

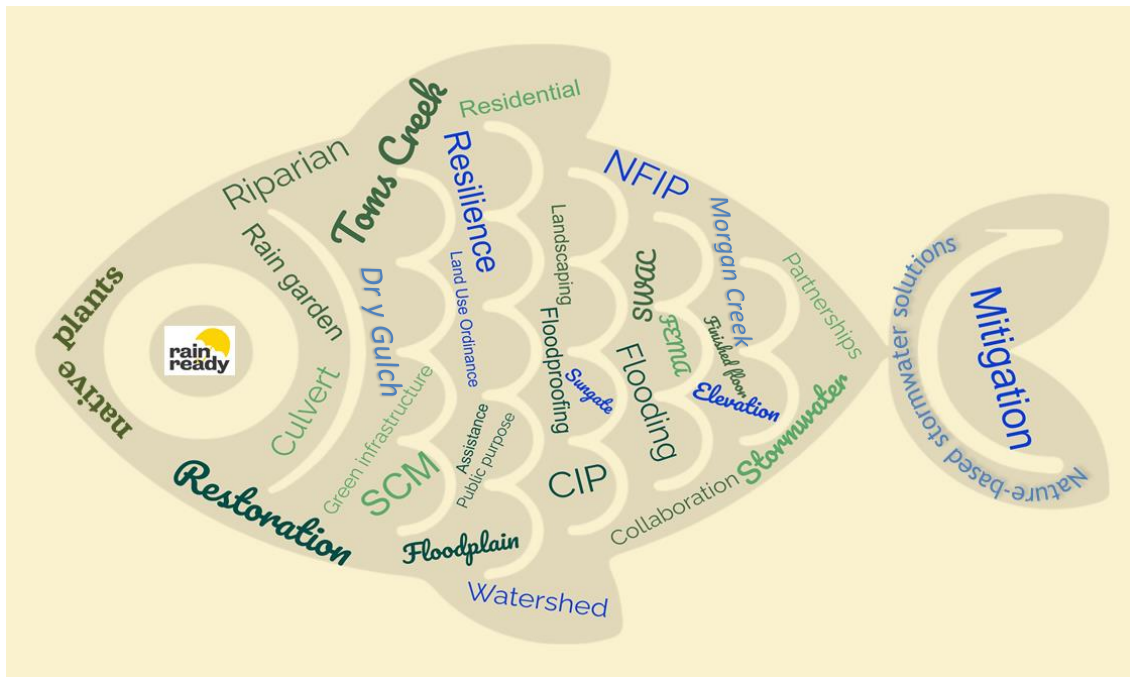
# STORMWATER UTILITY MONTHLY REPORT

## Contents

|                                                                                          |          |
|------------------------------------------------------------------------------------------|----------|
| <b>PART 1: WATER QUANTITY DRIVEN WORK.....</b>                                           | <b>2</b> |
| 1.    Flood Resilience Framework.....                                                    | 2        |
| Status: Active.....                                                                      | 2        |
| 2.    Land Use Ordinance Stormwater Provisions Review.....                               | 3        |
| Status: On Hold.....                                                                     | 3        |
| 3.    FEMA Hazard Mitigation Grant Program Applications (Acquisition and Elevation)..... | 4        |
| Status: Applications in Review.....                                                      | 4        |
| <b>PART 2: WATER QUALITY &amp; FEDERAL/STATE REGULATORY DRIVEN WORK .....</b>            | <b>5</b> |
| 4.    Stormwater Control Measure Maintenance and Inspection Program.....                 | 5        |
| Status: Active.....                                                                      | 5        |
| 5.    Bolin Creek Watershed Restoration Plan Implementation .....                        | 6        |
| Status: Active.....                                                                      | 6        |
| <b>PART 3: WATER QUANTITY AND WATER QUALITY DRIVEN WORK.....</b>                         | <b>7</b> |
| 6.    Stormwater Infrastructure Condition Assessment .....                               | 7        |
| Status: Active.....                                                                      | 7        |
| 7.    Community Outreach and Engagement .....                                            | 8        |
| Status: Ongoing.....                                                                     | 8        |
| 8.    Stormwater Capital Projects.....                                                   | 9        |
| Status: Ongoing.....                                                                     | 9        |

## PART 1: WATER QUANTITY DRIVEN WORK

### 1. Flood Resilience Framework



**Project Description:** The purpose of this project is to draft a new Flood Resilience Framework to help guide community scale risk reduction and mitigation efforts.

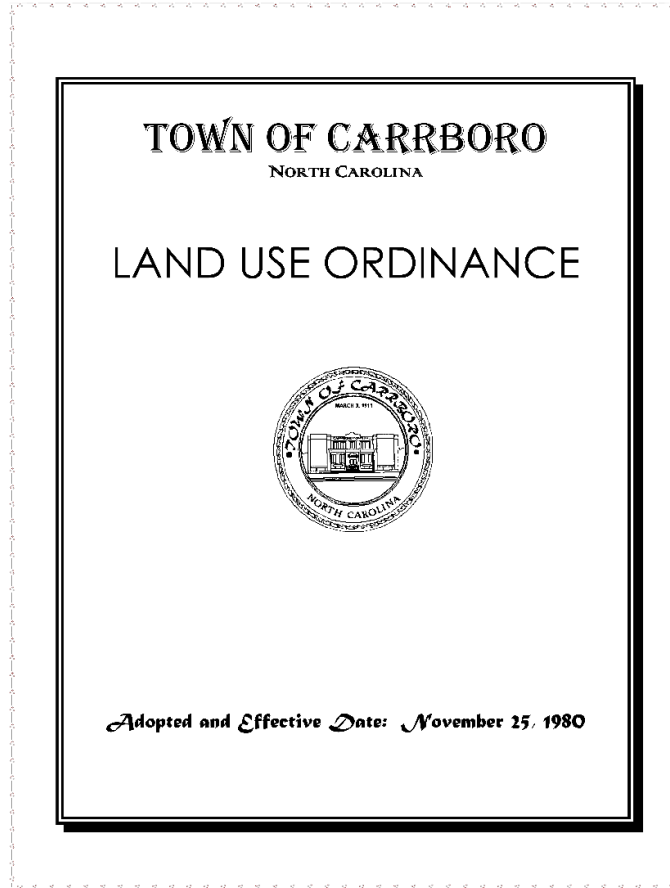
**Project Background:** Carrboro and many other communities face water related challenges that are significant and complex. We are trying to simultaneously manage: the flooding effects of more frequent and intense storms with more in store due to climate change; the challenges of historical and future land use and development; and the impacts to both residents and local aquatic ecosystems. There is a growing recognition that this multi-faceted problem requires a multi-faceted solution.

**Status: Active.** In 2019, the Council directed staff to move forward with a pilot study due to the ongoing need to address flooding issues. The Town contracted with the Center for Neighborhood Technology (CNT), resulting in a “RainReady” report in May 2020. The Stormwater Advisory Commission received information on RainReady follow up work and provided review comments. Staff continue to pursue related follow up actions, with active work including but not limited to: drafting a town wide flood resilience framework; exploring obtaining contractual support with single family residential scale technical assistance/assessments; and compiling and publishing a directory of contractors available to provide assistance to residents. The other items (2-8) in this monthly report are also relevant.

**Fiscal and Staffing Considerations:** Any fiscal impact resulting from financial assistance to be provided as part of a new program will be determined through future administrative and policy level review. There has been and will continue to be a staff impact associated with technical assistance. This impact will increase if staff will be administering a new program. Staff are reviewing the details as part of the of the FY23 budget preparation.

**Additional Information:** Additional information is available from multiple Council agenda items from 2013-2019. A [project website](#) has been created with relevant historical and project related information.

## 2. Land Use Ordinance Stormwater Provisions Review



**Project Description:** LUO stormwater provisions are under review.

**Project Background:** At the April 16, 2019 meeting, the Council referred further review of the stormwater provisions in the LUO to staff and the Stormwater Advisory Commission in consideration of the flooding and drainage impacts being experienced and elevated risk for increasing impacts due to climate change.

**Status: On Hold.** This has been referred to Stormwater and Planning staff, Sungate Design, and the Stormwater Advisory Commission. Staff will begin researching and considering the scope of potential changes in the first half of 2022 and anticipate working with the SWAC in late 2022 or early 2023.

**Fiscal and Staffing Considerations:** There is no fiscal impact with reviewing and amending the LUO. There will be a staff impact with performing the review.

**Additional Information:**

<https://carrboro.legistar.com/LegislationDetail.aspx?ID=3919560&GUID=59CDD594-2973-4C2B-813C-738A1CF5707B&Options=&Search>

<http://www.townofcarrboro.org/DocumentCenter/View/698/Article-XVI-Floodways-Floodplains-Drainage-and-Erosion-PDF>

### 3. FEMA Hazard Mitigation Grant Program Applications (Acquisition and Elevation)



**Project Description:** The information presented below is for an acquisition project for 116 Carol Street, and a new elevation project for 100 James Street

**Project Background:** Following on Hurricane Florence and Tropical Storm Michael, FEMA announced new rounds of HMGP funding. In addition to the Lorraine Street properties discussed above, two additional homeowners at 116 Carol Street and 100 James Street (properties included in previous HMGP applications for acquisitions that did not move forward) have responded and were included in Letters of Interest submitted by the Town to the NC Department of Public Safety (NCDPS). Staff submitted applications for an acquisition project for 116 Carol Street and for elevation of the home at 100 James Street in 2019.

**Status: Applications in Review.** Application materials for the 116 Carol acquisition were submitted to the State in October 2019 under Hurricane Florence. Application materials for the 100 James Street elevation were submitted to the State in November 2019 under Tropical Storm Michael. Staff regularly check on the status, which has remained “pending obligation” since the applications were submitted. If approved, staff will follow up with pursuit of entering into (a) grant agreement(s) for one or both projects. Note that in late January, NCDPS staff informed staff that FEMA and NCDPS may be ready to move forward with the 116 Carol acquisition soon.

**Fiscal and Staffing Considerations:** If the Town can successfully enter into grant agreements (one for acquisition and one for elevation), costs for work covered by the grants will first be borne by the Town and then reimbursed to the Town with a combination of both Federal and State funds covering eligible costs, provided that all grant requirements are met. If the Town chooses to incur costs prior to entering into the agreement, these costs will not be reimbursable with grant funds. While there would be a significant staff impact to administer the grant funds, the staff capacity is sufficient to do so should FEMA decide to move forward.

**Additional Information:**

[https://www.fema.gov/media-library-data/1493317448449-b83f27544e36b7bf67913f964a56b15a/HMA\\_Homeowners\\_Guide\\_040717\\_508.pdf](https://www.fema.gov/media-library-data/1493317448449-b83f27544e36b7bf67913f964a56b15a/HMA_Homeowners_Guide_040717_508.pdf)

## ***PART 2: WATER QUALITY & FEDERAL/STATE REGULATORY DRIVEN WORK***

### **4. Stormwater Control Measure Maintenance and Inspection Program**



**Background:** SCMs (“Stormwater Control Measures”) treat runoff to reduce both water quantity and quality impacts. The Town’s Land Use Ordinance (LUO) requires stormwater management with SCMs as part of development projects. A ‘Post Construction Stormwater Program’ ensuring SCMs are properly regulated and maintained is also a requirement of the Town’s NPDES permit with EPA, as administered by the NCDEQ. In early 2020, the Council approved a rate increase to support the necessary capacity to expand program efforts in general, and specifically including SCM compliance oversight. Moving forward with a compliant and comprehensive Town wide SCM maintenance oversight program is also seen as an immediate and effective action that the Town can take for flood/climate change resilience since there are existing regulated SCMs for which performance can be improved with proper maintenance, and risks of poorer future performance can also be avoided through preventative maintenance.

**Status: Active.** Staff have been actively moving forward with the SCM maintenance and inspection program activities in recent months with goals of:

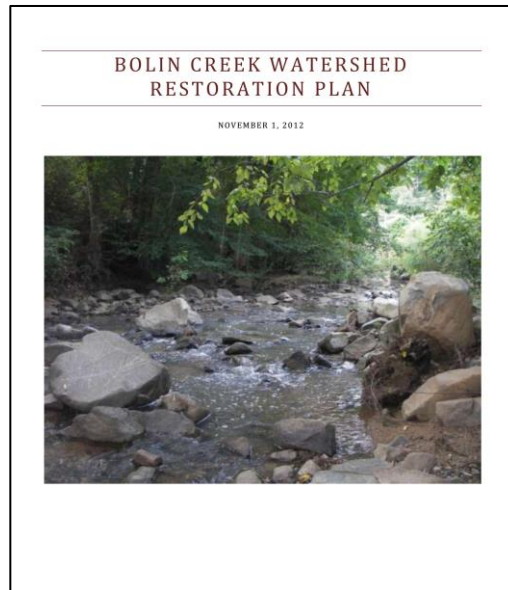
- 1) A letter being sent to all owners of Town permitted SCMs outlining their responsibilities and clear communications about the program and what will be happening going forward (initiated in November 2020).
- 2) All owners of Town permitted SCMs being required to initiate their own annual reporting of their maintenance and inspection efforts.
- 3) Stormwater staff committing to complete staff inspections of all Town permitted SCMs during the recently renewed 5-year NPDES permit cycle.

Staff have been reporting on activities to the Stormwater Advisory Commission. Stormwater staff have been and will continue to be working with property owners and their consultants to provide compliance assistance with maintenance and inspection activities. A total of 50 responsible entities have been contacted, representing 165 SCMs.

**Fiscal and Staffing Considerations:** This activity is requiring a significant amount of staff time.

**Additional Information:** <http://www.townofcarrboro.org/751/Maintenance-and-Inspection>

## 5. Bolin Creek Watershed Restoration Plan Implementation



**Regulatory Requirement:** The downstream extent of Bolin Creek in Carrboro, and into Chapel Hill, is on the state/federal list of impaired waters. Local actions are needed to improve water quality.

**Background:** Carrboro staff worked with Chapel Hill and other local, state, and federal agency staff in 2006 to create the Bolin Creek Watershed Restoration Team (BCWRT) because of the impaired waters listing. At the time, the Bolin Creek watershed was selected as one of only 7 watersheds in the state to receive focused state and federal assistance in preparing grant applications and leveraging other resources to remove Bolin Creek from the impaired waters list. The BCWRT's long term goal is to improve the health of Bolin Creek and its tributaries and remove it from the impaired waters list. This is an ambitious goal that will require a robust commitment for many years to come.

**Status: Active.** Between 2012 and 2020, watershed restoration plan implementation was inactive due to insufficient staff capacity and funding resources. In early spring, 2021, the Town Council approved and the Stormwater Advisory Commission reviewed the submittal of an EPA/NCDEQ 319 grant application with 3 HOAs in the Bolin Forest neighborhood and other partners to address an eroding gulley as a restoration and demonstration project. In January 2022, the Council approved accepting the grant agreement. Staff are moving forward with coordinating with project partners. In early March, survey work was completed to prepare for the engineering design work.

**Fiscal and Staffing Considerations:** The application is based on the Town offering an in kind but not cash match for the grant. There will be a staff impact with grant administration.

### **Additional Information:**

<https://townofcarrboro.org/280/Bolin-Creek-Watershed-Restoration>

---

## PART 3: WATER QUANTITY AND WATER QUALITY DRIVEN WORK

### 6. Stormwater Infrastructure Condition Assessment

| STORMWATER CONVEYANCE CONDITION ASSESSMENT |                                                                                                                           |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Excellent                                  | No visible defects, new or near new condition, may still be under warranty if applicable                                  |
| Good                                       | Good condition, but no longer new, may have some slight defective or deteriorated component(s), but is overall functional |
| Adequate                                   | Moderately deteriorated or defective component(s), but has not exceeded useful life.                                      |
| Critical                                   | Defective or deteriorated component(s) in need of replacement; exceeded useful life.                                      |
| Failed                                     | Failed/damaged components(s) or in need of immediate repair; well past useful life.                                       |

**Project Description:** The purpose of this project is to assess the condition of Town-maintained stormwater infrastructure to inform: life cycle asset management and program revenue needs; capital, smaller project, and repair and maintenance planning and prioritization; and coordination of stormwater infrastructure work with other right of way and facilities maintenance and improvement projects.

**Project Background:** The Town has pursued work to inventory the Town's stormwater infrastructure over the past 15-20 years. This infrastructure includes features such as inlets, catch basins, pipes, culverts, junction boxes, outlets, ditches and swales, energy dissipation, and Stormwater Control Measures. There was an initial effort that captured much of the inventory and the inventory has been updated as new development has been constructed. Most recently, Stormwater and GIS staff have collaborated to employ new hardware and software tools to facilitate the ongoing maintenance and improvement of the infrastructure inventory. However, a comprehensive condition of stormwater infrastructure does not currently exist.

**Status: Active.** Stormwater staff have begun planning for a phased approach to completing a comprehensive stormwater infrastructure condition assessment. This will require a phasing/prioritization of types (e.g., age, material, size, closed/below ground or open/above ground system) and location and risks and impacts of disrepair/failure of infrastructure to assess over the next several years. The assessments will be more involved and expensive for closed (underground) systems. Staff will begin work as able in the remainder of FY 21/22 and include this new initiative as part of the FY 22-23 operating budget submittal.

**Fiscal and Staffing Considerations:** This will require a combination of contracted services and Town staff work. It is preliminary to estimate the cost and level of effort.

**Additional Information:** As this work progresses, additional information will be provided on the Town's website.

## 7. Community Outreach and Engagement



**Project Description:** Staff continue to expand community outreach and engagement efforts.

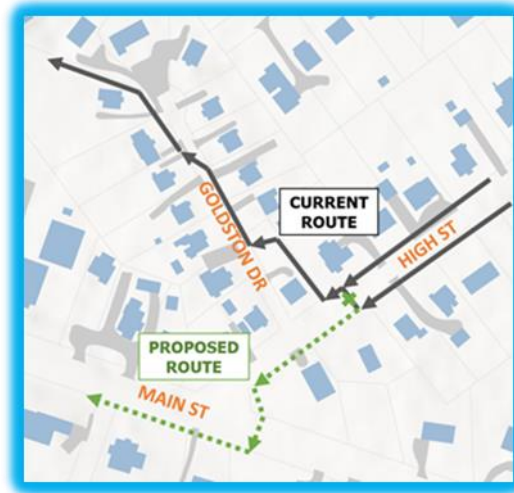
**Project Background:** Since the Stormwater Utility and Division were created in 2018, staff have developed and pursued a number of methods and means for community outreach and engagement. For example, staff created a Homeowners Manual and have shared it with residents via the website and with social media and virtual and in-person events. Staff have also collaborated with Chapel Hill for two annual Joint Stream Clean-ups. A variety of other specialized outreach materials and activities have been pursued such as “Tree Tags”, a virtual stream buffer restoration presentation, and an event at the dog park. Staff have provided one-on-one and neighborhood scale technical assistance to residents on topics such as roof disconnects, erosion control, riparian restoration, tree plantings, land records access, federal, state, and local permitting and assistance and more. Many online and print outreach materials have been created.

**Status: Ongoing.** A significant upcoming event is [the First Annual Orange County Creek Week](#), March 12th through the 19th. This is a partnership between Orange County, UNC-CH, Chapel Hill, Carrboro, Hillsborough, and OWASA, and also part of broader regional efforts. Orange County has agreed to host a [permanent website](#) for the event that will contain links to resources, educational content, and a calendar for all partner events. Stormwater staff are working with the Town’s Communications Director to create new content to feed into newsflashes and weekly newsletters. New stormwater content is being created as part of the town wide website revamp to make pages more streamlined, easier to navigate, accessible, and more informative. Staff have also been working on a trash cart sticker to provide information on whom to contact with different Public Works related questions. Staff plan to continue to ramp up work with neighborhoods and the school system.

**Fiscal and Staffing Considerations:** This work is integrated into the ongoing work of staff and the operating budget; no new impact is anticipated.

**Additional Information:** As mentioned, more information will be available soon for Orange County Creek week and with the website revamp.

## 8. Stormwater Capital Projects



**Project Description:** Staff continue to plan for and implement stormwater capital projects.

**Project Background:** Since the Stormwater Utility and Division were created in 2018, a Stormwater section of the annually updated Capital Improvement Program has been included, and stormwater capital projects have been pursued. Two capital projects have been completed, a stream restoration at Public Works and a culvert replacement on Broad Street.

**Status: Ongoing.** There is one currently active and approved capital project funded by the Stormwater Enterprise Fund. It is for infrastructure improvements in the West Main Street vicinity. A construction bid is planned for release in mid-March. This project will divert some of the runoff generated along High Street out to Main Street instead of the current conveyance route along Goldston Ave. and continuing through downstream private properties. Staff continue with future project planning and development work; recommendations have been passed on for the annual update to the Capital Improvement Program. The condition assessment work referenced in #6 is an important aspect of this work. Staff are also working to identify new green stormwater infrastructure opportunities for Town maintained rights of way and facilities.

**Fiscal and Staffing Considerations:** This work is integrated into the ongoing work of staff; no new impact is anticipated aside from the fiscal impact identified as part of future project approval.

**Additional Information:** Information on the Town's CIP is available at [this link](#). A [project webpage](#) has been created for the High Street project,