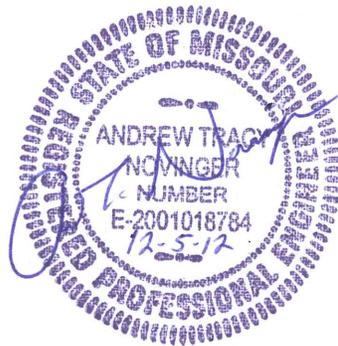




CITY OF BATTLEFIELD, MISSOURI
NPDES PHASE II PERMIT
INDIVIDUAL SMALL MS4

STORMWATER MANAGEMENT PROGRAM

NOVEMBER, 2012-



PREPARED BY:

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WATER PROTECTION PROGRAM

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SECTION 1: PROGRAM OVERVIEW:

The City of Battlefield is located southwest of and in close proximity to the city of Springfield in Greene County, Missouri. The City's population is steadily growing and per the 2010 census is approximately 5,590 persons. In general, the City is suburban in nature with predominately single family housing. Commercial development consists of a few suburban supportive restaurants, shops, and other small businesses. Industrial uses are minimal and generally in the form of small warehousing and mechanical businesses. The City of Battlefield is located on the Springfield Plateau at a local high point from which stormwater within the City proceeds downgrade in multiple directions to tributaries of the James River including Wilson's Creek. As the City is located at the top portions of the local topography, there are not any sizable streams in the City and flow largely travels overland, in shallow ditches, and in small creeks in multiple directions from the central portion of the City. In newer developed areas, stormwater is collected in street gutters and routed to inlets and storm piping prior to discharge to typically small ditches or creeks.

The City is committed to providing proper stormwater management and guidance for the benefit of its citizens and the environment. Previously, the City has proposed and enacted a stormwater management plan and is a MS-4 Phase 2 community. The City has submitted updates to its annual permit since 2007 and is actively working to provide adequate outreach, education, involvement and resources to its citizens while overseeing the requirements and implementation of Best Management Practices (BMP's) as well as other activities.

This document is intended to overview and update the City's municipal Stormwater Management Program. The following is a general summary of the City's characteristics:

Summary of City of Battlefield Information:

Name of the Permittee: City of Battlefield, Missouri
Type of Entity: City – Municipality
Total Area (acres): 1,595 acres (approximate)
Total Population: 5,590 (2010 census)
Mailing Address: 5434 South Tower Drive, Battlefield, MO 65619
Primary Contact: Andrew Novinger, PE; Anderson Engineering - City Engineer
Phone Number: 417-866-2741, Fax: 417-866-2778
Secondary Contact: Rick Hess, City Administrator
Phone Number: 417-883-5840, Fax: 417-883-8189

Information on the Municipal Separate Storm Sewer System:

MS4 System Location: Battlefield, Missouri
Name of Organization: City of Battlefield, Missouri
County Permittee Resides In: Greene County

The major receiving waters within the permitted area: James River(& Wilson Creek Trib.)

Wilson's Creek, a receiving water, is listed on the latest CWA's list of impaired waters for Escherichia Coli (Ecoli) from nonpoint sources. However, the James River, which is a direct receiving stream and which Wilson's Creek drains to is not a CWA 303d listed stream.

The City's SWMP complies with the requirements of Part 3.1 and testing and related efforts are completed in cooperation with the City of Springfield and Green County whom are believed to have a more significant impact on the creek and have substantially greater resources.

Information on Adjacent Waterways:

The Permittee is within 100 feet of waters classified as major reservoirs: No
The Permittee is within 100 feet of waters classified as permanent streams: No
None of the Permittee's area is defined as wetland.

The Permittee has received a CWA, Section 404 permit from the US Army Corps of Engineers: N/A
Stormwater from Battlefield does discharge to a sinkhole. Refer to Appendix D -Outlet Map.

Information on Critical Areas:

Are there threatened or endangered species in the area: No
Are there critical habitats in the area: No
Are there historic properties in the area: No

SECTION 2: PUBLIC EDUCATION AND OUTREACH

Overview:

The primary Public Education and Outreach (PEO) products are as follows:

1. Information available on the City of Battlefield website.
2. Informal Public Education presentations.
3. Networking with the James River Basin Partnership Programs.
4. Networking with the Watershed Committee of the Ozarks local staff.
5. Shared resources and information in cooperation with the City of Springfield and Greene County including regional media resources and public awareness.

Permit Requirements:

Battlefield's public education program includes distributing educational materials to the community and conducting outreach activities. The focus of these efforts is to educate the public with activities discussing the impact of stormwater

discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff.

Prioritization:

Battlefield developed their stormwater public education and outreach program in cooperation with other jurisdictions in the region. The target pollutants were identified and prioritized. The actions that impact the target pollutants were identified. The public education program was designed to impact the actions identified.

The following is a prioritized list of the leading pollutants, experienced in the permitted area, that are carried by stormwater runoff into water bodies. (1 = having most impact and 10 = having least impact)

- 7 Suspended Solids
- 2 Nutrients
- 6 Pesticides
- 10 Metals
- 5 Bacteria
- 1 Oxygen-Depleting Substances (BOD & other organics)
- 4 Oil and Grease
- 9 Salinity (Salt)
- 3 Priority Toxic Organic Chemicals (Household Hazardous Waste Pesticide/Herbicides)
- 8 Habitat Alterations

Information Proposed to be Provided to the Public:

Battlefield plans to inform individuals and households in the community about the steps they can take to reduce stormwater pollution with the following programs:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Educational Materials:					
Post Information on Website	X	X	X	X	X
Provide Public Access To Educational Materials	X	X	X	X	X
Distribute Information Related To:					
Lawn and Garden Activities		X	X	X	X
Hazardous Waste Disposal	X	X	X	X	X
Trash Management		X	X	X	X
Septic System Controls					X
Illicit Discharges		X	X	X	X
Other		X	X	X	X
Sanitary Sewer Overflows					

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Public Awareness:					
Present Information In Newsletter	X	X	X	X	X
Post Information On Website	X	X	X	X	X
Provide Information On Facebook	X	X	X	X	X
Work on Storm Water Awareness In Local Schools		X		X	

Public Involvement:

Battlefield informs individuals and groups on how to become involved in the stormwater program by providing instructions via materials distributed to the public. This is further described in Public Involvement/Participation.

Target Audiences:

During the development of the education program, sources of stormwater pollutants were previously identified that need to be reduced to improve overall water quality. Target audiences were selected based on which audience, by changing their behavior, could have the most significant stormwater quality impact on the target pollutants. As the City is suburban in nature, the overwhelmingly largest and most crucial audience is citizen homeowners as they have the greatest interaction with stormwater discharge. In addition, of the few businesses in the City, many are owned or employee local citizens whom if reached may impact the places they work at or own. The primary target audiences for the public education program are as follows:

1. Citizens (Homeowners)
2. Restaurant Owners and Operators
3. Schools/School Children
4. Car Wash Owners and Operators
5. Service Station and Oil/Lube Business Owners and Operators
6. Lawn Service Companies
7. Developers and Home Builders
8. Business Owners
9. Elected Officials
10. City Staff

Target Pollutant Sources:

The target pollutant sources believed to have a major impact on stormwater quality were identified. Potential sources of pollutants that are experienced in the permitted area were listed and assigned a numerical rating based on their anticipated impact potential where 1 = Major impact, 2 = Minor impact, 3 = Not believed to be a significant impact. The following is a list of potential sources of pollutants and their corresponding numerical rating:

- 1 Construction activities (sediment, construction chemicals and debris, solid and sanitary wastes)
- 1 Over-application of fertilizer, herbicides, pesticides
- 2 Improper disposal of paint and household hazardous chemicals
- 2 Spills from roadway accidents or fires
- 2 Connected impervious areas covering large acreages (such as malls, institutions with large parking areas)
- 2 Stream bank erosion
- 2 Improper disposal of waste oil, grease, and gasoline disposal
- 2 Trash, debris, and illegal dumping
- 2 Sanitary sewer overflows
- 3 Foundation drains & downspouts connected to storm drainage system
- 3 Pet waste contamination
- 3 Detergents washed into drains
- 3 Snow removal (salt, sand and snow disposal)
- 3 Infiltration from cracked sanitary sewers
- 3 Failing septic systems
- 3 Sewer service connections to storm drainage system
- 3 Lake or water body used for motor boating

Outreach Strategy & Partnerships:

An outreach strategy was determined by reviewing the target audiences and available resources. To change behavior, repetition is important and it was previously decided by the City that a variety of methods to reach a number of different target audiences multiple times would be the successful course of action. The mechanisms described in the Public Education and Outreach Section of this document are to be utilized so that a variety of internet, print, and over-the-air media is used to communicate with citizens and various businesses.

As part of the City's outreach strategy, the City is prioritizing partnering with other governmental and non-governmental entities to execute the public outreach strategy and other related efforts. Due to the City's size and limited fiscal resources, the opportunity to share information and resources, particularly with the larger adjacent entities of Springfield and Greene County is very important. The following is a list of other entities that the City may share resources with:

- 1. City of Springfield, Greene County and Other Communities
- 2. County Extension
- 3. MDNR & EPA
- 4. James River Basin Partnership, Watershed Committee of the Ozarks and other Local Community Groups
- 5. Southwest Missouri State University and Local Schools

The number of people targeted to be reached by the public education and outreach strategy is 1,000 persons per year.

Person Responsible:

The person responsible for overall management and implementation of the stormwater public education and outreach program is the **City Administrator**. Others may be involved in the execution of each of the individual activities in the programs as delegated by the City. Assistance may be provided by the City Engineering Consultant where technical input is required.

Measurable Goals Selection:

The City of Battlefield has selected measurable goals for each of the BMPs after reviewing EPA, ASCE, and other local Municipalities research on the effectiveness of certain BMPs. The BMPs selected were chosen because they are believed to have a positive impact on the target pollutants identified as a concern for the City. The public education and outreach BMPs were also selected because many have been effective methods of communicating with the public for our community. The implementation of BMPs selected will determine the success of the measure on water quality. The City proposes to annually review the status of proposed efforts and progress made. Citizen input will be utilized, along with staff observations of discharge locations and a review of resources utilized to help determine the program's effectiveness.

SECTION 3: PUBLIC INVOLVEMENT AND PARTICIPATION

Public Involvement and participation is considered a key component of the City of Battlefield's Stormwater Management Program.

Permit Requirements:

Battlefield intends to comply with State and Local public notice requirements related to the public involvement and participation program.

Decision Process:

Consideration was given to the target audience and target pollutants as well as available resources to facilitate public involvement. City administrators, city staff, the city engineer and others jointly reviewed alternatives and the fiscal feasibility of a variety of options. Resources already in place were reviewed to facilitate involvement and were considered along with EPA guidance documents regarding effective public involvement methods.

Methods Involving the Public:

Battlefield has involved the public in previous stormwater efforts and intends to continue to involve the public in the stormwater management program as follows:

1. Community Input Opportunities
2. Public Hearing
3. Posted Public Meeting Announcements
4. Public Comment Opportunities Via Internet, Email, Phone or Personal Visit
5. Proposed Community Stormwater Panel (to be formed)
6. Volunteer Activities (in cooperation with other entities)

Target Audiences to Involve in Program:

The target audiences for the permittee's public involvement program were selected based on their perceived impact and are listed as follows:

1. Citizens (Homeowners)
2. Business Leaders
3. Local Elected Officials
4. Local Government Agencies
5. Teachers
6. Contractors, Home Builders, and Developers
7. Seniors
8. Civic Organizations
9. Mass Media Sources

Public Involvement Activities:

Battlefield involves the public through a variety of activities described below:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Newsletter, Web and Facebook Postings	X	X	X	X	X
Public Stormwater Input (via. email,phone...)	X	X	X	X	X
Public Hearings (with announcements)	X	X	X	X	X
Citizen Stormwater Committee				X	X
Facilitate Community Meetings (if needed)					X
Develop Storm Water Stenciling Program					X

Person Responsible:

The person responsible for overall management and implementation of the permittee's stormwater public involvement and participation program is the **City Administrator**. Others may be involved in the execution of each of the individual activities in the program as delegated by the City. Assistance may be provided by the City Engineering Consultant where technical input is required.

Measurable Goals:

Battlefield selected the measurable goals for each of the methods after reviewing EPA & ASCE research on the effectiveness of those methods. The methods utilized were chosen because of the evidence that they will have a positive impact on the target pollutants identified as a concern. Some methods were also chosen because they have been used effectively by Battlefield in the past. The implementation of measures selected will determine the program's success and may be verified by measured water quality. The City proposes to annually review the status of proposed efforts and progress made. Citizen input will be utilized, along with observation of discharge locations and a review of the status of public involvement programs listed previously to help determine the program's effectiveness.

SECTION 4: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Battlefield has previously and will continue to implement, amend and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into their small MS4.

Outfall Location Map:

A storm sewer system map was previously developed showing the location of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls. This map is routinely updated.

The outfall location map was developed and will be updated by using the following:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Storm Sewer Field Mapping (observation)	X	X	X	X	X
Public Input & Complaints	X	X	X	X	X
USGS Mapping	X	X	X	X	X

Enforcement:

Battlefield adopted Stormwater Erosion & Sediment Control Design Standards on October 15, 2002 that are intended to prohibit non-stormwater discharges into Battlefield's stormwater system via the above mentioned ordinances and regulations. Each ordinance/regulation is enforceable by Battlefield with appropriate procedures and consequential actions. The Erosion & Sediment Control Design Standards have been included with this submittal for reference use.

Methods to Detect:

Battlefield detects and address non-stormwater discharges, including illegal dumping to the stormwater system by the following:

1. Staff Observation: City staff regularly observes local street gutters, drains, drainages and discharge points for sediment, solids and other items.
2. Public Input & Notification: The public has been and will continue to be encouraged to observe and inform the City of stormwater issue. The public is regularly informed of a variety of ways to contact the city such as via the City web site, email, phone or by personal appointment.
3. Stream Testing (in partnership with other entities) is regularly provided and may be used to disclose substantial issues.
4. Methods to Be Determined may be added in the future as needs necessitate.

Informing the Public:

Battlefield informs public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste using the following methods:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Educational Programs:					
Procedural Training for City Staff	X	X	X	X	X
Distribute Literature	X	X	X	X	X
Post Signs	X	X	X	X	X
Recycling for Household Hazardous Waste					X
Volunteer Programs:					
Storm Drain Stenciling					X
Household Hazardous Waste Collection					X
Illegal Dumping Reporting By Citizens	X	X	X	X	X

Insignificant Contributors:

Non-stormwater discharges and/or flows (i.e. illicit discharges) were reviewed by the City and City staff, but are not believed to be significant contributors of pollutants. Non-stormwater discharges and/or flows considered include: waterline flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined in 10 CSR 20-6.200), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, springs, water from crawl space pumps, footing drains, lawn watering, flows from riparian habitats and wetlands, and street wash water (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-stormwater and will only be addressed where they are identified as significant sources of pollutants to waters of the State.)

Occasional Incidental Non-Stormwater Discharges:

At this time, Battlefield's illicit discharge ordinance does not include a list of other similar occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes, etc.) to be addressed as illicit discharges because they are not believed to currently be reasonably significant sources of pollutants. Should these occasional or incidental non-stormwater discharges be identified in the future, those entities responsible for discharging will be prohibited from discharge or other applicable methods applied to minimize the discharge of pollutants.

Decision Process:

Battlefield has documented their decision process for the development of a stormwater illicit discharge detection and elimination program. In general, staff and professional consultants reviewed stormwater issues and available resources. The following description of Battlefield's program is intended to address both their overall illicit discharge detection and elimination program and the individual BMPs, measurable goals, and responsible persons for their program.

Regulatory Mechanism:

Battlefield will use the following mechanisms to effectively prohibit illicit discharges to the MS4:

1. City Ordinances
2. Inspection
3. Education and Communication
4. Legal Enforcement (Judicial)

In general, ordinances are used to establish laws and set forth enforcement mechanisms. The existing City ordinances establish legal authority: to regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) of stormwater discharges by any use; to prohibit illicit connections and discharges to the MS4; and to establish legal authority to carry out all inspections, surveillance and monitoring procedures necessary to ensure compliance.

Battlefield proposes to continue and further develop and implement the following mechanisms to effectively prohibit illicit discharges to the MS4 on the respective schedule:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
City Ordinance Assessment & Revisions (if needed)			X		
Inspection	X	X	X	X	X

Enforcement:

Battlefield proposes to set forth amendments to their ordinance to allow enforcement procedures intended to remove the source of any illicit discharge detected.

Battlefield will proposes implementation of the mechanisms described in the Regulatory Mechanism section above with the proposed enactment of civil penalties.

Detection:

Battlefield will do its best to detect and address illicit discharges to the MS4, including discharges from illegal dumping and spills by utilizing staff observations, citizen reports, and testing. The outfall map may be used by City staff to locate discharge locations and contributing drainages. Note that on-site sewage disposal systems are not believed to be in existence or contributing to the City's stormwater run-off as a centralized sewer system replaced on-site systems over 20 years ago.

Identifying Priority Areas:

Battlefield will use the system maps previously identified and other data to identify priority areas with the likelihood of illicit connections. Most of the City is of newer construction and it's integrity is relatively well known. However, the limited areas of older construction and areas closest to defined drainage channels are believed to be the most crucial to regularly inspect and may receive additional attention as they are the most likely to have a quick impact detrimental to run-off.

Tracing the Source of Illicit Discharges:

The City's outfall map, refer to Appendix D, may be utilized by City staff to locate discharge locations and contributing drainages and allow for visual inspection. Once an illicit discharge is detected, staff may work with the City's engineer to track the path of the discharge and determine the responsible source. If necessary, video cameras, dye tracing, or other methods may be considered.

Removal of Illicit Discharge Sources:

Battlefield will follow their adopted ordinance and the enforcement mechanisms detailed in the ordinance including those legal actions described in the Enforcement section to remove an identified illicit connection. Prior to detailed enforcement, the City may elect to use communication and technical input to resolve issues and provide for assistance in the coordination of any required remediation.

Program Evaluation:

The success of the described program will be evaluated annually by analyzing the impact of illicit connections and reviewing the subsequent number of illicit discharges discovered and eliminated (if any).

Public Information:

Battlefield will inform public employees, business and the general public of hazards associated with illegal discharges and improper disposal of waste through the following proposed methods:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Educational Programs:					
Procedural Training for City Staff	X	X	X	X	X
Distribute Literature		X	X	X	X
Post Signs			X	X	X
Recycling Program for Household Waste					X

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Volunteer Programs:					
Storm Drain Stenciling					X
Household Hazardous Waste Collection					X
Illegal Dumping Reporting By Citizens	X	X	X	X	X

Where applicable, it is intended that the information proposed to be distributed through these means will be coordinated with the information distributed in the Public Education minimum control measure (e.g., consistent/coordinated messages in literature).

Responsible Party:

The person responsible for overall management and implementation of the City's Illicit Discharge Detection and Elimination program is the **City Administrator**. Others will be involved in the execution of each of the individual activities in the programs as delegated by the City. Assistance may be provided by the City Engineering Consultant where technical input is required.

Measurable Goals:

Battlefield staff and professional consultants reviewed EPA & ASCE research documents with actions selected because of the belief that they will have a positive impact on the target pollutants identified and on the effectiveness of certain related measurable goals. Some of the methods were also chosen because they have been used effectively by Battlefield in the past. The measured success of the program is proposed to be based on the observed impact of illicit connections and discharges and the number of illicit connections/discharge sources that are found and eliminated.

Formal Training Program for Municipal Inspectors:

Inspector staff regularly receive regional training and general observation guidance. Battlefield is evaluating effective training programs and may implement an appropriate system in consideration of the number and type of potential illicit discharges.

SECTION 5: STORMWATER CONSTRUCTION REGULATIONS

Battlefield has developed, implemented, and will continue to evolve and enforce a program to reduce pollutants in stormwater runoff from construction activities. Of priority, are sites that result in the disturbance of greater than or equal to one acre. Battlefield also plans to reduce pollutants in stormwater runoff from construction activities that disturbs an area less than one acre if the site is part of a larger common plan of development or sale.

Regulatory Mechanism:

Battlefield has adopted Design Standards by ordinance with required erosion and sediment controls, as well as sanctions to ensure compliance.

Best Management Practices (BMPs):

Battlefield requires construction site operators to implement the appropriate erosion and sediment control Best Management Practices (BMPs) as specified in the adopted Battlefield Design Standards manual and in compliance with State regulations and approved site plans and permits.

Wastes to Be Controlled:

Battlefield will require construction site operators to control wastes that may cause adverse impacts to water quality such as:

1. Discarded Building Materials
2. Concrete Truck Washout
3. Sediment & Dust
4. Litter or Trash
5. Sanitary Waste

Site Plan Review:

Battlefield requires a site plan review which incorporates the consideration of potential water quality impacts. Site observations are provided by City staff and include verifying that BMP's are being appropriately utilized during construction. Prior to construction, a stormwater pollution prevention plan (SWPPP) must be provided for all sites over one acre and must include information as indicated in the City's design guidelines. The SWPPP is reviewed and approved by City Staff and the City Engineer to verify adequate BMPs and provisions are proposed. Proof of MDNR review and approval of the SWPPP and permit is also required.

Receipt & Consideration of Public Comment:

Public comments may be submitted to the City with formal hearings held for most sites at rezoning and/or as directed by the City. Internet, email, phone and other methods may be used to contact the City. Upon receipt, City staff shall review and consider input in conformance with City regulations and policies.

Site Observation:

Battlefield provides site observation by staff to verify the adequacy of BMPs and the control of sediment and runoff control measures.

Decision Process:

Battlefield previously reviewed the potential impacts of construction on stormwater discharge and possible requirements. In general, staff and professional consultants reviewed stormwater issues and available resources including information from the EPA, MDNR and other documents. BMPs and

other requirements were established accordingly and by also considering local tendencies and requirements. The following description of Battlefield's program is intended to address both their overall illicit discharge detection and elimination program and the individual BMPs, measurable goals, and responsible persons for their program.

Regulatory Mechanism:

Battlefield has adopted an ordinance in the form of Design Standards that require the use of erosion and sediment controls on construction sites. The Design Standards outline the requirements for designers and contractors before, during and after the construction activities. The City provides for enforcement measures pertaining to those designers and contractors who do not follow the ordinance.

Other mechanisms will be available to anyone involved in design and construction of erosion and sediment control activities. Those mechanisms include:

1. Design Methodologies
2. BMP Fact Sheets
3. Sample Plans
4. Construction Specifications
5. Standard Details
6. Ordinance
7. Staff Training

Enforcement:

Battlefield will ensure compliance with the developed ordinance by including an enforcement section in the ordinance detailing sanctions and enforcement mechanisms. Battlefield may use the following sanctions:

1. Non-Monetary Penalties
2. Fines
3. Permit Denial for Non-Compliance
4. Stop Work Notices

Implementation of Proper Controls:

Battlefield requires construction site operators to control wastes that may have adverse impacts on water quality including the implementation of adopted erosion and sediment controls. Field staff observations are used for verification.

Pre-Construction Site Plan Review:

Battlefield has implemented procedures for site plan reviews, including the review of pre-construction plans, which look at the potential water quality

impacts. The City has procedures for those sites that do not require site plan review, but are still within City jurisdiction. Proposed development sites are to have pre-construction site plan reviews.

Public Input:

Public comments may be submitted to the City with formal hearings held for most sites at rezoning and/or as directed by the City. Internet, email, phone and other methods may be used to contact the City at all other times. Upon receipt, City staff shall review and consider input in conformance with City regulations and policies.

Site Inspection & Enforcement:

Battlefield will implement procedures for site inspection and enforcement of control measures. The sites will be inspected using a priority rating system where potential types and amounts of contaminants, as well as project size and location may be considered. The sites with the most potential risk to the community and the environment will receive the highest priority.

Person Responsible:

The person responsible for overall management and implementation of the City's Stormwater Construction Regulation Program is the **City Administrator**. Others may be involved in the execution of each of the individual activities in the program as delegated by the City. Assistance may be provided by the City Engineering Consultant when technical input is required.

Measurable Goal:

Battlefield staff and professional consultants reviewed EPA & ASCE research documents with actions selected because of the evidence that they will have a positive impact on the target pollutants identified and on the effectiveness of related measurable goals. Some of the methods were also chosen because they have been used effectively by Battlefield in the past. The measured success of the program is proposed to be based on the observed absence of erosion and sediment discharge, water quality testing, and public input.

SECTION 6: POST-CONSTRUCTION REGULATION

Overview:

The City of Battlefield has developed and implemented a program to address post construction stormwater runoff from new development and redevelopment projects that disturb areas greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale.

Strategies:

Battlefield utilizes a combination of structural and/or non-structural Best Management Practices (BMPs) appropriate for the community which have historically been successful in the vicinity and which are familiar to local contractors and developers.

Ordinances:

Battlefield has ordinances and/or other regulatory mechanisms to address post-construction runoff from new development and redevelopment projects in consideration of State and/or Local law.

Long-Term Operation & Maintenance:

Battlefield has policies intended to verify that adequate long-term operation and maintenance of BMPs may occur. These policies include design and approval regulations. In general, prior to the acceptance, development sites must be stabilized with appropriate BMPs, and, where applicable, Owner Associations (OA) established for long term maintenance.

Decision Process:

The following is a summary of the City's post-construction stormwater management program including BMPs, measurable goals, the responsible party and general program characteristics.

Priority Areas:

Battlefield will implement regulatory procedures to address stormwater runoff from new development and redevelopment projects. The City has not officially assigned predetermined areas of priority due to much of the City being of similar topography and characteristics so that one area is not significantly of greater importance than another. Priorities will be based on specific site characteristics as determined by staff. Those sites believed to have the greatest potential to damage the environment due to the size and/or type of waste loads and/or proximity to drainage ways may receive greater priority.

Regulatory Procedures Specific to Battlefield:

Battlefield has previously implemented and will continue to update and amend as necessary regulatory procedures specifically tailored for the community to minimize water quality impacts, and attempt to maintain pre-development runoff conditions. Methods used and/or proposed are generally as follows:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Review & Revise (if necessary) Ordinances	X				X
Inspect Long-Term Controls	X	X	X	X	X
Review & Revise (if necessary) Zoning Ordinances			X		
Complete Storm Water Master Plans					X
Staff Training	X	X	X	X	X

Non-Structural Best Management Practices (BMPs):

The following is a general summary of non-structural BMPs:

Policies & Ordinances:

Battlefield has adopted policies and ordinances that will help minimize water quality impacts through Design Standards, the City's Comprehensive Plan, and Zoning Regulations with the following general intent and objectives:

1. Maintain and/or Increase % of Open Space
2. Minimize Impervious Surfaces
3. Minimize Disturbance of Soils and Vegetation
4. Protect Sinkholes and Karst Features

Infill Development:

The City does not have a current infill program as sprawl is not considered an issue. The natural development patterns of the City have resulted in a somewhat concentric pattern of growth and existing undeveloped areas are viewed as an asset by the community.

Education:

Battlefield makes educational material available through a variety of sources accessible to developers and the public. Information is provided related to project designs that minimize water quality impacts. Staff are also available to work directly with developers and the public.

Other Non-Structural Measures:

The City regularly reviews its policies and may implement additional non-structural measures as needs require or additional effective measures are discovered.

Structural BMPs:

Battlefield requires structural BMPs similar to other small area communities which are believed to be sufficient in consideration of the amount of development and observed performance. Structural BMPs are generally summarized as follows:

Storage Basins:

The City requires stormwater detention and extended outflow structures to control discharge from storm events. Design standards for basins are in place for use in sizing and establishing flow requirements.

Filtration:

The City, where possible, encourages and uses grass swales and basins to allow partial stormwater filtration to occur by passing flow through vegetation and/or rock resulting in entrapment of some sediment and particles. Velocity is also decreased in these areas reducing scour.

Infiltration:

The City, where possible, encourages and uses grass swales and basins to allow stormwater to be partially absorbed into the ground surface by passing flow through vegetation and/or rock. Local soils may limit infiltration in some areas by their heavy clay content while in other areas, karst characteristics may result in rapid flow of water along with any contamination to the ground water aquifer. Therefore consideration must be given to where and how infiltration is utilized.

Other Structural BMPs:

Additional BMPs are required to provide long-term reductions in sediment and erosion including, but not limited to the following:

1. Scour channel protection
2. Maximum side slope requirements
3. Velocity limits in channels
4. Vegetative requirements

Consideration may be given to additional requirements in the future as new techniques are introduced and needs require.

Regulatory Mechanism:

Battlefield has implemented Design Standards to address post-construction runoff from new developments and redevelopments. These Design Standards

help to not only recommend proper practices, but also help enforce the proper use of the practices under certain circumstances. They generally include the following existing and proposed methods:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Ordinances (Existing, May Be Modified)	X	X	X	X	X
Inspection and Maintenance of Long-Term Controls	X	X	X	X	X
Zoning Ordinances	X	X	X	X	X
Storm Water Master Plans (if needed)					X
Comprehensive Plans	X	X	X	X	X
Publication of BMPs			X		

Battlefield may encourage compliance with the developed ordinance by way of sanctions and enforcement mechanisms including the following:

1. Non-Monetary Penalties
2. Fines
3. Permit Denial for Non-Compliance

Long-Term Operation & Maintenance:

Battlefield reviews and requires long term maintenance of BMPs. Future O&M responsibilities need to be clearly identified and Owner's Associations or other entities involvement are to be documented.

Responsible Party:

The person responsible for overall management and implementation of the City's Post Construction New Development and Redevelopment Program is the **City Administrator**. Others will be involved in the execution of each of the individual activities in the program with activities as delegated by the City. Assistance may be provided by the City Engineering Consultant when technical input is required.

Measurable Goals:

Battlefield staff and professional consultants reviewed EPA & ASCE research documents with actions selected because of the evidence that they will have a positive impact on the target pollutants identified and on the effectiveness of related measureable goals. Some methods were chosen because they have been used effectively by the City of Battlefield in the past. The measured success of the program is proposed to be based on the observed absence of erosion and sediment discharge, water quality testing, and public input.

SECTION 7: POLLUTION PREVENTION & GOOD HOUSEKEEPING

Overview:

Battlefield provides for staff training and internal protocols with the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

Training:

Battlefield uses training materials that are available from EPA, State and other organizations. Designated employees receive training at events sponsored in the area typically on an annual basis.

Implementation:

Staff are briefed and supervised on the practices and measures to be utilized to prevent runoff from maintenance, debris removal, chemical storage, vehicular work and other activities.

Decision Process:

The following is a summary of the City's pollution prevention/good housekeeping program which documents the BMPs, measurable goals, responsible party and general characteristics of the program.

Prevention Of Pollutant Runoff From Municipal Facilities:

Battlefield uses and/or proposes to implement pollution prevention and good housekeeping measures in the following City activities:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Catch Basin Cleaning (if needed)					X
Recycling Program				X	X
Maintenance Activities To Reduce Pollutants	X	X	X	X	X
Long-Term Inspection Procedures				X	X
Minimize Pesticides Used	X	X	X	X	X
Employee Training	X	X	X	X	X

City activities primarily occur at the City Hall complex and adjacent area including the storage of materials, general cleaning, and vehicle maintenance. Other activities occur during field work, but are very limited in nature generally including vehicle and small machinery operation. It is intended that procedures to prevent pollution be utilized at the City's facilities (including the City Hall complex) and during field operations. Staff will be advised of expectations and the location of guidelines and resources.

There are not any industrial facilities owned and/or operated by Battlefield that are subject to EPA's Multi-Sector General Permit (MSGP) or individual NPDES permits for discharges of stormwater associated with industrial activity that ultimately discharge to Battlefield's MS4. If added, these facilities will be listed in future submittals and need to adhere to appropriate protocol.

Employee Training:

Battlefield provides for employee-training and proposes additional training to prevent and reduce stormwater pollution by the following existing and/or proposed activities:

	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Park and Open Space Maintenance					X
Fleet and Building Maintenance	X	X	X	X	X
New Construction and Land Disturbances	X	X	X	X	X
Storm Water System Maintenance			X	X	X
Snow Removal Operations				X	X

Training may include regional seminars by MDNR, EPA or other organizations. Internal training is provided for other staff and documents are available for guidance from the City of Springfield, Greene County and local water quality coalitions.

These activities will be coordinated with the outreach programs developed for the public related to illicit discharge minimum control measures so that a consistent message is presented throughout the City of Battlefield's program.

Program Description:

Maintenance Activities:

The City advises staff on properly storing and handling materials.

Maintenance:

Cleaning and engine fluids are stored in designated areas. Disposal of fluids is per the related requirements of that material and not permitted in storm drains or other areas subject to runoff. Spilled fluids are to be cleaned up appropriately and clean-up and spill kits are available and kept onsite. Solid waste and trash is to be taken to a suitable receptacle to be collected by a licensed hauler.

Open Space and Parks Maintenance:

During park and open space maintenance, clippings and other trimmings are to be removed to approved areas. Spilled fluids such as gas are to be cleaned up appropriately. Solid waste and trash is to be taken to a suitable receptacle to be collected by a licensed hauler.

Stormwater System Maintenance:

Debris and other items removed from the stormsewer are to be disposed appropriately per it's type. Solid waste and trash is to be taken to a suitable receptacle to be collected by a licensed hauler.

Long-Term Inspection Procedures:

Staff are to provide observation of City and other facilities including streets and parks. Any observed items which require attention, particularly spills or debris, are to be documented and measures immediately taken to address them per the City's policies and/or other applicable agencies notified. Observations shall also be used as a basis to determine additional measures or changes in policy that need to be implemented to improve the program.

Maintenance Schedule:

Informal policies are implemented by staff for municipal maintenance of vehicles and street/storm sewer/park clean-up. Due to the small and experienced staff, this has been effective. A formal maintenance schedule is not currently in place, but may be provided in the future as required.

Controls For Reducing Municipal Discharges:

The City educates staff to keep pollutants from entering the storm system. Vegetative and other natural barriers are utilized to prevent run-off of stored materials. In general, City storage and maintenance areas are located at the City Hall property which is not close to any defined drainages. Additional controls may be implemented in the future as needs arise or as other measures are found to be practical.

Procedures For Removing Sediment and Waste:

Waste removed from storm sewers, basin and channels is to be disposed by trained staff and/or personnel. Sediments and other materials are to be taken to a suitable site for disposal including the City of Springfield's waste center or other properties from which run-off or infiltration is controlled. Solid waste and trash is to be taken to a suitable receptacle and collected by a licensed hauler.

Flood Management:

Projects incorporating flood management are not common, but are to be assessed for impacts on water quality and reviewed by City staff and professional consultants for conformance to the City's and other applicable requirements with the intent of protecting water quality. Existing basins are routinely observed and may be modified to improve performance when believed necessary.

Responsible Party:

The person responsible for overall management and implementation of the City's Pollution Prevention & Good Housekeeping program is the **City Administrator**. Others will be involved in the execution of each of the individual activities in the program as delegated by the City. Assistance may be provided by the City Engineering Consultant when technical input is required.

Measurable Goals:

Battlefield staff and professional consultants reviewed EPA & ASCE research documents with actions selected because of the evidence that they will have a positive impact on the target pollutants identified and on the effectiveness of certain related measurable goals. Some of the methods were also chosen because they have been used effectively by Battlefield in the past. The measured success of the program is proposed to be based on the observed absence of pollutants, erosion and sediment discharge, the results of water quality testing, and continued training of staff. In addition, public and staff input will be considered in evaluation of the program.

SECTION 8: SHARING RESPONSIBILITY:

Battlefield does not have any current plans to share the responsibility of water quality management with any other municipalities. However, Battlefield is communicating and coordinating water quality management with Greene County, Wilson's Creek Battlefield, the City of Springfield and other local agencies and community groups.

SECTION 9: REVIEWING AND UPDATING:

The City of Battlefield will annually review its stormwater program in conjunction with its annual report and as observations or feed back dictate. Changes may be made to the program and BMPs when it is believed to be prudent and/or necessary. Changes will be addressed in writing and submitted to MDNR for approval. Items to be changed will be described as to their ineffectiveness or lack of feasibility. When proposed, replacement items characteristics and ability thereof to be effective will be detailed and expectations set.

SECTION 10: MONITORING RECORD KEEPING AND REPORTING

Monitoring is to be provided as part of the stormwater management program and will include information detailing when, where, and how samples were taken as well as other pertinent information. Results are and shall be provided in a discharge monitoring report (DMR). The City keeps records associated with monitoring, the NPDES permit, copies of reports, and other information related to the Stormwater Program for a minimum of three years from the date of those documents and throughout the life of the permit (or as required by applicable agencies).

SECTION 11: POLLUTION SOURCE IDENTIFICATION PROGRAM

Battlefield will utilize the maps generated by this program to locate and map the pollution sources within the City.

SECTION 12: FUNDING PROGRAM

Battlefield is continuously reviewing means to fund the State mandated stormwater program without State assistance. Battlefield has provided regulations and good housekeeping procedures as part of their stewardship of their jurisdiction. However, Battlefield is investigating additional means to fund the program including possible stormwater taxes, grants, and budgeting within the General Fund.

SECTION 13: SCHEDULE OF IMPLEMENTATION

The schedule for further implementation of the program has been outlined in the previous sections.

The Storm Water Management Program will be reviewed annually and updated as BMP's are inspected and deemed ineffective to accomplish the water quality protection goals outlined in this Program.

The annual report shall be submitted each year reporting compliance with permit conditions and an evaluation of implemented BMP's. The progress of the implementation of education and information programs will be reported along with suggested additions to the Stormwater Program.

Additional information may be provided by contacting City staff.

Appendix A

City of Battlefield MS4 Schedule of Events

CITY OF BATTLEFIELD MS4 PROPOSED SCHEDULE

ACTIVITY	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
4.2.1.2.1 Inform Public on Steps					
Education Materials:					
Post Information on Website	X	X	X	X	X
Provided Access to Storm Water Educational Materials	X	X	X	X	X
Provide Information:					
Lawn and Garden Activities		X	X	X	X
Hazardous Waste Disposal		X	X	X	X
Trash Management		X	X	X	X
Septic System Controls		X	X	X	X
Illicit Discharges		X	X	X	X
Other: Sanitary Sewer Overflows		X	X	X	X
Public Awareness:					
Post Storm Water Quality Signs in Public Buildings	X	X	X	X	X
Issue Info. Regarding Local Storm Water Issues	X	X	X	X	X
Website Stormwater Information	X	X	X	X	X
Present Storm Water Program in Local Schools					X
4.2.2.2.4 Public Involvement Activities					
Facebook Interaction	X	X	X	X	X
Allow Public Input (via email, phone, meetings)	X	X	X	X	X
Hold Public Hearings to amend SWMP	X	X	X	X	X
Develop Storm Water Stenciling Program					X
4.2.3.1.2 Illicit Discharge Detection Mapping					
Storm Sewer Mapping	X	X	X	X	X
Public Complaints	X	X	X	X	X
Aerial Mapping					X
USGS Mapping			X	X	X
4.2.3.1.4 Methods to Detect					
Visual Inspection	X	X	X	X	X
4.2.3.1.5 Informing the Public					
Educational Programs:					
Procedural Training for City Staff	X	X	X	X	X
Provide Literature	X	X	X	X	X
Household Hazardous Waste Recycling Information					X
Volunteer Programs:					
Storm Drain Stenciling					X
Household Hazardous Waste Info.					X
Illegal Dumping Reporting	X	X	X	X	X
4.2.3.2.2 Regulatory Mechanism					
City Ordinance		X	X	X	X
Inspection		X	X	X	X

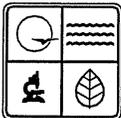
CITY OF BATTLEFIELD MS4 PROPOSED SCHEDULE

ACTIVITY	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
4.2.3.2.3 Enforcement					
Civil Penalties					X
4.2.3.2.5 Public Information					
Educational Programs:					
Procedural Training for City Staff	X	X	X	X	X
Distribute Literature	X	X	X	X	X
Post Signs	X	X	X	X	X
Household Hazardous Waste Recycling Info.					X
Volunteer Programs:					
Storm Drain Stenciling					X
Household Hazardous Waste Information					X
4.2.4.2.1 Regulatory Mechanism					
Design Methodologies	X	X	X	X	X
Sample Plans					X
Construction Specifications	X	X	X	X	X
Standard Details	X	X	X	X	X
Ordinance	X	X	X	X	X
Staff Training	X	X	X	X	X
4.2.4.2.3 Implementation of Proper Controls					
Implementation of Adopted Erosion and Sediment Controls	X	X	X	X	X
4.2.4.2.4 Pre-Construction Site Plan Review					
Review of Construction Plans	X	X	X	X	X
4.2.4.2.6 Site Inspection & Enforcement					
Site Inspection and Enforcement	X	X	X	X	X
4.2.5.2.2 Regulatory Procedures Specific to Battlefield					
Ordinance	X	X	X	X	X
Inspection and Maintenance of Long-Term Controls	X	X	X	X	
Zoning Ordinances	X	X	X	X	X
Storm Water Master Plans	X	X	X	X	X
Comprehensive Plans	X	X	X	X	X
Publication of Best Management Practices (BMP)			X	X	X
4.2.5.2.3.1 Policies & Ordinances					
Maintain and/or Increase Open Space	X	X	X	X	X
Minimize Impervious Surfaces	X	X	X	X	X
Minimize Disturbance of Soils and Vegetation	X	X	X	X	X
4.2.5.2.4.1 Structural Best Management Practices (BMP)					
Detention/Retention	X	X	X	X	X

CITY OF BATTLEFIELD MS4 PROPOSED SCHEDULE

ACTIVITY	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
4.2.5.2.5 Regulatory Mechanism					
Ordinance	X	X	X	X	X
Observation and Maintenance of Long-Term Controls	X	X	X	X	X
Zoning Ordinances	X	X	X	X	X
Comprehensive Plan	X	X	X	X	X
Publication of BMPs					X
4.2.6.2.1 Pollution Prevention Measures					
Recycling Program					X
Maintenance Activities	X	X	X	X	X
Long-Term Inspection Procedures		X	X	X	X
Minimize Pesticides Used	X	X	X	X	X
Employee Training	X	X	X	X	X
4.2.6.2.2 Employee Training					
Park and Open Space Maintenance	X	X	X	X	X
Fleet and Building Maintenance	X	X	X	X	X
New Construction and Land Disturbances	X	X	X	X	X
Storm Water System Maintenance				X	X
Snow Removal Operations				X	X
4.2.6.2.3.1 Procedures to Reduce Pollutants					
Maintenance Activities	X	X	X	X	X
Long-Term Inspection Procedures		X	X	X	X
4.2.6.2.3.2 Programs to Reduce Pollutants from Battlefield owned Facilities					
Recycling Program					X
Minimize Pesticides Used		X	X	X	X
Employee Training	X	X	X	X	X

Appendix B
MDNR Form K



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
 PO BOX 176, JEFFERSON CITY, MO 65102

FORM K - APPLICATION FOR INDIVIDUAL SMALL MS4 GENERAL PERMIT (FORM M MUST ALSO BE SUBMITTED)

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED

THIS IS FOR A STORMWATER ONLY DISCHARGE PERMIT.

1.00
 a. This municipality/area is now operating a separate storm sewer system under Missouri Operating Permit Number (NPDES) MO- R040042 or
 b. This is a new permit;

2.00 NAME OF MUNICIPALITY/AREA MS4
CITY OF BATTLEFIELD, MISSOURI

2.10 ADDRESS (HEADQUARTERS PHYSICAL LOCATION) STREET CITY STATE ZIP CODE
5434 South Tower Drive, Battlefield, MO 65619

3.00 OWNER

NAME CITY OF BATTLEFIELD, MISSOURI TELEPHONE NUMBER (417) 883-5840

ADDRESS STREET CITY STATE ZIP CODE
5434 South Tower Drive, Battlefield, MO 65619

4.00 CONTINUING AUTHORITY

NAME CITY OF BATTLEFIELD, MISSOURI TELEPHONE NUMBER (417) 883-5840

ADDRESS STREET CITY STATE ZIP CODE
5434 South Tower Drive, Battlefield, MO 65619

5.00 MUNICIPALITY/AREA CONTACT

NAME Rick Hess PHONE (417) 883-5840
 FAX (417) 883-8189

TITLE City Administrator

6.00 FOR EACH KNOWN STORMWATER OUTLET GIVE LEGAL DESCRIPTION (ATTACH ADDITIONAL SHEETS AS NECESSARY)
 Stormwater Outlet Number ____ 1/4 ____ 1/4 ____ Sec ____ T ____ R ____ County ____
 Lat _____, Long _____ Refer to attached or SWMP Appendix for information.

6.10 FOR EACH KNOWN STORMWATER OUTLET LIST THE NAME OF THE RECEIVING WATER
 Outlet Number 1 - 6 & 31-33 Receiving Water James River
 Outlet Number 8 - 30. 34 Receiving Water Wilson Creek
 Outlet Number _____ Receiving Water _____

7.00 ATTACH A USGS 1" - 2000' SCALE MAP SHOWING THE LOCATION OF THE MUNICIPALITY/AREA IN RELATION TO THE LOCAL ROAD SYSTEM. INDICATE ON THE MAP THE MUNICIPALITY/AREA BOUNDARIES, THE RECEIVING STREAM(S); ALL KNOWN STORMWATER OUTLETS; AND THE MAP SECTION, TOWNSHIP, AND RANGE. See to attached or SWMP Appendix.

8.00 I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THE APPLICATION, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE, AND IF GRANTED THIS PERMIT, I AGREE TO ABIDE BY MISSOURI CLEAN WATER LAW AND ALL RULES, REGULATIONS, ORDERS AND DECISIONS, SUBJECT TO ANY LEGITIMATE APPEAL AVAILABLE TO AN APPLICANT UNDER THE MISSOURI CLEAN WATER LAW OF THE MISSOURI CLEAN WATER COMMISSION.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) Rick Hess, City Administrator PHONE (417) 883-5840

SIGNATURE *Rick Hess* DATE SIGNED 12/4/12

INSTRUCTIONS FOR FILLING OUT FORM K - APPLICATION FOR SMALL MS4 GENERAL PERMIT

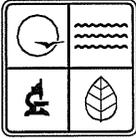
General permit fees (\$150) shall be submitted with Form K - Application for general permit for small MS4. Persons with more than one (1) non-continuous area shall obtain a general permit for each specific area. Where there are multiple releases from a single operating area, one (1) application may cover all facilities and releases.

Form M must also be submitted.

- 1.00 Fill out either Item (a.) or Item (b.) as applicable.
- 2.00 Name of municipality/area MS4 to be permitted - by what name is this area known locally? Examples: Columbia MS4, Fenton MS4, Joplin MS4, State Highway 5 MS4, Federal Medical Prison MS4, etc.
- 2.10 Give the street address of each municipality/area's headquarters. If the municipality/area's headquarters lacks a street name our route number, give the most accurate alternate geographic information.
- 3.00 Owner - legal name and address of owner.
- 4.00 Continuing authority - permanent organization which will serve as the continuing authority for the operation, maintenance, and modernization of the separate storm sewer system.
- 5.00 Contact person for this permit/application.
- 6.00 A stormwater outlet is the point(s) at which stormwater is discharged to a receiving stream. This may be the point(s) where water leaves the municipality/area. Outlets location(s) should be given in terms of the legal description. Sufficient information should be submitted so the stormwater outlet(s) may be located by department staff.
- 6.10 Receiving water(s) - the name of the stream(s) to which the stormwater is directed and any down gradient point at which a continuous flowing stream or permanent waterbody is reached.
- 7.00 A map showing the municipality/area in relation to the local roads and receiving water(s). Attach a 1" = 2000' scale USGS topographic map that can be obtained from the department's Geological Survey & Resource Assessment Division in Rolla, MO. (573) 368-2125.
- 8.00 Signature - all applications must be signed as follows and the signature must be original. For a municipal, state, federal, or other public entity, the signature must be by either a principal executive officer or by an individual having overall responsibility for environmental matters at the municipality/area.

If there are any questions concerning this form, please contact the Water Protection Program, Water Pollution Branch at PO Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-6825.

Appendix C
MDNR Form M



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
PO BOX 176, JEFFERSON CITY, MO 65102

**FORM M — APPLICATION FOR STORM WATER PERMIT (FORM K OR L MUST BE INCLUDED)
UNDER THE GENERAL PERMIT: SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)**

1. NAME OF MUNICIPALITY/AREA(S) TO BE COVERED BY THIS PERMIT CITY OF BATTLEFIELD, MISSOURI
2. PHYSICAL LOCATION OF MUNICIPALITY/AREA(S) (ADDRESS ASSIGNED) 5434 South Tower Drive, Battlefield, Missouri 65619
3. TOTAL AREA OF MUNICIPALITY/AREA(S) <u>1,595</u> ACRES OR <u>2.49</u> SQUARE MILES.
4. A STORM WATER MANAGEMENT PROGRAM (SWMP) MUST BE DEVELOPED FOR THIS MUNICIPALITY/AREA. (THIS PROGRAM MUST BE DEVELOPED IN ACCORDANCE WITH REQUIREMENTS & GUIDELINES SPECIFIED WITHIN THE GENERAL PERMIT FOR STORM WATER DISCHARGES FROM MS4 ACTIVITIES. THE APPLICATION WILL BE CONSIDERED INCOMPLETE IF THE SWMP HAS NOT BEEN DEVELOPED IN ACCORDANCE WITH THE TERMS OF THE GENERAL PERMIT. A COPY OF THE SWMP MUST BE SUBMITTED ALONG WITH THIS APPLICATION.)
5. SUMMARIZE THE MEASURES FROM THE SWMP THAT WILL BE USED FOR PUBLIC EDUCATION AND OUTREACH. (ATTACH ADDITIONAL SHEETS IF NECESSARY) <u>Website information, Newsletter, Facebook, Available Educational Materials</u> <u>Area Press Releases (with others), Public Hearings, School Involvement,</u> <u>Refer to Stormwater Management Program for additional information.</u>
6. SUMMARIZE THE MEASURES FROM THE SWMP THAT WILL BE USED FOR PUBLIC INVOLVEMENT AND PARTICIPATION. (ATTACH ADDITIONAL SHEETS IF NECESSARY) <u>Public Hearings, Facebook, Public Contact (web, email, phone...), Refer to Stormwater</u> <u>Management Program document for additional information.</u>
7. SUMMARIZE THE MEASURES FROM THE SWMP THAT WILL BE USED FOR ILLICIT DISCHARGE DETECTION AND ELIMINATION. (ATTACH ADDITIONAL SHEETS IF NECESSARY) <u>Outfall Mapping, Public Complaint, Aerial Mapping, USGS Mapping,</u> <u>Visual Inspections, Refer to Stormwater Management Program for additional</u> <u>information.</u>
8. SUMMARIZE THE MEASURES FROM THE SWMP THAT WILL BE USED FOR CONSTRUCTION SITE STORM WATER RUNOFF CONTROL. (ATTACH ADDITIONAL SHEETS IF NECESSARY) <u>The City of Battlefield recently adopted Design Standards for Storm Water</u> <u>Management and Erosion & Sediment Control. The relevant Design Standards have</u> <u>been included in the Appendix of the SWMP for information. Refer to Stormwater</u> <u>Management Program for additional information.</u>

9. SUMMARIZE THE MEASURES FROM THE SWMP THAT WILL BE USED FOR POST CONSTRUCTION STORM WATER MANAGEMENT. (ATTACH ADDITIONAL SHEETS IF NECESSARY)

Construction Standards, Specifications, Ordinances, Inspection.

Refer to Stormwater Management Program for additional information.

10. SUMMARIZE THE MEASURES FROM THE SWMP THAT WILL BE USED FOR POLLUTION PREVENTION AND GOOD HOUSEKEEPING. (ATTACH ADDITIONAL SHEETS IF NECESSARY)

Catch basin cleaning, recycling program, maintenance activities

inspection procedures, pesticide minimization, fertilizer minimization,

employee training. Refer to Stormwater Management Program for additional info.

11. THE MUNICIPALITY/AREA(S) IS WITHIN 100 FEET OF: (CHECK EACH THAT APPLIES) FOR THOSE IDENTIFIED AS PRESENT, PLEASE IDENTIFY THEIR LOCATION IN AN ATTACHMENT.

WATER CLASSIFIED IN CSR 20-7.031 WATER QUALITY STANDARD AS A PUBLIC DRINKING WATER SUPPLY LAKE (L1), OUTSTANDING NATIONAL OR STATE RESOURCE WATERS, OR STREAMS DESIGNATED FOR COLD-WATER SPORT FISHERY; OR

STREAMS, LAKES, OR RESERVOIRS IDENTIFIED AS CRITICAL HABITAT FOR ENDANGERED SPECIES AS DETERMINED BY THE MISSOURI DEPARTMENT OF CONSERVATION AND/OR THE US FISH AND WILDLIFE SERVICE.

12. IS THE DISCHARGE FROM THE MS4 WITHIN 100 FEET OF WATERS CLASSIFIED AS MAJOR RESERVOIRS (L2) OR PERMANENT FLOW STREAMS (P), EXCEPT THE MISSOURI AND MISSISSIPPI RIVERS, OR WITHIN TWO STREAM MILES UPSTREAM OF BIOCRITERIA REFERENCE LOCATIONS AS DEFINED IN 10 CSR 20, CHAPTER 7?

YES NO

IF YES, PLEASE LIST THESE RECEIVING WATERS IN AN ATTACHMENT.

13. IS ANY PART OF THE AREA(S) DEFINED AS WETLAND?

YES NO

NOTE: A CLEAN WATER ACT, SECTION 404 PERMIT MAY BE REQUIRED FOR THE DEVELOPMENT IN WETLAND AREA(S) FROM THE US ARMY CORPS OF ENGINEERS.

14. DOES ANY OF THE STORM WATER DISCHARGE TO A SINKHOLE, LOSING STREAM, OR ANY OTHER TOPOGRAPHICAL FEATURE THAT WOULD BE A DIRECT CONDUIT TO GROUND WATER?

YES NO

The location of a sinkhole has been identified on the MS4 Stormwater Outlet Location Map which is in the Appendix of the Stormwater Management Program.

IF YES, PLEASE IDENTIFY THE LOCATION(S) OF THESE GEOLOGIC FEATURES IN AN ATTACHMENT.

15. I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THIS APPLICATION, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE, AND IF GRANTED THIS PERMIT, I AGREE TO ABIDE BY MISSOURI CLEAN WATER LAW AND ALL RULES, REGULATIONS, ORDERS AND DECISIONS, SUBJECT TO ANY LEGITIMATE APPEAL AVAILABLE TO AN APPLICANT UNDER THE MISSOURI CLEAN WATER LAW OF THE MISSOURI CLEAN WATER COMMISSION (ATTACH ADDITIONAL PAGES IF ADDITIONAL SIGNATURES ARE REQUIRED FOR A CO-PERMIT).

NAME(S) AND OFFICIAL TITLE(S)

Rick Hess, City Administrator

TELEPHONE NUMBER(S)

(417) 883-5840

SIGNATURE(S)

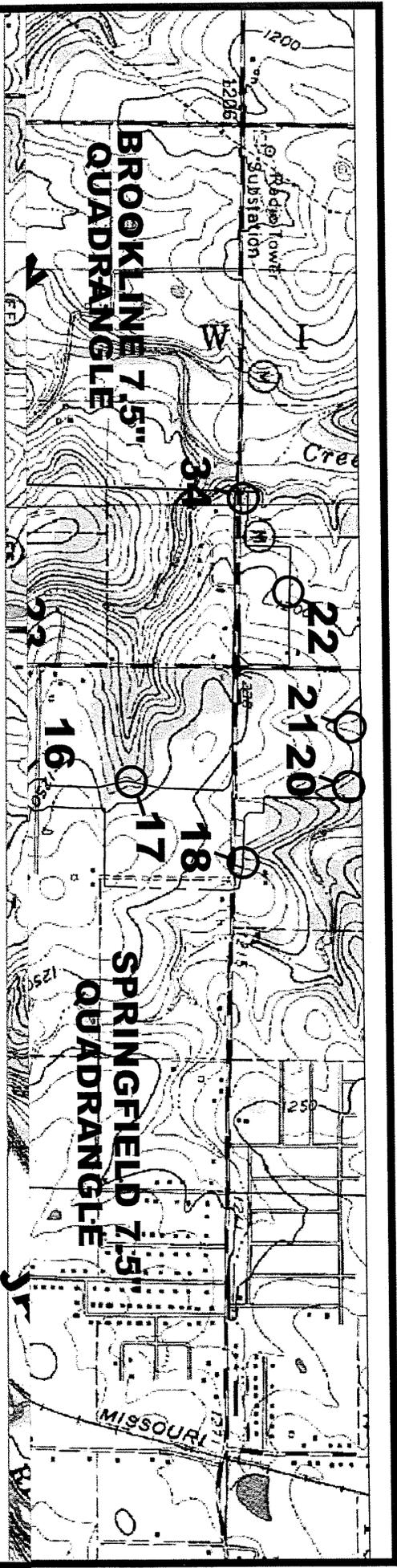
DATE SIGNED

12/4/12

Appendix D

MS4 Stormwater Outlet Locations Map

Attached
last pg



LEGEND

- STREAMS & CHANNELS
- DRAINAGE CHANNELS
- CITY BOUNDARY
- OUTLET #



NO.	REVISIONS	DATE	BY

**MS4 STORM WATER
OUTLET LOCATIONS**
CITY OF BATTLEFIELD, MISSOURI

**CITY OF
BATTLEFIELD**

5434 SOUTH TOWER DRIVE
BATTLEFIELD, MISSOURI 65619
PHONE: (417) 883-5840
FAX: (417) 883-8189

DESIGN: _____ DATE: 07/12/12
DRAWN: ATH SCALE: 1" = 2000'
CHECKED: NSB JOB NO. 14806

SHT. 1 OF 1 REV. _____

Appendix E

MS4 Stormwater Outlet Legal Descriptions

STORMWATER OUTLET LEGAL DESCRIPTIONS

SW OUTLET #		1	2	3	4	5
LEGAL DESCRIPTION	1/4-1/4 Section	SE	SE	NW	NE	SE
	1/4 Section	NE	NE	SE	NW	NW
	Section	20	20	20	29	29
	Township	28 NORTH				
	Range	22 WEST				
	County	GREENE	GREENE	GREENE	GREENE	GREENE
	Latitude	N 37E 7' 1"	N 37E 7' 1"	N 37E 6' 53"	N 37E 6' 25"	N 37E 6' 9"
	Longitude	W 93E21' 10"	W 93E21' 18"	W 93E21' 24"	W 93E21' 41"	W 93E21' 42"
SW OUTLET #		6	7	8	9	10
LEGAL DESCRIPTION	1/4-1/4 Section	SE	NE	NW	NW	NE
	1/4 Section	NW	NE	SE	SW	NW
	Section	29	30	19	19	19
	Township	28 NORTH				
	Range	22 WEST				
	County	GREENE	GREENE	GREENE	GREENE	GREENE
	Latitude	N 37E 6' 9"	N 37E 6' 35"	N 37E 6' 51"	N 37E 7' 1"	N 37E 7' 21"
	Longitude	W 93E21' 55"	W 93E22' 31"	W 93E22' 43"	W 93E23' 12"	W 93E22' 52"
SW OUTLET #		11	12	13	14	15
LEGAL DESCRIPTION	1/4-1/4 Section	NE	NW	NW	NE	NE
	1/4 Section	NW	NE	SE	SW	SW
	Section	19	19	18	17	17
	Township	28 NORTH				
	Range	22 WEST				
	County	GREENE	GREENE	GREENE	GREENE	GREENE
	Latitude	N 37E 7' 29"	N 37E 7' 29"	N 37E 7' 44"	N 37E 7' 48"	N 37E 7' 50"
	Longitude	W 93E22' 47"	W 93E22' 37"	W 93E22' 28"	W 93E22' 8"	W 93E22' 0"
SW OUTLET #		16	17	18	19	20
LEGAL DESCRIPTION	1/4-1/4 Section	SW	NW	SE	SW	SW
	1/4 Section	NW	NW	SW	NE	SW
	Section	17	17	8	17	8
	Township	28 NORTH				
	Range	22 WEST				
	County	GREENE	GREENE	GREENE	GREENE	GREENE
	Latitude	N 37E 7' 57"	N 37E 8' 9"	N 37E 8' 20"	N 37E 7' 53"	N 37E 8' 28"
	Longitude	W 93E21' 57"	W 93E21' 58"	W 93E21' 46"	W 93E21' 27"	W 93E21' 37"

SW OUTLET #		21	22	23	24	25
LEGAL DESCRIPTION	1/4-1/4 Section	SW	SE	SE	SE	SW
	1/4 Section	SW	SE	NE	SE	NW
	Section	8	7	18	18	19
	Township	28 NORTH	28 NORTH	28 NORTH	28 NORTH	28 NORTH
	Range	22 WEST	22 WEST	22 WEST	22 WEST	22 WEST
	County	GREENE	GREENE	GREENE	GREENE	GREENE
	Latitude	N 37E 8' 28"	N 37E 8' 32"	N 37E 6' 53"	N 37E 07'42"	N 37E 7'13"
	Longitude	W 93E21' 46"	W 93E22' 04"	W 93E21' 24"	W 93E22'33"	W 93E23'14"

SW OUTLET #		26	27	28	29	30
LEGAL DESCRIPTION	1/4-1/4 Section	SW	SE	SW	NE	SE
	1/4 Section	SW	SW	SW	NE	NE
	Section	19	19	19	30	30
	Township	28 NORTH	28 NORTH	28 NORTH	28 NORTH	28 NORTH
	Range	22 WEST	22 WEST	22 WEST	22 WEST	22 WEST
	County	GREENE	GREENE	GREENE	GREENE	GREENE
	Latitude	N 37E 6'47"	N 37E 6'44"	N 37E 6'35"	N 37E 06'19"	N 37E 6'09"
	Longitude	W 93E23'20"	W 93E22'47"	W 93E22'46"	W 93E22'29"	W 93E22'23"

SW OUTLET #		31	32	33	34	
LEGAL DESCRIPTION	1/4-1/4 Section	NW	SE	NE	SW	
	1/4 Section	NE	SE	NE	SE	
	Section	29	20	20	7	
	Township	28 NORTH	28 NORTH	28 NORTH	28 NORTH	
	Range	22 WEST	22 WEST	22 WEST	22 WEST	
	County	GREENE	GREENE	GREENE	GREENE	
	Latitude	N 37E 6'25"	N 37E 6'33"	N 37E 7'20"	N 37E 8'31"	
	Longitude	W 93E21'30"	W 93E21'24"	W 93E21'10"	W 93E22'32"	