

# Metro Nashville Stormwater Control Measures Inspection and Maintenance Program Overview and Lessons Learned



# Agenda

- Brief History of SCM Regulations in Nashville
- Importance of Post Construction Stormwater Control Measure (SCM) Maintenance
- Metro Nashville's Current Program to Regulate Stormwater Control Measure Maintenance
- Lessons Learned

# History of SCM Regulations in Nashville

- The first SCM with Maintenance Agreement on Record was in 1979. (Water Quantity Only)
- In the late 1990's New Regulations required to treat post-construction Water Quality.



# History of SCM Regulations in Nashville

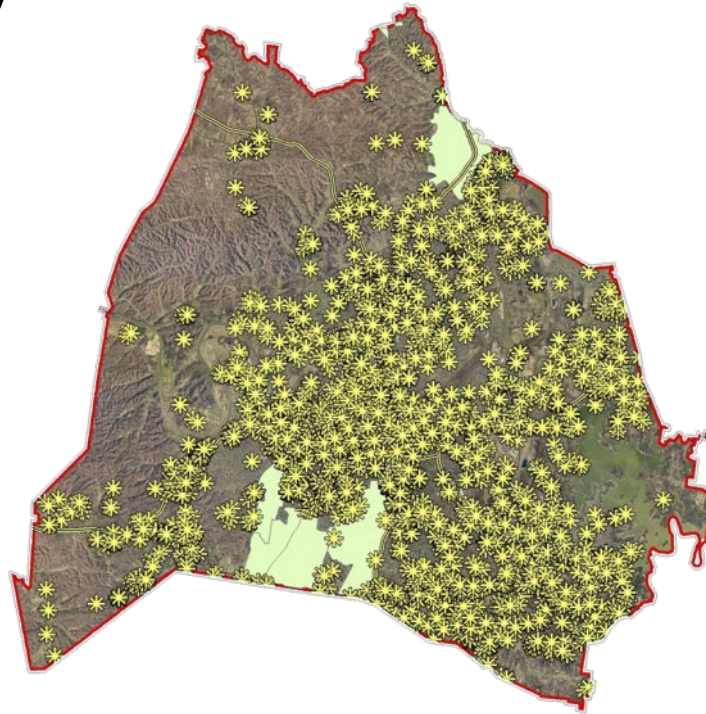
- Due to the ever-changing regulations, Metro Nashville has many different types of SCMs.
  - Dry Detention Ponds
  - Proprietary Water Quality Devices (Many different manufacturers)
  - Wet Ponds
  - Bioretention
  - Pervious Pavement/Pavers
  - Water Quality/Grass Swales

# History of SCM Regulations in Nashville

- SCMs took off in the early 2000's when grading permit regulations changed significantly.
- Started promoting use of Low Impact Design (LID) SCMs in regulation revisions in 2007.
- Started Requiring owner inspection/reporting in 2007 regulations.
- Use of LID SCMs became mandatory in 2016.

# Importance of Post-construction SCM Maintenance

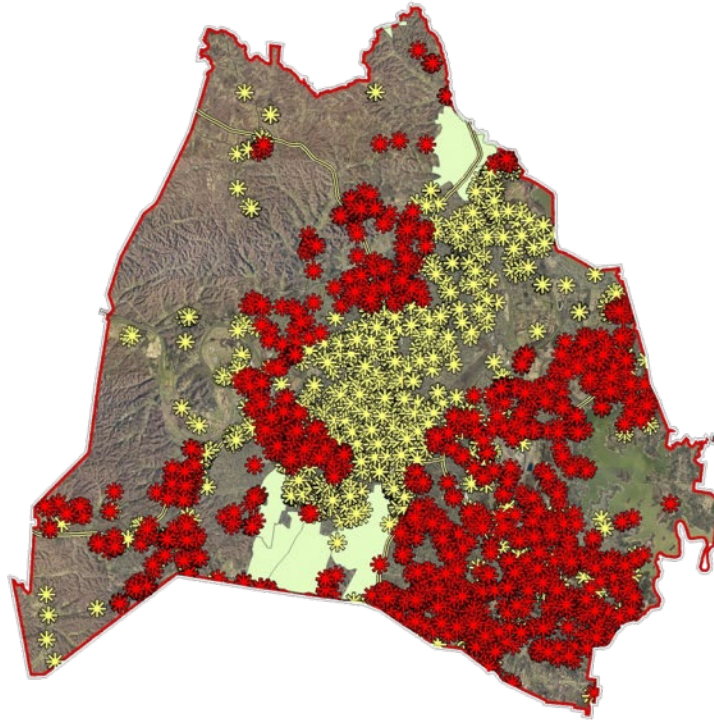
- Now Have over 5,100 SCMs (Add about 50-70 per month)





# Importance of Post Construction SCM Maintenance

- Over 2,000 within watersheds, listed as being impaired for sedimentation.



# Importance of Post Construction SCM Maintenance

- If these structures are not maintained, they may be bypassing with little to no treatment.





# Nashville's Program for SCM Inspection & Maintenance

- 2 Main Components
  - Metro-owned SCMs (560 structures)
  - Privately-owned SCMs (4,540 Structures)

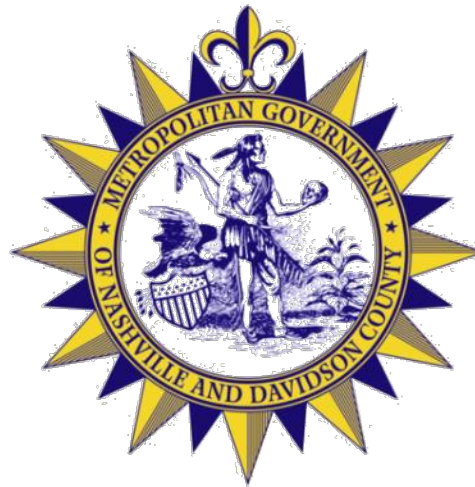


# Nashville's Program for SCM Inspection & Maintenance

- Metro-owned SCM structures
  - Have MOUs with various departments requiring them to do the necessary maintenance.
  - MWS inspects all Annually and provide a summary report of maintenance requirements to each department.
  - Continual coordination with other departments to ensure maintenance is performed.

# Nashville's Program for SCM Inspection & Maintenance

- Metro-owned SCM structures
  - 14 Different Departments



# Nashville's Program for SCM Inspection & Maintenance

- Metro-owned SCM structures
  - 14 Different Departments

**3. Animal Care and Control Facility**

**Inspection Notes:**  
The Animal Care and Control Facility has one (1) grading permit listed for SCM; there is a box only one (1) SCM structure (as seen below). The inspection was completed on February 1, 2019. There were no issues with the dry pond directly. It was functioning as originally designed.

**Maintenance Needed:**  
Maintenance was communicated to Mark Sturges (Health Dept) who is responsible for the maintenance at the ACC. It was noted that no direct issues affected this SCM structure. However, a grate should be added to reduce liability on the ACC facility. No maintenance is required at this time.

**Maintenance Completed:**  
No maintenance is due at this time. Completed upon inspection on 02/01/19.

CONCRETE PERMIT #	NAME	OWNER	SCM Type	Cost	Area/Specs	Notes	Maintenance Completed	Maintenance Needed
2008-007	Animal Control Center	2008	Dry Pond	1.0K	AC/Health	No direct issues. Grate should be added to reduce liability.	02/01/19	N/A



# Nashville's Program for SCM Inspection & Maintenance

- Privately-owned SCM structures (4,540)
  - Require Owner-Submitted Inspection and Maintenance Reports (after 2007).
  - Perform inspections and coordination (Enforcement) to require owners to perform necessary maintenance.




# Nashville's Program for SCM Inspection & Maintenance

- SCM Owner-submitted Annual Reports
  - One Staff Member (Howard Jackson) overseeing this process
  - Due July 1st Each Year
  - Should be on checklist in Maintenance Agreement
  - Should list what site it is for (Grading Permit #)
  - Should list maintenance work performed
  - Should be filled out for **all** SCMs on the site

# Nashville's Program for SCM Inspection & Maintenance

- SCM Owner-submitted Annual Reports

 Metropolitan Nashville - Davidson County  
Stormwater Management Manual  
Volume 1 - Regulations

April 2012

**Proprietary BMP Inspections and Maintenance Checklist**

Site Name: 511 O'RAD Owner/Client: Overseas Systems, Inc. Y/N

Location: 220 68 Avenue North, Nashville, TN

Owner Name: 511 Union Nashville, NC

Address: 511 Union Street 1280 Nashville, TN Phone Number: 615-255-1585

Site Status: Active

Date: 10/12/2011 Time: 10:00a Submitter: 62, GHV

Inspection Frequency: Annual / Monthly / Quarterly / Other

Inspection Item	Inspected (Yes/No)	Inspected (Yes/No)	Inspected (Yes/No)	Comments/Description
Debris Removal				
Adjustment and fine of filter?	dt	yes	no	
Is the and Order fine of filter?	dt	yes	no	
Facility (manually) fine of filter?	dt	yes	no	
Vegetation				
From within and fully established? (no evidence of existing material into property BMP)		yes	no	
Other noted?	dt	yes	no	
Water retention where required				
Water holding chamber of normal pool	dt	yes	no	
Endurance of structure				
Soil in front of filter				
Filter and Chamber fine of filter?	dt	yes	no	
Settlement chamber not more than 50% full	dt	yes	no	
Structural Components				
Any evidence of structural damage noted?	dt	yes	no	
Cracks in pool structure?	dt	yes	no	
Spalling or cracking of structural parts?	dt	yes	no	
Outlet overflow pathway	dt	yes	no	
Other				
Hydraulic video?	dt	yes	no	
Any evidence of filter(s) clogging?	dt	yes	no	
Evidence of filter bypassing facility?	dt	yes	no	

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Photographic Record

Client: 511 O'RAD Site Name: 511 Union Nashville, NC

Project Number: 511 Union 220 68 Avenue North

Photo Number: 1

Photographer: 11/11/11

Date: 10/12/2011

View Direction: NA

Comments:



Photo Number: 2

Photographer: 11/11/11

Date: 10/12/2011

View Direction: NA

Comments:



# Nashville's Program for SCM Inspection & Maintenance

- SCM Owner Annual Report Actualities
  - Low participation rate (less than 1/3)
  - A variety of formats submitted
  - Many do not include photographs or notes on maintenance records
  - Many don't list Grading Permit Tracking #
  - Only submitted for 1 SCM on property that has many other SCMs

- SCM Owner Annual Report Actualities

Cleaning Date 11-5-18 Job Number TN 9-176-11255  
 Job Name Kroger Store # 895  
 Job Address 2131 Abbott Martin Rd  
Nashville TN  
 Maintenance Supervisor's Name Deane Wilson  
 Disposal For ☒ (Y) ☐ (N) Q Permit # 20020152

Traffic Area <input type="checkbox"/> Grassy Area <input checked="" type="checkbox"/> Manhole Lid <input type="checkbox"/> Hatch Lid <input type="checkbox"/> Storm Drain <input checked="" type="checkbox"/> Time <u>1</u>
--

Water Level	Trash Condition	Sediment Level	Manhole Type
<input checked="" type="checkbox"/> low <input type="checkbox"/> normal <input type="checkbox"/> above outlet	<input type="checkbox"/> minimal <input checked="" type="checkbox"/> typical <input type="checkbox"/> unsuitably high	<input type="checkbox"/> little <input checked="" type="checkbox"/> typical <input type="checkbox"/> excessive	<u>6 round covers</u>

Recommendations: This unit appears to need maintenance on a ☐ shorter ☐ longer ☐ unchanged schedule.

This report is a complete and accurate description of conditions found at the time of cleaning and all work performed as this device.

Maintenance Supervisor's Signature \_\_\_\_\_

**Maintenance Data**

Sediment: inlet side <u>6</u> inches	Water is said at inspection <u>1 1/2</u> inches
Sediment: outlet side <u>N/A</u> inches	Volume (gal.) <u>7.5</u>

**Items Maintained**

Lid: inspect bolts, eyebolts, hinges	<u>OK</u>
Trash Rack: inspect aluminum mesh	<u>N/A</u>
Tire/De Pliers: inspect for damage	<u>N/A</u>
Surroundings: check grass/plantings	<u>OK</u>
Replace media (type)	<u>5 50 liter tanks</u>
Inlet: inspect	<u>OK</u>
Outlet: inspect	<u>OK</u>

# Nashville's Program for SCM Inspection & Maintenance

- SCM Owner Annual Report Actualities

To Whom It May Concern,

Our annual inspection found some washout in our dry pond that needs to be addressed. We are reaching out to some of the provided maintenance companies and will have all repairs completed within 90 days.

Regards,



# Nashville's Program for SCM Inspection & Maintenance

- SCM Annual Reporting Improvements
  - Develop a new form that can be filled out (1-page) for the entire site (all SCMs)
  - Create an online mapping system that allows users to update each structure.
  - Send out routine public education mail-outs or posts on social media informing owners of responsibilities.

# Nashville's Program for SCM Inspection & Maintenance

- SCM Annual Reporting Improvements

**Nashville Metro Water Services, Stormwater Control Measures**  
**Annual Inspection and Maintenance Summary Report**

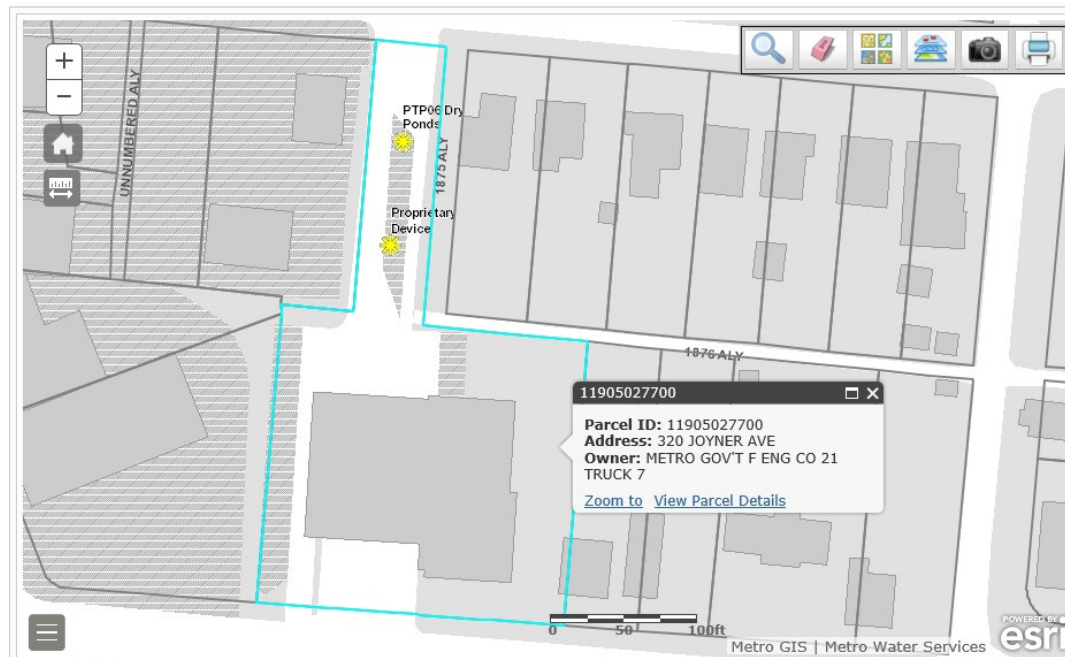
**IMPORTANT INFORMATION:**

- A Annual Inspection and Maintenance Summary Report is required to be submitted by the owner (or other authorized person) for Stormwater Control Measures (SCMs) that were constructed per grading permit regulations with a permit number prior to 2008 or later. All forms should be submitted to [nwms.scms@nashville.gov](mailto:nwms.scms@nashville.gov).
- Each Annual Summary Report shall include, as an attachment, individual Structure Inspection Sheets that detail notes on each structure inspected. Multiple sheets should be attached if multiple inspections were performed throughout the year. Structure Inspection Sheets are available at [www.nashville.gov](http://www.nashville.gov).
- A Annual Inspection Summary Reports shall be submitted between January 1<sup>st</sup> and July 1<sup>st</sup> summarizing the previous year's inspection/maintenance of the SCM structures on the entire parcel.
- Reports without photographs of the most recent inspected/maintained structures will be considered incomplete and not accepted.
- Reports for underground waste regulatory units, where maintenance such as pumping out wastewater and sediment, must include waste disposal tickets for each maintenance event.

Site Information (Incomplete Forms will not be accepted)		Report Date:
Business Name (if applicable):	Grading Permit #	
Owner Name:	Total Number of SCM on Property:	
Owner Email:	<small>(List number of each type below. This form should include all SCMs on the parcel)</small>	
Owner Phone:	Underground Vault*	
Property Address:	Dry Detention Pond	
Inspector Name:	Retention Basin (Re in Garden)	
Inspector Phone:	Porous Pavement/Revers	
Inspector Email:	Waste Regulatory Unit	
Inspector's Signature (Digital Signature accepted)	Wet Pond	
	Other:	
	<small>* For Underground Vaults, list make/model:</small>	
Summary of Inspection/Maintenance Notes: <small>(Inspection sheets for each structure should also be attached to this Annual Summary Report.)</small>	All SCMs functioning at time of the most recent inspection. <input type="checkbox"/> Yes <input type="checkbox"/> No <small>(If not, please explain below):</small>	
Maintenance Performed <small>(Throughout the previous calendar year)</small>	Notes:	
Yes <input type="checkbox"/> No <input type="checkbox"/>		
Owner/Authorized Personnel Signature: <small>(By signing this checklist, you are certifying that the authorized personnel for this property has seen the all information and that it is correct.)</small>	Date	
Other Information Required <small>(A minimum of one of the information will be considered incomplete.)</small>	Structure Inspection Sheets	Photos of Maintained Structures
	Waste Manifest Tickets <small>(Underground vaults only)</small>	

# Nashville's Program for SCM Inspection & Maintenance

- SCM Annual Reporting Improvements



# Nashville's Program for SCM Inspection & Maintenance

- Routine inspections and follow-up by MWS Staff for privately-owned SCMs
  - Majority of our resources are dedicated as a program to inspecting and following up.
  - Internal program goal to inspect and follow-up with all privately-owned SCMs once/3 years.
  - Inspection is easy, following-up/requiring maintenance is the challenging aspect.

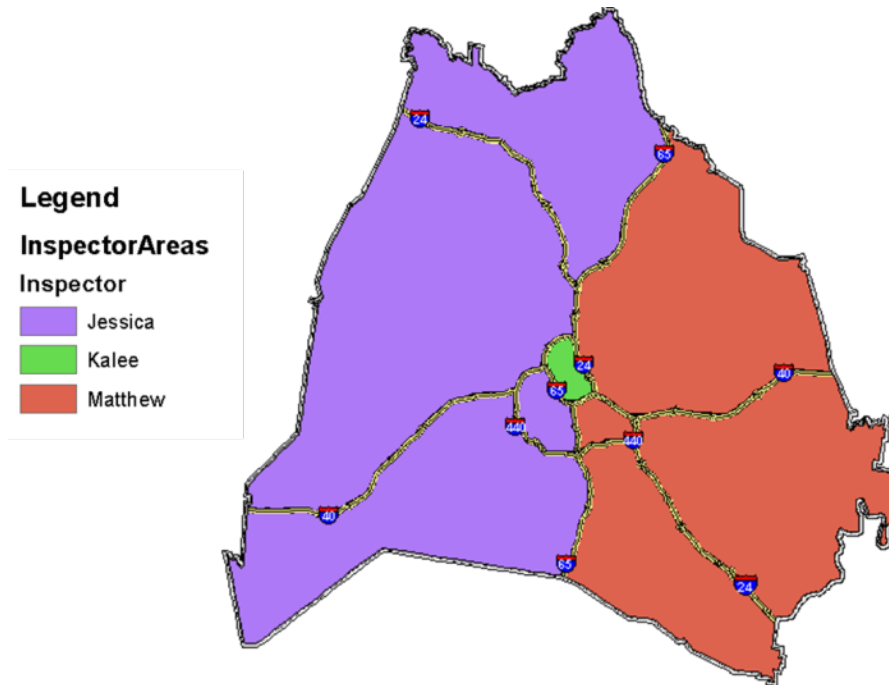
# Nashville's Program for SCM Inspection & Maintenance

- Routine inspections and follow-up by MWS Staff for privately-owned SCMs
  - Began staffing up resources in 2017:
    - Liz Stienstraw – SCM Enforcement Compliance – (County)
    - Kalee Hotchkiss – Metro/Downtown SCM inspection
    - Jessica Bell – SCM Inspection (West)
    - Matthew Lockhart - SCM Inspection (East)



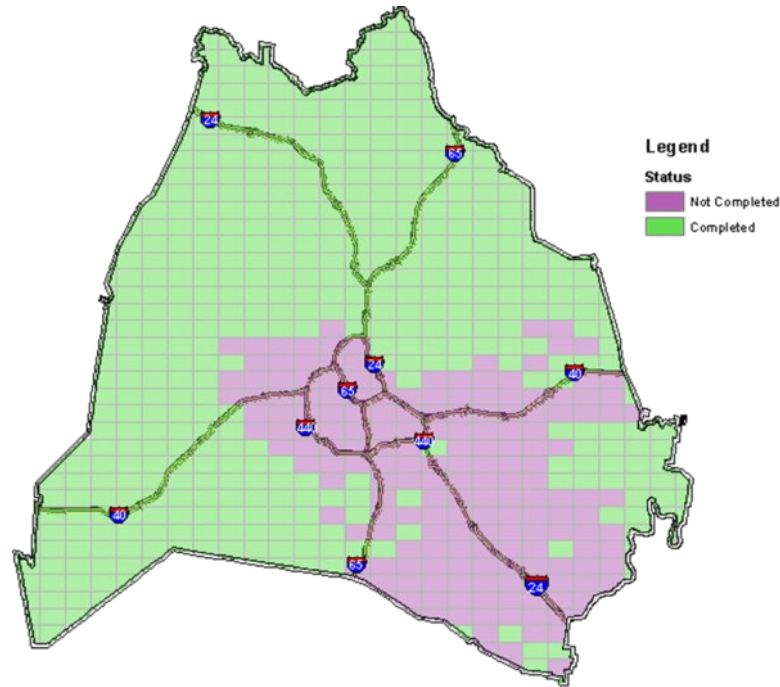
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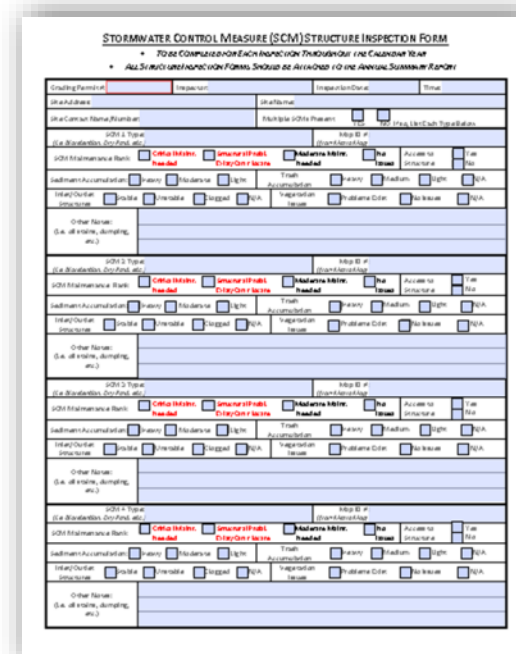


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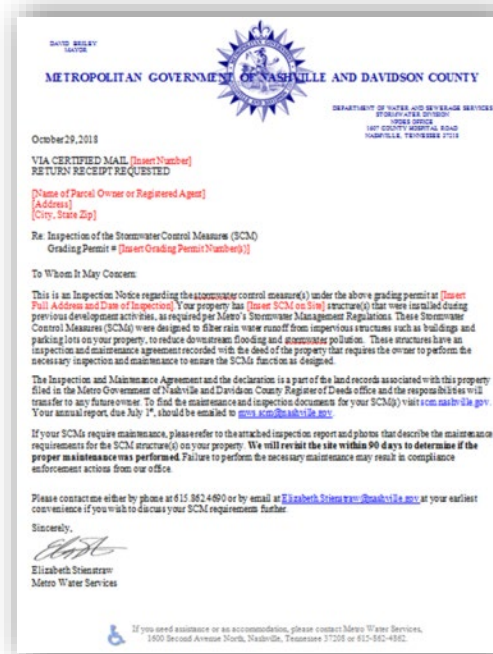


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# Nashville's Program for SCM Inspection & Maintenance

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Stormwater Control Measure (SCM) Notice of Inspection  
This is not a Citation

Metrol  
Water Services

Metrol, Your property has one or more structures that were installed during previous development activities, as required per Metrol's Stormwater Management Regulations. These Stormwater Control Measures (SCMs) were designed to treat rainwater runoff from impervious structures such as buildings and parking lots on your property, to reduce downstream flooding and stormwater pollution. These structures have an inspection and maintenance schedule recorded with the deed of the property that requires the owner to perform the necessary inspection and maintenance to ensure the SCMs function as designed.

Grading Permit #: 200800254

Inspected By: Jessica Bell Site Name: Public Super Market

Date Inspected: 1/9/19 Time Inspected: 1:10 PM Address: 6604 Charlotte Pike, Nashville, TN 37209

SCM Type:

<input type="checkbox"/> Dry Pond	<input checked="" type="checkbox"/> Workstation	<input type="checkbox"/> Permeable Pavement	<input type="checkbox"/> Infiltration Trench	<input type="checkbox"/> Green Roof
<input type="checkbox"/> Wet Pond	<input type="checkbox"/> Underground Water Quality Vault	<input type="checkbox"/> Water Quality Device	<input type="checkbox"/> Underground Detention	<input type="checkbox"/> Other (See Note)

SCM Maintenance Needed: ☒ Yes (See Section 4) ☐ No

Date Maintenance Complete By: 4/9/19

Inspection Notes:

All blockcheckers require maintenance. Blockcheckers keep sediment from accumulating and should be replaced. Keep in mind that in blockcheckers new mulch should not be placed on top of old mulch. Develop a routine inspection and maintenance schedule to ensure blockcheckers are functioning properly.

\*\*Reminder: Your annual report due July 1st should be emailed to [metrol@metrol.gov](mailto:metrol@metrol.gov).

For questions or comments:  
Jessica Bell  
[jessica.bell@metrol.gov](mailto:jessica.bell@metrol.gov)  
615-442-4775

For more information, please call 615-442-2420 or visit the website:  
[www.nashville.gov/water-services/development/StormwaterControlMeasures.aspx](http://www.nashville.gov/water-services/development/StormwaterControlMeasures.aspx)

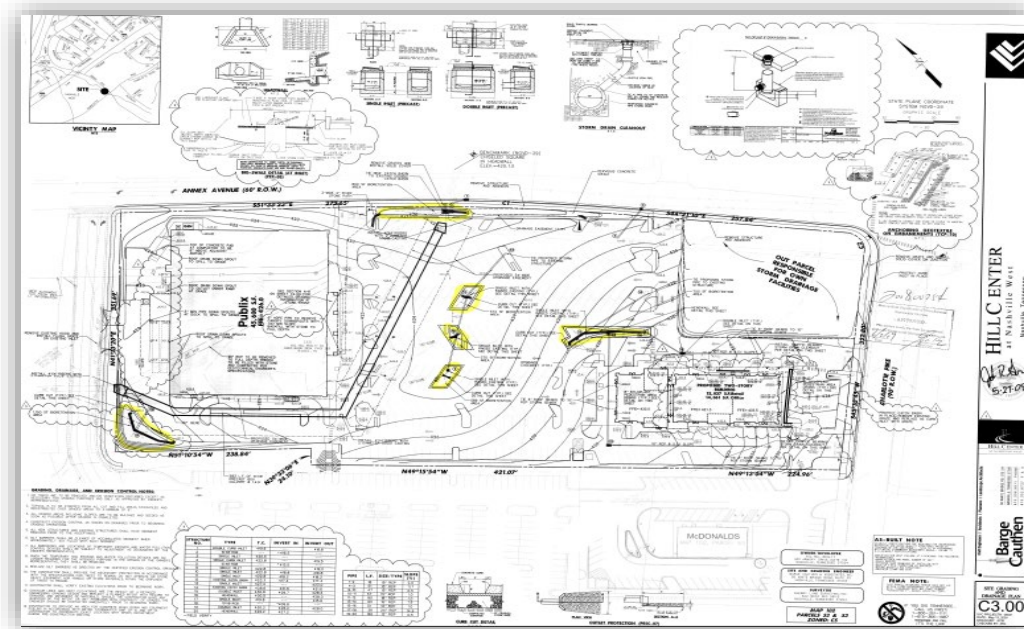
# Nashville's Program for SCM Inspection & Maintenance

- Routine inspections and follow-up by MWS Staff for privately-owned SCMs



# Nashville's Program for SCM Inspection & Maintenance

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# Nashville's Program for SCM Inspection & Maintenance

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# Nashville's Program for SCM Inspection & Maintenance

- Routine inspections and follow-up by MWS Staff for privately-owned SCMs

**METRO**  
WATER SERVICES

Water Quality SCM Maintenance Companies

The following is a list of companies that will maintain post-construction water quality stormwater control measures (SCMs) such as vegetated detention sites and stormwater ponds. Each company has adopted NPDES 303(d) TMDL inspection rules and maintenance schedule tables, as applicable, to Metro water. Sealer spots requested will quantify and properly dispose of the material removed from each of the SCMs maintained.

This list is for your convenience only and is not a recommendation or endorsement by the Metropolitan Government of Nashville and Davidson County. Please contact the relevant company for more information.

**PLEASE NOTE:**  
OSHA permit-required confined space protocols must be followed during the inspection and/or maintenance (M&M) of certain stormwater quality vegetated detention sites. General safety precautions and appropriate personal protective equipment should be utilized by personnel when accessing such sites. Please contact the maintenance firm for more information.

Company	Contact	Phone Number	SCM Maintenance
Action Environmental	John Alwood	615-298-4513	No Ponds
All South-Tenn Leasing Service, LLC	Erica Weir	615-613-6626	All
ALPAC Companies	Anna Grigg	306-664-8142	All
Beard Property Maintenance	Dwight Beard	615-331-4289	Stormwater Ponds
Chil Constructors Inc.	Jim Field	615-236-4000	Ponds
EMPHCM Doctor	Carla Wiley	219-991-4062	All
Comco Industrial Services	Michael Combs	615-221-0101	All
Drainage Protection Systems, a division of Oldcastle Infrastructure, Inc.	Gary Jones	888-990-8826	No Ponds
First Response, a Truist Company	Ron Williams	615-869-9110	All
Greiner Miller	Craig Wood	615-394-3284	No Ponds
He Pace	Gary Varior	615-892-0033	All
Integrated Technology, LLC	Lois Thomas	615-136-4217	All
Jen-Hill Construction Materials	Trey Hightower	615-634-1200	All
Lee Company	Justin Miller	615-667-1000	Stormwater Ponds
Mid-TN Erosion	Steve Clark	615-295-9669	All
Murre Plumbing Heating Cooling	Stacy Dossion	615-396-8811	All
NELCO Inc.	David Roberts	615-616-2732	All
Northern Environmental Group	Colby Phillips	615-431-4961	All
Orbital Environmental	Gary Skidmore	615-433-1152	All
Restoration Ecology	Joel Vancan	423-121-7354	All
Stormwater Operations Specialists	Allyson Williams	919-124-0155	All
Storm System Services	Jeffrey Auer	615-940-0118	All
Taylor Construction	Way Taylor	615-330-3551	All
Sweeping Corporation of America	Thomas Hand	615-251-8657	Permit Payment
Tennessee Concrete Association	Alan Sparks	615-360-1393	Permit Payment
TPH, Inc.	Teddy Brinkman	615-956-0935	All
ZMI, Inc.	Bea Azzi	615-913-6581	All

To add your company to this list, please contact: Josh Hayes @ 615-200-2400 or [jhayes@metrowater.gov](mailto:jhayes@metrowater.gov)

# Nashville's Program for SCM Inspection & Maintenance

- Enforcement actions

**Metropolitan Government**  
**WATER SERVICES**  
**STORMWATER**

Metropolitan Government, Stormwater NPDES  
 1801 County Hospital Road  
 Nashville, TN 37203  
 (615) 615-4000-2420  
 Fax: (615) 615-2422  
 Email: [www.metro@nashville.gov](mailto:www.metro@nashville.gov)

**NOTICE OF NON-COMPLIANCE**

Business Name / Residential Property Location: QUADGRAPHICS Address: STANPAE, 100 Birch Court-Park Dr., Nashville, TN 37207-0000000000

Site Representative/Property Owner: HAWKINS, CHARLES W., II, TR. is hereby served with this Notice of Non-Compliance on: 10/18/18 for failure to maintain a Stormwater Control Measure(s) (SCM) per the Maintenance Agreement Instrument Number: 201501140002708 that was recorded with the Deed of the property. The SCM(s) on your property was installed during previous development/redevelopment activity, which obtained a Grading Permit from the Metro Water Services, Stormwater Division. The Grading Permit Number associated with your parcel's development activity was: 201400270. As a condition of the grading permit, the permanent SCM(s) was installed to prevent downstream flooding and stormwater pollution. Inspection and maintenance agreements, which were recorded with the Deed of your property, require the property owner (and Metro) to perform the required inspection and/or maintenance associated with the SCM(s) on your property, so that it continues to function as it was designed. A copy of the inspection and maintenance agreement for your parcel can be obtained from the Davidson County Register of Deeds website at the following link: <http://www.metrodeeds.nashville.org/recording>.

**Description of Non-compliance Maintenance Issues:**

An inspection by staff of the SCW (Stormwater) installed on the above-listed parcel identified the following deficiencies:  
 1) Excessive weed vegetation growth and missing trees throughout stormwater.  
 2) Unable to locate pre-treatment gravel diaphragm.

Our office has previously requested proper maintenance of the structure. However, due to the lack of response, we are issuing this official Notice of Non-compliance.

Timely inspections and appropriate maintenance allow SCMs to function as designed by filtering debris, sediment, and other pollutants from stormwater runoff that would otherwise flow into the M24 and nearby streams. The inspection and maintenance agreement (enclosed) defines the terms of the agreement to inspect and maintain the SCMs, as needed, and became contractual between the landowner and Metro Nashville Davidson County (Metro) when the completed project passed its final inspection. The ISM is recorded with Metro's Register of Deeds and runs in perpetuity with the land.

**Required Corrective Action to be Corrected By:** 11/18/18

Please note, Metro is performing the required maintenance could lead to additional enforcement that may include the assessment of administrative penalties as defined in Metro's Code (linked on Next Page).

1) Remove weed/invasive vegetation throughout.  
 2) Re-plant Bioretention with native species, see plans for specs.  
 3) Re-install pre-treatment gravel diaphragm, see plans for specs.  
 4) Establish regular inspection and maintenance routines of this structure to ensure that it continually functions as designed.

A list of companies familiar with the inspection and maintenance of SCMs is included for your convenience and should not be construed as an endorsement by or certification through Metro Nashville Davidson County. Provide documentation of the maintenance performed to the NPDES office (See attached Documentation Requirement form).

Notification Delivered Via: Certified Mail #7017 0190 0920 8896 7107

This notice served by: Chadwick Shepherd Date and Time: 10/18/18 at 3:00 pm

**Metropolitan Government**  
**OF NASHVILLE AND DAVIDSON COUNTY**  
**OFFICIAL**

**NOTICE OF VIOLATION**  
 Citywide/Grading Permit No: 201400270

Name/Location: East Side Estates/ 1424 B Electric Ave Sample: D9401048500

has been found to be in violation of the Metropolitan Code of Laws, Stormwater Management Act, Sections:  
☒ 15.64.020 ☐ 15.64.120 ☐ 15.64.140 ☐ 15.64.205 ☐ Other: \_\_\_\_\_  
 and/or regulations established in the Metropolitan Stormwater Management Manual, Volume 1, Sections:  
☐ 2.7 ☐ 3.3 ☐ 3.9 ☐ 4.3.6 ☐ 6.9 ☒ Other (attach back of form for description of violations and regulations)

Does not comply with a violation(s): ☐ This Discharge ☐ Discharge/Filling within Permit ☐ Inadequate Erosion Sediment Controls  
☐ Buffer Discharge ☒ Improperly Functioning Stormwater Quality media/ Quantity Structures ☐ Failure to Follow Approved Plans  
☐ Changing Plans or within Stormwater Agreement

☒ Other: The Bioretention Stormwater Control Measure (SCM) was completely removed in the back yard of the property. This bioretention basin was required to infiltrate stormwater runoff from the East Side Estates development and there was an Inspection and Maintenance Agreement filed with the Register of Deeds, requiring the structure to be protected and maintained. All previous notices and attempts to get the property owner to repair the structure have failed.

City Penalty: 100.00 The maximum monetary penalty for the Metropolitan Government of Nashville and Davidson County and issued to Metro Water Services, 400 1/2 Avenue - N.E., 1600 East Avenue, Nashville, TN 37203 by 04/21/19

Please note the violation number is the same process of the check and enforce a copy of this violation.

Stop Work Order: ☐ If checked, you are hereby ORDERED to STOP ALL WORK on this project until the violation(s) is/are corrected, and/or compliance is approved by the Stormwater Department.

We ask for resolution as a referral to us only with Metro Code:

☐ Stop Work Discharge Immediately  
☐ Submit As-built Construction of the Stormwater Department Review Office by \_\_\_\_\_  
☐ Roadway/Access Discharge of Material or Sediment from a source/structure/lot/drainage system by \_\_\_\_\_  
☐ Submit plans for buffer restoration to Stormwater NPDES Office by \_\_\_\_\_  
☐ Install or Repair Stormwater Controls by \_\_\_\_\_  
☐ Obtain all permits and approvals by \_\_\_\_\_  
☐ Schedule meeting with Stormwater Management Committee by \_\_\_\_\_  
☒ Build or repair stormwater infrastructure as specifications shown on plans by 04/21/19  
☐ Repair and Maintain Stormwater Quality media/ Quantity Structures by \_\_\_\_\_

☒ Other: Repairs to the structure will take longer than the specified time frame above, then an official, signed request for extension should be submitted, which details the proposed new timeframe and reasons. All communications with the position holder should be directed to the Stormwater (615) 615-4000 or to: [Stormwater@nashville.gov](mailto:Stormwater@nashville.gov). If the structure is not repaired or an extension is not requested and approved by the above timeframe, additional enforcement actions may occur, including the issuance of additional administrative penalties.

Name: Jon Alexander & Chelsey Stucker is hereby served with this Notice of Violation on 03/21/19 and notice of an immediate violation(s) and stop work until the Stormwater Department approves the construction of work. This Discharge May Stop Immediately. Continued non-compliance may result in additional civil penalties under legal action. You have the right to appeal this decision within 10 days. Appeal information is located on back of this Notice under 3.7.3.3 Penalties.

No fines are received by: Ma Certified Mail # 7018 0040 0000 3634 3443

This notice served by: Chadwick Shepherd Date and Time: 03/21/19 at 8:00 AM

Copy of the Notice of Violation will be made available to the Metro Legal Department and the Tennessee Department of Environment and Conservation.



# Nashville's Program for SCM Inspection & Maintenance

- Successes of the SCM inspection program



# Nashville's Program for SCM Inspection & Maintenance

- Successes of the SCM inspection program



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# Nashville's Program for SCM Inspection & Maintenance

- Successes of the SCM inspection program



# Nashville's Program for SCM Inspection & Maintenance

- Successes of the SCM inspection program



# Nashville's Program for SCM Inspection & Maintenance

- Lessons Learned from Nashville's SCM program
  - Inspection is easy, follow-up is challenging
  - LID practices require frequent maintenance
  - Need to provide QA/QC back to Engineers to promote low-maintenance design
  - SCMs don't always look like you expect, but at the end of the day, are they functioning

# Nashville's Program for SCM Inspection & Maintenance

- Lessons Learned from Nashville's SCM program
  - Functionality vs. Aesthetics
    - Bioretention Basin – Not Functioning





# Nashville's Program for SCM Inspection & Maintenance

- Lessons Learned from Nashville's SCM program
  - Functionality vs. Aesthetics
    - Bioretention Basin – Not Pretty, but functioning



# Nashville's Program for SCM Inspection & Maintenance

- Lessons Learned from Nashville's SCM program
  - Property ownership/responsibility issues are sometimes challenging with **Residential** SCMs.
  - Owner education is extremely important.
  - Relying on owner-submitted annual reports has not proven to be effective/efficient approach.
  - Being on the ground doing inspections talking to people, sending notices has been the most effective approach to achieve maintenance.

# Nashville's Program for SCM Inspection & Maintenance

- Lessons Learned from Nashville's SCM program
  - You never know what you are going to find



# Nashville's Program for SCM Inspection & Maintenance

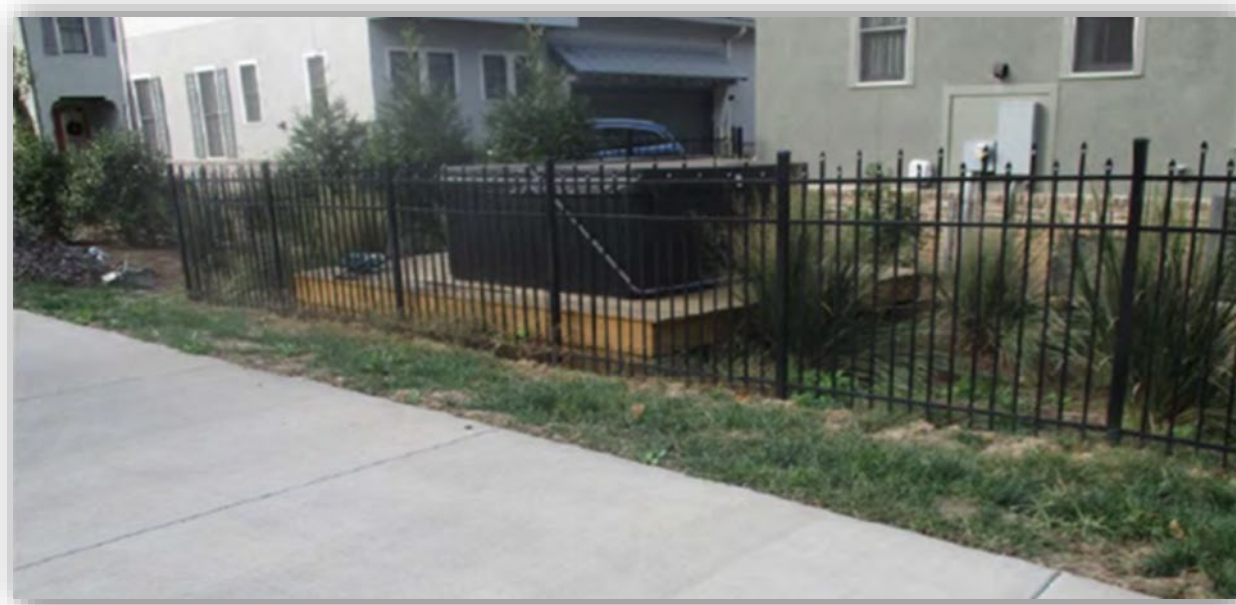
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# Nashville's Program for SCM Inspection & Maintenance

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  - You never know what you are going to find



# Questions

Nashville

Metro Water Services

Stormwater NPDES

Josh Hayes

[Josh.Hayes@Nashville.gov](mailto:Josh.Hayes@Nashville.gov)

615-862-4687