



Tennessee Department of Environment and Conservation
 Division of Water Resources
 William R. Snodgrass Tennessee Tower,
 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
 1-888-891-8332 (TDEC)

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

1. MS4 Information

Name of MS4: City of Oak Ridge		MS4 Permit Number: TNS088366
Contact Person: Amy Snyder		Email Address: asnyder@oakridgetn.gov
Telephone: (865) 425-1829		MS4 Program Web Address: http://stormwater.oakridgetn.gov/
Mailing Address: 100 Woodbury Lane PO Box 1		
City: Oak Ridge	State: TN	ZIP code: 37831

What is the current population of your MS4? 29,419

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/wr-ws-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: Increased street sweeping throughout the city to reduce sediment - approx. 1,280 miles of road swept, and 12 large parking lots. Developed three BMP guides for local businesses and mailed them to 40 businesses to reduce pollutants. Increased water quality education and outreach activities to citizens in all age groups. Conducted regular EPSC inspections on residential land disturbance projects (under 1 acre). Conducted at least monthly EPSC inspections on all construction sites over 1 acre. 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: E. coli, siltation, habitat alteration, yard waste, household hazardous waste, and pollutants from auto repair shops, parking lots, kennels, food establishments, and retail gasoline outlets. Yes No

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- C. Do you have a webpage dedicated to your stormwater program? If yes, provide a link/URL: <http://stormwater.oakridgetn.gov/> Yes No
- D. Summarize how you advertise and publicize your public education, outreach, involvement and participation opportunities: Stormwater website, City website, fliers, social media, tabling at events, verbal communication with citizens and volunteers, presentations.
- E. Summarize the public education, outreach, involvement and participation activities you completed during this reporting period: See item 3E
- 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: The Contractor's Education Session was a success. We have seen an overall decrease in sedimentation, and an increase in construction compliance in that neighborhood. We also have been receiving more phone calls/emails about citizen concerns on water quality or suggestions on how to improve our program. We also launched an Adopt-A-Stream program, and have two citizen groups so far. Our stormwater management website has had more sessions and users from the public than any other advertising means, so we will continue to utilize it for communication as much as possible.

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? 1,237
- 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: See ITEM 4E Yes No
- F. How many illicit discharge related complaints were received this reporting period? 3
- G. How many illicit discharge investigations were performed this reporting period? 7
- H. Of those investigations performed, how many resulted in valid illicit discharges that were addressed and/or eliminated? 4

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

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- 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? 7
- F. How many active priority and non-priority construction sites were inspected this reporting period? 7 - We consider all construction sites that are one acre or greater as priority sites.
- G. How many construction related complaints were received this reporting period? 0 complaints from construction sites over one acre. 8 complaints from construction projects under one acre.
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: 30 ft average with 15 ft minimum at any measured location; exceptional or impaired waters 60 ft 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.)? all projects
- D. How many development and redevelopment project plans were reviewed for this reporting period? 149 residential, 19 non-residential projects reviewed - 3 required permanent stormwater
- E. How many development and redevelopment project plans were approved? 149 residential, 19 non-residential projects approved
- 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? no enforcement actions needed
- 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

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- I. Does your program include an off-site stormwater mitigation or payment into public stormwater fund? If yes, specify. For projects that cannot meet 100% of the runoff reduction measures, the City Manager or designee may allow runoff reduction measures to be implemented at another location within the same USGS 12-digit hydrologic unit code as the original project. Off site mitigation must be a minimum of 1.5 times the amount of water not managed on site... City of Oak Ridge Stormwater Management Ordinance Section 14-505(f). Please note, the City of Oak Ridge has not found a need for this part of the program yet. 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
- 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. none
- Information (e.g. additional acreage, outfalls, BMPs) on newly annexed areas and any resulting updates to your program. none
- 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. Yes No

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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. We have an ERP, but are working to incorporate an enforcement matrix into the program. 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>#5 issued for sites over 1 acre; 29 issued for sites under 1 acre</u>	<u>#0</u>	<u>#2</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Written notices	<u>#1 issued for site over 1 acre; 12 issued for sites under 1 acre</u>	<u>#0</u>	<u>#1</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Citations with administrative penalties	<u>#2 issued for sites under 1 acre</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Stop work orders	<u>#1 issued for site over 1 acre</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>#1</u>	Describe: <u>Verbal warning and recoverable costs from cleaning the contaminated storm lines.</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? Improper silt fence installation, missing or not maintained EPSC measures, tracking of mud on road

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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. A meeting was held between the City of Oak Ridge Stormwater and Oak Ridge National Lab to collaborate on benethic macroinvertebrate collection in East Fork Poplar Creek. Previous data collected by ORNL in August 2016 will be used as a baseline, and new data will be submitted as collected and evaluated (predicted to be annually). The first benethic macroinvertebrate collaborative field collection in East Fork Poplar Creek is scheduled for August 2017. A draft analytical monitoring plan has been written for the City of Oak Ridge.
- B. Summarize any non-analytical monitoring activities (e.g., planning, collection, evaluation of results) performed during this reporting period. Equipment purchased for data collection - Ipad and ESRI Collector App is currently being programed for field data collection. Expected to start collecting data soon.
- 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."

Mark S. Watson
 City Manager

 Printed Name and Title

Mark S Watson

 Signature

9/25/17

 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

ITEM 2A

Lower Clinch River “Final 2014 303(d) List (approved May 2016)”

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE/TMDL Priority	Pollutant Source	COMMENTS
TN06010207006T - 0900	SCARBORO CREEK	Anderson	1.99	Escherichia coli	Urbanized High Density Area	Stream is Category 5. (One or more uses impaired.)
TN06010207006T - 1100	ERNIES CREEK	Anderson	4.1	Escherichia coli	Urbanized High Density Area	Stream is Category 5. (One or more uses impaired.)
TN06010207026 – 1000	EAST FORK POPLAR CREEK	Roane	9.7	Escherichia coli Loss of biological integrity due to siltation Nitrate+Nitrite Total Phosphorus	Municipal Point Source Collection System Failure Urbanized High Density Area	Impacted by releases at DOE’s Oak Ridge facilities (K-25, Y-12, ORNL). Fishing advisory due to mercury and PCBs. Bacteria levels are elevated due to sources in the Oak Ridge area. Category 5. EPA approved siltation and pathogen TMDLs that address some of the known pollutants. WPA should develop the TMDL for DOE facilities
TN06010207026 – 2000	EAST FORK POPLAR CREEK	Anderson Roane	11.3	Escherichia coli Loss of biological integrity due to siltation Nutrients Other Anthropogenic Habitat Alterations	Urbanized High Density Area	Same as previous segment.

ITEM 2B

Lower Clinch River Approved TMDLs

Pathogens

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE/TMDL Priority	Pollutant Source	GOALS
TN06010207026 – 1000	EAST FORK POPLAR CREEK	Roane	9.7	Pathogens	MS4s, 68.1%	The concentration of the E. coli group shall not exceed 126 CFU per 100mL , as a geometric mean based on a minimum of 5 samples collected from a given sampling site over a period of not more than 30 consecutive days with individual samples being collected at intervals of not less than 12 hrs.
TN06010207026 – 2000	EAST FORK POPLAR CREEK	Anderson Roane	11.3	Pathogens	MS4s, 68.1%	Same as previous segment.

Siltation and Habitat Alteration

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE/TMDL Priority	Pollutant Source	GOALS (WLAs)
TN06010207026 – 1000	EAST FORK POPLAR CREEK	Roane	9.7	Habitat loss due to alteration in stream-side littoral vegetative cover	MS4s, and Construction Stormwater	The TMDL Required Overall Load Reduction is 50.8%. The WLA from MS4s and Construction Stormwater is 53.3%.
TN06010207026 – 2000	EAST FORK POPLAR CREEK	Anderson Roane	11.3	Loss of biological integrity due to siltation/Habitat loss due to alteration in stream-side or littoral vegetation cover	MS4s, and Construction Stormwater	Same as previous segment.

ITEM 2C

Lower Clinch River Exceptional TN Waters

HUC	Watershed Name	Waterbody	County	Description	Basis for Inclusion	Inclusion Date
06010207	Clinch-Lower	Clinch River Unnamed Tributary	Anderson	From Clinch River (Melton Hill Reservoir) to origin	State threatened Copper Iris	OCT-26-2007
06010207	Clinch-Lower	Mill Branch	Anderson	From East Fork Poplar Creek to headwaters	Exceptional biological diversity, WPC reference stream for ecoregion 67i.	Not listed
06010207	Clinch-Lower	Gum Hollow Branch Unnamed Tributary	Anderson	Headwater tributary from Gum Hollow Branch to origin	State threatened Mountain Witch Alder	DEC-04-2007
06010207	Clinch-Lower	Gum Hollow Branch	Anderson	From headwater tributary to origin	State threatened Copper Iris	OCT-26-2007
06010207	Clinch-Lower	Brushy Fork	Anderson	From Highland Trail to Jones Hollow tributary	State endangered Valley Flame Crayfish	FEB-02-2012

ITEM 3E. Public Information and Education Metrics FY 2016

Activity	Supporting Documentation	Metric
Brochure Distribution	Healthy Waters Brochure	71
	Adopt-A-Stream Brochure	41
	TN Construction Guide to Clean Water	20
	TN Homeowner's Guide to Clean Water	20
	Oak Ridge's Guide to Sediment and Erosion Control	27
Oak Ridge Stormwater Management Program Website and Healthy Waters Facebook Page	AmeriCorps Stormwater Team of Oak Ridge Facebook Page	Increased from 149 to 207 total page likes
	Oak Ridge Stormwater Management Program Website	199 users, 334 sessions
Public Service Announcements	20 PSAs created by Oak Ridge High School Students	3 aired on local tv channel. Each PSA aired once per day for 30 days. 90 spots total.
Public School Outreach	Biweekly lesson taught at four Honors Biology classes at Oak Ridge High School (October – May)	106 total students 2 teachers
	Monthly lessons taught at Girls Inc. after school program (Nov - Feb)	20 students 1 teacher
	Glenwood Elementary WaterFest Introduction.	20 students 1 teacher
	Oak Ridge High School AP Environmental Science Field Trip with Deni Sobek. May 16 th	40 students 6 chaperones
Public Workshops	Pat Imperato Tree Workshop. November 12 th	7 participants
	Rain Barrel Workshop. April 29 th	24 participants 17 rain barrels sold
	100K Tree Day. Feb 25 th	40 participants
	Wetland Restoration Phase I. March 5 th and March 23 rd	15 participants
Watershed Groups	Water Quality Forum/Quarterly Meetings	4 attended
	TNSA Regional/Annual Meeting(s)	4/1 attended
Public Notices	City Newsletter articles	7
	Press Releases	5
Hazardous Waste Collection Event	Anderson County/City of Oak Ridge Collection event	1 event

Bulk Trash/Yard Waste Collection Events	Adopt-A-Stream Cleanup – 2 groups	3 bags; 6 bags, 7 tires
	Great American Cleanup at Melton Lake May 6 th	2 groups; 7 bags
	Weed Wrangle Invasive Removal Event at Cedar Barrens. March 4 th	1 event
Exhibitions/Speaking Engagements	COR Farmers' Market. January 14 th and Feb 4 th .	10 participants
	Earth Day in Oak Ridge. April 22 nd .	6 participants
	American Public Works Week- Open house. May 25 th	150 attendees
	"Waters of Oak Ridge" presentation at Roane State Community College. November 9 th .	40 attendees
Contractor Education	Contractor Education Workshop. September 21 st	7 participants
Pre-Construction Meetings	Meetings that were held to discuss erosion and sedimentation control measures prior to construction of disturbances 1 acre or greater.	4 sites
Municipal Employee Training	Public Works Safety meeting	27 participants
	Public Works Newsletter articles	4 articles
Outreach to Professional Chemical Applicators	BMP Guide developed and posted on website	2 hits