



Bottom Neighborhood Stormwater  
Improvement Projects

Beautiful Yard, Strong Community  
& a Clean Environment



Successful community involvement requires planning.

Project team members attended several meetings with the Bottom Neighborhood Empowerment Association and held three community workshops to:

- ☐ Hear neighborhood concerns and opportunities
- ☐ Explain problems with storm water runoff
- ☐ Share solutions
- ☐ Involve neighbors
- ☐ Locate potential project sites
- ☐ Teach how to install and maintain rain gardens and rain barrels







BNEA suggested Community Demonstration Projects to show rain gardens & rain barrels



Gregory Elementary School  
of Science and Math and  
Anderson Tabernacle Church  
stepped up to the plate







Cape Fear River Watch volunteers provided labor to install rain gardens



Residents agree to maintain their rain gardens and rain barrels so they continue to function in the future- this includes:

- Removing sediment that may accumulate in the rain garden
- Weeding as needed
- Replacing mulch once a year as needed
- Cleaning out rain barrels annually to remove pollen





Residents contributed by installing gutters at their own cost and helping neighbors to install rain barrels





Working together,  
we can do anything.

14 rain gardens  
24 rain barrels and counting!

Thank you, Bottom Neighborhood,  
for your responsible stewardship of  
our environment!



Project partners:  
City of Wilmington Stormwater Services  
Bottom Neighborhood Empowerment Association  
NC State University- Watershed Education for Communities and Officials &  
Dept. Biological and Agricultural Engineering  
New Hanover Soil & Water Conservation District  
New Hanover County Extension  
Cape Fear River Watch  
Rain Water Solutions  
UNC-Wilmington

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NC Division of Water Quality



# Stormwater Treatment Protects Water Quality

## GREGORY ELEMENTARY

### *What is stormwater runoff?*

Stormwater runoff is the rainfall that flows off impervious surfaces such as roofs, roads, and parking lots. It is not absorbed into the ground - it runs off. Stormwater runoff moves quickly, picking up pollutants like fertilizer, pet waste, vehicle fluids, and soil. Pollutants eventually enter nearby creeks, harming wildlife and threatening activities such as fishing and swimming.

### *What are BMPs?*

Stormwater Best Management Practices (BMPs) are behavioral or structural practices that reduce pollution flowing into our creeks by slowing runoff, increasing evaporation, and filtering pollutants. Gregory Elementary is helping protect Burnt Mill Creek with a structural BMP, a rain garden. Smaller rain gardens can be installed at your home to treat runoff from driveways and rooftops. Here, we were fortunate enough to have help from Principal Maria Greene and Ms. Brampton's 2006 fifth grade class.



### *Rain gardens*

Also known as bioretention areas, rain gardens are excavated basins filled with soil, mulch and plants.

This rain garden temporarily holds stormwater runoff, slowing it down, and allowing it to soak into the ground. Pollutants settle out or are filtered out as the water moves through the soil. The interactions of plants, soil, and natural microbes help remove nutrients and pollutants. This rain garden receives most of the runoff from the parking lot, filtering it before it enters Burnt Mill Creek.



### *Mulch*

An important component to rain garden construction and maintenance, mulch helps keep the soil moist, allowing for easier infiltration of stormwater.

In addition, mulch protects plant roots by maintaining soil moisture, reduces weeds by shading the soil, and helps remove pollutants by adsorption.



### *Grass filter forebay*

The semicircle of grass slows stormwater down as it runs off the parking lot. It is the first step in the pollutant and

sediment removal function of this BMP. This provides pretreatment for the water flowing into a rain garden. During most rainfall events, water flows over the top of the grass berm and into the rain garden, limiting disturbance to the mulch.



*Special Thanks to our partners for their time, resources, and expertise:*

NC DWQ US EPA

Cape Fear River Watch

City of Wilmington Stormwater Services

NCSU Biological and Agricultural Engineering

Burnt Mill Creek Watershed Advisory Board

NCSU Watershed Education for Communities & Officials

& of course, Gregory Elementary School

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