Metro Nashville/Davidson County
Annual MS4 Report
Permit TNS068047

November 2015
Reporting Period:
July 1, 2014 - June 30, 2015

METRO WATER SERVICES
STORMWATER

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1.0 Introduction

The Metropolitan Government of Nashville Davidson County (Metro) was issued the third cycle of the Municipal Separate Storm Sewer System (MS4) permit effective February 1, 2012. Under this permit, the reporting period for each permit year coincides with Metro's Fiscal Year (FY) (July 1st through June 30th). The reporting period for this report will be referred to as Fiscal Year 2015 (FY15), which represents the period between July 1, 2014 through June 30, 2015.

Each year there are numerous individuals within different Metro Departments that work toward achieving overall MS4 Permit compliance. As a measure to ensure permit compliance within the various facets of Metro, the National Pollutant Discharge Elimination System Section (NPDES) was created to oversee all permit compliance activities. NPDES, which is a Section within the Metro Water Services (MWS) Stormwater Division, is responsible for performing specific MS4 permit requirements such as public education activities, illicit discharge investigations, runoff/discharge sampling, construction site inspections, field screening inspections, industrial inspections, etc. In addition, NPDES is responsible for coordinating with various other Metro Departments to ensure permit compliance measures are being followed on a Metro-wide basis.

The following table is a list of individuals that have contributed to specific permit compliance activities/information during FY15. Any inquiries regarding information represented in this report should be directed to the MWS Stormwater NPDES Section (Attn: Josh Hayes) at 1607 County Hospital Rd, Nashville, Tennessee, 37218, Phone: 615-880-2420, Email: Josh.Hayes@Nashville.gov.

Table 1 - Contact List

Name	Agency	Position/Responsibility
Scott Potter	Metro Water Services	Director
John Kennedy	Metro Water Services	Assistant Director
Tom Palko	Metro Water Services	Assistant Director, Stormwater Division
Sonia Allman	Metro Water Services	Public Information Officer
Julie Berbiglia	Metro Water Services	Public Education Specialist
Ricky Swift	Metro Water Services	Program Manager, Stormwater Maintenance Section
Casey Cooper	Metro Water Services	Project Manager, Stormwater Maintenance Section
Roger Lindsey	Metro Water Services	Program Manager, Stormwater Development Review and Permitting
Steve Mishu	Metro Water Services	Engineer, Stormwater Development Review and Permitting
Laura Jones	Metro Water Services	Engineer, Stormwater Development Review and Permitting
Clive Sorhaindo	Metro Water Services	Engineer, Stormwater Development Review and Permitting
Kimberly Hayes	Metro Water Services	Engineer, Stormwater Development Review and Permitting
Jennifer Hill	Metro Water Services	Administration Service Manager, Stormwater
Michael Hunt	Metro Water Services	Program Manager, Stormwater NPDES Section
Bonnye Holt	Metro Water Services	Office Support Representative, Stormwater NPDES Section
Dale Binder	Metro Water Services	Construction Inspection Manager , Stormwater NPDES Section
Harold Bryant	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Shawn Herman	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Katherine O'Hara	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Denice Johns	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Dr. Steve Winesett	Metro Water Services	Watershed Manager, Stormwater NPDES Section
Rebecca Dohn	Metro Water Services	Water Quality Inspector, Stormwater NPDES Section
Josh Hayes	Metro Water Services	Water Quality Inspector, Stormwater NPDES Section
Mary Bruce	Metro Water Services	Water Quality Inspector, Stormwater NPDES Section
Anneli TerryNelson	Metro Water Services	Water Quality Inspector, Stormwater NPDES Section
Veronica Mullen	Metro Water Services	Water Quality Inspector, Stormwater NPDES Section
Travis Drury	Metro Water Services	Water Quality Inspector, Stormwater NPDES Section
Mark Macy	Department of Public Works	Assistant Director, Engineering Division
Sharon Smith	Department of Public Works	Solid Waste Division
Donna Ryman	Department of Public Works	Solid Waste Division
Clayton Hand	Department of Public Works	Engineer, Solid Waste Division
Phillip Jones	Department of Public Works	Manager of the Street Services Division
Wade Hill	Codes Department	Chief Plans Reviewer
Anita McCaig	Metro Planning Department	Planner
Christopher Michie	Metro Public Health Department	Septic System Oversight
Steve Crosier	Metro Public Health Department	Restaurant Inspection
Greg Ballard	Metro Water Services	Program Manager, Overflow Abatement
Matt Lott	Metro Water Services	Program Manager, System Services Overflow Response
Al Corlew	Metro Parks Department	Parks and Recreation Planning Division
Tim Netsch	Metro Parks Department	Assistant Director
Scott Harris	Mayor's Office of Emergency Management	Spill Response Coordinator
Stacey Wall	Metro Office of Fleet Management	Manager, Fleet Services
Hugh Garrison	Metro Water Services	Laboratory Superintendent
Butch Bryant	Metro Water Services	Pre-treatment/FOG program
Anna Kuoppamaki	Metro Water Services	GIS Analyst, Stormwater NPDES Section

The following list is a description of commonly used acronyms throughout the document:

303(d)	State's List of Impaired Waterways (Below Water Quality Criteria for Use Classifications)
ARAP	Aquatic Resource Alteration Permit
BMP	Best Management Practice
CCTV	Closed Circuit Televising
CSS	Combined Sewer System
EMC	Event Mean Concentration
EPA	Environmental Protection Agency
EPSC	Erosion Prevention and Sediment Control
FY15	Fiscal Year 2015
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System software
GP	Grading Permit
HHW	Household Hazardous Waste
LA	Load Allocations for Streams with Approved TMDLs
LID	Low Impact Development
MEP	Maximum Extent Practicable
MDPW	Metro Department of Public Works
Metro	Metro Nashville, Davidson County
MNPR	Metro Nashville Parks and Recreation
MNPS	Metro Nashville Public Schools
MS4	Municipal Separate Storm Sewer System
MWS	Metro Water Services
NOV	Notice of Violation
NON	Notice of Noncompliance
NPDES	National Pollutant Discharge Elimination System Section within MWS Stormwater
OAP	Overflow Abatement Program
O&M	Operations and Maintenance
OEM	Mayor's Office of Emergency Management
PIE	Public Information/Education Plan
PIO	Public Information Officer
RMCP	Ready Mix Concrete Plant
RMP	Runoff Management Plan
SCM	Stormwater Control Measure (Post-Construction Stormwater Treatment)
SOP	Standard Operating Procedure
SSD	System Services Division
SSS	Sanitary Sewer System
SWAC	Stormwater Advisory Committee
SWMC	Stormwater Management Committee
SWMM	Stormwater Management Manual
SWMP	Stormwater Management Plan
SWO	Stop Work Order
TAB	Tennessee Association of Broadcaster's Public Education Program
TDEC	Tennessee Department of Environment and Conservation
TMDL	Total Maximum Daily Load of Pollutants Allowed within Streams
TMSP	Tennessee Multi-Sector Permit for Industrial Stormwater Discharges
TDF	Tennessee Department of Agriculture-Division of Forestry
TNSA	Tennessee Stormwater Association
TSS	Total Suspended Solids
USACOE	U.S. Army Corps of Engineers

1.1 Objective of the Program

The objective of the Stormwater Management Program is to implement specific pollution prevention programs designed to improve the quality of Metro's water resources to the Maximum Extent Practicable (MEP), particularly as it relates to improving the quality of discharges from Metro's MS4. This leads to an overall goal of maintaining MS4 permit compliance, while simultaneously achieving water quality improvements in every Metro stream reach included on the Tennessee Department of Environment and Conservation's (TDEC's) 303(d) list of impaired streams. It is Metro's long-term goal to reduce pollutant loadings from the MS4 as much as possible to remove a majority of the streams from the 303(d) list that are indicated as being impaired by MS4 runoff. During the first two MS4 permit cycles, Metro implemented major programs to target the various sources of stormwater pollution (i.e. construction sites, industrial sites, commercial sites, residential sites, etc.). Overall, the implementation of these control programs has worked to significantly reduce and minimize pollutants from entering the MS4 drainage system and the receiving streams. With issuance of the 3rd cycle of the MS4 Permit, Metro has taken the opportunity to evaluate and make necessary modifications to further improve the program's effectiveness.

1.2 Major Findings

Each year there are fewer and fewer major discoveries of pollution to the MS4 drainage, which can be largely contributed to the long term implementation of the core pollution prevention programs described further in this document. Some of the more notable findings impacting water quality of the MS4 and Metro streams during FY15 are described in the following paragraphs:

1.2.1 Illicit Cross Connection of Sanitary Sewer to a Stormwater Control Measure

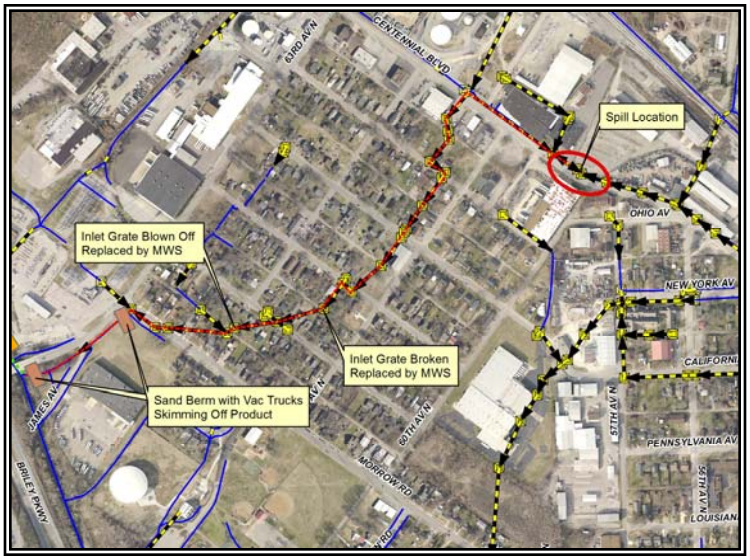
NPDES received a citizen complaint about a sewer odor in downtown Nashville located outside of the Combined Sewer System (CSS) boundaries. NPDES initiated a lengthy investigation that resulted in the discovery of an illicit cross-connection of a sanitary sewer drain from a restaurant restroom to the storm sewer, which routed to an underground water quality Stormwater Control Measure (SCM). NPDES sampled the water within the SCM and determined high *E. coli* values were present. NPDES initiated enforcement and the cross-connection was eventually repaired, eliminating the discharge of the sanitary waste and associated bacteria to the Cumberland River.

Sanitary waste and dye from restaurant restroom present within the SCM

1.2.2 Large Tanker Truck Spill and Discharge to Richland Creek

NPDES was notified by the Office of Emergency Management (OEM) about a large tanker truck spill and fire in an industrial area in close proximity to Richland Creek. The spill resulted in over 8,500 gallons of fuel (diesel and gasoline) draining to a large portion of piped MS4 drainage extending under residential streets and homes. Several minutes after the spill, a large fire ignited within the piped MS4 drainage system. NPDES personnel immediately responded with maps of the stormwater drainage system to assist the Fire Department in blocking off traffic and determining where the unburned fuel would outlet to Richland Creek. NPDES and Fire Department personnel arrived at the MS4 outfall to Richland Creek just as the fuel began to discharge. Fire Department and NPDES personnel placed absorbent booms and other temporary containment berms in the channel prior to the discharge point to Richland Creek, which prevented thousands of gallons of fuel product from reaching Richland Creek. In the end, it was estimated that only a few hundred gallons of fuel made it to the creek. The trucking company quickly secured clean-up crews who worked for several weeks remediating the remaining fuel product from the MS4 and Richland Creek. NPDES continued to monitor the biological conditions of the creek until all fuel products were properly remediated. A map created by NPDES during clean-up efforts is depicted below.

Spill location where thousands of gallons of fuel drained to a storm drain and caught fire



Map depicting flow path of the spill and containment measures deployed by Metro

1.2.3 Construction Illicit

NPDES was alerted by a local citizen group about a discolored/murky discharge into Sugartree Creek in the Green Hills area. After investigating, NPDES found the source of the discharge to be large construction site that performs routine pit pumping. The construction site had been pumping ground water from the excavated pit through a FlocBox treatment device where flocculent was added to induce the settling of suspended solids before being discharged to the MS4 and Sugartree Creek. The discharge of murky water was caused by improper maintenance of the FlocBox; therefore, NPDES issued enforcement with a $2,500 administrative penalty. After the enforcement was issued the site replaced the non-functioning FlocBox and initiated routine sampling of the effluent from the new treatment device to ensure the murky discharge did not occur again in the future. NPDES also required the conduit that received the murky discharge to be flushed, while controls and a vacuum apparatus were set up downstream to collect as much of the flushed sediment as possible from the contaminated storm pipe.

Pit pumping material discharging to Sugartree Creek

1.2.4 Illicit Discharge Discovered During Field Screening Activities

During routine field screening activities, NPDES discovered blue colored water discharging from an outfall serving a large industrial complex with multiple businesses. NPDES personnel tracked the drainage system upstream to a pallet company, where obvious signs of paint residue were found on the pavement. Upon talking to the facility manager, NPDES was informed that the company, which paints wood pallets, had a large container of paint that leaked inside the building during the previous night shift. Apparently, an employee washed out the mops and other equipment used during the clean-up to the outside parking lot. NPDES issued an enforcement with administrative penalties and directed the site to formally train the employees on the proper disposal of industrial wastes.


Blue paint discovered during field screening activities

1.3 Major Stormwater Management Program Accomplishments and Highlights

1.3.1 MWS Stormwater Division

The MWS Stormwater Division has continued to facilitate major accomplishments in the development of the overall Stormwater Management Program. Particular accomplishments performed in recent years are listed below:

SWMP Implementation:
In FY15, NPDES continued to implement Metro's MS4 Storm Water Management Plan (SWMP) that was developed during previous permit reporting periods. The SWMP, as required by the new MS4 permit, is a formal document that provides a comprehensive narrative description of Metro's overall Stormwater Management Program. The SWMP describes Metro's methods of achieving each MS4 permit-required activity. The SWMP is an internal program document that is reviewed each year to determine if improvements or changes need to be made. During FY15, the SWMP was reviewed and no major changes were warranted. Some minor updates to Standard Operating Procedures have been incorporated, but the overall plan remained the same.

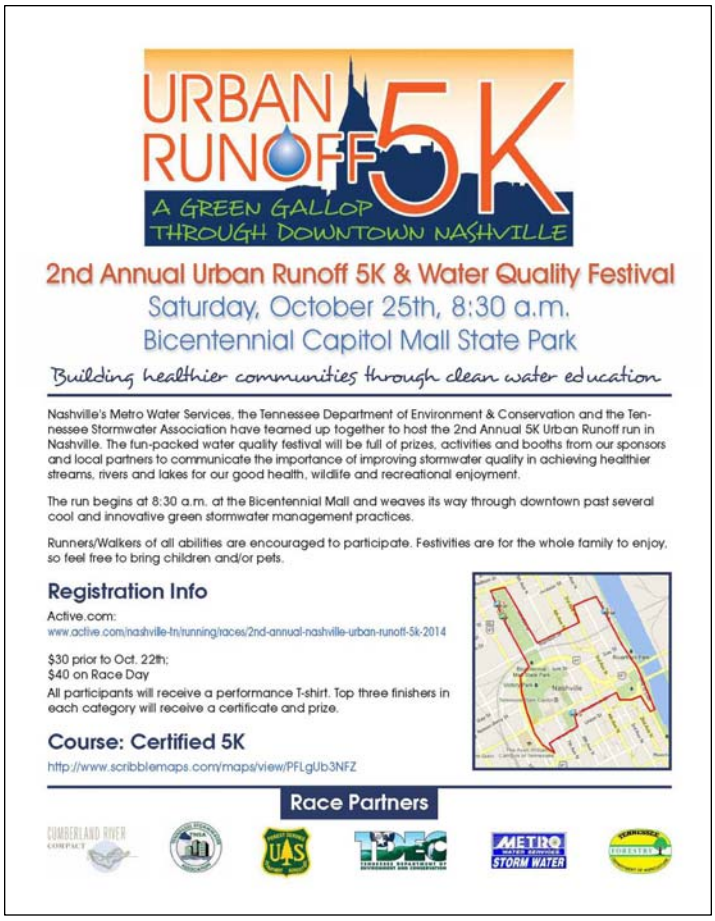
Public Education:
MWS' Stormwater Department continued to increase involvement on public education activities by implementing various prescribed actions of the Public Involvement/Education (PIE) plan. Below are some examples of additional public education activities that were undertaken during FY15:

- Post-Construction Stormwater Control Measure Maintenance Workshops
  During the reporting period, NPDES hosted several workshops with various Metro departments responsible for maintaining post-construction Stormwater Control Measures (SCMs). The focus of the workshops was to educate the departments with SCMs at their facilities about the proper inspection, maintenance, and reporting. Over 50 department representatives and some outside vendors attended the SCM workshops.

One of the SCM maintenance/inspection workshops

- Cigarette Butt Campaign
  In FY15, NPDES continued its partnership with the Public Works Beautification Program on a grant awarded from the Keep America Beautiful organization to implement an anti-cigarette littering campaign during the popular Country Music Association Festival (CMA). Personnel from MWS and Public Works hosted a booth during the CMA at which approximately 7,000 pocket ashtrays were handed out to the general public.

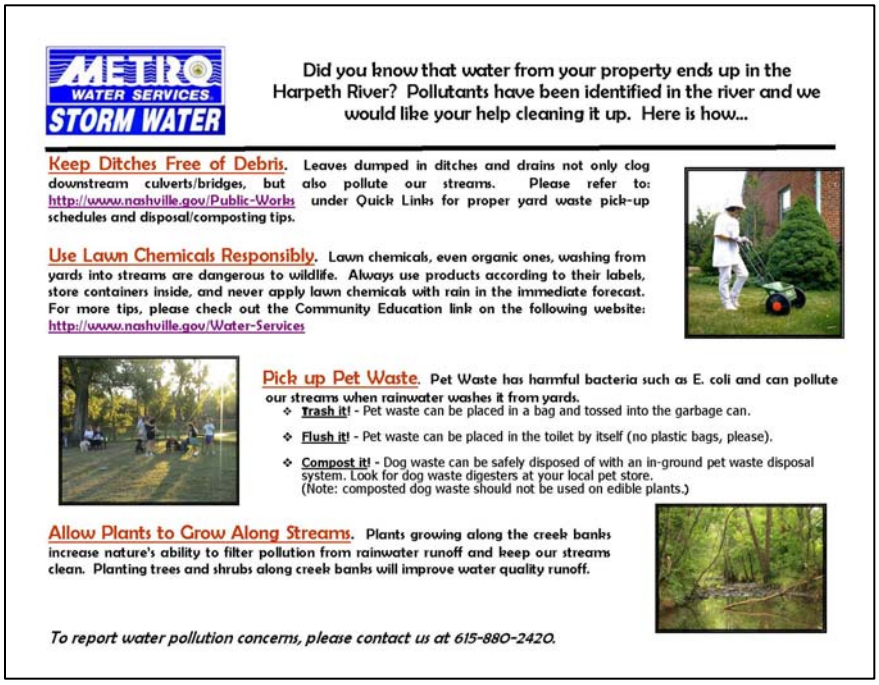
- Urban Runoff 5K
  During FY15, MWS continued the partnership with TDEC, the Tennessee Department of Agriculture, and the Tennessee Stormwater Association (TNSA) to host the 2nd Annual Urban Runoff 5K. The event was a family-oriented run/walk through downtown Nashville that highlighted several stormwater-friendly, green infrastructure projects such as Tennessee's first green street (Deaderick Street) and the large green roof over the Metro Courthouse parking garage. In addition to the actual race, several local organizations and government agencies hosted exhibitor booths as part of the Water Quality Festival that occurred during and after the race. Over 250 runners, volunteers and other walk-ons attended the 5K and Water Quality Festival.



Advertisement and photos form the 2nd Annual Urban Runoff 5K

- Residential Hot Area Mail-Out

  As a component of the PIE plan, NPDES mailed out brochures to two large residential areas that have been designated as "hot areas" within watersheds listed on the state's 303(d) list of impaired streams. The educational brochures that were sent out included tips on proper residential maintenance activities that would not negatively impact the quality of stormwater runoff. NPDES sent out 1,097 brochures to a residential area within the Harpeth River watershed and 1,788 brochures to a residential area within the Sugartree Creek watershed.



Example brochure sent out to residential areas in Sugartree Creek.

- Municipal Employee Specific Training

  As part of the SWMP, NPDES created specific Standard Operating Procedures (SOPs) that are focused on reducing potential impacts to stormwater runoff from maintenance activities performed by various departments. In addition, NPDES purchased a 30-minute video, produced by Excal Visual that also presents ways to prevent impacts to Stormwater runoff from typical maintenance activities. NPDES has posted various training materials on the internal intranet for some of the key Metro maintenance staff to view. In addition to the standard Metro maintenance employee education practices, during FY15, NPDES participated in two training workshops with maintenance employees from the Metro Nashville Public Schools (MNPS) system. NPDES personnel presented information on specific best management practices (BMPs) that should be utilized in performing maintenance on school properties to approximately 146 school maintenance employees.

One of the presentations given to MNPS maintenance staff on water quality issues

- Metro Channel 3 Educational Videos
  NPDES teamed up with the Metro Information Technology Services (ITS) department to film two short Public Service Announcements (PSAs) for airing on Metro Nashville's Public Access Channel (Channel 3). Each video presents an educational message from MWS' mascot (Splash) on activities by the general public that can contribute to polluted stormwater. The first video focuses on the application of lawn chemicals, while the second video focuses on other everyday residential activities that can contribute to stormwater pollution. NPDES intends to continue filming these short, lighthearted educational messages throughout future permit years.

Still shots from two PSAs filmed during the reporting period

Floodplain Buyout Properties

Over the years, MWS Stormwater's floodplain buyout program has worked to restore floodplain storage and riparian habitat in various watersheds within the county. The MWS Stormwater Division has been participating in the Federal Emergency Management Agency (FEMA) buyout program for more than 17 years. Since MWS began participating in the home buyout program, Metro has purchased more than 300 floodplain properties in which structures and other impervious surfaces such as driveways have been removed from the floodplain. Over the years, Metro has ceased mowing areas adjacent to streams, allowing buffers to naturally reestablish. MWS Stormwater has also coordinated the plantings of hundreds of native trees and shrubs within many of these floodplain properties. Many of the buyout sites are adjoining parcels within the same floodplain, resulting in the restoration of large continuous tracks of riparian floodplain. Many of these floodplain properties also provide a recreational value to local neighborhoods as they are now managed and protected by the Metro's Parks Department.

In 2011, MWS began a partnership with the Tennessee Department of Agriculture Division of Forestry (TDF) in their Clean Water from Urban Forests Riparian Buffer grant program. The goal of this grant is to restore riparian buffers along streams and waterways in eight priority watersheds: Upper and Lower Mill Creek, Richland Creek, Browns Creek, Hurricane Creek, Stones River Middle, Stones River Upper, and Whites Creek. As a result of this partnership, over 950 volunteers have planted more than 13,800 trees along two miles of streams on Metro's floodplain buyout properties. The grant totals are included in Table 2 below. As part of the grant, MWS also helped create signs to educate the public on the importance of buffers and the process of riparian restoration. MWS worked with the grant partners to develop a Riparian Restoration Handbook for government agencies and non-profits to use for projects. The grant expired in September 2015, but MWS will continue to plant trees and establish buffers on buyout properties.

Table 2 – Riparian Buffer Grant Results

	Trees Planted	Miles of Buffer	Acres of Buffer	Volunteers
Floodplain Buyouts	13,872	2.0	13	956
All Metro Sites	19,378	3.2	17	1,498

Stormwater LID Manual

In anticipation of stormwater infiltration requirements within the MS4 permits, Metro previously procured the services of a consulting firm to compile a new volume (Volume 5) of the Stormwater Management Manual. Volume 5, also known as the Low Impact Development (LID) Manual, was finalized during FY12 and has been utilized by numerous developments during FY15. The LID manual provides incentives to offer future developments the opportunity to utilize green infrastructure design approaches as an alternative to the traditional 80% total suspended solids (TSS) removal design techniques. The use of green infrastructure will become mandatory in February 2016, but until then, MWS Stormwater will continue to offer various incentives to developments if green infrastructure approaches are proposed. Such incentives include a waiver of plan review fees, stormwater user fee reduction, and other credits. MWS Stormwater solicited feedback from stakeholder groups that included the local development community during development of the new manual.

Volume 5 and photos of some of the LID treatment practices promoted by Metro

1.3.2 Other Metro Department Activities:

In addition to MWS Stormwater Division Activities, many other Metro Departments perform critical roles in promoting improved stormwater quality runoff throughout Metro.

Metro Parks and Recreation Department

Metro Nashville Parks and Recreation Department (MNPR) has been a key player in improving Stormwater runoff and riparian habitat on Metro properties. Below are some of the major MNPR activities that have served to improve the quality of stormwater runoff:

> Dog Waste Pick-up On MNPR Property – During the reporting year, approximately 477,000 dog waste bags (90% of the bags distributed) were estimated as being used at MNPR properties. Based on the amount of dog waste bags distributed, it is estimated that approximately 143,100 pounds (71.55 tons) of dog waste were collected for proper disposal.

Tree Planting Projects – During the reporting period, MNPR facilitated the planting of many trees. Below are the projects in which trees were planted:

Project	Trees Planted
Centennial Park	285
Walk of Fame	225
Warner	109
Shelby	180
Southeast	221
Various/Misc.	75
Cumberland	180
Riverfront	65
Pitts	22
Two Rivers	41
Sportsplex	37
Lockeland Springs	200
Looby Center	14
Bordeaux Timothy Park	7
Browns Creek Greenway	14
Whitsett Park	40
England Park	19
Warner Golf Course	25
Woodmont Park	1
Centennial Art Center	4
Morgan Park	30
Downtown Greenway	50
Bellevue Park	2
Parmer Park	2
Sevier Park	3
Whitfield Park	9
Bordeaux Gardens	10
Shelby Golf Course	11

Other MNPR Projects – The following MNPR projects/land acquisitions during FY15 have also helped to protect and improve aquatic habitat throughout Davidson County:

- 71 Acre Acquisition of property on West Hamilton Rd. – Scalf Property
- 16 Acre Addition on Pettus Rd. – Mill Creek Park
- Completed water quality improvements in Lake Watauga in Centennial Park, which includes dredging of 3,000 cubic yards of silt, installation of vegetated floating wetland islands, and a new aeration and circulation system.
- Completed Southeast Community Center and park. Green roof, rain gardens, convert five acre parking to five acre park ,etc.
- Completed bioretention area to treat water from the new Percy Warner Golf Clubhouse.
- Working with the Tennessee Stream Mitigation Program to restore the stream channel through Shelby Park Golf Course – the stream is currently piped or runs in a concrete-lined channel. The design phase is underway.
- Through environmental education programs, interpretive exhibits, green facilities, and watershed protection, MNPR Nature Centers have a direct and valuable positive impact on water quality and conservation. Of the approximately 30,000 individuals who participate in nature center programs throughout the year, as many as 10,000 receive education and information directly related to water resources. Several thousand more are exposed to water resources education through educational exhibits at the four MNPR Nature Centers. Each of these nature centers also feature

amenities that conserve water resources and provide passive education opportunities to visitors. These include green roofs, water chains, rain barrels, teaching ponds, stream bank restoration areas, pervious paving materials, rain gardens and cisterns. Finally, the majority of the MNPR 14,000 acres and over 60 miles of greenway corridor is maintained in a natural condition, providing vitally important protection to our watershed.

Planning Department

Metro's Planning Department focuses on sustainable development as described in the Community Character Manual, which encourages sustainable development and preservation in Nashville/Davidson County's fourteen community plans that guide future land use and infrastructure decisions. A foundational principle of the Community Character Manual is the commitment to create sustainable communities through sustainable development. Key strategies include actions to address each property's unique location and features, while avoiding sensitive environmental features. This benefits the community by protecting water quality, as well as reducing the impact of development on surrounding infrastructure and the community through the use of Best Management Practices (BMPs) in stormwater and wastewater management. In addition, the Community Character Manual includes objectives of the EPA and Metro Stormwater Management Program, such as encouraging green infrastructure, protecting headwater areas, minimizing and/or recovering floodplain loss, and retaining or re-creating natural stream buffers. The Community Character Manual also includes a section of general principles for Healthy Community Design which highlights the importance of minimizing the impact of development on the natural environment, especially air and water quality, and of integrating open space in developments for preservation and recreation.

In 2015, the Planning Department completed the city's update to Metro's General Plan; the process is referred to as NashvilleNext and is the vision and priorities for Nashville/Davidson County for the next 25 years. NashvilleNext, created with city-wide community involvement and input, was adopted on June 22, 2015. One of the four foundations of the plan is a healthy environment. In addition, one of the seven principles in NashvilleNext is to champion the environment. NashvilleNext discusses the importance of how we as a city:

- Build a community founded on land and water conservation, preservation of sensitive environmental conditions, and sustainable development practices.
- Promote efficient transportation and well-designed neighborhoods to achieve healthy living, preserve the natural environment, and encourage resiliency and safety in the face of natural and manmade disasters.
- Sustain the ecological function, resource value, and character of sensitive environmental and rural lands.
- Bring nature into the city through parks, greenways, a healthy urban forest, and clean streams, creeks and rivers.
- Leave future generations an environment that is healthier than today's.

NashvilleNext contains seven plan elements. Nashville/Davidson County's natural resources areas are discussed in three elements: 1) Natural Resources & Hazard Adaptation; 2) Health, Livability and the Built Environment; and 3) Land Use, Transportation & Infrastructure. Each element discusses goals, policies, and actions that guide Nashville's future. Relevant element goals, policies and actions include to:

- Conserve natural resources in order to mitigate floods and other natural hazards, ensure clean air and water, raise food locally, provide outdoor recreation, and preserve Nashville's culture and character.
- Invest in and increase Nashville's natural environment for beauty, biodiversity, recreation, food production, resiliency, and response to climate change through mitigation and adaptation strategies.
- Preserve Metro's existing tree canopy, including urban trees, street trees and larger tracts of forested lands.

- Enjoy (all communities) equally high levels of environmental protection, equitable access to nature, and opportunities to improve their health and quality of life.
- Conserve and efficiently use land, energy, water, and resources while reducing waste and pollution.
- Establish a wide-ranging green education campaign that focuses on the "why" and "how" for water conservation, energy efficiency and reductions, recycling and waste reduction, natural resources preservation, and outdoor activity.
- Ensure all communities have access to parks, green areas, cultural amenities, and recreation opportunities that support mental and physical well-being.
- Optimize sewer, water, stormwater and other infrastructure within Metro's centers and corridors to prepare for, or coordinate with, redevelopment. Use green infrastructure to reduce the need for upgrades and to improve streetscapes.
- Reduce the impact of construction on surrounding infrastructure and community through use of best practices in stormwater management, wastewater management, and reducing heat island effect and light pollution.
- Expand programs and institute more complete regulations to protect Nashville's sensitive environmental resources.

The Planning Department also continues its collaboration with Metro Parks and Greenways and the Land Trust for Tennessee by identifying properties that would be good additions to Nashville's open space network. This includes properties that are important to preserve for headwater areas, wildlife habitat, and water management in flood-prone areas.

On a daily basis, the Planning Department meets with property owners and development professionals to discuss property ideas and projects. Planning staff discuss the importance of working within the natural features of each site and regarding them as community amenities, including features such as waterways, wet weather conveyances, drainage patterns, steep slopes, woodlands, riparian habitat and mature trees. Where appropriate, Planning staff direct property owners and development professionals to continue those discussions with Metro Water Services and the Stormwater Division for additional guidance and ideas.

MWS Engineering Division

The MWS Engineering Division and the Overflow Abatement Program (OAP) overseeing the sanitary sewer systems have worked diligently to minimize the volume of unintentional discharges of sanitary sewer to the MS4 and community waterways. MWS has dramatically increased its involvement on projects to reduce overflows from both the Combined Sewer System (CSS) and the Separate Sewer System (SSS). Table 3 lists some of the major projects undertaken by the MWS OAP that have served to greatly reduce discharges of sanitary waste to stormwater drainage and streams.

MWS System Services Division

The Metro Water Services System Services Division (SSD) and contractor firms continued to inspect and clean sewers to assess conditions and prevent potential overflows. In FY15 SSD inspected with Closed Circuit TV (CCTV) approximately 956,664 linear feet and cleaned approximately 488,761 linear feet of sewer line. SSD has been using new acoustic technology to make rapid assessments of potential blockages of sewer line segments. The tool called Sewer Line – Rapid Assessment Tool (SL-RAT) assists SSD in assessing more sewers to prevent blockages and resulting overflows. In FY15, approximately 3,238,995 linear feet of sanitary sewer line were assessed using the SL-RAT technology.

During FY15, SSD continuously reviewed information from CCTV sewer inspection reports that indicated sewer problems with grease or roots. In some instances letters were sent out to notify customers of roots or grease in their service lines or main lines and recommend corrective actions to prevent sewer overflows. In previous years, SSD revised the sewer service line brochure to assist customers in correcting private sewer problems and educate them on how to prevent toilet and drain clogs. MWS has a staff member to oversee school-specific education programs, public education events and development of public education materials. The estimated/reported MWS sewer overflows for FY15 are depicted in Table 7H.5 within Section 3 of this report.

Table 3 – MWS Engineering Projects to Reduce Sanitary Overflows

Type of Projects	Number of Projects	Miles of Sanitary Lines	Money Spent	Watersheds Where Work was Performed
Whites Creek WWPS: Construction of a new pumping station to improve reliability and increase pumping capacity to 47 Million Gallon per Day (MGD) peak rate was initiated during FY 2012. Project achieved final completion on 11-21-2014	1	N/A	$19,994,234	Whites Creek
Cowan - Riverside Rehabilitation - Area 1 (Jones Ave.): Design of this project, which will reduce I/I by rehabilitation of the collection system, began in FY 2012 and was completed in FY 2014. Construction began in January 2014 and was completed 4-14-2015.	1	9.50	$4,785,000	Cumberland River, Pages Branch
Shelby Park Rehabilitation Phase 1 (Virginia Avenue): Design was initiated in FY 2013 for this project which will reduce I/I by rehabilitation of the collection system. Construction began on this project in January 2014 and was completed on 4-28-2015.	1	9.60	$4,937,000	Cumberland River, Cooper Creek
Neely's Bend Rehabilitation: Design was initiated in FY 2013 for this project, which will reduce I/I by rehabilitation of the collection system. Construction began in December 2013 and was completed on 12-8-2014.	1	4.00	$2,461,000	Cumberland River
Apex Sewer Improvements: The design of this project, which will reduce hydraulic restrictions in the Separated Sewer System upstream of the Apex CSO facility, began in FY 2013. Construction Began in FY 2014 and was completed in July 2015.	1	0.40	$954,000	Cumberland River
Mill Creek Opryland EQ Facility Phase 2: Design was initiated in FY 2013 for this project, which will add 19 MG of additional flow equalization to this portion of the collection system to further reduce wet weather related overflows. Construction began on this project in January 2014 and was completed on 4-3-2015.	1	N/A	$10,500,000	Mill Creek, Browns Creek, Sims Branch, and Cumberland River
FY15 Subtotals				
Sewer Rehabilitation Projects in FY15	3	N/A	12,183,000	
Pump Station and Equalization Projects in FY 15	2	N/A	$30,494,234	
Sewer Line Replacements	1	N/A	$954,000	
Total Completed Projects in FY 2015	6	N/A	$43,631,000	

Table 3 – MWS Engineering Projects to Reduce Sanitary Overflows (Continued)

Type of Projects	Number of Projects	Miles of Sanitary Lines	Money Spent	Watersheds Where Work was Performed
Other projects in development that will benefit water quality by reducing overflows				
Lakewood Sewer Replacement: This project, which began construction in January 2014, replaces existing sewers in poor condition with minor amounts of sewer rehabilitation and the construction of a new sewer system to serve the residents of this former satellite city. The project is anticipated to be completed in FY 2016	N/A	N/A	$5,286,000	Cumberland River
West Park WWPS and Equalization Basin: Design was initiated in FY 2012 for this project, which will provide 21 MG of additional storage capacity at this site to reduce SSO events. The design was completed for this project in FY 2015. Construction began on 4-27-2015 and is anticipated to be completed in FY 2017.	N/A	N/A	$14,770,000	Richland Creek
Davidson - Brook Hollow Sewer Improvements: Design was initiated in FY 2014 on this project, which will provide additional capacity to eliminate overflows caused by hydraulic restrictions in the collection system. Bids were taken for construction in FY 2015.	N/A	N/A	TBD	Ewing Branch, Richland Creek
Brick Church Pike Pipe: Design was initiated in FY 2013 for this project, which will provide approximately 10,000 LF in parallel trunk sewer to increase conveyance to reduce overflows into Ewing Creek. Design was completed in FY 2015.	N/A	N/A	TBD	Ewing Creek
Westchester Drive Rehabilitation: Design was initiated in FY 2014 for this project, which will provide rehabilitation of the upper portion of the Brick Church Pike trunk sewer to reduce overflows into Ewing Creek. Design was completed in FY 2015 and construction began in June 2015.	N/A	N/A	$1,032,000	Ewing Creek
Cowan - Riverside Rehabilitation - Area 2 (Dickerson Pike): Design of this project, which will reduce I/I by rehabilitation of the collection system, began in FY 2013 and was completed in FY 2014. Construction began in July 2014 and is anticipated to be completed in FY 2016.	N/A	N/A	3.850,000	Cumberland River, Pages Branch
Cowan - Riverside Rehabilitation - Area 3 (West Trinity Lane): Design of this project, which will reduce I/I by rehabilitation of the collection system, began in November 2014 and was completed in April 2015. Construction is anticipated to begin in FY 2016 and is anticipated to be completed in FY 2017.	N/A	N/A	TBD	Cumberland River, Pages Branch
Cowan - Riverside Rehabilitation - Area 4 (Pages Branch): Design of this project, which will reduce I/I by rehabilitation of the collection system, began in January 2015 and is anticipated to be completed in FY 2017. Construction is anticipated to begin in FY 2017 and is anticipated to be completed in FY 2018.	N/A	N/A	TBD	Cumberland River, Pages Branch

Table 3 – MWS Engineering Projects to Reduce Sanitary Overflows (Continued)

Type of Projects	Number of Projects	Miles of Sanitary Lines	Money Spent	Watersheds Where Work was Performed
Cowan - Riverside Rehabilitation - Area 5 (Youngs Lane): Design of this project, which will reduce I/I by rehabilitation of the collection system, began on May 26, 2015 and is anticipated to be completed in FY 2017. Construction is anticipated to begin in FY 2017 and is anticipated to be completed in FY 2018.	N/A	N/A	TBD	Cumberland River
Shelby Park Rehabilitation Phase 2 (Norvel Ave.): Design was initiated in FY 2013 for this project, which will reduce I/I by rehabilitation of the collection system. Construction began on this project in May 2014 and is anticipated to be completed in FY 2016.	N/A	N/A	$5,530,000	Cumberland River, Cooper Creek
Shelby Park Rehabilitation, Phase 3(Greenland Ave.): Design of this project was initiated in FY 2013, which will reduce I/I by rehabilitation of the collection system, and was completed in FY 2014. Construction began on 2-23-2015 and is anticipated to be completed in FY 2016	N/A	N/A	$5,710,000	Cumberland River, Cooper Creek
Dodson Chapel Pipe: Design was initiated in FY 2013 for this project, which will provide additional capacity for flows to the Dodson Chapel Pump Station and Equalization Basins with the installation of approximately 3,300 LF of 48-inch gravity sewer. Design of the project was completed in June 2014, and construction began in January 2015. Construction is anticipated to be completed in FY 2016	N/A	N/A	$3,245,000	Stoners Creek
2013 Annual Rehabilitation: The design was initiated in FY 2013 for this project, which will address structural and I/I issues within the collection system in areas not included in the CAP/ER for the Consent Decree program. Construction began in October 2015 and is anticipated to be complete in FY 2016	N/A	N/A	$4,155,500	various
Highway 100 - Tyne - Trimble Rehabilitation: Design was initiated in FY 2013 for this project, which will reduce I/I by rehabilitation of the collection system. Design was completed in FY 2014. Construction of the project began in FY 2015 and will be completed in FY 2016	N/A	N/A	$3,540,000	Richland Creek
28th Avenue Rehabilitation - Area 1 (Clifton Ave.): The design of this project, which will reduce I/I issues in the collection system, began in February 2015 and is anticipated to be completed during FY 2016. Construction is anticipated to begin in FY 2016 and be completed in FY 2017	N/A	N/A	TBD	Cumberland River
Smith Springs Rehabilitation - Area 1 (Priest Lake Meadows): Design began in February 2015 for this project, which will reduce I/I related issues in the collection system. Design is anticipated to be completed during FY 2016 & Construction is anticipated to begin in FY 2016, with completion anticipated in FY 2017.	N/A	N/A	TBD	Hamilton Creek, Stones River / Percy Priest Reservoir
Davidson Branch Pump Station and Equalization Facility: Design was initiated in May 2015 for this project, which will provide 11 MG of wet weather flow equalization storage and a new pump station for improved reliability and flow capacity. Design is anticipated to be completed in FY 2016, with construction to follow in FY 2017	N/A	N/A	TBD	Davidson Branch, Cumberland River
Gibson Creek Rehabilitation - Area 1 (Dupont Avenue): Design of this project, which will address I/I issues in the collection system, is anticipated to begin in FY 2016.	N/A	N/A	TBD	Gibson Creek, Cumberland River

2.0 MS4 Program Annual Report Form Required By TDEC

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
Enforcement and Compliance Section
L&C Annex, 6th Floor, 401 Church Street
Nashville, TN 37243
_____ TNS068047___

Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 Information

Nashville/Davidson County Municipal Separate Storm Sewer System (No. TNS068047)
Name of MS4

Michael Hunt
Name of Contact Person

615-880-2420
Telephone (including area code)

1607 County Hospital Rd
Mailing Address

Nashville	TN	37218
City	**State**	**ZIP code**

What is the current population of your MS4? Approximately 600,000

What is the reporting period for this annual report? The fourth reporting year of this iteration of permit cycle was from 07/01/14 to 06/30/15. This Annual Report coincides with Metro's Fiscal Year 15 (FY15) activities. Please note that the first annual report submitted under this current permit only covered the period from February 1, 2012 to June 30, 2012. Each subsequent report has coincided with Metro FY periods.

2. Protection of State or Federally Listed Species

A. Do any of the MS4 discharges or discharge-related activities likely jeopardize state or federally listed species ☐ Yes **X** No

B. Please attach the determination of the effect of the MS4 discharges on state or federally listed species per subpart Endangered Species Assessment included in Attachment A.

3. Water Quality Priorities

A. Does your MS4 discharge to waters listed as impaired on your state 303(d) list? **X** Yes ☐ No

B. If yes, identify each impaired water, the impairment(s), whether a TMDL has been approved by EPA for each, and whether the TMDL identifies your MS4 as a source of the impairment. (See below Checklist). At the time of the preparation of this report, the proposed 2014 list of impaired streams has not been approved by the EPA, therefore, the below list does not reflect TDEC's proposed 2014 changes.

Impaired Water	Impairment	Approved TMDL		MS4 Assigned to WLA	
East Fork Hamilton Creek (TN05130203-539-1000)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
West Fork Hamilton Creek (TN05130203-539-1000)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Suggs Creek (TN05130203-232-1000)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
McCrory Creek (TN05130203-001-0150)	Habitat Alteration/Siltation, Nutrients	X Yes	☐ No	☐ Yes	X No
McCrory Creek (TN05130203-001-0100)	Pathogens, Habitat Alteration/Siltation, Nutrients	X Yes	☐ No	X Yes	☐ No
Unnamed Trib. to Stoners Creek (TN05130203-035-0400)	Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Stoners Creek (TN05130203-035-1000)	Pathogens, Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Stones River	Low DO, Odor, Sulfides, Flow Alteration	☐ Yes	X No	☐ Yes	X No
Scotts Creek (TN05130203-035-0100)	Nutrients, Habitat Alteration/Siltation	X Yes	☐ No	☐ Yes	X No
Dry Fork Creek (TN05130203-035-0300)	Habitat Alteration/Siltation	X Yes	☐ No	☐ Yes	X No
West Branch Hurricane Creek (TN05130203-036-0200)	Nutrients, Habitat Alteration/Siltation, Low DO	X Yes	☐ No	X Yes	☐ No
Hurricane Creek (TN05130203-036-0100)	Pathogens, Habitat Alteration/Siltation, Nutrients, Low DO	X Yes	☐ No	X Yes	☐ No
Mill Creek (TN05130202-007-5000)	Habitat Alteration/Siltation, Nutrients, Low DO	☐ Yes	X No	☐ Yes	X No
Holt Creek (TN05130202-007-1100)	Pathogens, Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Owl Creek (TN05130202-007-0900)	Habitat Alteration/Siltation, Nutrients	☐ Yes	X No	☐ Yes	X No
Indian Creek (TN05130202-007-0800)	Pathogens, Nutrients	☐ Yes	X No	☐ Yes	X No
Turkey Creek (TN05130202-007-0700)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Collins Creek (TN05130202-007-0600)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No

Whittemore Branch (TN05130202-007-1200)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Mill Creek (TN05130202-007-3000)	Habitat Alteration/Siltation, Nutrients, Low DO	☐ Yes	X No	☐ Yes	X No
Sorghum Branch (TN05130202-007-1300)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Cathy Jo (TN05130202-007-1490)	Nutrients, Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Shasta Branch (TN05130202-007-1410)	Pathogens	X Yes	☐ No	X Yes	☐ No
Sevenmile Creek (TN05130202-007-1450)	Pathogens/Nutrients	X Yes	☐ No	X Yes	☐ No
Sevenmile Creek (TN05130202-007-1400)	Pathogens, Habitat Alteration/Siltation, Nutrients, Low DO	X Yes	☐ No	X Yes	☐ No
Finley Branch (TN05130202-007-0300)	Pathogens, Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Mill Creek (TN05130202-007-0300)	Habitat Alteration/Siltation, Nutrients, Low DO	☐ Yes	X No	☐ Yes	X No
Sims Branch (TN05130202-007-0150)	Habitat Alteration/Siltation, Low DO	☐ Yes	X No	☐ Yes	X No
Sims Branch (TN05130202-007-0100)	Pathogens, Habitat Alteration/Siltation, Nutrients, Low DO	X Yes	☐ No	X Yes	☐ No
Mill Creek (TN05130202-007-0100)	Habitat Alteration/Siltation, Nutrients, Low DO	☐ Yes	X No	☐ Yes	X No
Manskers Creek (TN05130202-220-2000)	Pathogens, Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Walkers Creek (TN05130202-220-0200)	Pathogens	X Yes	☐ No	X Yes	☐ No
Lumsley Fork (TN05130202-220-0100)	Pathogens	X Yes	☐ No	X Yes	☐ No
Manskers Creek (TN05130202-220-1000)	Pathogens, Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Unnamed Trib. to Walkers Creek (TN05130202-220-1000)	Flow Alteration	☐ Yes	X No	☐ Yes	X No
West Fork Browns Creek (TN05130202-023-0300)	Pathogens/Nutrients	X Yes	☐ No	X Yes	☐ No
Middle Fork Browns Creek (TN05130202-023-0200)	Pathogens, Habitat Alteration/Siltation, Nutrients	X Yes	☐ No	X Yes	☐ No

East Fork Browns Creek (TN05130202-023-0100)	Pathogens, Habitat Alteration/Siltation, Nutrients, Oil & Grease	X Yes	☐ No	X Yes	☐ No
Browns Creek (TN05130202-023-2000)	Pathogens, Habitat Alteration/Siltation, Nutrients, Oil & Grease	X Yes	☐ No	X Yes	☐ No
Browns Creek (TN05130202-023-1000)	Pathogens, Habitat Alteration/Siltation, Nutrients, Oil & Grease	X Yes	☐ No	X Yes	☐ No
Richland Creek (TN05130202-314-3000)	Habitat Alteration/Siltation, Nutrients	☐ Yes	X No	☐ Yes	X No
Vaughns Gap Branch (TN05130202-314-0750)	Pathogens, Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Vaughns Gap Branch (TN05130202-314-0700)	Pathogens, Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Jocelyn Hollow Branch (TN05130202-314-0800)	Pathogens	X Yes	☐ No	X Yes	☐ No
Richland Creek (TN05130202-314-2000)	Pathogens, Habitat Alteration/Siltation, Nutrients	X Yes	☐ No	X Yes	☐ No
Sugartree Creek (TN05130202-314-0400)	Pathogens, Habitat Alteration/Siltation, Nutrients	X Yes	☐ No	X Yes	☐ No
Bosley Springs Branch (TN05130202-314-0300)	Pathogens, Habitat Alteration/Siltation, Nutrients	X Yes	☐ No	X Yes	☐ No
Richland Creek (TN05130202-314-1000)	Pathogens, Habitat Alteration/Siltation, Nutrients	X Yes	☐ No	X Yes	☐ No
Cooper Creek (TN05130202-209-1000)	Pathogens, Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Little Creek (TN05130202-010-0700)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Eatons Creek (TN05130202-010-0100)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Ewing Creek (TN05130202-010-0800)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Drake Branch (TN05130202-010-0200)	Pathogens	X Yes	☐ No	X Yes	☐ No
Whites Creek (TN05130202-010-1000)	Pathogens/Nutrients	X Yes	☐ No	X Yes	☐ No

Gibson Creek (TN05130202-212-1000)	Pathogens, Habitat Alteration/Siltation, Flow Alteration	X Yes	☐ No	X Yes	☐ No
Neelys Branch (TN05130202-212-0100)	Pathogens	X Yes	☐ No	X Yes	☐ No
Dry Creek (TN05130202-027-2000)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Dry Creek (TN05130202-027-1000)	Pathogens	X Yes	☐ No	X Yes	☐ No
Loves Branch (TN05130202-211-1000)	Habitat Alteration/Siltation	☐ Yes	X No	☐ Yes	X No
Pages Branch (TN05130202-202-1000)	Pathogens	X Yes	☐ No	X Yes	☐ No
Davidson Branch (TN05130202-001T-0700)	Pathogens	X Yes	☐ No	X Yes	☐ No
Unnamed Trib. to Cheatham Reservoir (TN05130202-001T-0600)	Iron, TDS	☐ Yes	X No	☐ Yes	X No
Cheatham Reservoir (TN05130202-001-3000)	Pathogens	☐ Yes	X No	☐ Yes	X No
Otter Creek (TN05130204-021-0100)	Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Little Harpeth River (TN05130204-021-0100)	Pathogens, Habitat Alteration/Siltation, Low DO	X Yes	☐ No	☐ Yes	X No
Harpeth River (TN05130204-009-3000)	Nutrients, Low DO	X Yes	☐ No	X Yes	☐ No
Trace Creek (TN05130204-009-0900)	Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Flat Creek (TN05130204-009-0400)	Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Unnamed Trib. to South Harpeth (TN05130204-010-1400)	Flow Alteration	☐ Yes	X No	☐ Yes	X No
Unnamed Trib. to South Harpeth (TN05130204-010-0200)	Flow Alteration	☐ Yes	X No	☐ Yes	X No
Harpeth River (TN05130204-009-2000)	Nutrients, Low DO	X Yes	☐ No	X Yes	☐ No
Newsom Branch (TN05130204-009-0200)	Habitat Alteration/Siltation	X Yes	☐ No	X Yes	☐ No
Beech Creek (TN05130204-009-1100)	Habitat Alteration/Siltation, Nutrients	X Yes	☐ No	X Yes	☐ No

C. What specific sources of these pollutants of concern are you targeting?

Pathogens (pet waste, sanitary sewer leaks), siltation (construction sites), oil & grease (industries/commercial sites), and nutrients (pet waste, sanitary sewer leaks, fertilizer application)

D. Do you have discharges to any Exceptional TN Waters (ETWs) or Outstanding National Resource Waters (ONRWs)? A large portion of the county drains to Mill Creek, which is listed as an ETW due to the presence of the federally endangered Nashville Crayfish (*Orconectes shoupi*). A portion of the Harpeth River in Davidson County is listed as a State Scenic Riverway. X Yes ☐ No

E. Are you implementing additional specific provisions to ensure the continued integrity of ETWs or ONRWS located within your jurisdiction? Specific public education activities are planned for certain residential areas that drain to the Harpeth River and commercial/industrial areas that drain to Mill Creek. Nutrient and pathogen reduction education will be focused on that area. The Stormwater Maintenance Sections and the MWS Sanitary Sewer Division have been trained on limiting in-creek excavation work within the Mill Creek watershed. X Yes ☐ No ☐ N/A

4. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? X Yes ☐ No

B. If yes, what are the specific causes, sources and/or pollutants addressed by your public education program?

Pathogens (pet waste), siltation (development sites), nutrients (residential lawn maintenance & pet waste), and oil & grease (commercial/industrial facilities)

C. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

During the reporting period, NPDES mailed out informational flyers to two identified hot areas within 303(d) impaired watersheds, which is defined within the PIE plan as a targeted audience group. The informational flyers were designed to educate residential homeowners on the proper use of chemicals (fertilizers, pesticides, etc.), proper management of yard wastes such as grass clippings, leaves, and brush, and the proper management of pet waste. The two hot areas were located within the Harpeth River and Sugartree Creek watersheds. NPDES held a two day training session with MNPS maintenance employees, where educational materials were distributed in regard to proper facilities maintenance procedures. In addition, NPDES also held a workshop for owners/operators of Stormwater Control Measures (SCMs) to discuss proper inspection and maintenance procedures. In addition to the above public education activities, Metro also participates in the Tennessee Association of Broadcaster's (TAB) Public Education Program. Each year Metro contributes $2,000 for the statewide airing of stormwater educational messages.

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program?

Metro has a Stormwater Management Committee that reviews cases where development/redevelopment activities are unable to meet specific provisions of the stormwater regulations and hears appeals of violation decisions by the Director's office. X Yes ☐ No

E. Provide a summary of all public meetings required by the permit. Metro has various agencies that perform projects involving public meetings. For example, the MWS Stormwater Remedial Maintenance Section holds meetings for certain large-scale maintenance projects on an as-needed basis. The Metro General Services Department holds various public meetings for large Metro Development activities.

In previous permit years, the MWS Stormwater Division coordinated with stakeholders from the development community, which were referred to as the Stormwater Advisory Committee (SWAC). In January of 2014, the SWAC merged with another community of stakeholders referred to as the Development Advisory Group. The Development Advisory Group's purpose is to improve customer service in regard to development activities and permitting processes. The Development Advisory Group met three times in FY15.

MWS Stormwater also facilitates monthly meetings with the Stormwater Management Committee for sites appealing specific stormwater regulations. These meetings are available for the public to attend and comment, and are advertised on the internet and at the property in question with a standard public notification sign.

5. Codes and Ordinances Review and Update

A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report? A copy of the scorecard was submitted in the FY12 annual report. ☐ Yes X No

B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent Stormwater management. MWS Stormwater has already developed a new volume of the Stormwater Management Manual (Volume 5) dedicated to promoting/incentivizing the use of Low Impact Development (LID) techniques for post development Stormwater management. During the reporting period for this annual report, there were 62 engineered plans submitted for a Grading Permit that included LID components on the design of Stormwater permanent treatment practices. MWS Stormwater will continue to evaluate and coordinate with other Metro Departments to implement measures to reduce barriers to LID techniques.

6. Construction

A. Do you have an ordinance or adopted policies stipulating:

Erosion and sediment control requirements?	X Yes	☐ No
Other construction waste control requirements?	X Yes	☐ No
Requirement to submit construction plans for review?	X Yes	☐ No
MS4 enforcement authority?	X Yes	☐ No
Have you developed written procedures for site plan review and approval?	X Yes	☐ No
Do the written procedures for site plan review and approval include an evaluation of plan completeness and overall BMP effectiveness?	X Yes	☐ No
Have you developed written procedures for managing public input on projects?	☐ Yes	X No
Metro Nashville manages public input in a variety of different ways throughout various departments. There are no written procedures for managing the public. MWS has recently entered into a partnership with the Cumberland River Compact and The Nature Conservancy to produce a Watershed Stewardship Program that emphasizes public involvement.	(See Notes)	
Have you developed written procedures for site inspection and enforcement?	X Yes	☐ No
Have all MS4 Inspectors maintained certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1?	X Yes	☐ No

Have all MS4 site plan reviewers maintained certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 2? X Yes ☐ No

B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period? Refer to attached Table 6B.1. In FY15, there were 276 grading permits issued, while 259 grading permit sites were completed (signed-off). Not all of the Grading Permits were for sites over an acre (requiring a TDEC General Construction Stormwater Permit). All sites that grade over an acre are required to also obtain a grading permit and must have coverage under the State's General Construction Stormwater Permit prior to receiving a Metro Grading Permit.

C. How many of these active sites did you inspect this reporting period? NPDES Section performed 6,082 construction related inspections in FY15. The inspections were performed on Grading Permit sites under construction and complaint inspections of construction activity without permits. In addition, MWS Stormwater also provides oversight and guidance to small residential construction activities usually with total disturbed area of less than 10,000 square feet (not requiring a standard grading permit). Refer to the attached Table 6C.1 for small construction project oversight numbers.

D. On average, how many times each, or with what frequency, were these sites inspected (e.g., weekly, monthly, etc.)? NPDES inspects all active construction sites at least once per month. Monthly

E. Do you prioritize certain construction sites for more frequent inspections? X Yes ☐ No

If Yes, based on what criteria? All active permit sites are prioritized to receive inspections at least once per month. This meets and exceeds the permit requirement to perform monthly inspections of 303(d) listed siltation-impaired streams.

7. Illicit Discharge Elimination

A. Have you completed a map of all known outfalls and receiving waters of your storm sewer system? X Yes ☐ No

B. Have you completed a map of all known storm drain pipes of storm sewer system? X Yes ☐ No

C. How many outfalls have you identified in your system? Metro has undergone several iterations of mapping updates of Stormwater infrastructure into the Geographic Information System (GIS). Please note that the entire stormwater drainage system was collected for Davidson County over a decade ago. Originally there were over 7,000 outfalls mapped within the GIS system. The criteria used during the original inventory resulted in outfalls being mapped at the intersection of every pipe and channel. This methodology incorrectly identified the number of actual MS4-permitted outfalls. During the previous reporting periods, MWS Stormwater's contractor completed a project to re-delineate the outfall layer (grid by grid) with the focus of verifying "actual" MS4 permitted outfalls. While the focus was mapping MS4-permitted outfalls, NPDES also had the contractor create the following two outfall layers: 1)Sub-MS4 Outfalls – Outfalls within the MS4 system upstream of the discharge point to Waters of the State, but usually where two large systems combine; and 2) Private Outfalls – Point at which Stormwater from private properties drain to either Waters of the State or MS4. Currently there are 11,849 MS4-permitted Outfalls, 289 Sub-MS4 Outfalls, and 2,364 Private Outfalls mapped within Metro's GIS database. Please note that in determining the point at which MS4 outfalls drain to Waters of the State, NPDES had to assume the streams GIS layer was an accurate representation of actual streams, even though the coverage is more of an estimate and has not been field-verified. In future years, MWS will work to further define which outfalls receive a majority of MS4 runoff to distinguish for potential loading calculations involving runoff from the MS4.

D. How many of these outfalls have been screened for dry weather discharges? In FY15, there were 320 separate Stormwater infrastructure points screened for potential illicit discharges. All in all, there were a total of 484 ¼ mile grids completed, where an infrastructure point was screened or no MS4 infrastructure existed. Metro's MS4 permit only requires one outfall located within a ¼ mile industrial/commercial-zoned grid to be screened for potential illicit discharges. At the conclusion of FY15, there were a total of 1,003 grids left to be screened prior to January 31, 2017.

E. How many of these have been screened more than once? None are required to be screened twice per our new permit, however, if a water leak or potential leak is suspected, NPDES initiates an IDDE investigation that is documented within the Cityworks database until the illicit discharge is eliminated.

F. What is your frequency for screening outfalls for illicit discharges? Each ¼ mile commercial/industrial-zoned grid will be screened before the end of Year 5 in the MS4 permit (January 31, 2017).

G. Do you have an ordinance that effectively prohibits illicit discharges? X Yes ☐ No

H. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been reported to you)? During the FY15, there was one confirmed illicit discharge and one confirmed water main break found during field screening activities. In addition, NPDES initiated 99 separate water quality investigations during FY15, many of them originating from citizen complaints. Refer to Table 7H.1 for a complete listing of the 99 IDDE investigations initiated during FY15. There were also 22 spill response investigations and 2 private sewer discharge investigations initiated by NPDES during the reporting period. Refer to Tables 7H.2 and 7H.3 respectively. The Metro Health Department also responds to failing septic systems and issues notices and /or citations requiring failing systems to be abated. During the reporting period, the Health Department issued 18 notifications to property owners for failing septic systems. (Refer to Table 7H.4)

I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? All illicit connections found during the reporting period were dealt with swiftly and eliminated.

J. Do you have the authority to recover cost for addressing illicit discharges? ☐ Yes X No
(Not Currently)

8. Stormwater Management for Municipal Operations

A. Have Stormwater pollution prevention plans (or an equivalent plan) been developed for: NPDES developed a comprehensive Stormwater Management Plan, which was submitted in a previous annual report. The SWMP included site-specific Runoff Management Plans (RMPs) for key municipal Operations and Maintenance (O&M) facilities, which are plans equivalent to SWPPPs.

All municipal parks, ball fields and other recreational facilities X Yes ☐ No

RMPs were developed for O&M facilities such as golf course and park maintenance facilities. RMPs were not developed for every ball field location.

All municipal turf grass/landscape management activities (See Note Above) X Yes ☐ No

All municipal vehicle fueling, operation and maintenance activities X Yes ☐ No

As per the MS4 Permit, RMPs were created for Municipal O&M facilities, some of which include fueling stations. Some fueling sites are stand-alone with no other maintenance operations present and RMPs were not necessary.

All municipal maintenance yards All O&M facilities located within the MS4. X Yes ☐ No

All municipal waste handling and disposal areas X Yes ☐ No

SWPPPs were created for the Central Wastewater Treatment Plant and the Dry Creek Wastewater Treatment Plant as they retain a Tennessee Multi-Sector Permit for Industrial Stormwater runoff. Metro Nashville does not operate any waste transfer facilities or transfer stations, as it contracts those services out to private companies. NPDES will look to inspect those sites in future years.

B. Are Stormwater inspections conducted at these facilities? X Yes ☐ No

Each O&M facility where the RMPs were implemented requires on-site personnel to perform weekly grounds inspections. NPDES personnel will also perform audit inspections at a frequency yet to be determined.

If Yes, at what frequency are inspections conducted? See above answer

C. Have standard operating procedures or BMPs been developed for all MS4 field activities? (e.g., road repairs, catch basin cleaning, landscape management, etc.) X Yes ☐ No
SOPs have been developed for most of the major O&M field activities. MWS posted all of the RMPs, individual water quality SOPs, and a general MS4 educational video to an internal intranet web page for each O&M Department to train their own field staff. During FY15, NPDES worked with the vast department of the MNPS system to train over 146 maintenance employees on water quality SOPs directly relating to their daily work activities.

D. Do you have a prioritization system for storm sewer system and permanent BMP inspections? X Yes ☐ No
In the first year of the permit, NPDES submitted a BMP Maintenance Verification Plan to TDEC that outlined a several prong strategy to ensure stormwater permanent Stormwater Control Measures (SCMs) are being properly maintained. The strategy varies according to which set of Metro's regulations the SCMs were constructed under. The plan includes some inspections by NPDES personnel as well as requiring owner/operators to perform their own inspections/maintenance annually. NPDES continues to evaluate this process.

E. On average, how frequently are catch basins and other inline treatment systems inspected? Varies

F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? Frequency of cleanings depends on conditions. The Stormwater Maintenance Section has developed a rain route list of common stormwater infrastructure sites that clog with debris, leaves, gravel, and sediment on a frequent basis. Maintenance crews visit and clean out these sites/perform maintenance prior to many large rain events. Depicted within Table 8F.1 is a summary of some of the major routine maintenance activities performed on MS4 Stormwater infrastructure during FY15. An attempt was made in FY15 to improve the quantification of materials (debris, sediment, etc.) removed from the MS4. It is estimated that approximately 166,684 cubic yards of material were removed from the MS4, approximately 5,015 inlets were cleaned, and approximately 150,923 linear feet of erosion control matting were deployed during the FY15 reporting period. In deriving these maintenance estimates, the Stormwater Maintenance Section identified several changes that need to be made to the database to better track these stats. In addition to performing routine maintenance and cleaning of stormwater infrastructure, the Stormwater Maintenance Section also operates a preventative maintenance program by aggressively sweeping public curb and gutter streets. MWS Stormwater prioritizes certain streets for sweeping activities based on the accumulation of dirt on the street. Refer to Table 8F.2 for street sweeping collection numbers in FY15.

In addition to the routine maintenance activities such as inlet and pipe cleaning, MWS Stormwater also performs various large projects to correct neighborhood flooding issues. In previous reporting periods, NPDES coordinated with the MWS Stormwater Remedial Maintenance Division to complete a water quality evaluation form for each large flood control project. As a result, engineers are being asked to consider use of green infrastructure or other low impact design techniques. The Stormwater Maintenance Section retroactively completed the water quality evaluation worksheets for all of the projects that have been designed within the last few years. As a result, NPDES was able to estimate that the large flood control projects designed during FY15 will provide the following benefits to water quality.

- Removal of approximately 2,640 cubic yards of accumulated sediment,
- Stabilization of approximately 144 linear feet of stream bank, and
- Removal of approximately 235 linear feet of concrete lined ditch.

3.2.3 - Illicit discharge detection and elimination X Yes ☐ No

If *Yes*, identify the number of municipal employees trained Throughout FY15, there were approximately 14 NPDES staff members that had the adequate training to respond to and enforce on illicit discharge investigations. Nine employees in particular within NPDES are routinely available to respond to, sample, and follow-up with illicit discharge investigations. Note: NPDES has also worked with various O&M sections to properly identify and report illicit discharges. Note that staff levels fluctuate each year, but NPDES plans on increasing staff levels that can respond to illicit discharge investigations during FY16.

3.2.4 - Construction site Stormwater runoff control X Yes ☐ No

If *Yes*, identify the number of municipal employees trained At the time this report was completed, there were 14 NPDES staff members that had adequate training (TDEC Level 1 EPSC Workshop) to respond to and inspect Stormwater runoff from construction activities. Six of the employees are dedicated fulltime to inspecting development sites under construction. Note that staff levels fluctuate each year, but NPDES plans on increasing staff levels that can routinely inspect runoff controls from construction activities.

3.2.5 - Permanent Stormwater management in new development and redevelopment X Yes ☐ No

If *Yes*, identify the number of municipal employees trained During FY15, there were an average of six engineers employed within the Stormwater Development and Review Section that have been through the TDEC Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites. Four of the engineers are fully dedicated to reviewing plans for grading permit sites.

3.2.6 - Pollution prevention/good housekeeping for municipal operations X Yes ☐ No

If *Yes*, identify the number of municipal employees trained In FY15, NPDES coordinated with several other Departments such as MNPR and MNPS.

9. Permanent Stormwater Controls

A. Do you have an ordinance or other mechanism to require:

Site plan reviews of all new and re-development projects?	X Yes	☐ No
Maintenance of Stormwater management controls?	X Yes	☐ No
Retrofitting of existing BMPs with green infrastructure BMPs? MWS Stormwater has compiled a new volume to the Stormwater Management Manual. Volume 5 (also referred to as the LID Manual) provides specifications for development or redevelopment sites to follow in installing "green" stormwater practices and provides an incentive for sites to use the green practices.	X Yes	☐ No

B What is the threshold for new/redevelopment Stormwater plan review? (e.g., all projects, projects disturbing greater than one acre, etc.)

Metro actually has more stringent requirements for development than TDEC's Construction General Permit. All sites grading more than 10,000 square feet must obtain a grading permit. In order to obtain a grading permit, engineered plans must be submitted to the Stormwater Development Review Section for review and approval per Metro's stormwater regulations. All developments increasing the impervious footprint are required to install permanent stormwater treatment measures for water quality and quantity.

C. Have you implemented and enforced performance standards for permanent Stormwater controls? X Yes ☐ No

D. Do these performance standards go beyond the requirements found in paragraph and require that pre-development hydrology be met for:

Flow volumes (New LID Manual deals with reductions in site runoff volumes)	X Yes	☐ No
Peak discharge rates	X Yes	☐ No
Discharge frequency	☐ Yes	X No
Flow duration	☐ Yes	X No

E. Please provide the URL/reference where all permanent Stormwater management standards can be found.

https://www.nashville.gov/Water-Services/Developers/Stormwater-Review/Stormwater-Management-Manual.aspx

F. How many development and redevelopment project plans were reviewed for this reporting period? 2,572 plans were submitted to the MWS Development Review Section during FY15. This number includes initial grading permit plans, re-submitted plans, as-built final submittals, etc. Refer to attached Table 9F.1 for the total number of plans reviewed by Stormwater Development Review staff in FY15.

G. How many development and redevelopment project plans were approved? 1,998 plans were approved during FY15. This number includes initial grading permit submittals, final as-built signoffs, etc. Refer to Table 9F.1 for a complete listing. A better reflection of actual new development projects approved for construction would be the number of grading permits issued. In FY15, there were approximately 276 grading permits issued.

H. How many permanent Stormwater management practices/facilities were inspected? There were 38 inspections by NPDES staff and 185 by outside vendors for compliance with Metro's BMP Maintenance Program (reporting requirements) for a total of 223 inspections. Please note that some of the 185 outside vendor inspections include inspections performed on Metro facilities.

I. How many were found to have inadequate maintenance? Eighteen of those inspected by NPDES required maintenance and were notified by NOV. One was notified by a notice of noncompliance, and 1 with a new signoff letter. The 185 inspected by outside vendors reported that maintenance was not required or was completed. Note: As reported in Section 11 below, additional NOVs were issued to BMP owners for failure to submit Annual Inspection/Maintenance Reports or for disturbance of an established water quality buffer.

J. Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify) Of the 18 notified by NOV, 5 are still in process, and 6 were remedied within 30 days. The remainder of site deficiencies took longer than 30 days to remedy.

K. How many enforcement actions were taken that address inadequate maintenance? Eighteen of those inspected by NPDES required maintenance and were notified by Notice of Violation (no penalty). One was notified by a Notice of Noncompliance. Additionally, 248 letters were sent to new BMP owners outlining their maintenance and reporting responsibilities.

L. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? The NPDES Section currently uses a Microsoft Access database to track inspections. The database can be linked into GIS. Metro is currently mapping all post-construction stormwater treatment structures as a feature within the GIS database.	X Yes	☐ No
M. Do all municipal departments and/or staff (as relevant) have access to this tracking system?	☐ Yes	X No
N. Has the MS4 developed a program to allow for incentive standards for redeveloped sites?	X Yes	☐ No

O. How many maintenance agreements has the MS4 approved during the reporting period? Approximately 276, which is an assumed number based on the number of grading permits issued during FY15.

10. Industrial and High Risk Runoff

A. Has the MS4 developed and implemented a program to monitor and control pollutants in runoff from the following types of industrial and high risk facilities and activities:

Municipal landfills All municipally operated landfills in Metro were closed years ago. The Metro Department of Public Works, Division of Solid Waste oversees all closed landfills associated groundwater monitoring.	X Yes	☐ No
Hazardous waste treatment, storage and disposal facilities	X Yes	☐ No
Industries subject to reporting requirements pursuant to SARA Title III section 313	X Yes	☐ No
Industrial facilities that the MS4 determines are contributing a substantial loading of pollutants to the municipal separate storm sewer system	X Yes	☐ No

B. Has the MS4 maintained a database of industrial and high risk facilities and activities in the City which includes the following types of industries: (Specific language within the MS4 permit requires Metro Nashville to monitor and control runoff from the following types of industrial facilities.)

- municipal landfills;
- hazardous waste treatment, storage and disposal facilities;
- industries subject to reporting requirements pursuant to SARA Title III, Section 313; and
- industrial and commercial facilities that the permittee determines are contributing a substantial loading of pollutants to the municipal separate storm sewer system.

During the first permit year, NPDES built a robust industrial inspection database that comprises the above categories of industrial properties. In addition to the above category of industrial sites (Metro is required to inspect), NPDES has also included within the database all of the industrial facilities with active Tennessee Multi-Sector Permits (TMSPs) for industrial Stormwater runoff, all facilities with active Ready Mix Concrete Permits (RMCPs), and all facilities with active individual NPDES permits to discharge process water. The database is a Microsoft Access database that is interactive with GIS. Please note that most TMSP or RMCP sites do not qualify as industrial facilities subject to SARA Title III, Section 313 reporting requirements and are not required to be inspected by Metro.

Those listed in 10 (A) above	X Yes ☐ No
Facilities covered by individual NPDES permits	X Yes ☐ No
Facilities covered under the TMSP	X Yes ☐ No
Facilities regulated by the pretreatment program; and NPDES has a Microsoft Excel spreadsheet list of Pre-treatment Program sites for reference purposes, but the sites are not entered into the Industrial Monitoring Microsoft Access database.	X Yes ☐ No

C. Has the MS4 updated the database of industrial and high risk facilities and activities at least yearly? X Yes ☐ No

If yes, provide a listing of any additionally identified industrial and high-risk facilities and activities which discharge stormwater into the MS4:

Facility/Activity

Refer to the attached Table 10.C.1 for a listing of all the industrial facilities NPDES has inventoried into the database. As mentioned above, Metro also inventoried other industrial facilities such as TMSP and RMCP facilities, which are not required to be inspected within the three year period.

D. Has the MS4 developed and implemented procedures, including an inspector manual and checklist, for routine inspections of industrial and high-risk facilities and activities? NPDES has created a Standard Operating Procedure (SOP) for performing inspections of industrial facilities. X Yes ☐ No

E. Is the MS4 performing these inspections at such a rate that all required industries will be inspected at least once every three years? As per the MS4 permit, NPDES is required to inspect approximately 48 industrial facilities within a three year period. Most of the inspections of the SARA Title III, Section 313 sites were completed in the previous reporting year, In FY15, NPDES completed six industrial site inspections, which included a new facility added to the database during the yearly update (from the EPA TRI Website) and those that were based on complaints received. X Yes ☐ No

F. Provide a listing of inspections performed during this reporting year: During FY15 NPDES inspected six industrial facilities. Refer to Table 10.F.1 for a list of Industrial Facilities that were inspected during FY15

11. Enforcement

A. Identify which of the following types of enforcement actions you used during the reporting period, indicate the number of actions, the minimum measure (e.g., construction, illicit discharge, permanent stormwater control) or note those for which you do not have authority: Please note that Stop Work Orders are included as part of the same Notice of Violation for construction sites.

Action	Construction	Permanent Stormwater Controls	Illicit Discharge	Authority?
Notice of violation	68	20	13	X Yes ☐ No
Administrative Penalties	$25,656	$0	$2,450	X Yes ☐ No
Stop Work Orders	22	#	#	X Yes ☐ No
Civil penalties	#	#	#	☐ Yes X No
Criminal actions	#	#	#	☐ Yes X No
Administrative orders	#	#	#	X Yes ☐ No
Other:		#		X Yes ☐ No

B. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions in your jurisdiction? X Yes ☐ No

C. What are the 3 most common types of violations documented during this reporting period? Failure to maintain erosion prevention and sediment control measures, illicit discharges from construction and non-construction sites, and grading without applying for or receiving a Metro Grading Permit.

12. Program Resources

A. What was your annual expenditure to implement the requirements of your MS4 NPDES permit and SWMP this past fiscal year? In FY15, NPDES, which oversees various MS4 compliance activities, operated under a budget of $1.51 million. The overall MWS Stormwater Division's budget, which includes NPDES, Development and Review engineers and Stormwater Maintenance, was $14.63 million. Please note that various other Metro Departments, while not included in this budget analysis, perform activities that contribute to MS4 permit compliance.

B. What is next fiscal year budget for implementing the requirements of your MS4 NPDES permit and SWMP?

The FY16 budget includes $1.51 million dedicated to the Stormwater NPDES Section, while the overall Stormwater Department is operating under a budget of $14.44 million.

C. Do you have an independent financing mechanism for your Stormwater program? X Yes ☐ No

D. If so, what is it/are they (e.g., Stormwater fees), and what is the annual revenue derived from this mechanism?

Source: Stormwater User Fee; Estimated Amount $14.44 million

E. How many full-time employees does your municipality devote to the Stormwater program (specifically for implementing the Stormwater program vs. municipal employees with other primary responsibilities that dovetail with Stormwater issues)? At the conclusion of the reporting period, there were 73 employees within the overall MWS Stormwater Division and 20 vacancies that have been budgeted so that the eventual total employees will be 93.

F. Do you share program implementation responsibilities with any other entities? ☐ Yes X No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism

13. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your Stormwater Management Program, how long have you been tracking them, and at what frequency? Note that these are not measurable goals for individual BMPs or tasks, but large-scale or long-term metrics for the overall program, such as in-stream macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc?

Within the last few years, the NPDES Watershed Group has been performing detailed sampling for TMDL streams throughout Metro, some of which is proactive and not required per the MS4 permit. While long-term trends cannot be extrapolated at this time, the data collection has proven beneficial in identifying segments of streams where pollutants are elevated or within loading requirements. Please refer to the attached Table 13A.1 (TMDL Sampling Data) for the complete quarterly sampling results for the FY15 reporting period. Please note that previous Annual Reports contain additional data for monitoring conducted during those reporting periods.

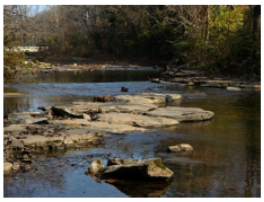
Over the years, NPDES has also looked at other non-analytical data to evaluate the program's effectiveness. Refer to Table 13A.2 (SWMP Quantifiable Statistics). Many of the functions such as IDDE efforts, public education, etc. NPDES performs do not easily translate into quantifiable loading reduction numbers. As an attempt to quantify pollutant loading reduction numbers from various sources, an effort was made in previous reporting periods to review individual IDDE case files for a four year period to calculate an estimated loading reduction on a yearly basis. Based on the calculations, it was found that in a four year period, NPDES directly or indirectly contributed to the average estimated reduction of 8,568.14 pounds of general Stormwater pollutants such as sediment, metals, etc. and 1,511,414 pounds of sewage-related waste to the MS4 or receiving streams each year. The exercise in calculating pollutant removal has also sparked a renewed effort within the program to improve documentation processes to produce more reliable pollutant reduction estimates by creating new reporting mechanisms within databases.

NPDES performs various monitoring activities as prescribed by the MS4 Permit. The MS4 permit-required sampling (i.e. Wet Weather Monitoring, Ambient Sampling, and Benthic Sampling) was changed in the current iteration of the permit. Part of the reasons that TDEC changed the permit-required monitoring plan was so the sample results would be more useful in performing data analyses. Since the new monitoring plan has only been implemented for four years, the dataset is incomplete and it will be several years before detailed analysis can be performed on the data. The Ambient Sampling, Wet Weather Sampling, and Benthic Sampling Program data is summarized in Table 13A.3, Table 13A.4, and Table 13A.5 respectively. NPDES's Watershed Group collected approximately 186 water quality samples and performed visual stream assessments on approximately 22.5 miles of 303(d)-listed streams within FY15.

As an indication of the proactive steps MWS has made in preventing sanitary sewer overflows, a water advisory was removed from a 2.9 mile section of Whites Creek in FY15. The water advisory had been in effect for many years due to a problematic sewer pump station. Once the pump station upgrades were completed, NPDES performed bacteria sampling and submitted data to TDEC supporting the improved conditions of the creek.

Whites Creek section finally deemed safe

Todd Barnes, tbarnes@tennessean.com 6:54 a.m. CST December 9, 2014



(Photo: File)

A section of Whites Creek deemed hazardous to the public's health for the past several years is now safe after a new pumping station has helped reduce the level of pathogens lurking in the waterway.

The Tennessee Department of Environment and Conservation and Metro Water Services lifted the water advisory for a 2.9-mile section of the creek, which landed on the state's impaired streams list years ago when the undersized and unreliable Whites Creek Pumping Station deteriorated and began to cause sanitary sewer overflows into the creek.

A new and improved WCPS has been successfully operating and has not experienced a sanitary sewer overflow for more than a year.

"Today is a result of several years of local and state environmental experts working together to find a solution to a problem," said TDEC Commissioner Bob Martineau. "Although there is still work to do, lifting the water contact advisory is exciting news for all of us who care about the environment, especially those who live near this particular segment of Whites Creek."

Read or Share this story: http://tnne.ws/1A9TQgY

Article describing the removal of the Water Advisory from Whites Creek

B. Provide a summary of data (e.g., water quality information, performance data, modeling) collected in order to evaluate the performance of permanent Stormwater controls installed throughout the system. This evaluation may include a comparison of current and past permanent Stormwater control practices. As described above, it is hard to perform any statistical analysis on water quality sampling as sampling locations, methodologies, and frequencies have changed over the three permit cycles. Metro Nashville is in the fourth year of a more consistent monitoring plan as part of the new MS4 permit and TMDL monitoring requirements. This data will hopefully be useful in performing future analysis on a watershed basis in determining SWMP effectiveness.

In reviewing some of the performance measures over the last ten years (summarized in Table 13A.2), it becomes obvious to conclude that the overall number of water quality (IDDE) investigations and Stormwater-specific enforcements have dramatically reduced and therefore so has the amount of pollutants into the MS4 and receiving streams. We believe this can be contributed to the robust IDDE program, public education and outreach and proactive monitoring/screening efforts.

C. What environmental quality trends have you documented over the duration of your Stormwater program? (If you have reports or summaries, you can either attach them electronically, or provide the URL to where they may be found on the Web.) Reference the above answer. NPDES has noticed fewer and fewer illicit discharge findings over the years that can be contributed to a robust IDDE program and increased public awareness. In addition, there have been fewer notices of violations issued for construction site infractions. Middle Tennessee contractors have become acutely aware of Metro's construction site requirements and enforcement program and, therefore, have increasingly complied with our regulations. It has also been noted that many of the concerns from citizens usually involve relatively minor issues as compared to concerns reported in the beginning of the NPDES program.

14. Stormwater Management Program Update

A. Describe any changes to the MS4 program, per Section 3.5 of the permit, during the reporting period including but not limited to:

Changes adding (but not subtracting or replacing) components, controls or other requirements. During FY15, NPDES requested minor changes to the benthic sampling procedures to become more consistent with TDEC's 303(d) sampling procedures. A copy of the letter sent to TDEC is included in Section 4.0 of this document.

Changes to replace an ineffective or unfeasible BMP. There are no major changes to report.

Information (e.g., additional acreage, outfalls, BMPs) on program area expansion based on annexation or newly urbanized areas. Just prior to issuance of this cycle of the MS4 permit, the former satellite city of Lakewood voted to dissolve and become part of Metro Nashville and Davidson County. Upon that transition becoming official, NPDES field screened the commercial areas for potential illicit discharge connections, collected all of the Stormwater infrastructure into the GIS database, and began performing maintenance services for the newly annexed area.

Changes to the program as required by the division. No major changes occurred during FY15.

15. Certification

This report must be signed by a ranking elected official or by a duly authorized representative of that person. See signatory requirements in subpart 5.7 of the permit.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Michael Hunt	Michael Hunt	10/24/15
Printed Name and Title	Signature	Date
System Services Mgr		

3.0 Required MS4 Reporting Tables

List of Tables

Table 6B.1 – Grading Permit Projects Initiated/Completed within FY15

Year	Preconstruction Meetings	Grading Permits Issued	Permits Completed
Total FY03	257	198	102
Total FY04	305	270	159
Total FY05	284	271	220
Total FY06	296	252	196
Total FY07	251	239	188
Total FY08	222	165	205
Total FY09	148	109	238
Total FY10	146	121	117
Total FY11	130	135	131
Total FY12	152	142	153
Total FY13	167	138	133
Total FY14	249	318	159
Total FY15	292	276	259
Total	**2,899**	**2,634**	**2,260**

Table 6C.1 – Small Construction Site Oversight in FY15

Building permit signed off for new construction (with stormwater checklists)	265
Application for single family Grading Permit (Tier II)	5
Follow up site visits for single family construction	312
New Infill Development Permits (Individual Permit Signoffs)	622
Follow up site visits for Infill Developments	591

Note: Midway through FY15, Metro passed new legislation establishing the new Infill Development Permits. Projects that create 800 to 15,000 square feet of additional net impervious area though new development, redevelopment, or rehabilitation of a residential structure in existing neighborhoods are required to obtain Infill Development Permits. As such, MWS Stormwater staff provides oversight to require stormwater controls to be installed to treat stormwater runoff during and after construction.

Table 7H.1 – Illicit Discharge Investigations Initiated During FY15

ID Number	Date/Time Initiated	Description	Dispatched To	Problem Address
550952	7/9/2014 11:57	SWWQ- Water Quality	Hewitt, Jason E	2525 Dickerson Pike
552398	7/15/2014 14:13	SWWQ- Water Quality	Hayes, Josh	1615 J P Hennessey Dr
553843	7/22/2014 8:31	SWWQ- Water Quality	Terrynelson, Anneli	2406 Music Valley Drive
555328	7/28/2014 13:34	SWWQ- Water Quality	Hewitt, Jason E	400 Hathaway Ct
556148	7/30/2014 11:53	SWWQ- Water Quality	Hewitt, Jason E	2131 Abbott Martin Rd
556534	7/31/2014 13:22	SWWQ- Water Quality	Hewitt, Jason E	217 Lyle Ln
556543	7/31/2014 13:37	SWWQ- Water Quality	Terrynelson, Anneli	713 Hill Rd
556788	8/1/2014 10:12	SWWQ- Water Quality	Drury, Travis D	2001 S Hamilton Rd
557866	8/6/2014 12:12	SWWQ- Water Quality	Hewitt, Jason E	12969 Old Hickory Blvd
559782	8/13/2014 13:18	SWWQ- Water Quality	Hayes, Josh	61st Ave N & Centennial
560310	8/15/2014 8:20	SWWQ- Water Quality	Hewitt, Jason E	5441 Oak Chase Drive
560409	8/15/2014 10:46	SWWQ- Water Quality	Hewitt, Jason E	Briley Pkwy & Ellington Pkwy
563447	8/28/2014 11:01	SWWQ- Water Quality	Terrynelson, Anneli	3983 Nolensville Rd
563711	8/29/2014 8:39	SWWQ- Water Quality	Terrynelson, Anneli	3523 Charlotte Ave
564626	9/3/2014 12:11	SWWQ- Water Quality	Hayes, Josh	4936 Stillwood
565273	9/5/2014 9:52	SWWQ- Water Quality	Hayes, Josh	Porter Road & Eastland Drive
566794	9/11/2014 12:58	SWWQ- Water Quality	Terrynelson, Anneli	4041 Green Hills Drive
567886	9/16/2014 12:12	SWWQ- Water Quality	Terrynelson, Anneli	4112 Hillsboro Pike
568145	9/17/2014 11:00	SWWQ- Water Quality	Terrynelson, Anneli	5011 Whispering Hills Ct
568570	9/18/2014 12:49	SWWQ- Water Quality	Terrynelson, Anneli	1012 Brookside Woods Blvd
568962	9/19/2014 13:05	SWWQ- Water Quality	Terrynelson, Anneli	700 Old Hickory Blvd
569326	9/22/2014 11:55	SWWQ- Water Quality	Hayes, Josh	Van Buren
571231	9/29/2014 14:41	SWWQ- Water Quality	Terrynelson, Anneli	4156 Dry Fork Road
572225	10/2/2014 13:25	SWWQ- Water Quality	Terrynelson, Anneli	2803 Foster Drive
572542	10/3/2014 14:17	SWWQ- Water Quality	Terrynelson, Anneli	3400 Milbridge Dr
573375	10/8/2014 12:19	SWWQ- Water Quality	Terrynelson, Anneli	601 Lafayette St
573419	10/8/2014 13:47	SWWQ- Water Quality	Dohn, Rebecca	3625 Harpeth Springs
573710	10/9/2014 12:15	SWWQ- Water Quality	Dohn, Rebecca	209 Shepherd Hills Drive
575012	10/16/2014 7:44	SWWQ- Water Quality	Terrynelson, Anneli	5500 Old Hickory Blvd
576269	10/22/2014 12:04	SWWQ- Water Quality	Terrynelson, Anneli	4041 Hillsboro Cir
576628	10/23/2014 12:10	SWWQ- Water Quality	Terrynelson, Anneli	4041 Hillboro Cir
576633	10/23/2014 12:21	SWWQ- Water Quality	Terrynelson, Anneli	3016 Claymile Blvd
576796	10/24/2014 7:25	SWWQ- Water Quality	Winesett, Steve	308 Plus Park Blvd
577602	10/28/2014 10:59	SWWQ- Water Quality	Dohn, Rebecca	4235 Hillsboro Pike
578008	10/29/2014 12:27	SWWQ- Water Quality	Terrynelson, Anneli	513 Phipps Dr
578087	10/29/2014 14:47	SWWQ- Water Quality	Dohn, Rebecca	7500 Tarmac
578307	10/30/2014 14:26	SWWQ- Water Quality	Drury, Travis D	6301 Jocelyn Hollow
579603	11/5/2014 13:42	SWWQ- Water Quality	Hayes, Josh	4936 Barclay Square Drive
579609	11/5/2014 13:56	SWWQ- Water Quality	Hayes, Josh	Whites Creek Pike & Knight Road
581046	11/12/2014 10:46	SWWQ- Water Quality	Terrynelson, Anneli	2340 Murfreesboro Pike
581371	11/13/2014 13:53	SWWQ- Water Quality	Terrynelson, Anneli	210 Gallatin Pike S
582315	11/19/2014 9:27	SWWQ- Water Quality	Dohn, Rebecca	234 Leonard
582686	11/20/2014 13:58	SWWQ- Water Quality	Dohn, Rebecca	Cedarmont Ct & Barnes Rd
583937	12/1/2014 8:51	SWWQ- Water Quality	Hunt, Michael	201 1st Ave Sn
585439	12/5/2014 14:43	SWWQ- Water Quality	Terrynelson, Anneli	185 Spence Lane
588412	12/18/2014 12:08	SWWQ- Water Quality	Hayes, Josh	2401 Edge O Lake Drive
588694	12/22/2014 7:10	SWWQ- Water Quality	Terrynelson, Anneli	1302 Neelys Bend Road
588957	12/23/2014 8:55	SWWQ- Water Quality	Terrynelson, Anneli	875 Kipling Drive
589612	12/30/2014 9:54	SWWQ- Water Quality	Dohn, Rebecca	2101 Tinnin
590430	1/5/2015 12:55	SWWQ- Water Quality	Hayes, Josh	2335 Alteras Drive
590857	1/7/2015 7:55	SWWQ- Water Quality	Hayes, Josh	203 Old Trinity Lane
593170	1/20/2015 9:45	SWWQ- Water Quality	Hayes, Josh	2036 Sherbrooke Lane

Table 7H.1 – Illicit Discharge Investigations Initiated During FY15 (Continued)

ID Number	Date/Time Initiated	Description	Dispatched To	Problem Address
593247	1/20/2015 10:36	SWWQ- Water Quality	Mullen, Veronica	4990 Lebanon Pk
594958	1/27/2015 15:34	SWWQ- Water Quality	Dohn, Rebecca	1816 Primrose Ave
597207	2/5/2015 14:40	SWWQ- Water Quality	Dohn, Rebecca	100 W Trinity
597594	2/9/2015 10:15	SWWQ- Water Quality	Hayes, Josh	4041 Hillsboro Circle
598379	2/12/2015 7:37	SWWQ- Water Quality	Terrynelson, Anneli	201 Grizzard Ave
598575	2/12/2015 14:43	SWWQ- Water Quality	Dohn, Rebecca	1092 Blue Mountain
598761	2/13/2015 14:17	SWWQ- Water Quality	Hayes, Josh	4105 Whites Creek Pike
600774	2/23/2015 13:41	SWWQ- Water Quality	Hayes, Josh	8029 Esterbrook
602079	2/26/2015 9:48	SWWQ- Water Quality	Terrynelson, Anneli	5904 Sedberry Rd
603129	3/3/2015 8:02	SWWQ- Water Quality	Dohn, Rebecca	907 12th Avenue South
603529	3/4/2015 9:05	SWWQ- Water Quality	Dohn, Rebecca	0 Poplar Creek
604416	3/9/2015 12:20	SWWQ- Water Quality	Hayes, Josh	5441 Oak Chase
604846	3/10/2015 12:19	SWWQ- Water Quality	Binder, Dale	4150 Gallatin Road
606304	3/16/2015 12:44	SWWQ- Water Quality	Terrynelson, Anneli	500 Massman Dr
608232	3/23/2015 13:55	SWWQ- Water Quality	Drury, Travis D	344 White Bridge Pike
609206	3/26/2015 10:09	SWWQ- Water Quality	Garmon, Mary	4012 Lealand Lane
609244	3/26/2015 10:51	SWWQ- Water Quality	Drury, Travis D	120 Athens Way
609248	3/26/2015 10:54	SWWQ- Water Quality	Mullen, Veronica	132 Bonnabrook Drive
609595	3/27/2015 10:56	SWWQ- Water Quality	Drury, Travis D	2424 Nolensville Pike
609597	3/27/2015 10:57	SWWQ- Water Quality	Garmon, Mary	2209 Abbott Martin Rd
612313	4/7/2015 14:16	SWWQ- Water Quality	Terrynelson, Anneli	301 Demonbruen
612339	4/7/2015 15:04	SWWQ- Water Quality	Hayes, Josh	Brookwood Terrace & Neartop Dr
612355	4/7/2015 15:29	SWWQ- Water Quality	Dohn, Rebecca	492 Craighead Ave
612461	4/8/2015 8:18	SWWQ- Water Quality	Hayes, Josh	317 Shore Drive
612749	4/8/2015 14:21	SWWQ- Water Quality	Hayes, Josh	2304 Murfreesboro Pike
616455	4/22/2015 14:12	SWWQ- Water Quality	Hayes, Josh	2408 Dickerson Pike
617394	4/27/2015 11:17	SWWQ- Water Quality	Garmon, Mary	915 Rivergate Parkway
617687	4/28/2015 9:00	SWWQ- Water Quality	Ohara, Katherine	2503 Dickerson Pike
618731	4/30/2015 13:27	SWWQ- Water Quality	Hayes, Josh	1002 East Thompson Lane
618742	4/30/2015 13:36	SWWQ- Water Quality	Hayes, Josh	4054 Lebanon Road
621450	5/11/2015 12:13	SWWQ- Water Quality	Hayes, Josh	412 Brick Church Park Dr.
623068	5/15/2015 13:57	SWWQ- Water Quality	Drury, Travis D	3304 Dickerson Pike
627982	6/3/2015 14:22	SWWQ- Water Quality	Hayes, Josh	194 Forestwood Drive
629939	6/10/2015 10:21	SWWQ- Water Quality	Drury, Travis D	169 Harbor Village
630087	6/10/2015 14:09	SWWQ- Water Quality	Terrynelson, Anneli	4487 Post Place
630590	6/12/2015 7:27	SWWQ- Water Quality	Terrynelson, Anneli	4487 Post Place
631608	6/16/2015 13:07	SWWQ- Water Quality	Garmon, Mary	1309 Bell Rd
631666	6/16/2015 14:50	SWWQ- Water Quality	Holt, Bonnye	4909 Tanglewood Drive
631820	6/17/2015 8:40	SWWQ- Water Quality	Garmon, Mary	2506 12th Ave S
632537	6/18/2015 14:30	SWWQ- Water Quality	Drury, Travis D	2211 Bandywood Dr
633003	6/22/2015 6:32	SWWQ- Water Quality	Terrynelson, Anneli	6602 Charlotte
633023	6/22/2015 7:37	SWWQ- Water Quality	Terrynelson, Anneli	3056 Dickerson Pike
634369	6/25/2015 9:44	SWWQ- Water Quality	Drury, Travis D	2131 Abbott Martin Rd
634489	6/25/2015 11:50	SWWQ- Water Quality	Drury, Travis D	3815 Hillsboro Pike
635111	6/29/2015 8:31	SWWQ- Water Quality	Hayes, Josh	Craighead Street
635579	6/30/2015 9:56	SWWQ- Water Quality	Hayes, Josh	4013 Pineorchard
635675	6/30/2015 11:56	SWWQ- Water Quality	Hayes, Josh	Charlotte Pike

Note: While many of the investigations resulted in the detection and elimination of illicit discharges, there were many that resulted in no issues being found. Every investigation, regardless of the findings, was tracked within the Cityworks database.

Table 7H.2 – Spill Response Investigations Initiated by NPDES During FY15

ID #	Date/Time Initiated	Description	Dispatched To	Problem Address
564595	9/3/2014 11:21	SWSPILL- Spill Response	Binder, Dale	5025 Old Hickory
572584	10/5/2014 8:51	SWSPILL- Spill Response	Johns, Denice D	3991 Nolensville Rd
578103	10/29/2014 15:38	SWSPILL- Spill Response	Dohn, Rebecca	MM202 & I-40 EB
578726	11/3/2014 7:14	SWSPILL- Spill Response	Binder, Dale	I40 E At Spence Lane
580093	11/7/2014 10:05	SWSPILL- Spill Response	Hayes, Josh	3200 Clarksville
581184	11/13/2014 7:09	SWSPILL- Spill Response	Binder, Dale	6121 Petus Road
581675	11/17/2014 8:04	SWSPILL- Spill Response	Binder, Dale	205 2nd Ave S
587493	12/15/2014 10:29	SWSPILL- Spill Response	Binder, Dale	I65 Near Mm 93
588691	12/22/2014 7:08	SWSPILL- Spill Response	Binder, Dale	561 Lockwood Ct
591897	1/13/2015 6:26	SWSPILL- Spill Response	Binder, Dale	2800 Opryland Drive
592701	1/15/2015 15:05	SWSPILL- Spill Response	Terrynelson, Anneli	3410 Gallatin Pk
594553	1/26/2015 9:14	SWSPILL- Spill Response	Johns, Denice D	1015 Maplehurst
598977	2/18/2015 8:00	SWSPILL- Spill Response	Terrynelson, Anneli	816 Murfreesboro Pike
603230	3/3/2015 10:31	SWSPILL- Spill Response	Dohn, Rebecca	2400 White Avenue
606564	3/17/2015 8:29	SWSPILL- Spill Response	Binder, Dale	1238 Ardee Ave
618516	4/30/2015 9:29	SWSPILL- Spill Response	Ohara, Katherine	1121 Gallatin Pike
619890	5/5/2015 14:31	SWSPILL- Spill Response	Hayes, Josh	I40&Fesslers Ln
623140	5/15/2015 15:45	SWSPILL- Spill Response	Johns, Denice D	3976 Dickerson Pk
625050	5/26/2015 7:10	SWSPILL- Spill Response	Binder, Dale	198 Gallatin Pike
625092	5/26/2015 8:28	SWSPILL- Spill Response	Binder, Dale	350 1st Ave N
630627	6/12/2015 9:00	SWSPILL- Spill Response	Terrynelson, Anneli	200 Gallatin Pike S
632819	6/19/2015 12:50	SWSPILL- Spill Response	Terrynelson, Anneli	Woodycrest And Foster Ave

Table 7H.3 – Private Sewer Discharge Investigations Initiated by NPDES During FY15

ID	Date Initiated	Description	Dispatched To	Problem Address
550617	7/8/2014 13:58	PRIVATE SSO	Hewitt, Jason E	2400 Music Valley Dr
620558	5/7/2015 9:27	PRIVATE SSO	Hayes, Josh	2500 Woodyhill Drive

Table 7H.4 - Failing Septic System Investigations Performed by the Health Department in FY15

Map & Parcel	Date Received	Street Name	Last Name	Job Description	Environmentalist	Sewage on Ground	Notice Issued	Citation	Date
051-01-0 082.00	7/10/2014	728 Due West North	Yorke	Failure	Fellwock	7/14/2014	7/15/2014	8/11/2014	10/15/2014
164-00-0 118.00	10/16/2014	3561 Pin Hook Road	Britt	Failure	Fellwock	10/20/2014	10/21/2014		
007-00-0 217.00	10/28/2014	2229 Tinnin Road	Duerr	Failure	Fellwock	10/28/2014	11/11/2014		
169-00-0 060.00	11/5/2014	5948 Pasquo Road	Stevens	Failure	Fellwock	12/11/2014	12/29/2014		
101-00-0 089.00	11/24/2014	6814 Gower Road	Cook	Complaint	Fellwock	12/8/2014	12/9/2014	1/12/2015	4/1/2015
129-03-0 014.01	12/5/2014	234 Robin Hill Road	Fenichel	Failure	Fellwock	12/11/2014	12/18/2014		
021-00-0 226.00	1/14/2015	5108 Rawlings Road	Steadman	Failure	Fellwock	1/16/2015	1/20/2015		
178-00-0 051.00	1/16/2015	9786 Hwy 96	Perkins	Failure	Fellwock	1/21/2015	1/22/2015		
038-00-0 064.00	1/20/2015	3676 Alessio Road	Brown	Failure	Fellwock	1/20/2015	1/21/2015		
150-00-0 184.00	2/4/2015	3486 Hamilton Church Road	Franklin	Failure	Fellwock	2/5/2015	2/6/2015		
016-00-0 054.01	3/30/2015	2215 Union Hill Road	Binkley	Failure	Fellwock	3/31/2015			
052-00-0 045.00	4/2/2015	2517 Pennington Bend Road	Singleton	Failure	Fellwock	4/2/2015	4/3/2015		
145-07-0 027.00	4/16/2015	1207 Saxon Drive	Senese	Failure	Fellwock	4/20/2015	4/21/2015		
014-00-0 073.00	4/29/2015	7129 Douglas Road	Blackwell	Failure	Fellwock	5/5/2015	5/8/2015		
033-00-0 201.00	5/1/2015	1075 Old Dickerson Road	Woods	Failure	Fellwock	5/1/2015	5/13/2015		
006-00-0 116.00	5/5/2015	3366 Greer Road	Greer	Failure	Fellwock	5/8/2015	5/21/2015		
168-07-0 006.00	5/11/2015	501 Old Harding Court	Putman	Failure	Fellwock	5/12/2015	5/13/2015		
032-00-0 095.00	5/28/2015	4494 Brick Church Pike	Grant	Failure	Fellwock	6/1/2015	6/3/2015		

Table 7H.5 – MWS Estimated/Reported Sewage Overflows in FY15

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOT
Wet Weather Overflows - CSO Permitted	4	28	5	18	4	5	5	5	6	13	14	15	122
Wet Weather Overflows - Sewer (Non-Pumps)	1	2	0	19	4	15	5	41	25	25	3	2	142
Wet Weather Overflows - Pump Stations	0	6	1	14	1	7	0	27	15	15	0	1	87
Wet Weather Overflows SSO- TOTAL	1	8	1	33	5	22	5	68	40	40	3	3	229
Dry Weather Overflows - Sewer (Non-Pumps)	6	3	4	4	8	3	14	12	3	4	7	3	71
Dry Weather Overflows - Pump Stations	0	0	0	0	0	0	0	0	1	0	0	1	2
Dry Weather Overflows - TOTAL	6	3	4	4	8	3	14	12	4	4	7	4	73
# of Overflows that Required Remediation	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Overflows that Reached Creeks - Sewer	2	3	1	10	6	10	9	27	18	21	6	1	114
# of Overflows that Reached Creeks - Pump Stations (All)	0	6	1	14	1	7	0	27	15	15	0	2	88
# of Overflow Response Staff per sewer event	2	2	2	2	2	2	2	2	2	2	2	2	2
# of Sewer Vac Trucks per sewer event	1	1	1	1	1	1	1	1	1	1	1	1	1

*Note: Most of the dry-weather overflows involve a small level of clean-up performed by Department personnel, but the term "Remediation" is reserved for large overflows/line breaks in which more significant clean-up actions are required that may include hiring outside contractors.

Table 8F.1 - MWS Stormwater Maintenance Work Order Numbers for FY15

Ditch Excavation & Repair	**FY15 Numbers**
Ditch Excavated/Repaired (linear feet)	38,445
Debris Removed (cubic yards)	6,904
Debris Removal (miscellaneous)	
Debris Removed (cubic yards)	166,684
Inlet Maintenance	
Inlets Cleaned	5,015
Inlets Repaired	25
Estimated Material Removed (pounds)	45,135
Walls & Headwalls	
Walls/Headwalls Built	305
Walls/Headwalls Repaired	13
Cross Drains	
Cross Drains Cleaned	147
Cross Drains Replaced	1
Erosion	
Erosion Control Matting Used (linear feet)	150,923

Note: (Some assumptions are used in the quantity estimates)
• All statistics are reported based on the actual finish date of the task(s), not the work order(s).
• All cubic yardage are computed from the loads reported for each truck size.
•'Debris Removed' under Ditch Exc. & Repair is the total of all cubic yardage reported under work orders that had a 'Redefine Ditch' task. 'Debris Removed' under Debris Removal is the total of cubic yardage reported under all other work orders not counted in the first Debris Removal figure.

Table 8F.2 - MWS Stormwater Contracted Street Sweeping Collection Numbers for FY15

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Debris Collected (tons)	275.75	270.07	264.87	412.52	447.86	709.49	375.05	299.37	422.40	399.38	330.70	334.16	4,541.62
Miles of Streets Swept	1,723.67	1,827.51	1,586.52	2,030.71	1,163.41	2,073.71	1,892.49	1,787.03	1,647.50	2,132.54	1,315.25	1,857.77	21,038.08

Table 9F.1 - Development and Review Section Plan Review Numbers for FY15

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Number of Plan Submittals	216	255	203	201	160	250	192	184	214	251	253	193	**2572**
Number of Plan Approvals	134	159	141	134	143	203	178	168	187	193	194	164	**1998**
Number of Projects Submitted Using Low Impact Development Techniques	10	9	9	5	1	5	3	3	7	6	3	1	**62**

* The Number of Plan Submittals line includes: Excel spreadsheet tracked "Site Plan Reviews" that are reviewed for Codes permits and KIVA tracked Grading Plans & As-Builts as well as Preliminaries / Finals that are reviewed for the Planning department. It is all initial submittals, resubmittals and additional information submitted. The excel spreadsheet is called "MonthlyReport_SWEngr(year).xls" and it can be found in the following location, "S:\DevReview\Codes Section\Monthly Reports\SWEngr". The new KIVA report is called "SW_ANNUAL" described as "SW PERMIT ANNUAL REPORTING". The numbers exclude SWUF reviews because they are not plan reviews.

* The Number of Plan Approvals line include Grading Plans review results of APPROVED, CONDITIONALLY APPROVED (Approved Except as Noted) and NO PERMIT Required. The number also includes Preliminaries / Finals that are reviewed for the Planning Department if the result code is APPROVED, COND, IGNORENA. The numbers in this row also now include SWEngr's site plan reviews with a result of Approved because the review result is now tracked separately. The numbers in this row exclude Grading Plans Approved numbers with review results of Returned for Corrections, Withdrawn, Hold or Denied. The numbers in this row also exclude SWUF reviews because they are not plan reviews. The new KIVA report is called "SW_ANNUAL" described as "SW PERMIT ANNUAL REPORTING" and it pulls all Grading Permit and Preliminary/Final reviews for this line with the proper result code within a given time frame. The excel spreadsheet for site plan reviews is called "MonthlyReport_SWEngr(year).xls" (or some variation of that format) and it can be found in the following location, "S:\DevReview\Codes Section\Monthly Reports\SWEngr". It shows which reviews had a result of Approved in a given month.

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Table 10C.1 - Industrial Sites Inventoried within Metro's Database

Site Name	Site Location	SARA Site	TMSP Site	RMCP Site	Subst. Loader	Date Insp.
Nashville Wire Products	295 Driftwood St	X				7/18/14
Exxon Mobil Pipeline Corp Nashville Terminal	1741 Ed Temple Blvd	X				7/8/14
Ergon Terminaling, Inc. - Nashville	1114 Visco Dr	X	X			7/3/14
Lawson Ready Mix	5915 River Rd	X		X		6/19/14
Triumph (Vought) Aircraft Industries Inc (Triumph)	1432 Vultee Blvd	X				6/16/14
Carlex Nashville Glass Plant (Carlex)	7200 Centennial Bvld.	X				6/10/14
E. I. Dupont De Nemours & Co., Inc. - Old Hickory	1002 Industrial Dr	X	X			5/29/14
Fiberweb, Inc. (Polymer Group)	70 Old Hickory Blvd	X	X			5/29/14
Country Delite Farms llc	1401 Church St	X				5/22/14
Marathon Petroleum Company Llc	5 Main St	X	X			5/16/14
Marathon Petroleum Company Llc	930 Youngs Ln	X	X			5/16/14
Marathon Petroleum Company, Llc - Bordeaux Terminal	2922 Hydes Ferry Rd	X	X			5/16/14
Perfection Molders	213 Connell St	X				5/8/14
U S Smokeless Tobacco Manufacturing Co	800 Harrison St	X				5/8/14
Inophos, Inc.	4600 Centennial Bvld.	X	X			5/7/14
Hennessy Industries	1601 J P Hennessy Dr	X				5/2/14
Palm Commodities International, Inc Sales	1717 J P Hennessy Dr	X				4/30/14
Marathon Terminal (Blanchard Terminal)	1409 51st Ave N	X	X			4/29/14
Safety-Kleen Systems, Inc.	215 Whitsett Rd	X	X			4/23/14
Superior Trim	511 Bridgeway Ave	X				4/23/14
CMC Rebar Nashville	851 Visco Dr	X				4/17/14
Quad Graphics Nashville	2947 Brick Church Pike	X				4/15/14
Warren Paint & Color Co	700 Wedgewood Ave	X	X			4/9/14
Cone Solvents Inc Nashville (Frontier Logistical Services)	1830 Linder Industrial Dr	X				4/1/14
RTH American Galvanizing Co.(AZZ Galvanizing)	200 32ND AVE N	X	X			3/18/14
Ashland Distribution (Nexeo Solutions)	2315 Clifton Ave	X	X			3/13/14
Airgass USA LLC	7236 Centennial	X				2/14/14
Reddy Ice-Nashville	7261 Centennial Bvld.	X				2/13/14
Cumberland Terminals, Inc.	7260 Centennial Bvld.	X	X			2/12/14
Greer Stop Nut	481 McNally Dr	X	X			2/5/14
Peterbilt Motors Company	430 Myatt Dr	X	X			2/5/14
Polar Technology Llc	1360 Foster Ave	X				2/5/14
Whirlpool Corp	1714 Heil Quaker Bvld.	X				1/31/14
Motiva Nashville Terminal	1717 61st Ave N	X				10/10/13
Land O'lakes Purina Feed Llc - Nashville Tn	3601 Trousdale Dr	X				9/27/13
Purity Dairies	360 Murfreesboro Pike	X	X			6/28/13
Harcros Chemicals Inc	1418 Poplar Ln	X				6/27/13
Nashville Chemical & Equipment Co Inc	7001 Westbelt Dr	X				6/27/13
Springs Global Us-Nashville Plant	7200 Cockrill Bend Blvd	X	X			3/15/13
Five Star Foods	2621 Eugenia Ave	X				2/25/13
Akzo Bel Coatings Inc.	20 CULVERT ST	X	X			1/25/13
A. Schulman, Inc.	481 Allied Dr	X	X			11/21/12
Superior Solvents & Chemicals	518 Swinging Bridge Rd	X				
Sherman-Dixie Concrete Industries, Inc.	200 42nd Ave N	X		X		8/13/15

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	SARA Site	TMSP Site	RMCP Site	Subst. Loader	Date Insp.
PSC Metals, Inc.	710 S 1st St		X		X	8/21/15
Smyrna Ready Mix Concrete, 2nd Ave	1136 2ND AVE N			X		4/1/15
Parman Energy	7101 Cockrill Bend Bvld.					11/24/14
Metro Ready Mix Concrete, Inc. - Visco Drive	1020 Visco Dr			X		1/30/14
Shrum Auto Salvage	1050 Old Buck Hill Road		X			3/21/13
Rogers Group (Whites Creek Asphalt Plant)	2827 Whites Creek Pike		X			9/11/12
3m	400 Swinging Bridge Road		X			
IMI Ready Mix - Cowan Street	1433 Cowan Ct			X		
IMI Ready Mix- Robertson Road	6616 Robertson Ave			X		
Nashville Ready Mix Of West Nashville	5853 RIVER RD			X		
Nashville Ready Mix, Inc. Baptist World	1326 Baptist World Center Dr		X	X		
Plasticycle	5801 CENTENNIAL BLVD		X			
Bellar Auto Parts, Inc.	670 James Ave		X			2/18/14
Supreme Oil Central, Inc.	185 Spence Ln		X			4/24/13
Mid-South Wire	1070 Visco Dr		X			
QRS River Hills Recycling Facility	630 Myatt Dr		X			
Hilltop Auto Salvage	2408 Dickerson Park		X			4/22/15
Green Tree Processing (On-Site Environmental)	1501 BAPTIST WORLD CENTER DR		X			3/7/13
Dicaperl Minerals Corp. (Chemrock)	2601 Osage St		X			6/13/12
AAA Industries Inc.	3141 Ambrose Ave		X			
Abernathy Truck Salvage, Inc.	865 W Trinity Ln		X			
ABF Freight System, Inc. - Nashville	890 Visco Dr		X			
Advanced Composites (Tn)	3050 Sidco Dr		X			
All State Auto Parts, Inc.	515 Nawakwa Trl.		X			
Allied Systems Ltd - Nashville	741 Harding Pl		X			
Allied Waste	700 Murfreesboro Park		X			
American Appliance Products - Madison	1129 Myatt Blvd		X			
Besway Systems Inc	305 Williams Ave		X			
BNE Properties, Inc.	317 Arlington Ave		X			
Central Pike Class Iv Landfill	3530 Central Park		X			
Cherokee Marine Terminal	520 Cowan St		X			
Circle Delivery Service, Inc.	125 Caden Dr		X			
Clopay Advanced Printing	555 Harding Industrial Dr		X			
Clopay Plastics Products	463 Harding Industrial Dr		X			
CSX Intermodal, Inc - Nashville Terminal	3086 Sidco Dr		X			
Cummings Signs Arch. And Banking Div.	4560 TROUSDALE DR		X			
D & R Motors & Recycling	616 Durrett Dr		X			
Dixie Wire	5901 California Avenue		X			
Dry Creek Wastewater Treatment Plant	1600 2nd Ave N		X			
Embraer Aircraft Maintenance Services, Inc.	50 Airways Blvd		X			
Essex Plastics Midwest, Llc D.B.A. Flexol Packaging Corp.	1105 Visco Dr		X			
Fed Ex Ground - Nashville Knight Rd	3301 Knight Dr		X			
Federal Express - BNA	1931 Air Lane Dr		X			
First Response, Inc.	1411 Dickerson Pike		X			
Firstexpress Inc.	1135 Freightliner Dr		X			

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	SARA Site	TMSP Site	RMCP Site	Subst. Loader	Date Insp.
Four Lane Auto Salvage Inc.	400 W Trinity Ln		X			
FTEC, Inc. (Palfleet Truck)	1801 Lebanon Park		X			
GAF Materials Corp.	970 Fiber Glass Rd		X			
Grooms Engines	611 4th Ave S		X			
Hailey's Harbor, Inc.	3730 Amy Lynn Dr		X			
Hamilton Machine Co Inc	464 Woodycrest Ave		X			
HMA Contractors Asphalt Plant #1	820 Ezell Pike		X			
Howard Baer, Inc.	1301 Foster Ave		X			
Ingram Materials Sand Yard	1030 Visco Dr		X			
John Bouchard & Sons Co	1024 Harrison St		X			
John C. Tune Airport	110 Tune Airport Dr		X			
John W. McDougall Co., Inc.	3731 AMY LYNN DR		X			
Jones Brothers, Llc	129 Bush Rd		X			
Kohl & Madden Plant #1	404 Harding Industrial Dr.		X			
Lee Brick And Block	3201 Franklin Limestone Rd		X			
Lion Oil Company - Nashville	90 Van Buren St		X			
Lojac Danley Plant	3185 Franklin Limestone Rd		X			
Lojac Downtown Plant	500 Cowan St		X			
Lojac Hermitage Asphalt Plant	3552 HERMITAGE INDUSTRIAL DR		X			
Lojac Nashville River Road Plant	4404 RIVER RD		X			
Lone Star Industries, Inc. D/B/A Buzzi Unicem USA - Nashville	1702 2ND AVE N		X			
M & W Transportation Co., Inc.	101 Terminal Ct		X			
Magellan Nashville I Terminal	1609 63rd Ave N		X			
Magellan Terminals Holdings Lp	1441 51st Ave N		X			
Metal Management Nashville, Llc	1840 Linder Industrial Dr		X			
Metro Nashville District Energy System	90 Peabody St		X			
Metro Salvage, Inc.	1975 Springfield Hwy		X			
Milan Express Co., Inc. - Nashville	825 Visco Dr		X			
N & S Inc.	361 Herron Dr		X			
Nashville Central Stp	1600 2nd Ave N		X			
Nashville Machine Company	530 Woodycrest Ave		X			
Nashville Machine Elevator Inc	510 Interstate Blvd S		X			
Nashville Recycling Co	10 Van Buren St		X			
Nashville VMF	707 CHESTNUT ST		X			
Nashville Wilbert Burial Vault Co.	432 Woodycrest Ave		X			
Nashville Wire Products	1604 County Hospital Rd		X			
Neely's Bend Inc.	1327 Neelys Bend Rd		X			
Paulo Products Company	3206 Ambrose Ave		X			
Pepsi Bottling Group	715 Thompson Ln		X			
Portland Express, Inc.	531 Woodycrest Ave		X			
Pull-A-Part, Llc	7114 Centennial Boulevard		X			
Quality Plating	71 Fesslers Ln		X			
Quikrete - Nashville	6614 Robertson Ave		X			
Radiant Technologies	1845 Elm Hill Park		X			

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	SARA Site	TMSP Site	RMCP Site	Subst. Loader	Date Insp.
River Cement Sales Co Dba Buzzi Unicem USA	1818 CEMENT PLANT RD		X			
Rivergate Auto Parts, Inc.	1471 Gallatin Pike		X			
Rogers Group, Inc. (Reostone Quarry)	6514 Robertson Avenue		X			
Rogers Manufacturing Company	110 Transit Avenue		X			
Rolling Frito-Lay Sales, Lp - Nashville Dc	130 Spence Ln		X			
Sadler Bros Trucking & Leasing Company, Inc.	436 East Reed Dr		X			
Schreiber Foods, Inc.	4350 Hurricane Creek Blvd		X			
Sequatchie Concrete Service, Inc.	306 Cowan St		X			
Servitech Industries, Inc.	550 Brick Church Park Dr		X			
Sherman-Dixie Concrete Industries, Inc.	3641 Central Pike		X			
Smitty's Auto Parts	1609 Bell Rd		X			
Smurfit-Stone Container -- Nashville	707 19th Ave N		X			
Southeastern Freight Lines, Inc.	4141 Murfreesboro Park		X			
Southland Brick And Block	686 Franklin Limestone Rd		X			
Star Transportation	1125 Foster Ave		X			
Steel Summit Tennessee	1718 J P Hennessy Dr		X			
Tech-Aide, Inc.	7117 Centennial Bvld.		X			
Tennessee Air National Guard	240 Knapp Blvd		X			
Tennessee Commercial Warehouse - Nashville	22 Stanley St		X			
Tennessee Imports Auto Salvage	326 Oriel Ave		X			
The Mulch Company	665 Vern Ave		X			
Transflo Terminal Services, Inc. (Nashville)	426 Chestnut St		X			
Trew Industrial Wheels Inc.	310 Wilhagan Rd		X			
Truck Center, Inc.	518 Hagan St		X			
Truck Shine	332 Wilhagan Rd		X			
United Parcel Service - Nashville Massman Dr.	705 Massman Dr		X			
United Parcel Service - Nashville Whites Creek Pike	3205 Whites Creek Park		X			
United Parcel Service - Tci	7525 Hickory Hills Ct		X			
USF Holland, Inc.	500 Oakbluff Ln		X			
Vaughn Manufacturing Co	757 Douglas Ave		X			
VF Imagewear, Inc.	554 Hickory Hl		X			
Vietti Foods Company, Inc.	636 Southgate Ave		X			
Vintage Millworks Inc	525 Merritt Ave		X			
Waste Management C&D Recycle Center	3211 Franklin Limestone Rd		X			
Waste Management Of Tennessee-Nashville	4651 AMY LYNN DR		X			
Waste Management Truck Maintenance Facility/Garbage Transfer St	1428 Antioch Park		X			
West Nashville Auto Recycling Inc.	5604 Centennial Bvld.		X			
Wikoff Color Corporation	214 Omohundro Place		X			
All Star Recycling	460a Craighead Street					
American Airlines Fuel Storage Facility At BNA	929 Airport Service Road					
Associated Wholesale Grocers	500 S Cartwright St		X			
ATI Metal Working Products	1 Teledyne Place		X			

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	SARA Site	TMSP Site	RMCP Site	Substantial Loader	Date Insp.
Automotive Components Holdings, Llc Nashville Property	7200 Centennial Blvd					
BFI Of Nashville	700 Murfreesboro Pike		X			
Bridgestone Americas Tire Operations, Llc	1201 Bridgestone Parkway					
Coca-Cola Bottling Co. Of Nashville	407 Craighead Street		X			
Earthgrains Banking Co., Inc. (Sara Lee Bakery)	2407 Franklin Pike		X			
Elitte Septic Tank Service	450 Edenwold Road					
Flex Sol Packaging Corp.	1105 Visco Drive		X			
Harpeth Valley Utility District	5910 River Road					
Metro Nashville Airport Authority	1 Terminal Drive					
Metro Ready Mix - Basswood Drive	711 Basswood Ave			X		
Metro Ready Mix Concrete	6677 River Road Pike			X		
Music City Processing	1629 Elm Hill Pike					
Nashville Ready Mix - Cowan Ct.	1436 Cowan Ct		X	X		
Precision Fabrics Group, Inc	530 Myatt Drive					
Smyrna Ready Mix	3040 Brandau Rd			X		
Vulcan Quarry - Hermitage	Old Hickory Boulevard					

[ ]Note: Superior Solvents & Chemicals was added to the list during the 2015 update from the EPA TRI database and will be inspected in the next permit year.

Table 10F.1 - Industrial Sites Inspected during FY15

Facility Name	Inspection Date	Address
Hilltop Auto Salvage	4/22/2015	2408 Dickerson Park
Smyrna Ready Mix Concrete, 2nd Ave	4/1/2015	1136 2nd Ave N
Parman Energy	11/24/2014	7101 Cockrill Bend Bvld.
Nashville Wire Products	7/18/2014	295 Driftwood St
Exxon Mobil Pipeline Corp Nashville Terminal	7/8/2014	1741 Ed Temple Blvd
Ergon Terminaling, Inc. - Nashville	7/3/2014	1114 Visco Dr

Table 13A.1 – TMDL Monitoring Data for FY15

Site Name	Samplers	Date	DO (%)	DO (mg/l)	Conductivity (Us)	Temp. (Celcius)	pH	Flow (cfs)	*E. coli* (MPN)	PCR (Hubac)	Suspended Solids (mg/l)
Holt Creek	TD/SW	7/14/2014	55	4.80	651	22.5	7.54	-	101.7	0	-
Holt Creek	TD/SW	7/22/2014	73.7	6.53	669	21.1	-	-	920.8	0	-
Holt Creek	TD/SW	7/23/2014	90.2	7.52	683	23.4	7.85	-	387.3	0.2	7
Holt Creek	TD/SW	7/31/2014	75	6.76	646	19.5	7.68	-	248.1	0.5	-
Holt Creek	TD/ATN	8/4/2014	73.5	6.54	656	20.4	7.52	-	98.7	0	-
Holt Creek	TD/MGB	10/2/2014	68.4	6.30	681	18.5	7.28	-	67	0.2	-
Holt Creek	VM/MGB	10/20/2014	67	7.03	642	13.5	7.71	N/D	148.3	0	-
Holt Creek	TD/SW	10/21/2014	90.3	9.20	647	13.8	7.45	N/D	95.9	-	5
Holt Creek	TD/SW	10/22/2014	86.6	9.21	666	12.9	7.77	N/D	88.2	-	-
Holt Creek	TD/SW	10/28/2014	78	7.59	661	17.0	7.73	N/D	43.5	-	-
Holt Creek	MGB/JH	1/21/2015	97.8	11.61	556	7.7	7.4	7.51	101.2	-	-
Holt Creek	MGB/TD	1/22/2015	102	12.33	571	7.1	7.89	4.04	127.4	-	-
Holt Creek	TD	1/29/2015	109.8	12.36	5.74	8.1	7.56	3.00	62.4	-	-
Holt Creek	TD/VM	2/9/2015	110.1	12.21	565	10.7	8.1	3.93	57.3	-	-
Holt Creek	TD/VM	2/10/2015	109.8	13.45	570	6.7	-	2.78	66.4	-	-
Holt Creek	TD	4/23/2015	99.5	10.70	548	11.9	7.4	8.89	298.7	-	3
Holt Creek	TD/MGB	4/24/2015	102.5	11.11	549	11.6	8.02	-	178.5	-	-
Holt Creek	TD/VM	4/29/2015	94.5	9.99	567	12.7	7.72	2.85	218.7	-	-
Holt Creek	TD/JH	4/30/2015	102	10.74	566	12.9	7.14	N/D	124.6	-	-
Indian Creek	TD/SW	7/22/2014	62.8	5.50	440.1	22.0	7.92	6.65	1413.6	1.8	-
Indian Creek	TD/SW	7/23/2014	95.7	7.75	318.7	25.2	8.11	0.89	344.8	0	60
Indian Creek	TD/SW	7/31/2014	103	8.74	435.1	22.6	8.22	N/D	461.1	0	-
Indian Creek	TD/ATN	8/4/2014	65.7	5.77	318.2	21.1	7.91	-	261.3	0.2	-
Indian Creek	TD/MGB	10/2/2014	70	6.46	514	18.6	7.75	N/D	139.6	0	-
Indian Creek	VM/MGB	10/20/2014	68.8	7.21	497	13.2	7.98	1.09	0	0	-
Indian Creek	TD/SW	10/21/2014	87	9.02	509	13.0	7.57	2.63	248.9	-	-1
Indian Creek	TD/SW	10/22/2014	84	9.02	455	12.1	7.89	1.87	472.1	-	-
Indian Creek	TD/SW	10/28/2014	79.9	7.94	457	16.0	7.91	2.78	36.8	-	-
Indian Creek	MGB/JH	1/21/2015	103.5	12.43	441.1	7.3	7.67	4.00	61.3	-	-
Indian Creek	MGB/TD	1/22/2015	106.2	13.21	441	6.0	8.2	2.52	1046.2	-	-
Indian Creek	TD	1/29/2015	99.1	12.16	445.9	6.6	7.61	3.55	123.6	-	-
Indian Creek	TD/VM	2/9/2015	107.4	12.22	446.3	9.6	8.1	4.71	178.9	-	-
Indian Creek	TD/VM	2/10/2015	104.9	13.00	449.2	6.2	8.13	4.94	122.3	-	-
Indian Creek	TD/MGB	4/13/2015	89.6	8.81	466	16.1	7.76	3.84	387.3	-	-
Indian Creek	TD	4/23/2015	94.5	10.37	434.9	10.9	7.54	11.09	365.4	-	6
Indian Creek	TD/MGB	4/24/2015	99.8	11.08	435.6	10.7	8.22	-	135.4	-	-
Indian Creek	TD/VM	4/29/2015	91.8	9.80	456	12.4	7.65	4.65	248.1	-	-
Indian Creek	TD/JH	4/30/2015	101.8	10.81	457	12.6	7.85	4.31	162.4	-	-
Mill Creek 5000*	TD/SW	7/14/2014	105.5	8.12	569	27.1	7.79	-	12.7	0	-
Mill Creek 5000*	TD/SW	7/22/2014	76.7	6.42	574	23.8	7.75	-	461.1	0.2	-
Mill Creek 5000*	TD/SW	7/23/2014	78.8	6.27	604	26.2	7.88	-	137.4	0.2	3
Mill Creek 5000*	TD/SW	7/31/2014	80.3	6.84	575	22.7	7.83	-	4.1	0.9	-
Mill Creek 5000*	TD/ATN	8/4/2014	90.1	7.50	571	24.2	7.69	-	43.5	0.3	-
Mill Creek 5000*	TD/MGB	10/2/2014	105	9.18	588	21.2	7.7	-	8.5	0	-
Mill Creek 5000*	VM/MGB	10/20/2014	62.7	6.49	582	14.3	7.96	1.67	83.9	1.2	-
Mill Creek 5000*	TD/SW	10/21/2014	83	8.35	583	14.3	7.8	N/D	68.9	-	-1
Mill Creek 5000*	TD/SW	10/22/2014	80.3	8.18	589	14.4	-	N/D	113.7	-	-
Mill Creek 5000*	TD/SW	10/28/2014	84.4	8.10	600	17.7	-	0.80	62.4	-	-
Mill Creek 5000*	MGB/JH	1/21/2015	81.5	9.92	505	8.3	7.74	21.59	42.8	-	-
Mill Creek 5000*	MGB/TD	1/22/2015	91.2	11.06	509	6.9	8.21	13.50	31.3	-	-
Mill Creek 5000*	TD	1/29/2015	92.6	11.25	540	6.9	7.58	21.90	80.9	-	-
Mill Creek 5000*	TD/VM	2/9/2015	82.3	9.26	506	10.3	7.95	17.37	57.6	-	-
Mill Creek 5000*	TD/VM	2/10/2015	91.2	11.15	515	6.6	-	22.28	42.8	-	-

Table 13A.1 – TMDL Monitoring Data for FY15 (Continued)

Site Name	Samplers	Date	DO (%)	DO (mg/l)	Conductivity (Us)	Temp. (Celcius)	pH	Flow (cfs)	*E. coli* (MPN)	PCR (Hubac)	Suspended Solids (mg/l)
Mill Creek 5000*	TD/MGB	4/13/2015	73.4	7.07	500	17.0	7.64	35.05	218.7	-	-
Mill Creek 5000*	TD	4/23/2015	88.5	9.55	502	12.0	7.45	105.97	214.3	-	8
Mill Creek 5000*	TD/MGB	4/24/2015	90.7	9.81	505	11.7	8.16	-	90.9	-	-
Mill Creek 5000*	TD/VM	4/29/2015	82.7	8.60	513	13.7	7.61	35.81	106.7	-	-
Mill Creek 5000*	TD/JH	4/30/2015	82.6	8.43	509	14.2	7.6	16.89	39.9	-	-
Sorghum Branch	MGB	7/14/2014	59.3	4.95	652	24.2	7.94	0.33	224.7	0	-
Sorghum Branch	MGB	7/22/2014	78.9	6.81	435.3	22.3	7.97	1.42	866.4	0.3	-
Sorghum Branch	TD/SW	7/23/2014	84.1	6.99	619	23.8	8.02	0.75	866.4	0	12
Sorghum Branch	TD/SW	7/31/2014	66.2	6.02	610	19.5	7.97	0.23	290.9	0.2	-
Sorghum Branch	TD/ATN	8/4/2014	62.9	5.55	632	21.1	7.93	-	49.5	0	-
Sorghum Branch	TD/MGB	10/2/2014	57.6	5.27	537	18.8	7.68	0.76	2419.6	0	-
Sorghum Branch	TD/SW	10/20/2014	92.5	9.37	569	14.2	7.54	2.37	2419.6	0	-
Sorghum Branch	TD/SW	10/21/2014	90.1	9.13	573	14.1	7.85	1.69	1413.6	-	-2
Sorghum Branch	VM/MGB	10/22/2014	89.7	9.30	582	13.4	8.12	1.22	1299.7	-	-
Sorghum Branch	VM/MGB	10/28/2014	67.3	6.43	599	17.5	7.82	1.50	980.4	-	-
Sorghum Branch	MGB/VM	1/20/2015	99.9	12.00	531	7.3	8.11	4.02	816.4	-	-
Sorghum Branch	TD/VM	1/21/2015	101.3	11.89	465	7.8	8.13	4.07	313	-	-
Sorghum Branch	VM/atn	1/22/2015	117.5	14.28	313	7.0	7.9	3.62	275.5	-	-
Sorghum Branch	TD/VM	2/9/2015	97.8	10.85	497	10.7	8.11	2.95	328.2	-	-
Sorghum Branch	TD/VM	2/10/2015	100.6	12.50	502	6.1	8.15	1.98	172.3	-	-
Sorghum Branch	VM	4/13/2015	89.1	8.67	566	16.6	8.05	4.03	178.5	-	-
Sorghum Branch	VM	4/23/2015	96.8	10.27	479	12.5	7.68	7.33	517.2	-	1
Sorghum Branch	TD/MGB	4/24/2015	94.8	10.43	447.7	11.0	8.05	-	410.6	-	-
Sorghum Branch	MGB	4/29/2015	100.8	99.90	514	12.4	7.81	2.92	2419.6	-	-
Sorghum Branch	TD/JH	4/30/2015	94.1	10.01	526	12.5	7.91	2.64	579.4	-	-
Whittemore Branch	MGB	7/14/2014	93.9	8.02	502	23.3	8	0.31	648.8	0	-
Whittemore Branch	MGB	7/22/2014	94.8	8.39	517	20.8	8.06	4.66	1299.7	0	-
Whittemore Branch	TD/SW	7/23/2014	99.2	8.35	624	23.2	8.12	3.07	1299.7	0	1
Whittemore Branch	TD/SW	7/31/2014	93.3	8.39	644	19.9	8.03	0.69	435.2	0.5	-
Whittemore Branch	TD/ATN	8/4/2014	82.6	7.37	561	20.5	7.86	-	2419.6	0	-
Whittemore Branch	TD/MGB	10/2/2014	73.7	6.81	642	18.4	7.73	1.04	178.5	0	-
Whittemore Branch	TD/SW	10/20/2014	99.7	10.07	611	14.2	8.03	3.30	488.4	0	-
Whittemore Branch	TD/SW	10/21/2014	97.8	9.90	601	14.1	8.01	3.92	285.1	-	4
Whittemore Branch	VM/MGB	10/22/2014	98.3	10.20	618	13.3	8.27	1.83	365.4	-	-
Whittemore Branch	VM/MGB	10/28/2014	80.8	7.98	593	16.5	7.82	2.20	517.2	-	-
Whittemore Branch	MGB/VM	1/20/2015	107.5	12.72	591	7.9	8.22	6.89	178.5	-	-
Whittemore Branch	TD/VM	1/21/2015	110.7	12.94	555	8.0	8.16	5.18	104.6	-	-
Whittemore Branch	VM/atn	1/22/2015	123.5	14.58	405.8	8.1	7.93	5.35	114.5	-	-
Whittemore Branch	TD/VM	2/9/2015	109.4	12.13	572	10.7	8.21	2.01	201.4	-	-
Whittemore Branch	TD/VM	2/10/2015	108	13.17	577	6.9	8.3	2.45	111.9	-	-
Whittemore Branch	VM	4/13/2015	98.5	9.78	590	15.6	8.13	6.44	325.5	-	-
Whittemore Branch	VM	4/23/2015	97.4	10.06	554	13.0	7.78	14.74	1413.6	-	4
Whittemore Branch	TD/MGB	4/24/2015	100.8	10.96	559	11.5	8.19	-	517.2	-	-
Whittemore Branch	MGB	4/29/2015	109	11.60	581	12.4	7.83	5.66	727	-	-
Whittemore Branch	TD/JH	4/30/2015	108.2	11.56	584	12.3	7.82	3.92	686.7	-	-

* Sample location moved downstream to Culbertson Rd. due to TDOT construction taking place at Concord Rd.

Table 13A.2 - SWMP Quantifiable Statistics

Categories	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Recycled Oil (tons)	9.1	17.82	20.27	26.88	35.38	36.4	35.32	36.52	28.15	33	23.31
Recycled Glass (tons)	1,052.70	1,107.05	1,116.52	1,607.48	2,110.05	1,866.14	2,207.29	2,160.19	2,199.85	2,136.16	1,654.97
Total Brush Collection (tons)	31,702.78	30,498.85	30,269.40	27,785.25	30,972.21	29,456.10	38,634.89	32,795.37	28,486.59	27,178.37	21,014.68
Total Waste Collected (tons)	157,622.99	150,972.54	152,430.24	153,266.01	149,474.79	151,425.06	151,501.17	148,297.40	151,131.01	153,795.70	155,738.78
# of Water Quality Complaints (non-construction) Investigations Initiated in Database	213	287	156	135	133	139	138	122	131	114	99
# of Construction Stormwater-Related Inspections	5,509	5,721	6,552	6,327	6,160	5,079	5,457	5,843	5,170	6,064	6,082
# of Grading Permits Issued	271	252	239	165	109	121	135	142	138	318	276
# of Engineered Plans Submitted to Stormwater Development and Review	1,562	1,427	1,505	1,970	1,600	1,367	1,319	1,525	1,791	1,813	2,572
# of Construction Plans Approved or Declared No Permit Needed by Stormwater Development and Review	449	507	619	871	687	506	559	1,174	1,411	1,360	1,998
# of Stormwater Enforcements (NOVs and SWOs)	197	283	190	342	188	123	148	94	96	168	128

Table 13A.3 – Ambient Monitoring Data for the FY15 Reporting Period

Date	Time	Site Name	DO (mg/l)	Cond (Us)	Temp C	pH	Flow (cfs)	*E. coli (MPN)*	BOD5 (mg/l)	COD (mg/l)	NH3 (mg/l)	TKN (mg/l)	Nitrite-Nitrate (mg/l)	Total N (mg/l)	Diss. P (mg/l)	Total P (mg/l)	Pb (ug/l)	Zn (ug/l)	Cr (ug/l)	Cu (ug/l)	Ni (ug/l)	Oil and Grease (mg/l)	Suspended Solids (mg/l)	Diss. Solids (mg/l)
8/28/2014	820	Trip Blank	N/A	N/A	N/A	N/A	N/A	<0	***	***	<0.4	***	<0.01	***	***	***	<0.001	<0.001	<0.001	<0.001	<0.001	<4	<1	<1
4/23/2015	750	Field Blank	N/A	N/A	N/A	N/A	N/A	<0	<2	<20	<0.4	0.25	0.01	0.26	0.1	0.1	<0.001	0.004	<0.001	<0.001	<0.001	***	<1	14
11/11/2014	920	Cooper Creek	9.04	511	15.8	7.44	1.6	365.4	<2	<20	<0.4	<0.25	2.19	2.44	0.237	0.234	<0.001	0.011	<0.001	0.001	<0.001	<5	<1	256
8/28/2014	1019	Cooper Creek	8.88	411.9	19.4	7.86	0.8	461.1	<2	***	<0.4	***	1.73	***	***	***	<0.001	0.005	<0.001	0.003	<0.001	<4	5	278
9/18/2014	1110	Cooper Creek	9.31	520	17.9	7.98	0.8	547.5	<2	<20	<0.4	<0.2	1.86	2.06	0.243	0.262	<0.001	<0.001	<0.001	<0.001	<0.001	<4	3	293
1/29/2015	945	Cooper Creek	10.78	473	13.4	7.92	3.8	53.8	<2	<20	<0.4	<0.25	2.45	2.7	0.193	0.192	<0.001	<0.001	<0.001	<0.001	<0.001	<5	6	520
4/23/2015	850	Cooper Creek	9.12	426.9	14.8	7.21	12.8	198.9	<2	<20	<0.4	<0.25	3	3.25	0.212	0.236	<0.001	<0.001	<0.001	<0.001	<0.001	<5*	3	294
11/11/2014	1015	Harpeth River 2	10.29	435.1	11.6	8.23	190.9	95.9	<2	<20	<0.4	<0.25	0.944	1.194	0.294	0.403	<0.001	0.002	<0.001	0.005	0.003	<5	1	213
8/28/2014	914	Harpeth River 2	5.25	492	27	7.58	69.9	72.3	3	***	<0.4	***	0.277	***	***	***	<0.001	<0.001	<0.001	<0.001	0.001	<4	26	499
9/18/2014	942	Harpeth River 2	8.39	502	21.1	7.86	87.5	54.6	<2	<20	<0.4	0.292	0.52	0.812	0.459	0.551	<0.001	<0.001	<0.001	0.001	0.001	<4	21	298
1/29/2015	837	Harpeth River 2	13.75	412.6	6.1	8.31	508.4	13.2	<2	<20	<0.4	<0.25	0.546	0.796	0.133	0.16	<0.001	<0.001	<0.001	<0.001	<0.001	<5	1	259
4/23/2015	755	Harpeth River 2	8.76	382.3	14.8	7.95	987	178.9	<2	<20	<0.4	0.368	0.1	0.468	0.238	0.437	<0.001	<0.001	<0.001	<0.001	<0.001	<5*	32	290
11/11/2014	938	Pages Branch 1	8.94	778	14.97	8.05	2.0	83.9	<2	<20	<0.4	<0.25	1.21	1.46	0.164	0.171	<0.001	0.002	<0.001	0.001	<0.001	<5	<1	455
8/28/2014	953	Pages Branch 1	7.32	798	22.5	7.78	ND	95.9	<2	***	<0.4	***	0.98	***	***	***	<0.001	0.001	<0.001	0.001	<0.001	<4	4	458
9/18/2014	1000	Pages Branch 1	9.07	857	18.2	8.03	ND	67	<2	<20	<0.4	<0.2	1.08	1.28	0.17	0.195	<0.001	0.001	<0.001	0.001	0.001	<4	4	246
1/29/2015	1005	Pages Branch 1	11.17	597	10.7	7.92	1.5	35	<2	<20	<0.4	<0.25	1.13	1.38	0.1	0.103	0.001	0.0047	<0.001	0.0016	<0.001	<5	<1	281
4/23/2015	910	Pages Branch 1	9.85	642	13.6	7.77	<Null>	209.8	<2	<20	<0.4	<0.25	1.38	1.63	0.162	0.162	<0.001	<0.001	<0.001	<0.001	<0.001	<5*	5	389

* Replacement sample taken on 5/4/15. Laboratory error
*** Laboratory Error, resampled on 9/18/2015
N/A - Not applicable
ND - Non-
Detect

Table 13A.4 – Wet Weather Monitoring for the FY15 Reporting Period

Site Name	Date	Flow (cfs)	*E. coli* (MPN)	BOD5 (mg/l)	COD (mg/l)	NH3 (mg/l)	TKN (mg/l)	Nitrite-Nitrate (mg/l)	Total Nitrogen (mg/l)	Dissolved P (mg/l)	Total P (mg/l)	Pb (ug/l)	Zn (ug/l)	Cr (ug/l)	Cu (ug/l)	Ni (ug/l)	Oil and Grease (mg/l)	Susp. Solids (mg/l)	Diss. Solids (mg/l)
Residential FF	11/5/2014	0.001	0.001	36.7	110	0.12	1.43	0.362	1.792	0.835	0.855	1.94	275	<2	7.99	<5	<1.4	<10	148
Residential 1HR	11/5/2014	0.001	0.001	16.3	58.5	<0.1	1.11	0.378	1.488	0.678	0.94	<1.5	106	<2	4.65	<5	<1.4	<10	132
Transportation FF	11/5/2014	0.35	0.35	<2	22.7	0.131	<0.5	0.271	0.771	0.083	0.107	<1.5	25.4	<2	4.82	<5	<1.4	<10	34
Transportation 1HR	11/5/2014	0.19	0.19	2.08	45.1	0.108	<0.5	0.299	0.799	0.042	0.117	<1.5	24.3	<2	4.75	<5	4.4	<10	4.93
Commercial FF	11/5/2014	0.44	0.44	5.89	65.2	0.272	0.775	0.356	1.131	0.063	0.243	5.64	134	3.52	12.3	<5	3.7	35	32
Commercial 1HR	11/5/2014	0.12	0.12	3.13	20.5	0.113	<0.5	0.251	0.751	0.063	0.155	2.11	50.1	2.37	6.6	<5	1.7	<10	25.3
Industrial FF	11/5/2014	0.027	0.027	5.59	20.5	<0.1	0.5	0.306	0.806	0.124	0.175	1.5	23.6	<2	<4	<5	<1.4	<6.66	36
Industrial 1HR	11/5/2014	0.017	0.017	6.97	22.7	0.1	0.5	0.286	0.786	0.114	0.144	1.5	17.6	<2	<4	<5	<1.4	<10	42.7
Open Space	11/5/2014*																		
Open Space	1/23/2015*																		
Commercial FF	2/1/2015	0.017	0.017	42.8	255	0.625	2.35	1.39	3.74	0.056	0.495	3.66	150	2.06	22.4	<5	2.5	32	535
Commercial 1HR	2/1/2015	0.08	0.08	38.2	188	0.472	2.18	1.06	3.24	0.093	0.478	4.44	185	2.69	29.5	<5	2.8	36	195
Transportation FF	2/1/2015	0.02	0.02	7.52	69.7	0.164	1.01	0.982	1.992	0.066	0.471	3.6	68.3	2.29	16.1	<5	1.4	22	161
Transportation 1HR	2/1/2015	0.08	0.08	3.1	41	0.182	0.748	0.285	1.033	0.049	0.257	1.82	40.7	<2	9.16	<5	<1.4	18	89
Industrial FF	2/1/2015	0.004	0.004	7.03	51.8	0.438	1.38	1	2.38	0.104	0.243	1.77	58.9	<2	22.4	<5	<1.4	32	95
Industrial 1HR	2/1/2015	0.004	0.004	3.66	24.9	0.186	0.611	0.301	0.912	0.08	0.134	1.5	24.3	<2	9.51	<5	<1.4	4	39
Open Space	2/1/2015*																		
Residential	2/1/2015*																		

*Despite a qualifying rain event, there was no discharge at sample outfall to obtain sample.
FF - First Flush
1HR - Sample taken at least 1 hour after first flush sample

Table 13A.5 – Benthic Monitoring Data for the FY15 Reporting Period

Stream Name	Date	Reference Stream and Date Sampled	Biological Condition Score
Cooper Creek	9/24/2014	Earthman Fork at White's Creek 09/23/2014	52
	5/21/2014	Earthman Fork at White's Creek 06/06/2015	38
Harpeth River	9/29/2014	Earthman Fork at White's Creek 09/23/2014	57
	5/26/2015	Earthman Fork at White's Creek 06/06/2015	48
Pages Branch	9/25/2014	Earthman Fork at White's Creek 09/23/2014	43
	5/6/2015	Earthman Fork at White's Creek 06/06/2015	29

Note: Based on coordination with TDEC, future Annual Reports will report SQSH scoring results instead of Biological Condition Scoring. In addition, the reference stream used to compare sample streams will be changed to Henry Creek to match TDEC's reference stream.

4.0 Supporting Program Data

The following is supplemental data that supports Metro Nashville's MS4 Permit Compliance:

MWS Central Wastewater Treatment Plant Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	MWS CWWTP
Supervisor Performing Training (Signature)	
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
Michael Binkley	459040	4-8-15
Steve Rottero	344288	4-8-15
Robert L Humphrey Jr	4116564	4/8/15
Micheal Calloway	600759	4-8-15
Shirk Irving		4/10/15
Joseph Hanson	409599	4-17-15
Dennis Tollison	635480	4-12-15
Tarus Powell	497718	4-12-15
Eric Slaughter	491654	4-13-15
Brian Kenner	571293	4-14-15
[illegible]	545717	4-15-15
Michael Young		4-15-15
Belachew Bante	343535	4-15-15
Jimmy Howell	343329	4-17-15
Shannon Freeman	848135	4-27-15
Gregory C McDowell	460063	5-5-15
Demitrius Knowles		5/5/15
Matt Hillis	570841	5/5/15
Kenneth W. Sanders		5-10-15
Claude P. Grant Jr		5.20.15
Mary Nickerson		5/20/15

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MWS Central Wastewater Treatment Plant Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	MWS CWWTP
Supervisor Performing Training (Signature)	Mary Nickerson
Rain Check Training Video (31 minutes)	☒
Operations and Maintenance SOP Review	☒

Employee Name	Employee Signature	Date Trained
Linton Brown	Linton Brown	6-25-15

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MWS Central Wastewater Treatment Plant Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	MWS CWWTP
Supervisor Performing Training (Signature)	Mary Nickelson
Rain Check Training Video (31 minutes)	☒
Operations and Maintenance SOP Review	☒

Employee Name	Employee Signature	Date Trained
JOE YOUNT	Joe Yount	6/24/15
KEVIN BIGGS	Kevin Biggs	6-25-15
Roger Davis	Roger Davis	6-25-15
Paul S. Lovell	Paul S. Lovell	6-23-15
Twayne Hadgins	Twayne Hadgins	6/25/15
Travers, Donald J	Donnie Travers	6/25/2015
CALVIN JASPER	Calvin Jasper	6/25/2015
CHARLES FORD	Charles Ford	6/25/2015
Charles Hockett	Charles Hockett	6/25/15
Nathan Fesley	Nathan Fesley	6-25-2015
Marvin Spears	Marvin D. Spears	6-25-2015
Troy Hamilton	Troy Hamilton	6-25-15
Mike Clinton	Mike Clinton	6/25-15
Ronnie Wright	Ronnie Wright	6/25/15
~~JOE YOUNT~~	~~Joe Yount~~	~~6/25/2015~~
Chad Tidwell	Chad Tidwell	7/7/15
RANDY HAGGARD	Randy Haggard	7-7-15
Leonard A Bradley Jr	Leonard A Bradley Jr	7-7-15
Tony Walker	Tony Walker	7-7-15
Tommy Hodgens	Tommy Hodgens	7-7-15
Tommy Belcher	Tommy Belcher	7-7-15
Todd Tidwell	Todd Tidwell	7-7-15
Joe Holcomb	Joe Holcomb	7-14-15

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Josh Hayes - MWS
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
Edward Mueller	Edward Mueller	3-19-15
Jeremy Hooper		3-18-15
Joe Steele		3-19-15
Jeffery E Hall	Jeffery E Hall	3-19-15
Tommy Eden		
		3-19-15
		3-19-15
Scott Love	Scott Love	3-19-15
		3/19/15
Tim Toon		3/19/15
Kevin O Skinner	K O Skinner	3-19-15
Jackie McKinley		3-19-15
Scott Holder	Scott Holder	3/19/15
Hejar Emin	Hejar Emin	3-19-15
Steve Bowman	Steve Bowman	3-19-15
Alan Fort	Alan Fort	3/19/15
Eric Henderson	Eric Henderson	3/19/15
Leonard LaViolette	Leonard LaViolette	" "
Ronnie Sullivan	Ronnie Sullivan	3/19/15

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance Techs.
Supervisor Performing Training (Signature)	Josh Hayes - MWS - Stormwater
Rain Check Training Video (~~21~~ 5 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
JORGE GUAMAN		
David Johnson		
BENNY LONG		
David Smith		
Brian Guaman		
Eric Felmley		
Rick Taylor		
Charles Glenn		
Pickstey Cheek		
MIKE DEAL		
Rick Ethridge		
Troy TAYLOR		
Corey Ferris		
Curtis Hogancamp		
Terry Cummings		
FTK		
Clint Jones		
Paul Baugh		
Dewayne Wright		
Ronald Carney		
Eric Wallis		
Raymon Linsey		

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Josh Hayes Josh Hayes
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
ERNEST ERWIN	Ernest Erwin	3-19-15
GEORGE V. STEPHENS	G V Stephens	3-19-15
Eric Hayes	Eric Hayes	3-19-15
Larry Pointer	Larry Pointer	3-19-15

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Josh Hayes MWS - Stormwater
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
Steven Young	[illegible]	3-19-15
William Rogers	[illegible]	3-19-15
Billy Joe Brown	[illegible]	3-19-15
Jesse Moulton	[illegible]	3-19-15
James Edgin	[illegible]	3-19-15
James P. Mitchell	[illegible]	3-19-15
Terry Vaughn	[illegible]	3-19-15
JD Gorby	[illegible]	3-19-15
[illegible]		
Manasith Kongsaysy	[illegible]	3-19-15
Herold Berry	[illegible]	3-19-15
James Howington	[illegible]	3-19, 15
James Finley	[illegible]	
Selina Seabrooks	[illegible]	3-19-15
Wayne [illegible]		
[illegible]		
Chris Maynard	[illegible]	3-19-15
James Oldham	[illegible]	3-19-15

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Jos Hayes / Josh Hayes
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
Taylor Mariner	Taylor Mariner	3/20/15
Charles Reynolds	Charles Reynolds	3/20/15
Kevin Mallory	Kevin Mallory	3/20/15
Chris Lewis		3/20/15
Justin Yates		3/20/15
Michael Brown	Michael Brown	3/20/15
Jason D Morris	Jason D Morris	3-20-15
Casey Allen	Casey Allen	3-20-15
Joseph Killingsworth	Joseph Killingsworth	3-20-15
Brian Mahoney	Brian Mahoney	3-20-15
Dennis Pabton	Dennis Pabton	3-20-15
Martin Tomasek	Martin Tomasek	3-20-15
Robert L Clements	Robert L Clements	3-20-15
Chuck Craig	Chuck Craig	3-20-15
Bobby Morgan	Bobby Morgan	3-20-15
Jacob Hatcher	Jacob Hatcher	3-20-15
Bryan Pedigo	Bryan Pedigo	3/20/15
Tim Yarbro	Tim Yarbro	3/20/15
Ferrell Rucker	Ferrell Rucker	3/20/15
BARRY L PRUITT	Barry L Pruitt	3/20/15

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Josh Hayes [illegible]
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
James Baggett	[illegible]	3-20-15
Ivan Gaines	[illegible]	3-20-15
[illegible] Jr GARRETT GARTLEY	[illegible] Jr	3-20-15
Michael Hollis	[illegible]	3-20-15
James [illegible]	[illegible]	

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Josh Hayes Josh Hayes
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
Jeremy Hutt	Jeremy Hutt	3-20-15
Mitchell Crowe	Mitchell Crowe	3-20-15
Smithy McClain	Smithy McClain	3-20-15
Mark Brown Jr.	Mark Brown Jr.	3-20-15
Mark Brown Sr.	Mark Brown Sr.	3-20-15

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Josh Hayes Josh Hayes
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
Keith Morris	Keith Morris	3-20-15
Cedric Allen	Cedric Allen	3-20-15
Richard Ellis	Richard Ellis	3-20-15
Robert Jones	Robert Jones	3-20-15
Richard Tucker	Richard Tucker	3-20-15
William Walker	William Walker	3-20-15
Jason Vaughn	Jason Vaughn	3-20-15
Steve Walker	Steve Walker	3-20-15
Jacob Bellar	Jacob Bellar	3-20-15
Charles Douglas	Charles Douglas	3-20-15
Wayne Jenkins	Wayne Jenkins	3-20-15
Shawn Thomas	Shawn Thomas	3-20-15
Eddie Keesee	Eddie Keesee	3-20-15
Paul Tuna	Paul Tuna	3-20-15
David Mitchell	David Mitchell	3-20-15
David Russell	David Russell	3/20/15
Bryant Bashaw	Bryant Bashaw	3/20/15
Steve Webb	Steve Webb	3-21-15
Danny Haley	Danny Haley	3/21/15
Elton White	Elton White	3-21-15
Ryan Fuller	Ryan A. Fuller	3-20-15
George Hughes	George Hughes	3-20-15

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Josh Hayes Josh Hayes
Rain Check Training Video (31 minutes)	☐
Operations and Maintenance SOP Review	☐

Employee Name	Employee Signature	Date Trained
Jon Cosby	Jon Cosby	3-20-15
Mike Leiva	Mike Leiva	3-20-15
Dylan Phillips	Dylan Phillips	3-20-15
Zak Steele	Zak Steele	3/20/15
Robert Ray	Robert Ray	3-20-15
Chad Perkins	Chad Perkins	3-20-15
John McCl		

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Metro Schools MS4 Maintenance Video/SOP Training Employee Sign-in Sheets

Metro Nashville Stormwater (MS4)
Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	Schools Maintenance
Supervisor Performing Training (Signature)	Josh Hayes Josh Hayes
Rain Check Training Video (31 minutes)	☑
Operations and Maintenance SOP Review	☑

Employee Name	Employee Signature	Date Trained
Heather Jackson	H Jackson	3/20/15
Roger Robinson	Roger Robinson	3/20/15
Jamie Puckett	Jamie Puckett	3-20-15
Carl J. Mcnickn	[illegible]	3-20-15
Jeremy Sharp	[illegible]	3-20-15
Eric King Eric King	[illegible]	3-20-15
[illegible]	Richards Al	3-20-15
Bryan Shade	[illegible]	3-20-15
Michael Mayo	Michael Mayo	3-20-15
Derell Lemo		3-20-15
Matthew Hendrith	[illegible]	3/20/15
Virginald Helmes	Virginald Helmes	3/20/15
Thomas Hobson	Thomas Hobson	3/20/15
Milton Barnett	M Barnett	3-20-15
W. G. Cole W.G. Cole	W. G. Cole	3-20-15
JEFF Durham	[illegible]	3-20-15
Jeremy Hatfield	Hatfield	3-20-15
Don Woods	Don Wood	3-20-15
Josh Taylor	Josh Taylor	3-10-15
Tyquan Smith	Tyquan Smith	3-20-15
Corey Farrar	[illegible]	3 20 15
Jonathan Hayes Jonathan Hays	Jonathan Hayes	3-20-15

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Other NPDES Section Training Sign-in Sheets

10/2/14

Crediting BMPs used for New Development & Redevelopment - CSN/CWP

Print Name	Sign Name
Rebecca Dohn	Rebecca Dohn
Anneli Temywelson	
Michael Hunt	

Other NPDES Section Training Sign-in Sheets

Using Illicit Discharge Programs to Monitor Bacteria
- CWP

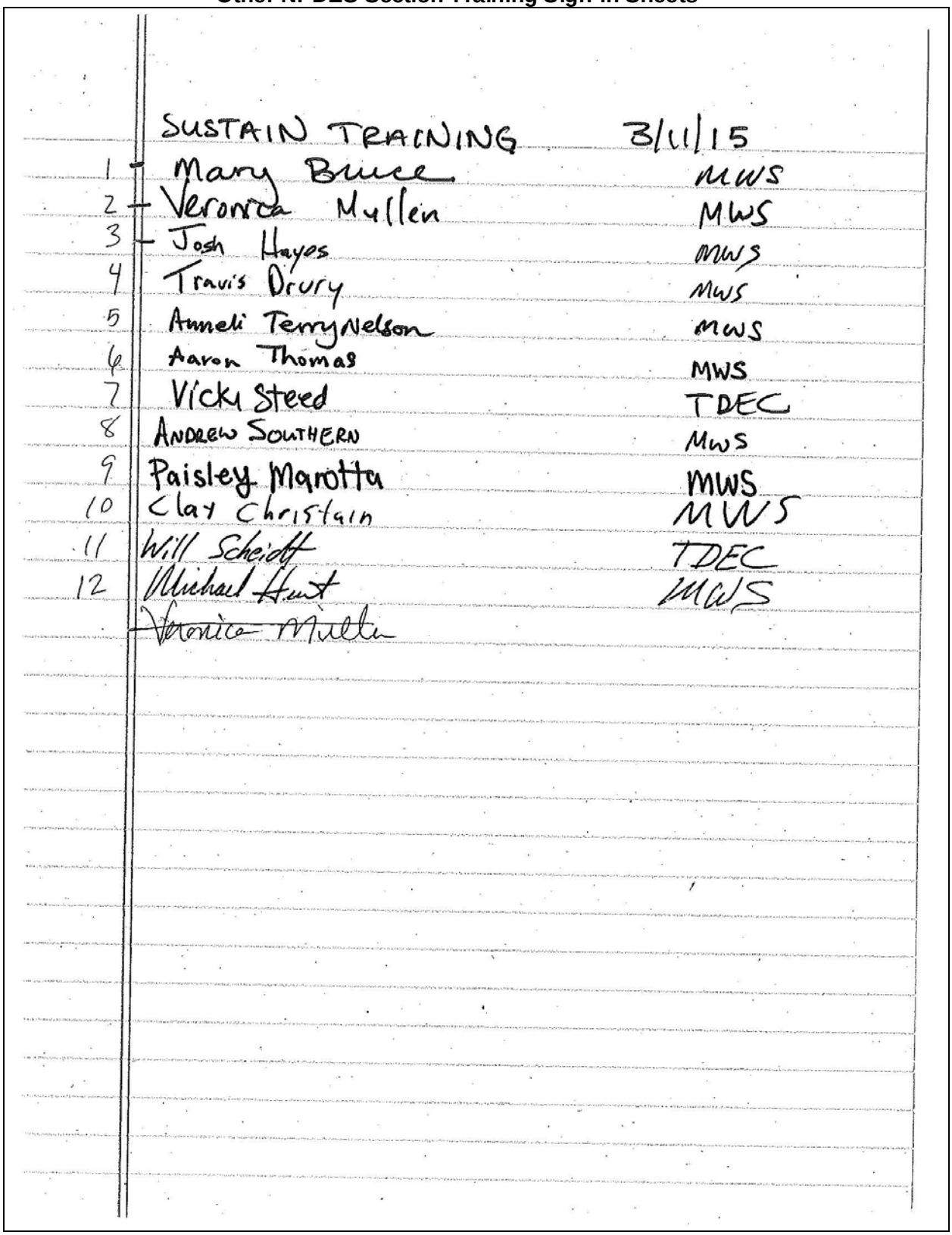
2/18/15

Print Name	Signs Name
Rebecca Dohn	Rebecca Dohn
Michael Hunt	Michael Hunt
Anneli TerryNelson	Anneli T
Mary Bruce	Mary Bruce

Other NPDES Section Training Sign-in Sheets

	SUSTAIN TRAINING	3/10/15
1	Michael Hunt	MWS SW
2	Will Scheidt	TDEC
3	Anneli Terry Nelson	MWS-SW
4	Travis Drury	MWS
5	Josh Hayes	MWS
6	Clay Christian	MWS
7	Paisley Marotta	MWS
8	ANDREW SOUTHERN	MWS
9	Vicki Steed	TDEC
10	Dennis Borders	TDEC
11	Sherry Wang	TDEC
12	Mary Bruce	MWS
13	Vernice Muller	MWS

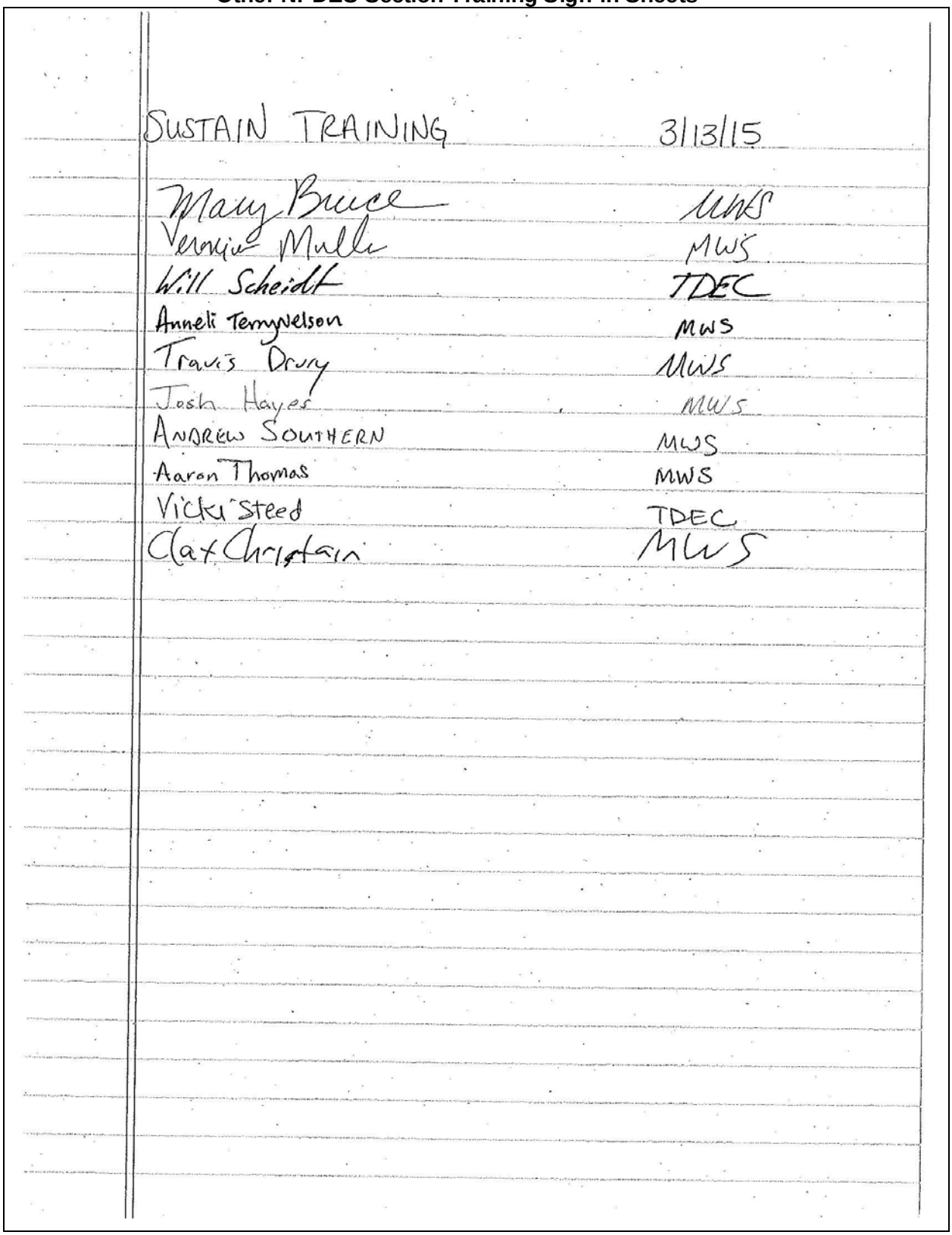
Other NPDES Section Training Sign-in Sheets



SUSTAIN TRAINING 3/11/15

1 – Mary Bruce MWS
2 – Veronica Mullen MWS
3 – Josh Hayes MWS
4 Travis Drury MWS
5 Ameli Terry Nelson MWS
6 Aaron Thomas MWS
7 Vicki Steed TDEC
8 ANDREW SOUTHERN MWS
9 Paisley Marotta MWS
10 Clay Christain MWS
11 Will Scheidt TDEC
12 Michael Hunt MWS
Veronica Mullen

Other NPDES Section Training Sign-in Sheets



SUSTAIN TRAINING 3/13/15

Mary Bruce	MWS
Veronica Mullen	MWS
Will Scheidt	TDEC
Anneli Ternyelson	MWS
Travis Drury	MWS
Josh Hayes	MWS
ANDREW SOUTHERN	MWS
Aaron Thomas	MWS
Vicki Steed	TDEC
Clay Christain	MWS

Other NPDES Section Training Sign-in Sheets

Metro Events - Stormwater BMPs / Education
4/29/15

NAME	Phone	EMAIL
Michael Hunt	615-880.2420	michael.hunt@nashville.gov
Gordon Richard	615.862.8997	gordon.richard@nashville.gov
Mark Watkins	615-862-8400	mark.watkins@nashville.gov
Lisa King	615-862-8946	lisa.king@nashville.gov
Dinah Turner	615.862.8597	dinah.turner@nashville.gov
Julie Berbiglia	615-862-4506	julie.berbiglia@nashville.gov
Josh Hayes	615-880-2420	josh.hayes@nashville.gov
Veronica Mullen	615-880-2480	Veronica.mullen@nashville.gov
Sonia Allman	615-862-4194	Sonia.allman@nashville.gov

Note: Meeting to discuss/verify that Metro-administered events are employing sufficient BMPs to prevent any MS4 Permit compliance issue.

Action: NPDES Office will be available to provide support as/if needed to include sending above contacts our public education resources as well as a statement/guidance they can provide their events. This is to be overseen by Veronica & entered in Public Ed database

Other NPDES Section Training Sign-in Sheets

PRIMER WORKSHOP FOR SCM INSPECTIONS SIGN-IN SHEET APRIL 28, 2015

	Sign In	Last Name	First Name
METRO DEPARTMENTS			
1		Hall	Jerry
2		Luckado	Loretta
3		Saad	Phil
4		McGinnis	Loyd
5		Terfinko	Jerry
6		Neal	Dennis
7		Burnett	Louis
8		Moore	Zach
9		Nave	Gilbert
10		Cannon	Ronald
11		Fletcher	Chad
12		Pigue	Daniel
CONTRACTORS/ METRO VENDORS			
13		Kibby	Scott
14		Harris	Jon
15		Schneider	Conrad
16		Lloyd	Kevin
17		Bailey	Casey
18		Martin	Scott
19		Ash	Carl
20		Miller	Nathan
21		Pennycuff	Bill
22		Cairns	Russ
23		Travierso	Tony
24		Travierso	Tiffany

Other NPDES Section Training Sign-in Sheets

25		Whitlock	Parker
26		Willey	Clarke

OTHER ENTITIES

27		Gangaware	Tim
28		Green	Don
29		Minkara	Mo
30		Poureshmenantalemy	Bejan

[24 Total]

Other NPDES Section Training Sign-in Sheets

PRIMER WORKSHOP FOR SCM INSPECTIONS SIGN-IN SHEET JUNE 4, 2015

	Sign In	Last Name	First Name	Entity	Email
METRO DEPARTMENTS					
1		Josh	Eames	MDHA	
2		Richard	Williams	MDHA/ Barge Cauthen	
3		Jackie	McKinley	MNPS	
4		Ed	Mueller	MNPS	
5		DeWayne	Wright	MNPS	
CONTRACTORS/ METRO VENDORS					
6		Brad	Moore	First Response	brad.moore@frontgroup.com
7		Carl	Ash	HEPACO	cash@hepaco.com
8		Casey	Bailey	HEPACO	cbailey@hepaco.com
9		Scott	Martin	HEPACO	
10		Garry	Yarbro	HEPACO	
11		Trey	Hightower	Jen Hill	
12	Ben Moody	Ben	Moody	Jen Hill	
13		Gary	Moody	Jen Hill	
14		Dave	Chovanec	Northstar	
15		Colby	Phillips	Northstar	
16	Natalie Fitzhugh	Natalie	Fitzhugh	On-Site	nfitzhugh@onsiteenvironmental.com
		Jason	Walton	Hepaco	
		Michael	Gooch	HEPACO	

Other NPDES Section Training Sign-in Sheets

17		Chris	Parker	On-Site	CPARKER@ONSITEENVIRONMENTAL.COM
18		Doug	Rashi	On-Site	DRashi@onsiteenvironmental.com
19		Mike	Field	Sani-Tech JetVac Services	Mike@Sani-TechServices.com
20		Jeff	Askew	Storm System Services	JASKew@StormSystemServices.com
21		Clarke	Willey	TPM Group	CWILLEY@TPM-GROUP.COMM
22		Terry	Breshears	TPM Group	rockcrusher200@hotmail.com
OTHER					
23		Paul	Davis	Consultant	
24		Sylvia	Byron	Ghertner and Company	
25		Paul	Barber	City of Murfreesboro	
26	Robert Haley IV	Robert	Haley	City of Murfreesboro	rhaley@murfreesborotn.gov
27		Bruce	Ross	City of Murfreesboro	

Please proceed down the driveway and around the back of building C (last building). Park around the back and enter by the side door.

MWS Central Wastewater Treatment Plant Video/SOP Training Employee Sign-in Sheets

Metro Events - Stormwater BMPs / Education

4/29/15

NAME	Phone	EMAIL
Michael Hurt	615-880.2420	michael.hurt@nashville.gov
Gordon Richard	615.862.8597	gordon.richard@nashville.gov
Mark Watkins	615-862-8400	Mark.watkins@nashville.gov
Lisa King	615-862-8446	lisa.king@nashville.gov
Dinah Turner	615.862.8597	dinah.turner@nashville.gov
Julie Berbiglia	615-862-4506	julie.berbiglia@nashville.gov
Josh Hayes	615-880-2420	josh.hayes@nashville.gov
Veronica Mullen	615-880-2480	Veronica.mullen@nashville.gov
Sonia Allman	615-862-4194	Sonia.allman@nashville.gov

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MWS PIO Public Education Program Activities during FY15

Metro Water Services Programs & Activities

Report Dates: From 7/1/14 to 6/30/15

497 Programs/Activities **10451 Students** **479 Adults**

ActivityType: Classroom Activity **204 Programs/Activities**

TOTAL Teacher Led Activity **204 Programs/Activities** **4461 Students** **Adults**

The Journey of Your Water Video **204 Programs/Activities** **4461 Students** **Adults**

8/26/2014	Tom Joy Elem.	4	72	4th grade
8/27/2014	Crieve Hall Elementary	3	64	4th grade
9/2/2014	Maxwell Elementary School	5		4th grade
9/3/2014	Donelson Christian Academy	3	48	4th grade
9/5/2014	Mills, Dan Elementary	4	96	4th grade
9/8/2014	Gateway Elementary	2	40	4th grade
9/9/2014	Percy Priest Elem.	4	94	4th grade
9/11/2014	Shayne Elem.	6	150	4th grade
9/12/2014	Tulip Grove Elem.	4	85	4th grade
9/15/2014	Robert E. Lillard Elem. @ Kings Lane	4	84	4th grade
9/16/2014	Granbery Elementary	3	75	4th grade
9/17/2014	Granbery Elementary	3	75	4th grade
9/19/2014	Shwab Elem.	6	61	4th grade
9/23/2014	Cumberland Elementary	4	80	4th grade
9/24/2014	Binkley, Norman Elementary	4	100	4th grade
9/26/2014	Hickman Elementary	5	125	4th grade
9/29/2014	Stratton Elem.	6	134	4th grade
10/1/2014	Una Elem.	4	100	4th grade
10/2/2014	Una Elem.	4	100	4th grade
10/14/2014	Buena Vista Elementary Enhanced Option	4	80	3rd grade
10/15/2014	Old Center Elem.	4	80	4th grade
10/16/2014	Chadwell Elementary	3	66	4th grade
10/21/2014	Pennington Elem.	3	70	4th grade
11/3/2014	Fall-Hamilton Elementary Enhanced Option	3	56	4th grade
11/10/2014	Stanford Elem. Montessori Design Ctr.	3	75	4th grade
11/12/2014	Kirkpatrick Elem. Enhanced Option	3	57	4th grade
11/13/2014	Jones Elem. Paideia Magnet	3	75	4th grade

Friday, July 17, 2015 **Page 1 of 9**

MWS PIO Public Education Program Activities during FY15 (Continued)

11/14/2014	Jackson, Andrew Elementary	4	100	4th grade
11/17/2014	Lockeland Elem. Design Center	3	75	4th grade
11/18/2014	Dupont Elementary	4	88	4th grade
11/19/2014	Tusculum Elem.	5	120	4th grade
11/21/2014	Green, Julia Elementary	6	120	3rd grade
12/1/2014	Moss, J.E. Elementary	6	150	4th grade
12/5/2014	Caldwell Elementary Enhanced Option	3	57	4th grade
12/10/2014	Ruby Major Elem.	6	150	4th grade
1/23/2015	Haywood Elementary	3	75	4th grade
1/28/2015	Westmeade Elem.	4	100	4th grade
1/29/2015	Haywood Elementary	3	75	4th grade
1/30/2015	Napier Elem. Enhanced Option	4	74	4th grade
2/4/2015	Carter-Lawrence Elementary Magnet	4	80	4th grade
2/11/2015	Eakin Elementary	5	100	3rd grade
2/12/2015	Green, Alex Elementary	4	80	4th grade
2/25/2015	Cole Elementary	2	50	4th grade
2/27/2015	Cole Elementary	3	75	4th gradae
3/2/2015	Buena Vista Elementary Enhanced Option	3	75	4th grade
3/3/2015	Buena Vista Elementary Enhanced Option	3	75	4th grade
3/13/2015	Sylvan Park Elem. Paideia Design Ctr.	4	100	4th grade
3/13/2015	Sylvan Park Elem. Paideia Design Ctr.	4	100	4th garde
3/16/2015	Mt. View Elem.	6	150	4th grade
3/17/2015	Gower Elementary	5	110	4th grade
5/12/2015	Glenn Elementary Enhanced Option	2	40	4th grade
5/19/2015	Amqui Elementary	4	100	4th grade
ActivityType:	**Classroom Program**		**222**	**Programs/Activities**
TOTAL	**Classroom Program**	**222 Programs/Activities**	**5473 Students**	**Adults**
Enviroscape		**14 Programs/Activities**	**313 Students**	**Adults**
9/18/2014	Antioch High	3	60	11th grade
10/17/2014	Issac Litton Middle Part of PBL on localized flooding and runoff	3	75	6th grade
10/20/2014	Issac Litton Middle Part of PBL on localized flooding and runoff	2	50	6th grade

MWS PIO Public Education Program Activities during FY15 (Continued)

10/28/2014	Hume Fogg High Magnet Biology class	2	44	9th grade
10/29/2014	Hume Fogg High Magnet Biology class	2	44	9th gade
10/31/2014	Hume Fogg High Magnet AP Environmental Science	2	40	11th & 12th grade
Special School Program	**4 Programs/Activities**		**100 Students**	**Adults**
4/6/2015	Mills, Dan Elementary Rain barrels	1	10	elementary
5/6/2015	Creswell Elem. Prof. Dev. Design Ctr. Rain gardens program	3	90	7th grade
The Water Cycle & Me	**188 Programs/Activities**		**4662 Students**	**Adults**
8/26/2014	Tom Joy Elem.	2	72	4th grade
8/27/2014	Crieve Hall Elementary	3	64	4th grade
9/2/2014	Maxwell Elementary School	4	120	4th grade
9/3/2014	Donelson Christian Academy	3	48	4th grade
9/5/2014	Mills, Dan Elementary	4	96	4th grade
9/8/2014	Gateway Elementary	2	40	4th grade
9/9/2014	Percy Priest Elem.	4	94	4th grade
9/11/2014	Shayne Elem.	6	150	4th grade
9/12/2014	Tulip Grove Elem.	2	85	4th grade
9/15/2014	Robert E. Lillard Elem. @ Kings Lane	4	84	4th grade
9/16/2014	Granbery Elementary	3	75	4th grade
9/17/2014	Granbery Elementary	3	75	4th grade
9/19/2014	Shwab Elem.	3	61	4th grade
9/23/2014	Cumberland Elementary	4	80	4th grade
9/24/2014	Binkley, Norman Elementary	4	100	4th grade
9/26/2014	Hickman Elementary	5	125	4th grade
9/29/2014	Stratton Elem.	3	135	4th grade
10/1/2014	Una Elem.	1	100	4th grade
10/2/2014	Una Elem.	4	100	4th grade
10/14/2014	Buena Vista Elementary Enhanced Option	4	80	3rd grade
10/15/2014	Old Center Elem.	4	80	4th grade
10/16/2014	Chadwell Elementary	3	66	4th grade
10/21/2014	Pennington Elem.	3	70	4th grade

MWS PIO Public Education Program Activities during FY15 (Continued)

11/3/2014	Fall-Hamilton Elementary Enhanced Option	3	56	4th grade
11/10/2014	Stanford Elem. Montessori Design Ctr.	3	75	4th grade
11/11/2014	David Lipscomb Elementary School	4	80	4th grade
11/12/2014	Kirkpatrick Elem. Enhanced Option	3	57	4th grade
11/13/2014	Jones Elem. Paideia Magnet	3	75	4th grade
11/14/2014	Jackson, Andrew Elementary	4	100	4th grade
11/17/2014	Lockeland Elem. Design Center	3	75	4th grade
11/18/2014	Dupont Elementary	4	88	4th grade
11/19/2014	Tusculum Elem.	5	120	4th grade
11/21/2014	Green, Julia Elementary	3	120	3rd grade
12/1/2014	Moss, J.E. Elementary	6	150	4th grade
12/5/2014	Caldwell Elementary Enhanced Option	3	57	4th grade
12/10/2014	Ruby Major Elem.	6	150	4th grade
1/23/2015	Haywood Elementary	3	75	4th grade
1/28/2015	Westmeade Elem.	4	100	4th grade
1/29/2015	Haywood Elementary	3	75	4th grade
1/30/2015	Napier Elem. Enhanced Option	4	74	4th grade
2/4/2015	Carter-Lawrence Elementary Magnet	4	80	4th grade
2/11/2015	Eakin Elementary	5	100	3rd grade
2/12/2015	Green, Alex Elementary	4	80	4th grade
2/25/2015	Cole Elementary	2	50	4th grade
2/27/2015	Cole Elementary	3	75	4th grade
3/2/2015	Buena Vista Elementary Enhanced Option	3	75	4th grade
3/3/2015	Buena Vista Elementary Enhanced Option	3	75	4th grade
3/13/2015	Sylvan Park Elem. Paideia Design Ctr.	4	100	4th grade
3/13/2015	Sylvan Park Elem. Paideia Design Ctr.	4	100	4th grade
3/16/2015	Mt. View Elem.	3	150	4th grade
3/17/2015	Gower Elementary	5	110	4th grade
5/12/2015	Glenn Elementary Enhanced Option	2	40	4th grade
5/19/2015	Amqui Elementary	4	100	4th grade
Water Fun & Games	**1 Programs/Activities**		**23 Students**	**Adults**
6/25/2015	Cockrill Elementary Summer Aftercare - Project Neighborhood Aftercare	1	23	K-6th grade

MWS PIO Public Education Program Activities during FY15 (Continued)

Why do we have clean water in Nashville?	**15 Programs/Activities**		**375 Students**	**Adults**
11/6/2014	Bellevue Middle	4	100	8th grade
2/10/2015	John Early Middle Paideia Magnet	4	83	5th grade
2/13/2015	Liberty Collegiate Academy	3	92	8th grade
5/27/2015	Valor Collegiate Academy	4	100	5th grade
ActivityType:	**Community Outreach Event**		**11 Programs/Activities**	
TOTAL Booth	**1 Programs/Activities**		**Students**	**Adults**
Booth/Table	**1 Programs/Activities**		**Students**	**Adults**
5/16/2015	Master Gardeners Urban Garden Festival - water pollution prevention, backflow prevention	1		
TOTAL Community Outreach Event	**2 Programs/Activities**		**Students**	**Adults**
Water & Booth	**2 Programs/Activities**		**Students**	**Adults**
8/22/2014	MECCC Flutter flag at hydration station	1		
10/4/2014	Special Event Celebrate Nashville	1		
TOTAL Provide Water	**8 Programs/Activities**		**Students**	**Adults**
Jockey Box	**1 Programs/Activities**		**Students**	**Adults**
9/13/2014	Wine on the River	1		
Water Fountain	**5 Programs/Activities**		**Students**	**Adults**
7/4/2014	Hot Chicken Festival	1		
7/14/2014	Brewers Festival	1		
4/11/2015	Special Event Rajun Cajun Crawfish Festival	1		
4/18/2015	Earth Day Festival	1		
6/27/2015	Special Event Open Streets Festival in the Gulch	1		
Water Wagon	**2 Programs/Activities**		**Students**	**Adults**
8/2/2014	Special Event Warner park Opening of Mountain bike trails	1		
9/6/2014	Dragon Boat & River Festival	1		
ActivityType:	**Community Presentation**		**17 Programs/Activities**	
TOTAL Presentation	**11 Programs/Activities**		**Students**	**115 Adults**
Rain Barrels	**1 Programs/Activities**		**Students**	**20 Adults**
4/11/2015	Mills, Dan Elementary Program with student assistant	1		20

Friday, July 17, 2015 Page 5 of 9

MWS PIO Public Education Program Activities during FY15 (Continued)

Special Presentation		**1 Programs/Activities**		**Students**	**20 Adults**
4/7/2015	University: Vanderbilt Topic: envrionmental work/service learning	1		College	20
Water Treatment & Quality		**9 Programs/Activities**		**Students**	**75 Adults**
8/28/2014	National Business College Water processes, backflow, clog prevention	1		College	15
10/27/2014	National Business College Water treatment processes, backflow and clog prevention	1			10
1/22/2015	National Business College Water processes, backflow, clog prevention	1			9
3/24/2015	National Business College water treatement processes, backflow and clog prevention	1			6
3/27/2015	National Business College water treatment processes, backflow and clog prevention	1			10
6/22/2015	National Business College water processes, backflow prevention, clog prevention	1			7
6/24/2015	National Business College water processes, backflow, clog prevention	1			3
6/25/2015	National Business College water processes, backflow, clog prevention	1			6
6/29/2015	National Business College water processes, backflow, clog prevention	1			9
TOTAL Program		**6 Programs/Activities**		**38 Students**	**81 Adults**
Wise Watering		**6 Programs/Activities**		**38 Students**	**81 Adults**
7/24/2014	Library: East Branch backflow, watering tips	1			3
3/19/2015	Master Gardeners pollution prevention, backflow prevention	1			73
4/2/2015	Community Good Food for Good People	1			5
6/3/2015	Special Group Eatin' Games Summer Camp, water pollution prevention, backflow prevention	1	9	middle school	
6/22/2015	Jr. Master Gardeners water pollution prevention for gardeners, backflow prevention	1	19	middle school	
6/24/2015	Special Group Eatin' Games summer camp - water pollution prevention, backflow prevention	1	10	middle school	
ActivityType: Tour				**43 Programs/Activities**	
TOTAL Tour: Biosolids		**5 Programs/Activities**		**60 Students**	**26 Adults**
Biosolids Facility Tour: Adults		**2 Programs/Activities**		**Students**	**26 Adults**

Friday, July 17, 2015 Page 6 of 9

MWS PIO Public Education Program Activities during FY15 (Continued)

11/7/2014	Aquinas	1		College	11
2/4/2015	Special Group Engage Green	1			15
Biosolids Facility Tour: Students		**3 Programs/Activities**	**60**	**Students**	**Adults**
9/22/2014	Vanderbilt School of Science & Math (High Schoo	1	26	9th grade	
10/9/2014	Goodpasture Christian School	1	9	HS students	
4/15/2015	Martin Luther King Magnet AP Environmental Science	1	25	11th and 12th grade	
TOTAL Tour: MWS Facilities		**1 Programs/Activities**		**Students**	**7 Adults**
Facilities Tour		**1 Programs/Activities**		**Students**	**7 Adults**
8/21/2014	Special Group Downtown HR staff	1			4
11/13/2014	Special Group Finance/Legal tour	1			3
TOTAL Tour: WTP		**20 Programs/Activities**	**175**	**Students**	**171 Adults**
K.R. Harrington Tour: Adults		**2 Programs/Activities**		**Students**	**20 Adults**
9/22/2014	Special Group Pipefitters - tour by Carlton Boleyjack	1			10
3/23/2015	University: TSU Environmental Health Class	1			10
K.R. Harrington Tour: Students		**8 Programs/Activities**	**175**	**Students**	**Adults**
8/20/2014	Stratford High	1	25	10th grade	
8/29/2014	Hillsboro High	1	24	10th grade	
9/22/2014	Vanderbilt School of Science & Math (High Schoo	1	26	9th grade	
11/5/2014	Martin Luther King Magnet	1	30	11th & 12th grade	
11/20/2014	Goodpasture Christian School	1	9	HS	
12/15/2014	Abintra Montessori School	1	20	5th & 6th grade	
3/31/2015	Stratford High	1	25	High School	
6/18/2015	LEAD Academy Lead Prep Southeast, Summer Science Camp	1	16	6th grade	
Ohohundro Tour: Adults		**9 Programs/Activities**		**Students**	**143 Adults**
8/18/2014	David Lipscomb Univsersity	1			11
8/18/2014	Special Group Lipscomb Univ. Faculty	1			3
11/1/2014	Special Group Arts Council (date?)	1			10

Friday, July 17, 2015 Page 7 of 9

MWS PIO Public Education Program Activities during FY15 (Continued)

11/18/2014	Special Group Historian Class	1			12
1/12/2015	Special Group Jonathan Farmer	1			5
1/23/2015	Special Group Historic Commission	1			17
1/27/2015	University: Vanderbilt	1			19
4/15/2015	Special Group Lipscomb Connect	1			29
4/16/2015	Special Group My City Academy	1			37
Omohundro Tour: Students		**1 Programs/Activities**		**Students**	**8 Adults**
11/14/2014	Special Group Adree Lequire and family	1			8
TOTAL Tour: WWTP		**17 Programs/Activities**		**244 Students**	**79 Adults**
White's Creek Tour: Adults		**5 Programs/Activities**		**Students**	**79 Adults**
10/23/2014	University: Nashville State Community College Environmental science class	1		college	10
11/7/2014	Aquinas	1		College	17
2/24/2015	University: Vanderbilt	1			19
4/13/2015	University: TSU Environmental Health	1			10
4/23/2015	University: Trevecca Nazarene Ecology Class	1			23
Whites Creek Tour: Students		**12 Programs/Activities**	**244**	**Students**	**Adults**
8/18/2014	Stratford High	1	25	11th grade	
8/29/2014	Hillsboro High	1	24	10th grade	
9/18/2014	Antioch High	3	60	11th grade	
9/22/2014	Vanderbilt School of Science & Math (High Schoo	1	26	9th grade	
9/25/2014	Goodpasture Christian School	1	9	HS	
3/31/2015	Stratford High	1	25	High School	
4/1/2015	Martin Luther King Magnet	1	25	AP Environsmental Science	
4/8/2015	Harpeth Hall	1	25	High School	
4/15/2015	Montgomery Bell Academy	2	25	12th grade	

NPDES Public Education Events/Presentations during FY15

Date	Staff Lead	Event	Audience	Education Type	Audience Size	Target Audience/Pollutant
6/25/2015	Dohn	City of Auburn Meeting	City of Auburn MS4 & University employees	Presentation	5	MS4 Permit Compliance
6/25/2015	Hunt	Cumberland River Compact EPA Workshop	EPA, CRC, others	Public/Group Meeting	20	General Stormwater Pollution
6/18/2015	Mullen	Erin Lane Residential Mail-out	Lake of Bellevue Apartments	Mail-out	1	Leaves/Brush/Trash Dumping
6/12/2015	Mullen	Waywood Court Mail-out	Waywood Court Residents	Mail-out	2	Leaves/Brush/Trash Dumping
6/11/2015	Mullen	Country Music Awards Festival	CMA attendees and other tourists and locals downtown	Citywide Event	7000	General Stormwater Pollution
6/8/2015	Mullen	Cane Ridge Mail-out	Property owners at 1157 Bell Road	Mail-out	1	Leaves/Brush/Trash Dumping
6/6/2015	Mullen	Water Quality Festival	Catfish Rodeo attendees and park attendees	Citywide Event	1500	General Stormwater Pollution
6/4/2015	TerryNelson	SCM Inspection Workshop Primer	Metro department reps, outside vendors/contractors who do SCM maintenance	Public/Group Meeting	27	SCM Inspection/Maintenance
5/28/2015	Dohn	CRC River Talks Presentation on Metro's Regulations Revision	Developers, Regulators, Concerned Citizens	Presentation	50	Construction/Development Education
5/7/2015	Binder	TDEC Level I Certification	Prospective Level 1 EPSC Professionals	Presentation	140	Construction/Development Education
5/1/2015	Mullen	Cedarmont Drive Mail-out	Resident at address/possibly Early McGowan(listed owner)	Brochure/Door Hanger Distribution	1	Leaves/Brush/Trash Dumping
4/28/2015	TerryNelson	SCM Inspection workshop	Metro departments and vendors providing SCM inspections	Presentation	24	SCM Inspection/Maintenance
4/21/2015	Mullen	Door hangers	Residents of Gwynnwood Dr.	Brochure/Door Hanger Distribution	9	General Stormwater Pollution
4/18/2015	Mullen	Nashville Earth Day	City of Nashville-attendees of park, etc.	Citywide Event	2500	General Stormwater Pollution

NPDES Public Education Events/Presentations during FY15 (Continued)

Date	Staff Lead	Event	Audience	Education Type	Audience Size	Target Audience/Pollutant
4/9/2015	Hunt	Isaac Litton Middle	Litton Middle 6th Grade Students	School	120	General Stormwater Pollution
4/9/2015	Mullen	Nashville State Earth Day	Students and employees of Nashville State	Citywide Event	300	General Stormwater Pollution
4/6/2015	Binder	Development Community Email	Grading permit pre-con meeting contacts	Mail-out	665	Construction/Development Education
4/3/2015	Dohn	TAWRA Symposium	Environmental professionals & students	Presentation	20	Construction/Development Education
4/3/2015	Drury	Illicit response	Houses from 3441 to 3453 Daisy Trail	Brochure/Door Hanger Distribution	4	Leaves/Brush/Trash Dumping
3/27/2015	Mullen	Response to illicit	Residents on Bonnacreek Drive	Brochure/Door Hanger Distribution	3	General Stormwater Pollution
3/20/2015	Hayes	Metro Schools Maintenance Techs Presentation	MNPS Schools Employees	Metro Employee MS4 Compliance	72	General Stormwater Pollution
3/19/2015	Hayes	Metro Schools Maintenance Staff Presentation	Metro Schools Maintenance Technicians	Metro Employee MS4 Compliance	74	General Stormwater Pollution
3/18/2015	Dohn	Center for Watershed Protection Webcast	Professionals	Presentation	347	Construction/Development Education
3/17/2015	Hayes	Lennox Village HOA Mail out	Residence of the Lennox Village and other properties managed by Gasser Property Management	Mail-out	1739	Oil and Grease
3/7/2015	Bruce	Old House Fair	Home Owners	Educational Booth	10	Construction/Development Education
3/5/2015	Mullen	Lawn and Garden Show	Home Owners	Citywide Event	500	Fertilizer/Pesticides
3/2/2015	Bruce	Harpeth River Mail out	Residential Area within the Harpeth River Watershed	Mail-out	1097	General Stormwater Pollution
3/2/2015	Bruce	Sugartree Creek Mail-out	Residential Area of Sugartree Creek	Mail-out	1788	General Stormwater Pollution

NPDES Public Education Events/Presentations during FY15 (Continued)

Date	Staff Lead	Event	Audience	Education Type	Audience Size	Target Audience/Pollutant
2/23/2015	Hayes	Door Hangers for Pet Waste	Residents near 8029 Esterbrook	Flyer Display	3	Pet Waste
2/11/2015	Dohn	Door Hangers	Homeowners	Brochure/Door Hanger Distribution	4	Oil and Grease
2/11/2015	Hayes	Health Department Food Service Establishment Newsletter	Food Service Establishments in Davidson County	Mail-out	1000	Restaurant Impacts
1/26/2015	Dohn	Door Hangers for grease dumping	Homeowners	Brochure/Door Hanger Distribution	35	Oil and Grease
1/15/2015	Hunt	Litton School Stormwater STEM Project	Litton School	School	120	General Stormwater Pollution
1/8/2015	TerryNelson	SCM Education for Gardens of Babylon	Gardens of Babylon landscapers	Presentation	4	Maintenance Activities
1/5/2015	Hayes	2335 Alteras Drive Oil Leak	General Residential	Brochure/Door Hanger Distribution	4	Oil and Grease
11/25/2014	Winesett	Stormwater education with Avintra students4-6 grade	Students of Avintra Montessory	School	20	General Stormwater Pollution
11/20/2014	Herman	TDEC Level I Certification	Prospective Level 1 EPSC Professionals	Presentation	150	Construction/Development Education
11/13/2014	Dohn	Cities Alive Green Roof Conference	Professionals	Presentation	20	Construction/Development Education
11/13/2014	TerryNelson	Illicit follow-up	Car Wash storefront manager	Brochure/Door Hanger Distribution	1	Pressure Washing
11/12/2014	TerryNelson	Illicit investigation follow-up	Auto Zone store manager	Brochure/Door Hanger Distribution	1	Oil and Grease
11/10/2014	Hunt	MS4 Meeting with Louisville MSD	Louisville MS4 Program Staff	Presentation	5	MS4 Permit Compliance

NPDES Public Education Events/Presentations during FY15 (Continued)

Date	Staff Lead	Event	Audience	Education Type	Audience Size	Target Audience/Pollutant
10/31/2014	TerryNelson	Ghertner and Co Trade Show	Ghertner property managers and board members	Flyer Display	17	Maintenance Activities
10/29/2014	Dohn	Illicit Discharge Investigation		Brochure/Door Hanger Distribution	1	Oil and Grease
10/29/2014	Dohn	Illicit Discharge Investigation		Brochure/Door Hanger Distribution	1	Oil and Grease
10/29/2014	Dohn	Illicit Discharge Investigation		Brochure/Door Hanger Distribution	1	Oil and Grease
10/29/2014	Dohn	Illicit Discharge Investigation		Brochure/Door Hanger Distribution	1	Oil and Grease
10/25/2014	Drury	IES Symposium	Environmental professionals	Presentation	50	MS4 Permit Compliance
10/25/2014	Hayes	Urban Runoff 5K and Water Quality Festival	Runners and attendees to the water quality festival	Citywide Event	250	General Stormwater Pollution
10/20/2014	Drury	Stones River Watershed Event	Stones River watershed groups and the public	Citywide Event	100	General Stormwater Pollution
10/16/2014	Bruce	Stratford Science and Engineering Day	8th and 9th grade students	Citywide Event	450	General Stormwater Pollution
10/15/2014	TerryNelson	Site visit/ Illicit discharge	General Manager at restaurant	Brochure/Door Hanger Distribution	1	Restaurant Impacts
10/9/2014	Binder	Development Community Email	Grading permit pre-con meeting contacts	Mail-out	716	Construction/Development Education
10/8/2014	Dohn	Lawn clippings in street complaint	Resident	Brochure/Door Hanger Distribution	1	General Stormwater Pollution

NPDES Public Education Events/Presentations during FY15 (Continued)

Date	Staff Lead	Event	Audience	Education Type	Audience Size	Target Audience/Pollutant
10/3/2014	TerryNelson	Neighborhood SW pollution education	Residents living at the intersection noted below	Brochure/Door Hanger Distribution	6 door knockers, 4 drains marked	
9/9/2014	Binder	TDEC Level One EPSC Certification	Prospective Level 1 EPSC Professionals	Presentation	85	Construction/Development Education
9/8/2014	Drury	Restaurant Handout	The Wild Cow	Brochure/Door Hanger Distribution	1	Restaurant Impacts
9/6/2014	Bruce	Dragon Boat Races	General Public	Citywide Event	60	Construction/Development Education
7/24/2014	Binder	Development Community Email	Grading permit pre-con meeting contacts	Mail-out	73	Construction/Development Education

Metro Department of Public Works Waste Collection During FY15

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Recycling													
Curbside Recycling/In-house Recycling/Recycling Dumpsters													
Mixed Recyclables	966.29	1,131.31	1,021.30	1,017.42	1,149.60	1,047.79	1,103.92	932.01	992.08	1,063.35	1,114.55	1,074.34	12,613.96
Monthly Totals	966.29	1,131.31	1,021.30	1,017.42	1,149.60	1,047.79	1,103.92	932.01	992.08	1,063.35	1,114.55	1,074.34	12,613.96
Household Hazardous Waste Facility													
Oil	3.83	2.29	1.22	1.32	3.31	1.45	2.8	1.15	1.07	1.19	1.94	1.74	23.31
Anti-Freeze	0	0	0	0	0	0	1	0.64	1.4	1.8	1.8	1.8	8.44
Electronics	10.26	3.89	3.11	0	0	13.4	11.1	8.79	4.85	15.34	15.92	12.05	98.71
Batteries	0	0	0.72	9.24	0.91	0.58	0	0	0	0	0	0	11.45
Tanks	0	0	0	0	0	0	0	0	0	0	0	0	
Clean Harbors	0.87	0	0	0	0	0	0	0	10.41	0.59	0	9.15	21.02
Monthly Totals	**14.96**	**6.18**	**5.05**	**10.56**	**4.22**	**15.43**	**14.9**	**10.58**	**17.73**	**18.92**	**19.66**	**24.74**	**162.93**
Drop Off Recycling Centers & Convenience Centers													
Carpet/Carpet Pad	32.12	26.28	17.52	17.52	35.04	26.28	29.20	26.28	29.20	37.96	23.36	40.88	341.64
Mixed Recyclables	15.67	14.75	14.26	18.61	13.98	23.80	14.56	12.12	16.41	15.09	20.73	22.13	202.11
Aluminum & Tin							.23						2.23
Glass	202.92	159.57	45.66	40.16	33.84	45.38	209.43	127.58	217.10	197.18	169.08	207.07	1,654.97
Mixed Paper	210.87	186.28	189.51	198.49	188.29	247.69	195.43	140.48	205.12	195.27	187.24	205.16	2,349.83
OCC	165.28	153.71	12.36	1.52	3.01	13.34	163.74	102.29	163.94	157.48	161.84	169.45	1,267.96
Plastic	43.24	39.63	41.99	38.34	35.98	43.36	41.79	33.13	50.49	41.30	41.14	44.31	494.70
Plastic Bottles & Metal Cans	25.02	73.14	28.21	47.97	40.86	54.35	26.44	15.91	33.53	31.14	26.03	25.05	427.65
Scrap Metal	35.73	21.71	29.16	20.45	18.33	27.45	22.45	12.27	35.91	41.34	58.29	35.20	358.29
Tires	17.10	0.00	822.10	972.57	334.88	541.46	687.29	337.84	697.28	414.07	569.13	725.91	6,119.63
Monthly Totals	**747.95**	**675.07**	**1,200.77**	**1,355.63**	**704.21**	**1,023.11**	**1,392.56**	**807.90**	**1,448.98**	**1,130.83**	**1,256.84**	**1,475.16**	**13,219.01**
Waste Collection													
Total Metro Public Works Trash Collection	4,552.10	4,047.70	3,852.41	4,443.69	3,695.91	4,071.27	3,880.01	3,489.63	4,315.18	4,533.47	4,002.77	4,359.45	49,243.59
Total Convenience Center Trash	1,601.39	1,442.44	1,424.92	1,411.10	1,156.21	1,243.40	1,133.44	936.98	1,478.15	1,631.08	1,622.30	1,603.87	16,685.28
Contracted Residential	8,206.54	7,344.09	7,195.11	8,003.72	6,624.77	7,721.03	7,338.93	5,849.23	7,343.94	8,462.45	7,811.07	7,909.03	89,809.91
Monthly Totals	**14,360.03**	**12,834.23**	**12,472.44**	**13,858.51**	**11,476.89**	**13,035.70**	**12,352.38**	**10,275.84**	**13,137.27**	**14,627.00**	**13,436.14**	**13,872.35**	**155,738.78**
Brush Collection													
Unground -- Grapple Hook	2597.79	1675.51	1758.37	1887.55	1571.16	1425.46	946.96	819.67	1395.73	1852.75	1984.7	2252.93	20,168.58
Unground -- Dropped Off	0	0	0	0	0	0	0	0	0	0	0	0	-
Unground -- Contractor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Ground -- Dropped Off	19.88	63.88	23.9	15.6	50.11	32.8	24.44	15.75	41.01	14.84	6.12	24.21	332.54
Leaves -- Metro	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Leaves -- Dropped Off	10.72	39.10	24.88	33.93	110.65	184.18	40.96	29.43	39.71	0.00	0.00	0.00	513.56
Monthly Totals	**2,628.39**	**1,778.49**	**1,807.15**	**1,937.08**	**1,731.92**	**1,642.44**	**1,012.36**	**864.85**	**1,476.45**	**1,867.59**	**1,990.82**	**2,277.14**	**21,014.68**

Note: Units are reported in Tons.

Metro Department of Public Works Hazardous Spills Responded to During FY15

Date	Location	Situation	Actions
8/7/2014	Kirby Ave. @ Kermit Dr.	20 gallons of hydraulic oil spill on road	Put 500 pounds absorbent on road with spreader truck
8/12/2014	3940 Gallatin Pk.	Hydraulic oil spill leak	Put down 100 pounds spill gone and broomed
10/7/2014	Delaware Ave. & 46th. Ave.	60 pounds of hydraulic fluid spill on road	Put 450 pounds absorbent on road
10/31/2014	BNA & Corporate Dr.	Hydraulic oil spill in road	Put down 600 pounds absorbent
11/11/2014	Crutchfield @ Hill Av.	Hydraulic fluid spill on road	Covered with spreader truck used 3600 pounds spill gone
11/14/2014	1400 Rosa Parks	Hydraulic spill in road	Put down 1600 pounds absorbent
11/29/2014	1st. Ave. And Broadway	Trash truck hydraulic oil spill on road - 50 gallons.	1,000 pounds Absorbent on road
12/2/2014	Blackman @ Whispering Hill Dr.	Diesel fuel spill on road	Put 3,200 pounds of spill gone on road
12/9/2014	Harding @ Nolensville	Approximately 25-30 gallons diesel spill on roadway	Covered with 500 pounds spill gone
12/12/2014	1823 Primrose Ave.	5 gallons hydraulic oil spill from brush truck	Covered with 30 pounds spill gone
12/26/2014	208 3rd Ave. S	Hydraulic fluid spill in road	Put down 250 pounds Absorbent
1/9/2015	Pennywell Dr @ Rodney Dr.	15 gallons hydraulic oil spill on road	Covered with 50 pounds spill gone
1/20/2015	2911 Stokers Ln.	5 gallons of anti-freeze spill on road	Used 300 pounds spill gone to cover used the spreader truck
1/22/2015	6303 Whites Creek Pk.	Oil spill on roadway	Covered with 600 pounds spill gone
1/26/2015	Old Hickory Bvld. @ Lebanon Pk.	Hydraulic oil spill	Covered with approximately 700 pounds spill gone
2/3/2015	1233 11th Ave. S.	Hydraulic spill from metro trash truck	Put down 150 pounds of spill gone to cover spill
2/27/2015	Summercrest Blvd. @ Summercrest Trail	Hydraulic oil spill on road	Used spreader truck to cover product on road
3/13/2015	Benham Ave. @ Glen Echo Rd	Oil spill on road	Put 600 pounds spill gone on road with spreader truck
3/16/2015	2533 Dickerson Pk.	Antifreeze spill approximately 10-15 gallons	Covered with 100 pounds spill gone

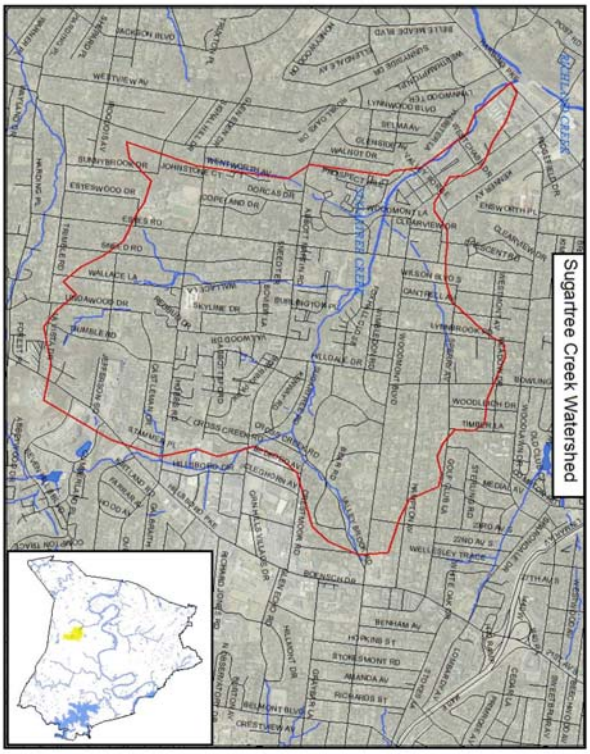
Metro Department of Public Works Hazardous Spills Responded to During FY15 (Continued)

Date	Location	Situation	Actions
3/24/2015	6644 Beacon Ln.	50 gallons hydraulic oil spill on road.	Covered with 3,000 pounds spill gone using spreader truck
4/1/2015	1000 Watts Ln.	Hydraulic oil spill leak	Put down 100 pounds spill gone
4/1/2015	Wayland Dr. @ Beacon Dr.	4 gallons hydraulic oil spill on road.	Covered with 25 pounds spill gone
4/2/2015	2814 Oakland Ave.	7 gallons hydraulic oil spill on road	Covered used spreader truck with 400 pounds spill gone
4/3/2015	26th Av Near Clarksville Pk.	Hydraulic spill in parking lot approximately 30 gallons.	Covered with 150 pounds spill gone and cleaned up
4/10/2015	5808 Vine Ridge Rd.	Hydraulic spill from brush truck 10 gallons	Used 150 pounds of absorbent
4/22/2015	Haynes Garden Apt	Hydraulic spill	Put down 250 pounds of spill gone
4/22/2015	Revels Dr.	Anti-freeze spill approximately 5 gallons in parking lot	Covered with 100 pounds of spill gone
4/28/2015	701 Leschey Rd.	10 gallons hydraulic spill fluid spilled from trash truck	Applied 50 pounds of spill gone
4/30/2015	Rains Ave. 4th Ave. South	Oil spill	Put down 300 pounds of absorbent
5/14/2015	205 Concord Park West	Hydraulic spill	Couldn't find spill tried 3 times
5/15/2015	Waldkirch Ave. @ 10th Ave. S.	Oil spill in roadway	Put down spill gone
6/2/2015	Murfreesboro Rd. @ Polk Ave.	Averitt express tractor leaking 25 gallons anti-freeze spill	Used spreader to cover used 400 pounds spill gone
6/2/2015	8th St @ Fowler/Livingston	Hydraulic spill approximately 20 gallons from 08I-4232	Used spreader truck to put down 350 pounds spill gone
6/10/2015	4311 Utah Ave.	Hydraulic spill	Put down 150 pounds of spill gone

Metro Department of Public Works Deicing Activities During FY15

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Amount of Salt/Brine Applied to Roadways (tons)	0.00	0.00	0.00	0.00	131.00	0.00	163.26	9,690.88	2,043.32	0.00	0.00	0.00	12,028.46

Residential Mail-out to Sugartree Creek Hot Area



METRO WATER SERVICES STORM WATER

NPDES/Water Quality Division
1607 County Hospital Road
Nashville, TN 37218

CURRENT RESIDENT
1 FOXHALL CLOSE
NASHVILLE, TN 37215

METRO WATER SERVICES STORM WATER

Did you know that water from your property ends up in Sugartree Creek? Pollutants have been identified in the creek and we would like your help cleaning it up. Here is how ...

Keep Ditches Free of Debris. Leaves dumped in ditches and drains not only clog downstream culverts/bridges, but also pollute our streams. Please refer to: http://www.nashville.gov/Public-Works under Quick Links for proper yard waste pick-up schedules and disposal/composting tips.

Use Lawn Chemicals Responsibly. Lawn chemicals, even organic ones, washing from yards into streams are dangerous to wildlife. Always use products according to their labels, store containers inside, and never apply lawn chemicals with rain in the immediate forecast. For more tips, please check out the Community Education link on the following website: http://www.nashville.gov/Water-Services

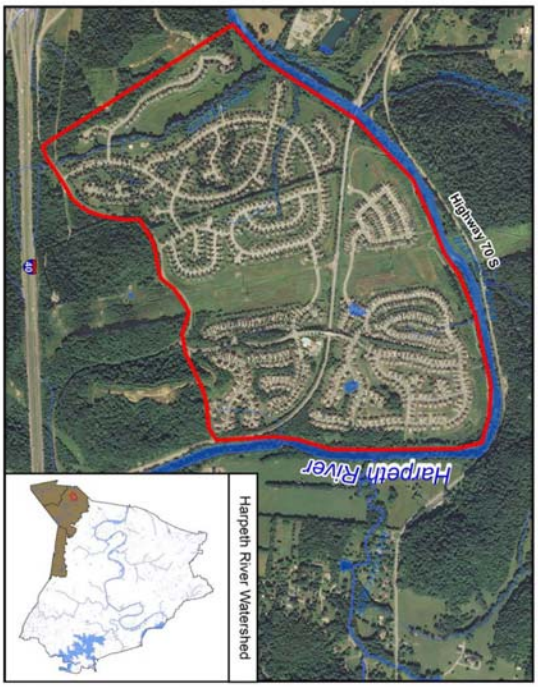
Pick up Pet Waste. Pet Waste has harmful bacteria such as E. coli and can pollute our streams when rainwater washes it from yards.

- **Trash it!** - Pet waste can be placed in a bag and tossed into the garbage can.
- **Flush it!** - Pet waste can be placed in the toilet by itself (no plastic bags, please).
- **Compost it!** - Dog waste can be safely disposed of with an in-ground pet waste disposal system. Look for dog waste digesters at your local pet store.
  (Note: composted dog waste should not be used on edible plants.)

Allow Plants to Grow Along Streams. Plants growing along the creek banks increase nature's ability to filter pollution from rainwater runoff and keep our streams clean. Planting trees and shrubs along creek banks will improve water quality runoff.

To report water pollution concerns, please contact us at 615-880-2420.

Residential Mail-out to Harpeth River Hot Area



NPDES/Water Quality Division
1607 County Hospital Road
Nashville, TN 37218

METRO WATER SERVICES STORM WATER

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Stormbusters Article on Nashville's Flood Mitigation Program

A Blueprint for Cities to Reduce Stormwater and Flood Damages

Submitted by Russ Rote, USACE Nashville District

Nashville's Storm Busters strategy provides a plan for the mayor's office to engage volunteers to mitigate damage from stormwater runoff and improve the health of the city's surrounding waterways.

Nashville, Tennessee, recently won an award from Cities of Service for its development of a strategy to improve waterways and help mitigate future storm damage. The strategy, called Storm Busters, is a proven plan in which the mayor's office engages volunteers to help mitigate damage from stormwater runoff and improve the health of the city's surrounding waterways by planting trees and rain gardens, cleaning waterways, and restoring river and stream banks.

In May 2010, 14 inches of rain fell in a two-day period in Nashville, which resulted in an historic flood that brought devastation to the city's infrastructure and environment. Additionally, the powerful rains had flooded the city's rivers, streams, and creeks, collecting and carrying materials such as household construction, waste, and woody debris downstream. Even though the waters subsided, the remaining debris was blocked or buried in the waterways or distributed across abutting properties and fields. This debris and the build-up of sediment and silt were dangerous for the environment and could potentially cause increased flooding and stream bank erosion.

As part of Nashville's recovery and restoration efforts, Mayor Karl Dean and Chief Service Officer Laurel Creech worked with the Water Department and community partners to identify ways to reduce the impact of future flooding, strengthen the city's stormwater management system, and prepare the city to be more resilient in the face of future natural disasters. Some of the solutions depend on water being better dispersed and naturally absorbed.

The City outlined a volunteer initiative in the Impact Nashville Service Plan, including planting trees and rain gardens in flood-affected areas to help absorb and manage stormwater and put in place a stronger natural absorption system for future rain events. Since 2010, HandsOn Nashville, the Cumberland River Compact, and other local conservation organizations have planted more than 7,300 trees and 60 rain gardens across the city, mitigating more than 2.5 million gallons of stormwater. In addition, thousands of volunteers are working to restore Nashville's vast number of waterways.

To date, volunteers have assessed more than 200 miles of waterways and cleaned 30 miles of waterways, removing nearly 300 tons of trash and debris. Funding to support the ongoing sustainability of these projects includes federal grants, support from the Nashville Tree Foundation, environmental grants and donations, and corporate sponsorships. Nashville citizens are planning to continue to implement preventative measures in efforts to create a more resilient and healthy infrastructure for its citizens.

As designed, the plan can be modeled by municipalities that want to make their city stronger and more resilient to weather-related events. Nashville's successes are presented in a report called "Storm Busters Blueprint," which identies several key steps that a city might follow. These steps and requirements are abbreviated below:

- Conduct an initial planning meeting.
- Work with partners to engage volunteers.
- Measure the impact to demonstrate the results.
- Secure resources and material to complete project.
- Recognize volunteers who make Storm Busters a success.
- Request that the city or other organizations assist in training the volunteers.

Full details of the report can be found online in the Cities of Service resource library under Blueprints along with other award winning strategies.

Nashville's Press Release on the Green Alley Program

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

Karl F. Dean
Mayor

OFFICE OF THE MAYOR
METROPOLITAN COURTHOUSE
NASHVILLE, TENNESSEE 37201

FOR IMMEDIATE RELEASE
March 4, 2015

Contact: Bonna Johnson
(615) 862-6461 direct
(615) 389-3405 cell
bonna.johnson@nashville.gov

CUMBERLAND RIVER COMPACT

HandsOn NASHVILLE

Mayor Announces City's First Green Alley Project

Volunteers Needed to Plant Rain Gardens to Help Restore, Sustain the Health of Flood-Impacted Waterways

NASHVILLE, Tenn. – Mayor Karl Dean announced today that Nashville is undertaking its first Green Alley, a project where volunteers will plant rain gardens along alleyways to help restore and sustain the health of waterways that were damaged with debris and erosion during historic flooding in May, 2010. The project also makes alleyways more walkable and safe.

The project will take place in The Nations, which was one of the neighborhoods heavily impacted by the May 2010 flood, and will be completely free to participating households. Partners for Nashville's first Green Alley Project include the Mayor's Office of Neighborhoods and Impact Nashville, Hands On Nashville, Cumberland River Compact and Metro Water Services.

"Nashville's strong volunteer spirit shone through during our city's recovery from the 2010 flood, and this project is an extension of that same sense of coming together to make our city even better than it was before," Mayor Dean said. "Volunteers will work to beautify a neighborhood while also helping make our city stronger by making it more resilient to weather-related events. It is my hope that this project will become a successful model of stormwater mitigation that other neighborhoods can replicate."

Residents in The Nations can request to participate in the program to receive the rain garden materials for free and the option to have volunteers plant the gardens during the spring or fall seasons. The rain gardens will be planted in residents' backyards closest to the alleyway. The goal is to reduce the amount of polluted stormwater that travels from homeowners' properties into Richland Creek. The project also creates a model of citizen-led water stewardship and builds neighborhood spirit.

The rain garden plantings will take place from March through May and again September through November. Volunteers interested in helping plant rain gardens can visit http://hon.org/greenalley.

-more-

Nashville's Press Release on the Green Alley Program (Continued)

Page 2, Mayor Announces City's First Green Alley Project

Nashville is funding the Green Alley project with the Cities of Service award of $35,000 it received in December for national achievement in impact volunteering and environmental sustainability efforts. Nashville's recovery from, and proactive resilience planning against, storm water damage are captured in a Cities of Service blueprint called "Storm Busters," that is also available to other cities for learning and adoption.

A green alley uses green space along alleyways to capture and infiltrate storm water traveling off the alley, yards, houses and driveways to a nearby waterway with the goal to have zero runoff from residential properties along the alleys. Nashville's project is unique in that it is focused on a residential neighborhood to engage people who live there to plant and maintain rain gardens in the neighborhood alleys.

Rain gardens are a natural and beautiful way to reduce and clean storm water. They are shallow, depressed gardens designed to collect rain water and allow it time to filter into the ground, resulting in cleaner water, less water entering storm systems and more water refilling the underground water table that keeps small streams flowing during the dry summer months. To learn more about the benefits of rain gardens, visit http://www.raingardensfornashville.com.

###

TNDA Letter of Thanks for the Cooperation in the Urban Riparian Buffer Program

TN Department of Agriculture | Forestry

September 22, 2015

To Tom Palko, Assistant Director,
Stormwater Metro Water Services

We would like to express our sincere gratitude and appreciation for your agency's partnership with the Tennessee Department of Agriculture, Division of Forestry's Urban Riparian Buffer Program over the past four years. Your partnership has been a key factor in making this program so successful, especially with the production of the new Tennessee Urban Riparian Buffer Handbook. We could not have done it without your help. The new Handbook will hopefully be a useful tool to those wishing to engage volunteers in helping to install riparian buffers throughout the state over the coming years.

Together, we have engaged over 2,700 volunteers who have helped plant almost 30,000 trees at 50 different sites along waterways in 8 priority watersheds in middle Tennessee. These newly established buffers will leave a lasting legacy by helping to reduce erosion, improve water quality, absorb high velocity stream flows, improve aquatic and wildlife habitat, and add beauty to the landscape. Over time, they will evolve into mature riparian forest, providing these and many other benefits for generations yet to come. We also appreciate your efforts to map and crate a GIS coverage of these buffers.
Again, we thank you for your partnership, and for your dedication toward working together to help improve our environment.

Sincerely,

Jere Jeter,
Assistant Commissioner,
Tennessee Department of Agriculture
Division of Forestry

Reggie Reeves,
Program Manager,
Urban Riparian Buffer Program
Division of Forestry

Division of Forestry • P.O. Box 40627 • Nashville, TN 37204

Tel: 615-837-5520 • Fax: 615-837-5003 • tn.gov/agriculture/section/forests

Nashville's Press Release on the Green Ribbon Committee Updated Report

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

Karl F. Dean
Mayor

OFFICE OF THE MAYOR
METROPOLITAN COURTHOUSE
NASHVILLE, TENNESSEE 37201

FOR IMMEDIATE RELEASE
Sept. 1, 2015

Contact: Bonna Johnson
(615) 862-6461 direct
(615) 389-3405 cell
bonna.johnson@nashville.gov

Mayor Releases Update to Green Ribbon Committee Report

Report Shows Nashville Has Implemented Nearly All Recommendations for Increasing Environmental Sustainability

NASHVILLE, Tenn. – Mayor Karl Dean has released the Green Ribbon Committee Report Update, which shows the city has implemented or is in the process of implementing all 16 of its goals and 65 of its 71 recommendations that were set six years ago by the Mayor's Green Ribbon Committee on Environmental Sustainability. That is a 93 percent success rate.

The report was released on Monday to Metro officials and committee members at Metro Government's new Center of Responsible Energy during a celebration of the committee's success in implementing all of the goals and nearly all of the recommendations it established six years ago.

"The Green Ribbon Committee members, along with Metro agencies, businesses, nonprofits and our citizens, have truly championed sustainability throughout our community," Mayor Dean said. "These accomplishments take us much closer to our ambitious vision for Nashville's future as the greenest city in the Southeast."

Mayor Dean established the Green Ribbon Committee by executive order in 2008. Since the committee delivered its original report, "Together Making Nashville Green," to Mayor Dean in June 2009, the city has:

- Preserved 4,534 acres of open space, easily surpassing a key goal of the Open Space Plan, which called for preserving 3,000 acres by 2021.
- Increased parkland by 25 percent and greenways by 50 percent, with 40 miles of new trails.
- Completely removed more than 45 miles of streams from the U.S. Environmental Protection Agency's 303(d) list of impaired and threatened waters.

-more-

Nashville's Press Release on the Green Ribbon Committee Updated Report

Page 2, Mayor Releases Update to Green Ribbon Committee Report

- Added more than 200 miles of sidewalk and 97 miles of bikeways, resulting in approximately 1,070 total sidewalk miles and 147 bikeway miles throughout Nashville and Davidson County; launched bike-sharing program Nashville B-Cycle; created the Music City Bikeway, and offered bus rapid transit lite service on three Metro Transit Authority routes, with a fourth scheduled to go into service later this year.

- Achieved LEED Silver or greater levels of LEED certification for 23 new and renovated Metro buildings. Another nine buildings are on track to earn at least LEED Silver.

Earlier this year, Metro launched the Center of Responsible Energy, or CORE, which helps Metro General Services monitor energy use in its buildings. The CORE includes a control room at the Howard Office Building, where energy professionals monitor Nashville's energy vital signs. The center uses five primary technologies to increase the city's energy efficiency: building automation systems; demand response systems; DES meters for monitoring the steamed and chilled water provided to several of Metro's largest buildings; charging station monitors for electric vehicles; and solar power monitors.

Green Ribbon Committee members had an opportunity to see the CORE's nerve center before hearing from Mayor Dean; Metro General Services Director Nancy Whittemore; and Lipscomb University President Randy Lowry, who co-chaired the committee with Ingram Industries Chairman John Ingram.

Mayor Dean thanked the members of the Green Ribbon Committee for their work "to move closer to a vision of Nashville as a place with clean air, clean water and open spaces – qualities that make us a vibrant, welcoming community."

"But the work is only beginning; the responsibility for realizing a sustainable future is truly in the hands of all of you and all our citizens," Mayor Dean said.

The 2009 Green Ribbon Committee Report and the new Report Update are available at www.nashville.gov/sustainability.

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Metro's Change Request for Benthic Sampling Procedures

Karl F. Dean
Mayor

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES
STORMWATER DIVISION
NPDES OFFICE
1607 COUNTY HOSPITAL ROAD
NASHVILLE, TN 37218

May 27, 2015

Mr. Bill Duffel
Tennessee Department of Environment and Conservation
Division of Water Resources
Nashville Environmental Field Office
711 R.S. Gass Blvd.,
Nashville, TN 37216

Subject: **MS4 Permit Biological Monitoring Proposed Modifications**
NPDES Permit No. TNS068047

Dear Mr. Duffel:

We have been reevaluating our biological monitoring activities as prescribed in Nashville's MS4 permit and would like to propose slight modifications to our monitoring program. As you are aware, there are two separate biological monitoring requirements within the MS4 permit. The first section (Section 3.3.4, Page 26) addresses specific requirements associated with our MS4's annual ambient monitoring program and is not associated with additional TMDL monitoring requirements. The second section (Section 3.3.9, Page 28) addresses specific (additional) biological monitoring requirements for streams with a nutrient or sediment, habitat alteration TMDL. Below are excerpts from the two separate sections within the MS4 Permit:

> *"3.3.4 Biological Monitoring*
> *The permittee shall continue a program of biological assessments of identified urban streams…Ideally, the biological assessments shall work in conjunction with the ambient yearly rotating monitoring program with both chemical and biological assessments occurring on the same streams each year...Macroinvertebrate sampling will occur during the second (October 1 through December 31st) and fourth (April 1st through June 30th) quarter of each permit year…The level of protocol for each sampling must be approved by the Environmental Field Office Manager of the division…"*

Metro's Change Request for Benthic Sampling Procedures (Continued)

"3.3.9 TMDL Monitoring
... For streams with a nutrient or sediment habitat alteration TMDL, the permittee must sample using TDEC SQSH methods. At least one sample per stream segment on the 303(d) list also listed in the TMDL must be collected in a five year period..."

Proposed Modifications to the MS4 Ambient Biological Monitoring

For the MS4 permit-specific ambient biological monitoring requirements (Section 3.3.4), Metro has been performing Rapid Bioassessment Protocol III (RBP III) since the spring of 2000, as previous permit cycles specifically prescribed the use of RBP III. During the 15 years of MS4 permit bioassessments, Metro has been utilizing Earthman Fork at the confluence of Whites Creek as the reference stream reach. Metro now believes, after recent coordination with TDEC field staff, that future MS4 biological monitoring can be improved to be more consistent with TDEC's stream assessment protocols. For future MS4 ambient biological monitoring, Metro proposes to transition from performing RBP III level monitoring to the Semi Quantitative Single Habitat (SQSH) level protocol. In addition, Metro proposes changing the MS4 biological monitoring reference site to the same reference site used by TDEC for Davidson County stream assessments: Little Marrowbone Creek, UT (Henry), River Mile 0.1, (Lat:36.27212, Long: -86.9049). The proposed change in protocol level may render it difficult to compare future MS4 permit bioassessment scores to previous monitoring scores, but it will make it more consistent with the TMDL monitoring procedures our program is also expected to perform.

Our main objective as we move forward with our monitoring program is that we continue to produce data that is consistent with TDEC's monitoring expectations, so that it can be taken into consideration in determining future impairment status. If you have any questions, we would be happy to meet and discuss or please feel free to call 615-880-2420.

Sincerely,

Michael Hunt
MWS Stormwater, NPDES Program Manager

cc: Wade Murphy - TDEC, Division of Water Pollution Control
Vojin Janjic - TDEC, Division of Water Pollution Control
Ann Morbitt - TDEC, Division of Water Pollution Control-Environmental Field Office
Josh Hayes – MWS NPDES Program
Mary Bruce – MWS NPDES Program
Veronica Mullen – MWS NPDES Program

Metro's Public Notice for the FY15 MS4 Permit Annual Report

STORMWATER MANAGEMENT COMMITTEE MEETING NOTICE

Meeting Date: 03-DEC-2015
Meeting Time: 8:00 a.m. – 12:00 p.m.
Location: Metro Office Building
First Floor - Development Services Conference Room
800 Second Avenue South
Nashville, Tennessee 37210
Contact: Paula Kee
Coordinator – Stormwater Management Committee (SWMC)
Phone: (615) 880-2334 Email: Paula.Kee@nashville.gov

AGENDA

I. Call to Order

II. Approval of 05-NOV-2015 Meeting Minutes

III. Approval of 05-NOV-2015 Decision Letters

IV. Item of Business

1. Metro Water Services Staff Presentation: 2015 Annual Report – NPDES MS4 Permit

V. Cases to be Heard

201500018 BLAKEFORD AT GREEN HILLS (PRELIMINARY SWM PLAN)
(11 BURTON HILLS BOULEVARD AND BURTON HILLS HOA COMMON AREA)
Floodway Buffer Disturbance
Continuous Mowing and Maintenance of Buffer

201500019 COMMUNITY HEALTH SYSTEMS (CHS)
(4001 CANE RIDGE PARKWAY AND 0 CANE RIDGE ROAD)
Wetland and Wetland Buffer Disturbance

201500020 ROADWAY IMPROVEMENTS – CANE RIDGE ROAD, OLD FRANKLIN ROAD, PRESTON ROAD, AND CANE RIDGE PARKWAY
Wetland and Wetland Buffer Disturbance
Stream Buffer Disturbance
Non-Perpendicular Stream Crossing

201500021 NORTH GULCH – PRELIMINARY SWM PLAN (600 11th AVENUE NORTH)
Uncompensated Fill in the Floodplain

VI. Items of Business (Continued)

VII. Adjournment

Next Meeting – 07-JAN-2016

ATTACHMENT A – PROTECTED SPECIES REPORT

Metro Nashville Municipal Separate Storm Sewer System Permit
Federal or State-Protected Species Impact assessment

Permit Year 4
(Period 07/01/14– 06/30/15)

Reviewed and Updated:
September, 2015

Introduction:
As per the Municipal Separate Storm Sewer System (MS4) permit, Metro Nashville is required to perform an annual assessment of potential Stormwater impacts to federal and state-protected aquatic species known to exist within Metro Nashville Davidson County (Metro). In order to perform the assessment, the Metro Water Services (MWS) Stormwater NPDES Section downloaded a list of aquatic species located within Davidson County. In order to assess potential impacts to rare species, the list of rare aquatic species was analyzed and broken into specific habitat categories. Table 1 details the list of rare aquatic species that have been known to occur within Davidson County. According to the Tennessee Department of Conservation (TDEC) Natural Heritage Program (NHP), Rare Species Inventory Program there are 20 rare or protected aquatic species that have known to occur or have historically occurred within Davidson County.

Only five of the 20 rare aquatic species have a federal protection status, all of which are listed as "Endangered", while 17 of the rare aquatic species have been listed by the state of Tennessee with one of the following legal protection status:

- "D" Deemed in Need of Management,
- "E" Endangered, and,
- "T" Threatened

Typical Habitat Requirements:
While the 20 species may require specific habitat conditions, the general type of aquatic habitat can be broken into three main categories:

- Large River/Lake – The Cumberland River is the only large river system within Davidson County. The Cumberland River has portions of two impoundments (Cheatham Lake and Old Hickory Lake) within Davidson County. Due to the dilution factor, Nashville's Stormwater runoff would have negligible effects of the water quality/habitat of the Cumberland River.
- Small Streams to Small/Medium Rivers – This particular habitat represents all of the smaller headwater streams, creeks and small rivers that drain into the Cumberland River. The small streams/rivers are more susceptible to impacts from Stormwater runoff from the MS4.
- Ponds/Wetlands/Springs – This particular habitat describes floodplain wetlands, farm ponds and springheads located throughout the county, which would have the potential of being impacted by MS4 runoff.

Table 1 – List of Rare Aquatic Species for Davidson County Tennessee – FY15

General Aquatic Resource	Type	Scientific Name	Common Name	Global Rank	Fed. Status	St. Status	Habitat	State Rank
Small Headwater Streams to Small/ Medium Rivers	Invertebrate Animal	*Sphalloplana buchanani*	A Cave Obligate Planarian	G1G2	No Status	Rare, Not State Listed	Aquatic cave obligate; northern Central Basin; Davidson County; taxonomy poorly understood.	S1
	Vertebrate Animal	*Ambystoma barbouri*	Streamside Salamander	G4	No Status	D	Seasonally ephemeral karst streams; middle Tennessee.	S2
	Vertebrate Animal	*Cryptobranchus alleganiensis*	Hellbender	G3G4	No Status	D	Rocky, clear creeks and rivers with large shelter rocks.	S3
	Vertebrate Animal	*Etheostoma luteovinctum*	Redband Darter	G4	No Status	D	Limestone streams; Nashville Basin & portions of Highland Rim.	S4
	Vertebrate Animal	*Etheostoma microlepidum*	Smallscale Darter	G2G3	No Status	D	Small rivers, in deep, strongly flowing riffles with gravel, boulder, and coarse rubble substrates; Cumberland River drainage.	S2
	Vertebrate Animal	*Percina phoxocephala*	Slenderhead Darter	G5	No Status	D	Small-large rivers with moderate gradient in shoal areas with moderate-swift currents; portions of Tenn & Cumb river watersheds.	S3
	Invertebrate Animal	*Orconectes shoupi*	Nashville Crayfish	G1G2	LE	E	1st-order & larger streams, generally with bedrock bottom, under slabrock; endemic to Mill Creek watershed; Davidson & William. cos.	S1S2
	Invertebrate Animal	*Epioblasma florentina walkeri*	Tan Riffleshell	G1T1	LE	E	Found in river headwaters, in riffles and shoals in sand and gravel substrates; Tennessee & Cumberland river systems.	S1
	Invertebrate Animal	*Simpsonaias ambigua*	Salamander Mussel	G3	No Status	Rare, Not State Listed	In sand or silt under large, flat stones in areas of swift current; occurred historically in E Fk Stones R; 2005 obs in lower Duck R.	S1
	Invertebrate Animal	*Lithasia duttoniana*	Helmet Rocksnail	G2Q	No Status	Rare, Not State Listed	Rocky substrates in riffle systems; bedrock in flowing water below main section of riffles; Duck River (TN River system).	S2
Large Riverine Systems/ Lakes	Vertebrate Animal	*Haliaeetus leucocephalus*	Bald Eagle	G5	No Status	D	Areas close to large bodies of water; roosts in sheltered sites in winter; communal roost sites common.	S3
	Vertebrate Animal	*Acipenser fulvescens*	Lake Sturgeon	G3G4	No Status	E	Bottoms of large, clean rivers and lakes.	S1
	Vertebrate Animal	*Carpiodes velifer*	Highfin Carpsucker	G4G5	No Status	D	Large rivers, mostly in Tennessee River drainage.	S2S3
	Vertebrate Animal	*Cycleptus elongatus*	Blue Sucker	G3G4	No Status	T	Swift waters over firm substrates in big rivers.	S2
	Vertebrate Animal	*Macrochelys temminckii*	Alligator Snapping Turtle	G3G4	No Status	D	Slow moving, deep water of rivers, sloughs, oxbows, swamps, and lakes; middle and west Tennessee; obscure.	S2S3
	Invertebrate Animal	*Epioblasma brevidens*	Cumberlandian Combshell	G1	LE	E	Large creeks to large rivers, in coarse sand or mixtures of gravel, cobble, or rocks; Tennessee & Cumberland river systems.	S1
	Invertebrate Animal	*Lampsilis abrupta*	Pink Mucket	G2	LE	E	Generally a large river species, preferring sand-gravel or rocky substrates with mod-strong currents; Tennessee & Cumberland river systems.	S2
	Vertebrate Animal	*Ichthyomyzon unicuspis*	Silver Lamprey	G5	No Status	D	Lakes, reservoirs, & large rivers; lower Cumberland, lower Tennessee, and probably Mississippi river watersheds.	S2
	Invertebrate Animal	*Plethobasus cooperianus*	Orangefoot Pimpleback	G1	LE	E	Large rivers in sand-gravel-cobble substrates in riffles and shoals in deep flowing water; Cumberland & Tennessee river systems.	S1
Ponds/ Wetlands/ Springs	Vascular Plant	*Ranunculus aquatilis var. diffusus*	White Water-buttercup	G5T5	No Status	E	Ponds And Streams	S1

Potential Impacts from MS4 Runoff:
Rare species that inhabit smaller streams and rivers, ponds, wetlands, and springs would be the most vulnerable to potential impacts from MS4 runoff. Impacts from MS4 runoff includes:

- Increased sediment loads smothering natural stream substrate;
- Increased nutrient runoff that cause sporadic algal blooms and accompanying reductions in available oxygen;
- Increased levels of toxic chemicals such as pesticides, oils, etc.;
- General loss of habitat from development activities.

Metro Nashville's Measures to Prevent Impacts to Aquatic Rare Species:
Metro Nashville's MS4 program deploys a simple technique to protect against impacts to rare aquatic species: "*Protect all of Nashville's Aquatic Habitat*". In order to protect Nashville's aquatic habitat, a three-prong approach is in place:

1. Control Future Development –
    a) Establish local regulations that prevent future development from destroying aquatic habitat.
    b) Monitor runoff during construction to prevent the destruction of aquatic habitat
    c) Enforce on developments that violate local construction regulations that could lead to the further destruction of aquatic resources.
2. Control the quality of Stormwater runoff from existing properties
    a) Establish local regulations that prevent the discharging of pollutants to waterways
    b) Monitor existing properties to ensure pollutants are not being discharged to the waterways.
    c) Enforce on properties/individuals that violate local water pollution laws that could potentially impact aquatic habitat.
3. Monitor the overall water quality and health of Nashville's streams
    a) Analytical sampling of certain water quality parameters
    b) Rotating biological surveys of Davidson County streams.

Controlling Future Development
Metro Nashville has established strict regulations protecting aquatic resources from impacts associated with development activities. All development or redevelopment activities that are over 10,000 square feet in overall footprint or involve more than 100 cubic yards of fill are required to obtain grading permits from the Metro Water Services (MWS) Stormwater Division. In order to obtain a grading permit from MWS, engineered plans have to be developed that illustrate how Stormwater runoff will be managed during and after development. Strict erosion and sediment control measures are required at all grading permit properties during construction. In order to ensure that erosion and sediment controls are maintained throughout construction, NPDES has six inspectors that inspect grading permit site construction control measures.

Metro Nashville also requires protection from impacts to aquatic resources after the construction phase of projects by requiring grading permit properties to install permanent Stormwater treatment measures that are designed to treat/address both the volume and quality of runoff from the property.

In addition to requiring development or redevelopment activities to obtain permits and treat Stormwater runoff, Metro Nashville was also one of the first municipalities in the state to establish no-disturb buffers along streams and other water resources within Metro Nashville, Davidson County. Development activities that demonstrate a hardship requiring some impacts to the no-disturb riparian buffer (i.e. for a bridge crossing, etc.) are required to go through a strict variance appeal process. Variance requests for stream crossing or other direct impacts to water resources are not granted unless any necessary TDEC Aquatic Resource Alteration Permits (ARAPs) or Section 404 permits from the U.S. Army Corps of Engineers (USACOE) are obtained, which cannot be issued if protected species are impacted.

Controlling the Quality of Stormwater Runoff from Existing Properties

Metro Nashville has the following specific ordinance in place that prevents the discharge of pollutants to storm drains or community waters:

15.64.205 - Non-Stormwater discharges.

A. Definitions.

"Community waters" means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wetland, wells and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the Metropolitan Government of Nashville and Davidson County.

"Contaminant" means any physical, chemical, biological or radiological substance or matter.

"Director" means the Director of the Metropolitan Government of Nashville and Davidson County's Department of Water and Sewerage Services, or his designee.

"Discharge" means any substance disposed, deposited, spilled, poured, injected, seeped, dumped, leaked, or placed by any means, intentionally or unintentionally, into community waters, the waters of the state, or any area draining directly or indirectly into the municipal Stormwater system of the metropolitan government.

"Metropolitan government" means the Metropolitan Government of Nashville and Davidson County.

"Municipal separate storm sewer system of the metropolitan government" means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, and storm drains) designed or used for collecting or conveying Stormwater; provided, however, that sanitary and combined sewers are not included in the definition of the municipal separate storm sewer system.

"Non-Stormwater discharge" means any discharge to the municipal separate storm sewer system except as permitted by subsection C of this section.

"Waters of the state" means any water, surface or underground, lying within or forming a part of the boundaries of the Metropolitan Government of Nashville and Davidson County, over which the Tennessee Department of Environment and Conservation exercises primary control with respect to Stormwater permits.

B. Except as hereinafter provided, all non-Stormwater discharges into community waters, into the waters of the state, or into the municipal separate storm sewer system of the metropolitan government are prohibited and are declared to be unlawful.

C. Unless the director has identified them as a source of contaminants to community waters, the waters of the state, or the municipal separate storm sewer system of the metropolitan government, the following discharges are permitted:

1. Stormwater as defined in TCA Section 68-221-1102(5);
2. Water line flushing;
3. Landscape irrigation;
4. Diverted stream flows;
5. Rising ground waters;
6. Uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers;
7. Uncontaminated pumped groundwater;
8. Discharges from potable water sources;
9. Foundation drains;
10. Air conditioning condensate;
11. Irrigation water;
12. Springs;
13. Water from crawl space pumps;
14. Footing drains;
15. Lawn watering;
16. Individual residential car washing;
17. Flows from riparian habitats and wetlands;
18. Dechlorinated swimming pool discharges;
19. Street wash waters resulting from normal street cleaning operations;
20. Discharges or flows from emergency firefighting activities.

D. The director, with the approval of the mayor, shall have authority to implement this section by appropriate regulations. Such regulations may include but are not limited to provisions for inspection of points of origin of known or suspected non-permitted discharges by appropriate personnel of the metropolitan government.

E. Discharges pursuant to a valid and effective NPDES permit issued by the State of Tennessee are not prohibited by this section.

F. The provisions of this section, including subsection C of this section, shall not apply to sanitary or combined sewers, which are governed by Chapter 15.40 of the Metropolitan Code of Laws.

G. Violation of this section shall subject the violator to a civil penalty of not less than fifty dollars nor more than five thousand dollars per day for each day of violation. Each day of violation may constitute a separate violation.

NPDES issues enforcement notices and administrative penalties to existing facilities found to be in violation of the above non-Stormwater discharge code.

In addition to controlling polluted runoff from construction activity, NPDES implements various other pollution prevention programs:

- Industrial Inspection/Monitoring Program
- Proactive Field Screening/Illicit Discharge Detection Elimination Program
- Pollution Reporting Hotline
- Sewer Leak Detection Program (Using Thermography Technology)
- Post-Construction Stormwater Treatment BMP inspection/maintenance verification program
- Public Involvement/Education

Monitoring the Overall Water Quality and Health of Nashville's Streams

NPDES performs intense monitoring of Metro Nashville, Davidson County streams. In previous years, Dr. Steve Winesett of the NPDES Division retained a permit/certification from the USFWS/TWRA to perform surveys within the Mill Creek watershed (home to the endangered Nashville Crayfish). Since his departure, Veronica Mullen (NPDES) has been processing the paperwork with TWRA and the USFWS to receive the same permit/certification. The following programs involve field assessments of streams:

- Ambient Sampling - Seasonal water quality samples are taken and analyzed for potential pollutants. Various streams are sampled each year on a rotating basis.
- TMDL Monitoring – Quarterly flow weighted samples are collected and analyzed for bacterial and TSS of various/rotating stream segments in which TMDLs have been developed.
- Visual Stream Assessments – All State-listed 303(d) stream segments with MS4 outfalls are visually inspected on a 5 year cycle.
- Benthic Surveys – Seasonal benthic surveys are performed on various streams each year. The benthic sampling coincides with the same stream rotation schedule as the ambient sampling.

If abnormalities are found in any of the above monitoring results, individual investigations are initiated to find and eliminate potential sources of pollution.

Conclusion:

Metro Nashville's MS4 program has taken substantial steps to protect aquatic resources within Metro Nashville, Davidson County. By virtue of protecting the Nashville's water resources, critical habitat required for aquatic species has also been preserved/ protected. During this permit year, there have not been any known discharges form the MS4 that have caused the destruction of a rare species or their critical habitat.