

Webinar Training Series

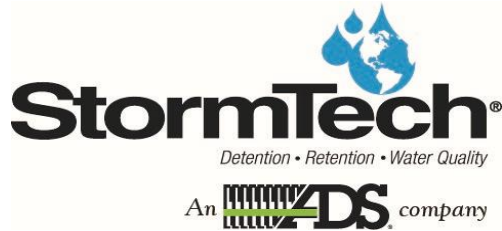


MS4 Audit Success Stories

July 23, 2020 | 10:30 a.m. – 11:30 a.m. (Eastern)

[SESWA.org](https://www.seswa.org) - 866-367-7379 - [info@SESWA.org](mailto:info@seswa.org)

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Today's Presenters



Crystal Bishop, CPMSM, QHP
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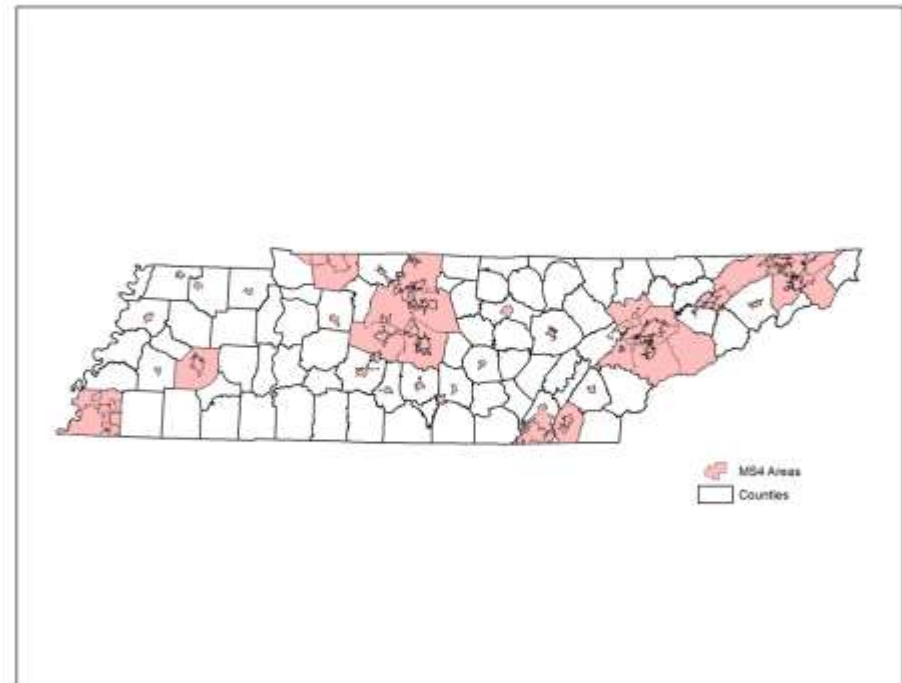
MS4 AUDIT SUCCESS STORIES - TENNESSEE

Crystal Bishop
 Water Quality Manager, Hamilton County, TN



Tennessee MS4s

- Phase I MS4 – 4 (Nashville, Memphis, Knoxville, Chattanooga)
- Phase II MS4 General Permits – 96
- Phase II MS4 Individual Permit – 1 (TDOT)



Tennessee Environmental Field Offices

Tennessee Department of Environment & Conservation Environmental Field Office – 888-891-TDEC (8332)

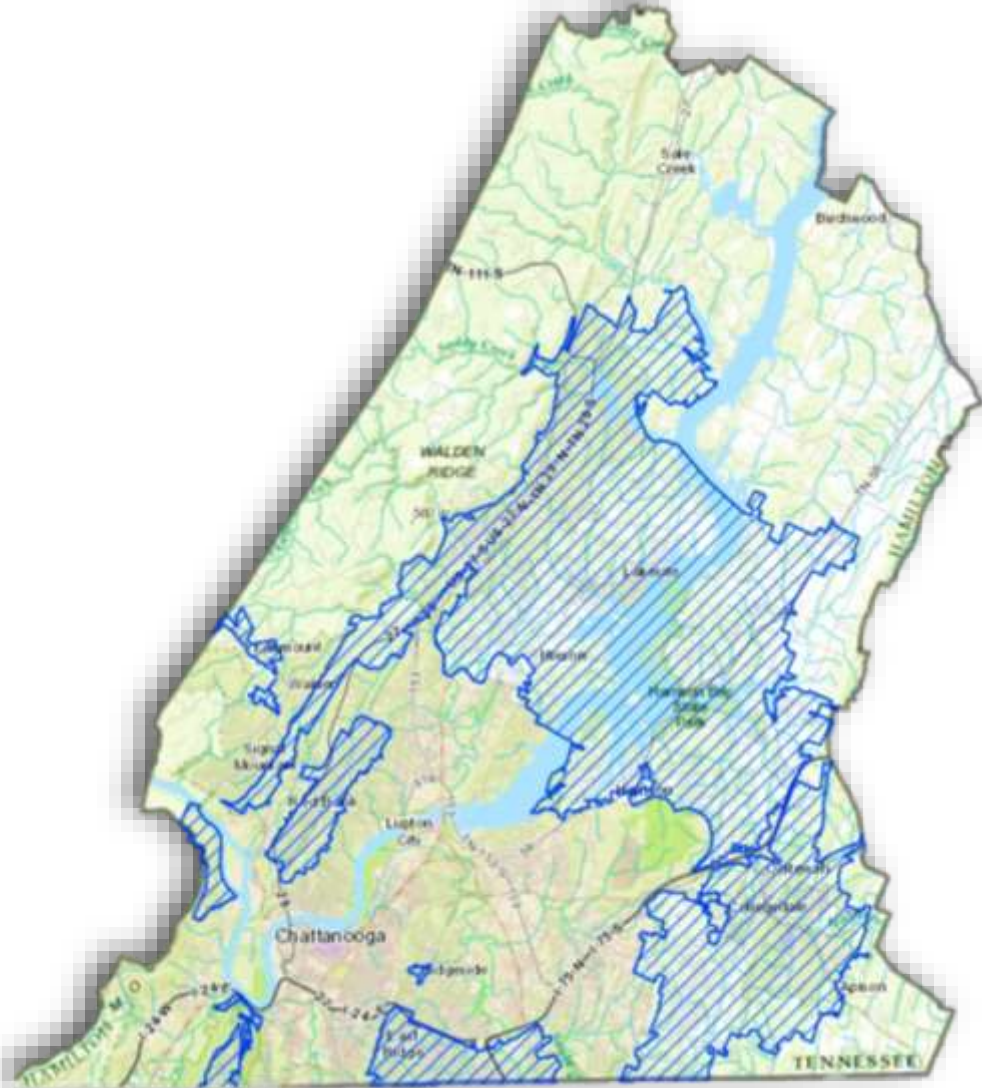
| | | | |
|---|--|---|---|
| <p>Jackson F(731) 512-1300 F(731) 661-6283 1625 Hollywood Drive Jackson, TN 38350 Regional Director for External Affairs Rudy Collins (731) 512-1339 Rudy.Collins@tn.gov Administrative Mgr –Carol Pollan (731) 512-1303</p> | <p>Nashville P(615) 687-7000 F(615) 687-7078 711 R. S. Gass Blvd Nashville, TN 37216 Regional Director for External Affairs Jaclyn Mottupi (615) 687-7074 Jaclyn.Mottupi@tn.gov Administrative Mgr –Jennifer Gelfand (615) 687-7016</p> | <p>Cookeville P(931) 520-6688 F(931) 432-6952 1221 South Willow Ave. Cookeville, TN 38506 Regional Director for External Affairs Tara Wohlgemuth (931) 520-6654 Tara.Wohlgemuth@tn.gov Administrative Mgr –Jo Thurman (931) 520-6655</p> | <p>Johnson City P(423) 854-5400 F(423) 854-5401 2305 Silverdale Road Johnson City, TN 37601 Regional Director for External Affairs Jan Compton (423) 854-5417 Jan.Compton@tn.gov Administrative Mgr –Judy Jarrett (423) 854-5404</p> |
|---|--|---|---|



| | | | |
|--|--|---|---|
| <p>Memphis P(901) 371-3000 F(901) 371-3170 8383 Wolf Lake Drive Bartlett, TN 38133 Regional Director for External Affairs Ronne Adkins (901) 371-3001 Ronne.Adkins@tn.gov Administrative Mgr –Stephanie Richey (901) 371-3002</p> | <p>Columbia P(931) 380-3371 F(931) 380-3397 1421 Hampshire Pike Columbia, TN 38401 Regional Director for External Affairs Wallace Quillen (931) 840-4156 Wallace.Quillen@tn.gov Administrative Mgr –Jennifer Greer (931) 840-4142</p> | <p>Chattanooga P(423) 634-5745 F(423) 634-6389 1301 Riverfront Pkwy, Suite 206 Chattanooga, TN 37402 Regional Director for External Affairs Amy Katcher (423) 634-5782 Amy.Katcher@tn.gov Administrative Mgr –Katy Bank (423) 634-5731</p> | <p>Knoxville P(865) 594-6035 F(865) 594-6105 3711 Middlebrook Pike Knoxville, TN 37921 Regional Director for External Affairs John LeCroy (865) 594-2147 John.LeCroy@tn.gov Administrative Mgr –Sharon Buckingham (865) 594-5615</p> |
|--|--|---|---|

Hamilton County Water Quality Program Jurisdiction

- ❑ Collegedale
- ❑ East Ridge
- ❑ Lakesite
- ❑ Lookout Mountain
- ❑ Red Bank
- ❑ Ridgeside
- ❑ Soddy Daisy
- ❑ Town of Walden
- ❑ Urbanized Unincorporated Hamilton County



Tennessee MS4 Compliance Tools

- MS4 Audit
 - ▣ Office/Field
- MS4 Compliance Inspection Evaluation
 - ▣ Field
 - ▣ Desktop Review



CEI Construction Stormwater Field Review

Ms. Bishop,

This email is to confirm a Compliance Evaluation Inspection (CEI) of your MS4 program for March 3, 2017 at 9:00 am. We will meet you at your office, Development Resource Center 1250 Market St, Suite 3050.

In the morning, we will discuss your construction storm water program and review documentation. In the afternoon, we would like to visit two active construction sites and observe how your inspectors conduct an inspection. If possible, we would like to see a commercial development and a subdivision development.

Below is a list of the documents we would like to review during the inspection:

- A copy of your storm water ordinances
- Signed construction and illicit discharge ordinances
- EPSC Level I and Level II certifications for your staff
- Plans review checklists/procedures
- Inspection checklists/procedures
- Enforcement response plan
- Inventory of construction sites
- Inventory of enforcement actions
- Inventory of priority construction sites
- Water quality buffer requirements
- Construction buffer requirements

Best Regards,



Michael Bascom | Environmental Protection Specialist
Division of Water Resources/Chattanooga Field Office
1301 Riverfront Parkway, Suite 206
Chattanooga, TN 37402
p. 423-634-5710
michael.bascom@tn.gov
tn.gov/environment



Construction Site Stormwater Runoff Controls

- Develop, Implement and Enforce Construction Site Runoff Control Program
- Require Erosion Prevention and Sediment Controls
- Maintain an inventory of active sites
- Review and approve plans for grading and construction



CEI Construction Stormwater Field Review



STATE OF TENNESSEE
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
CHATTANOOGA ENVIRONMENTAL FIELD OFFICE

1301 RIVERFRONT PARKWAY SUITE 206
CHATTANOOGA, TENNESSEE 37402
Phone (423) 634-5745 STATEWIDE 1-888-891-8332 FAX (423) 634-6389

March 30, 2017

Certified Mail Receipt
7015 0640 0005 0331 3730

Mr. Todd Leamon, P. E.
Phase II Storm Water Management Committee Chair
1250 Market Street, Suite 3044
Chattanooga, TN 37402

RE: **Compliance Evaluation Inspection**
Hamilton County Co-permittees - Small Municipal Separate Storm Sewer System (MS4)
NPDES Permit Tracking No. TNS075566

Dear Mr. Leamon,

Hamilton County and the Cities of Collegedale, East Ridge, Lakesite, Lookout Mountain, Red Bank, Ridgeside, and Soddy-Daisy, Tennessee, under their inter-local agreement established a stormwater program to meet the minimum requirements of the EPA Phase II stormwater regulations. On March 3, 2017, Michael Bascom and Karina Bynum met with the program stormwater staff. The purpose of their visit was to perform a compliance evaluation inspection of a portion of the co-permittees' MS4 program. The inspection, in part, consisted of a records review and field evaluation of the co-permittees' construction site stormwater runoff control program. The construction site stormwater runoff control program is a minimum control measure requirement under the State's NPDES General Small MS4 Permit.

Permit Review

The co-permittees are authorized to discharge stormwater from their MS4s. Notice of Coverage for stormwater discharges was issued on April 19, 2011, and has been administratively extended beyond the expiration date of September 1, 2015, until new coverage is issued under a subsequent NPDES permit. In their 2011 Notice of Intent, the co-permittees proposed the following management practices to address construction site runoff control:

- Update of Regulations and Best Management Practices Manual to ensure compliance with most current Tennessee Construction General Permit (CGP)
- Develop inventory of all active public and private construction sites disturbing one acre or more within 12 months of permit coverage
- Continued support of local Level 1 and Level 2 training and workshops for local development community
- Enforcement of BMP manual regarding sediment and erosion controls and related issues.

Records Review

Our inspectors reviewed the co-permittees' most recent annual report, inter-local agreement and resolutions, standard operating procedures, program rules and regulations, inventory and tracking systems, plans review and approval procedures, stormwater management plan (SWMP), enforcement response plan (ERP), inspection procedures, and staff certifications. The co-permittees have qualified staff performing plans review and site inspections on sites within their jurisdiction. Personnel stated they are in process of revising rules and regulations to include all technical standards and waste handling requirements specified in the State of Tennessee's new Construction General Permit.

Construction Site Visit

During our inspection, Michael Bascom and Karina Bynum accompanied program staff on a routine construction site stormwater inspection. The site Hawthorne at the Summit (TNR112137, HCL -164) was in final stages of construction. Program inspector (Mr. Buddy Smith) observed the perimeter, erosion protection and sediment controls, and outfalls of the sites. The program inspector identified issues of noncompliance and photo-documented items requiring follow-up action. The program inspector emailed his inspection report and photo-documentation to the responsible parties on March 6, 2017, and followed up with a site walk through on March 9, 2017.

Observations and Recommendation

Overall, the co-permittees have an established construction stormwater program. A review of the stormwater program records indicates that the program has met the established goals and milestones for this minimum control measure. As the co-permittees revise their rules and regulations and technical standards, please ensure that the rules reflect the minimum requirements of the current CGP.

I would like to thank you and your staff (Crystal Bishop, Barret Fisher, and Buddy Smith) for the assistance and courtesy extended during our inspection. If you have any questions or need additional information, please contact Karina Bynum at (931) 520 - 6688 or you may contact me directly at the Chattanooga Environmental Field Office by telephone at (423) 634 -5719.

Sincerely,

Jennifer Innes
Environmental Program Manager
Division of Water Resources

CEI Analytical Monitoring – Desktop Review

▣ Analytical Stream Monitoring

- E. coli Grab Samples
- Macroinvertebrate Sampling
- Habitat Assessments



CEI – Analytical Monitoring

The Honorable Jim Coppinger
County Mayor
208 Courthouse
625 Georgia Avenue
Chattanooga, TN 37402

Re: Hamilton County Municipal Separate Storm Sewer System (MS4) – Phase II
NPDES Permit Tracking Number TNS075566
Hamilton County, TN

Dear Mayor Coppinger:

On September 30, 2015, Mr. Michael Bascom of the Division of Water Resources (DWR) completed a desk audit of the Hamilton County MS4 program. The audit focused specifically on the analytical monitoring requirements set forth in the NPDES MS4 Phase II permit. The purpose of the inspection was to independently determine Hamilton County's compliance with the terms and conditions of its National Pollution Discharge Elimination System (NPDES) permit, NPDES Permit Tracking Number TNS075566.

Permit

Hamilton County has coverage under General NPDES MS4 Phase II permit which became effective on April 19, 2011 and expired on September 1, 2015. Although the general permit has expired this permit continues to be in force and in effect until a new permit is issued.

A review was conducted of all monitoring data that the Hamilton County MS4 submitted to the Chattanooga Environmental Field Office. A summary of the data is below.

Tennessee MS4 Audit

□ TDEC Provides Audit Checklist

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

Small Municipal Separate Storm Sewer System (MS4) Audit Worksheet *

| | |
|--|-----------------|
| MS4 Name: | Date: |
| County: | Permit #: _____ |
| Responsible Official: | TNSO _____ |
| On-Site Representative(s): Phone Number(s): | NOC Date: |
| Name/Address/Title/Phone Number of MS4 Contact Person: | |

* Has No (Circle one)

Stormwater Management Program (NPDES Permit Section 4.1.)

1. Y N Has a written Stormwater Management Plan (SWMP) been developed? (4.1.)

Minimum Control Measure #1: Public Education and Outreach (4.2.1)

2. Y N Has this program element been included in the SWMP? (4.2.1)
3. Y N Have they implemented a public education and outreach program? (4.2.1)
4. Y N Have they identified "hot spots" within their jurisdiction? (4.2.1)

If yes, list specific events/activities focused on "hot spot" areas and the pollutant(s) of concern.

(Hot spot means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater. Examples might include operations producing concrete or asphalt, auto repair shops, auto supply shops, large commercial parking areas and restaurants. Permit definition(s).)

5. Y N Have they developed a written Public Information and Education Plan (PIE)? (Due 12 months from NOC effective date) (4.2.1)
6. Y N Has a method to evaluate the plan's effectiveness been incorporated into the PIE? (4.2.1)
7. Y N Does the PIE detail specific goals and specific public information events/activities that will occur over the remainder of the permit cycle? (4.2.1)

58. Y N Have they required their site plan reviewers to complete and maintain certification under the Tennessee Erosion Prevention and Sediment Control Design Course, Level 27 (4.2.4.) List plan reviewer names.

59. Y N Do they identify priority construction activity (a.k.a., sites)? (4.2.4.) How?

60. Y N Do they hold pre-construction meetings with construction site operators for priority construction activities? (4.2.4.)

61. Y N Do they perform inspections of priority construction sites at least once per month? (4.2.4.)

62. Y N Is a standardized inspection form used? (request a copy)

63. How many construction sites have active permits with the MS4?

64. What is the number of active construction sites requiring monthly inspections?

65. What is the number of inspections performed and the frequency over the past 12 months?

66. Request to see the procedures for tracking inspections. Describe the procedures.

67. How many violations were found in the previous year?

68. What are the procedures if violations are found? Are the procedures documented in the ERP? (4.5.1.)

69. What is the procedure when citizen complaints are received?

70. Y N Can construction site inspectors administer enforcement actions?

If no, who can?

If yes, what types of enforcement actions?

71. Y N Are enforcement actions tracked? Ask to see their tracking mechanism.

Tennessee MS4 Audit

□ Hamilton County MS4 Audit

□ April 8, 2014



April 8, 2014

Certified Mail

7008 1830 0000 2153 0648

The Honorable Jim Coppinger
County Mayor
208 Courthouse
625 Georgia Avenue
Chattanooga, TN 37402

Re: Hamilton County Water Quality Program Audit Report
Small Municipal Separate Storm Sewer System (MS4) – Phase II
NPDES Permit Number TNS075566

Dear Mayor Coppinger:

On March 13, 2014, Mr. Jason Dees and Mr. Mark Barb of my staff conducted an audit of Hamilton County's (County) stormwater program. The purpose of the inspection was to evaluate the County's compliance with the terms and conditions of the NPDES MS4 Phase II Permit #TNS075566 (permit).

The County has consistently demonstrated its commitment to improving water quality in Tennessee. Water Quality Program Manager, Crystal Piper, has made stormwater management a priority for the County. The County's Water Quality Program also has an outstanding track record of working with the Division of Water Resources (Division) on stormwater related issues. While the County is largely in compliance with the requirements of the permit, some requirements still need to be addressed. Additionally, the Division has some recommendations on how existing program elements can be enhanced.

The Division conducted this audit by evaluating each element of the six minimum control measures that are included in the County's water quality program. Below is an outline of the Division's findings.

Tennessee MS4 Audit

- Lessons Learned
 - Be SMART with the NOI
 - Use the Checklist (or ask for one)
 - Prepare Materials Ahead of Time
 - Perform Annual Self-CEIs



Thank you



Crystal Bishop

Program Manager

CrystalB@hamiltontn.gov

423-209-7851



The Day of...

**Preparation and
execution of a
successful MS4 audit**



"File:rep. Will Guzzardi with clipboard.jpg" by EagleBoulevard is licensed under CC BY-SA 4.0

Prepare for the day



Part 1: In the Office

- Review your last Annual Report
- Consider comments from your Annual Report



Part 1: In the Office

- Show your work
- Have your computer programs ready for display
 - Databases
 - File Storage
 - Website



Part 2: In the Field

- Create a route sheet and a map
 - Plan sites that are close together
 - Walking distance or just around the corner is ideal



Part 2: In the Field

- Transportation
 - Will your auditors drive their own vehicles?
 - Do you need waivers for them to ride in your vehicles?



Part 3: Reconnaissance

- Field verify each site
 - Recognize potential hazards
 - Identify pathways and access
 - Where will you park?



Part 3: Reconnaissance

- Field verify each site
 - Be prepared for surprises
 - This is your time to shine!



Part 3: Reconnaissance

- Schedule site visits
 - Ensure staff know when and where to be
 - Talk to businesses or municipal facilities beforehand





Prepare Your Paperwork

GA EPD

GL

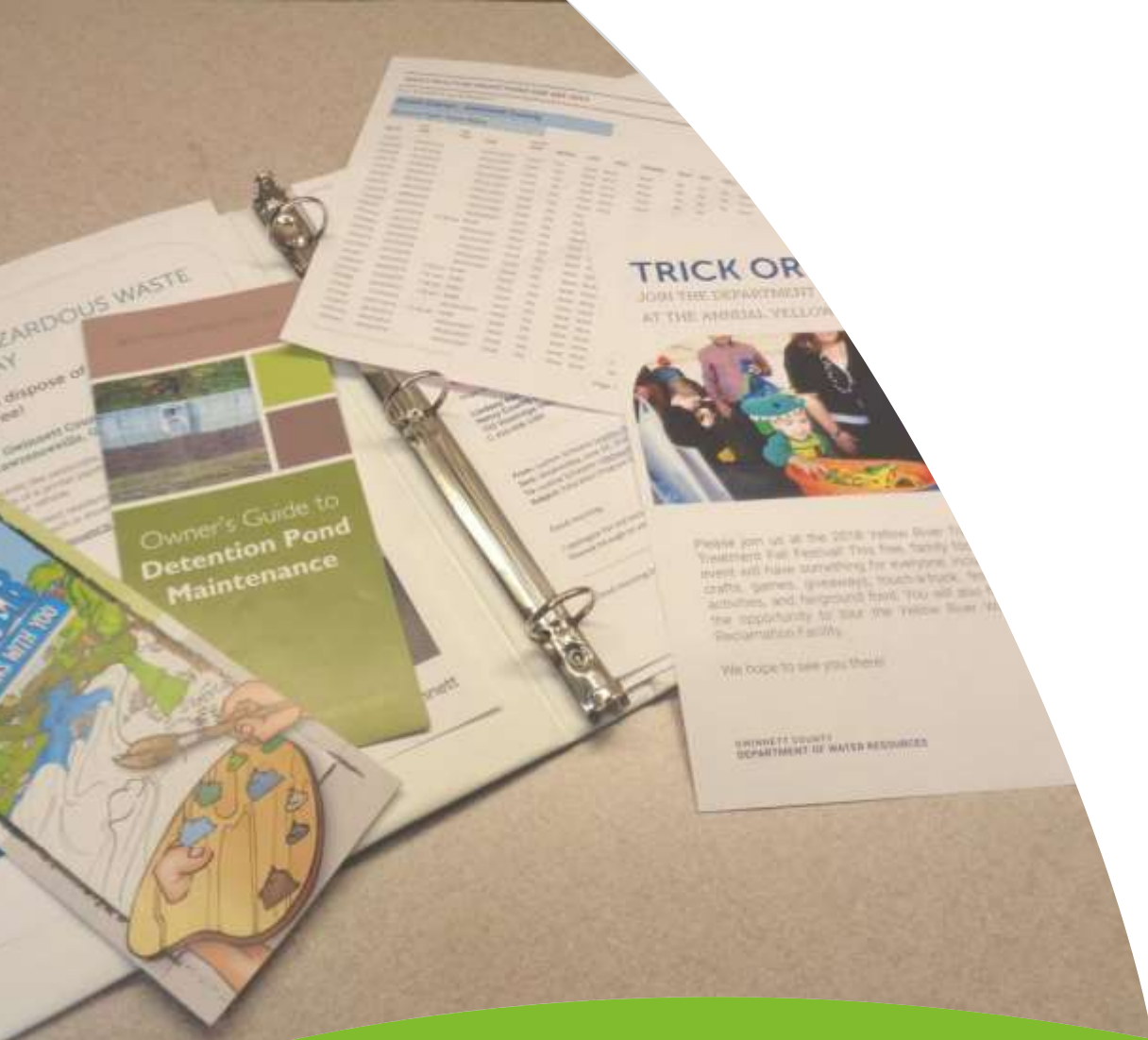
MY AUDIT

By: John Butler

October 23, 2017

Fill out your own audit form

- Some auditors will use your pre-filled form
- Provide a copy for you and your entire team for reference during the audit



Supporting documentation

- Physical packet or CD
- Include: inspection forms, sampling sheets, brochures, articles, marketing materials
- Provide one for everyone on the team

Think Like an Auditor



Consider your last Annual Report

- Don't think in terms of Yes/No
- Think about 'How' and 'Why'
- If you did well on last AR, you will likely do well on the audit



Consider Your Comments

- Auditor will bring these up or even focus on them
- Have definitive responses prepared



Identify Any Significant Changes

- Auditor will likely want an explanation
- Have a prepared statement
- Don't focus on interpretation
 - Show them in the field



Identify Any Significant Changes

- Auditor will likely want an explanation
- Have a prepared statement
- Don't focus on interpretation
 - Show them in the field



Follow Up on Any Problems Found

- Auditor may remember next year
- Include resolution in next Annual Report





You're a Pro!



Practice Makes Perfect

- Do a practice run with your team
 - Make sure everyone is prepared
 - Get your timing down

You Run a Good Program

GA EPD

GL Water

MY
AUGUST
POST

by: John Butler

October 23, 2017



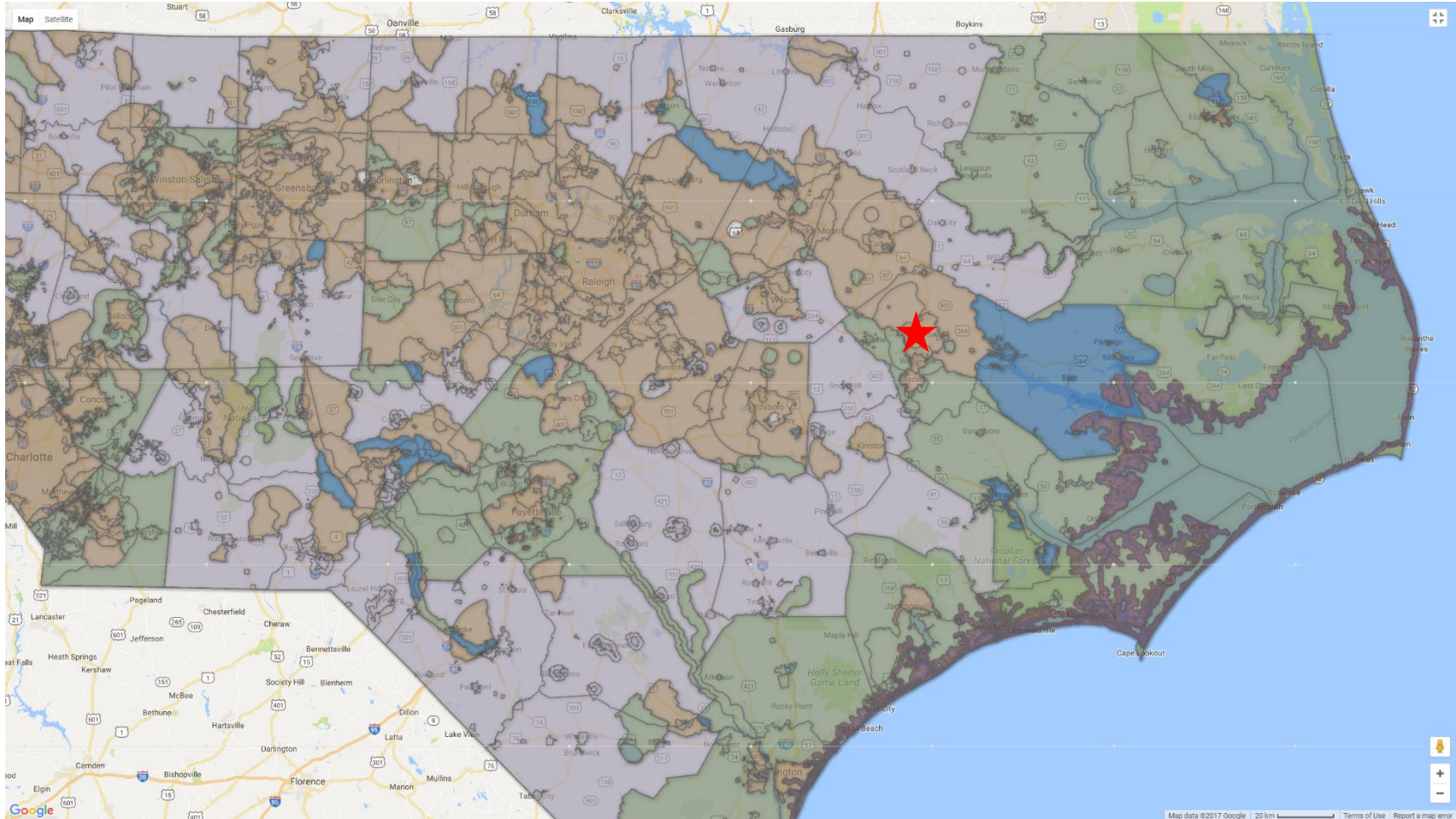
Thank you!

**John Butler, Water Resources Outreach Manager
Department of Water Resources, Gwinnett County Government
john.butler@gwinnettcountry.com**

MS4 Audit Success

NC has 122 permitted MS4's
2018 EPA began compliance initiative
2019 NCDEQ began audits on 5 yr cycle
December 3-5 City of Greenville, NC Audit

Overlapping Programs



<https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-data/stormwater-maps-gis-resources/Stormwater-Permitting-Interactive-Map>

NCDEQ MS4 Audits

| Audit Results | Quantity |
|-----------------------------|----------|
| Notice of Compliance (NOC) | 3 |
| Notice of Deficiency (NOD) | 3 |
| Notice of Violation (NOV) | 24 |
| Compliance Decision Pending | 5 |
| Total Audits Completed | 35 |

Top 3 Deficiencies

- Lack of Documentation
You can't prove it.....it didn't happen!
- Incomplete MS4 Mapping
All major outfalls should already be mapped!
- Reactive Illicit Discharge Programs
MS4s are required to proactively find and eliminate illicit discharges!

Read Permit & SWMP

Public Education & Outreach

Public Involvement & Participation

Illicit Discharge Detection & Elimination

Construction Site Runoff Controls

Post-Construction Site Runoff Controls

Pollution Prevention & Good Housekeeping

Read Permit & SWMP

Pollution Prevention & Good Housekeeping

Municipal Facilities Operation and Maintenance

Spill Response

MS4 Operation and Maintenance

Municipal SCM Operation and Maintenance

Pesticide, Herbicide and Fertilizer Management

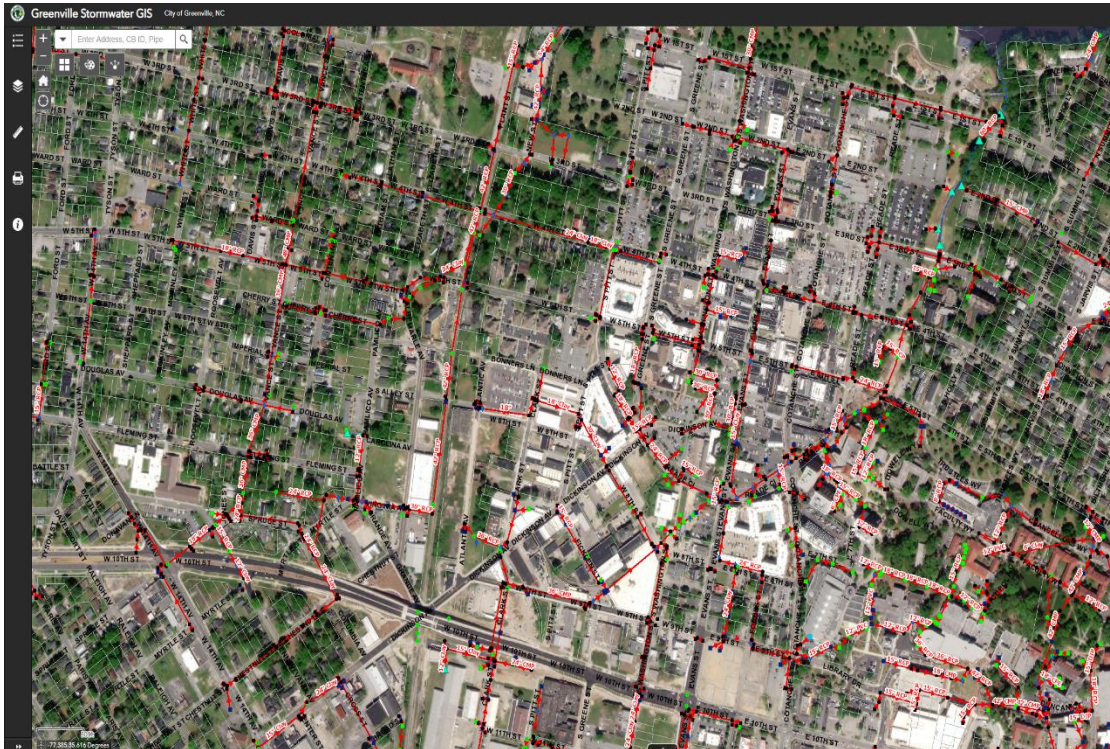
Vehicle and Equipment Maintenance

Pavement Management

Use Audit Template

| Audit Details | |
|---|-----------------------|
| Audit ID Number: NCS000XXX_City MS4 Audit_2019MODAY | Audit Date(s): |
| Minimum Control Measures Evaluated: <ul style="list-style-type: none"> <input type="checkbox"/> Program Implementation, Documentation & Assessment <input type="checkbox"/> Public Education & Outreach <input type="checkbox"/> Public Involvement & Participation <input type="checkbox"/> Illicit Discharge Detection & Elimination <input type="checkbox"/> Construction Site Runoff Controls – No delegated Sediment and Erosion Control Program <input type="checkbox"/> Construction Site Runoff Controls – Delegated Sediment and Erosion Control Program <input type="checkbox"/> Post-Construction Site Runoff Controls <input type="checkbox"/> Pollution Prevention and Good Housekeeping for Municipal Operations <input type="checkbox"/> Total Maximum Daily Loads (TMDLs) | |
| Field Site Visits: <ul style="list-style-type: none"> <input type="checkbox"/> Municipal Facilities. Number visited: Choose an item. <input type="checkbox"/> MS4 Outfalls. Number visited: Choose an item. <input type="checkbox"/> Construction Sites. Number visited: Choose an item. <input type="checkbox"/> Post-Construction Stormwater Runoff Controls. Number visited: Choose an item. <input type="checkbox"/> Other: _____ Number visited: Choose an item. <input type="checkbox"/> Other: _____ Number visited: Choose an item. | |
| Inspector(s) Conducting Audit | |
| Name, Title | Organization |

Perform Self Audit



- Ordinances
- SOPs
- Inspection Forms
- Facility Inspections

- Maps
- Training Documentation
- Records



Management Support



City Managers Office
Elected Officials
Public Works
Fire Department
Facilities Operations

Correct Deficiencies

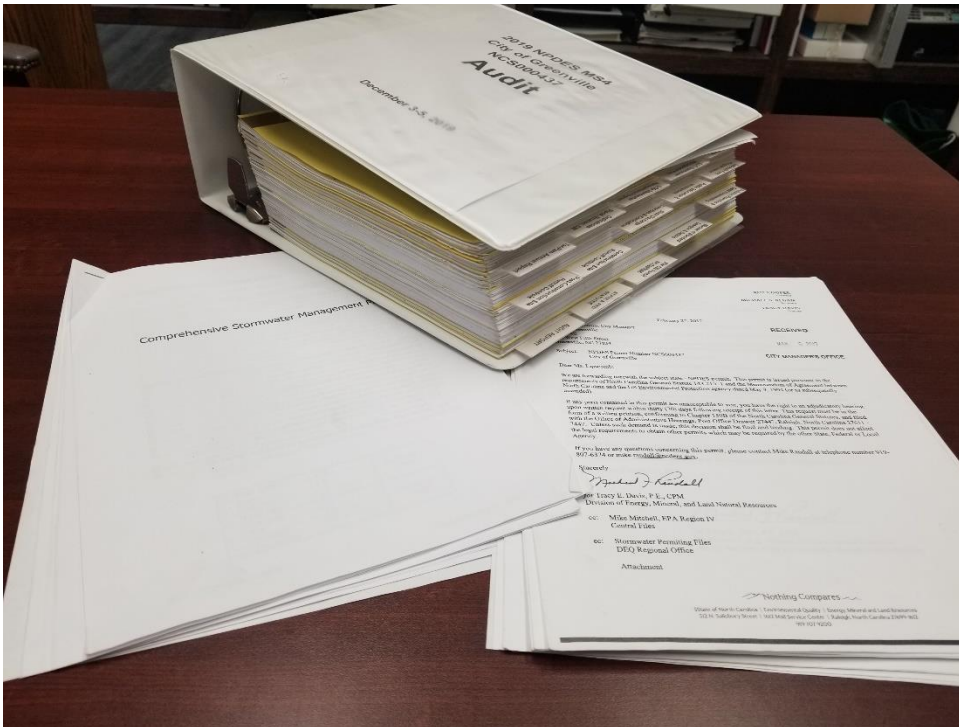


- Clean up facilities
- Gather and organize records
- Update SOPs & SWMP



- Develop plan for issues you can't quickly resolve
- Train employees

Know your stuff



- Have appropriate staff present (no extra staff)
- Have all ordinances and plans at your fingertips



- Hire help if you need it
- Calm confidence
- Answer positively

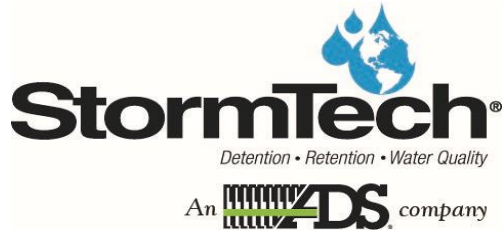
Thank you!

Daryl Norris, PE, CFM, CPSWQ

dnorris@greenvillenc.gov

252-329-4467

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