

Tennessee Department of Environment and Conservation Division of Water Pollution Control Enforcement and Compliance Section L&C Annex, 6th Floor, 401 Church Street Nashville, TN 37243 (615) 532-0625

Small Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 Information						
City of Brentwood						
Name of MS4						
Matthew White						
Name of Contact Person						
(615) 371-0080						
Telephone (including area code)						
-						
P.O. Box 788 Mailing Address						
Mailing Address		TEN I	27024			
Brentwood		TNState	37024 ZIP code			
City						
What is the current population of ye	our MS4? 37,06	00				
What is the reporting period for thi	s annual report?	From 7/1/11	to 6/30/12			
2. PROTECTION OF STATE OR FE	DERALLY LISTED	SPECIES				
A Are any of the MS4 discha	rges or discharge-re	elated activities li	kely to jeopar	dize □ Y	es 🛛	No
any state or federally listed	species (Part 3, S)	pecial Condition	s, General Pe	rmit		
for Phase II MS4s)				C 1 11 15		or out part
B. Please attach the determina	tion of the effect of	f the MS4 dischar	rges on state o	r rederally lis	tea species i	per suo-part
3.2.1						
WATER QUALITY PRIORITIESA. Does your MS4 discharge	ta watana liatad as i	mpaired on the st	ate 303(d) list	? ⊠Y	es 🗆	No
				_		EPA for
B. If yes, identify each impair each, and whether the TMI	red water, the impai	irment cause(s), \ MS4 as a source (vhether a TMI of the impairm	or nas been a ent.	pproved by	LIAIO
	Cause/TMDL Pr		Approved		MS4 Assign	ed to WLA
Waterbody I.D. #		101 ity	☐ Yes	⊠ No	⊠ Yes	□No
Owl Creek & Tribs	Sedimentation		_	⊠ No	⊠ Yes	□ No
Holt Creek& Spencer Creek	Sedimentation		☐ Yes			□ No
Beech Creek & Little Harpeth	Sedimentation		☐ Yes	⊠ No	. 🛚 Yes	<u> </u>
River			racting? Cons	truction Distu	rbance & S	treambank
C. What specific sources of the	nese pollutants of c	oncern are you ta	rgenng: <u>Cons</u>	iruction Disto	rounce co o	
Erosion. D. Do you have discharges to	any Evantional T	N Waters (ETWs	a) or Outstandi	ng National	r=2 3.7	□ Ma
D. Do you have discharges to Resource Waters (ONRW	s)?	IN Waters (ET W.	y or outstand		⊠ Yes	□ No
		ovisions to ensure	the continued	integrity of	⊠ Yes	☐ No
E. Are you implementing add ETWs or ONRWS located	within your jurisd	iction?				
4 Public Education and Pul	RLIC PARTICIPATION	ON				
 A. Is your public education p 	rogram targeting sp	pecific pollutants	and sources of	fthose	⊠ Yes	□ No
pollutants?						

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

program? Residential impacts, to include car washing and maintenance, yard fertilizers, animal and yard waste, and erosion prevention and sediment control. C. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period. None Do you have an advisory committee or other body comprised of the public and other □ Yes ⋈ No stakeholders that provides regular input on your stormwater program? Provide a summary of all public meetings required by the permit. Public Hearing for Annual Report Ε. 5. CODES AND ORDINANCES REVIEW AND UPDATE A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report? ☐ Yes X No B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent stormwater management. The City of Brentwood's Stormwater Ordinance has been revised to include water quality treatment and maintenance regulations. Also, the City has adopted a Water Quality BMP manual to assist developers in choosing treatment BMPs. Final changes to the Subdivision Regulations, which will complement the Stormwater Ordinance with regard to permanent stormwater management, will be accomplished in the next 12 to 18 months. 6. CONSTRUCTION A. Do you have an ordinance or adopted policies stipulating: ☐ No Erosion and sediment control requirements? □ No Other construction waste control requirements? □ No ⊠ Yes Requirement to submit construction plans for review? □ No MS4 enforcement authority? B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period?11 C. How many of these active sites did you inspect this reporting period? D. On average, how many times each, or with what frequency, were these sites inspected Monthly Monthly (e.g., weekly, monthly, etc.)? E. Do you prioritize certain construction sites for more frequent inspections? ☐ No ⊠Yes If Yes, based on what criteria? Based on priority watershed to impaired waters or critical habitat 7. ILLICIT DISCHARGE ELIMINATION Have you completed a map of all outfalls and receiving waters of your storm sewer □ No ⊠ Yes system? □ No Have you completed a map of all storm drain pipes of storm sewer system? ⊠Yes В. How many outfalls have you identified in your system? 327 C. How many of these outfalls have been screened for dry weather discharges? 327 How many of these have been screened more than once? $\underline{0}$ Ε. What is your frequency for screening outfalls for illicit discharges? ongoing daily by City staff during F. normal duties Do you have an ordinance that effectively prohibits illicit discharges? □ No G. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been H. reported to you)? Of those illicit discharges/illegal connections that have been discovered or reported, how many have been I. 1, Site investigation discovered project underway to install a large diameter metal culvert across a stream. No permits had been issued by the City and none were posted from TDEC. The City issued a Stop Work Order untill all permits were issued and the proper erosion prevention and sediment control measures were installed. 8. STORMWATER MANAGEMENT FOR MUNICIPAL OPERATIONS A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:

		Sman Municipal Separate Storm Sewer System (MS4) Annual Rep	ULI	
		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
	В.	Are stormwater inspections conducted at these facilities?	⊠ Yes	□No
		1. If Yes, at what frequency are inspections conducted? 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? <u>year</u>	Three 1	imes per
	F.	On average, how frequently are catch basins and other inline treatment systems cleaned ou needed. Approximately 701 work orders were completed regarding storm drainage system	t/maintained? maintenance.	<u>As</u>
	G.	Do municipal employees in all relevant positions and departments receive comprehensive training on stormwater management?	⊠ Yes	□No
	Н.	If yes, do you also provide regular updates and refreshers?	⊠ Yes	□ No
		If so, how frequently and/or under what circumstances? <u>Annually</u>		
9	PER A.	MANENT STORMWATER CONTROLS 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
	В	What is the threshold for new/redevelopment stormwater plan review? (e.g., all projects, progreater than one acre, etc.) All new or redevelopment	ojects disturbi	ng
	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 paragraph 4.2.5.2 and development hydrology be met for:	d require that j	ore-
		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://library.municode.com/index.aspx?clientId=12774&stateId=42&stateName=Tennesse	<u>ee</u>	
	F.	How many development and redevelopment project plans were reviewed for this reporting	period?	<u>15</u>
	G.	How many development and redevelopment project plans were approved? 15		
	Н.	How many permanent stormwater management practices/facilities were inspected?	<u>)</u>	
	I.	How many were found to have inadequate maintenance? 0		

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ose, how many were notified and remedied within 30 days? (If window is different than 30 days, ple
fy) <u>0</u>

	N III			` '	-	
J.	Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify) $\underline{0}$					
K.	How many enforce	ment actions were tak	en that address inaded	quate maintenance? <u>0</u>		
L.	Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance?					□No
M.	Do all municipal de system?	epartments and/or staf	f (as relevant) have ac	ccess to this tracking	⊠ Yes	□ No
N.	Has the MS4 developed a program to allow for incentive standards for redeveloped sites?					⊠ No
O.	How many mainter	nance agreements has	the MS4 approved du	ring the reporting pe	riod? 3	
IU. EN A.	number of actions,	he following types of the minimum measure h you do not have aut		ou used during the re Hicit discharge, perm	eporting period, i anent stormwater	ndicate the control) or
	Action	Construction	Permanent Stormwater Controls	Illicit Discharge	Author	ity?
Notic	e of violation	# <u>0</u>	# <u>0</u>	# <u>0</u>	⊠ Yes	□ No
Adm	inistrative fines	# <u>0</u>	# <u>0</u>	# <u>0</u>	⊠ Yes	□ No
Stop	Work Orders	# <u>0</u>	· # <u>0</u>	# <u>1</u>	⊠ Yes	□ No
•	penalties	# <u>O</u>	# <u>0</u>	# <u>0</u>	⊠ Yes	□ No
	inal actions	# <u>0</u>	# <u>0</u>	# <u>0</u>	⊠ Yes	□No
Adm	inistrative orders	# <u>0</u>	# <u>0</u>	# <u>0</u>	⊠ Yes	□No
Other	r	#	#	#		
B.	Do you use an election results, a	tronic tool (e.g., GIS, and enforcement actio	data base, spreadshee ns in your jurisdiction	t) to track the location?	ns, 🛛 Yes	□ No
C.	a WNA, 2, Constru	uction without approp t commonly enforced	olations documented or riate permits, 3. improtent through verbal commits.	<u>oper erosion control i</u>	<u>resulting in mater</u>	<u>ial in the</u>
1. PR	OGRAM RESOURCE	S	a de la companya de		IDEC mouseit as d t	CWINAD 4L:
A.	past reporting perio	od? 207,400	plement the requireme			
В.	What is next year's 207,400	budget for implemen	ting the requirements			
C.	Do you have an inc	lependent financing m	nechanism for your sto	ormwater program?	☐ Yes	⊠ No
D.	If so, what is it/are Source:	they (e.g., stormwater	r fees), and what is the	e annual revenue deri Amou	nt \$	CHamishi!
	Source:			Amou	•	
E.	How many full tim	e employees does you	ir municipality devote	to the stormwater pr	ogram (specifical	lly for

implementing the stormwater program vs. municipal employees with other primary responsibilities that dovetail with stormwater issues)?

1. Matthew White is primarily responsible as a portion of his job description with stormwater issues)?

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	gram implementation responsibilities with Activity/Task/Responsibility review, inspection, Enforcement, and implementation of program	any other entities?
Public Works	Drainage system maintenance	Authority by designation of responsibility
GIS Parks	System mapping Stream bank revitalization	Authority by designation of responsibility Authority by designation of responsibility

12. EVALUATING/MEASURING PROGRESS

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
Example: E. coli	2003	Weekly April-September	20
Impaired Stream Assesment	2012	One Stream per year	City wide
Outfall Monitoring	2006	on going	City wide
0 2002000			I-lima) callected in order to

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. A summary of the Beech Creek Impaired Stream Assessment is provided in Attachment B.

13. STORMWATER MANAGEMENT PROGRAM UPDATE

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 per paragraph 4.4.2.a of the permit. In 2012, we began the assessment of impaired streams within our jurisdiction in order to find causes for the impairment and to determine ways to improve the quality of water.

Changes to replace an ineffective or unfeasible BMP per paragraph 4.4.2.b of the permit. None

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. None

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

Michael W. Walker

City Manager

Printed Name and Title

Michal W. Walke

09/24/12

Annual reports must be submitted in accordance with the requirements of subpart 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:

Street Address	City	Zip Code	Telephone
McCallie Avenue STE 550	Chattanooga	37402	(423) 634-5745
1 Hampshire Pike	Columbia	38401	(931) 380-3371
	McCallie Avenue STE 550 1 Hampshire Pike	MicCame Avoide 51 B 500	McCalle Avenue 51E 550 Chattanooga 20401

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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
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

ATTACHMENT A: DETERMINATION OF THE EFFECT OF MS4 DISCHARGES ON STATE OR FEDERALLY LISTED SPECIES

Protection of Listed and Endangered Species:

The Mill Creek watershed, which includes Owl Creek and its tributaries, is known to have the Nashville Crayfish in its ecosystem. Due to this the City has enacted regulations that require any and all developers to obtain all required permits by federal and state agencies. The Brentwood Engineering Dept. also works closely with developers who have projects near this watershed to guide them to the appropriate state and federal agencies and to instruct them as to the potential limitations the agencies may impose due to this species. The City of Brentwood has coordinated with the US Fish and Wildlife Agency in determining the areas within the City Limits where listed or endangered species exist.

September 6, 2007

Mr. Jim Widlak US Fish & Wildlife 446 Neal Street Cookeville, TN 38501

RE: Threatened & Endangered Species Critical Habitat in Brentwood

Dear Mr. Widlak,

Thank you for your recent consultation with the City of Brentwood concerning threatened and endangered species within the city limits.

The City is currently in the process of updating its ordinances as related to storm water runoff. The city currently regulates and enforces construction site runoff through our grading permit process and subsequent inspections. The City also has post construction quantity regulations to control the increase in runoff due to development.

The City is adding a quality requirement to reduce the first flush (first 1" of rainfall) TSS by 80% to the post construction regulations currently in place as well as a specific illicit discharge section and a section creating a buffer along streams known as a waterway natural area (WNA). The proposed section 78-401 (12) of the Brentwood Zoning Ordinance is to state "The applicant for proposed land disturbance activities within the WNA shall be required to provide evidence of obtaining appropriate permits from federal and state regulatory agencies or a written waiver of such permits prior to the issuance of a grading permit by the City.

With the combination of the ordinances currently in place and those scheduled to be adopted this fall, the Brentwood Engineering Department does not have reason to believe the discharge or discharge related activities within the City of Brentwood city limits will jeopardize the continued existence of any species or result in adverse modification or destruction of critical habitat.

Due to regulations being adopted by the City, no further direct consultation will be necessary between the City of Brentwood and the US Fish and Wildlife unless a city project encroaches into a waterway which is within a critical habitat, in which case the City is required to consult with the appropriate state and federal agencies. Any private developer will be required by city ordinance to consult with the appropriate state and federal agencies, as well, if their project encroaches into a critical habitat.

Because of the ordinances and regulations implemented by the City of Brentwood and existing state requirements, we do not feel that a "Memoranda of Understanding" is necessary between the City of Brentwood and the US Fish and Wildlife Service.

Thank you for your assistance in helping the City of Brentwood properly comply with *Section 3.2 Protection of Threatened or Endangered Species* in the City's NPDES general permit for Storm Water discharge.

If you have any questions or need additional information, please feel free to contact me at (615) 371-0080.

Respectfully,

Todd A. Spangler, PE City Engineer City of Brentwood

CC: Mr. Mike Harris, Engineering Director

ATTACHMENT B: SUMMARY OF THE BEECH CREEK IN-STREAM ASSESMENT

City of Brentwood Stream Assessment Beech Creek

The Tennessee Department of Environment and Conservation (TDEC) publishes a list of streams in Tennessee that are considered impaired. Streams can be considered impaired for many reasons, but in Brentwood the impairment is primarily for siltation and loss of aquatic habitat. Cities are required to perform visual assessments of streams in their community to identify sources of impairment and corrective actions to reduce or eliminate the impairment. In 2012, the City of Brentwood began assessing Brentwood's streams with the goal of improving the quality of water flowing through our City. Beech Creek is the first stream that the City monitored and studied. An in-stream visual assessment of Beech Creek was completed in February of 2012. The City of Brentwood plans to assess all impaired streams over several years and develop a prioritized corrective action plan that the City can work from and begin to remediate the issues that are causing the impairment.

The City's consultant began the assessment of Beech Creek by walking the entire stream and locating possible contributors to the impairment with a GPS unit that can track the exact location on a map. Some examples of problems identified include: stream channel alteration due to erosion, pipes discharging to the stream that were causing erosion, blockages in the stream, culverts or bridges that were threatened due to erosion, and limited buffer zones around the stream. In the Beech Creek assessment, 95 potential concerns were identified. Once the 95 locations were mapped, the consultant began to develop a detailed report for each of the cases. Based on the severity of the issue and whether the problem is located in the City's Right-of-Way, the consultant began to prioritize the cases in order to give the City's Engineering Department a corrective action plan to begin working from. The City's goal is to correct the most severe issues first. However, in order to correct the problem, the area of concern must be in the City's Right-of-Way or in a drainage easement the city has the right to access. By the end of 2012, the City of Brentwood, along with their consultant, should have a completed corrective action plan for Beech Creek.

