



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM

**STORM WATER ANNUAL REPORT – SMALL MS4 PERMITS ADDENDUM - WATER  
QUALITY PROGRAM ASSESSMENT (MUNICIPAL SEPARATE STORM SEWER SYSTEMS)**

**INSTRUCTIONS**

You are not required to complete this ADDENDUM. However, the Department of Natural Resources strongly recommends this form as a way to satisfy Section 2b of the Small MS4 Annual Report, or at a minimum thoroughly address the items included in this addendum.

The purpose of this report is to contribute information to an evaluation of the National Pollutant Discharge Elimination System, or NPDES, small municipal separate storm sewer system (MS4) permit program. Consistent with Missouri storm water regulations 10 CSR 20-6.200 and federal regulations 40 CFR §9, 122, 123, 124 the Department is evaluating the status of your program. A “no” answer to a question does not necessarily mean noncompliance with your permit or with the state and federal regulations. In order to establish the range of variability in the program, it is necessary to ask questions along a fairly broad performance continuum. The Department of Natural Resources may use some of this information as one component of compliance evaluation.

**A. WATER QUALITY PRIORITIES**

1. Does your MS4 discharge to waters listed as impaired on Missouri’s most recently approved 303(d) list or to waters for which a TMDL has been approved by EPA and is currently in effect? For more information visit [www.dnr.mo.gov/env/wpp/waterquality/303d.htm](http://www.dnr.mo.gov/env/wpp/waterquality/303d.htm).  
 Yes  No

2. If yes, identify each impaired water, the impairment(s), whether a TMDL has been approved by EPA for each, and whether the TMDL identifies your MS4 as a source of the impairment.

Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

3. What specific sources of these pollutants of concern are you targeting?

4. Do you have discharges to any Wild and Scenic Riverways, drainages thereto, or Outstanding State Resource Waters? (a list of these waters can be found in 10 CSR 20-7.031 tables D and E).  
 Yes  No

5. Are you implementing additional specific provisions to ensure their continued integrity?  
 Yes  No

**B. PUBLIC EDUCATION AND PUBLIC PARTICIPATION**

1. Is your public education program targeting specific pollutants and sources of those pollutants?  
 Yes  No

2. If yes, which of the following pollutants did your public education program target this reporting period?

<input type="checkbox"/> Suspended Solids	<input type="checkbox"/> Pesticides	<input type="checkbox"/> Temperature
<input type="checkbox"/> Nutrients/Fertilizers	<input type="checkbox"/> Oils and Greases	<input type="checkbox"/> Other
<input type="checkbox"/> Chlorides	<input type="checkbox"/> Polycyclic Aromatic Hydrocarbons (PAHs)	

3. What sources of pollution did you target for these pollutants (for education) this reporting period?

4. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

5. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your storm water program?  
 Yes  No

**C. CONSTRUCTION**

1. Do you have an ordinance or adopted policies stipulating:

- a. Erosion and sediment control requirements?  
 Yes  No
- b. Other construction waste control requirements?  
 Yes  No
- c. Requirement to submit construction plans for review?  
 Yes  No
- d. MS4 inspection authority?  
 Yes  No
- e. MS4 enforcement authority?  
 Yes  No

**C. CONSTRUCTION (CONTINUED)**

2. Do you have written procedures for:

a. Reviewing construction plans that include erosion and sediment control?  
 Yes  No

b. Performing erosion and sediment control inspections?  
 Yes  No

c. Responding to erosion and sediment control violations?  
 Yes  No

3. Identify the number of active construction sites  $\geq 1$  acre in operation in your jurisdiction at any time during the reporting period.

Non-municipal	Municipal
---------------	-----------

4. How many of the sites identified in # 3 did you inspect this reporting period?

Non-municipal	Municipal
---------------	-----------

5. Describe, on average, the frequency with which your program conducts construction site inspections.

Non-municipal	Municipal
---------------	-----------

6. Do you prioritize certain construction sites for more frequent inspections?  Yes  No  
 If Yes, based on what criteria?

7. Do you require development of a storm water pollution prevention plan, or SWPPP, for construction activities, and ensure standards comply with NPDES Phase II requirements?  
 Yes  No

8. Do your municipal projects comply with state and local requirements for erosion and sediment control?  
 Yes  No

9. Identify which of the following types of enforcement actions you used during the reporting period for construction activities; indicate the number of actions or note those for which you do not have authority:

<input type="checkbox"/> Yes	Notice of Violation	# _____	No Authority <input type="checkbox"/>
<input type="checkbox"/> Yes	Administrative Fines	# _____	No Authority <input type="checkbox"/>
<input type="checkbox"/> Yes	Stop Work Orders	# _____	No Authority <input type="checkbox"/>
<input type="checkbox"/> Yes	Civil Penalties	# _____	No Authority <input type="checkbox"/>
<input type="checkbox"/> Yes	Criminal Actions	# _____	No Authority <input type="checkbox"/>
<input type="checkbox"/> Yes	Administrative Orders	# _____	No Authority <input type="checkbox"/>
<input type="checkbox"/> Yes	Other _____	# _____	

10. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results and enforcement actions of active construction sites in your jurisdiction?  
 Yes  No

11. What are the three most common types of violations documented during this reporting period?

a.  
b.  
c.

12. How often do municipal employees receive training about the construction program?

**D. ILLICIT DISCHARGE ELIMINATION**

1. Have you completed a map of all outfalls and receiving waters of your storm sewer system?  
 Yes  No

2. Have you completed a map of all storm drain pipes of your storm sewer system?  
 Yes  No

3. Identify the number of outfalls in your storm sewer system.

4. Do you have documented procedures, including frequency, for screening outfalls and open conveyances?  
 Yes  No

5. Of the outfalls identified in # 3, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage?

6. What is your frequency for screening outfalls for illicit discharges?  
 a. Describe any variation based on size/type.

7. Describe your approach to screening open conveyances for illicit discharges.

8. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges?  
 Yes  No

9. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action or recover costs for addressing illicit discharges?  
 Yes  No

**D. ILLICIT DISCHARGE ELIMINATION (CONTINUED)**

10. During this reporting period, how many illicit discharges or illegal connections have you discovered?
11. Of those illicit discharges and illegal connections discovered or reported, how many have been eliminated?
12. How often do municipal employees receive training about the illicit discharge program?

**E. STORM WATER MANAGEMENT FOR MUNICIPAL OPERATIONS**

1. Have storm water pollution prevention plans (or an equivalent plan) been developed for:
- a. All public parks, ball fields, other recreational facilities and other open spaces.  
 Yes  No
  - b. All municipal construction activities, including those disturbing less than 1 acre.  
 Yes  No
  - c. All municipal turf grass/landscape management activities.  
 Yes  No
  - d. All municipal vehicle fueling, operation and maintenance activities.  
 Yes  No
  - e. All public works, parks and other municipal maintenance yards.  
 Yes  No
  - f. All municipal waste handling and disposal areas.  
 Yes  No
  - g. Other municipal operations.  
 Yes  No
2. Are storm water inspections conducted at these facilities?  
 Yes  No
3. If Yes, at what frequency are inspections conducted?
4. List activities for which operating procedures or management practices specific to storm water management have been developed? (such as road repairs, catch basin cleaning, landscape management, etc.)  
 Yes  No
5. Do you prioritize certain municipal activities or facilities for more frequent inspections?  
 Yes  No
- a. If Yes, at what frequency are inspections conducted?
6. On average, how frequently are catch basins and other inline treatment systems inspected?
7. Do all municipal employees overseeing planning and implementation of storm water-related activities receive comprehensive training about storm water management?  
 Yes  No
8. If yes, do you also provide regular updates and refreshers?  
 Yes  No
- a. If so, how frequently or under what circumstances?
9. How often do other municipal employees and contractors performing duties that can impact storm water receive training about storm water management?

**F. NEW AND REDEVELOPMENT (POST-CONSTRUCTION) STORM WATER MEASURES**

1. Do you have ordinances or other mechanisms to require:
- a. Pre-site design meetings with developers?  
 Yes  No
  - b. Site plan reviews for storm water quality of all new and re-development projects of an acre or more?  
 Yes  No
  - c. Reasonable mimicking of pre-construction storm water runoff quality in all new development projects of an acre or more?  
 Yes  No
  - d. An incremental improvement of existing storm water runoff quality in redevelopment projects of an acre or more?  
 Yes  No
  - e. Long-term operation and maintenance of storm water management controls?  
 Yes  No
  - f. Retrofitting to incorporate long-term storm water management controls?  
 Yes  No
2. If you have retrofit requirements, what are the circumstances or criteria?
3. What are your criteria for determining which new/re-development storm water plans you will review for water quality? (such as all projects, projects disturbing greater than one acre, etc.)
4. Do your ordinance(s) or other regulatory mechanism(s) allow for:
- a. Non-structural site design options to allow for optimal water quality management in long-term storm water runoff? (such as minimized/disconnected impervious surfaces, cluster housing in exchange for green space, resource protection boundaries, etc.)  
 Yes  No
  - b. Structural contemporary, dispersed micro-infiltration/filtration practices such as grassed swales, sand filters, neighborhood roundabouts with rain gardens, etc.?  
 Yes  No

**F. NEW AND REDEVELOPMENT (POST-CONSTRUCTION) STORM WATER MEASURES (CONTINUED)**

5. Do you require water quality design standards or performance standards, either directly or by reference, be met for new development and re-development?

Yes  No

6. Do these design standards/performance measures require pre-construction runoff conditions in new development be met for:

a. Flow volumes.  
 Yes  No

b. Peak discharge rates.  
 Yes  No

c. Discharge frequency.  
 Yes  No

d. Flow duration.  
 Yes  No

e. Water quality.  
 Yes  No

7. Please provide the Web address/reference where all post-construction storm water management standards are located.

8. Do your zoning bylaws, ordinances or other regulatory processes allow or enable:

a. Flexible site design criteria such as smaller lot sizes, reduced setbacks and narrow streets in exchange for functional green space and optimal water quality management in storm water runoff.  
 Yes  No

b. Established regulatory controls over tree clearance and removal of mature trees or forest stands?  
 Yes  No

c. Green space residential developments (cluster development or conservation subdivision design)?  
 Yes  No

d. The location of bioretention areas, rain gardens, filters strips, swales and constructed wetlands in required setback areas?  
 Yes  No

e. Construction of low impact development, or LID, storm water management techniques (bioretention, swales, filter strips) on land held in common (when appropriate)?  
 Yes  No

f. Use of permeable paving for parking stalls and spillover parking areas?  
 Yes  No

g. Limited clearing within the right-of-way to the minimum necessary to construct roadway, drainage, sidewalk and utilities, and to maintain site lines?  
 Yes  No

9. Does your review and approval process include using a water quality checklist?

Yes  No

10. If yes to # 9, please check all of the following checklist items that apply:

a. Existing and proposed mapping and plans (recommended scale of 1" = 50'.) which illustrate:

1. Existing and proposed topography (minimum of 2-foot contours recommended).  
 Yes  No

2. Compatibility with watershed plans, land use plans, comprehensive plans, (contemporary street standards) etc.  
 Yes  No

3. Perennial and intermittent streams.  
 Yes  No

4. Mapping of predominant soils from USDA soil surveys as well as location of any site-specific borehole investigations that may have been performed.  
 Yes  No

5. Boundaries of existing predominant vegetation and proposed limits of clearing.  
 Yes  No

6. Location and boundaries of resource protection areas such as wetlands, lakes, ponds and other setbacks (e.g., stream buffers, drinking water well setbacks, septic setbacks).  
 Yes  No

7. Grading plan with location of existing and proposed roads, buildings and other structures.  
 Yes  No

8. Location of existing and proposed utilities (e.g., water, sewer, gas, electric) and easements.  
 Yes  No

9. Location of existing and proposed conveyance systems such as grass channels, swales and storm drains.  
 Yes  No

10. Flow paths.  
 Yes  No

11. Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainages.  
 Yes  No

12. Location and dimensions of proposed channel modifications, such as bridge or culvert crossings.  
 Yes  No

13. Location, size, maintenance access and limits of disturbance of proposed structural storm water management practices.  
 Yes  No

**F. NEW AND REDEVELOPMENT (POST-CONSTRUCTION) STORM WATER MEASURES (CONTINUED)**

14. Location of proposed community recreation/green space areas.

Yes  No

15. Functional landscape plan.

Yes  No

b. Narrative and supporting calculations describing:

1. Representative low-impact development techniques (with supporting evidence that technique is compatible with site characteristics) such as on-lot bioretention, tree clearing minimization, minimizing directly connected impervious surfaces, open section roads (also called roadside swales), etc.

Yes  No

2. Zoning, acreage, types and amounts of land uses. (e.g., parking spaces, density, green areas, building footprint areas)

Yes  No

3. Traffic analysis estimating average daily trips for street network and parking requirements.

Yes  No

4. Site impervious area (including effective disconnections).

Yes  No

5. Reforestation and/or resource conservation protection measures.

Yes  No

6. Comparison of proposed development data with allowable density, land use, etc.

Yes  No

7. Development phasing or implementation sequence.

Yes  No

8. Other?

11. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection?

12. How many of the plans identified in # 11 were approved?

13. How many privately owned permanent storm water management practices/facilities were inspected during the reporting period?

14. How many of the practices/facilities identified in # 13 were found to have inadequate maintenance?

15. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections?

16. Do you have authority to take enforcement action for failure to properly operate or maintain storm water management practices/facilities?  Yes  No

17. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate or maintain storm water management practices/facilities?

18. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance?  Yes  No

19. Do all municipal departments or staff (as relevant) have access to this tracking system?  Yes  No

20. How often do municipal employees receive training about the post-construction program?

**G. PROGRAM RESOURCES**

1. What was the annual expenditure to implement MS4 NPDES permit requirements this reporting period?

2. What is next year's budget for implementing the requirements of your MS4 NPDES permit and SWMP?

3. This year what is your source(s) of funding for the storm water program and annual revenue (amount or percentage) derived from each?

Source:	Amount \$:	OR %:
Source:	Amount \$:	OR %:
Source:	Amount \$:	OR %:

4. How many full time equivalent employees does your municipality devote to the storm water program (specifically for implementing the storm water program versus municipal employees with other primary responsibilities)?

5. Do you share program implementation responsibilities with any other entities?

Yes  No

Entity:	Activity/Task/Responsibility:	Your Oversight/Accountability Mechanism:
Entity:	Activity/Task/Responsibility:	Your Oversight/Accountability Mechanism:
Entity:	Activity/Task/Responsibility:	Your Oversight/Accountability Mechanism:

**H. EVALUATING AND MEASURING PROGRESS**

1. What indicators do you use to evaluate the overall effectiveness of your storm water management program? How long have you been tracking them and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as in-stream macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	Began Tracking (year)	Frequency	Number of Locations
<i>Example: E. coli</i>	2003	Weekly April–September	20

2. What environmental quality trends have you documented over the duration of your storm water program? Reports or summaries can be attached electronically, or provide the Web address where they are located.