



Blue Springs Watersheds

City of Blue Springs, Missouri



- Phase II -

Storm Water Management Plan

2013 - 2018

Blue Springs is unique in that it sits on a ridge split approximately by 7 highway. All of our storm water drainage flows to our neighbors. It is important that we all do our part by not allowing pollutants to enter our streams and waterways.

0 2,000 4,000 6,000 8,000 Feet

Legend

-  Dividing Ridge
-  City Limits
-  Streams

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Permitee Information:

Name of Permitee: City of Blue Springs, Missouri
 Type of Entity: City – Municipality
 Total Area (acres): 22.1 mi² – 14,215 acres
 Mailing Address: 903 W. Main Street, Blue Springs, MO 64015
 Primary Contact: Chris Sandie
 Phone Number: 816-228-0121
 Secondary Contact: Ben McCabe
 Phone Number: 816-228-0121
 MS4 System Location: Blue Springs, Missouri
 Name of Organization: City of Blue Springs, Missouri
 County Permitee Resides: Jackson County
 Major Receiving Waters: Little Blue River & Sni-A-Bar Creek
 On CWA’s list of Impaired Waters: N/A
 Within 100-feet of Major Reservoirs: N/A
 Storm Water Discharge to Sinkhole: N/A

Information on Critical Areas:

The City of Blue Springs, Missouri meets all eligible criteria for protection of historic properties, critical habitats, and threatened or endangered species in the area.

Threatened or Endangered Species

County	Species	Status	Habitat
Jackson	Indiana Bat (Myotis sodalists)	Endangered	Hibernacula = Caves and mines; Maternity and foraging habitat = small stream corridors with well-developed riparian woods; upland forests
Jackson	Pallid Sturgeon (Scaphirhynchus Albus)	Endangered	Mississippi and Missouri Rivers
Jackson	Western Prairie Fringed Orchid (Plantantera praeclara)	Threatened	Wet prairies & sedge meadows

Historic Properties

Name	Address	Owner	Year Added
<u>German Evangelical Pastors’ Home Historic District</u>	1808-1812 W. Walnut and 300-311 19 th Terrace, Blue Springs, Missouri	Private Local Gov’t	1988

MS4 Permit Requirements - Plan of Action

The City of Blue Springs, Missouri is a Small Municipal Separate Storm Sewer System (Small MS4). The city currently does not have a dedicated source of revenue for the storm water program and funds the program through the general operating budget. The Missouri Department of Natural Resources (MDNR) operating permit renewal application was submitted prior to the May 14, 2013 deadline and included form K, an outfall map with sufficient information for location by MDNR staff, form M, and an attachment to form M summarizing the City of Blue Springs Storm Water Management Program (SWMP) for the subsequent five years. The SWMP was developed with municipal staff over several meetings and included continuation of actions from the preceding five years SWMP with enhancements to improve upon the program. A table outlining the SWMP best management practices, responsible parties, and schedule for implementation is included in the Appendix as Figure 1. The Missouri Department of Natural Resources (MDNR) operating permit outlines the minimum requirements for the SWMP. The City of Blue Springs SWMP followed the general format of the permit requirements in the development of this SWMP.

Minimum Control Measure #1 - Public Education and Public Involvement:

MS4 Permit Requirements

Section 4.2.1.1 of the general MS4 permit requires the permittee to implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The permit requires inclusion of the following elements in this program:

- 1. Identification of the target pollutant sources the permittee's public education program is designed to address;***
- 2. Identification of target audiences for the permittee's education program who are likely to have significant storm water impacts (including commercial, industrial, and institutional entities);***
- 3. Plans to inform individuals and households about the steps they can take to reduce storm water pollution;***
- 4. Plans to inform individuals and groups on how to become involved in the SWMP (with activities such as local stream and lake restoration activities);***
- 5. An outreach strategy, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) that will be used to reach the target audiences and the number of people this strategy is expected to reach;***
- 6. Plans to evaluate the success of this minimum control measure.***

Compliance

The City of Blue Springs has developed and will continue to enhance the public education and involvement program utilizing a variety of tools. The public education and outreach program is designed to reach the most citizens possible utilizing the most efficient and cost effective approach. The program contains several best management practices with supporting documentation and include the following:

- The city works in partnership with the Mid-America Regional Council (MARC) regarding their storm water quality education program. MARC’s program targets pollutant sources common in the Kansas City metropolitan area. Educational literature prepared by MARC such as flyers on lawn care, household chemicals, low phosphorous detergents, and pesticide/fertilizer applications will continue to be made available to citizens at City Hall and the city’s recycling center. Sample educational literature materials are provided in Figure 2 of the appendix. Enhancements to the city’s program include the following:
 - Providing the literature in both English and Spanish to ensure the maximum possible demographic cross-section of the population is reached.
 - Providing the literature at the City of Blue Springs Recycling Center.
 - Providing materials and documentation at public meetings; when possible.
- The city will provide educational materials in our newsletters and on the local news channel.
- Periodically take advantage of social media tools, such as Facebook and Twitter, with educational messages.
- Development of a storm water quality educational webpage located on the city’s website. The website will be fun, interactive, and informative providing educational materials and opportunities for citizens to get involved with the City of Blue Springs Adopt-A-Programs.
- Continue with educational presentations at local schools and neighborhood associations when opportunities are available.
- As part of the development process, the city has a yearly developer’s meeting and meets with project principals prior to development plan submittals. Information regarding storm water permitting requirements and the city’s associated requirements will continue to be presented and provided via these meetings.
- Include storm water knowledge issues in the City of Blue Springs yearly questionnaire to provide information on citizen educational levels and direction on future SWMP best management practices.

Minimum Control Measure #2 – Public Involvement/Participation:

MS4 Permit Requirements

Section 4.2.2.1 of the general MS4 permit requires the permittee to implement a public involvement/participation program that complies with State and local public notice requirements, and involve the public in the development and oversight of the Plan, policies and procedures. The permit requires inclusion of the following elements in this program:

1. *Involvement of the public in the development and submittal of the permit application and storm water management program;*
2. *Plans to actively involve the public in the development and implementation of the public involvement/participation program;*
3. *Identification of the target audiences, including the types of ethnic and economic groups engaged;*
4. *Identification of the types of public involvement activities to be included with the following where appropriate:*

- The city partners with the Mid-America Regional Council, Jackson County Storm Water Commission, and the West Branch Sni-A-Bar Watershed Consortium to develop recommendations, provide advice to the elected officials, and coordinate efforts on storm water management issues and projects in the region. This includes initiatives with the local school district to get children involved.
- The city is updating the comprehensive plan, which involves a high degree of public involvement. The city outlines a future course of action within the comprehensive plan. Storm water topics will be part of these discussions.

Minimum Control Measure #3 – Illicit Discharge Detection and Elimination:

MS4 Permit Requirements

Section 4.2.3.1 of the general MS4 permit requires the permittee to develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into the permittee’s small MS4.

10 CSR 20-6.200(1)(C)7 defines an illicit discharge as “any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to a state operating permit, other than storm water discharge permits and discharges from firefighting activities.”

The program must include development and implementation of, at a minimum:

1. *A storm sewer system map showing the locations of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls;*
2. *An ordinance or other regulatory mechanism to effectively prohibit non-storm water discharges into the permittee’s storm sewer system, with appropriate enforcement procedures and actions;*
3. *A plan to detect and address non-storm water discharges, including illegal dumping, to the permittee’s system. The plan shall also address on-site sewage disposal systems that flow into the permittee’s storm drainage system;*
4. *Plans to address the thirteen categories of non-storm water discharges or flows, identified in Section 4.2.3.1.4 of the permit, only if the permittee identifies any of them as significant contributors of pollutants to the permittee’s small MS4;*
5. *A list, subject to the conditions in Section 4.2.3.1.5 of the permit, of other similar occasional incidental non-storm water discharges that the permittee has determined will not be addressed as illicit discharges; and*
6. *Inventory, inspect and have enforcement authority for industries and commercial enterprises within their boundary that may contribute pollutants via storm water to the MS4*

The City of Blue Springs has an outfall map showing the locations of all outfalls, and the names and location of all waters of the State that receive discharges from those outfalls. Figure 3 provides a depiction of the City of Blue Springs permit outfalls and is located in the appendix. Location information for permitted outfalls is provided on the following table:

Yearly city inspections of the outfalls are currently supplemented with the following:

- The city currently monitors, detects, and eliminates illicit discharges through visual inspections, accompanied by health, sanitation, and nuisance ordinances.
- The city has an electronic citizen request system in place that allows citizens to provide staff with information regarding possible illicit discharges. All information can be tracked and monitored via the city's asset management software.
- Through ArcGIS software, the city has mapped all storm conduits and structures and their associated outfall points. The city routinely inspects catch basins and retention basins.
- The city is currently undertaking an aggressive approach towards the elimination of inflow and infiltration of storm water into the sanitary sewer system.

The city will look to add to or enhance the current program with the following:

- Using ArcGIS software and staff knowledge, the outfall map will be updated to target outlet pipes/facilities closer to potential sources of pollutants. This will result in an increased number of inspections but facilitate a more thorough search for illicit discharges. Outfall inspections will be completed at least annually.
- The city has an ordinance addressing illicit discharges and will look to bolster the current ordinances to include specific language on what is and what is not permitted regarding discharges to the city's storm sewer system.
- Enlarging the storm sewer inspection canvas to include inspection of outfalls from the city limits. All inspections will be documented.

The Public Works Department has not identified any listed category of non-storm water discharge in Section 4.2.3.1.4 of the permit which significantly contributes pollutants to City of Blue Springs water bodies. Should any of the listed categories or other similar occasional non-storm water discharges be found to contribute significant pollutants, action will be initiated to effectively prohibit or control such discharges using existing ordinance provisions and enforcement actions.

Minimum Control Measure #4 – Construction Site Storm Water Runoff Control:

Section 4.2.4.1 of the general MS4 permit requires the permittee to develop, implement and enforce a program to reduce pollutants in storm water runoff from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The program must include development and implementation of, at a minimum:

1. *An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;*

2. ***Requirements for construction site operators to control construction–site waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;***
3. ***Procedures for site plan review, which incorporate consideration of potential water quality impacts;***
4. ***Procedures for receipt and consideration of information submitted by the public; and***
5. ***Procedures for site inspection and enforcement of control measures.***

The City of Blue Springs currently has a variety of options available to address the Construction Site Storm Water Runoff Control minimum control measure of the MS4 permit as follows:

- Through established ordinances, the city:
 - Preserves existing vegetation when possible
 - Requires storm water management plans on all new development. Construction is not authorized until the storm management plan is established along with other requirements.
 - Requires maintenance of swales, channels, and storm water detention facilities regarding removal of silt, maintenance, and repair due to erosion. Patterns of development that preserve trees, outstanding natural topography, and geologic features, and prevents soil erosion are encouraged.

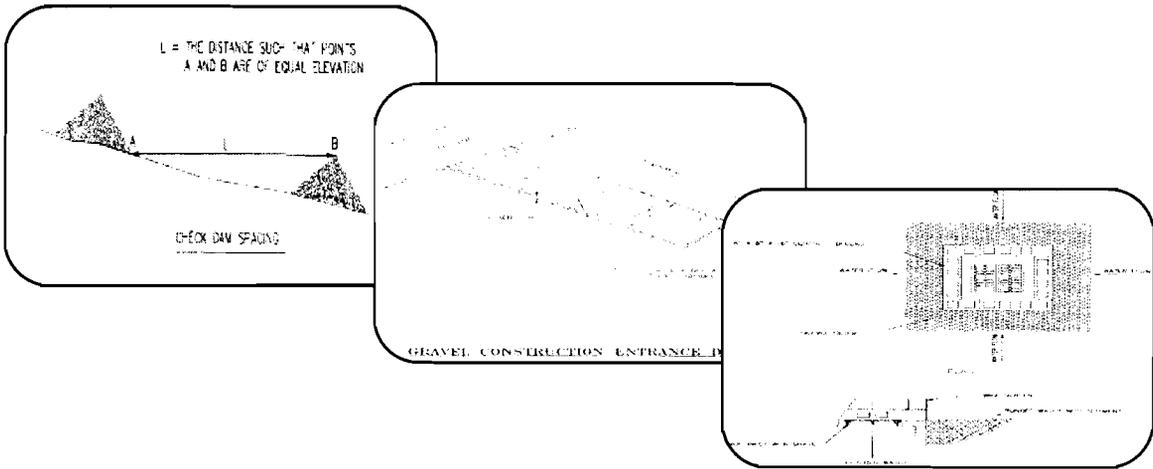
Section 406.080 of the city’s code of ordinances states the following:

“Since considerable erosion can take place prior to the construction of houses and other buildings, facilities, and features in a subdivision, the storm water management plan and construction plans for a subdivision shall contain properly designed measures, as described and required by the City of Blue Springs "Design and Construction Manual", to control erosion and sediment discharge which would emanate from the subdivision area, especially within all critical drainage watershed areas (as determined by the City Engineer). The measures shall be incorporated into the final construction drawings. Erosion and sediment control measures shall conform to the standards and specifications established by the City Council and the City Engineer. The measures shall apply to all street and utility installations as well as to the protection of individual lots. Measures shall be instituted to prevent or control erosion and sedimentation during the various stages of construction of the subdivision. An erosion control plan must be submitted and approved by the City Engineer prior to starting construction. This plan should include regulatory mechanisms to control erosion and sediment to the maximum extent practicable allowed under State law. In addition to the erosion plan, the developer must provide documentation to the City Engineer that they have received their NPDES permit from Missouri Department of Natural Resources. Failure to comply with erosion control plan will result in revocation of the construction permit until the project is brought into compliance.

Erosion control for drainage systems will be required in swales, ditches, or creeks and at the discharge points of all pipes where the velocity exceeds five (5) feet per second. Silting basins or diversion channels will be required during the construction period to insure that mud and other debris is not washed into natural watercourses or new or previously constructed storm sewers.

The City Engineer may impose supplemental requirements or may delete requirements regarding sediment and erosion control measures if the City Engineer determines that additional or revised requirements are justified or that planned measures will not adequately control erosion. Ord. No. 2738 §1, 11-18-96; Ord. No. 3200 §43, 5-1-00)

- Blue Springs has developed erosion and sediment control standard drawings and utilizes specifications prepared by the Kansas City chapter of the American Public Works Association for all capital and development projects.



- A Missouri Department of Natural Resources Land Disturbance Permit and associated Storm Water Pollution Prevention Plan is required for all new developments and capital projects that disturb areas greater than 1-acre in size.
- The city has an electronic citizen request system in place that allows citizens to provide staff with information regarding possible construction erosion control issues. All information can be tracked and monitored via the city's asset management software.
- Trained city staff routinely inspects all projects for erosion control compliance and needed changes to the erosion control plan. Inspectors use a standardized erosion control inspection worksheet when completing these inspections.

EROSION CONTROL INSPECTION FORM

Date _____ Time _____ Subdivision or Project _____

Rain Fall Amount _____ Hours of Rain (from _____ to _____)

Is there any construction site run off? (Yes/No) _____
(If yes, explain: _____)

Type of (infraction(s)) _____

Silt Fence Failure _____ Comments _____

Grass Bare Failure _____ Comments _____

Rock Check Failure _____ Comments _____

Detention Basin Failure _____ Comments _____

Have photos been taken? (Yes/No) _____

Has the contractor or site owner been notified? (Yes/No) _____

Contractor or Developer's Name _____

Inspector's name _____

Post Construction Run off Control Inspections:

Date _____	Ins _____	Date _____	Ins _____
Date _____	Ins _____	Date _____	Ins _____
Date _____	Ins _____	Date _____	Ins _____
Date _____	Ins _____	Date _____	Ins _____
Date _____	Ins _____	Date _____	Ins _____
Date _____	Ins _____	Date _____	Ins _____
Date _____	Ins _____	Date _____	Ins _____
Date _____	Ins _____	Date _____	Ins _____
Date _____	Ins _____	Date _____	Ins _____

- Notification letters are sent annually to inform all active developers of storm water and erosion maintenance requirements.

The city will look to expand or enhance available options, which include the following:

- Review and update the erosion control ordinance to ensure compliance and site inspection requirements.
- Updating erosion and sediment control standards and specifications. In conjunction with the city's efforts, the metro-wide area will be updating the Kansas City chapter of the American Public Works Association standard specifications and drawings. The City of Blue Springs will participate in this metro-wide effort.
- Ensure city staff continues to be up-to-date on current erosion control standards and techniques by taking advantage of training opportunities and acquiring certifications when applicable as funding allows

Minimum Control Measure #5 – Post Construction Runoff Control:

Section 4.2.5.1 of the general MS4 permit requires the permittee to develop, implement and enforce a program to address storm water runoff from new development and redevelopment projects that disturb 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, that discharge into the permittee's regulated small MS4. The program must ensure that controls are in place that will prevent or minimize water quality impacts by reasonably mimicking pre-construction runoff conditions on all affected new development projects and by effectively utilizing water quality strategies and technologies on all affected redevelopment projects, to the maximum extent practicable. The permit requires that this program include the following:

1. *A strategy to minimize water quality impacts, by reasonably mimicking pre-construction runoff conditions in affected new development and incorporating water quality protection in affected redevelopment projects to the maximum extent practicable, and include a combination of structural and/or non-structural BMPs appropriate for the permittee's community;*
2. *Use of an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law. If the permittee needs to develop a mechanism, the permittee shall describe the plan and a schedule for implementation;*
3. *Means to ensure adequate long-term operation and maintenance of BMPs;*
4. *Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation;*
5. *Policies or ordinances that encourage infill development in higher density urban areas and areas with existing storm sewer infrastructure;*
6. *Education programs for developers and the public about project designs that minimize water quality impacts; and*

7. *Other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, site designs that provide for integration of a variety of infiltration practices, and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention.*

The City of Blue Springs currently utilizes an inception to completion strategy combined with variety of available tools to address the Post Construction Site Storm Water Management minimum control measure of the MS4 permit as follows:

- With any new development, city staff meets with the development team early in the design process to ensure city requirements are incorporated early in the design process. Storm water and erosion control issues are discussed and enforced with every potential development.
- Per City of Blue Springs ordinance, the latest edition of KCAPWA 5600 is adopted regarding storm water design. Under comprehensive control, multiple stage detention/retention requirements along with 40-hour extended detention of runoff from the local 90% mean annual event is a requirement. This allows for extended detention for more common rainfall events. Section 406.060 of the city's code of ordinances states the following:

"General Standards. In the planning and design of storm water management systems in the City of Blue Springs, the design criteria set forth in the latest edition of the publication titled "Design Criteria for Storm Sewers and Appurtenances", prepared by the Kansas City Metropolitan Chapter of the American Public Works Association, Section 5600, and the latest edition of the Blue Springs, Missouri Design Criteria and Construction Standards for Storm Sewer Construction, shall be used. The portions of these documents which are hereby referenced are made a part of this Chapter as though expressly incorporated herein."

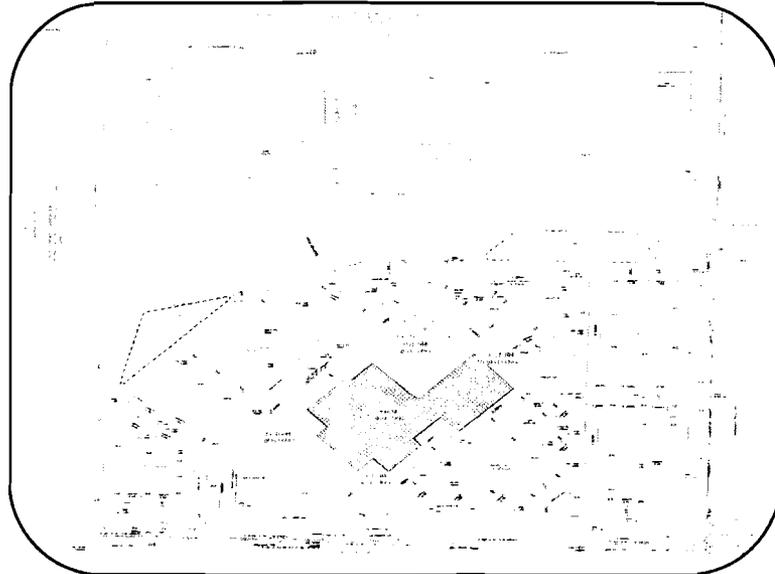
- Developers and residents may utilize a variety of storm water bmp's to address storm water design requirement. Educational materials are geared to encourage rain gardens, rain barrels, and other water quality best management practices. Section 406.060 of the city's code of ordinances states the following:

"It is the policy of the City to encourage the developer to locate and design streets, blocks, lots, parks and open space in such a manner as to reduce the velocity of overland flow; allow the maximum opportunity for infiltration of storm water into the ground; and to preserve existing streams, channels, detention basins and flood plain areas as open space."

- Per City of Blue Springs ordinance, a definition of when full implementation of city code requirements are enforced is defined for redevelopment projects:

"Enlargement Or Change In Use. Where an addition, enlargement or change in use is proposed to an extent in excess of twenty-five percent (25%) of the floor area of the existing buildings or structures, the entire lot shall be brought into conformance with presently existing requirements of this Development Code as to landscaping, buffering, off-street parking and other non-use and non-property development regulations of this Development Code."

- Adopted KCAPWA storm water design requirements outline stream corridor preservation criteria. When combined with city code of preserving drainage ways, stream corridors which act as natural buffers to filter pollutants and maximizing pervious area post-development are preserved.



- Conservation of natural resources is important to the City of Blue Springs as expressed in existing city code. The city and developers work together to bring projects that are environmentally, socially, and financially feasible. Section 406.110 of the city’s code of ordinances states the following:

“The Planning Commission may, wherever possible, require preservation of all natural features which add value to the proposed subdivision and to the community at large, such as large trees or groves of trees, watercourses, historic features, wildlife habitats and environmental areas, and similar irreplaceable community assets. The location, nature and extent of such features shall be identified in the initial procedures and Preliminary Plat stages and shall be made a part of the subsequent plats to the greatest possible extent. The preservation or inclusion of such features may be made a condition of approval of the Final Plat. Adequate access to such areas shall be provided in all adjacent platting. (Ord. No. 2738 §1, 11-18-96)”

- All lands subjected to flooding are preserved for recreational and natural areas:

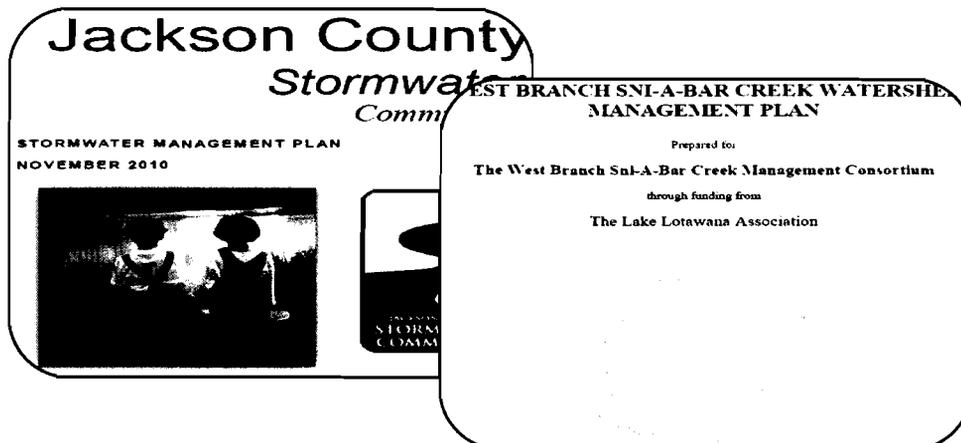
“Lands subject to flooding, or otherwise deemed uninhabitable in their natural state by the Planning Commission and City Council shall not be platted for residential use, or for any other use that might create a danger to health, safety, or property, or which might increase the flood hazard within or outside the subdivision. Such lands shall be set aside for recreational use or shall be retained in their natural state as open space; provided however, that such lands may be platted and developed if the features making the lands uninhabitable can reasonably be removed without destruction of adjacent or nearby property or desirable natural features of the land and if necessary approval is obtained from the City Council. In all platting adjacent to such areas,

adequate provisions for access to said areas, as determined by the City Engineer, shall be provided. (Ord. No. 2738 §1, 11-18-96)”

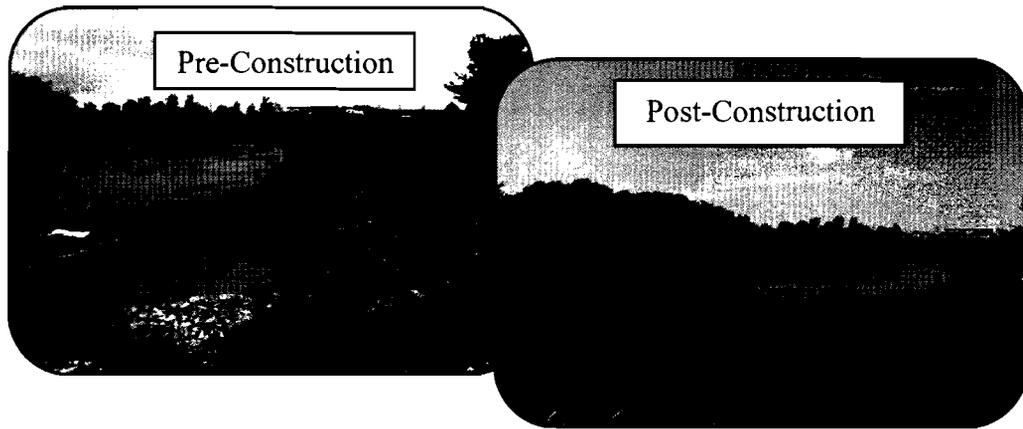
- The City of Blue Springs requires the preservation of open space dependent on zoning classification with restrictions on what cannot qualify as open space:

Underlying Zoning District	Percent of Land Area for Residential Open Space (percent of gross land area)
RE, Residential Estate District	Five (5)
SF-12, Large Lot Single-Family District	Five (5)
SF-7, Single-Family District	Eight (8)
TF, Two-Family District	Forty (40)
MF-10 Low Density Multi-Family District	Forty (40)
MF-14, Low Density Multi-Family District	Forty (40)
MF-18, Moderate Density Multi-Family District	Forty (40)

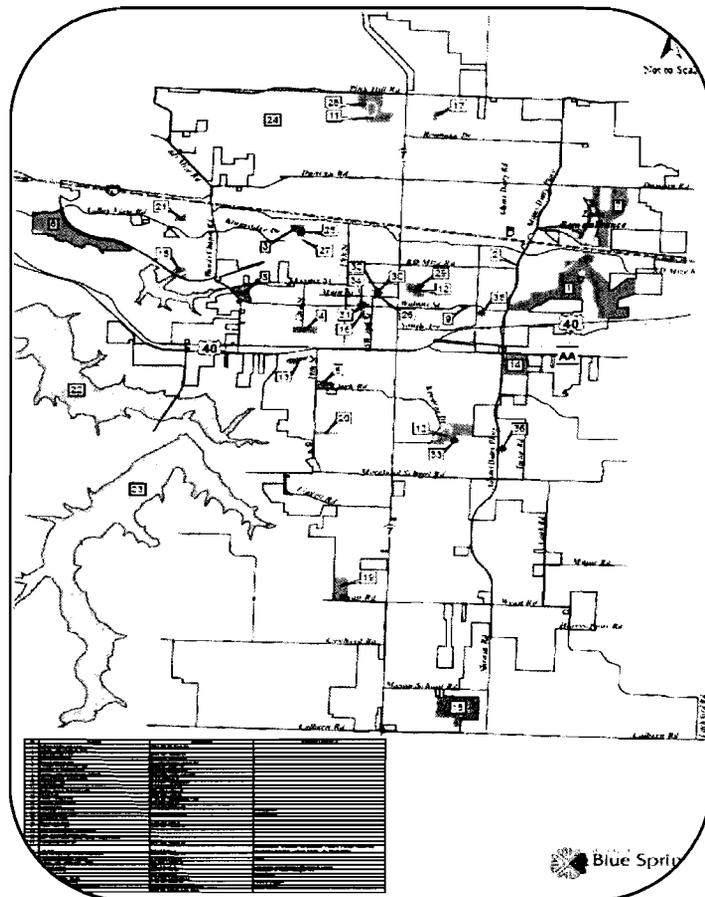
- City code currently places long term maintenance responsibilities for common open areas on Home Owners Associations (HOA) with the City assuming these responsibilities and assessing proportionally against all properties within the residential subdivision should the HOA fail to maintain the common areas. Common space is defined as areas for recreational or conservational purposes. One component of green infrastructure is the preservation and maintenance of open spaces and the City of Blue Springs will be placing a ½ sales tax increase for the park system on the November 2013 ballot. The Parks Department maintains parks, walking trails, parkway median landscapes, other open spaces, and future park locations.
- There are two permanent lakes to the southwest and one lake to the southeast which act as water quality filters. The city partners with the Mid-America Regional Council, Jackson County Storm Water Commission, and the WB Sni-a-Bar Watershed Consortium to develop recommendations, provide advice to the elected officials, and coordinate efforts on storm water management issues and projects in the region. Minimization of water quality impacts on area watersheds and their associated lakes are topics discussed by these committees.



- In conjunction with the City of Lake Lotawana, the City of Blue Springs dredged a lake upstream of Lake Lotawana and constructed a regional wetland to act as a storm water quality filter at a cost of \$350,000.



- The city of Blue Springs has many square miles of open space and parks including the Missouri Department of Conservation Burr Oak Woods Wildlife Reserve to the northwest of the city, the Liggett Road nature area, and ensuring that potential development preserves the wetland at the southwest corner of the Woods Chapel Road and I-70 interchange, all of which act to filter storm water runoff from the municipal area.



- City staff has retrofitted existing curb inlets with trash grates.

The city will look to add to or enhance the current program with the following:

- The city is currently working towards updating the Comprehensive Plan. As part of the update, the City of Blue Springs is seeking an EPA Code Audit Technical Assistance grant to assist in a review of development code language. Part of this review will include storm water and sustainable language and includes alternate recommendations for consideration.
- Following the Comprehensive Plan update, the entire development code language will be updated and formally adopted. Checklists will be created based on the new code language.
 - Nuisance ordinances will also be reviewed and revised as necessary to allow for native landscaping maintenance.
 - The city plans to consider introducing storm separator requirements for new development with large parking lots.
- The city is reviewing existing rain garden programs from representative municipalities for consideration in the City of Blue Springs.
- The city will continue to research available information and outreach with other municipal partners to determine if a combined metro-wide effort to address post construction storm water requirements is practical and feasible.
- The City of Blue Springs will investigate options to secure dedicated sources of revenue for maintenance of the existing storm system and expand elements of Storm Water Management Plan.
- Through the Capital Improvement process, funding for an overall watershed management/storm water master plan for the City of Blue Springs will compete with for other projects.

Minimum Control Measure #6– Pollution Prevention/Good Housekeeping:

Section 4.2.6.1 of the general MS4 permit requires the permittee to develop and implement an operations and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The program is required to specifically address the following areas:

1. *Maintenance BMPs, maintenance schedules and long term inspection procedures for controls to reduce floatables and other pollutants to the permittee’s MS4;*
2. *Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas and salt/sand storage locations and snow disposal areas the permittee operates;*
3. *Good housekeeping practices to keep solid waste from entry into waters of the state to the maximum extent practicable;*
4. *Adhere to all applicable federal and state regulations concerning underground storage, aboveground storage, and dispensers, including spill prevention, control, and counter measures at all fueling facilities;*

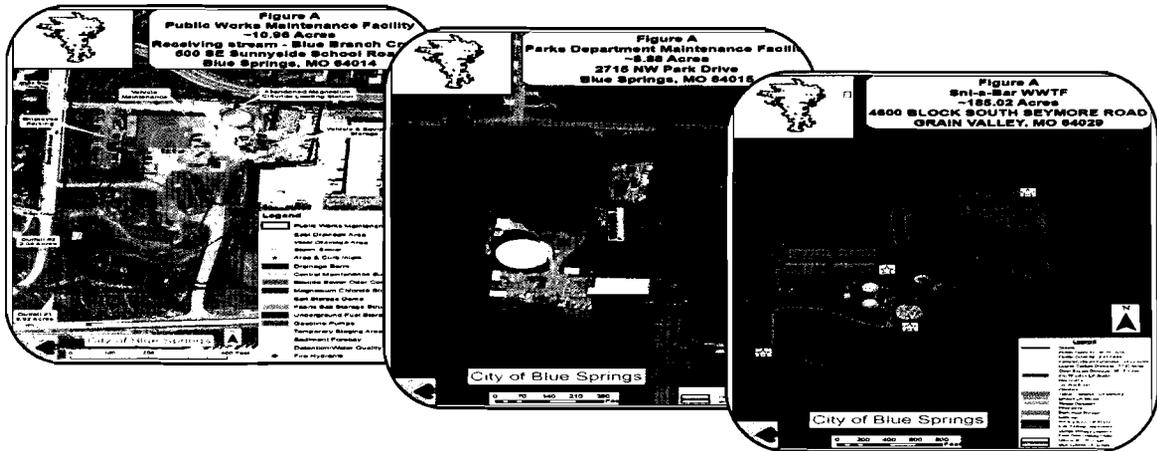
5. *Procedures for the proper storage of all paints, solvents, petroleum products and petroleum waste products (except fuels) so they are not exposed to storm water;*
6. *Procedures for the proper disposal of waste removed from the permittee's MS4 and area of jurisdiction, including dredged materials, accumulated sediments, floatables and other debris;*
7. *Procedures to ensure that new flood management projects are assessed for incorporation of additional water quality protection devices or practices; and*

Section 4.2.6.1.1 of the general MS4 permit requires the permittee to specifically list all of its municipal operations that are impacted by the above listed requirements. Section 4.2.6.1.7 of the general MS4 permit requires the permittee, to use training materials that are available from the EPA, State, or other organizations, to develop employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

The City of Blue Springs currently utilizes a variety of tools to address the Pollution Prevention and Good Housekeeping minimum control measure of the MS4 permit as follows:

- The City of Blue Springs has three municipal operations impacted by the Pollution Prevention and Good Housekeeping requirements:
 - Public Works Department Maintenance Facility
 - Parks Department Maintenance Facility
 - Sni-A-Bar Waste Water Treatment Facility

Storm Water Pollution Prevention Plans (SWPPP) have been developed for each of these facilities.



Storm Water Pollution Prevention Plans were prepared to comply with NPDES permitting requirements and will be implemented, maintained, and revised according to those requirements. Specifically, the SWPPPs:

- Identify the SWPPP coordinator with a description of the coordinator's duties;
- Identify members of the SWPPP team and list their responsibilities;
- Describe the facility, with information on location and activities, a site map, and a

- description of the storm water drainage system;
 - Identify potential storm water contaminants;
 - Describe storm water management controls and various Best Management Practices (BMPs) needed to reduce pollutants in storm water discharges;
 - Describe the facility's monitoring plan;
 - Describe the implementation schedule and provisions for amendment of the plan; and,
 - Describe each facilities approach regarding employee training
- Pollution prevention team members from each facility meet at least once annually to discuss the effectiveness of and improvements to the SWPPP. Maintenance staff has in place MSDS training annually and SWPPP training will be incorporated into that annual session. Specific topics generally include:
 - Spill prevention and response
 - Good housekeeping
 - SWPPP

An attendance sheet for each employee training session will be kept.

The city will look to expand or enhance the current program with the following:

- Storm Water Pollution Prevention Plans (SWPPPs) will be updated for city owned and operated maintenance facilities. The SWPPPs will be comprehensive and document all potential pollutant sources, inspection procedures with checklists, and designated contact personnel.
- Maintain and update as necessary, an effective and time sensitive education program for city staff on the storm water permit, its requirements, and employee roles in ensuring the requirements are met.

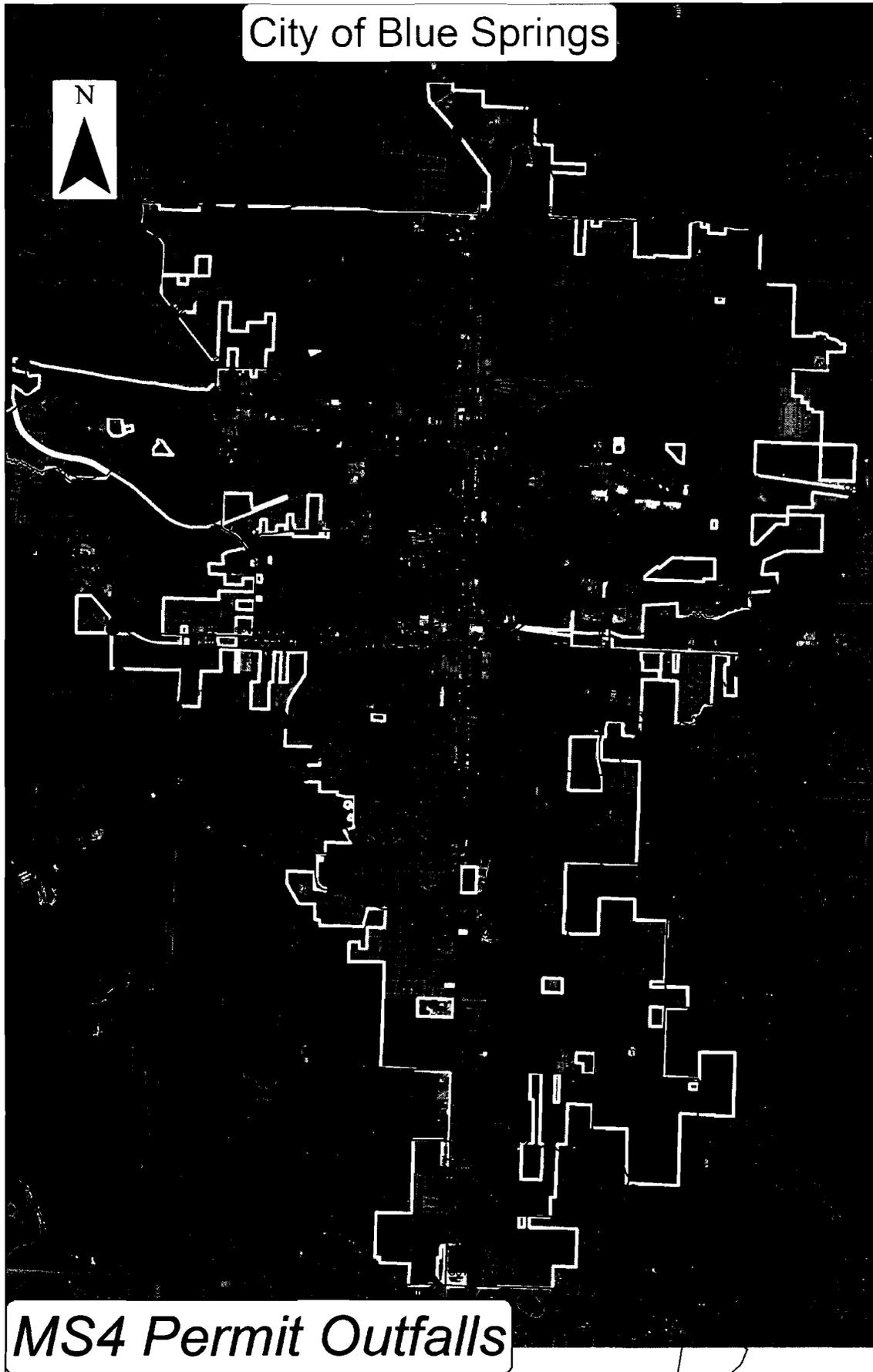
Appendix

Figure 2 – Educational Material Brochures

The collage features several educational brochures:

- What is a Watershed?**: Explains the concept of a watershed and its importance.
- Know Where Water Flows**: Discusses storm drains and sewer systems.
- IF IT'S ON THE GROUND IT'S IN OUR WATER**: Focuses on stormwater and regional water quality.
- Do you know which watershed you live in?**: Includes a map of watersheds in the Kansas City region.
- 10 Rules for the Kansas City Region**: Lists ten guidelines for water quality.
- PICK UP AFTER YOUR PET**: Emphasizes the impact of pet waste on water quality.
- Why use rain barrels?**: Explains the benefits of rainwater harvesting.
- What is a rain barrel?**: Provides details on rain barrel installation and use.
- Our local watersheds**: Lists and describes local watersheds.
- What is a Watershed?** (repeated)
- Making and Using Compost**: Provides instructions on creating and utilizing compost.
- Autumn Watershed Tip**: Offers seasonal advice for water quality.
- Know Your Watershed**: Encourages community involvement.
- Oil and Water Don't Mix**: Warns against mixing oil with water.
- USE LAWN CHEMICALS WISELY**: Provides guidelines for safe lawn care.
- Rain Garden**: Details the benefits and construction of rain gardens.
- Improper Lawn Chemical Use Harms Our Wildlife**: Warns about the impact of lawn chemicals on animals.

Figure 3 – City of Blue Springs Permit Outfalls



III	Sanitary sewer inflow & infiltration program	- Rehabed sanitary sewer lines & manholes - % I&I reduction	MS4 Permit Manager/Sanitary Sewer Maintenance Superintendent	X			X			X			X			X							
Construction Site Storm Water Runoff Control	Update City of Blue Springs erosion control ordinance	- Erosion control ordinance	MS4 Permit Manager					X															
	Update City of Blue Springs erosion control inspection form - Water quality impacts - Innovative/Alternative approaches	- Erosion control inspection form	MS4 Permit Manager/Public Works Inspection Staff	X			X		X		X		X				X			X			
	Update City of Blue Springs standard details and specifications	- Erosion control standard details - Erosion control specifications	MS4 Permit Manager/Engineering Division		X		X			X			X					X			X		
	Partner with other municipalities in updating KCAPWA standard drawings and specifications for erosion control	- Meeting agendas and minutes - New standard specifications and drawings	Public Works Engineering Staff	X	X	X	X	X	X	X													
	Continue reviewing and enforcing erosion control on development projects	- Create erosion control development plan checklist - Checklist followed for each development project	MS4 Permit Manager/Public Works Inspection Staff		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Continue erosion control inspections for active development and capital projects	- Completed erosion control inspection forms	Public Works Inspection Staff		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Post-Construction Storm Water Management in New Development and Redevelopment	Continue post construction storm water educational efforts for city operations, developers, and citizens	- Website materials - Citizen tracker report (localized flooding) - Document installed water quality bmp's	MS4 Permit Manager	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Continue enforcing the latest edition of KCAPWA storm drainage design standards	- Create development plan review checklist - Checklist followed for each development project	Development Plan Review Engineer	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Enforce City of Blue Springs open spaces/flood area/stream corridor preservation ordinances for new development	- Create development plan review checklist - Checklist followed for each development project	Development Plan Review Engineer	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Comprehensive Plan/Development Code/Conflict resolution update	- Updated plans/codes	Planning and Public Works joint effort			X							X										
	Adopt storm separator requirements for new developments with large parking lots	- Storm separator ordinance - Updated development plan review checklists - Document installed storm separators	MS4 Permit Manager/Development Plan Review Engineer				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Partner with other municipalities in the metro area in the development of a combined and practical effort to address the post construction storm water quality minimum control measure.	- Water Quality Education Committee meeting minutes - Review of available materials/manuals regarding storm water quality bmp's - Enhance current design criteria and city ordinances to address post construction storm water quality to the maximum extent practical, including long term maintenance of installed bmp's	Public Works Director/Operations Manager/MS4 Permit Manager			X		X															
	Review of rain garden initiative/awareness for feasibility	- If implemented, program documentation	MS4 Permit Manager				X																
	Investigate options for dedicated source of funding for maintenance and SWMP		Public Works Director/Operations Manager/MS4 Permit Manager				X																
	Fund an overall watershed/storm water master plan		Public Works/Planning				X																
Pollution Prevention/Good Housekeeping for Municipal Operations	Continue visual inspection (quarterly) and vacuum clean out of curb inlet efforts	- Asset management software tracking report	Operations Manager/Asset Management Software Manager	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Continue street sweeping program - residential, annually - collectors, three times per year, arterials, nine times per year	- Asset management software tracking report	Operations Manager/Asset Management Software Manager	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Continue maintenance of storm water quality forebay and pond at the city's maintenance facility	- Asset management software tracking report	Operations Manager/Asset Management Software Manager			X		X			X			X				X				X	
	Develop/Update SWPPP's for city owned and operated facilities.	- SWPPP's and associated bmp's	MS4 Permit Manager/Facility Managers	X	X		X			X			X					X			X		
	Develop/Update a city staff																						

Wallace, Ruth

From: Ben McCabe <bmccabe@bluespringsgov.com>
Sent: Wednesday, April 09, 2014 4:02 PM
To: Wallace, Ruth
Cc: Jeff Sell; Chris Sandie
Subject: RE: Outfall list
Attachments: Blue Springs outfalls 2007.doc

Ms. Wallace,

Thank you for your feedback regarding the City of Blue Springs Storm Water Management Plan (SWMP) submittal dated August 1, 2013.

On an ongoing basis, the City of Blue Springs reviews and updates our SWMP. One of the items identified during this process was the outfall location map. The City has added two outfalls at the south end of town and noted several section corrections and one coordinate correction to existing outfalls as noted on the attachment. The City of Blue Springs is agreeable to these corrections not being made to MDNR's system and will update the information on the currently submitted SWMP to match MDNR's existing system. Please let us know if this is your preference.

The City of Blue Springs is committed to the Municipal Separate Storm Sewer System program requirements. The Storm Water Management Plan attached with the previous letter provides the City of Blue Springs specific current and planned activities along with a schedule regarding permit requirements. We are hopeful the proposed SWMP is acceptable and look forward to a favorable response from the Missouri Department of Natural Resources.

Ben McCabe

City Engineer

From: Wallace, Ruth [<mailto:ruth.wallace@dnr.mo.gov>]
Sent: Friday, April 04, 2014 2:06 PM
To: Jeff Sell; Ben McCabe
Subject: Outfall list

Jeff,
Per our phone conversation just now, I am sending you the list of outfalls that we have currently in our data system. It appears that the City has added two outfalls to set of outfalls listed in the 2008 permit, which is fine. However, it appears that some of the outfall information is not consistent between our two lists.

It is a preference that we build upon the information we already have in our system – unless of course the outfall information is incorrect (that is another county or something, or say the public land survey doesn't align with the GIS coordinates.) We are required to deactivate outfalls (if there is in fact an outfall in that location) rather than delete it. This could cause us to have a different numbering system from the one maintained by the city.

Can you compare the existing list (attached) with the one that you submitted and determine which ones are correct?

Also, can we briefly discuss the intention of the letter that state Blue Springs may not have enough resources to do the MS4 program? I want to make sure I am not misreading the letter.

OUTFALL 001

Legal Description
Latitude: +3900000
Receiving Water
1st Classified
USGS/ SUB WATERSHED

¼ NW, ¼ SE, Sec 5, T48N, R30W, Jackson County
Longitude: -09415000
Unnamed Tributary to Sni-A-Bar Creek (U)
Sni-A-Bar Creek (P) (399)
10300101-110002



OUTFALL 002

Legal Description
Latitude: +3902500
Receiving Water
1st Classified
USGS/ SUB WATERSHED

¼ SW, ¼ NE, Sec 23, T49N, R31W, Jackson County
Longitude: -09418000
Burr Oak Creek (C)
Burr Oak Creek (C) (3414)
10300101-050003



OUTFALL 003

Legal Description
Latitude: +3859000
Receiving Water
1st Classified
USGS/ SUB WATERSHED

¼ SE, ¼ SW, Sec 12, T48N, R31W, Jackson County
Longitude: -09417300
Unnamed Tributary to Jacomo Lake (U)
Jacomo Lake (L3) (7101)
10300101-050001



OUTFALL 004

Legal Description
Latitude: +3859300
Receiving Water
1st Classified
USGS/ SUB WATERSHED

¼ NE, ¼ NW, Sec 12, T48N, R31W, Jackson County
Longitude: -09417300
East Fork Little Blue River (C)
East Fork Little Blue River (C) (428)
10300101-050001



OUTFALL 005

Legal Description
Latitude: +3859450
Receiving Water
1st Classified
USGS/ SUB WATERSHED

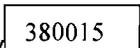
¼ SE, ¼ SE, Sec 1, T48N, R31W, Jackson County
Longitude: -09417000
East Fork Little Blue River (C)
East Fork Little Blue River (C) (428)
10300101-050001



OUTFALL 006

Legal Description
Latitude: +3900150
Receiving Water
1st Classified
USGS/ SUB WATERSHED

¼ SW, ¼ NE, Sec 2, T48N, R31W, Jackson County
Longitude: -09418000
East Fork Little Blue River (C)
East Fork Little Blue River (C) (428)
10300101-050001



OUTFALL 007

Legal Description
Latitude: +3900300
Receiving Water
1st Classified
USGS/ SUB WATERSHED

¼ NE, ¼ NE, Sec 3, T48N, R31W, Jackson County
Longitude: -09419000
Unnamed Tributary to Blue Springs Lake (U)
Blue Springs Lake (L2) (7358)
10300101-050001



OUTFALL 015

Legal Description
Latitude: +3902500
Receiving Water
1st Classified
USGS/ SUB WATERSHED


¼ SE, ¼ NW, Sec 21, T49N, R30W, Jackson County
Longitude: -09414000
Unnamed Tributary to Sni-A-Bar Creek (U)
Sni-A-Bar Creek (P) (399)
10300101-110002

OUTFALL 016

Legal Description
Latitude: +3902400
Receiving Water
1st Classified
USGS/ SUB WATERSHED


¼ SE, ¼ NW, Sec 21, T49N, R30W, Jackson County
Longitude: -09414000
Unnamed Tributary to Sni-A-Bar Creek (U)
Sni-A-Bar Creek (P) (399)
10300101-110002

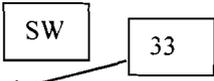
OUTFALL 017

Legal Description
Latitude: +3901100
Receiving Water
1st Classified
USGS/ SUB WATERSHED


¼ NE, ¼ NE, Sec 33, T49N, R30W, Jackson County
Longitude: -09413300
Unnamed Tributary to Sni-A-Bar Creek (U)
Sni-A-Bar Creek (P) (399)
10300101-110002

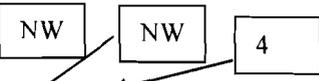
OUTFALL 018

Legal Description
Latitude: +3900500
Receiving Water
1st Classified
USGS/ SUB WATERSHED


¼ NE, ¼ SE, Sec 32, T49N, R30W, Jackson County
Longitude: -09414300
Unnamed Tributary to Sni-A-Bar Creek (U)
Sni-A-Bar Creek (P) (399)
10300101-110002

OUTFALL 019

Legal Description
Latitude: +3900300
Receiving Water
1st Classified
USGS/ SUB WATERSHED


¼ SE, ¼ SE, Sec 32, T49N, R30W, Jackson County
Longitude: -09414400
Unnamed Tributary to Sni-A-Bar Creek (U)
Sni-A-Bar Creek (P) (399)
10300101-110002

Added OUTFALL 20 & 21 – These two outfalls were added when the City of Blue Springs annexed property to the south.