MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) STORMWATER MANAGEMENT PROGRAM REPORT MOR04 AND SITE SPECIFIC

FOR OFFICE USE ONLY
PROJECT ID NUMBER
DATE RECEIVED

Part A – MS4 PERMIT HOLDER INFORMATION

1. MS4 NAME	2. NPDES PERMIT NUMBER	3. MS4 UNIQUE ID NO. (If applicable – co-permittees only)	
Boone County, City of Columbia, University of Missouri	MO-0136557		
4. ADDRESS	**5. CITY**	**6. STATE**	**7. ZIP CODE**
180 General Services Building	Columbia	MO	65211
8. TELEPHONE NUMBER WITH AREA CODE	**9. NAME OF MS4 CONTACT PERSON**		
(573) 882-7018	environmental@missouri.edu		

10. EMAIL OF MS4 CONTACT PERSON

Boone County - Nicki Rinehart, City of Columbia - Justin Fessler, University of Missouri - Alec Brown

11. Is the MS4 contact person listed above different from the most recent MS4 stormwater management program report?
☐ Yes ☑ No

12. Have any areas of the MS4 been added or removed from the MS4 jurisdiction due to annexation or other legal means since the most recent permit application (renewal, new, modification), or most recent MS4 stormwater management program report?
☐ Yes ☑ No
If **Yes**, attach a map showing the changes.

Part B – REPORTING REQUIREMENTS

1. Is your MS4 subject to a Total Maximum Daily Load (TMDL)? ☑ Yes ☐ No

If Yes, you are required to submit the MS4 Assumptions And Requirements Attainment Plan (ARAP) report annually. Reports are due **Feb. 28** each year. See Part F of this form.

2. Is your MS4 newly permitted (i.e., is this your first MS4 permit)? ☐ Yes ☑ No

3. If you are part of a co-permitted MS4 permit, did each co-permitted MS4 submit and individual stormwater management program report, or a combined MS4 stormwater management program report? ☐ Individual ☑ Combined

4. Reporting Period (i.e., the previous year from January 1st to December 31st)
BEGINNING: January 1, 2024 ENDING: December 31, 2024

Part C – STORMWATER MANAGEMENT PROGRAM REPORT PROGRESS AND COMPLIANCE

As an attachment, provide information for each of the items below. Provide informative data, success stories, and experiences that support the successful implementation of your stormwater management plan (SWMP).

1. 1. Describe your stormwater program's efforts toward compliance with your MS4 permit and SWMP requirements. *(**This section may be a summary encompassing the overall efforts of the stormwater program, but should include details regarding progress toward achieving the statutory goal of reducing the discharge of pollutants to the MS4 to the maximum extent practicable. The summary does not necessarily need to breakdown efforts for each Minimum Control Measure (MCM) and the Best Management Practices (BMPs) implemented for each MCM unless the permittee would like to specifically highlight something.**)*

2. If another governmental entity implements any BMPs or MCMs for your stormwater program, provide the following:
   a. Name of the government entity;
   b. Name of the primary contact for the government entity;
   c. Contact information (i.e., address, city, ZIP code, state, and phone number); and
   d. Specific best management practices or minimum control measures being implemented by the government entity.

   It is the responsibility of the permittee to provide all information under this report regardless if programmatic BMPs or MCMs are being implemented by another governmental entity. If an entire MCM is being implemented by an alternative governmental entity, indicate that under the appropriate MCM below.

3. Provide a description of any changes to the stormwater management program, programmatic BMPs, measurable goals, and the iterative process that have occurred during the covered reporting period. *(**See Part D of this form**)*

4. Provide a list of programmatic BMPs that were evaluated during the reporting period, and provide information on how the BMP was determined effective. *(**See Part D of this form**)*
   a. If any of the programmatic BMPs were determined to be ineffective, provide a summary on how the ineffective BMP was resolved.

5. If any water samples were collected and analyzed during the covered reporting period by the permitted MS4 or on behalf of the permitted MS4, complete Part E – Water Sample(s) Analysis. This part may be uploaded as an attachment. *(**This is not meant for samples collected during MCM 3 field screenings or illicit discharge investigations; those results should be retained in your SWMP**.)*

PART D – MINIMUM CONTROL MEASURES, BEST MANAGEMENT PRACTICES, AND MEASURABLE GOALS EVALUATION

☑ CHECK HERE if necessary attachments are uploaded for any item under the MCMs below.

MCM 1. Public Education and Outreach
Were any changes made to MCM 1 during the reporting period? ☐ Yes ☑ No

4.1.A Were any changes to 4.1.A made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.1.A evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.1.A successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.1.A determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.1.B Were any changes to 4.1.B made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.1.B evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.1.B successfully reached? ☐ Yes ☐ No

If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.1.B determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.1.C Were any changes to 4.1.C made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all **BMPs** for 4.1.C evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.1.C successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.1.C determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

MCM 2. Public Involvement and Participation
Were any changes made to MCM 2 during the reporting period? ☐ Yes ☑ No

4.2.A *(*Completing 4.2.A in this form is only applicable during permit renewal OR as a result of major modification to the SWMP. If neither of these apply during this reporting period, check N/A here and skip to 4.2.C below.*)* ☐ N/A

Were any changes to 4.2.A made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all **BMPs** for 4.2.A evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.2.A successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.2.A determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.2.B ***(*Completing 4.2.B in this form is only applicable during permit renewal OR as a result of major modification to the SWMP. If neither of these apply during this reporting period, check N/A here and skip to 4.2.C below.*)*** ☐ N/A

Were any changes to 4.2.B made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.2.B evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.2.B successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.2.B determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.2.C Were any changes to 4.2.C made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.2.C evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.2.C successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.2.C determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.2.D If the permittee does not currently utilize a stormwater management panel or committee, did the permittee evaluate the potential benefits of utilizing a stormwater management panel or committee? ☐ Yes ☐ No

If **Yes**, will the permittee utilize a stormwater management panel or committee during the next reporting period? ☐ Yes ☐ No
If **No**, 4.2.D is not applicable. The permittee does not utilize a stormwater management panel or committee. ☐ Check here if N/A.

Were any changes to 4.2.D made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.2.D evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.2.D successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.2.D determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

MCM 3. Illicit Discharge Detection and Elimination
Were any changes made to MCM 3 during the reporting period? ☐ Yes ☑ No

4.3.A Were any changes to 4.3.A made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.3.A evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.3.A successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.3.A determined effective/successful for this reporting period? ☑ Yes ☐ No
If **N**o, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.3.B Were any changes to 4.3.B made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.3.B evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.3.B successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.3.B determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.3.C Were any changes to 4.3.C made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.3.C evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.3.C successfully reached? ☐ Yes ☑ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☑ Yes ☐ No

Were the **BMPs** for 4.3.C determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes** include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.3.D Were any changes to 4.3.D made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.3.D evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.3.D successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.3.D determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.3.F Were any changes to 4.3.F made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.3.F evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.3.F successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.3.F determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.3.G
Were any changes to 4.3.G made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.3.G evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.3.G successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.3.G determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

MCM 4. Construction Site Stormwater Runoff Control
Were any changes made to MCM 4 during the reporting period? ☐ Yes ☑ No

4.4.A Were any changes to 4.4.A made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.4.A evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.4.A successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.4.A determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.4.B Were any changes to 4.4.B made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.4.B evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.4.B successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.4.B determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.4.C Were any changes to 4.4.C made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.4.C evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.4.C successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.4.C determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.4.D Were any changes to 4.4.D made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.4.D evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.4.D successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.4.D determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.4.E Were any changes to 4.4.E made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.4.E evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.4.E successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.4.E determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.4.F Were any changes to 4.4.F made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.4.F evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.4.F successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.4.F determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.4.G Were any changes to 4.4.G made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.4.G evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.4.G successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.4.G determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

MCM 5. Post-Construction Stormwater Management in New Development and Redevelopment
Were any changes made to MCM 5 during the reporting period? ☐ Yes ☑ No

4.5.A Were any changes to 4.5.A made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.5.A evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.5.A successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.5.A determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.5.B Were any changes to 4.5.B made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.5.B evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.5.B successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.5.B determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.5.C Were any changes to 4.5.C made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.5.C evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.5.C successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.5.C determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.5.D Were any changes to 4.5.D made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.5.D evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.5.D successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.5.D determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.5.E Were any changes to 4.5.E made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.5.E evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.5.E successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.5.E determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

MCM 6. Pollution Prevention/Good Housekeeping for Municipal Operations
Were any changes made to MCM 6 during the reporting period? ☐ Yes ☑ No

4.6.A Were any changes to 4.6.A made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.A evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.A successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.A determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.6.B Were any changes to 4.6.B made during reporting period? ☐ Yes ☑ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.B evaluated during reporting period? ☑ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.B successfully reached? ☑ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.B determined effective/successful for this reporting period? ☑ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.6.C Were any changes to 4.6.C made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.C evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.C successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.C determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.6.D Were any changes to 4.6.D made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.D evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.D successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.D determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.6.E Were any changes to 4.6.E made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.E evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.E successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.E determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.6.F Were any changes to 4.6.F made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.F evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.F successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.F determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.6.G Were any changes to 4.6.G made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.G evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.G successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.G determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.6.H Were any changes to 4.6.H made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.H evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.H successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.H determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No,** include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

4.6.I

4.6.I is not applicable. The permittee does not have any new flood management projects. ☐ Check here if N/A.

Were any changes to 4.6.I made during reporting period? ☐ Yes ☐ No
If **Yes**, include an attachment describing changes.

Were all BMPs for 4.6.I evaluated during reporting period? ☐ Yes ☐ No
If **No**, include an attachment describing what BMPs were not evaluated and why.

Were the **measurable goals** for all BMPs for 4.6.I successfully reached? ☐ Yes ☐ No
If **No**, were the measurable goals evaluated/modified in an effort for success in the next reporting period? ☐ Yes ☐ No

Were the **BMPs** for 4.6.I determined effective/successful for this reporting period? ☐ Yes ☐ No
If **No**, were the BMPs determined to be ineffective/unsuccessful evaluated for modification or replacement? ☐ Yes ☐ No

If **Yes**, include an attachment describing how the BMP will be modified or replaced.
If **No**, include an attachment describing why the ineffective/unsuccessful BMPs were not evaluated for modification or replacement.

Part E – WATER SAMPLE(S) ANALYSIS

PARAMETER OR INDICATOR	FREQUENCY or DATE (Ongoing monitoring, single event)	RESULT	DRY WEATHER SAMPLE?	WET WEATHER SAMPLE?
			☐ Yes ☐ No	☐ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No

1. Are any of the parameters being sampled due to the MS4 being subject to an established or approved Total Maximum Daily Load?
☐ Yes ☑ No
If **Yes**, indicate the parameter/pollutant.

2. Does the data support water quality attainment or support trend data toward water quality attainment?
☐ Yes ☑ No
If **Yes**, describe.

Part F – TOTAL MAXIMUM DAILY LOAD (TMDL) ASSUMPTIONS AND REQUIREMENTS ATTAINMENT PLAN (ARAP)

1. Is your MS4 subject to an established or approved TMDL? If no, indicate "No" below and do not complete any other portion of the TMDL Assumptions and Requirements Attainment Plan portion of this report. ☑ Yes ☐ No

2. Has your TMDL ARAP been completed and submitted? If no, provide a summary as an attachment on the progress toward submitting and implementing the TMDL Assumptions and Requirements Attainment Plan. ☐ Yes ☑ No

4. Does the TMDL ARAP incorporate Integrated Planning? If **Yes**, provide a summary of the status of the Integrated Plan. ☐ Yes ☑ No

PART G – SUBMIT REPORT TO:

The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at MoGEM Splash Page. Information about the eDMR system can be found on the eDMR Splash Page. To access the eDMR system, use: MoGEM Login. For assistance using the eDMR system, contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082.

OPTIONAL QUESTIONS REGARDING MILITARY SERVICE

Have you or an immediate family member ever served in the U.S. Armed Forces?	☐ Yes	☐ No
If yes, would you like information about military-related services in Missouri?	☐ Yes	☐ No

PART H - CERTIFICATION

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.

SIGNATURE OR PERMITTEE (LEGALLY RESPONSIBLE PERSON)	DATE SIGNED
	see attached
NAME (PRINTED OR TYPED)	TITLE
See attached signature pages for Part H certification	see attached

MO 780-1846 (12-22)

PART H - CERTIFICATION

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.

SIGNATURE OR PERMITTEE (LEGALLY RESPONSIBLE PERSON)	DATE SIGNED
E-SIGNED by Bill Florea on 2025-04-24 18:15:00 GMT	April 24, 2025
NAME (PRINTED OR TYPED)	TITLE
Bill Florea	Director, Resource Management

MO 780-1846 (12-22)

PART H - CERTIFICATION

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.

SIGNATURE OR PERMITTEE (LEGALLY RESPONSIBLE PERSON)	DATE SIGNED
E-SIGNED by Dennis Elmore on 2025-04-25 19:41:45 GMT	April 25, 2025
NAME (PRINTED OR TYPED)	TITLE
Dennis Elmore	Director, Environmental Health & Safety

MO 780-1846 (12-22)

PART H - CERTIFICATION

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.

SIGNATURE OR PERMITTEE (LEGALLY RESPONSIBLE PERSON)	DATE SIGNED
E-SIGNED by Erin Keys on 2025-04-24 20:50:43 GMT	April 24, 2025
NAME (PRINTED OR TYPED)	TITLE
Erin Keys	Director, Utilities

MO 780-1846 (12-22)

Stormwater Annual Report
Columbia/Boone County/University of Missouri
Small MS4 Co-Permit MO-0136557
January 01, 2024 – December 31, 2024

C. SWMP Report Progress and Compliance

1. *Describe your stormwater program's efforts toward compliance with your MS4 permit and SWMP requirements.*

The City of Columbia (City), Boone County (County) and the University of Missouri (MU) have worked hard throughout the year to realize the stormwater goals outlined in the SWMP. Explanations of the work completed for each Minimum Control Measure (MCM) are described below.

MCM 1: Public Education and Outreach

The City, County and MU employ staff to provide stormwater public education and outreach programs that address the community. The co-permittees have approximately twelve staff members that work closely together to transcend jurisdictional boundaries in favor of a watershed-based approach. This demonstrates a significant commitment to stormwater education activities and the co-permittee's overall goal of educating their citizens to reduce pollutants entering receiving waters to the maximum extent practicable (MEP). The co-permittees are dedicated to preserving water quality in the community to protect, maintain and enhance the immediate and long-term health, safety, and general welfare of their citizens.

The co-permittees are working together to implement a public education program focused on stormwater discharges and their relative impacts on water quality, as well as informing the public of measures they can take to reduce pollutants in stormwater runoff. The target audiences continue to be students in each sector (elementary, high school and university), faculty, staff, contractors, developers, engineers, inspectors, interest groups, event participants, and the general public. Target pollution sources continue to be pet waste, yard maintenance, winter road treatment and storage, land disturbance, household hazardous waste, private sanitary sewer systems, swimming pools, fats, oils and grease, and industrial and agricultural activities.

Raising citizens' understanding and awareness of stormwater impacts and issues is the primary goal of MCM 1 and the permittee's level of commitment to education and outreach programs is significant. Many citizens had some type of direct contact with the stormwater outreach program during 2024. Many more people had contact through social or traditional media outlets.

On December 05, 2024, the committee met to review and revise ordinances and the stormwater management plan including the six MCM. The City found this meeting beneficial, as it provided an opportunity to meet and discuss stormwater issues. The City plans to hold a meeting every year to discuss various SWMP topics.

For this reporting period, the co-permittees implemented/conducted/continued the following:

The City continued collaborating with a diverse range of groups to develop a comprehensive stormwater education program that highlights the benefits of enhanced stormwater quality. This program not only educates the public on the importance of improved water management but also provides actionable techniques to help improve stormwater quality. Through these efforts, including the strategic use of social media platforms, the City raised awareness of stormwater issues and engaged the community in real-time. Educational materials were shared widely, reaching a broader audience and encouraging proactive participation in protecting local water resources:

- City staff actively used the City of Columbia's social media platforms — including Facebook, YouTube, Instagram, LinkedIn, and Twitter — to educate residents about stormwater issues and promote best management practices. These online efforts help raise awareness about how individual actions impact our local waterways, while providing practical tips for protecting water quality, reducing pollution, and managing stormwater on residential and commercial properties. Through digital outreach, the City continues to engage with the community, support environmental stewardship, and advance the goals of our Stormwater Management Program.
- The City of Columbia continues to prioritize public education on stormwater management through a variety of communication channels. The program published educational articles in *City Source*, the City's newsletter available both in print and online, providing residents with helpful Best Management Practices (BMP) tips for protecting local waterways. Additionally, press releases were distributed to inform the public about upcoming events, volunteer opportunities, and stormwater-related activities — helping to keep the community engaged and informed about how to play an active role in improving water quality across Columbia.
- City staff participated in interviews with local news outlets to discuss the importance of protecting Columbia's watersheds. These interviews provided an opportunity to educate the public about how individual actions impact local water quality and to highlight the City's efforts in promoting watershed protection and environmental stewardship.

The City's Storm Water Utility website was regularly updated with new resources, educational materials, and best management practices (BMPs) to help residents stay informed about stormwater issues.

Outreach activities for the City of Columbia included:

- City staff continued to provide presentations to local community groups, businesses, schools, and organizations to promote stormwater protection and share best management practices (BMPs). These outreach efforts help raise awareness about the importance of protecting our watersheds and encourage responsible environmental stewardship throughout the community.
- Presented the classroom activity "Streams in the Classroom" is an educational program designed to bring the study of local streams and water ecosystems into the classroom setting. The goal of the program is to help students understand the vital role streams play in the environment, particularly in relation to stormwater management, water quality, and biodiversity.
- The City organized in-depth educational tours of the 3M Hinkson/Flat Branch Wetland outdoor classroom, providing local schools, community groups, and organizations with the opportunity

to explore and learn about the importance of wetlands in stormwater management, biodiversity, and environmental conservation. These guided tours allowed participants to engage with the ecosystem firsthand, observe native plant and animal species, and understand the critical role the wetland plays in filtering water and protecting local water quality. The tours were designed to foster environmental stewardship and enhance awareness about sustainable practices in the community.

- The City facilitated stream and roadside litter cleanups throughout the community in collaboration with local volunteers and Missouri Stream Teams. These efforts helped remove trash and debris from local waterways and roadways, improving water quality, enhancing natural habitats, and promoting community pride. By partnering with dedicated volunteers and environmental groups, these cleanups not only helped beautify the area but also raised awareness about the impact of litter on stormwater systems and the environment.
- The City implemented a storm drain marker program, distributing markers to participants' homes for use on local storm drains in their neighborhoods. This initiative encourages community involvement in raising awareness about the importance of keeping stormwater systems free of pollutants. In addition to the community-driven efforts, City staff continue to apply markers throughout the city whenever possible, reinforcing the message that storm drains are connected directly to local water bodies and should not be used for disposing of waste.
- The City launched a winter program called "Salt Smart" to remind residents of the importance of using salt sparingly during winter weather. The initiative aimed to educate the community about the environmental impact of over-salting, particularly on local water quality and ecosystems. By encouraging residents to apply only the necessary amount of salt, the program sought to reduce runoff pollution and promote more sustainable practices for handling winter conditions. The campaign received strong engagement on social media, effectively reaching and educating a broader audience while encouraging responsible salt use across the community.
- The City's roadside watershed signs are a key educational tool used throughout a variety of stormwater outreach efforts to help residents better understand the important role watersheds play in our community. Installed along roadsides throughout the City, these signs identify the watershed a person is currently in, serving as a daily reminder that our actions on land directly impact our local streams and rivers. These signs are also an integral part of the *Streams in the Classroom* program, where they help students visualize and connect classroom lessons to the real-world environment around them. Additionally, the signs are regularly featured on the City's social media platforms, helping expand their reach and educate a broader audience about the interconnectedness of local water systems. Whether seen while driving, used as teaching tools in schools, or featured online, these watershed signs tie together the City's educational messaging and provide the public with a better overall understanding of the stormwater challenges we face. They serve as a constant visual reminder that we all live in a watershed — and that protecting water quality starts with individual and community action.
- Through the use of native plants, the City creates opportunities to engage the community in conversations about stormwater runoff and pollution prevention. By encouraging residents to incorporate native plants into their landscaping, we promote natural solutions that help reduce stormwater runoff, filter pollutants, and protect the health of our local streams. As part of this effort, our *CoMo Wild Yards* program supports residents in creating rain gardens, pollinator zones, and other green infrastructure practices that help manage stormwater at home while enhancing biodiversity. Additionally, the City utilizes social media to reach a broader audience,

sharing educational content on stormwater issues, best management practices (BMPs), and cost-effective solutions residents can implement in their own yards to protect water quality and promote sustainability.

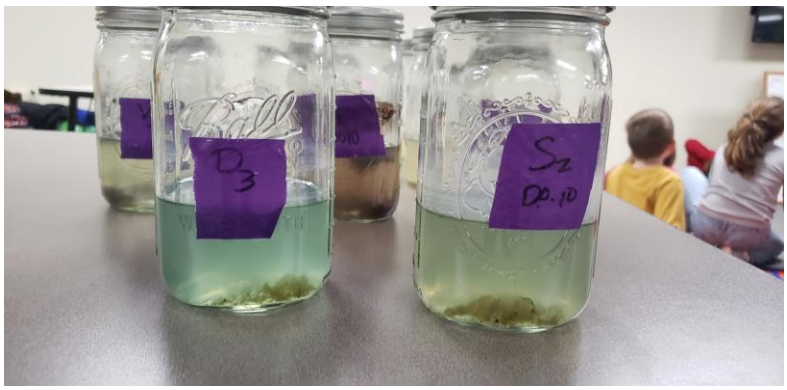
City Activities for 2024:

- Hosted Tree Planting at Grant Elementary
- Hosted Pollinator Garden planting at Grant Elementary
- Streams in the Classroom with Two Mile Prairie Elementary School
- Streams in the Classroom with Grant Elementary
- Streams in the Classroom with Benton – 3rd Grade
- 3M wetlands tour with Grant Elementary
- MERS Goodwill Excel Center Streams in the Classroom
- MERS/Goodwill Excel Center - Stream Clean up
- Streams in the Classroom with Benton - Kindergarten
- Streams in the Classroom - Native Plants & Rain Gardens with Jefferson Middle School
- Meet Doug Tallamy with Author/ Homegrown National Park

In 2024, the City of Columbia hosted impactful stormwater presentations and events for the local CPS school district, as well as the University and nearby colleges, dedicating a total of 98.4 hours of programming and reaching an audience of 1,707 attendees.

Boone County stormwater presentations were provided to four (4) local school districts and one (1) university, resulting in approximately 1,633 interactions with students:

- Hosted a spring and fall stream monitoring event at Flat Branch Park with Douglass High School students.
- Presented the classroom activity “Who Polluted...” to the following schools:
    - Centralia Intermediate 5th Grade
    - Enviroscape Presentations occurred at the following schools:
    - Atelier 1st and 2nd grade
- Guest Lectured for Mizzou's Honor College about human impacts on the environment and how those impacts affect people at different scales.
- Hosted a tour of the 3M Wetlands for Grant Elementary 5th graders. Students learned how the wetlands were created, how they treat stormwater runoff, and participated in a scavenger hunt.
- Partnered with Rock Bridge Memorial State Park Interpretive Program focused on connecting students to the park, cave systems, streams, and ecosystems. Multiple programs occurred:
    - Mill Creek Elementary
    - Bueker Middle School
    - Rock Bridge Elementary
    - Hallsville Schools
- Hosted a 3M Wetland Tour for Grant Elementary 5th grade students.
- Hosted stream table workshops for the following schools:
    - Missouri River Explorers
    - Douglass High School
    - Grant Elementary 2nd and 4th Grades
    - Midway Elementary School
    - Jefferson Middle School



Boone County provided 20 stormwater education and outreach events to the public, resulting in approximately 1,748 interactions with the community:

- Hosted a Boone County Stream Team Open House with Missouri Stream Teams, highlighting local projects including the Greater Bonne Femme Watershed Initiative and how people can get involved in stream monitoring.
- Hosted an information booth at the Butterfly Festival at the University of Missouri's Jefferson Farm & Garden.
- Hosted an information booth at the Tomato Festival at the University of Missouri's Jefferson Farm & Garden.
- Hosted two interactive and one informational booth at the Rock Bridge State Park Water Festival.
- Hosted an interactive educational booth at the annual Earth Day Festival in downtown Columbia.
- Hosted an educational booth at the annual Boone County READY Festival.
- Participated in a panel discussion highlighting the success of MDC's Stream Crossings Workshop at the Missouri Department of Conservation's Round Table meeting.
- Partnered with the Southern Boone Area YMCA to provide stormwater education activities for their after-school program.
- Partnered with the Missouri Scholar Academy "The Art of Streams and Litter" for middle school students.
- Provided a presentation to the Ashland Optimist Club about the Greater Bonne Femme Watershed Initiative.
- A Land Disturbance Inspection Training was hosted for contractors and engineers.
- The Stormwater Educator served as an interpretive guide for the Katy Trail Fall Tram Tour.
- Hosted an information booth at the Ashland Fall Festival.
- Hosted an information booth at the Conservation Expo.
- Provided a presentation to the Southern Boone County Chamber of Commerce and Economic Development about the Greater Bonne Femme Watershed Initiative.
- Provided a presentation to the City of Columbia CAAP Good Stewards Team about the Greater Bonne Femme Watershed Initiative.
- The Urban Hydrologist led a First Day Hike at Rock Bridge Memorial State Park.
- Agents of Discovery Missions: The Agents of Discovery app is a digital education technology platform that features a web-based dashboard where educators can turn educational content into augmented reality games to engage citizens and provide a fun way to learn about Boone

County. The app featured missions at the 3M Wetlands, Columba Center for Urban Agriculture and the Boone County Courtyard.

- Stormwater staff worked with Road & Bridge staff to install 45 watershed signs in the Perche Creek, Lick Creek, Sailing Creek, Silver Creek, Prairie Creek, Moniteau Creek, and Rocky Fork Creek watersheds. Watershed sign maintenance was provided in the Hinkson Creek and Greater Bonne Femme Creek watersheds.
- 100 Hinkson Creek Riparian Brochures for the Hinkson Creek Collaborative Adaptive Management (CAM) process were distributed at the February Farmer's Market. The brochure highlights the CAM process and the benefits of riparian area preservation and restoration.

The Boone County and City of Columbia Stormwater Educators partnered on several education and outreach efforts this year:

- Boone County and the City of Columbia Stormwater Educators were guests on the Columbia Business One-on-One radio show, discussing regenerative agriculture and promoting the showing of "Common Ground" and associated panel discussion.
- Hosted a virtual film showing of "Common Ground."
- Hosted a virtual, interactive panel discussion based on the virtual film showing of "Common Ground."
- Partnered with the City of Columbia and U.S. Fish and Wildlife Service to provide a workshop for the East Campus Neighborhood, focusing on several neighborhood locations that could benefit from native plant landscaping, stormwater capture, and nutrient pollution reduction.
- Partnered with Columbia STEM Alliance and Columbia Public Schools for the STEM Alliance Spring Showcase.

Social media continued to be a tool to involve and engage the public with information, events and activities related to stormwater. The websites listed below educated the community about the impacts of stormwater runoff, permits and inspection requirements, and general watershed information. The Hinkson Creek Collaborative Adaptive Management (CAM) and Greater Bonne Femme Watershed websites provided project updates on a regular basis.

- City of Columbia Stormwater Website: www.como.gov/utilities/columbias-stormwater-utility/ - 561 visits

- Boone County Stormwater Website: www.showmeboone.com/stormwater - 3,948 visits
- University of Missouri Stormwater Website: https://ehs.missouri.edu/env/stormwater
- Hinkson Creek CAM Website: www.helpthehinkson.org – 3,230 visits
- Hinkson Creek Physical Habitat GIS Viewer: https://maps.showmeboone.com/viewers/RM_Hinkson_GIS_Technical_Report_Final_2013/ – 86 visits
- Bonne Femme Watershed Website: www.cavewatershed.org – 4,037 visits
- City of Columbia Facebook Page: www.facebook.com/ColumbiaSewerandStormwater - 10,600 views
- Boone County Stormwater Facebook Page: www.facebook.com/boonecountymostormwater - 7,934 views
- City of Columbia YouTube Channel: https://www.youtube.com/@COMOSustainabilityEducation/videos - 917 views
- Boone County Stormwater YouTube Channel: www.youtube.com/channel/UCrd_RaCJ73N442kfWGfa1FA - 95 views

The City of Columbia and Boone County worked together to develop and promote the following websites, which are hosted by the City of Columbia:

- Litter Prevention Website: https://sites.google.com/como.gov/litter/home
- The Water Cycle Website: https://sites.google.com/como.gov/water-cycle/home

Each semester, the University of Missouri conducts courses as part of its curriculum in a number of disciplines that concentrate on, or touch upon, issues of water quality and/or environmental management practices. This continued for both the winter and fall semester of 2023. Each course instructs between five and 300 students. Following is a list of those courses:

AG SM 4420	Surface Water Management
BIOL EN 4150	Soil and Water Conservation Engineering
BIOL EN 4250	Irrigation and Drainage Engineering
BIOL EN 4350	Watershed Modeling Using GIS
CHEM 4280	Environmental Chemistry
CH ENG 4220	Hazardous Waste Management
CH ENG 4285	Pollution Prevention
CV ENG 3200	Fundamentals of Environmental Engineering
CV ENG 3400	Fundamentals of Geotechnical Engineering
CV ENG 3702	Fundamentals of Water Resource engineering
CV ENG 4420	Hazardous Waste management
CV ENG 4230	Introduction to Water Quality
CV ENG 4240	Water Quality Analysis
CV ENG 4245	Environmental Chemistry for Engineers
CV ENG 4250	Environmental Regulatory Compliance
CV ENG 4260	Environmental Public Policy
CV ENG 4286	Environmental Sustainability
CV ENG 4730	Hydraulic Design
CV ENG 4980	Civil Engineering Systems Design
CV ENG 4990	Undergraduate Research in Civil and Environmental Engineering

ENV SC 1100	Introduction to Environmental Science
ENV SC 2001	Topics in Environmental Science
ENV SC 2600	Sustainability Foundations: An Introduction to Sustainability
ENV SC 3085	Problems in Environmental Science
ENV SC 3250	Pollutant Fate and Transport
ENV SC 3290	Soils and the Environment
ENV SC 3330	Environmental Land Use Management
ENV SC 4200	Stream Ecology and Hydrology
ENV SC 4305	Environmental Soil Physics
ENV SC 4306	Environmental Soil Physics Laboratory
ENV SC 4318	Environmental Soil Chemistry
ENV SC 4320	Hydrologic and Water Quality Modeling
ENV SC 4396	Agroforestry for Watershed Restoration
ENV SC 4400W	Environmental Law, Policy, and Justice
ENV SC 4600	Sustainability Science Problem Solving
ENV SC 4940	Environmental Science Internship
Forest 4320	Forest Ecology
Forest 4390	Watershed Management and Water Quality
GEOG 2660	Environmental Geography
GEOG 4630	River and Stream dynamics
GEOL 1200	Environmental Geology with Laboratory
GEOL 2400	Surficial Earth Processes and Products with Laboratory
GEOL 4100	Groundwater Hydrology
LAW 5700	Land Use Controls
NAT R 3400	Water Quality and Natural Resource Management
NAT R 4024	Foundations of Environmental Education
PLNT S 4720	Aquatic Entomology
PRST 4250	Parks, Health and Wellness
SOIL 2100	Introduction to Soils
SOIL 2106	Soil Science Laboratory

MU Extension provides a multitude of in-person and virtual courses that help residents improve their stormwater management practices.

MU's Campus Facilities department continued their periodic update of the MU Campus Stormwater Master Plan. The periodic updates allow for more flexibility to better address the needs of an ever-changing campus. The plan provides an adaptable framework that enables the campus to improve stormwater quality, maintain regulatory compliance, and sustain water resource stewardship. The MU Stormwater Master Plan which was completed in 2012 and publicly released in 2013.

MCM 2: Public Involvement and Participation

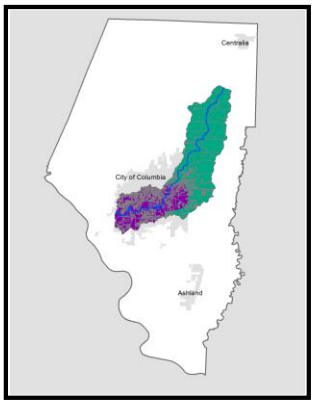
Providing opportunities for citizen input and participation in stormwater matters is the primary goal of MCM 2. The City's, County's, and MU's commitment to public involvement and public participation programs was tailored to provide ample opportunity for public involvement and participation and to increase the understanding of stormwater-related impacts and issues.

The public has the opportunity to be involved in various stormwater quality awareness and improvement activities. Furthermore, an avenue for participation and involvement is interaction through social media.

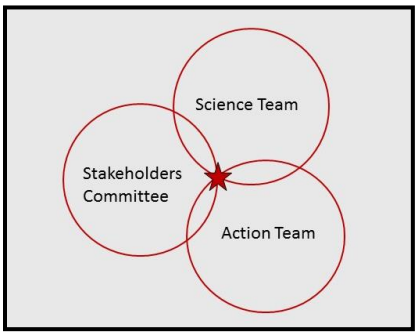
All three co-permittees provide a publicly available mechanism to take public inquiries, concerns or information about stormwater and stormwater related topics. This mechanism is a web-based public comment submission platform located on each co-permittee's website. In addition, the City of Columbia's general contact phone number allows citizens to call in with stormwater comments or questions, directing them toward the appropriate staff for response.

- City of Columbia's stormwater website: www.como.gov/utilities/columbias-stormwater-utility/
- Boone County's stormwater website: www.showmeboone.com/stormwater
- University of Missouri's stormwater website: https://ehs.missouri.edu/env/stormwater

Hinkson Creek Collaborative Adaptive Management



The co-permittees continued to provide opportunities for the Stakeholder Committee, Action Team, and Science Team to meet and support the collaborative adaptive management (CAM) process for the Hinkson Creek Watershed. CAM is a science-driven, stakeholder-based process for decision-making, while dealing with the scientific unknowns inherent in many physical and biological systems. It uses a process to make changes and then to determine the effect of those changes. The Stakeholder Committee, Action Team, and Science Team were formed to support the CAM process by synthesizing complex ecological, technical, political, and economic variables to affect significant water quality improvements to Hinkson Creek.



The committees each meet multiple times per year for approximately 1.5 - 2 hours per meeting with up to 15 people at any given meeting. The success of the CAM process continued throughout 2024, as demonstrated by sustained participation of team members and the riparian subcommittee, and Chloride Task Force at meetings and events.

- The Stakeholders met three (3) times.
- The Action Team met eleven (11) times.
- The Science Team met nine (9) times.
- The Riparian Subcommittee met eight (8) times.
- The Chloride Task Force met one (1) time.

Current CAM Projects

- Continuous Water Quality Monitoring:
  This project was approved for funding in 2023 to perform continuous water level, water temperature, and specific conductance monitoring at six (6) sites along Hinkson Creek and its tributaries. Monitoring equipment was installed in the fall of 2023 and will continue for three (3) years.
- Synoptic Sampling:
  Synoptic sampling is a method of looking at different stream conditions such as nutrient concentrations, temperature, specific conductivity and pH at numerous locations along the stream during the same day. This method of sampling is different from previous monitoring efforts on Hinkson Creek that have either been in specific locations over a long time series (sensors deployed in the stream) or at specific locations during different times of the year (macroinvertebrate sampling by the Missouri Department of Natural Resources in the spring and fall at specific monitoring locations). The Hinkson Creek CAM partners funded a project with Dr. Alba Argerich and her students at the University of Missouri, School of Natural Resources for synoptic sampling in Hinkson Creek from 2020-2022. A full report on the results of the synoptic sampling is expected in 2025. The Lincoln University Gauging Stations were shifted to the responsibility of the University of Missouri Limnology lab.
- Comprehensive Chemical Sampling:
  The Hinkson Creek CAM partners funded a project for the United States Geological Survey/ Columbia Environmental Research Center to collect water and sediment samples from Hinkson Creek and major tributaries in the spring and fall of 2022. The samples were analyzed for the presence of various chemical compounds that may be contributing to the impairment of aquatic life communities in Hinkson Creek in 2023. A final report of the analysis is expected in 2025.

The CAM process for the Hinkson Total Maximum Daily Load (TMDL) adheres to all "Sunshine Law" regulations for notification of public meetings and has increased stormwater-related communication between the individuals involved and the organizations they represent. It addresses the Hinkson watershed, the largest watershed in the MS4 area, which is appropriate to this measure. It provides a nearly monthly opportunity for the public and local policy makers to engage in stormwater issues within our MS4.

All reports presented to the CAM Stakeholders can be found at http://www.helpthehinkson.org/CAMInformation.htm. Reports and data will be used by the MS4 partners to guide future decisions to reduce impairments in Hinkson Creek.

***Our Columbia Waters* Integrated Management Plan**

In 2019, the Missouri Department of Natural Resources acknowledged the City of Columbia's Wastewater and Stormwater Integrated Management Plan (IMP). The goal of the IMP is to develop adaptable and affordable long-term recommendations that meet Columbia's wastewater and stormwater management needs and address Clean Water Act obligations to protect and improve our community waterways. As the City begins implementing the IMP, public input and participation will be key as this is a community-driven process.

In 2024, the City completed the following MS4 Program Enhancement actions as identified in the IMP 5-year Action Plan:

- Published a stormwater article in the City Source newsletter in February, March, April, July, August, October, and November 2024.
- Inspected 134,766 feet of existing sewer line for damage.
- Completed 32 illicit discharge investigations.
- Completed 141 outfall inspections.

Climate Action & Adaptation Plan (CAAP)

On June 17, 2017, Columbia City council passed Resolution R-83-17A, reaffirming the commitment of the City of Columbia to take action to reduce climate pollution and authorized participation in the Global Covenant of Mayors for Climate & Energy. In February 2018, the Mayor appointed 15 community members to the Mayor's Task Force on Climate Action and Adaptation Planning. The Mayor's Task Force along with City staff was tasked with developing the goals and objectives to be included in the City's Climate Action & Adaptation Plan (CAAP). Two of the goals identified in the plan are to improve stormwater management and minimize risks to flood-prone areas, which both align with the goals of the permitted MS4. The CAAP was adopted by the City Council on June 17, 2019.

City Council received a report at their October 7, 2019 meeting for the planned strategic priority issues of the CAAP. At the same meeting, City Council approved the creation of a Climate & Environment Commission. The purpose of the Commission is to advise City staff on reporting to City Council the implementation activities of the CAAP, act as a primary liaison for outreach and awareness on the CAAP throughout the community, provide input on evaluating additional opportunities for mitigation and resilience actions in Columbia, and advise City Council on environmental issues, as directs. The commission is comprised of 15 members appointed by City Council.

The City of Columbia engages in multiple planning processes in the normal course of business. Concurrent to the Climate Action & Adaptation Plan process, community input was and will continue to be reviewed from the following efforts:

- City of Columbia Strategic Plan
- City of Columbia Vision Zero Plan
- Community Development Consolidated Plan
- Columbia Utilities Our Columbia Waters Integrated Management Plan
- Columbia Utilities Integrated Water Resources Plan
- Columbia Utilities Integrated Electric Resource and Master Plan
- CATSO Long Range Transportation Plan
- Columbia / Boone County Public Health & Human Services Community Health Improvement Plan

The Columbia City Council and Planning and Zoning Commission continued to meet at their regularly scheduled times. Meetings are open to the public and development and redevelopment plans are discussed.

The City continued to garner volunteer participation and involvement of diverse groups through programs like TreeKeepers, composting workshops, Household Hazardous Waste Program, Adopt-A-Spot, and a variety of formal and informal cleanup events. Citizens volunteer in the Adopt-A-Rain

Garden Program to maintain the rain gardens in public rights of way and involve the community in stormwater retrofits to improve water quality. The City website has information about these volunteer opportunities which are available to all residents, including those at MU and the County.

The City continued to utilize volunteers to organize and host a monthly stream clean up within the watersheds. This group of volunteers, previously known as the Columbia Crawdads, renamed to Litter Team, acts as volunteer educators and volunteered more than 257.5 hours among 103 volunteers with 405 bags of trash collected in 2024.

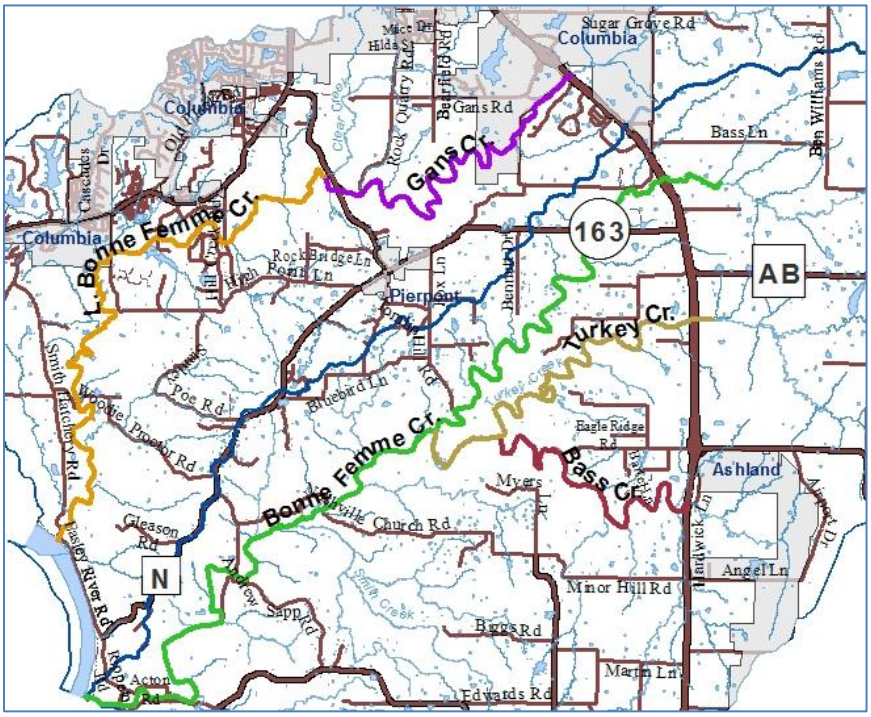
The City continued to engage participation and public involvement by the following:

- Total trash pickup efforts totaled 9129 hours from 3029 individuals with 5646 bags of litter collected.
- Regularly scheduled monthly stream cleanup activities.
- Maintain several active rain garden locations through an effort called the Adopt-A-Rain Garden Program. 51 people volunteered 81 hours of service picking up 87 bags of trash in this program.
- 223 people attended a compost class, and 97 compost bins were sold/given out/distributed collectively over 12 workshops.

Boone County Planning and Zoning meetings continued to meet on the third Thursday of the month. The P & Z Commission acts as an advisory commission to the County Commission on matters of land use. These meetings are open to the public.

Greater Bonne Femme Watershed Project

The Bonne Femme Watershed Project is the revitalization and continuation of several projects from the past that sought to protect and conserve water quality in the Little Bonne Femme and Bonne Femme Watersheds (known together as the Greater Bonne Femme Watershed) in Boone County. The current project includes the development of a watershed-based plan (WBP) for the Greater Bonne Femme Watershed, as well as a stormwater best management practice (BMP) demonstration project (bioretention basins on E. Meyer Industrial Drive) and an outreach initiative to inform local stakeholders of the need for the current planning and future implementation process. The WBP will consist of nine specific elements required by U.S. EPA; approval of the plan by EPA and the Missouri Department of Natural Resources will provide eligibility for future funding to address water quality concerns identified in the plan. The previous watershed project, which concluded in 2007, resulted in the Bonne Femme Watershed Plan. The plan may be viewed in its entirety on http://www.cavewatershed.org. The map below shows much of the watershed with roads marked for reference. The five streams highlighted with bright colors show reaches that are impaired because ***E. coli*** levels in the water, on average (calculated as a geomean during the recreational season which runs from April through October of each year), exceed the water quality standards set by USEPA and MDNR and codified in state law.



The blue line marks the division between the Bonne Femme and Little Bonne Femme watersheds. The impairment in the watershed is of concern as some of these stream reaches are also classified as outstanding state resource waters, known for clarity and quality of habitat for aquatic life.
Boone County stormwater staff continued to work with the Missouri Department of Natural Resources and project partners to develop a 9-element plan for recovery of stream water quality and protection of outstanding state resource waters in the Greater Bonne Femme Watershed. A final draft of the 9-element plan was submitted to MDNR and the Environmental Protection Agency in July 2022. The final Watershed-based plan was approved by the US EPA on June 12, 2023. The full plan is available at https://www.cavewatershed.org.

In 2024, Boone County began preparing an implementation proposal to be submitted to Missouri Department of Natural Resources in the spring of 2025.

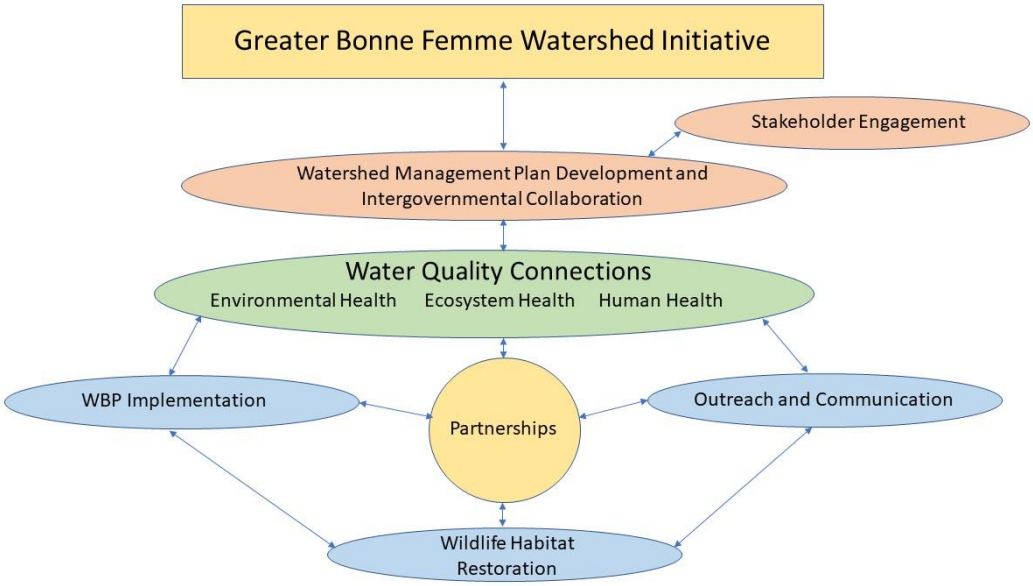
Greater Bonne Femme Watershed Initiative

Boone County Resource Management and partners felt that the watershed-based plan did not offer all the restoration and protection measures necessary, given the bountiful natural resources in the Greater Bonne Femme Watershed (GBFW). The Greater Bonne Femme Watershed Initiative will take a broad approach to restoration and protection of water quality in the GBFW. The overall goal of the initiative is the creation of a watershed management plan that will be adopted by Boone County, the City of Columbia, and the City of Ashland. This plan will integrate four (4) conceptual pillars into the language of the plan.

- Pillar One, Implementation of the GBFW-based plan:
  Voluntary installation of best management practices and demonstration projects and education and outreach focused on agricultural landowners.
- Pillar Two, Creation of a watershed-wide wildlife habitat restoration project:

The County and partners will work with landowners in the watershed to improve wildlife habitat on their property.

- Pillar Three, Education and Outreach:
  Focused on residential landowners, this element will encourage protection of riparian corridors and the use of native vegetation in landscaping.
- Pillar Four, Water Quality Connection:
  How water quality intersects with human health, environmental health, and animal and plant health in the watershed, incorporating a variety of concepts from regenerative agriculture to increasing health benefits from recreation in the GBFW.



Current Greater Bonne Femme Watershed Initiative Projects

- Watershed-wide Habitat Restoration Project:
  In 2024, desktop analysis and site visits were completed, along with a map that summarizes areas with the highest restoration value in each typology and across restoration types.
- Outreach and Communication Plan:
  This plan was completed in 2024 and designates a strategy for public information and marketing of the GBFWI, develops methods and metrics for gauging the efficacy of outreach and communication efforts, and helps to meet the goals of the Initiative and Watershed-Based Plan.
- Water Quality Connections:
  Primary goals were established to improve water, biota, aquatic plants, habitat, land connectivity and resilience, and to provide more recreation, exercise, nature opportunities, and human connections.
- Return on Environment (ROE) Study:
  This study will identify and measure the environmental, societal, and economic benefits of healthy water and ecosystems within the Greater Bonne Femme Watershed. This ROE study will serve as a key component of the overall watershed management plan, especially relative to work within Pillars 3 and 4. The ROE Study is expected to be used in an iterative way during the multi-year implementation work being led by the Implementation Committee. Boone County hired a consultant to begin working on the study in 2024. The consultant performed document

review and research, conducted stakeholder engagement meetings, and began analyzing results. A final report is expected in March 2025.

- Community Survey:
  This survey was conducted to gather feedback from landowners and visitors of the watershed, gaining a comprehensive understanding of stakeholders' relationships with the environment, their priorities in land management, and their awareness of how various actions can impact local streams and water quality. The survey will inform the development of the Watershed Management Plan and Return on Environment Study.
- City of Columbia and City of Ashland Reports:
  These reports introduced city leadership to the initiative and what Boone County is hoping to achieve. The report asked for support for city staff to engage staff time to work in partnership on the initiative.
- Case Studies Review for City of Ashland:
  To assist the City of Ashland with its planning process, and integration of its planning process within the larger Watershed Management Plan, the consultant conducted a review of case studies to learn what other similar communities have done to simultaneously address wastewater and stormwater issues in the face of environmental challenges, specifically, but not limited to water quality issues such as E. coli contamination and sediment runoff into local streams. The Case Studies Review will be presented to the City of Ashland in 2025.

Boone County also provided the following public involvement opportunities:

- 4 - Greater Bonne Femme Watershed Initiative Implementation Committee Meeting
- 1 - Agricultural BMPs Subcommittee Meeting
- 3 - Monitoring Subcommittee Meeting
- 1 - Outreach and Communication Subcommittee Meeting
- 3 - Wildlife Habitat Restoration Subcommittee Meeting
- 2 - Water Quality Connections Subcommittee Meeting
- One Health Charette: This event hosted brainstorming and strategizing sessions to generate innovative ideas and approaches to enhance the health of our environment and community.

MU's master planning process continued to be an open, transparent process allowing participation of the campus "public". Begun more than 30 years ago, MU's master planning effort addresses current and future needs while remaining mindful of MU's commitment to environmental stewardship.

MU students also engaged in stormwater related activities in 2024 through groups such as:

- Greeks Go Green
- Journal of Environmental and Sustainability Law
- Missouri Chapter of the Fisheries and Aquatic Society
- Missouri Water Environment Association
- Mizzou Limnology Club
- Mizzou Tigers Stream Team
- Mizzou Water and Environmental Technologists
- Mizzou Student Group of US Green Building Council
- MU Agricultural Systems Management Club
- MU Agroforestry and Forestry Graduate Student Association
- MU Environmental Law Society
- MU Environmental Leadership Office
- MU Environmental Science Club
- MU Forestry Club
- MU Geology Club
- MU Geological Graduate Society
- MU Horticulture Club
- MU Student Chapter of the Soil and Water Conservation Society
- MU Sustainability Office
- Science, Health and Environmental Journalism at Mizzou
- Student Environmental Design Association
- Sustain Mizzou
- University of Missouri Agronomy Club
- Climate Leaders at Mizzou
- Fisheries and Aquatic Sciences Society

Stormwater Coordination Committee Meetings

Staff from the University of Missouri, City of Columbia, and Boone County met six (6) times in 2024 to coordinate and work on stormwater activities. Stormwater activities include joint clean-up events, public service announcements, Hinkson Creek TMDL CAM, social media, volunteer activities and annual reporting to MDNR.

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

Illicit discharges enter the system through either direct or indirect entry. Direct entry is any connection into the stormwater system from another non-stormwater pipe, most commonly sanitary sewer pipe. These connections can be direct pipe connections or direct discharges into an open channel or stream. Indirect entry is any non-stormwater flow that enters the system through storm drain inlets or pipe joints. Examples of indirect entry include groundwater seepage, illegal dumping, spills (typically from vehicular accidents) and other outdoor washing and irrigation activities. A robust program to detect and address indirect wastewater connections is underway. The necessary legal measures are in place to prohibit and enforce illicit discharges. Addressing indirect wastewater connections and educating the public continue to be primary activities for this measure.

The co-permittees all maintain storm sewer maps, which are reviewed annually and updated as necessary. All maps are GIS-based. The City's map is available on the city's website at www.como.gov/wp-content/uploads/2021/05/MS-4-Outfalls-flattened.pdf

Boone County and the City of Columbia each have Illicit Discharge ordinances in place. The ordinances can be found on each entity's respective website. Ordinances are reviewed annually and updated as needed. The City and County's Illicit Discharge Detection and Elimination Ordinances, coupled with education and outreach efforts, have proven particularly successful in the reporting of illegal discharges or dumping into the storm drainage system. The City maintains a 24-hour response telephone number for illicit discharge reports and provides a telephone number on their storm drain labels. Boone County supports a web-based reporting system to log citizen complaints. IDDE reports are thoroughly investigated and resolved in accordance with the MS4 permit.

MU's Department of Environmental Health and Safety (EHS) creates policies, programs, and guidance to assist the campus in complying with regulations. A number of overlapping mechanisms effectively monitor and control discharges on the MU campus, including the Stormwater Management Plan, Stormwater Pollution Prevention Plans for land disturbance sites, the Spill Prevention Countermeasures and Control Plans, and stormwater discharge NPDES permits. Construction and demolition projects receive daily oversight from a MU Construction Project Manager or Construction Engineer, in addition to receiving MU building permit inspections. MU Employees are provided with training and have mechanisms to report discharges, including discharges to the stormwater system, to EHS. The awareness of the campus community has been heightened, as evidenced by feedback from the annual training and inspection activities throughout the year. MU's 24-hour emergency response process also includes reporting of illicit discharge events.

The co-permittees continued to identify high priority areas based on the following criteria: stormwater runoff that is creating a threat to the public; causing deterioration to infrastructure; infrastructure that has exceeded life expectancy or shows evidence of failure; or is the source of numerous complaints. Projects that address the above are all subjected to economic analysis and appropriation availability.

The City performs frequent inspections to detect and address non-stormwater discharges in areas where reports have occurred historically, such as below the downtown area. As failures in the sanitary sewer system can ultimately infiltrate the storm sewer system, actively examining the sanitary system prevents

incidental non-stormwater discharges. The City sanitary system has been divided into multiple priority areas based on inflow and infiltration (I&I). Methods to evaluate integrity include smoke testing, building inspections, CCTV inspections and dye water testing. Removing stormwater from the sanitary sewer system prevents overflows which cause raw sewage to enter the waterways. In 2024, the City:

- Completed over 134,766 feet of CCTV inspection for new and existing sewer main.
- Completed over 15,222 feet of CCTV inspection for new and existing stormwater main.
- Replaced 486 feet of failing storm pipe and repaired or built 12 storm structures.

Through the City's Annual Sanitary Sewer Main and Manhole Rehabilitation projects, thousands of feet of sanitary sewer pipe have been lined, eliminating the potential for exfiltration of sewage. Additionally, hundreds of lateral connections have been repaired in lower lying areas, also reducing the potential for exfiltration of sewage to drainage pathways. In 2024, the City rehabilitated approximately:

- 43,917 linear feet of sewer line
- 4 sewer manholes
- 48 linear feet of stormwater line

The sanitary sewer main throughout the City was rehabilitated due to both structural deficiencies and inflow and infiltration reduction.

The City completed construction of one Private Common Collector Elimination project in 2023:

- PCCE #29 E. Sunset Lane - The goal of these projects is to install new public sanitary sewer mains to replace the existing private collection systems that are failing and are a potential source of exfiltration to local waterways.

Both the City Stormwater Utility and Community Development department receive citizen complaints via phone, email, and website for Stormwater discharge and construction discharge. Complaints are addressed in a timely manner. Storm Water Utility received 32 illicit discharge calls in 2024 and completed those illicit discharge investigations.

The City continues its grease trap inspection program to ensure restaurant grease traps are properly cleaned, maintained, and inspected on a regular basis. This activity will reduce the potential of sanitary sewer overflows (SSO) into streams and their tributaries. In 2024, 786 inspections were performed with one letters of warning or notices of violation issued and plans for 37 new grease traps were reviewed.

In 2019, the City hired an MS4 Technician to support the MS4 program with a focus on IDDE and to conduct stream walks and outfall inspections in all City streams within the next five (5) years. This was an identified action in the Five-Year Action Plan of the Columbia Wastewater and Stormwater Integrated Management Plan (IMP). The MS4 Technician worked with other City Staff to develop an ArcGIS application to aid in the completion of dry weather inspections of outfalls. In 2024, the City revised its outfall map as part of the permit renewal process. Using the updated map, the City completed 141 outfall inspections in 2024.

In 2024, the City, removed illegal encampments along sewer easements that flanked the Harmony Creek watershed. The Sewer and Storm Water Utility picked up a dump truck load of trash within the Harmony Creek watershed, which amounted to half of a day, multiple pieces of equipment and approximately ten (10) employees' labor. Park staff patrolled and inspected trails on a regular basis. Office of

Neighborhood Services worked with parcel owners to get illegal encampments cleaned up. The Homeless Outreach Team, which comprises of two sworn police officers within the Columbia Police Department, worked to remove individuals trespassing on public and private parcels and offer services. The Voluntary Action Center is currently constructing Opportunity Campus, which is tentatively scheduled to open in Spring 2026. Their goal is to transition our homeless neighbors into being sheltered by providing safe temporary shelter, transitional housing, affordable housing, meals, basic daily needs and wrap-around services to lift people up and out of homelessness.

The County's storm system consists mostly of open swales and as such, the traditional model of using a camera to inspect line integrity is not appropriate. Therefore, the County relies mainly on on-site visual inspection and citizen notification as mentioned in the previous section. The County did not inspect any MS4 outfalls in 2024.

Boone County maintains a Spill Prevention Control Countermeasure (SPCC) Plan for the Road & Bridge Facility. The plan is intended to minimize the potential for the facility to adversely impact its environment and for the facility to attain and maintain compliance with EPA standards for oil pollution prevention and response. The plan outlines the procedures, methods, and equipment used at the facility to comply with EPA oil spill prevention control and countermeasures standards and inspection, training, and record-keeping requirements.

The County utilizes a web-based public comment submission platform to report illicit discharges and other stormwater-related issues. The County monitors the submission platform daily and responds to all comments/concerns within 24-business hours. Depending on the location and nature of the concern, the County will either respond to the issue or coordinate the response effort with the relevant co-permittee or agency having jurisdiction. In 2024, 32 stormwater concerns were reported through the online reporting system. All concerns were addressed.

MU continues to review and update as needed a storm sewer map showing the entire MU MS4 system. MU Campus Facilities divided their sanitary sewer system into five zones, A-E. One of the five zones is inspected each year, completing an inspection of the entire system every five years. The inspection program includes camera verification and inspections for defects and infiltration. In 2024, Campus Facilities completed visual inspection of Rotation D.

MU continues to update its storm and sanitary sewer maps and continues to be available to investigate illicit discharge complaints 24/7. Both stormwater and non-stormwater discharges are readily recognized by the campus and local community due to a strong awareness program, as well as active monitoring by campus staff. Stormwater released from petroleum storage tank secondary containment is inspected prior to release in accordance with the Spill Prevention Control and Countermeasures Plan.

MU maintains Spill Prevention Control and Countermeasure (SPCC) plans for their facilities in the MS4 area for which a plan is required. The plans are intended to minimize the potential for the facility to adversely impact its environment and for the facility to attain and maintain compliance with EPA standards for oil pollution prevention and response. The plans outline the procedures, methods, and equipment used at the facility to comply with EPA oil spill prevention control and countermeasures standards and inspection, training, and record-keeping requirements.

MU has divided its sanitary sewer system into five zones, A-E. One Zone is inspected annually including camera verification and inspections for defects and infiltration. The process has been expanded to verify the connections of internal floor drains over a five-year period. In 2024, MU Campus Facilities completed visual inspection of Rotation D. Facility Operations had 725 hours of camera verification time involved with the Rotation D inspection. This included inspection of 8,338 feet of sanitary sewer pipe and 7,746 feet of storm drainpipe. Sanitary and storm pipes are jetted as needed. All sediment that gets water-jetted is collected at the nearest manhole and removed. The following is a description of replacements, repairs, and assignments completed in 2024:

- A total of 1,295 feet of new storm pipe and 1,960 feet of sanitary pipe were added to the system due to repairs, upgrades, or new construction.

While the process is different among the co-permittees, new buildings are 100% inspected for illicit connections and there are building code requirements and on-site sewage treatment regulations (if applicable) in place for new construction. These mechanisms prevent the creation of new illicit discharges and help bring existing discharge systems into compliance. Each new building, whether residential, office or commercial in Columbia or Boone County, is inspected by City, County or MU staff including a plumbing inspection prior to pouring of the lower-level floor. This plumbing inspection occurs on each new building constructed in Columbia, as well as on any remodeling work. The County permitting process also includes verification of connection to an approved wastewater system with inspections by Resource Management staff or Boone County Regional Sewer District staff.

The co-permittees collaborated with the Mid-Missouri Solid Waste Management District (MMSWMD) to host a Boone County Tire Recycling Collection event that was held on June 22, 2024, at the Northeast Regional Park. This event collected 19.2 tons of waste tires. This same collection event is scheduled tentatively for June 28, 2025. An Electronics Collection event is scheduled tentatively for July 12, 2025. MMSWMD also hosted a Tire Round Up at the Boone County Public Works facility that was for other public works facilities in the eight (8) counties in the surrounding MMSWMD district to bring their right of way and ditch tires. Approximately seven (7) tons were collected at this event.

Ambient Water Quality Monitoring Opportunities

Hinkson Creek USGS Stream Gauge

In 2020, the City worked in cooperation with the USGS Missouri Water Science Center to provide funding for the Hinkson Creek stream gauge located at South Providence Road in Columbia, Missouri. The stream gauge provides daily streamflow data that is available publicly on the USGS Water Resources website: https://waterdata.usgs.gov/nwis/uv?site_no=06910230

Lakes of Missouri Volunteer Program (LMVP) Sampling

Boone County continued to participate in the Lakes of Missouri Volunteer Program (LMVP). The LMVP started in 1992 as an effort to get citizens involved in the lake water quality monitoring. The goals of the LMVP are 1) Determine the current water quality based on productivity of Missouri's lakes, 2) Monitor for changes in water quality over time, and 3) Educate the public about the lake ecology and water quality issues. Staff at Boone County continued sampling at Tri City Lake and Lick Creek Lake this season.

Staff collected one (1) sample between June and September. By participating in this effort, Boone County receives free sampling equipment and information on the status of the lakes in Boone County.

Boone County Stream Team

The Boone County Stream Team hosted a water quality monitoring blitz at Rock Bridge Memorial State Park in the Spring of 2024. We were unable to conduct the fall monitoring blitz this year due to drought conditions and lack of stream flow. Continuing to collect water quality data at these sites over time helps to inform our understanding of water quality changes in the Greater Bonne Femme Watershed. These semi-annual blitz events have provided an opportunity for field training for Missouri Stream Team water quality volunteers, and we are excited to see new Stream Teams formed by these volunteers.

MCM 4: Construction Site Stormwater Runoff Control

The co-permittees believe that the chosen BMPs are appropriate and have furthered the goals of reducing the discharge of pollutants to the maximum extent practicable. Due to the ongoing growth in Columbia with vacant land and farms being converted into residential, office and commercial developments, the need for a program to control construction site stormwater runoff is essential. All co-permittees have programs that provide for a thorough plan review of all proposed land disturbance activities. All disturbed sites are inspected often, and progress continues to be made with the development community.

The result of growth policies implemented by Columbia and Boone County is that most of the urban development in the area occurs within the city limits of Columbia. Much of the development that occurs in the County is rural in nature. The BMPs identified are very appropriate and essential to protect downstream areas as development and construction continue to expand into the unincorporated areas of the County. Boone County Public Works has a Road Regulation Manual which requires all land disturbance related to road building to follow practices necessary to prevent erosion and sediment loss from leaving the site.

MU EHS works closely with Campus Facilities - Planning Design and Construction (CF-PDC) department, providing guidance on stormwater management to architects and engineers. Any specific requirements are included in the bid and contract documents. Waterways and stormwater inlets are aggressively protected from the release of sediment, debris, or petroleum products. During each construction project, the MU Project Manager and/or Construction Inspector inspects the site both weekly and after precipitation events to make sure stormwater controls are in place and working as designed. In addition, EHS and Campus Facilities conduct a comprehensive joint audit of all permitted construction sites once a year.

The co-permittees' land disturbance ordinances, design manuals and master plan have been very successful in controlling the generation of nonpoint source pollution from construction sites from improper handling and usage of nutrients and toxic substances as well as preventing the movement of toxic substances from construction sites.

The co-permittees require submittal of Stormwater Pollution Prevention Plans (SWPPPs)/soil erosion control plans for all construction projects. All SWPPPs/soil erosion control plans are reviewed for conformance with regulatory requirements and required design policies, practices, and procedures. This is an ongoing goal.

The co-permittees continue to administer a program to inspect construction sites and effectively implement required erosion control practices on a routine and post-rainfall basis. The co-permittees also continue to administer a program to enforce construction site Erosion and Sediment Control (ESC) measures on permitted construction projects to remain in compliance with regulatory requirements. These are ongoing requirements.

The City Community Development Department performs inspections of active private sites at least weekly, and notices of violation are issued as necessary. The Storm Water Utility responds to storm drainage complaints. Public improvement projects are inspected by their respective departments

regularly and weekly at a minimum. Commercial and development sites were inspected at least weekly or greater. Inspection staff performed 543 inspections in 2024. No Notice of Violation letters were issued in 2024.

A link on the City's website provides citizens with the opportunity to report a stormwater concern. Depending on the concern received, responses are provided from the City's Community Development Department, City Storm Water Utility or one of the other co-permittees, depending on the issue and appropriate jurisdiction.

All information regarding ordinances, regulations, enforcement, site plan review, inspection, policies, and procedures about construction site runoff control for private development in the City can be found on the City's website. City regulations require soil erosion control plans for all land disturbance activities greater than an acre. City regulation requires erosion and sediment control for all disturbed sites, including those less than one acre. The Community Development Department tracks plan reviews and site inspections for private construction and development sites.

For City public improvement projects, there is a rigorous public involvement process. As part of the Citywide SWPPP, for larger improvement projects, an individual SWPPP is prepared and included in the construction documents for improvements that disturb more than an acre. All City improvement projects are inspected by City personnel. For maintenance and operations work, employees are being educated on proper erosion and sediment control to meet the City's general SWPPP permit.

Boone County continues to implement and enforce the Stormwater Ordinance. To ensure construction sites are managed properly within the County, the County implements plan review, permitting, inspection, and complaint response. Owners/Developers/Contractors follow general requirements laid out in Section 28.5 of the Boone County Zoning Regulations. Private entities are required to submit a Boone County Land Disturbance Permit, Stormwater Pollution Prevention Plan (SWPPP), erosion and sediment control plans, erosion and sediment control cost analysis for security deposit determination, and a Missouri Department of Natural Resources State Operating Permit for review and approval by County staff before construction may begin. Once the project is approved, a preconstruction meeting is held at the construction site with the owner, design professional, contractor, and site inspectors to discuss any special site features such as environmentally sensitive areas, steep slopes, stream buffer, etc., erosion and sediment control requirements, good housekeeping, and inspection procedures. The same guidelines are followed for public land disturbance activities conducted by the County.

The County continues to work with its inspections staff to improve procedures for the pre-construction meetings and final inspections, as well as administer a program to inspect construction sites and effectively implement required erosion and sediment control practices on a routine and post-rainfall basis. Annual training for inspection staff on enforcement procedures and follow-up documentation is conducted. Additionally, the County will continue to administer a program to enforce construction site erosion and sediment control measures on permitted construction projects in compliance with regulatory requirements. Inspection staff performed 191 inspections in 2024. Five (5) Notice of Violation letters were issued. All were resolved within their compliance timelines.

The County utilizes an electronic submission system for the public to submit concerns, complaints, or comments on any construction projects. The electronic submission system is located on

the County's stormwater webpage in the sidebar of the home page with a link to *"Report Storm Drainage Problems."* The County reviews all environmental concerns, complaints, or comments received by the public within 24 business hours of receipt, and provides an investigative response to submission, if deemed necessary, within 48 hours of submission (72 hours if submission occurred over a weekend or holiday). The County supplies a follow-up response to the submitter to let them know that the complaint/concern was received within 24 hours, and if requested, a follow-up once the review/investigation has been completed. The public may also contact the Resource Management Department by phone to report a stormwater complaint/concern. If complaints are phoned in, all information is entered into the online reporting system by staff for tracking purposes.

At MU, all construction projects are designed and reviewed by the MU's CF-PDC department using the PDC "Sustainable Design Policy." This policy incorporates sustainability principles and concepts in the design of all facilities and infrastructure projects to the fullest extent possible, while being consistent with budget constraints, appropriate life cycle cost analysis, and customer priorities. The policy directs MU to meet or exceed MDNR best management practices for erosion and sedimentation control standards and implement innovative stormwater management. The Consultant Procedures and Design Guidelines are available on the University of Missouri Facility Planning and Development Website and contains a collection of information that is updated quarterly as necessary.

In addition to prescribed weekly/post-rain event inspections, internal audits were conducted by MU EHS environmental compliance staff and the campus construction inspector. It was determined that the requirements of the land disturbance permit were successfully implemented and the sites well-managed. Trained and experienced personnel manage the documentation, conduct weekly inspections, and implement the conditions of the permit in the field. There is excellent coordination between the personnel of Planning, Design & Construction, Landscape Services and EHS. BMPs were found to meet the objective of protecting water quality to the maximum extent practicable. These results demonstrate a solid commitment to erosion control, good cooperation, and expedient corrective action for deficiencies.

MU delegates authority to Environmental Health and Safety to implement compliance with the requirements of MCM4. This delegation of authority is found in Section 7:001 (Delegation of Responsibility) of the University of Missouri Business Policy and Procedures manual. This policy was last updated on 12/20/2021.

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

The co-permittees believe that the chosen BMPs are appropriate and have furthered the goals of reducing the discharge of pollutants to the maximum extent practicable. Each of the co-permittees has very different issues to address. The City is largely developed, but significant residential and commercial development is occurring on the fringe. The County is largely undeveloped, but there are widely scattered pockets of residential development. MU is largely developed. While there is occasionally new construction on previously undeveloped property, redevelopment or reconstruction of existing historical buildings is more common.

The co-permittees continue to maintain ordinances and other applicable controls to address stormwater runoff from new development and redevelopment areas. These mechanisms are reviewed regularly for effectiveness and updated as necessary.

The Boone County and the City of Columbia continue to implement stream buffer ordinances to protect sensitive waterways from stormwater runoff. The ongoing goal of implementation is being met.

The co-permittees continue to identify structural and non-structural strategies to improve the quality of stormwater runoff from new development and redevelopment. This is an ongoing process for all permittees.

The City of Columbia Stormwater Management and Water Quality Manual that was adopted in March 2007 provides sufficient flexibility to allow stormwater management plans to be tailored to specific conditions in various Columbia watersheds for both development and redevelopment projects. The manual will continue to be reviewed and updated as necessary. The City's Community Development Department enforces the City's Stream Buffer Ordinance and stormwater quality management for new developments. The Community Development Department also has covenants and maintenance agreements for post-construction BMPs recorded. The City's Stormwater Utility receives and tracks annual inspection information for the post-construction BMPs. In 2024, eight (8) newly installed privately owned post construction stormwater BMPs were installed through permits with BSD.

The City continues to update mapping of all public and private BMPs in a GIS database. City continues to develop an operation and maintenance schedule for City owned BMPs and partner with volunteers to leverage more education opportunities. A GIS based map and notification process to track public and private BMP inspections continues to be refined to ensure long-term operation and maintenance of BMP's.

In 2019, the City's MS4 Technician worked with internal staff to develop an ArcGIS application to aid in the submission and tracking of private BMPs annual inspections electronically. Historically, all inspections were handled using PDF forms. The goal of the project was to develop a system for accepting BMP inspections online and increase staff efficiency on inspections of City-owned BMPs. The application was beta-tested by internal staff responsible for the inspection and maintenance of City owned BMPs in 2019, 2020, and 2021. The City implemented the application for the private BMPs in 2022. Positive feedback was obtained from users regarding usability. A couple changes were made in

early 2023 to allow more inspection photos to be uploaded as well as a Maintenance Log Sheet made mandatory before the inspection would allow for submittal unless adding a Maintenance Log Sheet. This created a more efficient process having over 600 privately owned BMPs in Columbia.

In 2024, the City continued its efforts to establish native plant prairie areas in City rights of way and undeveloped City property including areas owned by the Sewer Utility, Parks and Recreation, and Public Works.

The County's Stormwater Ordinance has provisions in place to protect environmentally sensitive areas, minimize the creation of stormwater pollution, utilize best management practices that effectively remove stormwater pollution, and attempt to maintain pre-development runoff conditions. The ordinance requires a Stormwater Maintenance Agreement (and stormwater easement for off-site facilities) to be recorded with all projects requiring a Stormwater Management Plan. The maintenance agreement describes the property owner's maintenance and inspection procedures for all permanent stormwater BMPs and follows the project in perpetuity. Boone County Stormwater Maintenance Agreements are recorded with the Boone County Recorder of Deeds. Owner/operators are required to conduct yearly self-inspections and file their report with Boone County Resource Management. The maintenance agreement also grants the County permission to inspect the BMPs, and to repair BMPs at the owner's expense, should the owner fail to maintain the BMP. These stormwater easements and maintenance agreements are required to be in place prior to the recording of the final plat. These regulations are reviewed every two years for effectiveness.

The County tracks all installed public and private stormwater quality BMPs for new and redevelopment projects since the stormwater ordinance went into effect in 2010 in a GIS database. Data tracked for each BMP includes runoff reduction volume, contributing drainage area and contributing impervious area. Privately owned BMPs require self-inspection annually. The inspection report and photographs are to be submitted to the County by June 1 each year. Private owners shall retain these records for at least five (5) years. Any maintenance items are typically prompted by these annual inspections and must be addressed within thirty (30) days or other time frame mutually agreed to between the Director of Resource Management and the responsible party. In 2024, 68 privately owned post-construction BMPs were required to self-inspect. Nineteen (19) required compliance and/or maintenance.

County-owned BMPs are inspected annually by staff and maintenance is performed as necessary.

Boone County's stream buffer regulations provide requirements for developing near streams to protect sensitive waterways from stormwater runoff. These regulations are reviewed every two years for effectiveness.

The County's stormwater design manual continues to address post-construction stormwater runoff and water quality management procedures. Structural and non-structural strategies are continually identified to improve the quality of stormwater runoff from new development and redevelopment. The stormwater design manual is reviewed every two years for effectiveness.

MU continues to establish and maintain an inventory of all permanent structural and non-structural BMPs for post-construction stormwater management. This includes an inspection schedule for all post-construction BMPs as identified in the BMP inventory.

MU maintains a Campus Master Plan, which includes a Stormwater Master Plan, which guides development on campus. EHS actively participates in the design process, providing recommendations on post-construction stormwater management to architects and engineers. The post-construction stormwater management design usually relies upon a combination of structural and non-structural BMPs appropriate to the MU community.

MU's Sustainability Policy dictates that master planning principles be established for development phasing, campus densities, land use, and conservation patterns that will provide a rigorous framework for determining where, when, and how to locate new facilities. The preservation of green and open spaces is a high priority achieved using BMPs.

For this reporting period, the co-permittees implemented/conducted the following:

MU's stormwater guidelines and Stormwater Master Plan were completed in late 2012 and were presented publicly in 2013. The stormwater guidelines and Master Plan are updated regularly and are available for viewing on the MU website.

BMPs that were added to the MU campus and properties in 2024 include: 1) A rain garden located at the Thermal Plant; 2) A stormwater detention facility at the Middlebush Farm Influenza Research Center; 3) A stormwater detention facility at the South Farm Swine Research Facility; 4) A stormwater detention basin as part of Phase 1 of the National Swine Research and Resource Center construction; and 5) Underground stormwater detention under the driveway north of the parking garage at Children's Hospital.

MU additionally plans to install several BMPs over the next two years, including: 1) A stormwater management basin at the Thompson Center for Autism. Inlets around the new building and adjacent parking lots will be piped into the new basin in 2025; 2) Demolition of Vet Science building, less pavement will be installed in its place in 2025; 3) Salt shed relocation which will include an enclosure for all campus chloride storage in 2025; 4) Vet Med Diagnostics Building Addition will include an underground detention storage and treatment west of the new building in 2026; and 5) Discovery Ridge Radioisotope Processing Facility includes provisions for vegetative swales and native planting restoration in 2026.

As part of the University of Missouri's officially adopted Sustainability Policy Statement (https://sustainability.missouri.edu/about/mu-sustainability-policy), the campus observes sustainable best practices in campus construction and procurement. The University of Missouri pursues a LEED certified-level for New Construction and Major Renovations (LEED-NC) on projects that are eligible for this version of certification. For those projects that are ineligible for certification under LEED-NC, the University of Missouri's Sustainable Design Guidelines (SDG) are applied. Based on LEED-NC, the MU SDG sets goals for design and construction, providing a consistent approach to developing sustainable buildings on campus.

The University of Missouri (MU) pursues LEED certification on all new construction or major renovation eligible projects by incorporating sustainable building practices into the projects. MU currently has fourteen (14) LEED Certified-level or greater projects: The Missouri Orthopedic Institute, MU Hospital

Patient Care Tower (including green roof areas and pervious pavement), Animal Resource Center (including bioretention and stormwater research), Woman's and Children's Hospital South Pavilion renovation, Gwynn Hall renovation, Swallow Hall renovation, Gateway Hall residential housing (including green roof areas and bioretention), Johnston and Wolpers Hall residential housing renovation, Mizzou Softball Stadium, Patient-Centered Care Learning Center (including stormwater detention), Stewart Hall Renovation (including bioretention), and the Bluford & Brooks Residence Halls (including pervious pavement and green-roof-ready area). Of these, five (5) buildings across MU's campus have received a LEED Platinum rating from the US Green Building Council (USGBC) (Johnston Hall, Wolpers Hall, Bluford Hall, Brooks Hall, and the Patient-Centered Care Learning Center); six (6) buildings have received a gold LEED rating (Patient Care Tower, Gwynn Hall, Swallow Hall, Gateway Hall, Mizzou Softball Stadium, and Stewart Hall); and one (1) has received a silver LEED rating (Women's and Children's Hospital). For projects that do not meet the project size and scope requirements for LEED, the University uses a custom set of sustainability guidelines developed specifically for the MU campus.

Monitoring is not required under this MCM. Instead, the co-permittees must assume the strategies in the International BMP Database have already been vetted for effectiveness.

MCM 6: Pollution Prevention/Good Housekeeping for Municipal Operations

The co-permittees believe that the chosen BMPs are appropriate and have furthered the goals of reducing the discharge of pollutants to the maximum extent practicable. The three co-permittees have developed their pollution prevention/good housekeeping control measures after a thorough review of all their operations which are affected by stormwater run-off or which affect stormwater runoff. The City and County interviewed operational personnel in all divisions and departments of each entity to tailor the program for each unique entity. MU tapped into their existing hazardous materials program which contains comprehensive data on the types of materials being used on campus as well as the people using them.

The City's municipal operations, including Public Works, Utilities, and Parks and Recreation are very broad in scope and nature. These operations are carried out in a professional manner and operations staff training has always included elements of pollution prevention pertinent to each department, such as the proper disposal of transformer oil in the electric department. This good housekeeping training BMP augments the existing professionalism, broadens it, and brings focus to preventing stormwater pollution. Therefore, this BMP is effective. In addition to the good housekeeping training, stormwater staff attend the Risk Management Safety Audits of City-owned facilities to detect and correct any potential sources of stormwater pollution.

The County conducts street sweeping after "chip seal" operations to remove loose gravel and oil.

Boone County collects and recycles used oil from vehicle maintenance at the Road and Bridge Storage Shed located at 5551 South Tom Bass Road. The County provides a covered storage area and secondary containment for used oil drums. The facility burns used oil in the heating furnace for the shop. During the warm season, oil drums may be picked up and recycled off premises. Used oil and antifreeze collection and recycling procedures are included in the training programs.

As a regulated Large Quantity Generator, MU must follow strict guidelines regarding management of unwanted chemicals, including used oil, and universal waste from all University operations. MU faculty, staff, and students were provided with the means to properly dispose of hazardous materials during the calendar year 2024. 13,269 pounds of universal waste were collected during 2024. MU prepares a biannual, once every other year, on hazardous waste collection numbers. In 2023, MU collected 129,347 pounds of hazardous waste. The next biannual report will be prepared at the end of 2025, including hazardous waste collection numbers for 2024 and 2025.

The co-permittees continue to schedule and conduct pollution prevention training for municipal staff. Education includes steps that can be taken to prevent or reduce pollutant runoff from municipal operations. This is an ongoing program for all permittees.

The co-permittees collaborated with the Mid-Missouri Solid Waste Management District (MMSWMD) to host a Boone Tire County Recycling Collection event that was held on June 22, 2024, at the Northeast Regional Park that collected 19.2 tons of waste tires. This same collection event is scheduled tentatively for June 28, 2025. An Electronics Collection event is scheduled tentatively for July 12, 2025. MMSWMD also hosted a Tire Round Up at the Boone County Public Works facility that was for other public works

facilities in the eight (8) counties in the surrounding MMSWMD to bring their right of way and ditch tires. Approximately seven (7) tons were collected at this event.

The City continued to sponsor Household Hazardous Waste Collections on the first and third Saturday of April through November from 8am – 12pm at the 1313 Lakeview Ave facility. The total collections properly disposed of:

- 3,995 gallons of oil
- 5,332 gallons of paint were diverted
- 67.22 tons of household hazardous waste collected and diverted from landfill
- 650 gallons of antifreeze
- 398 lead acid batteries
- 355 gallons of oil/antifreeze mix
- 715 gallons of gasoline
- 587 volunteer hours (16 collection events held)
- There were 4,707 cars serviced in total

Note that there is a new schedule for 2025. The HHW collections will be held on the first and third Saturday from April through October from 8am – 12pm at the 1313 Lakeview Ave facility.

The Boone County Sheriff's Office, in partnership with the Drug Enforcement Administration and other law enforcement agencies in Boone County, conducted Prescription Drug Take Back events at eight locations in April and October 2024. The April event recovered 407 pounds of medication, while an additional 274 pounds was recovered at the October event.

All have developed an operation and maintenance program with the ultimate goal of preventing pollutant runoff from municipal operations to the maximum extent practicable.

City BMPs include street sweeping programs and training for employees. It is recognized that training is essential for City workers and ongoing discussions of stormwater issues take place in employee safety meetings. New employee training for every City employee includes stormwater and good housekeeping training. The City has included pollution prevention education into the employee handbook. Stormwater Utility Educator trains personnel in each City Department about pollution prevention and good housekeeping.

- The City’s street sweeping program continues to be an aggressive and effective BMP which picks up many pollutants, including soluble pollutants, before they are mobilized by stormwater. It would be difficult or impossible to remove from runoff with other structural BMPs.
- There are 1097.8 striped lane miles of 12’ or wider streets owned and maintained by the City.
- The Central Business District is swept every 8 weeks; Saturday and Sunday when MU has home football games.
- All other streets are swept every four months on a routine schedule.
- Streets are also swept as soon as practicable after snow events.
- Public Works continues to refine its street maintenance operations to minimize loose gravel.
- The street sweeping team (including two (2) sweepers) averaged 28.3 miles per day on 165 unique days, with a total of 4670.8 miles swept in 2024.

- Stormwater Utility staff attended safety audits of City-owned facilities to identify any deficiencies related to good housekeeping and stormwater management on site.

The City would like to highlight the training conducted during the reporting period:

- City staff attended numerous webinars and virtual trainings on stormwater topics. These topics included water quality BMP's, flood mitigation solutions, stormwater purification, presto geosystems, efficient design solutions for storm sewer systems, etc.

Boone County Road and Bridge maintenance/material storage facility and operations is reviewed for compliance annually. The operational activities and procedures are reviewed annually, and training is provided to staff concerning hazardous materials handling, pesticide handling and spill response. This training is also applied to operations and maintenance of other facilities, infrastructure, etc. for which the County is responsible. Additionally, Boone County follows procedures listed in their Spill Prevention Control and Countermeasures (SPCC) plans for their South Facility and Hallsville Facility. Boone County also requires all new municipal development disturbing one acre or more, or redevelopment creating 3,000 square feet or more of impervious surface to provide water quality treatment BMPs.

Boone County would like to highlight the training conducted and received during this last calendar year:

- **Facilities Management Staff Training:** Boone County grounds crew members received training about good housekeeping practices, snow removal, plant selection, and the MS4.
- **New Employee Onboarding:** New employees were informed about the MS4 as part of their onboarding process. **REGFORM Conference:** Stormwater staff attended the Missouri REGFORM Water Seminar to learn more about stormwater rulings and other stormwater-related topics.
- **Road & Bridge Safety Day:** Road & Bridge Department received training on good housekeeping, streams moving and migrating overtime, and stream crossing best management practices.
- **Land Disturbance Inspection training:** Boone County Resource Management employees received training on completing a land disturbance inspection.
- **APWA Snow Conference:** The Stormwater Educator attended the APWA Snow Conference, learning about snow removal methods, environmental impacts of snow removal, and how to educate about snow removal.
- **Clean and Green Sustainability Conference:** The Stormwater team attended the Clean and Green Sustainability Conference. Topics included High-Performance Turf Reinforcement Systems, Vegetation Management/Enhancement Erosion Control Solutions, Permeable Pavement Systems, Road Building Systems for Subsurface Moisture Management & Viability of Urban Trees.
- **Center for Watershed Protection Conference:** The Stormwater Coordinator and Urban Hydrologist attended this conference to learn how to increase community resiliency in response to emerging and persistent threats to our water resources. The conference included technical presentations, case studies, panel discussions, and workshops.
- **Bulletproof Leadership Seminar:** The Stormwater Coordinator attended a leadership seminar hosted by the Boone County Sheriff's Department.
- **NFIP 101 Workshop:** The Stormwater Coordinator attended a workshop hosted by the MO Floodplain & Stormwater Managers Association (MfSMA) to learn the basics of floodplain management, with topics related to FIRM maps, regulations, substantial improvement/damage, ordinance enforcement, permitting and basic flood insurance rating.

- **MoDNR MS4 Workshop Series:** The Stormwater Coordinator attended three (3) workshops hosted by the Missouri Department of Natural Resources (MoDNR). Topics included the MoDNR general permit overview and its relationship with MS4's, funding opportunities available through MoDNR's Financial Assistance Program and Section 319 Program, and information about impaired waters and how to implement the MS4 required Assumptions and Requirement Attainment Plan (ARAP).
- The Stormwater Team participated in various programs to enhance the team's agricultural knowledge and connections and promote best management practices across the county.
    - Understanding Ag Workshop
    - MU Extension Town and Country Dinner
    - Columba Center for Urban Agriculture speaker
    - Missouri River Center tree planting
    - Roots So Deep film screening
- **Webinars:** Stormwater staff attended approximately 23 webinars.

MU's non-structural BMPs, which center around training for employees, have been selected for fleet, chemical and waste facilities with a focus on hazardous chemicals, petroleum products, pesticides and infectious materials. Other non-structural BMPs address maintenance activities at the MU golf course, various landscape issues, and litter control.

MU's Department of Environmental Health and Safety is charged with environmental compliance and response to spills. EHS maintains trained personnel (currently nine HAZWOPER trained personnel) and adequate supplies to respond to incidents. EHS coordinates remediation activities as appropriate.

MU has also chosen to highlight training during the reporting period:

- Spill, Prevention, Control and Countermeasures (SPCC) (EHS600): The SPCC Coordinator and all MU Campus oil-handling personnel are trained annually in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and the contents of the SPCC Plan. Used oil collection and recycling procedures are included in the training program. A total of 110 Individuals from numerous departments on and off campus within the MS4 permit area received SPCC training in 2024.
- Analyzing Hazards (EHS301): 1,250 individuals received this training in 2024.
- Working Safely (EHS302): 1,158 individuals received this training in 2024.
- Laboratory Safety (EHS303): 1,108 individuals received this training in 2024.
- Hazard Communication (EHS304): 1,102 individuals received this training in 2024.
- MU Specific Chemical Safety Training (EHS305): 1,066 individuals received this training in 2024.
- Two (2) MU EHS staff members attended the annual REGFORM Missouri Water Seminar in 2024.

Used oil and antifreeze collection and recycling procedures are included in each of the co-permittees training programs.

The co-permittees collaborated with the Mid-Missouri Solid Waste Management District (MMSWMD) to host a Boone County Tire Recycling Collection event that was held on June 22, 2024, at the Northeast Regional Park that collected 19.2 tons of waste tires. This same collection event is scheduled tentatively for June 28, 2025. An Electronics Collection event is scheduled tentatively for July 12, 2025. MMSWMD

also hosted a Tire Round Up at the Boone County Public Works facility that was for other public works facilities in the eight (8) counties in the surrounding MMSWMD to bring their right of way and ditch tires. Approximately seven (7) tons were collected at this event.

The co-permittees maintain the following Missouri State Operating Permits to reduce and/or eliminate pollutants from areas that the permittees operate:

City of Columbia:
General Operating Permit #MOR100032 – Land Disturbance Permit
Missouri State Operating Permit #MOR80F011 – Columbia Regional Airport
Missouri State Operating Permit #MO0112640 – Columbia Landfill and Yard Waste Compost
Missouri State Operating Permit #MO0004979 – Columbia Municipal Power Plant
Missouri State Operating Permit #MO0092924 – Columbia Regional Airport WWTF
Missouri State Operating Permit #MO0097837 – Columbia WWTP
Missouri State Operating Permit #MO0136034 – Columbia Water Treatment Plant

Boone County:
General Operating Permit #MOR100049 – Land Disturbance Permit

MU:
General Operating Permit #MOR100039 - Land Disturbance Permit
General Operating Permit #MOG823021 – No Discharge
General Permit #MO-G350238 - Discharge Permit
No Exposure Certification #MO-NX00564 – No Exposure Certification, MU Power Plant

2. BMPs implemented by government entity

No BMPs or MCMs were implemented by governmental entities other than those who are a party to this MS4 permit during the reporting period.

3. Proposed changes to the program area and documented SWMP (MCM 2)

The co-permittees updated the July 2020 SWMP to reflect the requirements of their current Missouri State Operating Permit No. MO-0136557. The SWMP was approved by the Department of Natural Resources' Municipal Separate Storm Sewer System (MS4) Program on April 8, 2022, and will be reviewed again in 2025, in preparation for the upcoming permit renewal, and as needed.

4. Effective BMPs evaluated during the reporting period

See Part D Iterative Process Evaluation in the attached table.

5. Water samples collected and analyzed during the covered reporting period by the permitted MS4 or on behalf of the permitted MS4

No water samples were collected by, or on behalf of, the permitted MS4 during this reporting period.