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: Belle Meade		MS4 Permit Number: TNS075159
Contact Person: Larry Smith		Email Address: lsmith@citybellemeade.org
Telephone: (615) 297-6041		MS4 Program Web Address: http://www.citybellemeade.org/stormwater
Mailing Address: 4705 Harding Road		
City: Nashville	State: TN	ZIP code: 37205

What is the current population of your MS4? 3,300

What is the reporting period for this annual report? July1 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: Public education at Belle Meade County Club targeting Richland Creek (TN05130202314_3000) resulted in the installation of a sealed system to deal with excess nutrients. Newsletter articles about not disposing of landscape debris in streams and channels also help to target nutrient pollution. ☒ 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: The City approach targets two main audiences: the development community (contractors, architects, engineers) and residents. For sediment and other construction-related potential pollution, the City educates contractors during the land disturbance permit process. The monthly City newsletter includes stormwater-related topics for residential education for at least 2 months per year. ☒ Yes ☐ No

C. Do you have a webpage dedicated to your stormwater program? If yes, provide a link/URL: http://www.citybellemeade.org/stormwater ☒ Yes ☐ No

D. Summarize how you advertise and publicize your public education, outreach, involvement and participation opportunities: The City uses emails and the newsletter to announce stormwater related events or meetings. The City's website is used to advertise public involvement opportunities such as commissioner meetings.

E. Summarize the public education, outreach, involvement and participation activities you completed during this reporting period:

Public education at Belle Meade County Club targeting Richland Creek (TN05130202314_3000) resulted in the installation of a sealed system to deal with excess nutrients.

St. George's church was contacted to make them aware they need to clean out the stream flowing under their building once a year.

The monthly newsletter contained several stormwater-related articles this year including: November 2016 (landscape debris article), January 2017 (Weed Wrangle event advertised), February 2017 (stormwater runoff from impervious surfaces), March 2017 (recap of Weed Wrangle event in City at Deer Park Circle and Jackson Boulevard pocket park), April 2017 (stormwater permitting and invasive plant articles), May 2017 (invasive plant article).

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: Public education at Belle Meade County Club targeting Richland Creek (TN05130202314_3000) resulted in the installation of a sealed system to deal with excess nutrients. March 4, 2017 Weed Wrangle event was held at Deer Park Circle and Jackson Boulevard pocket park. A drainage swale is located within this pocket park that drains to an unnamed tributary of Richland Creek. Since invasive plants can shade-out other native plants, erosion can happen under the invasive plants' canopy. This event helped raise awareness about the importance of native plants and preventing erosion.

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? 60

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: Once per permit cycle the outfalls are screened for illicit discharges. Staff have been educated on illicit discharges and inspect them on a daily basis during normal activities. ☒ Yes ☐ No

F. How many illicit discharge related complaints were received this reporting period? 1

G. How many illicit discharge investigations were performed this reporting period? 3

H. Of those investigations performed, how many resulted in valid illicit discharges that were addressed and/or eliminated? 3

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? 4

F. How many active priority and non-priority construction sites were inspected this reporting period? 38

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: See attached	☒ 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.)? See attached

D. How many development and redevelopment project plans were reviewed for this reporting period? 23

E. How many development and redevelopment project plans were approved? 13

F. How many permanent stormwater related complaints were received this reporting period? 2

G. How many enforcement actions were taken to address improper installation or maintenance? 0

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

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. N/A

Information (e.g. additional acreage, outfalls, BMPs) on newly annexed areas and any resulting updates to your program. None - annexation is not applicable for the City due to Metro Nashville charter

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. The City website update was just completed in August 2017. The City plans to schedule a public meeting to demonstrate the new website for engineers and the development community within Permit Year 2. Additionally, a separate meeting with residents may be scheduled. The PIE plan will be updated to focus on effective methods that were most effective under the last Permit term. The stormwater input and outfall map completed in 2015 was updated with new FEMA floodplain boundaries in 2017. An ordinance revision may be initiated to address other permanent stormwater requirements after the pending appeals are heard in November 2017 and additional guidance is provided by TDEC. Stream cleanup and street sweeping operations continued through Permit Year 1 and are documented in the City's stormwater Evernote account. The topic of evaluation methods for new and existing flood management projects was discussed at a June 26, 2017 meeting at City Hall. The understanding going forward is that proposed projects that seek to mitigate flooding will be reviewed on a case-by-case basis during the course of pre-application meetings and the site plan review process. Water quality improvement measures will be discussed among the design engineer, consultant reviewing engineer, and City manager and recommended as appropriate.

☒ 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:

Action	Construction	Permanent Stormwater	Illicit Discharge	In Your ERP?	
Verbal warnings	#7	#0	#3	☒ Yes	☐ No
Written notices	#2	#0	#0	☒ Yes	☐ No
Citations with administrative penalties	#2	#0	#0	☒ Yes	☐ No
Stop work orders	#1	#0	#0	☒ Yes	☐ No
Withholding of plan approvals or other authorizations	#0	#0	#0	☒ Yes	☐ No
Additional Measures	#0	#0	#0	Describe: N/A	

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? Construction related complaints.

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. N/A

B. Summarize any non-analytical monitoring activities (e.g., planning, collection, evaluation of results) performed during this reporting period. N/A

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 V HUNT - MAYOR
Printed Name and Title

Signature

September 27, 2017
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

Section 2.A. - List of Waters with Unavailable Parameters in Jurisdiction Based on TDEC Viewer as of August 2017

Waterbody Name	Waterbody Description	Waterbody I.D. #	Cause(s)	Source Name(s)
Richland Creek	Briley Parkway to Jocelyn Hollow Branch	TN05130202314_2000	Other anthropogenic substrate alterations	Municipal (Urbanized High Density Area)
			Escherichia coli	Sanitary Sewer Overflows (Collection System Failures)
			Phosphorus (Total)	Discharges from Municipal Separate Storm Sewer Systems (MS4)
			Nitrate/Nitrite (Nitrite + Nitrate as N)	Discharges from Municipal Separate Storm Sewer Systems (MS4)
Richland Creek	Jocelyn Hollow Branch to headwaters	TN05130202314_3000	Phosphorus (Total)	Discharges from Municipal Separate Storm Sewer Systems (MS4)
			Nitrate/Nitrite (Nitrite + Nitrate as N)	Discharges from Municipal Separate Storm Sewer Systems (MS4)
			Other anthropogenic substrate alterations	Municipal (Urbanized High Density Area)
			Escherichia coli	Discharges from Municipal Separate Storm Sewer Systems (MS4)
Sugartree Creek	Richland Creek to headwaters	TN05130202314_0400	*Escherichia coli*	Discharges from Municipal Separate Storm Sewer Systems (MS4)
			Phosphorus (Total)	Discharges from Municipal Separate Storm Sewer Systems (MS4)
			Oxygen, Dissolved	Discharges from Municipal Separate Storm Sewer Systems (MS4)
			Other anthropogenic substrate alterations	Municipal (Urbanized High Density Area)
			Nitrate/Nitrite (Nitrite + Nitrate as N)	Discharges from Municipal Separate Storm Sewer Systems (MS4)
Jocelyn Hollow Branch	Richland Creek to headwaters	TN05130202314_0800	*Escherichia coli*	Discharges from Municipal Separate Storm Sewer Systems (MS4)
			Nitrate/Nitrite (Nitrite + Nitrate as N)	Discharges from Municipal Separate Storm Sewer Systems (MS4)
			Phosphorus (Total)	Discharges from Municipal Separate Storm Sewer Systems (MS4)

Section 2.B. TMDLs with Waste Load Allocations for MS4 Discharges

Summary (cont'd) of TMDLs, WLAs, & LAs expressed as daily loads for Impaired Waterbodies in the Lower Cumberland Watershed (HUC 05130202)

HUC-12 Subwatershed (05130202__) or Drainage Area (DA)	Impaired Waterbody Name	Impaired Waterbody ID	TMDL	MOS	WLAs			LAs
					WWTFs [a]	Leaking Collection Systems	MS4s	
			[CFU/day]	[CFU/day]	[CFU/day]	[CFU/day]	[CFU/day/acre]	[CFU/day/acre]
0105	Earthman Fork	TN05130202010 – 0400	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$5.158 \times 10^{6} * Q$	$5.158 \times 10^{6} * Q$
	Ewing Creek	TN05130202010 – 0800	$1.20 \times 10^{10} * Q$	$1.20 \times 10^{9} * Q$	NA	0	$1.273 \times 10^{6} * Q$	$1.273 \times 10^{6} * Q$
	Little Creek	TN05130202010 – 0700	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$6.263 \times 10^{6} * Q$	$6.263 \times 10^{6} * Q$
	Whites Creek	TN05130202010 – 1000	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$5.251 \times 10^{5} * Q$	$5.251 \times 10^{5} * Q$
0106	Bosley Springs Branch	TN05130202314 – 0300	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$1.434 \times 10^{7} * Q$	$1.434 \times 10^{7} * Q$
	Jocelyn Hollow Branch	TN05130202314 – 0800	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$1.249 \times 10^{7} * Q$	$1.249 \times 10^{7} * Q$
	Murphy Road Branch	TN05130202314 – 0200	$1.20 \times 10^{10} * Q$	$1.20 \times 10^{9} * Q$	NA	0	$2.166 \times 10^{7} * Q$	$2.166 \times 10^{7} * Q$
	Richland Creek	TN05130202314 – 1000	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$1.214 \times 10^{8} * Q$	$1.214 \times 10^{8} * Q$
	Richland Creek	TN05130202314 – 2000	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$7.055 \times 10^{5} * Q$	$7.055 \times 10^{5} * Q$
	Richland Creek	TN05130202314 – 3000	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$1.605 \times 10^{6} * Q$	$1.605 \times 10^{6} * Q$
	Sugartree Creek	TN05130202314 – 0400	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$6.917 \times 10^{6} * Q$	$6.917 \times 10^{6} * Q$
	Unnamed Tributary to Richland Creek	TN05130202314 – 0100	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$1.457 \times 10^{8} * Q$	$1.457 \times 10^{8} * Q$
	Vaughns Gap Branch	TN05130202314 – 0700	$1.20 \times 10^{10} * Q$	$1.20 \times 10^{9} * Q$	NA	0	$5.950 \times 10^{6} * Q$	$5.950 \times 10^{6} * Q$
	Vaughns Gap Branch	TN05130202314 – 0750	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$1.140 \times 10^{7} * Q$	$1.140 \times 10^{7} * Q$
0201	Mill Creek	TN05130202007 – 5000	$1.20 \times 10^{10} * Q$	$1.20 \times 10^{9} * Q$	NA	0	$4.876 \times 10^{5} * Q$	$4.876 \times 10^{5} * Q$
0202	Finley Branch	TN05130202007 – 0300	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$5.951 \times 10^{7} * Q$	$5.951 \times 10^{7} * Q$
	Mill Creek	TN05130202007 – 3000	$1.20 \times 10^{10} * Q$	$1.20 \times 10^{9} * Q$	NA	0	$2.467 \times 10^{5} * Q$	$2.467 \times 10^{5} * Q$
	Pavillion Branch	TN05130202007 – 1500	$2.30 \times 10^{10} * Q$	$2.30 \times 10^{9} * Q$	NA	0	$3.685 \times 10^{7} * Q$	$3.685 \times 10^{7} * Q$

Section 2.C. - List of Exceptional Tennessee Waters (ETWs) to which the MS4 discharges

Waterbody Name	Waterbody Description	HUC	Reason for Inclusion
Jocelyn Hollow Branch	Portion in Belle Meade Mansion State Historic Area	05130202	Belle Meade Mansion State Historic Area
Vaughns Gap Branch	Portion in Belle Meade Mansion State Historic Area	05130202	Belle Meade Mansion State Historic Area
Richland Creek	From just D/S "the temple" to upstream boundary of Belle Meade Mansion State Historic Area	05130202	Belle Meade Mansion State Historic Area and state threatened Water Stitchwort

Section 6.B. – Water Quality Riparian Buffer Requirements

12-209. Water quality buffers. (1) Scope. A water quality buffer shall be established, protected, and maintained along all community waters in areas of new development and redevelopment for which a land disturbance permit, as defined in § 12-205, is required in accordance with Table 3 or Table 4 below, as applicable. The goal of the water quality buffer is to preserve undisturbed vegetation that is native to the strearnside habitat in the area of the project. Vegetated, preferably native, water quality buffers protect water bodies by providing structural integrity and canopy cover, as well as stormwater infiltration, filtration and evapotranspiration.

Section 6.B. (con't) – Water Quality Riparian Buffer Requirements

Table 3 - Water Quality Buffer Requirements for Sites That Disturb <1 acre (no CGP coverage required)		
Community water characteristics	Permanent buffer	During construction (temporary) buffer
All community waters	20-feet (City-approved buffer enhancement plan required for temporary buffer encroachment)	20-feet (City-approved buffer enhancement plan required for temporary buffer encroachment)

Table 4-Water Quality Buffer Requirements for Sites That Require CGP Coverage		
Community water characteristics	Permanent buffer	During construction (temporary) buffer
Community water drainage area <1 square mile and not designated as impaired or an Exceptional Tennessee Water (ETW)	30-feet	30-feet (Can be established on an average basis as long as minimum is 15-feet. City approved buffer enhancement plan required for CGP-allowable, temporary buffer enchroachment.)
Community water drainage area <1 square mile and designated as impaired or an Exceptional Tennessee Water (ETW)	30-feet	60-feet (Can be established on an average basis as long as minimum is 30-feet.)
Community water drainage area >1 square mile and not designated as impaired or an Exceptional Tennessee Water (ETW)	60-feet (Can be established on an average basis as long as minimum is 30-feet.)	30-feet (Can be established on an average basis as long as minimum is 15-feet. City approved buffer enhancement plan required for CGP-allowable, temporary buffer enchroachment.)
Community water drainage area >1 square mile and designated as impaired or an Exceptional Tennessee Water (ETW)	60-feet (Can be established on an average basis as long as minimum is 30-feet.)	60-feet (Can be established on an average basis as long as minimum is 30-feet.)
Note: "Impaired" refers to community water that is impaired for siltation and habitat alteration.		

Section 6.C. – Water Quality Riparian Buffer Requirements

(2) Land development. This section shall be applicable to all land development, including, but not limited to, site plan applications, subdivision applications, and land disturbance applications. These standards apply to any new development or redevelopment site according to Table 1 below:

Table 1 - Land Disturbance Permit (LDP)

Total Disturbed area	LDP Required?	City forms/checklists to complete	Stormwater Management Plan required?	Construction General Permit (CGP) coverage required?	Water Quality Buffer Required?
<10,000 ft	No	None	No	No	No
10,000 ft^2-0.99 acre	Yes	General, Checklist 1-3	Yes; See Checklist 3 and Table 2	No	See Table 3
1 acre or more	Yes	General, Checklist 1-3	Yes; See Checklist 3 and Table 2	Yes	See Table 4