



City of Boiling Spring Lakes

9 East Boiling Spring Road
Southport, NC 28461

STAFF REPORT

Agenda Date:

March 3, 2026

Title:

Stormwater Department Status of Work Completed

Department:

Stormwater

Background Information:

The City has created a new stormwater department to implement and mitigate the effects of stormwater flooding in the City limits that has become worse over the last several years due to the increase of building development. The increase in building development impacts the existing roadside drainage ditches/swales, primary drainage ditches and mechanical conveyance systems with additional stormwater from new impervious surfaces. In order to limit flooding due to the increased development, the stormwater department was created to maintain the existing stormwater infrastructure, plan for future impacts from new development, implement strategies to mitigate flooding and provide support to other City Departments with permitting and general master planning. The information below provides a description and photos of work that has been completed since the inception of the department. Currently the team has reshaped and ditched a total of **22,777 lf.** of roadside drainage ditches. Last year ditching totals were **19,969 lf. (2025)** and this year ditching totals to date are **4,988 lf (2026)**.

In addition to the ditching and stormwater maintenance, the team has begun a stormwater upgrade to the Miller and Pine Lake Road intersection. Phase 1 of the project has been completed. The work included the placement of 200 lf of 24" HDPE pipe with a flared end section, discharging onto a rip-rap apron. The apron was sized accordingly to dissipate high flow velocities and prevent erosion at the point discharge. The inlet section of the system located on Pine Lake Rd has also been protected with rip rap to prevent embankment erosion during large storm events. The next phase of the project will be to remove and replace the existing 18" pipe running under Pine Lake Rd with a larger 24" HDPE pipe that will connect to the pipe system completed in Phase I.

The goal of this improvement is to provide flow at that location minimizing the flooding that has occurred in the past. As we investigate further, pipes that seem problematic will be replaced with new High Density Polyethylene Pipe (HDPE). This material is standard for stormwater systems and has a high corrosion-resistance, durable with a long service life.

The Stormwater Department is mobilizing for another project on North Shore Drive. This project will consist of removing an existing 24" HDPE perforated pipe that is severely clogged with roots and sediment. The pipe is basically under performing and causing flooding issues upstream of the inlet. The existing pipe will be replaced with 260 lf of new 24" solid HDPE pipe terminating at a concrete headwall at the rear of the property. The pipe discharge apron will be sized accordingly to prevent undermining of the headwall and act as an energy dissipator for high flow velocities.

In addition to replacing culverts and cleaning drainage ditches, the team is also removing overgrown vegetation from many of our primary ditches, checking existing storm pumps and preparing areas that are flood prone prior to major storm events. The team has also begun grooming the lake bed at Pine Lake with our equipment, cutting brush and small pine saplings that have sprouting up in the last couple months.

Financial Impact:

The financial impact to the City will have cost savings overall when stormwater and flooding have less of an impact to City infrastructure and residential properties.

Recommendation:

No additional recommendations are being considered since last month's report.

Attachments:

The following list below provides a description of the ditching work that has been completing in the last month:

Note: The team has reshaped and cleaned approximately 2,808 lf. of drainage ditches to include the following area;

- 1.) 1,090 lf. Baymeade Road
- 2.) 300 lf. Glen Oak Road
- 3.) 1,418 lf. Winston Salem Rd

Total Ditching for January and February (02-18-2026) = 2,808 lf.

PHOTOS



Finished Pipe Discharge
w/Rip Rap Protection



Final Grading at Pipe
at Pipe Discharge



Ditch Reshaping with
Rip-Rap Protection



Pine Lake Rd
Ditch Cleaning and Reshaping



Ditch Cleaning & Reshaping
Baymeade Road



Ditch Cleaning & Reshaping
Baymeade Road



Pine Lake Bed Mowing



Pine Lake Bed Mowing