

Municipal Separate Storm Sewer System (MS4) Annual Report

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

Sediment from Construction Activities

D. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period. Gave out 255 water quality brochures during the 2014 Riverfest event. Gave a presentation to 250 middle school students about sinkholes. Gave a water quality presentation to 20 elementary school children. Gave a presentation on revisions made to the City of Clarksville's Storm Water Management Manual (SWMM) to a group of 40 engineers, developers, contractors, and home builders. Developed an Erosion Prevention & Sediment Control (EPSC) Plan for Small Lots form. Gave out 146 water quality brochures during the 2015 Home and Garden Show Event. 61 engineers, developers and builders attended a training session focused on the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Construction Activities (CGP). 70 volunteers planted 548 trees within 3 parks during the 50K Tree Day Event. 20 engineers attended a Low Impact Development Workshop. Gave away 58 water quality brochures and 322 stickers at the 2015 Rivers and Spires event. 25 builders, contractors and engineers attended a field demonstration of the Triangular Silt Dike Company. 3 builders donated lots for the Triangular Silt Dike product to be installed during the demonstration. Hosted 3 local teachers for a STEM Externship. Gave a presentation on water quality and MS4 requirements to 15 attendees of the Clarksville Montgomery County Green Certification Workshop.

E. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? Yes No

F. How do you facilitate, advertise, and publicize public involvement and participation opportunities? City of Clarksville events calendar, Leaf Chronicle Newspaper, online community event calendars, Facebook page and website (links below).

G. Do you have a webpage dedicated to your stormwater program? Yes No

If so, what is the link/URL: <http://www.cityofclarksville.com/index.aspx?page=179>
<https://www.facebook.com/pages/Clarksville-Street-Department/699485250068889>

H. Are you tracking and maintaining records of public education, outreach, involvement and participation activities? Please attach a summary of these activities. Yes No

5. ILLICIT DISCHARGE DETECTION AND ELIMINATION (SECTION 4.2.3)

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

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

C. How many outfalls have you identified in your system? 1822

D. Have any of these outfalls been screened for dry weather discharges? Yes No

F. What is your frequency for screening outfalls for illicit discharges? Portion screened every year

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

H. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been reported to you)? 6

I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 6

6. CONSTRUCTION SITE STORMWATER RUNOFF (SECTION 4.2.4)

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

Erosion and sediment control requirements? Yes No

Other construction waste control requirements? Yes No

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Requirement to submit construction plans for review? Yes No

MS4 enforcement authority? Yes No

B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period? 84

C. How many of these active sites did you inspect this reporting period? 84

D. On average, how many times each, or with what frequency, were these sites inspected (e.g., weekly, monthly, etc.)? Weekly

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

If Yes, based on what criteria? age of storm drain system, land use, age of development, complaints

7. PERMANENT STORMWATER CONTROLS (SECTION 4.2.5)

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

Site plan reviews of all new and re-development projects? Yes No

Maintenance of stormwater management controls? Yes No

Retrofitting of existing BMPs with green infrastructure BMPs? Yes No

B. What is the threshold for new/redevelopment stormwater plan review? (e.g., all projects, projects disturbing greater than one acre, etc.) Projects disturbing 10,000 sqft or more, hot spots, streams

C. Have you implemented and enforced performance standards for permanent stormwater controls? Yes No

D. Do these performance standards go beyond the requirements found in Section 4.2.5.2 and require that pre-development hydrology be met for:

Flow volumes Yes No

Peak discharge rates Yes No

Discharge frequency Yes No

Flow duration Yes No

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

<http://www.cityofclarksville.com/modules/showdocument.aspx?documentid=6298>

F. How many development and redevelopment project plans were reviewed for this reporting period? 72

G. How many development and redevelopment project plans were approved? 67

H. How many permanent stormwater management practices/facilities were inspected? 0

I. How many were found to have inadequate maintenance? 0

J. Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify) 0

K. How many enforcement actions were taken that address inadequate maintenance? 0

L. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? Yes No

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- M. Do all municipal departments and/or staff (as relevant) have access to this tracking system? Yes No
- N. Has the MS4 developed a program to allow for incentive standards for redeveloped sites? Yes No
- O. How many maintenance agreements has the MS4 approved during the reporting period? 21

8. CODES AND ORDINANCES REVIEW AND UPDATE (SECTION 4.2.5.3)

- A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report? Yes No
- B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent stormwater management. Stormwater Management Manual has been updated and approved. Ordinance approval is in progress.

9. STORMWATER MANAGEMENT FOR MUNICIPAL OPERATIONS (SECTION 4.2.6)

- A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:
- All parks, ball fields and other recreational facilities Yes No
 - All municipal turf grass/landscape management activities Yes No
 - All municipal vehicle fueling, operation and maintenance activities Yes No
 - All municipal maintenance yards Yes No
 - All municipal waste handling and disposal areas Yes No
- B. Are stormwater inspections conducted at these facilities? Yes No
1. If Yes, at what frequency are inspections conducted? quarterly/annually
- C. Have standard operating procedures or BMPs been developed for all MS4 field activities? (e.g., road repairs, catch basin cleaning, landscape management, etc.) Yes No
- D. Do you have a prioritization system for storm sewer system and permanent BMP inspections? Yes No
- E. On average, how frequently are catch basins and other inline treatment systems inspected? As needed
- F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? As needed
- G. Do municipal employees in all relevant positions and departments receive comprehensive training on stormwater management? Yes No
- H. If yes, do you also provide regular updates and refreshers? Yes No
- If so, how frequently and/or under what circumstances? Annually

10. STORMWATER MANAGEMENT PROGRAM UPDATE (SECTION 4.4)

- A. Describe any changes to the MS4 program during the reporting period including but not limited to:
- Changes adding (but not subtracting or replacing) components, controls or other requirements (Section 4.4.2.a). Public Education and Outreach programs have been implemented. A Public Involvement and Participation Program has been expanded and improved. The Stormwater Management Manual has been updated and approved to include Permanent Stormwater Management in New Development and Redevelopment permit requirements.
- Changes to replace an ineffective or unfeasible BMP (Section 4.4.2.b). None

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Information (e.g. additional acreage, outfalls, BMPs) on program area expansion based on annexation or newly urbanized areas. None

Changes to the program as required by the division (Section 4.4.3). None

11. 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.

Indicator	Began Tracking (year)	Frequency	Number of Locations
<i>Example: E. coli</i>	<i>2003</i>	<i>Weekly April–September</i>	<i>20</i>

- 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. _____

12. ENFORCEMENT (SECTION 4.5)

- 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:

Action	Construction	Permanent Stormwater Controls	Illicit Discharge	Authority?	
Notice of violation	<u>#16</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Administrative fines	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Stop Work Orders	<u>#1</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Civil penalties	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Criminal actions	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Administrative orders	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Other <u>N/A</u>	<u>#0</u>	<u>#0</u>	<u>#0</u>		

- 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? Yes No

- C. What are the 3 most common types of violations documented during this reporting period? mud/sediment in the street, EPSC measures absent or EPSC measures not maintained.

13. PROGRAM RESOURCES (OPTIONAL)

- A. What was your annual expenditure to implement the requirements of your MS4 NPDES permit and SWMP this past reporting period? _____

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

C. Do you have an independent financing mechanism for your stormwater program? 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: _____ Amount \$ _____

Source: _____ Amount \$ _____

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)? 1

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

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
Building and Codes	Illicit Discharge Complaints, Small Lot EPSC Form	SWMM, Ordinance
Gas and Water	Illicit Discharge Complaints	SWMM, Ordinance
Clarksville-Montgomery County Planning Commission	Subdivision Plat Approval	SWMM, Ordinance

G. Please attach a copy of your Organizational Chart

14. CERTIFICATION

This report must be signed by a ranking elected official or by a duly authorized representative of that person. See signatory requirements in sub-part 6.7.2 of the permit.

"I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information 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. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury."

Printed Name and Title

Signature

Date

Annual reports must be submitted in accordance with the requirements of Section 5.4. (Reporting) of the permit. Annual reports must be submitted to the appropriate Environmental Field Office (EFO) by September 30 of each calendar year, as shown in the table below:

EFO	Street Address	City	Zip Code	Telephone
Chattanooga	540 McCallie Avenue STE 550	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 432-4015
Jackson	1625 Hollywood Drive	Jackson	38305	(731) 512-1300
Johnson City	2305 Silverdale Road	Johnson City	37601	(423) 854-5400

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Knoxville	3711 Middlebrook Pike	Knoxville	37921	(865) 594-6035
Memphis	8383 Wolf Lake Drive	Bartlett	38133	(901) 371-3000
Nashville	711 R S Gass Boulevard	Nashville	37216	(615) 687-7000

303(d) listed streams within City of Clarksville MS4

Waterbody ID	Impacted Waterbody	Cause	Pollutant Source
TN05130206002 - 0100	Dunbar Cave Creek	sedimentation/siltation physical substrate habitat alterations physical substrate habitat alterations sedimentation/siltation	Discharges from MS4 area Discharges from MS4 area Site Clearance Site Clearance
TN05130206034 - 1000	Little West Fork	dissolved Oxygen sedimentation/siltation total Phosphorus	Municipal Point Source Discharges NPS Pollution from Military Bases Municipal Point Source Discharges
TN05130206002 - 1000	Red River	other anthropogenic alterations sedimentation/siltation sedimentation/siltation nutrient/Eutrophication biological indicators Escherichia coli	Site Clearance Non-irrigated Crop Production Site Clearance Sanitary Sewer Overflows Sanitary Sewer Overflows
TN05130206002 - 2000	Red River	Nitrate+Nitrite Nitrites	Grazing in Riparian or Shoreline Zones Grazing in Riparian or Shoreline Zones
TN05130206002 - 0700	Seven Springs	sedimentation/siltation Nitrate+Nitrite Escherichia coli	Discharges from MS4 area Discharges from MS4 area Discharges from MS4 area
TN05130206002 - 0300	Spring Creek	sedimentation/siltation total Phosphorus Nitrate+Nitrite Nitrate+Nitrite sedimentation/siltation Total Phosphorus	Discharges from MS4 area Discharges from MS4 area Non-irrigated Crop Production Discharges from MS4 area Non-irrigated Crop Production Non-irrigated Crop Production
TN05130205015T -1100	Wall Branch	sedimentation/siltation Nitrate+Nitrite sedimentation/siltation	Discharges from MS4 area Discharges from MS4 area Off-road Vehicles
TN05130206039 - 1000	West Fork Red River	Nitrate+Nitrite total Phosphorus sedimentation/siltation other anthropogenic alterations	Discharges from MS4 area Discharges from MS4 area Site Clearance Site Clearance

Public Information and Education Summary of Events 2014-2015

September 2014

Clarksville Riverfest

Spoke to 250 people over the course of two days. Photos taken during the event were posted to the Street Department Facebook page.

The following educational materials were given to the attendees:

Water Quality Buffer-12

Water is Everyone's Business-35

After the Storm-13

Discover the Waters of Tennessee-195

Fishing bobbers with tags showing our "Only Rain in the Drain" logo and Facebook address-300

Stickers-Turtle-161

Fish-153

Stem Presentation at Montgomery Central Middle School

Jack Frazier gave a presentation on the causes, development and repair of sinkholes in the Clarksville area to 250 7th grade students.

October 2014

Hilldale Church of Christ aftercare program

Ashlie Farmer gave a presentation on water quality to 20 students in grades K-5 and their teachers. Photos taken during the event were posted to the Street Department Facebook page.

The following educational materials were given to the attendees:

Project WET book-Discover the Waters of Tennessee-22

Stickers-Turtle-35

Fish-33

November 2014

Storm Water Management Manual Revisions Letter and Meeting Invitation

A letter regarding recent revisions made to the Storm Water Management Manual and invitation to a public meeting and presentation was sent to local engineers, developers, contractors, and home builders. The letter and invitation was also posted to the Street Department Facebook page.

December 2014

Storm Water Management Manual Revisions Public Meeting

A meeting was held at the Planning Commission where Ashlie Farmer and Jeff Bryant gave a presentation on recent revisions made to the City of Clarksville's Storm Water Management Manual (SWMM). A group of 40 engineers, developers, contractors, and home builders attended the meeting. A copy of the presentation, updated SWMM and Small Lot EPSC Form was posted to the Street Department website.

Clarksville Montgomery County Home Builders Association (HBA) Meeting

Street Department staff including Ashlie Farmer, Jeff Bryant, Jack Frazier and George Steward met with six members of the HBA to discuss the recent Storm Water Management Manual (SWMM) revisions and answer specific questions regarding how the revisions may affect the building community. The Street Department provided an informational packet to attendees which included written answers to a list of questions previously provided by the HBA, a copy of the Small Lot EPSC form, pages from the Construction General Permit defining "operators" and "common plan of development," and a CD containing a full copy of the SWMM. A copy of the questions and answers was posted on the HBA website.

Stormwater Manufactured Treatment Devices Letter

A letter stating that effective January 1, 2015, any Stormwater Manufactured Treatment Device shall be designed, approved and listed on the New Jersey Corporation for Advanced Technology (NJCAT) website was sent to local engineers and posted on the Street Department website.

Erosion Prevention & Sediment Control (EPSC) Plan for Small Lots Letter

A letter addressing the new Erosion Prevention & Sediment Control (EPSC) Plan for Small Lots form, included as part of the recent Storm Water Management Manual revisions, was sent to local engineers, developers, contractors, and home builders. The letter was also posted to the Street Department and HBA website.

February 2015

Ashlie Farmer was invited to attend the Gobs Connection, a career networking event for students at APSU. This event gives alumni of APSU the opportunity to come back to campus and speak with students about their professional careers and how it relates to the student's particular field of study. Through the course of the day over 300 students came through and visited with approximately 100 alumni and local businesses.

Clarksville Chamber of Commerce Home and Garden Show

Ashlie Farmer and Jeff Bryant spoke to 150 people over the course of two days. A rain barrel was also given away through a drawing at the Street Department Booth. The event was promoted through the Street Department Facebook page. Photos taken during the event were also posted to the Street Department Facebook page.

The following educational materials were given to the attendees:

After the Storm-14

Discover the Waters of Tennessee-25

Rainwater: Your Liquid Asset A Home Stormwater Exercise-14

Rain Barrels Make Good Sense-48

Composting Yard Garden and Food Wastes at Home-45

Stickers-Turtle-44

Fish-42

Only rain in the Drain-36

Low Impact Development Requirements Letter

A letter addressing Low Impact Development (LID) design standards, as required by the MS4 permit and included as part of the recent Storm Water Management Manual revisions, was sent to local engineers, developers, contractors, and home builders. The letter was posted to the HBA website.

March 2015

The 50K Tree Day

A total of 70 volunteers, including Girl Scouts, Master Gardeners, UT Ag Extension Office and City and County employees came and were able to plant 548 trees in three local parks. Prior to the event, flyers were posted in municipal buildings, on the Street Department Facebook page and on the Montgomery County Building and Codes Website. The event was also promoted on various public calendars and events websites. Photos taken during the event were posted to the Street Department Facebook page.

April 2015

Training session on the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Construction Activities (CGP)

The City of Clarksville and Montgomery County partnered with the Clarksville Montgomery County Home Builders Association (HBA) to offer a professional training session focused on the requirements of the CGP. The session was led by Mr. John Chlarson, P.E. and was held during the Clarksville HBA regular membership meeting on April 9th, 2015. Prior to the meeting, a list of questions from the HBA members relating to TDEC fees and specific procedures was received and forwarded to TDEC to review and address. Ann Morbitt, Timmy Jeannette and Brooke Barrett with TDEC's Nashville Field Office attended the meeting to address the questions in person. Ann Morbitt addressed all the previously submitted TDEC related questions and held a short question and answer session during a meeting. A total of 61 engineers, developers, builders and guests attended the meeting and training session. Information about the training was posted on the HBA website and sent to local engineers, developers, contractors, and home builders prior to the event.

Low Impact Development (LID) workshop

The Clarksville Street Department held a Low Impact Development (LID) workshop to educate engineers, developers, builders and realtors on the new requirements associated with LID methods. Sara Johnson and Mary Halley with Amec Foster Wheeler led the workshop and provided each attendee with a binder containing all presentation materials. A total of 20 people attended the workshop. An informational flyer about the workshop was posted on the HBA website and was sent to local engineers, developers and builders prior to the event.

Rivers and Spires

Ashlie Farmer, Jackie Overholser and Jeff Bryant spoke to parents and children about storm water and water quality over the course of two days. The event was promoted through the Street Department Facebook page. Photos taken during the event were also posted to the Street Department Facebook page.

The following educational materials were given to the attendees:

Discover TN Waters-8

After the Storm-28

Water is Everyone's Business-22

Stickers-Turtle-93

Fish-95

Rain in the Drain-134

Triangular Silt Dike Field Demonstration

The Clarksville Street Department and the Triangular Silt Dike Company worked together to set up a field demonstration of a different type of erosion and sediment control product that is not typically seen or used in Clarksville. The owners agreed to donate and install several hundred feet of their product on three separate lots donated by local builders; Walt Nason, Jim Maynard and Rick Reda. A total of 25 people attended the demonstrations. Information about the demonstration was posted on the Street Department Facebook page prior to the event. Photos taken during the event were also posted to the Street Department Facebook page.

June 2015

Clarksville-Montgomery County Green Certification Workshop

Ashlie Farmer gave a water quality and MS4 permit requirements presentation to 15 attendees of a Clarksville-Montgomery County Green Certification Workshop. Attendees of the workshop represented the second group to complete the Green Certification Program in 2015.

Clarksville Montgomery County Schools Science Technology Engineering and Mathematics (STEM) Externship Program

The Street Department participated in a STEM Externship program offered through the Clarksville Montgomery County School System by hosting a group of three 3rd grade teachers from Ringgold Elementary School. During the week long externship, various members of our staff spent time with the teachers, both in the office and in the field discussing and demonstrating their particular area of expertise. The teachers not only observed but enthusiastically participated in all of the activities, some of which included street sign manufacturing, map designing, stream sampling, macroinvertebrate identification, surveying, traffic signal operation, construction site inspection and roadway paving. They even made a rain barrel which will be utilized at Ringgold Elementary School next year! Photos taken during the event were posted to the Street Department Facebook page.

City of Clarksville MS4

Organizational Chart

