

# City of Monroe Public Education and Outreach Program



*Stormwater  
Management –  
Everyone's job*

# Outline

- 💧 **General Information**
- 💧 **Public Education**
- 💧 **Educational Material**
- 💧 **Public Outreach**
- 💧 **Regional Stormwater  
Partnership of the Carolinas**





# General Information

💧 County seat of Union County

💧 Population: 35,000 ±

💧 Size - 24.9 Sq. miles

💧 Watersheds

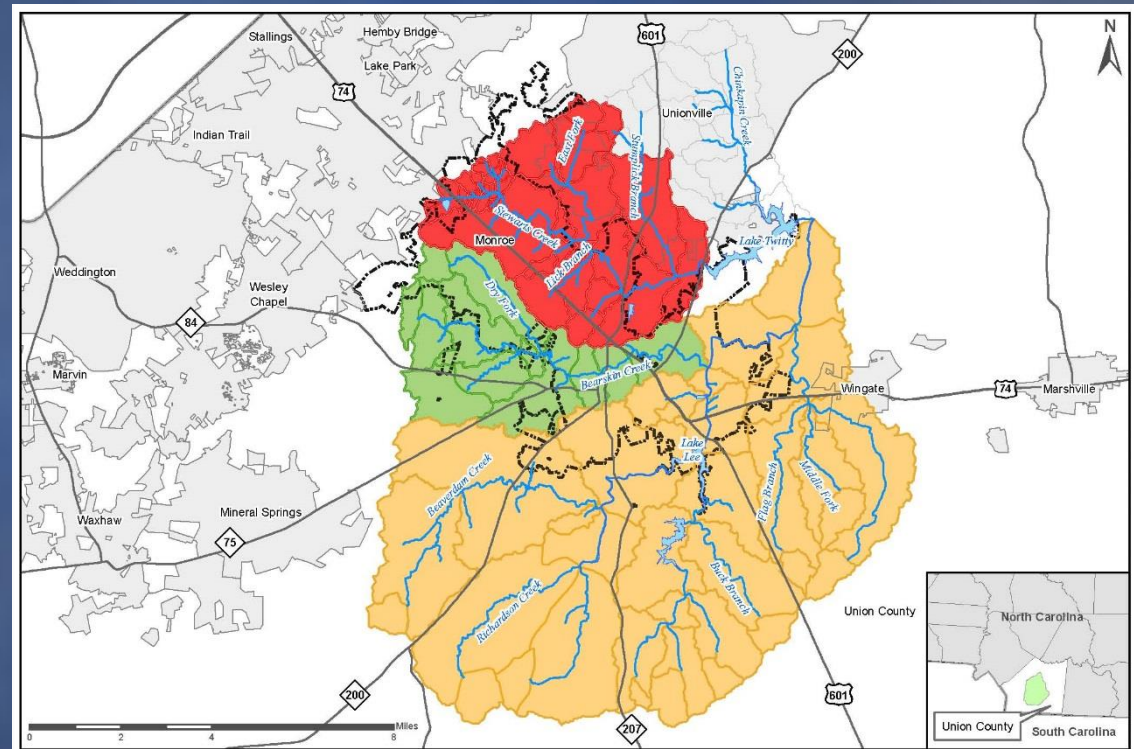
💧 Stewarts Creek

💧 Bearskin Creek

💧 Richardson Creek

💧 NPDES Permit No.

NCS000482



# City of Monroe Stormwater Program

## Stormwater Organization



Engineering Department  
Engineering Director  
Jim Loyd, P.E.

**Engineering Services**

**Street Division**

Land Development & Infrastructure Engineer  
Sarah McAllister, P.E.

Stormwater Engineer  
Chris Costner, P.E.,  
CSM

Solid Waste Coordinator  
Laurie Broome

Street Superintendent  
Terrell Jackson

Plan Review  
Infrastructure Eng. Tech. II  
Construction Inspector II  
Erosion Control Inspector  
Plat Review / Address Eng.  
Tech. I

NPDES Coordinator  
Stormwater Eng. Tech. II  
(2)

Stormwater Maintenance Crew  
Special Project Crew  
Concrete Crew  
Asphalt Maintenance Crew  
Asphalt Reclamation Crew  
Street Sign Tech.

# Stormwater Utility Program



## Purpose:

- ☹ Meet EPA's NPDES, Phase II requirements
- ☹ To enhance existing stormwater system
- ☹ To protect water resources
  - ☹ Protect our streams/creeks
  - ☹ Water supplies
  - ☹ Recreation use
  - ☹ Future generation



## Programs:

- ☹ Program Administration
- ☹ NPDES, Phase II Compliance
- ☹ Stormwater Operation/Maintenance
- ☹ Stormwater Capital Improvement Projects
- ☹ Stormwater Inventory
- ☹ Stormwater Master Planning/Water Quality



# Stormwater Utility Fee Schedule

## 💧 Budget:

- 💧 FY18: \$2,102,835
- 💧 FY19: \$2,185,186
- 💧 FY20: \$2,185,186 (Proposed)
- 💧 Fund Balance: \$1,293,000 (reserve)

## 💧 Residential Rate – Single Family Detached/ Mobile Homes

- 💧 Tier – Impervious Area (square feet)
  - 0 to 2,010 - \$3.15/month
  - 2,011 to 3,289 - \$4.50/month
  - 3,288 and beyond - \$6.30/month

- 💧 Other Residential Units
  - Town Homes - \$2.25/month
  - Multifamily - \$2.70/month
  - Condominiums - \$2.25/month

## 💧 Non-Residential Rate

- 💧 1 Equivalent Residential Unit (ERU) per Impervious Area - \$4.50/ERU/month
- 💧 1 ERU equal to 2,618 square feet of impervious surface

## 💧 Began collecting stormwater fees in January 2009



# Public Education

## 💧 Classroom Presentation

💧 Middle School

💧 After School Programs

💧 Enviroscape

💧 PowerPoint Presentation

## 💧 Local schools

💧 8<sup>th</sup> Science Teachers

💧 Email or Letter

## 💧 Documentation

💧 Number of Students

💧 Location

## 💧 Future: Environmental Educator





# Water Quality Monitoring Program



## Water Quality Monitoring

- Water Quality Monitoring
- Middle School
- Hands Activities

## Parameters

- Water Temperatures
- Dissolved Oxygen
- pH
- Turbidity

## Group Discussion

## Results

- Earth Echo
- [www.MonitorWater.org](http://www.MonitorWater.org)

## Documentation

- Number of Students
- Location



# Educational Material



## 💧 Brochure

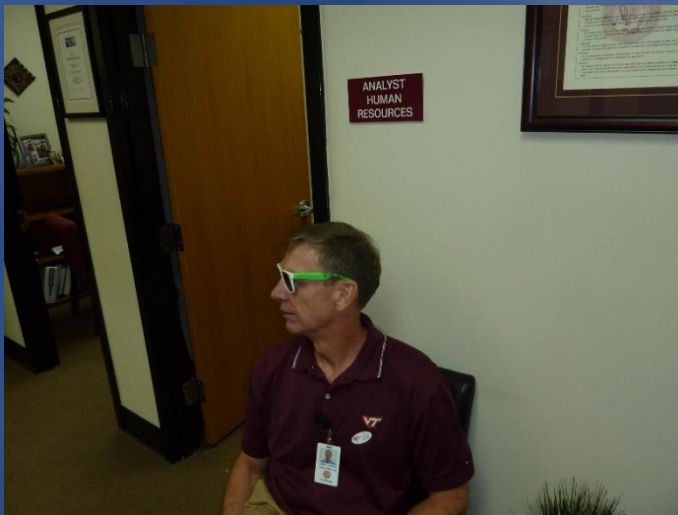
- 💧 Yard Waste
- 💧 Used Oil
- 💧 Household Hazardous Waste
- 💧 Pet Waste
- 💧 Illicit Discharge
- 💧 English and Spanish

## 💧 Door hangers

- 💧 Residential Area
- 💧 Brochure for issue reported in the area
- 💧 Include a magnet with hotline number

## 💧 Documentation

# Educational Promo Items



💧 **Budget: \$6,000 to \$8,000**

💧 **Purchase in July**

💧 **Typical promo items:**

💧 **Fish and flamingo pens**

💧 **Sunglasses**

💧 **Tote/cooler bags**

💧 **Pencil**

💧 **Refrigerator magnets**

💧 **Crayons**

💧 **Stickers**

💧 **Cooling towels**

💧 **Stress fish**

💧 **Documentation**



# Public Outreach



## Public Events

- Neighborhood Meetings
- Union County Heritage Festival
- Water Week
- Health and Wellness Expo

## Booths

- Enviroscape
- Catch Basin Model
- Prize Wheel

## Volunteers

## Documentation





# Stormwater Advertisement

## FREE EnviroScape® Classroom Demonstration Stormwater / Environmental Education

We all live in a watershed, with water pollution coming from many sources. The EnviroScape is a two-foot square, three-dimensional watershed model that is an interactive educational tool. The model shows the impact of water pollution and how we can reduce water pollutions using Best Management Practices. Demonstrations are **FREE** and can be customized for all ages. Presentation can be tailored to run from 30 minutes up to 2 hours.



### What concepts are covered with the EnviroScape?

- What a watershed is and how it functions
- What can we do to protect our environment
- What is a storm drain
- What is erosion and how it can be controlled
- Function and importance of vegetation
- Benefits and adverse impact of pesticides & fertilizers
- What makes algae grow and impacts on aquatic life
- What is point and nonpoint source pollution

### The EnviroScape model shows the sources of pollution:

- Forestry
- Transportation
- Recreation
- Residential Area
- Agriculture
- Construction sites
- Industries



### Typical Demonstration Outline

- What is stormwater?
- What is a watershed?
- What is stormwater pollution?
- Types of stormwater pollution & environmental impacts.
- What are the impacts to our creeks and lakes?
- What about impacts to wildlife?
- What can we do about stormwater pollution?
- What are some ways we can reduce stormwater pollution around our community?



## EARTHECHO WATER CHALLENGE

Global Participation through Local



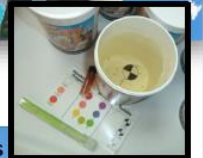
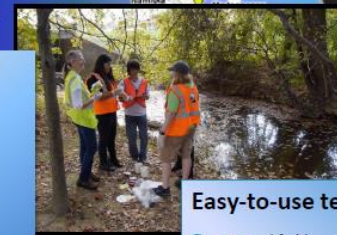
Water Quality Monitoring Program

The EarthEcho Water Challenge is offered by the Prevention Public Participation Program. *Stormwater runoff* is the leading cause of impairment of our nation's lakes and streams. The program is an education and awareness activity that connects communities members with their local water bodies and promotes watershed protection.



### Suggested participants

- Children Ages 8 through adults
- Student classrooms
- Civic organizations
- Community Groups
- Environmental Clubs
- Scouting groups
- Neighborhoods



### Easy-to-use test kits

- Kits and field instruction provided by the City of Monroe Engineering Department – Stormwater Education Program.
- Core set of water quality parameters: include:
  - Temperature
  - pH (acidity / alkalinity)
  - Turbidity (clarity)
  - Dissolved oxygen (DO)
- Results are then shared with participating communities around the globe through the WWMC web site. [www.MonitorWater.org](http://www.MonitorWater.org)

### Monitor local water bodies

- Lake Twitty
- Lake Lee
- Lake Monroe
- Bearskin Creek
- Stewarts Creek
- Richardson Creek
- Local ponds





# Public Outreach



## Bill Insert

2 stormwater messages per year

No cost to stormwater program

## Social Media

Facebook

Stormwater events

## Stormwater Hotline

## Documentation

## Future:

Science Center

Activity Station

Topobox Sand Model

# Public Outreach



Before



After

## Commercial Outreach

- Site visit
- Talk with staff
- Send letter and brochure information
- Follow up site inspection

## Typical Issue

- Restaurant good housekeeping
- Trash and debris around dumpsters
- Mobile car wash
- Illicit discharge
- Construction activities
- Outdoor grilling / washing



# Regional Stormwater Partnership



RSPC Quarterly Meeting



In-Studio Interview on Stormwater with Dave Johnson, Mt. Holly



Tech Talk Training by Chris Costner

## Regional Stormwater Partnership of the Carolinas

- 18 Municipality Partners

## Promote stormwater issues

- Radio Ads

- Internet

- Television Commercials

- Television Interviews

  - WCCB – News Rising Spotlight

  - Carolina Insight

## Workshops

- Elected Officials

- Tech Talks

- Quarterly Meeting

## Webpage

- [www.regionalstormwater.org](http://www.regionalstormwater.org)

- Section for Educator

The Regional Stormwater Partnership  
of the Carolinas requests your presence at:

# Stormwater Workshop for Elected Officials

Learn how understanding stormwater  
issues can help you to become a  
better-informed leader in your community!

**SAVE THE DATE**  
**FEBRUARY 28, 2019**

**8:30 - 9 a.m. Registration & light breakfast**  
**9 a.m. - 12:30 p.m. Workshop & lunch**

MECKLENBURG COUNTY LUESA BUILDING  
2145 SUTTLE AVE., CHARLOTTE  
FRASIER FIR TRAINING ROOM, 4TH FLOOR

**PLEASE REGISTER AT:**

[HTTPS://REGIONALSTORMWATER.ORG/STORMWATER-WORKSHOP-REGISTRATION](https://REGIONALSTORMWATER.ORG/STORMWATER-WORKSHOP-REGISTRATION)

**FOR MORE INFO, CONTACT REGINA C. GUYER**  
**REGINA.GUYER@RISINGSOLUTIONSPLLC.COM**  
**704-701-2270**

## WORKSHOP TOPICS

Stormwater Basics - Our Goals  
and Objectives and the  
Importance of Partnerships

Clean Water Act and Municipal  
Stormwater Permit  
Requirements

Stormwater Utility Fees and  
Aging Stormwater  
Infrastructure

Importance of Stream Buffers  
and Stormwater Control  
Measures

Lunch and Interactive  
Discussion



REGIONAL  
STORMWATER  
PARTNERSHIP  
OF THE CAROLINAS







REGIONAL  
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OF THE CAROLINAS

## RSPC Members

Belmont  
Bessemer City  
Charlotte  
China Grove  
Cramerton  
Dallas  
Harrisburg  
Lake Park  
Gastonia  
Lowell  
Mecklenburg Co  
Monroe  
 Mooresville  
Mount Holly  
Shelby  
Stallings  
Town of Stanley  
Statesville

# STORMWATER

Work collaboratively on local stormwater issues

The Regional Stormwater Partnership of the Carolinas (RSPC) educates and brings awareness to the public, local businesses and education centers of our region about stormwater issues and their impact on water quality and our environment. We further aim to unite local stormwater programs by sharing information and ideas in order to discuss and address similar stormwater issues on a regional level.

<http://regionalstormwater.org>

[regina.guy@risingsolutionspllc.com](mailto:regina.guy@risingsolutionspllc.com)



## RSPC Actions

- 1 Outreach and Education**
- 2 Tech Talks**
- 3 Elected Officials Workshop**

Campaigns to promote awareness of stormwater issues across Internet, TV, and radio marketing and expanding to outreach for schools and citizen groups.

Workshops and seminars for members that focus on stormwater, stormwater management, and water quality.

Seminar focusing on the importance of stormwater management and the role that local officials play in complying with state-mandated stormwater regulations.

## Benefits

- "The benefits are the outreach, education, public information that RSPC provides that would be very expensive if one agency had to spearhead it all by itself." -Derek Slocum, Public Works Director Statesville
- The benefits of the RSPC include a network of professionals to share similar experiences and work through similar issues and problems to find common solutions, a regional approach to storm water management... working together to improve conditions, a cost effective way to maintain compliance with NPDES storm water permit requirements, education, potential grant opportunities through partnership, and networking / making great contacts -David Caldwell, Environmental Supervisor Charlotte-Mecklenburg Storm Water Services Water Quality Program
- "RSPC provides members with opportunities to see what others in your region are doing with storm water and get updated on the latest information from the State." -Josh Watkins, Planning Director Town of Cramerton
- "The RSPC allows us and other member municipalities to leverage our combined resources, monetary and otherwise, to fulfill MS4 permit requirements that we might not otherwise be able to accomplish on our own. This is just one of a number of wonderful benefits that we receive as part of being a member of the partnership." -Craig Miller, City of Charlotte NPDES Program Supervisor

<http://regionalstormwater.org>

[regina.guy@risingsolutionspllc.com](mailto:regina.guy@risingsolutionspllc.com)

# Questions?



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**Stormwater Engineer**  
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