

*Webinar Training Series*



## **New Approaches to Permit Compliance and Enforcement in Region 4**

August 9, 2018 /// 2:00 p.m. – 3:00 p.m. (Eastern)

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# Today's Presenters



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# MS4 Permitting in EPA Region IV

Saya Ann Qualls, PE, ENV SP  
Hazen and Sawyer

August 9, 2018

# Discussion Topics

Statutory/Regulatory Framework

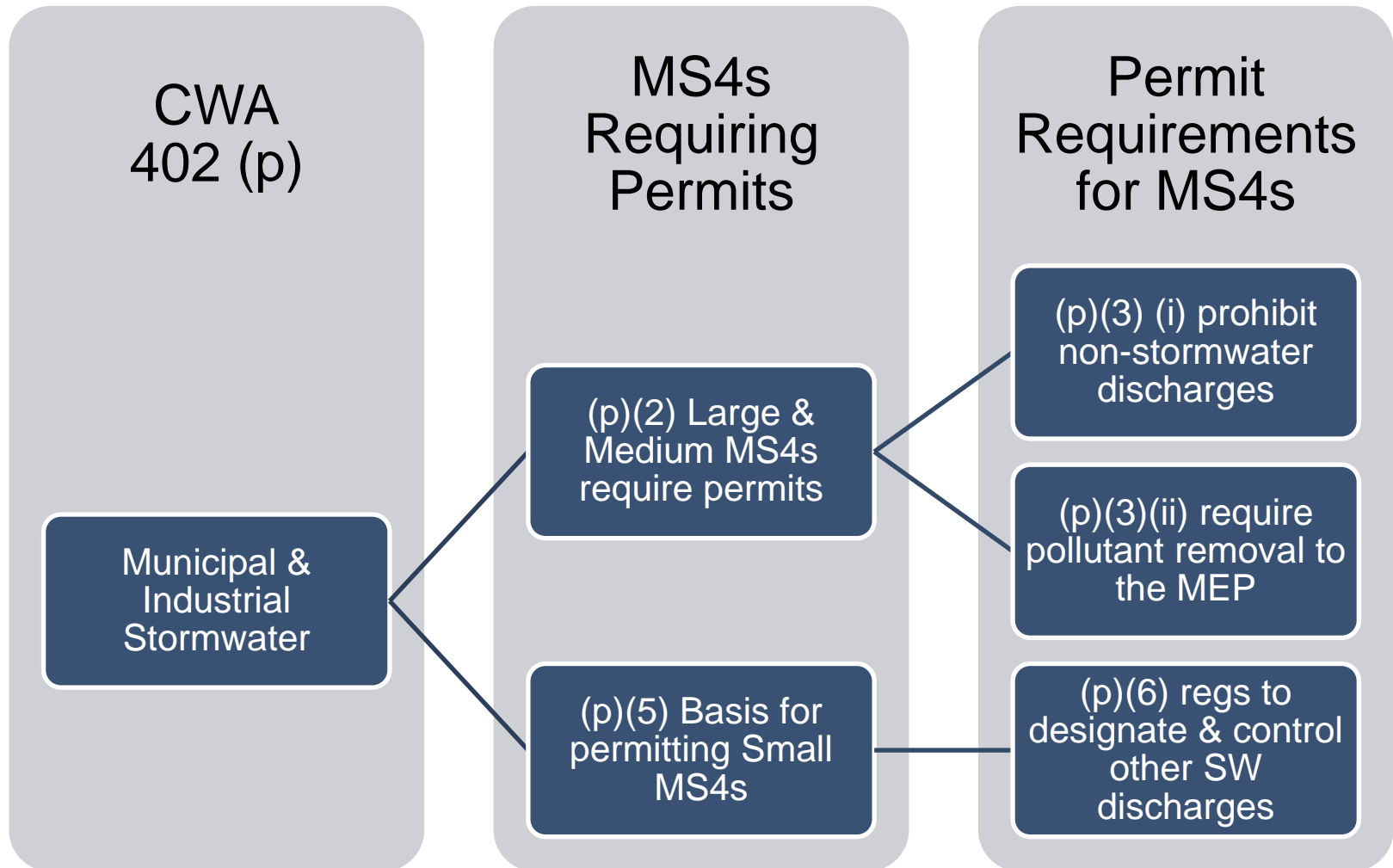
Permit Requirements

Phase 1 vs Phase 2

State Approaches

Compliance/Enforcement

# Statutory Framework



# Regulatory Framework

## 40 CFR § 122

### 122.26 Stormwater Discharges

- Permits required for MS4s
- Definitions
- Permit application requirements for large & medium MS4s

### 122.33 Small MS4 Applications

- Permit application requirements for Small MS4s
- General permit or an individual permit application instructions
- Co-permittee option

### 122.34 Small MS4 Permit Requirements

- 6 minimum measures
- More stringent requirements per TMDLs or to protect water quality
- Reporting and recordkeeping

# Program/Permit Requirements

## Large/Medium MS4s

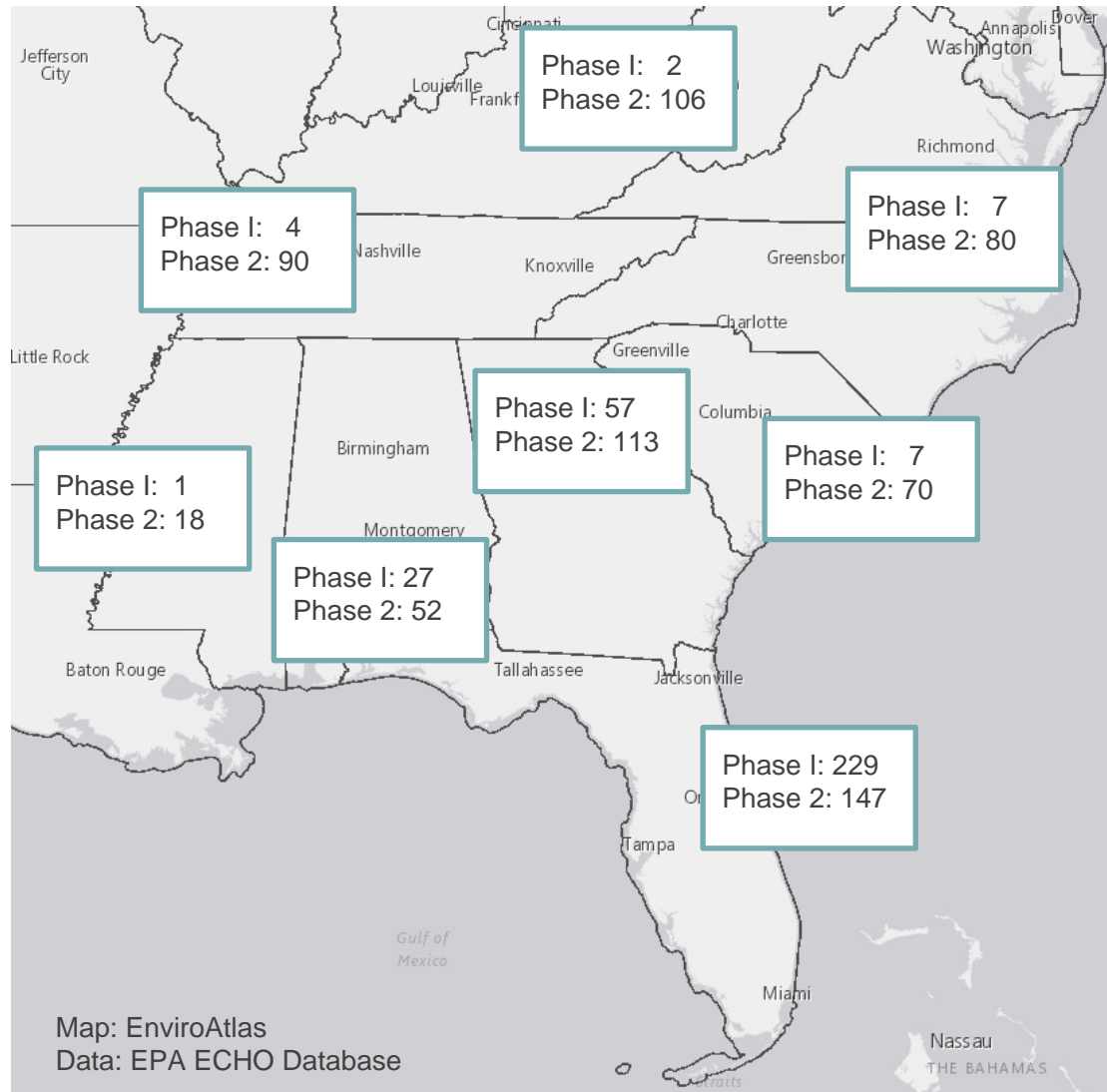
- Ongoing Monitoring
- Commercial/ Residential Areas
  - Structural control maintenance
  - Development
  - Streets/roads/highways
  - Flood management projects
  - Municipal waste facilities
  - Pesticides, herbicides & fertilizers
- IDDE
- Industrial Facilities
- Construction

## Small MS4s

- 6 Minimum Measures
  - Public education
  - Public involvement
  - IDDE
  - Construction
  - Post-construction
  - Good housekeeping & pollution prevention
- TMDL/ Water Quality Requirements



# MS4s by State



# State Approaches - Florida

- Generic Permit for Phase II
  - MEP/TMDLs
  - 6 Minimum measures
- Phase 1 Permits
  - 9 Components
  - Reference the Part 2 application requirements

NPDES PHASE I  
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)  
PERMITTING  
RESOURCE MANUAL



NPDES Stormwater Program  
Division of Water Resource Management  
Tallahassee, Florida

FINAL JANUARY 31, 2013 Version

[https://floridadep.gov/sites/default/files/MS4\\_Permit\\_Resource\\_Manual\\_0.pdf](https://floridadep.gov/sites/default/files/MS4_Permit_Resource_Manual_0.pdf)

# State Approaches -Tennessee

- Buffer Requirements
- Merging of Phase I and Phase II Requirements
  - 6 minimum measures in Phase I permits
  - Monitoring in Phase II permits
- Qualified Local Programs
- Post-Construction
  - New law requires that post-construction provisions must be promulgated as a rule

# MS4 Stormwater Compliance and Enforcement

- Improving the “enforceability” of MS4 permits
  - Clear, specific and measurable
- Compliance monitoring
  - At least once per five years
  - Inspection/on-site audit
  - Off-site audit
- Tracking
  - ECHO Database

# Questions?

**Saya Ann Qualls, PE, ENV SP**

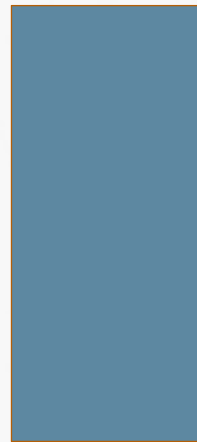
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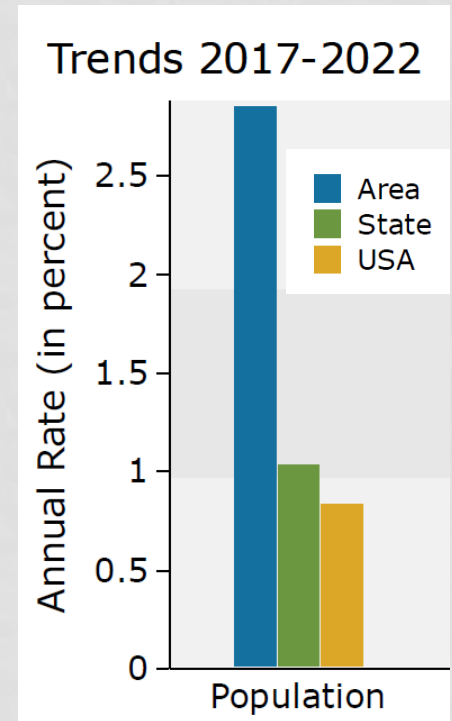
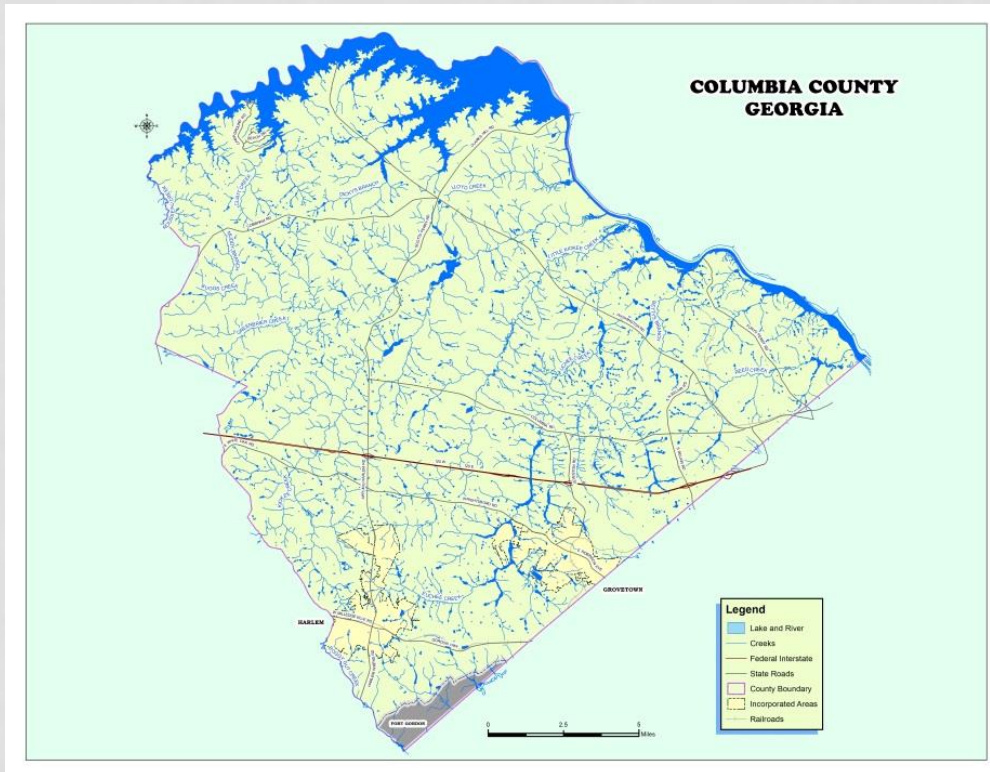
# COLUMBIA COUNTY, GA

KATIE-BETH JENNINGS, CPESC, CFM  
ENVIRONMENTAL SERVICES MANAGER



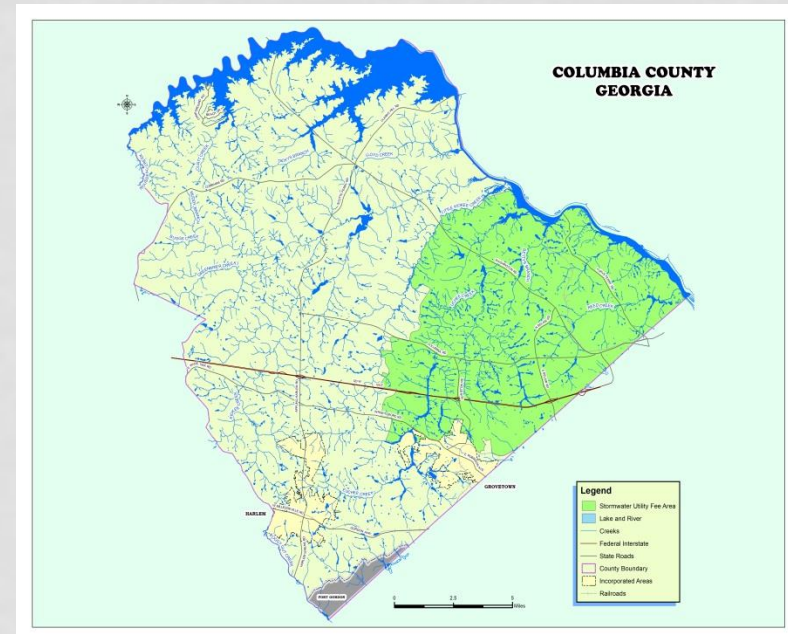
# COLUMBIA COUNTY, GEORGIA

- Population: 153,260



# COLUMBIA COUNTY, GEORGIA

- Stormwater Utility fee since 2000
- >41,000 properties in fee area
- Billed in with water bill
  - Ordinance repercussions for delinquent accounts to suspend other county provided services, such as utilities, business licenses, or permits, to the person, entity, or affiliated entity, related by common control or ownership, for which the past due monies to the county are owed.





# COLUMBIA COUNTY, GEORGIA

- Stormwater Fee Credit Program
  - Ponds, rain barrels, green infrastructure, IGP, and education programs
- Utilized by 5% of accounts, maintained ponds
  - Annual inspection form and maintenance agreement

# COLUMBIA COUNTY, GEORGIA

General NPDES  
Stormwater Permit  
No. GAG610000



**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
STORM WATER DISCHARGES ASSOCIATED WITH  
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

In compliance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the "State Act," the Federal Clean Water Act, as amended (33 U.S.C. 1251 et seq.), hereinafter called the "Clean Water Act," and the Rules and Regulations promulgated pursuant to each of these Acts, all new and existing stormwater point sources associated with small municipal separate storm sewer systems, upon submittal of a Georgia Notice of Intent, are authorized to discharge stormwater to the waters of the State of Georgia in accordance with the limitations, monitoring requirements and other conditions set forth in Parts 1 through Appendix B hereof.

This permit shall become effective on December 6, 2017.

This permit and the authorization to discharge shall expire at midnight, December 5, 2022.



Signed this 15 day of Nov 2017.  
*R. L. [Signature]*  
Director,  
Environmental Protection Division

STATE OF GEORGIA  
DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION

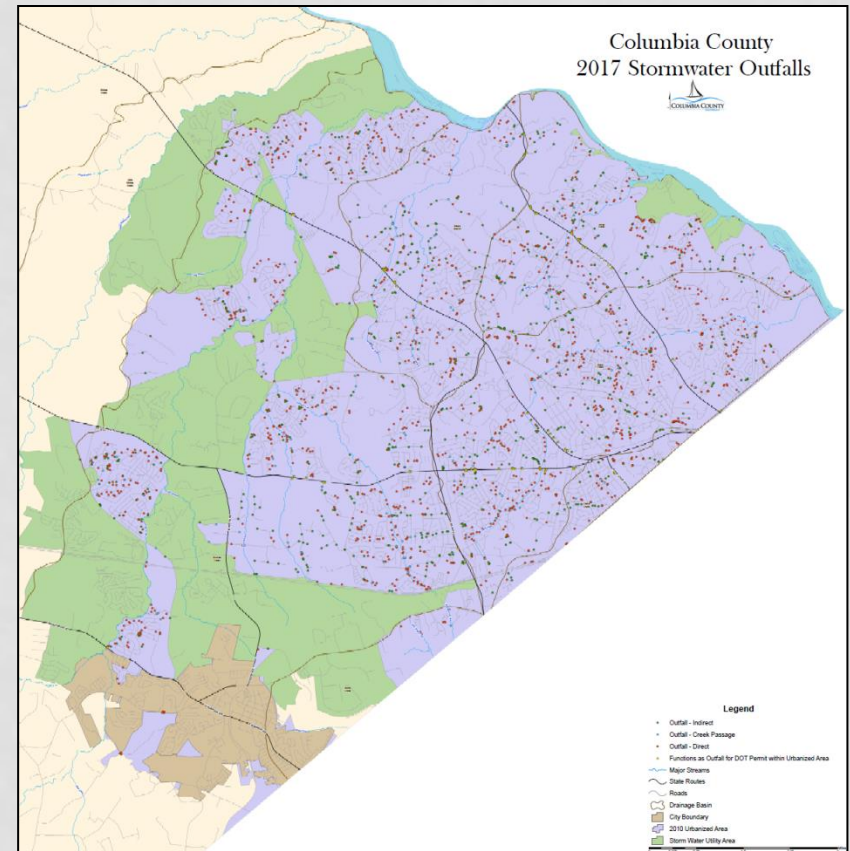
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Permit No. GAG610000

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# ILLICIT DISCHARGE, DETECTION AND ELIMINATION


- Legal Authority – Ordinance
- Outfall Map and Inventory
  - Outfall – the most downstream point (i.e. final discharge point) on an MS4 where it discharges to receiving waters of the State



# DRY WEATHER SCREENINGS

- Cityworks
- Ipad
- Field test for
  - Temperature
  - pH
  - Conductivity
  - Fluoride
  - Phosphorous



**Inspection**   
*Outfall / Dry Weather*

**Inspection #:** 5835  
**Address:** 5224 mill branch rd  
**X Coordinate:** 643975  
**Initiated By:** MCDONALD, ANDREW  
**Current Status:** CLOSED

**Work Order #:**  
**Current Priority:** Low  
**Y Coordinate:** 1273622  
**Initiated Date:** 1/9/2017 2:14:31 PM  
**Resolution:**

**Inspector:** MCDONALD, ANDREW  
**Date Inspected:** 1/9/2017 2:15:05 PM

**Notes:** Tracked flow back to creek

**Observations / Results:**

<b>Observation</b>	<b>Answer</b>
Closest Address	5224 mill branch rd
Condition (1-5)	1=Good
Maintenance Needed?	No
Dry Weather Screening Conducted?	Yes
Watershed	uchee creek
Date of Screening	1/9/2017 2:15:48 PM
Time of Screening	2:15
Weather Conditions	Sunny
Outfall Location	5224 mill branch rd
Outfall ID	
Outfall Material	RCP
Receiving Stream Name	Unknown trib to mill branch
Land Use/Industries in Area	Residential
Photo Number(s)	1
Is there flow from the outfall?	Yes
Flow Amount	Moderate

Odor	None
Intensity of Odor	0-None
Color	Clear
Intensity of Color	0-None
Turbidity	None
Intensity of Turbidity	0-None
Floatables	None
Amount of Floatables	0-None
Ambient Temperature	42f
Flow Temperature	8.0c
Flow (pH)	7.05
pH Meter Calibration Time	8:00am
Flow Conductivity (umho/cm)	97.0
Conductivity Meter Calibration Time	8:00am
Fluoride (mg/L)	0
Surfactants (mg/L)	0
Fecal Coliform Bacteria (#CFU/100ml)	Na
Other	
Date of Follow-up Investigation	
Boundaries of Probable Source	
Video Inspection Date	
Address of Contributing Source	

# CAMERA TRUCK



# CONSTRUCTION SITE SW RUNOFF CONTROL

- Legal Authority – Ordinance
  - Local Issuing Authority
  - Follow state model Soil Erosion, Sedimentation, and Pollution Control Ordinance
- Plan Review
  - Memorandum of Agreement
  - Munis



# CONSTRUCTION

- Inspection Program
  - Munis
  - Initial, throughout construction, NOT/stabilization
  - Drone
  - Citizen concerns/ complaint response via Cityworks



# CONSTRUCTION ENFORCEMENT PROCEDURES

- 5-Day Notice of Violation and Stop Work Order (SWO) per GESA
- SWO hold on inspections
  - Applies to permittee
    - If on Primary site (ex: Subdivision), this hold stops inspections on Secondaries within (ex: Home construction)
- Re-inspection fees
  - Unpaid after 45 days, hold on additional permits and CO





# CONSTRUCTION SITE PROJECT CLOSE-OUT/NOT

- Residential
  - Stabilization
  - Removal of temporary BMPs (silt fence)
  - Measure impervious surface area
  - Positive drainage
  - Hold on CO



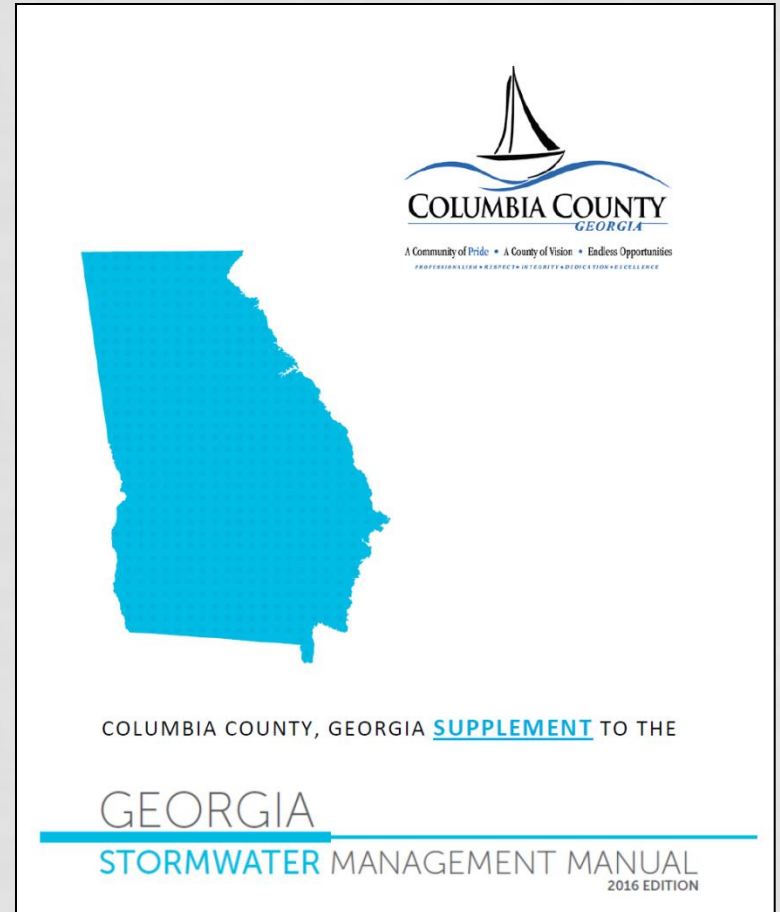
# CONSTRUCTION SITE PROJECT CLOSE-OUT/NOT

- Subdivision and Commercial
  - Stabilization
  - Removal of temporary BMPs
  - Pond to design standards
  - Environmental bond



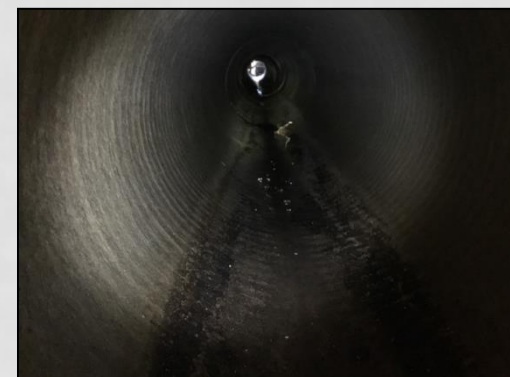
# POST-CONSTRUCTION

- Legal Authority – Ordinance
  - Adopted GSMM 2012
  - Adopted CC Supplement to GSMM 2014



# POST-CONSTRUCTION

- Inspection Program
  - Vac truck precedes inspection of infrastructure
  - Cleaning conducted on a scheduled route
  - Cityworks
    - QA/QC
  - Work orders generated as needed







# QUESTIONS?



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# **BMP Compliance & Enforcement**



**Presented at:**

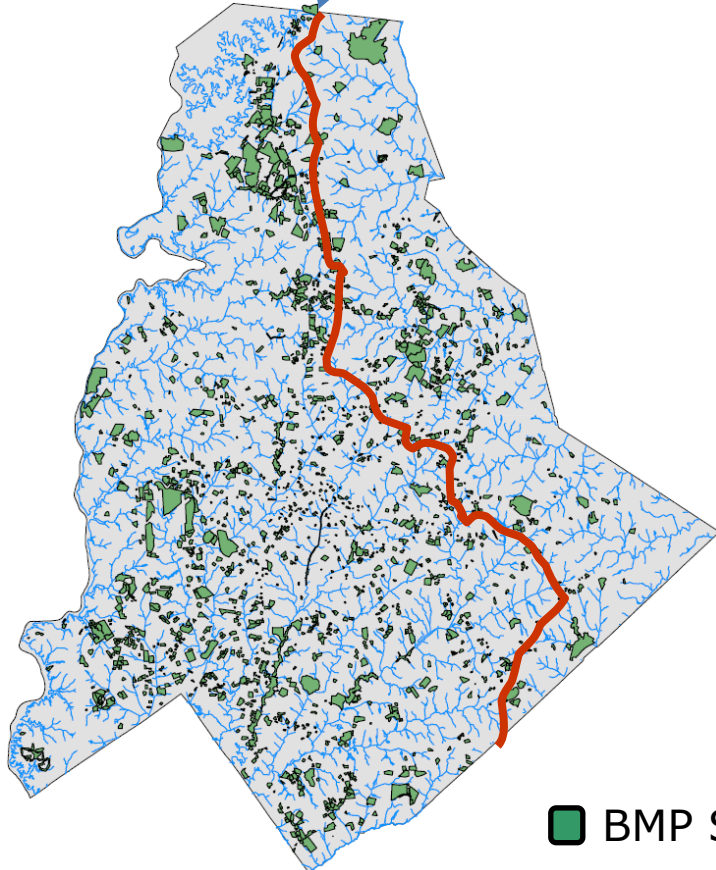
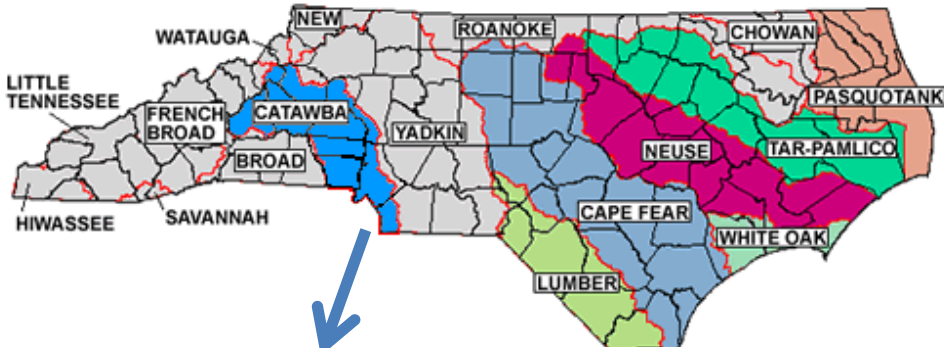
**SESWA  
Webinar**

**August 9, 2018**

**Don Ceccarelli**  
**[don.ceccarelli@mecklenburgcountync.gov](mailto:don.ceccarelli@mecklenburgcountync.gov)**



# Mecklenburg County



- Population: 1.1 million (2.5X in 40 yrs)
- Phase I Community-Charlotte (840,000)
- Phase II Community- Six Towns & County (270,000)
- 3,452 square miles
- Over 3,000 miles of streams
- Over 200 miles of lake shoreline
- 3,065 Storm Water BMPs

■ BMP Sites

## Overview:

- Ordinance Development
  - Stakeholders Group
  - Goals
- Manual(s) Development
- BMP O&M Agreements
- Inspections
- Enforcement Process

# Post Construction Ordinance Goals



- 1. Achieve compliance with Storm Water Permit requirements.**
- 2. Satisfactorily address the pollution control criteria recommended by Wildlife agencies.**
- 3. Satisfactorily address the causes of water quality impairment.**
- 4. Satisfactorily address detention measures for the control of flooding.**

# Post-Construction Ordinance Development Process

Stakeholders were provided training and information prior to the initiation of the consensus building process.

Phase I: Assess current & future water quality conditions and compare to goals. How wide is the gap?

November 2004

Phase II: Use water quality modeling to evaluate alternative management scenarios for closing the gap.

February 2005

Phase III: Translate the selected management scenario into ordinance language.

September 2005

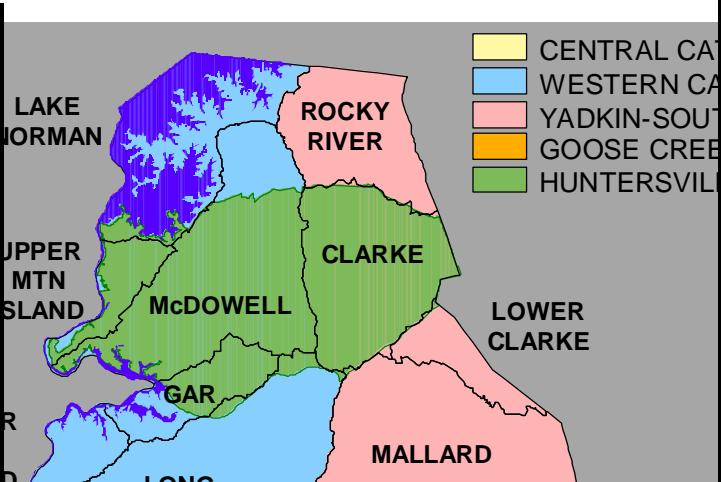
Phase IV: Public hearings, approval and adoption.

June 2007

# Requirements for Post-Construction Ordinance Watershed Districts

Western Catawba District	
BMPs ★	>12% BUA @ 85% TSS & 70%TP removal <b>* &gt;24% in Cornelius</b>
Buffers ★	Same as Central Catawba District
Detention ★	Same as Central Catawba District
Open Space ★	Same as Central Catawba District

Central Catawba District	
BMPs	>24% BUA @ 85% TSS removal
Buffers ★	S.W.I.M. + 30 ft on int. streams
Detention ★	V = post 1-yr, 24-hr storm; P = 10-yr & 25-yr, 6-hr
Open Space ★	<24% BUA = 25%; ≥24% BUA = 17.5%; ≥50 BUA = 10%



Huntersville	
BMPs ★	<b>&gt;12% BUA @ 85% TSS &amp; LID BMPs</b> <b>* &gt;6% in MI Critical Area</b>
Buffers ★	Same as Central Catawba District
Detention ★	V = pre-post 1-yr, or 2-yr 24-hr based on zoning P (> 12% BUA) = 2-yr & 10-yr, 24-hr
Open Space	None

Yadkin District	
BMPs ★	>10% BUA @ 85% TSS & 70%TP removal <b>* &gt;12% in Mint Hill</b>
Buffers ★	<50 ac. = 50 ft.; ≥50 ac. = 100 ft
Detention ★	Same as Central Catawba District
Open Space ★	Same as Central Catawba District

Goose Creek District	
BMPs	Any BUA @ 85% TSS (pre-post, 1-yr, 24-hr)
Buffers ★	S.W.I.M + 100-ft on streams; 200-ft on streams w/floodplain
Detention	V = pre-post 1-yr, 24-hr P = 10-yr & 25-yr, 6-hr
Open Space ★	<20% BUA = 0%; ≥20% BUA = 15%; ≥50 BUA = 10%

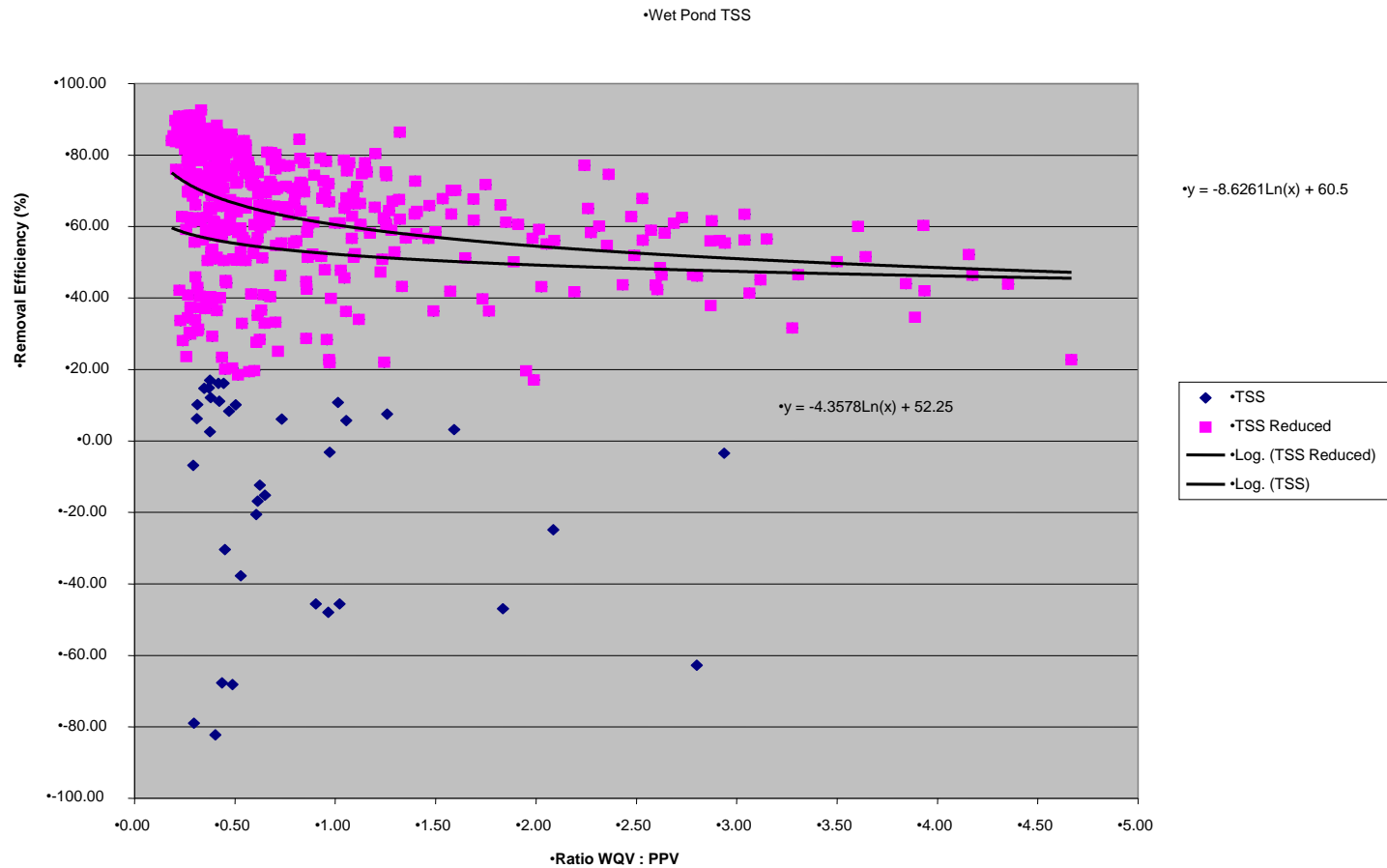
★ Exceeds current State requirements

10 Miles

# **Design Manual Approach (BMP Design Methods)**

- **Identification of BMP Evaluation Cases**
- **BMP Assessment Tool (BMP-AT)**
- **BMP Data Integration**
- **BMP Performance Evaluations**

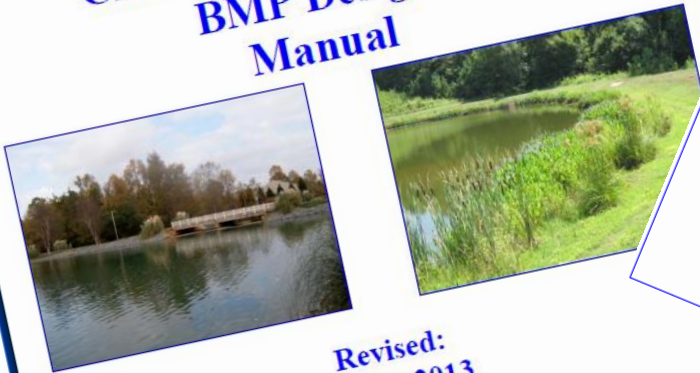
# BMP-AT results



# BMP Design & Administrative Manuals



## Charlotte-Mecklenburg BMP Design Manual



Revised:  
July 1, 2013

Administrative Manual for Implementation of the  
Post-Construction Storm Water Ordinance

Protecting Water Quality by Reducing  
the Discharge of Pollutants

Developed for:  
Mecklenburg County and the Towns of Cornelius, Davidson, Huntersville,  
Matthews, Mint Hill and Pineville

Developed by:  
Mecklenburg County Storm Water Services

Original Version: March 2007  
Revisions: May 2008, February 2013, June 2013, September 2013, October 2013, January  
2014, December 2014, December 2015



# BMP Post Construction O & M Agreement

## Ordinance Requirements for Maintenance:

- Operation and Maintenance Agreement (OMA)  
Required at plan approval

**INSERT PROJECT NAME (must match plat title)**

### DECLARATION OF COVENANTS

For Maintenance of Water Quality and Water Quantity Control Structures  
Town of **INSERT JURISDICTION**

### Recorded at the Register of Deeds

THIS DECLARATION OF COVENANTS, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ hereinafter referred to as the "Owner" to and for the benefit of the Town of **INSERT JURISDICTION** and its successors and assigns.

#### Exhibit "A"

#### BMP Maintenance Plan

Toast  
Huntersville  
26 August 2015

- I. **General BMP Information** [Complete this table with each BMP that is planned within the development. Use the same naming system used on the approved plans, i.e. Birkdale Phase 1 Bioretention 1]

BMP ID Name	Street with Block Number	Parcel Tax ID
Sand Filter	12715 Conner Drive	01716523
<b>Contact Information for Responsible Party</b>		
Name:	Toastery of Huntersville, LLC	
Mailing Address:	230 South Main Street, 4 <sup>th</sup> Floor, Davidson, NC 28036	
Phone Number:	704.737.7742	

- II. **BMP Site Location Map** (attached) [Attach a small site plan map coinciding with the table above to show the general location of each BMP within the development.]

#### III. BMP Maintenance and Funding Requirements

Documentation that BMP maintenance activities have occurred shall be provided during the annual compliance inspection.

- For commercial properties under single ownership, the owner may provide maintenance reports, invoices for work performed, etc. as documentation. There are no specific maintenance funding requirements.
- For property owner associations (POAs or HOAs), the Owner shall establish an Escrow Account or other funding source as approved by the Storm Water

<b>Sand Filter</b>			
<b>Maintenance and Schedule</b>			
TASK	SCHEDULE		
Inspect banks and surrounding drainage areas for erosion and stabilize if necessary	Monthly		
Street sweep parking lot	Quarterly		
Trash removal	Monthly		
Inspect outlet for obstructions	Monthly		
Inspect for clogging	Monthly		
Inspect inlet grates	Monthly		
Skim sand media	Yearly		
Pump oil and grit from sedimentation chamber	Yearly or at 50% full		
Replace sand media	As needed (expect 3 years)		
<b>Grassed Sand Filter Only</b>			
Mow basin to recommended height in alternating patterns to prevent compaction and prevent weed growth. Bag clippings to prevent thatch built-up.	Weekly to bi-weekly during the growing season, as needed other seasons		
Light fertilizing to establish healthy roots	Only during the first 2 years		
Aerate and dethatch basin floor	Every 2 Years		
<b>Budget for BMP Maintenance &amp; Replacement</b>			
Item	Description	Estimated Costs	Comments
1	BMP Installation Cost	\$21,406.95	
2	Surface Cover Cost (for underground BMPs)	\$0	
3	Total Initial BMP Construction Cost [Item 1 + Item 2]	\$21,406.95	
4	Down Payment [10% x Item 3]	\$2,140.69	
5	Replacement Cost [Item 3 - Item 4]	\$19,266.26	
6	Annual Replacement Budget [Item 5 / 10 years]	\$1,926.62	
7	Annual Inspection & Maintenance Budget [ 5.4753 x (Item1) <sup>-0.0227</sup> ] x Item 1 / 100]	\$934.67	
8	Total Annual Budget [Item 6 + Item 7]	\$2,861.29	

# Enforcement Process

- Penalties as a last resort
- Penalties exceed State-minimum
- Standard process for assessing penalties
- Formation of Storm Water Advisory Committee (SWAC)
  - Representatives of development/designers, GCs, institutions, manufacturing, environmental organizations, neighborhoods, and legal profession

# QUESTIONS





***Thank You for Joining Us!***

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**866-FOR-SESWA (367-7379)**