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ENVIRONMENT & CONSERVATION
 CROSSVILLE FIELD OFFICE

Phase II Small Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 Information

Name of MS4: City of Crossville		MS4 Permit Number: TNS079987
Contact Person: Heath Blaylock		Email Address: heath.blaylock@crossvilletn.gov
Telephone: (931) 456-6947		MS4 Program Web Address:
Mailing Address: 392 N. Main St.		
City: Crossville	State: TN	ZIP code: 38555

What is the current population of your MS4? 11,200

What is the reporting period for this annual report? July 1 2016 to June 30 2017

2. Discharges to Waterbodies with Unavailable Parameters or Exceptional Tennessee Waters (Section 3.1)

- A. Does your MS4 discharge into waters with unavailable parameters (previously referred to as impaired) for pathogens, nutrients, siltation or other parameters related to stormwater runoff from urbanized areas as listed on TN's most current 303(d) list and/or according to the on-line state GIS mapping tool (tdeconline.tn.gov/dwr/)? If yes, attach a list. Yes No
- B. Are there established and approved TMDLs (<http://www.tn.gov/environment/article/wrws-tennessees-total-maximum-daily-load-tmdl-program>) with waste load allocations for MS4 discharges in your jurisdiction? If yes, attach a list. Yes No
- C. Does your MS4 discharge to any Exceptional Tennessee Waters (ETWs - http://environment-online.tn.gov:8080/pls/enf_reports/f?p=9034:34304:4880790061142)? If yes, attach a list. Yes No
- D. Are you implementing specific Best Management Practices (BMPs) to control pollutant discharges to waterbodies with unavailable parameters or ETWs? If yes, describe the specific practices: Preliminary stages in a new Ordinance Yes No

3. Public Education/Outreach and Involvement/Participation (Sections 4.2.1 and 4.2.2)

- A. Have you developed a Public Information and Education plan (PIE)? Yes No
- B. Is your public education program targeting specific pollutants and sources, such as Hot Spots? If yes, describe the specific pollutants and/or sources targeted by your public education program: Silt and Ecoli Yes No
- C. Do you have a webpage dedicated to your stormwater program? If yes, provide a link/URL: <http://www.crossvilletn.gov/index.php/departments/engineering-planning/stormwater-ms4-program> Yes No
- D. Summarize how you advertise and publicize your public education, outreach, involvement and participation opportunities: Flyers in waterbills, website advertising, and giving items out to the community such as (water bottles, hats, pens) with the Crossville Stormwater logo and phone number.
- E. Summarize the public education, outreach, involvement and participation activities you completed during this reporting period: Water Fest, Sustainability Fair, Speaking with local Schools

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- F. Summarize any specific successful outcome(s) (e.g., citizen involvement, pollutant reduction, water quality improvement, etc.) fully or partially attributable to your public education and participation program during this reporting period: We received a phone call from a citizen that had been at the sustainability fair and listened to our " only rain down the drain" presentaiton. They had called to ask when would be a could time to lime there property so it would not run off from a rain event.

4. Illicit Discharge Detection and Elimination (Section 4.2.3)

- A. Have you developed and do you continue to update a storm sewer system map that shows the location of system outfalls where the municipal storm sewer system discharges into waters of the state or conveyances owned or operated by another MS4? Yes No
- B. If yes, does the map include inputs into the storm sewer collection system, such as the inlets, catch basins, drop structures or other defined contributing points to the sewershed of that outfall, and general direction of stormwater flow? Yes No
- C. How many outfalls have you identified in your storm sewer system? 500
- D. Do you have an ordinance, or other regulatory mechanism, that prohibits non-stormwater discharges into your storm sewer system? Yes No
- E. Have you implemented a plan to detect, identify and eliminate non-stormwater discharges, including illegal disposal, throughout the storm sewer system? If yes, provide a summary: Dry weather visual screenings Yes No
- F. How many illicit discharge related complaints were received this reporting period? 0
- G. How many illicit discharge investigations were performed this reporting period? 2
- H. Of those investigations performed, how many resulted in valid illicit discharges that were addressed and/or eliminated? 2

5. Construction Site Stormwater Runoff Pollutant Control (Section 4.2.4)

- A. Do you have an ordinance or other regulatory mechanism requiring:
- Construction site operators to implement appropriate erosion prevention and sediment control BMPs consistent with those described in the TDEC EPSC Handbook? Yes No
- Construction site operators to control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste? Yes No
- Design storm and special conditions for unavailable parameters waters or Exceptional Tennessee Waters consistent with those of the current Tennessee Construction General Permit (TNR100000)? Yes No
- B. Do you have specific procedures for construction site plan (including erosion prevention and sediment BMPs) review and approval? Yes No
- C. Do you have sanctions to enforce compliance? Yes No
- D. Do you hold pre-construction meetings with operators of priority construction activities and inspect priority construction sites at least monthly? Yes No
- E. How many construction sites disturbing at least one acre or greater were active in your jurisdiction this reporting period? 10

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- F. How many active priority and non-priority construction sites were inspected this reporting period? 54 including anything disturbing more than 4,000sqft which is what our ordinance requires.
- G. How many construction related complaints were received this reporting period? 3

6. Permanent Stormwater Management at New Development and Redevelopment Projects (Section 4.2.5)

- A. Do you have a regulatory mechanism (e.g. ordinance) requiring permanent stormwater pollutant removal for development and redevelopment projects? If no, have you submitted an Implementation Plan to the Division? Yes No
 Yes No
- B. Do you have an ordinance or other regulatory mechanism requiring:
 Site plan review and approval of new and re-development projects? Yes No
 A process to ensure stormwater control measures (SCMs) are properly installed and maintained? Yes No
 Permanent water quality riparian buffers? If yes, specify requirements: Will be implemented in a new ordinance being worked on at this time. Yes No
- C. What is the threshold for development and redevelopment project plans plan review (e.g., all projects, projects disturbing greater than one acre, etc.)? Greater than one acre
- D. How many development and redevelopment project plans were reviewed for this reporting period? 10
- E. How many development and redevelopment project plans were approved? 10
- F. How many permanent stormwater related complaints were received this reporting period? 0
- G. How many enforcement actions were taken to address improper installation or maintenance? 2
- H. Do you have a system to inventory and track the status of all public and private SCMs installed on development and redevelopment projects? Yes No
- I. Does your program include an off-site stormwater mitigation or payment into public stormwater fund? If yes, specify. _____ Yes No

7. Stormwater Management for Municipal Operations (Section 4.2.6)

- A. As applicable, have stormwater related operation and maintenance plans that include information related to maintenance activities, schedules and the proper disposal of waste from structural and non-structural stormwater controls been developed and implemented at the following municipal operations:
- Streets, roads, highways? Yes No
- Municipal parking lots? Yes No
- Maintenance and storage yards? Yes No
- Fleet or maintenance shops with outdoor storage areas? Yes No
- Salt and storage locations? Yes No
- Snow disposal areas? Yes No
- Waste disposal, storage, and transfer stations? Yes No
- B. Do you have a training program for employees responsible for municipal operations at facilities within the jurisdiction that handle, generate and/or store materials which constitute a potential pollutant of concern for MS4s? Yes No

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If yes, are new applicable employees trained within six months, and existing applicable employees trained and/or retrained within the permit term? Yes No

8. Reviewing and Updating Stormwater Management Programs (Section 4.4)

- A. Describe any revisions to your program implemented during this reporting period including but not limited to:
 Modifications or replacement of an ineffective activity/control measure. None
 Changes to the program as required by the division to satisfy permit requirements. Working on new Ordinances at this time.
 Information (e.g. additional acreage, outfalls, BMPs) on newly annexed areas and any resulting updates to your program. 13.25 acres annexed and no new outfalls
- B. In preparation for this annual report, have you performed an overall assessment of your stormwater management program effectiveness? If yes, summarize the assessment results, and any modifications and improvements scheduled to be implemented in the next reporting period. A new Stormwater Ordinance will be implemented next reporting period which should continue improving the overall effectiveness of our Stormwater Program which includes permanent buffers, new detention requirements and pollutant removal from rain fall events. Yes No

9. Enforcement Response Plan (Section 4.5)

- A. Have you implemented an enforcement response plan that includes progressive enforcement actions to address non-compliance, and allows the maximum penalties specified in TCA 68-221-1106? If no, explain. _____ Yes No
- B. As applicable, identify which of the following types of enforcement actions (or their equivalent) were used during this reporting period; indicate the number of actions, the minimum measure (e.g., construction, illicit discharge, permanent stormwater management), and note those for which you do not have authority:

<u>Action</u>	<u>Construction</u>	<u>Permanent Stormwater</u>	<u>Illicit Discharge</u>	<u>In Your ERP?</u>	
Verbal warnings	<u>#6</u>	<u>#0</u>	<u>#1</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Written notices	<u>#4</u>	<u>#0</u>	<u>#1</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Citations with administrative penalties	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Stop work orders	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Withholding of plan approvals or other authorizations	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Additional Measures	<u>#0</u>	<u>#0</u>	<u>#0</u>	Describe: <u>_____</u>	

- C. Do you track instances of non-compliance and related enforcement documentation? Yes No
- D. What were the most common types of non-compliance instances documented during this reporting period? Not doing maintenance on erosion and sediment control measures.

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10. Monitoring, Recordkeeping and reporting (Section 5)

- A. Summarize any analytical monitoring activities (e.g., planning, collection, evaluation of results) performed during this reporting period. Ecoli Sampling
- B. Summarize any non-analytical monitoring activities (e.g., planning, collection, evaluation of results) performed during this reporting period. Visual stream survey
- C. If applicable, are monitoring records for activities performed during this reporting period submitted with this report. Yes No

11. 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 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."

James S. Mayberry
Mayor

Printed Name and Title



Signature

9-27-17
Date

Annual reports must be submitted by September 30 of each calendar year (Section 5.4) to the appropriate Environmental Field Office (EFO), identified in the table below:

EFO	Street Address	City	Zip Code	Telephone
Chattanooga	1301 Riverfront Pkwy, Suite 206	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 520-6688
Jackson	1625 Hollywood Drive	Jackson	38305	(731) 512-1300
Johnson City	2305 Silverdale Road	Johnson City	37601	(423) 854-5400
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

WaterBody ID	TN06010208015 – 0900
WaterBody	BYRD CREEK
County	Cumberland
Miles/Acres Impaired	32.01
Cause/TMDL Priority	Low Dissolved Oxygen (L)
Pollutant Source	Upstream Impoundment
Comments	Category 5 (impaired for one or more uses).
WaterBody ID	TN06010208015 – 0930
WaterBody	ONE MILE CREEK
County	Cumberland
Miles/Acres Impaired	8.5
Cause/TMDL Priority	Loss of biological integrity due to siltation (NA) Escherichia coli(M)
Pollutant Source	Land Development Collection System Failure
Comments	Category 5. EPA approved a siltation TMDL that addresses some of the known pollutants.
WaterBody ID	TN06010208013 – 2000
WaterBody	OBED RIVER
County	Cumberland
Miles/Acres Impaired	1.48
Cause/TMDL Priority	Flow Alteration (NA) Physical Substrate Habitat Alterations (NA)
Pollutant Source	Discharges from MS4 area Upstream Impoundment
Comments	Below Lake Holiday near Crossville. Category 4A, but flow alteration is 4c (impact not caused by a pollutant). EPA approved a habitat alteration TMDL that addresses the known pollutant.
WaterBody ID	TN06010208013 – 1000
WaterBody	OBED RIVER
County	Cumberland
Miles/Acres Impaired	14.5
Cause/TMDL Priority	Nitrate+Nitrite (M) Total Phosphorus (M)

Pollutant Source	Municipal Point Source Discharges from MS4 area
Comments	Category 5. Federally-listed species have been documented downstream of this section, in the Wild and Scenic River section.
WaterBody ID	TN06010208013 – 0200
WaterBody	LITTLE OBED RIVER
County	Cumberland
Miles/Acres Impaired	7.96
Cause/TMDL Priority	Total Phosphorus Nitrate+Nitrite (M) Loss of biological integrity due to siltation (NA) Escherichia coli (M)
Pollutant Source	Discharges from MS4 area Collection System Failure
Comments	Category 5. EPA approved a siltation TMDL that addresses some of the known pollutants
WaterBody ID	TN06010208013-0400
WaterBody	DROWNING CREEK
County	Cumberland
Miles/Acres Impaired	13.1
Cause/TMDL Priority	Loss of biological integrity due to siltation (NA)
Pollutant Source	Pasture Grazing
Comments	Category 4A. EPA approved a siltation/habitat alteration TMDL that addresses the known pollutants.

Tennessee Exceptional waters within the City limits of Crossville

6010208	Emory	Stillhouse Creek	Cumberland	Portion in Cumberland Mountain State Park.	Cumberland Mountain State Park	35.894	35.8914	-85.0328	-85.0343
6010208	Emory	Threemile Creek including tributaries	Cumberland	Entirety including tributaries and headwater branches.	Cumberland Mountain State Park, exceptional biological diversity. Evaluation worksheet completed by Brandon Chance, biologist.	35.9177	35.9105	-84.9902	-85.0461
6010208	Emory	Byrd Creek including unnamed tributaries in Cumberland Mountain State Park	Cumberland	Portion in Cumberland Mountain State Park including unnamed tributaries.	Cumberland Mountain State Park	35.8934	35.9094	-85.0419	-84.9922
6010208	Emory	Byrd Lake	Cumberland	Within Cumberland Mountain Sp.	Cumberland Mountain Sp	35.8948	35.9005	-85.0075	-85.9997
6010208	Emory	Coon Hollow Branch	Cumberland	Portion in Cumberland Mountain State Park.	Cumberland Mountain State Park	35.897	35.004	-84.9994	-85.004
6010208	Emory	Little Obed River	Cumberland	Approximately 0.3 mile upstream Genesis Road to origin.	State threatened Zigzag Bladderwort and Brown Bog Sedge.	35.9684	35.9771	-85.0125	-84.9985
6010208	Emory	Lake Holiday Unnamed Tributary	Cumberland	From northwest corner of Lake Holiday to origin.	State threatened Brown Bog Sedge	35.9559	35.9554	-85.0735	-85.0793
6010208	Emory	Little Obed River	Cumberland	Approximately 0.3 mile upstream Genesis Road to origin.	State threatened Zigzag Bladderwort and Brown Bog Sedge.	35.9684	35.9771	-85.0125	-84.9985

City of Crossville – Stormwater Department

E-Coli Bacteria – IDEXX COLILERT METHOD

Date Sample Collected 8-24-17 Time 10:15

Sample Collected by Zach Goss

Sample Source _____

Sample Set Up Date 8-24-17 Time 1023 Analyst JAD

Sample Take Out Date 8-25-17 Time 1103 Analyst JAD

	<u>Sample Vol</u>	<u>Positive Large Cells</u>	<u>Positive Small Cells</u>	<u>MPN</u>
Sample 1 Location <u>Byrd Creek</u>	<u>100ml</u>	<u>37</u>	<u>10</u>	<u>84</u>
Sample 2 Location <u>Little Obed</u>	<u>100ml</u>	<u>31</u>	<u>7</u>	<u>58</u>
Sample 3 Location <u>Obed</u>	<u>100ml</u>	<u>48</u>	<u>20</u>	<u>272</u>
Sample 4 Location <u>One Mile Creek</u>	<u>100ml</u>	<u>38</u>	<u>9</u>	<u>86</u>
Sample 5 Location _____	_____	_____	_____	_____
Sample 6 Location _____	_____	_____	_____	_____

City of Crossville – Stormwater Department

E-Coli Bacteria – IDEXX COLILERT METHOD

Date Sample Collected 8-25-17 Time 10:25

Sample Collected by Zach Goss

Sample Source _____

Sample Set Up Date 8-25-17 Time 1110 Analyst JRW

Sample Take Out Date _____ Time _____ Analyst _____

	<u>Sample Vol</u>	<u>Positive Large Cells</u>	<u>Positive Small Cells</u>	<u>MPN</u>
Sample 1 Location <u>Byrd Creek</u>	<u>100ml</u>	<u>49</u>	<u>33</u>	<u>501.2</u>
Sample 2 Location <u>Little Obed</u>	<u>100ml</u>	<u>33</u>	<u>7</u>	<u>63.8</u>
Sample 3 Location <u>Obed</u>	<u>100ml</u>	<u>26</u>	<u>4</u>	<u>41.4</u>
Sample 4 Location <u>One Mile Creek</u>	<u>100ml</u>	<u>17</u>	<u>1</u>	<u>21.6</u>
Sample 5 Location _____	_____	_____	_____	_____
Sample 6 Location _____	_____	_____	_____	_____

City of Crossville – Stormwater Department

E-Coli Bacteria – IDEXX COLILERT METHOD

Date Sample Collected 8-30-17 Time 11:00

Sample Collected by Zach Goss

Sample Source _____

Sample Set Up Date 8/30/17 Time 11:20 Analyst Kh

Sample Take Out Date 8/31/17 Time 10:45 Analyst Kh

	<u>Sample Vol</u>	<u>Positive Large Cells</u>	<u>Positive Small Cells</u>	<u>MPN</u>
Sample 1 Location <u>Byrd Creek</u>	<u>100 ml</u>	<u>16</u>	<u>1</u>	<u>20.1</u>
Sample 2 Location <u>Little Obed</u>	<u>100ml</u>	<u>31</u>	<u>7</u>	<u>58.1</u>
Sample 3 Location <u>Obed</u>	<u>100 ml</u>	<u>20</u>	<u>2</u>	<u>27.5</u>
Sample 4 Location <u>One Mile Creek</u>	<u>100 ml</u>	<u>43</u>	<u>9</u>	<u>114.5</u>
Sample 5 Location _____	_____	_____	_____	_____
Sample 6 Location _____	_____	_____	_____	_____

City of Crossville – Stormwater Department

E-Coli Bacteria – IDEXX COLILERT METHOD

Date Sample Collected 9-7-17 Time 10:00

Sample Collected by Zach Goss

Sample Source _____

Sample Set Up Date 9-9-17 Time 10:20 A Analyst KH

Sample Take Out Date 9-8-17 Time 9:45 A Analyst KH

	<u>Sample Vol</u>	<u>Positive Large Cells</u>	<u>Positive Small Cells</u>	<u>MPN</u>
Sample 1 Location <u>Byrd Creek</u>	<u>100ml</u>	<u>40</u>	<u>6</u>	<u>88.2</u>
Sample 2 Location <u>Little Obed</u>	<u>100ml</u>	<u>49</u>	<u>41</u>	<u>1203.3</u>
Sample 3 Location <u>Obed</u>	<u>100ml</u>	<u>49</u>	<u>48</u>	<u>72419.6</u>
Sample 4 Location <u>One Mile Creek</u>	<u>100ml</u>	<u>48</u>	<u>29</u>	<u>547.5</u>
Sample 5 Location _____	_____	_____	_____	_____
Sample 6 Location _____	_____	_____	_____	_____

City of Crossville – Stormwater Department

E-Coli Bacteria – IDEXX COLILERT METHOD

Date Sample Collected 9-8-17 Time 9:15

Sample Collected by Zach Goss

Sample Source _____

Sample Set Up Date 9-8-17 Time 9:40 A Analyst Kh

Sample Take Out Date 9-9-17 Time 10:30 A Analyst Kh

	Sample Vol	Positive Large Cells	Positive Small Cells	MPN
Sample 1 Location <u>Byrd Creek</u>	<u>100ml</u>	<u>35</u>	<u>5</u>	<u>663</u>
Sample 2 Location <u>Little Obed</u>	<u>100ml</u>	<u>49</u>	<u>22</u>	<u>387.3</u>
Sample 3 Location <u>Obed</u>	<u>100ml</u>	<u>49</u>	<u>48</u>	<u>72419.6</u>
Sample 4 Location <u>One Mile Creek</u>	<u>100ml</u>	<u>49</u>	<u>25</u>	<u>461.1</u>
Sample 5 Location _____	_____	_____	_____	_____
Sample 6 Location _____	_____	_____	_____	_____