible rate structure that can be modified to meet community goals. Improve community quality of life & aesthetics, while preserving property values



Structure

Create an organized entity to deal with problems regarding stormwater, such as aging infrastructure, development pressures, & lawsuits



Environment

Address environmental issues such as, erosion, flooding, preservation of source water and water quality. Can encourage "green" initiatives and take on climate change concerns



Regulation

Utilities can help fund requirements under NPDES & MS4 programs. Keep communities in check for regulatory mandates

How the Utility Benefits Citizens

The benefit of a stormwater utility is not always obvious. Many of the NPDES permits are labor intensive, but not always highly visible, including inspections and water quality testing. Though ultimately these efforts protect water quality. They may also benefit by participating in outreach programs and drainage assistance programs.

Citizens will have increased support to respond to stormwater complaints and investigations. Overtime they may also experience less nuisance flooding, and overall improve conveyance of stormwater, especially when larger projects are implemented, such as right-sizing the stormwater pipes under downtown.

Summary of Basic Municipal Stormwater Activities

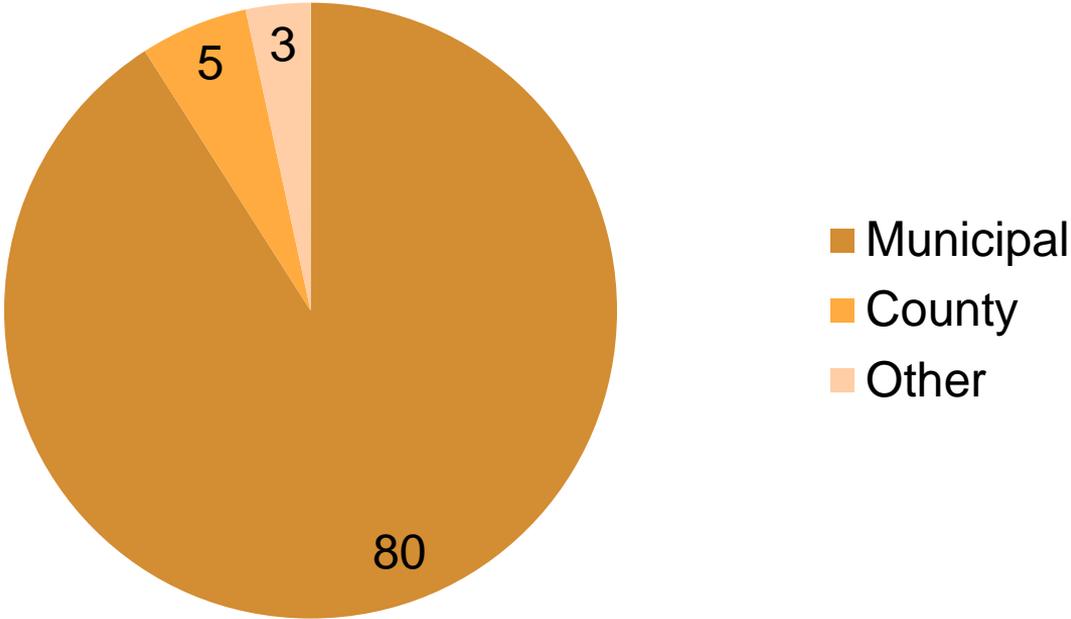
- Improved stormwater planning and watershed management
- Culvert repairs
- Street sweep and catch basin cleaning
- Flood reduction/protection
- Stream bank erosion and restoration
- Leaf litter pick-up
- Public education and outreach
- Mapping of drainage network, SCMs and other asset management efforts
- IDDE program, dry out fall testing, wet weather testing
- Site inspections and operation maintenance of public facilities
- Hard infrastructure improvements (adding to the MS4 and upsizing existing)
- Maintenance of existing and new stormwater practices
- Water Quality Monitoring
- Data collection, analysis and reporting

Points to Consider: Pros & Cons

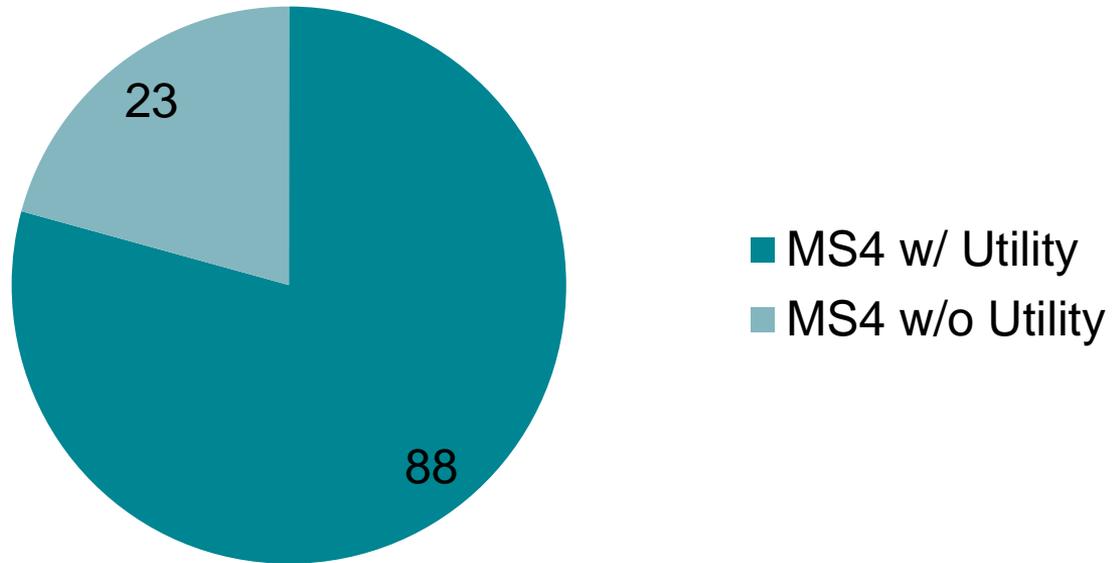
While a stormwater utility is a reasonable solution to funding a highly complex regulatory demand, there are positive and negative aspects to creating a utility to be considered.

- Creates revenue without increasing tax rate
- Reduces burden on General Fund
- More equitable than property tax increase
- Stable and predictable funding source
- Dedicated and protected funding
- Flexible to meet town needs
- Potential negative public perception
- Increased expectations from citizens for stormwater services and flood prevention, which may not be related regulatory needs or at all preventable.
- Additional staff and resources required to operate a compliant stormwater program and associated utility.

Number of SWU by Operator in NC



Number of NC MS4 Community by Utility Status



Funding Options for Stormwater

Maintaining stormwater infrastructure and meeting the regulatory requirements of the NPDES permit present significant funding challenges for the Town. The town utilized general fund and grants to support stormwater and water quality projects.

- General Fund
- Grants
- Bonds
- Special Taxing Districts
- Special Assessments
- Utility – staff recommended
- Loans/Debt

Establishing a Utility

Establishing the Utility

Staff has engaged in a significant effort to reduce start up costs for the utility, allowing more first year revenue to be directed into an aggressive capital sinking fund. The mechanics of establishing the utility include a stormwater utility ordinance and enterprise fund ordinance. **A draft of these ordinances has been created.**

Utilizing a stormwater utility was suggested by the 2010 Stormwater Master Plan.

It is also called for in the Town's Comprehensive Plan.

Summary of Methods

- Data Collection
 - Review permit requirements, local ordinances, conduct internal audit
 - Review findings from DEQ audit
- System Metrics
 - Collect boundary, parcel and landuse information
 - Collect all available data on MS4 system
- Financial Analysis
 - Comparative analysis of similar MS4 communities
 - Explain current fiscal constraints for compliance and service
 - Explore rate structures and collection methods

Informal Survey of MS4 Communities

Staff conducted a survey of other MS4 communities. In the survey, 14 MS4 communities, including those in WNC, 86% said the level of funding could not meet these needs.

This supports the UNC Environmental Finance Center which reports increasing rates across the state, some as much as 20%.

Managing expectations is an important aspect of managing the stormwater program. It is likely the town will come closer to meeting the demands of the permit, without meeting the full need of the community.

Summary of Existing Financial Resources and Staff

Minimum Staff Requirements

Due the wide variety of organization structure and accounting methods, there is not a precise way to compare stormwater staff between communities.

The six communities referred for comparison each include between 2 to 6 full-time stormwater specialists (field). Each also between 1 and 5 full-time administrative staff and program support staff.

The Town has no fully dedicated staff for stormwater at this time.

Additional Staffing

The stormwater utility will fund a dedicated a stormwater tech position.

IDDE, facility inspections, responding to complaints is a complex and staff intensive activity required by the NPDES permit.

- Completes and documents stormwater prevention and pollution called for in the Town's operation and maintenance program, reports findings and supports staff in corrective actions
- Provides IDDE education to high risk groups (mechanic shops, restaurants etc.)
- Conducts dry weather outfall monitoring and reporting
- Conducts general outfall and MS4 system monitoring, and places work orders as needed for clean outs, replacement/repair, culvert/ditching clean out
- Monitors high-risk areas for illicit discharge and illicit connections, conducts inspections, investigations and enforcement as required
- Respond to stormwater complaints from the public
- Communicates with Buncombe County soil and erosion control as needed
- Collect and log findings and provide data and generate reports

Summary of Capital Projects from 2010 Plan

- Stormwater wetland/bioretenion \$86,000
- Downtown infrastructure improvements West Basin \$490,000
- Downtown infrastructure improvements East Basin \$351,000
- Downtown infrastructure water quality improvements \$1,000,000
- Stormwater wetland \$882,000
- Lake Tomahawk Stormwater Management Area \$957,000

These estimates do not account for inflation or the dramatic increases in labor/materials observed in the construction industry. The capital plan is outdated. This document will be updated in year one of the utility. Revenue from the utility, and potentially swater quaility grants will fund this work, estimated to be \$35,000.

Programming

The demands on the NPDES permit require community engagement and outreach. Town staff frequently receive calls from citizens requesting help addressing stormwater on private property. The town is currently unable to help these citizens.

The stormwater utility will fund the operation of a community assistance program. The shape of this program will be informed by working with the community to best understand their needs. It may include easements on private property to improve the movement of stormwater through an area so it can effectively enter the MS4 system.

This program increases compliance with the NPDES permit and provides hand-on support to the community.

Public Education & Outreach

- Multiple target audience required by permit
- Collaboration with community organizations
- Media relationships and campaigns
- Engagement metrics and reporting
- Content management and updating across platforms

Stormwater Program Cost Factors: IDDE

- Age and extent of infrastructure
- Must map the entire MS4 system
- Proactive and responding to complaints (IDDE required hotline)
- Equipment and training to detect illegal connections and identify sources (may need subcontract depending on the material and situation)
- Dry weather program monitoring
- Actual repairs to MS4 found during regular monitoring
- Response tracking database for reporting and program evaluation
- Annual employee training on IDDE program

Post-Construction

- Number of development projects requiring review and inspection
- Age and type of existing SCMs
- Annual inspection requirements and enforcement actions
- GIS database of post-construction SCMs
- O&M follow up and enforcement
- Updating ordinance are needed
- Managing post-construction permits
- Coordination of review and approval with consulting civil engineer

Prevention

- Number of town owned facilities requiring prevention plans
- Development of pollution prevention plan and spill response strategies
- Training on prevention
- Training on spill response
- Street sweeping
- Catch basin cleanout equipment and labor
- Retrofitting facilities for containment and drainage

Maintenance

- Conduct routine maintenance for town own SCMs, outfalls, inlets, pipes, and culverts and opening ditching
- Respond to work orders for repair
- Technology requirements
- Develop and maintain maintenance schedules and inspection checklists
- Differentiation between routine and long-term inspections and maintenance activities
- Adjusting to meet the appropriate level of service for compliance and for community needs

Evaluation

- Dry weather sampling
- Wet weather sampling for high risk areas
- Water sample testing for stressors on impaired waters (Swannanoa River)
- Develop measurable goals and tracking indicators for all action items required by the NPDES permit (more than 50 items!)
- Annual reporting on all permit requirements
- Maintain tracking system for permit requirements
- Pre-audit processes
- EPA/DEQ auditing every five years with corrective actions

Driving Cost Factors

What does it cost to achieve compliance?

There is no methodology to find correlation between a specific level of funding of per-capita investment into a stormwater program which results in compliance with the NPDES permit. This is an ongoing area of research at UNC Center of Environmental Finance.

Of NPDES audits completed to date in North Carolina, only three have found to meet the six minimum requirements for compliance.

- NCDOT - unknown
- Greenville \$63.78 per capita
- Clemmons \$112.95 per capita

If the town funded stormwater at this level, the annual budget would be between \$540,280 and \$956,799.

Trends in Stormwater Utility Fees

- Two MS4 communities created established utilities in 2018
- Most MS4 communities without a utility report interest in establishing a utility or are actively working to establish a utility
- 13 existing utilities raised rates in 2018
- Fee standard deviation has increased from \$1.40 to \$2.60 since 2010
- UNC Environmental Finance notes many utilities increasing rates in 2021-2022 budgets

Local Factors Influencing Program Costs

- Types of diversity of land uses
- Median income
- Population
- Level of service to citizens
- Existing impervious cover
- Soil types
- Existing SCMs
- Existing stormwater program capacity
- Existing MS4 infrastructure capacity and age
- Existing number of staff
- Existing technology available

Rate Analysis

Rate Analysis Challenges

A complete fiscal gaps analysis cannot be completed by staff at this time. It is difficult to determine the cost to operate the Town's stormwater program at a level which will result in compliance. A more accurate analysis will be available in the future, as documentation increased.

- The lack of historical data available on existing stormwater expenses made it difficult to assess current expenditures and time investments.
- The condition and location of the entire MS4 is unknown
- The stormwater capital plan completed in 2010 is dated and cost estimates and determination of priority projects is unclear, but are estimated to exceed more than \$15,000,000 in hard infrastructure improvements.

Types of Rate Structures

There are three primary rate structures, which can be utilized in a variety of combinations. Each have benefits and limitations to be considered. A flat tiered structure maximized revenue committed to program implementation and increased equity in fee determination.

- **Flat Rate**
 - Simple to administrate
 - Not reflective of intensity of use.
- **Flat Rate Tiered - Recommended by Staff**
 - Simple to administer
 - Can account for some differeriation in intensity of use
- **Equivalent Residential Unit (% of impervious)**
 - Difficult / costly to administer
 - More truly reflects intensity of use

Billing Methods

- **Stand Alone Billing – staff recommended**
 - Annual billing cycle
 - Invoices created by existing software used by staff
 - Town maintains custody of all records, payments, and devotes as revenue as possible to stormwater compliance
- **Water Bills**
 - Not all parcels are on town water
 - We do not have record of all parcels serviced by wells, and cannot exempt those parcels
- **Property Taxes**
 - Many fees associated with software needs and service by the County
 - County cannot pursue non-payment

Similar Communities

The UNC Center for Environmental Finance publishes excellent data on operating stormwater utilities and MS4 communities. Six municipal MS4s with similar populations to Black Mountain were reviewed for the purpose of this rate study. Those municipalities are: Carolina Beach, Hillsborough, Butner, Washington, Oak Island, and Pineville.

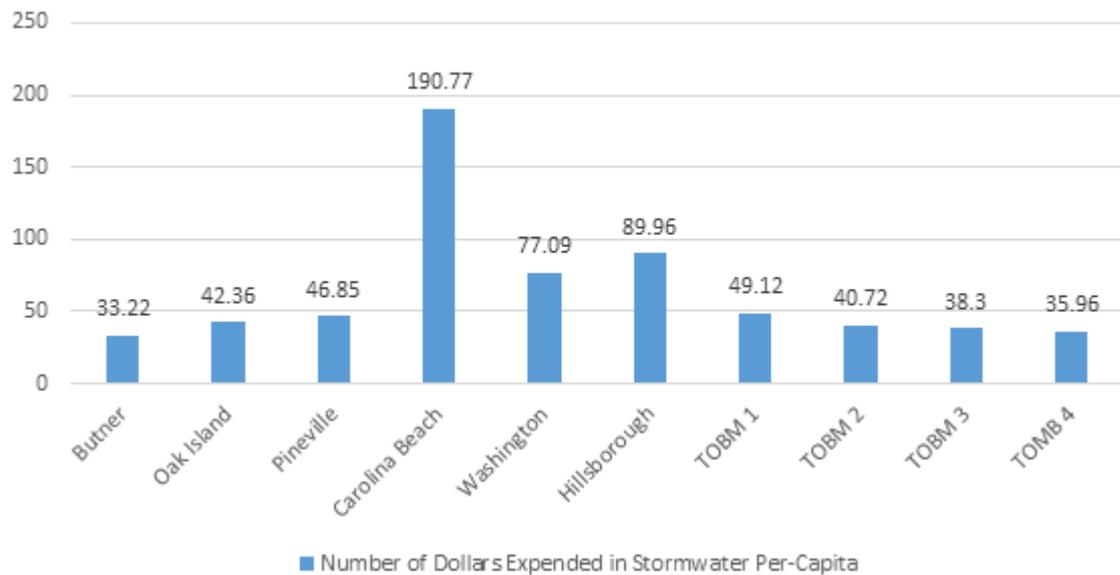
In WNC there are two established stormwater utilities - Asheville and Hendersonville.

- City of Asheville spends approximately \$71.43 per capita on stormwater.
- City of Hendersonville spends approximately \$40.58.

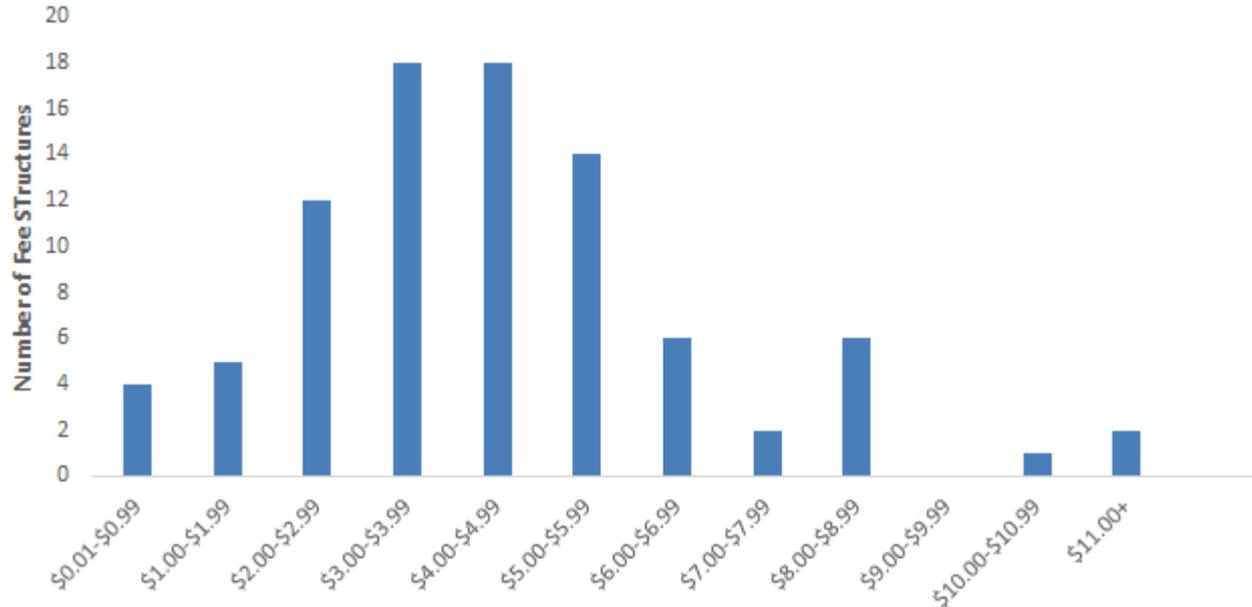
Comparison of Similar MS4 Communities

| | Butner | Oak Island | Pineville | Carolina Beach | Washington | Hillsborough | Black Mountain |
|----------------------------------|----------------|-------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|
| Population | 7709 | 7400 | 8418 | 6116 | 9721 | 7033 | 8150 |
| Area in Sq Miles | 14 | 18.6 | 6.6 | 2.5 | 8.2 | 5.33 | 6.7 |
| Total # of Dwelling Units | 2784 | 8902 | 4408 | 5492 | 4811 | 2544 | 3759 |
| Median Household Income | 48,870 | 57,670 | 48,125 | 61,197 | 31,967 | 51,640 | 42,500 |
| Fee Structure | Flat \$3.50 | Flat \$4.13 | Tiered Flat \$5.59 | Flat \$14.50 | Tiered Flat \$6.85 | Flat \$6.25 | N/A |
| Method of Collection | Property Tax | Utility Bill | Stand Alone | Utility Bill | Utility Bill | Property Tax | N/A |
| Approx. Revenue | 256,150 | 313,514 | 394,390 | 1,166,776 | 749,393 | 632,738 | N/A |

Number of Dollars Expended in Stormwater Per-Capita



On average, a residential property served by a stormwater utility in North Carolina will pay **\$6.68 per month**.



Data Source: 2018-19 NC Stormwater Fees Survey: Environmental Finance Center at the University of North Carolina (n = 88)

Rate Structure Rationale

This rate structure is recommended based on an assessment of the annual operational needs to provide comprehensive service delivery, and to also have a fund future capital projects, currently estimated at over \$15M. Secondary to this rates of similarly sized permittees and other communities which have achieved NPDES compliance.

From a historical perspective, the Town has been operating its stormwater program for over a decade with an annual budget estimated at \$114,000, and no capital reserves.

For strictly meeting operating (and not capital) needs, the current annual budget needed to both more fully addresses regulatory requirements but also increases service delivery and infrastructure maintenance is projected to be about \$500,000. This amount will be better understood after the utility has been operating for 3-5 years. No proposed rate scenario fully achieves this amount. The effort to fund the NPDES permit is conservative, and may shift in the future when there is more data to guide the process.

Rate Structure Rationale

There are two positions to consider when evaluating a stormwater rate and structure.

- *Does the rate fully support system operations and maintenance, repair and replacement, upgrades, existing and future debt service, capital investment and anticipated regulatory changes?*
- *Does the rate provide adequate operating revenues for compliance, debt service if needed, and necessary allocations for future infrastructure?*

Given the high demands of the NPDES permit and lack of program implementation, infrastructure maintenance and construction in the past, a reasonable and rational rate needs to be considered on the basis of compliance and long term planning for infrastructure.

Parcel Determination

In order to use a tied flat rate, each parcel must be assigned a category. For the purpose of this study, tax and zoning information was used. If a use is legally non-conforming it is likely to not be captured at this time.

- Tier 1- Minimal Impacts (Single Family, Multifamily <4 units)
- Tier 2 – Moderate Impacts (non-residential, retail, office, multi-family >4 units)
- Tier 3 – Undeveloped Land
- Tier 4 – Exempt (any local, state or federally owned property)
- Tier 5 – Heavy Impacts (Industrial)

Tier 1 represents 70% of all parcels in Black Mountain. It represents and 79% of all parcels subject to the stormwater utility fee.

| | | | | | | | |
|---------------|---|------|---|---|---|---|---|
| 0.01100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.01100- RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.01100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 1.08100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 1.44100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.97100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.5100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.48100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.49100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.75100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.28100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 1.4100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 1.1100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.47100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.44100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |
| 0.63100 - RES | 1 | 6.68 | 6 | 5 | 4 | 3 | 2 |

Potential Rate Scenarios

Potential Rate Scenarios

The following provides four rate scenarios for consideration. Each resulting in a level of revenue which directly related to the level of service and compliance which can be achieved to meet the short and long term stormwater needs for the town, including hard infrastructure.

On average, a residential property served by a stormwater utility in North Carolina will pay \$6.68 per month. The highest rate scenario proposed is approximately 88% of this average. The lower proposed scenario is only 29% of the state average.

Rate Model Examples

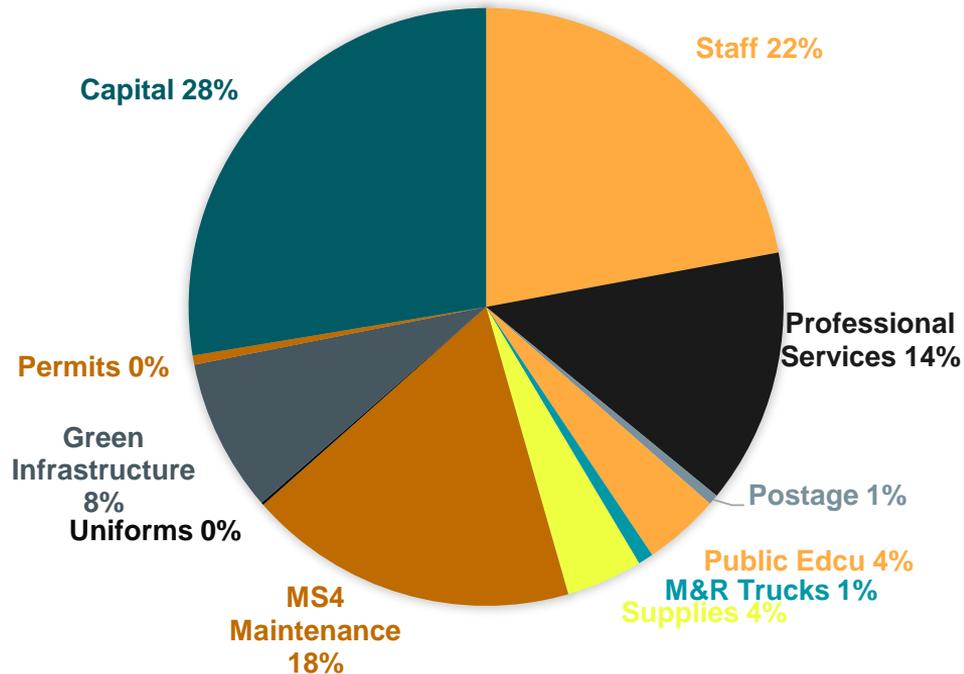
| Tier | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Scenario 5 |
|--|------------|------------|------------|------------|------------|
| Minimal (1) <i>residential</i> | \$6 | \$5 | \$4 | \$3 | \$2 |
| Moderate (2) <i>Non-residential</i> | \$25 | \$20 | \$20 | \$15 | \$15 |
| Undeveloped (3) | 0 | 0 | 0 | 0 | 0 |
| Exempt (4) | 0 | 0 | 0 | 0 | 0 |
| Intense (5) <i>Industrial</i> | \$100 | \$75 | \$75 | \$70 | \$70 |
| | \$370,668 | \$298,920 | \$258,192 | \$193,644 | \$152,916 |

First Year Budget

General Stormwater Budget Categories

- **Staff & Administration** includes salaries in whole or in part for the following positions performing work related to the stormwater utility.
- **Capital Outlay** acts as a savings account for hard infrastructure projects. This money can be used as matching funds for grants if available or toward debt service. Staff prefers to have SCM and hard infrastructure in separate funds.
- **MS4 Maintenance:** This meets additional requirements of the NPDES permit, inspections, cameras, trainings, legal fees, consulting engineers, etc.
- **Community Education & Outreach** is a specific minimum requirement of the NPDES permit.
- **Green Infrastructure** builds stormwater control measures called for in the watershed plan and stormwater master plan.

Allocations Estimates for Year 1 in Percentages



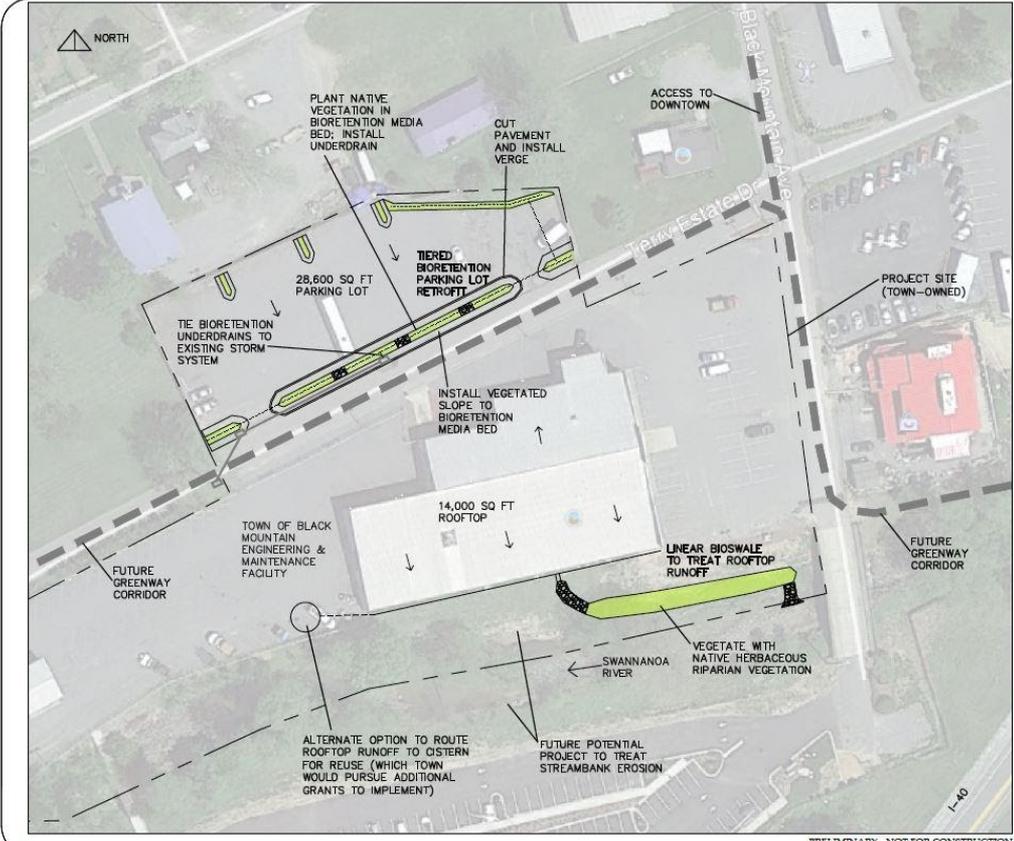
Allocations are likely to be revised when data on time and expenses are available.

Example of Potential Early Projects

It is important for the public to experience early benefits from the stormwater utility fee. This presents a challenge because requirements NPDES permits are not readily visible. The high cost of hard infrastructure projects called for in the stormwater capital plan make it impossible to finance in a short period of time. Balancing expectation and long term financial needs of the MS4 is a delicate process.

Infrastructure improvements to consider in the first five years of of operation include: installing at least two high impact stormwater control measures (“green infrastructure”) and setting aside at least \$500,000 toward hard infrastructure improvements.

Retrofit at Black Mountain Ave & Terry Estates



PRELIMINARY - NOT FOR CONSTRUCTION

Town of Black Mountain
 Preliminary Design for Engineering & Maintenance
 Stormwater Management

Date: 4/29/21
 Job Number:
 Project Engineer: JPM
 Drawn by: JPM
 Scale: 1"=80'

WILLIAMS AND SONS
 CONSULTANTS, INC.
 157-B Haywood Rd
 Asheville, NC 28806
 Phone: 828.259.7666
 License No. P-6851

Modeled Outcomes from Retrofit

| TSS | TP | TN | E Coli | Cu | Pb | Zn | TSS* | TP | TN | E Coli | Cu | Pb | Zn | TSS | TP | TN | E Coli | Cu | Pb | Zn | |
|-------------------------------|-----|------|--|-------------------------------|-----|------|--------------------------------|-----|-----|--|---------------------------------|----|-----|------------------------------|-----|-----|---|-----------------|-----|-----|-------------------|
| Pre-Project Annual Load (lbs) | | | Pre-Project Annual Load (Billion Colonies) | Pre-Project Annual Load (lbs) | | | Post Project Annual Load (lbs) | | | Post-Project Annual Load (Billion Colonies)* | Post-Project Annual Load (lbs)* | | | Total Annual Reduction (lbs) | | | Total Annual Reduction (Billion Colonies) | Reduction (lbs) | | | Underdrain w/ IWS |
| 194 | 1.3 | 10.2 | 5903.8 | 367 | 202 | 1000 | 46 | 0.8 | 4.0 | 4044.08 | 136 | 75 | 370 | 149 | 0.5 | 6.2 | 1860 | 231 | 127 | 630 | Y |
| 39 | 0.5 | 5.1 | 3529.9 | 219 | 120 | 598 | 9 | 0.4 | 1.9 | 2417.97 | 81 | 45 | 221 | 30 | 0.1 | 5.2 | 1112 | 138 | 76 | 377 | N |

*Based on removal rates as follows: TSS 85%, Metals 70%, Bacteria 35% and 90% runoff fraction (CWP, October 2001 NY SMDM)

Conclusion

Future Considerations

As the utility and stormwater program evolve, growth and increasingly complexity are likely. In the model proposed, a long-term sinking fund is established in year two, but will be managed and maintained for hard infrastructure improvements in the capital plan. Other items the utility will need to consider are:

- Credit programs
- Potential use of ERUs
- Updating the program
- Increasing regulatory demands
- Potential rate increases overtime

Summary of Staff Recommendations

After thoroughly researching the Town's options and regulatory compliance, staff recommends the following:

- Establish a stormwater utility and dedicated enterprise fund
- Utilizing a tiered flat rate
- Issue annual stormwater fee, billing to be handled by existing staff.
- Implement the requirements of the NPDES permit as described by the Stormwater Management Plan approved by the State.