

The City of



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JUL 9 2013

WATER PROTECTION PROGRAM

July 3, 2013

Ms. Ruth Wallace, MS4 Municipal Stormwater Program Coordinator
Missouri Department of Natural Resources
Water Protection Program, Operating Permits Section
P.O. Box 176
Jefferson City, MO 65102-0176

Dear Ms. Wallace:

Enclosed please find a revised and updated Storm Water Management Program Plan for the City of Liberty's MS4 Permit Renewal Application. The revisions and clarifications were conducted based on your comment review and assessment documentation provided to me via email on June 24, 2013.

Liberty staff and the contract engineer worked together to evaluate and clarify the issues with the plan that were included in your assessment.

In particular, the plan was revised to reference the State permit and Federal language equitably. The program requirements for post-construction mimicking of pre-construction runoff was evaluated and the plan now includes steps over the next permit cycle to clarify ordinance and standard design criteria documentation already in place so that permit requirements are clearly expected and met. An implementation schedule was also included/expanded to include measurable goals or metrics for timeframes within the permit cycle. Other items were modified in the plan to address the minimum control measures comment presented in your review.

If you have any questions concerning this revised plan, I can be reached at (816) 439-4502 or by email at bhess@ci.liberty.mo.us.

Sincerely,

A handwritten signature in black ink that reads "Brian Hess".

Brian Hess, P.E., C.F.M.
Assistant Director of Public Works/City Engineer

CC: Attachment
File



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JUL 9 2013

WATER PROTECTION PROGRAM

**STORMWATER
MANAGEMENT PLAN
LIBERTY, MO**

June 2013 -- June 2018

Christina L. Luebbert

7-3-13

Signed: Christina L. Luebbert, P.E., CFM, LEED AP
E-2000150050
Luebbert Engineering
304 Travis Court
Jefferson City, MO 65101
573-291-6567

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FOR LIBERTY, MO

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**PART I
CITY OF LIBERTY
BACKGROUND**

City of Liberty Background

Information on the Permittee:

Name of the Permittee: City of Liberty, Missouri
Type of Entity: City – Municipality
Total Area: 28.9 sq. miles
Mailing Address: 101 E. Kansas, Liberty, MO 64068
Primary Contact: Brian Hess, P.E.
Phone Number: 816-439-4502
Secondary Contact: Steve Hansen
Phone Number: 816-439-4501
Population (2010): 29,149

Information on the Municipal Separate Storm Sewer System:

MS4 System Location: Liberty, Missouri
Name of Organization: City of Liberty, Missouri
County Permittee Resides: Clay County
The major receiving waters within the permitted area include: Cates Branch Creek, Town Branch Creek, Little Shoal Creek, Rush Creek, Fishing River
None of the receiving waters are on the latest CWA's list of impaired waters.

Information on Adjacent Waterways:

The Permittee is within 100 feet of: Streams and lakes
The Permittee is not within 100 feet of waters classified as major reservoirs.
The Permittee has some area defined as wetlands as identified by the National Wetland Inventory. See attached map.
Stormwater from Liberty does not discharge to a sinkhole.

**PART II
MINIMUM
CONTROL
MEASURES**

1. Public Education and Outreach

1.1 Regulatory Requirement

40 CFR 122.34 (b)(1) – Implement a public education program to distribute educational materials to the community of contact, equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps the public can take to reduce pollutants in storm water runoff.

Section 4.2.1.1 of the Missouri general permit for small municipal separate storm sewer systems (“Permit”) requires that the City 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 steps the public can take to reduce pollutants in storm water runoff. This section describes the program elements intended to meet this requirement.

1.2 Target pollutants

Section 4.2.1.1.1 of the Permit requires that the public outreach and education program identify the target pollutant sources the City’s public education program is designed to address. The following is a prioritized list of the leading pollutants, experienced in the permitted area, that are carried by stormwater runoff into water bodies. This list is based on typical pollutants found in urban runoff:

1. Suspended solids
2. Oil and grease
3. Pesticides/Herbicides
4. Bacteria/Nutrients/Oxygen-depleting substances
5. Habitat alterations
6. Salinity (salt)
7. Litter/Trash

1.3 Target audiences

Section 4.2.1.1.2 of the Permit requires that the public outreach and education program identify the target audiences for the City’s education program who are likely to have significant storm water impacts (including commercial, industrial and institutional entities). During the development of the proposed education program, Liberty identified the sources of stormwater pollutants that needed to be reduced to improve overall water quality. The target audiences were selected because changing their behavior would have a significant stormwater quality impact on the target pollutants. The target audiences for the public education program are:

1. Citizens (Homeowners)

2. Developers and Home Builders
3. Business Owners
4. Children
5. Elected Officials
6. City Staff

1.4 Selected BMPs for Public Education and Outreach

Sections 4.2.1.1.3 through 4.2.1.1.5 of the Permit requires that the public outreach and education program include a plan to inform individuals and households about steps they can take to reduce storm water pollution, how to become involved in the SWMP (with activities such as local stream and lake restoration activities) and describe the outreach strategy, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) to reach target audiences, and how many people expected to be reached over the permit term. The following Best Management Practices were selected to meet these requirements:

- 1.4.1 Participate in the Mid-America Regional Council's (MARC) water quality public education programs and integrate them into the City's local SWMP.

The City of Liberty will continue the utilization of the MARC water quality public outreach and education programs for implementation as part of this Storm Water Management Program. This BMP will allow the City to continue leveraging their paid membership in MARC to better meet their SWMP goals. The City will continue to integrate the MARC water quality information into the local program by posting information on the City web site, making the various informational materials available at City Hall and Community Center, and distributing informational materials as opportunities arise. Included with the materials will be information about how the public can get involved with the stormwater program. This is further discussed in Section 2.

In addition to these more local efforts, MARC is continuing to promote public education on steps that can be taken to reduce stormwater pollution through radio PSAs, educational displays at community events, giving away items with a NPS pollution reduction message, hosting workshops and training seminars for businesses and homeowners and providing extensive educational resources via their web site. MARC also performs a water quality attitude survey approximately every other year which provides "measurement" of changes in the metro area. The City of Liberty will continue to review the results of previous and future surveys to evaluate the progress of this BMP.

- 1.4.2 Public Access Television (Channel 2)

The City of Liberty has selected posting information on the public access television station for implementation as part of this Storm Water Management Program. This will allow messages to get out to a wider variety and potentially larger volume of people.

The measurable goal for implementation of this BMP is to post information to the cable channel at least twice a year. Public Works staff will coordinate this effort with the City's Communications Manager. Staff may tailor messages to tie into different education and outreach activities.

1.4.3 Utility Bill Announcements

The City of Liberty has selected using utility bill announcements for implementation as part of this Storm Water Management Program. This will allow messages to get out to a wider variety and larger volume of people.

The measurable goal for implementation of this BMP is to include information with utility bills at least annually. Staff may tailor messages to tie into different education and outreach activities.

1.4.4 News Flash (E-Newsletter)

The City of Liberty has selected using the News Flash (E-Newsletter) for implementation as part of this Storm Water Management Program. This will allow messages to get out to a wide variety and larger volume of people.

The measurable goal for implementation of this BMP is to include NPS pollution prevention information in the News Flash at least twice a year. Public Works staff will coordinate this effort with the City's Communications Manager. Staff may tailor messages to tie into different education and outreach activities.

1.4.5 Household Hazardous Waste program

The City of Liberty has selected continuing the household hazardous waste collection program for implementation as part of this Storm Water Management Program. HHW is collected in Liberty biannually and in other drop-off locations around the Kansas City metro area on a regular basis. Citizens may also make appointments to drop off HHW at other Kansas City metro area locations.

The measurable goal for implementation of this BMP is to advertise and promote this existing program locally through the web site, News Flash, press releases, brochures, etc.

1.4.6 Dog Waste Disposal Program

The City of Liberty has selected using a dog waste disposal program as part of this Storm Water Management Program. Currently, there are eight dog waste stations with associated educational signage in Liberty's parks system.

The City will continue to maintain these stations for the public's education and use.

1.4.7 Social Media

The City of Liberty has selected the use of social media such as Twitter or Facebook as part of their public education and outreach program. Public Works staff will coordinate this effort with the City's Communications Manager.

The measurable goal for implementation of this BMP is to include NPS pollution prevention information on social media at least twice a year.

1.5 Evaluation of Public Education and Outreach Program

Section 4.2.1.1.6 of the Permit requires the City to develop a plan to evaluate this minimum control measure. The City of Liberty will attempt to capture metrics related to the success of their public education and outreach program. These metrics will be reported in their annual reports. These might include the number of printed materials distributed, the number of articles or advertisements in local print media, the number of days information ran on the local cable access channel, the number of News Flash articles distributed (including the approximate number of citizens receiving this information), the approximate amount of HHW collected, the number of presentations made (and approximate audience size), etc. Additionally, the City will collect and report on anecdotal evidence that the educational message is being received.

The City will also summarize in their annual reports the information from the MARC water quality committee annual report on public outreach and education efforts throughout the Kansas City metro area. The City will review trends in water quality attitude awareness reflected in MARC's biannual survey.

2. Public Involvement in Storm Water Management Program Development

2.1 Regulatory Requirement

40 CFR 122.34 (b)(2) -At a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program. *EPA recommends that the public be included in developing, implementing, and reviewing your storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups.*

Section 4.2.2.1 of the Missouri general permit for small municipal separate storm sewer systems ("Permit") requires that the City implement a public participation/involvement program that complies with State and local public notice requirements, and involves the public in the development and oversight of the SWMP, policies and procedures. This section describes the program elements intended to meet this requirement.

2.2 Selected BMPs for Public Involvement

The City of Liberty will comply with state and local public notice requirements when implementing the public involvement/participation program (Permit Section 4.2.2.1). The public will be included in reviewing and implementing the storm water management program. The target audiences for the public involvement program are the same as those listed for education and outreach in Section 1.3 (Permit Section 4.2.2.1.2).

Section 4.2.2.1.3 requires the City to describe the types of public involvement activities included in the program. Specific BMPs selected for this minimum control measure include:

2.2.1 Encourage local public participation in the Mid-America Regional Council's (MARC) water quality programs.

The City of Liberty has selected encouragement of local public participation in the MARC water quality programs for implementation as part of this Storm Water Management Program. This BMP will allow the City to leverage their paid membership in MARC to better meet their SWMP goals. Information on activities citizens and businesses can participate in through the MARC program will be disseminated through the channels described in Section 1.4.

The measurable goal for implementation of this BMP is to have information about participation in MARC sponsored programs available at City Hall, the Library, and on the web site while directing the public to this information through press releases and utility bill announcements. See Section 1.4 for details.

2.2.2 Invite public input through existing meetings

City of Liberty has selected inviting public input through existing mechanisms for implementation as part of this Storm Water Management Program. This BMP allows public involvement and participation to be integrated into existing activities through open public comment at the City Council meetings and discussion of development and redevelopment issues as they relate to stormwater at the Planning and Zoning hearings. The number of inputs received through these mechanisms will be reported annually.

2.2.3 Invite public input through the "Let Us Know" Link

The City web site has a Citizen Request Tracker entered through the "Let Us Know – Report a Concern" Link on the side navigation. Within this tracker, potential issues can be reported in any number of categories – many of which directly or indirectly relate to the water quality program. The number of inputs received through this mechanism will be reported annually.

2.2.4 Work with community groups to perform stormwater quality related activities.

City of Liberty has selected working with community groups to perform stormwater quality related activities for implementation as part of this Storm Water Management Program. This BMP allows for direct public involvement and participation in program implementation. This work is coordinated through the Volunteer Clearinghouse. The City will do at least one activity each year with volunteers from community groups or the volunteer clearinghouse. The City will look for ways that citizen volunteers can educate others in the course of these activities.

2.2.5 Receipt of information from the public

City of Liberty has selected receipt of information from the public for implementation as part of this Storm Water Management Program. This includes information collected on the City's Citizen Request Tracker, phone calls, letters or walk-in verbal information. The public may also comment during public comment periods at City Council and Planning Commission meetings.

As part of the permit application process, the City invites the public to review the proposed Stormwater Management Plan. Links to the existing Plan and the proposed Plan are published on the City of Liberty Stormwater Webpage. The public may submit comments via the email link provided on the webpage at any time.

The City has included policies and procedures related to the collection of public input in their Enforcement Response Plan.

2.2.6 Public attitude survey

MARC performs a public attitude survey throughout the Kansas City metropolitan area approximately biannually. The City of Liberty will review the results of these surveys as they are available as part of this Storm Water Management Program.

2.3 Evaluation of Public Involvement Program

Section 4.2.2.1.5 of the Permit requires the City to develop a plan to evaluate the success of this minimum control measure. The City of Liberty will attempt to capture metrics related to the success of their public involvement program. These metrics will be reported in their annual reports. These might include the number of public meetings where stormwater issues were discussed, the number of stormwater issues submitted via any avenue (web, phone, written, in person), the number of volunteers involved in the program, etc.

3. Illicit Discharge Detection and Elimination

3.1 Regulatory Requirement

40 CFR 122.34 (b)(3) -Develop, implement, and enforce a program to detect and eliminate illicit discharges into your small MS4. Develop a storm sewer system map, showing the location of all outfalls and the names and locations of all water of the U.S. that receive discharges from those outfalls. To the extent allowable under state, tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions. Develop and implement a plan to detect and address non-storm water discharges including illegal dumping to your system. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. Address categories listed in 122.34(b)(3)(D)(iii) if you determine they are significant contributors of pollutants to MS4.

Section 4.2.3.1 of the Missouri general permit for small municipal separate storm sewer systems ("Permit") requires that the City develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into the City's regulated small MS4.

3.2 Selected BMPs for Illicit Discharge Detection and Elimination

3.2.1 Storm Sewer Map

Section 4.2.3.1.1 of the Permit requires the City of Liberty to develop a storm sewer map, showing the location of all outfalls and the names and locations of all water of the U.S. that receive discharges from those outfalls. The City developed the required map. This map is GIS-based and integrates additional GIS data such as aerial photography, contour data, etc. This information was originally collected in 2003 as part of the Stormwater Master Plan development.

The GIS data is reviewed and updated as new additions to the MS4 are constructed and as-built surveys submitted. Additionally, corrections are made whenever a discrepancy is discovered in the field. This map is available upon request.

3.2.2 Illicit Discharge Ordinance

Section 4.2.3.1.2 of the Permit requires the City of Liberty to effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into their storm sewer system and implement appropriate enforcement procedures and actions. The City of Liberty passed the illicit discharge detection and elimination ordinance on September 20, 2008. The City Code, Sections 31-57, 31-58 and 31-59 all

relate to this minimum control measure. Section 31-57 is related to discharge and connection prohibitions. Section 31-58 is related to the City's ability to suspend access to the MS4 in illicit discharge situations. And Section 31-59 is related to the requirements related to the notification of spills. Copies of these codes can be found on the City's web site.

3.2.3 Program to Detect and Address Illicit Discharges

Section 4.2.3.1.3 of the Permit requires the City of Liberty to develop a plan and implementation schedule to detect and address non-storm water discharges, including discharges from illegal dumping and spills, to the City's system. The plan must include dry weather field screening for non-storm water flows and field tests of selected chemical parameters as indicators of discharge sources. The plan shall also address on-site sewage disposal systems that flow into the City's storm drainage system.

The City of Liberty has identified priority areas for investigations, developed a methodology and determined locations for dry weather field screening, performed dry weather field screening, developed written procedures and techniques to detect sources of illicit discharges, prepared a written enforcement response plan, and evaluated the effectiveness of the IDDE program. See additional details below:

3.2.3.1 Identification of Priority Areas (per Section 4.2.3.1.3.1 of the Permit)

The City of Liberty has identified three broad source categories of potential illicit discharges. These are industrial, commercial and residential. The industrial category is a priority because of the higher concentrations of pollutants that may be handled and stored at an industrial site. However, many industrial locations have their own NPDES discharge permits. The City is not currently required to perform the compliance inspections on these permits. Commercial areas are a priority because of the potential for high concentrations of vehicle-related pollutants that accumulate on and around parking lots. Some commercial businesses can also handle and store larger amounts of potential pollutants outside or near doors (such as service stations, home improvement stores, etc.). Residential areas are priority areas because of the use of lawn and pest control chemicals, pet waste, owner vehicle maintenance (washing and "shade tree" mechanics), and home improvements (painting).

As part of determining priority areas for inspection, a list of all entities holding business licenses in the City of Liberty was obtained (dated December 2010). This list was reviewed and categorized into lower, medium and higher pollution potential based on the probability that the business handles and/or stores various amounts of pollutants. For

instance, service stations would be a "higher" potential while a doctor's office would be a "lower" potential and a restaurant would be a "medium". This list (color coded into the three categories) is available in the City Engineer's office.

While each category has pollutants of concern, each and every outfall from each of these areas would be cumbersome and prohibitive to inspect. As the contributing watershed area increases, the higher the likelihood is of finding a significant illicit discharge. Therefore, priority areas for screening will be representative of each of these categories with the majority at the end of an enclosed system resulting in at least a 36" pipe. This methodology carries over to the identification of locations for dry weather field screening discussed below.

3.2.3.2 Dry Weather Field Screening

Dry weather field screening is defined as a visual inspection of the location to determine if illicit discharges exist or have occurred in the recent past. If an illicit discharge is present at the time of inspection, the enforcement response plan will be utilized to investigate the source and remove the discharge. If one is not present, the inspector simply documents the condition of the outfall and makes any notes for follow up actions. If an outfall consistently falls in this latter category, the City may choose to discontinue the inspection of this location.

Following the prioritization concepts outlined in 3.2.3.1, City staff and their stormwater consultant reviewed the major outfalls listed in the MS4 permit. For each of these, the contributing watershed area was reviewed for the land use. Larger watersheds were further broken down into subwatersheds. The end of the enclosed system above open channels is the inspection location where the contributing drainage area is large enough to be representative of a priority area.

Upon completion of this exercise, 60 screening locations were selected for initial dry weather field screening. The notes documenting the selection process are available from the City Review Engineer. The locations were mapped in the GIS in 2011. Inspections began in December 2010 and each site is inspected on an annual basis.

In addition, City staff has established a goal to screen 20% of all inlet structures per year over the life of the permit in order to proactively investigate sources for contaminants to enter the storm system.

3.2.3.3 Written Procedures and Techniques for Detecting and Tracing Sources of Illicit Discharges (per Section 4.2.3.1.3.2 of the Permit)

The City of Liberty developed written procedures and techniques for detecting the sources of illicit discharges. These can be described in

two broad categories: transient discharges and recurring discharges. Transient discharges may be discovered through complaints or by city employees performing other routine duties. Recurring discharges may be located through dry weather field screening, complaints from neighbors or through discovery by city employees performing other routine duties.

Regardless of the method of discovery, the investigation will move forward by tracing the discharge to its point of origin utilizing the GIS map of the stormwater conveyance system. Once the investigator establishes the point of origin, he/she will need to determine if the discharge is an imminent threat to the public's health, safety and welfare. Imminent threats will need to be contained by the appropriate personnel. Depending on the nature of the pollutant, this may be the Hazmat team from the Fire Department or Public Works staff. This may include emergency removal of access to the MS4.

Once an emergency response has been handled, the investigator will attempt to determine the responsible party. In some cases, such as dumping, a responsible party may not be determined. Public education in the area may be the only available response to these events. When a responsible party can be determined and the party is willing and able to remediate the problem immediately, the only follow up action required will be a reinspection of the outfall after the cleanup. If the responsible party is not willing or able to remediate the problem immediately, the inspector shall issue a notice of violation outlining the required actions, alternatives and consequences of inaction as set forth in the illicit discharge ordinance.

3.2.3.4 Enforcement Response Plan – Procedures for Removing Source (per Section 4.2.3.1.3.3 and 4.2.3.4.3.4 of the Permit)

The City of Liberty developed an enforcement response plan. This plan further outlines the process of investigating and removing illicit discharges. A copy of the enforcement response plan is located in the City Engineer's office.

3.2.4 Public Education on Illegal Discharges and Improper Disposal (per Section 4.2.3.1.3.5 of the Permit)

The City of Liberty developed a public education effort to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. (This BMP also addresses the minimum control measure for public education.)

The City of Liberty acquired public education materials and distributes them to the appropriate target audiences. City employees are given

specific instructions on how to report signs of illicit discharge. See Section 1.4 for additional details.

3.2.5 Investigate cross-connection of sanitary and storm sewer systems

The City of Liberty will continue to investigate cross-connection of the sanitary and storm sewer systems through smoke testing and CCTV inspection.

The City of Liberty developed a prioritization for investigation for cross-connections in conjunction with the wastewater program utilizing all the resources available for inspection.

3.2.6 Continue Household Hazardous Waste (HHW) Collection Program

The City of Liberty will continue to encourage its citizens to participate in the HHW collection program. This program currently allows for local dropoff biannually, but citizens may also drive to other communities within the Kansas City metro area and dropoff at a variety of times. The public education program will further advertise these options for proper disposal of HHW.

The City of Liberty will document the collection activities and report annually as applicable.

3.2.7 Storm drain marking program

The City of Liberty will continue its requirement of stamping concrete for new inlets with "No Dumping – Drains to Stream" as part of their standard details. The City will also work with community groups to install pre-fabricated markers stating same on existing inlets.

The number of new inlets with the stamp and markers installed on existing inlets will be reported annually.

3.2.8 Receipt of information from the public

See Section 2.2.5

3.2.9 Addressing Non-Stormwater Flows (per Section 4.2.3.1.4 of the Permit)

The City of Liberty does not currently see the need to address the following non-stormwater flows into their MS4: landscape irrigation, rising ground waters, uncontaminated ground water infiltration, 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, flows from street wash water, and flows from emergency fire fighting activities. These flows are not considered significant contributors of pollutants to the MS4.

3.2.10 Addressing Incidental Non-Stormwater Flows (per Section 4.2.3.1.5 of the Permit)

The City of Liberty does not currently see the need to address incidental non-stormwater flows into their MS4 (such as non-commercial or charity car washes). These flows are not considered significant contributors of pollutants to the MS4.

3.2.11 Inventory and Inspection of Industrial/Commercial Facilities

Section 4.2.3.1.6 of the Permit states that the City "should 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 Liberty is not currently required to inventory and inspect industrial or commercial facilities. However, the illicit discharge ordinance gives them the authority to do so if this becomes a permit requirement. Also, the City's prioritization of entities holding a business license in 2010 serves as a partial inventory of these facilities.

3.3 *Evaluation of Illicit Discharge Detection and Elimination Program*

Section 4.2.3.1.3.6 of the Permit requires the City to develop a plan for program evaluation and assessment of this minimum control measure. The City of Liberty will attempt to capture metrics related to the success of their illicit discharge detection and elimination program. These metrics will be reported in their annual reports. These might include the number of outfalls screened, number of illicit discharge reports received and investigated, the number of enforcement actions taken, the number of illicit discharges removed and/or remediated, the number of sanitary and storm sewer lines inspected with CCTV, etc.

4. Construction Site Storm Water Controls

4.1 Regulatory Requirement

40 CFR 122.34 (b)(4) -Develop, implement and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Program must include: the development and implementation of (at a minimum) and ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, requirements for construction site operators to implement appropriated erosion and sediment control BMPs, requirements for construction site operators to control waste at the construction site, procedures for site plan review which incorporate consideration of potential water quality impacts, procedures for receipt and consideration of information submitted by the public.

Section 4.2.4.1 of the Missouri general permit for small municipal separate storm sewer systems ("Permit") requires that the City develop, implement, and enforce a program to reduce pollutants in any storm water runoff to their regulated small MS4 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.

4.2 Selected BMPs for Construction Site Storm Water Controls

4.2.1 Construction Site Runoff Control Ordinances (per Section 4.2.4.1.1)

The City of Liberty passed amendments to Chapter 31, Article VI, of the City Code on September 20, 2008. These amendments clarified that the land disturbance permitting requirements specifically relate to developments and redevelopments that disturb greater than one acre (previously it referred to "major developments") and further included sites disturbing less, but that were part of a greater plan or sale. It also added specific requirements for Stormwater Pollution Prevention Plans (SWPPPs), notification of the City staff at various stages of construction and an enforcement procedure. The code also referenced the design standards, which contain references to the City Erosion and Sedimentation Control Manual as adopted by the City of Liberty. The City ESC manual outlines appropriate applications, conditions for use, standards/specifications, and operation/maintenance procedures for a variety of construction site BMPs including Good Housekeeping measures. A copy of this design guidance and code can be found on the City's web site.

At least once during the permit cycle, the ordinance will be reviewed to determine its effectiveness and if any additional changes are needed. The ordinance will also be reviewed if any changes to the Missouri General Permit are made during the term of the MS4 permit.

4.2.2 Construction Site Waste Control Requirements (per Section 4.2.4.1.2)

The City of Liberty passed amendments to Chapter 31, Article VI, of the City Code on September 20, 2008. In this code, Section 31-96 requires a Stormwater Pollution Prevention Plan that in addition to addressing erosion and sediment control, must "...address other wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste."

At least once during the permit cycle, the ordinance will be reviewed to determine its effectiveness and if any additional changes are needed. The ordinance will also be reviewed if any changes to the Missouri General Permit are made during the term of the MS4 permit.

4.2.3 Pre-Construction Plan Review

Section 4.2.4.1.3 of the Permit requires the City to develop procedures to consider and review all pre-construction site plans for potential water quality impacts.

The measurable goal for implementation of construction plan review is to complete the reviews of new and redevelopment projects disturbing more than one acre in a timely manner ensuring that selected BMPs are appropriate for the site. This is an ongoing program. The number of plans reviewed will be documented annually.

The City Review Engineer follows established procedures (via checklist) for plan review. At least once during the permit cycle, these procedures will be reviewed to determine if any additional changes are needed.

4.2.4 Public Education on Construction Site Storm Water Control Requirements

The City includes education on construction site runoff control as a component of their general public education program. (This BMP also addresses the minimum control measure for public education.)

The City of Liberty acquired public education materials and distributes them according to goals set forth in Section 1.4. Target audiences will include developers and contractors. Also, City staff receives training in

proper inspection techniques for erosion and sediment control. Staff will continue to seek opportunities for education in this area.

4.2.5 Receive public input on proposed and current construction projects

Section 4.2.4.1.4 of the Permit requires the City to develop procedures to receive and consider information submitted by the public, including coordination with the City's public education program. This BMP coordinates with MCM #2 and can be integrated into existing activities through receipt of information from the public at the existing Planning and Zoning hearings and City Council meetings. Additional input can be received less formally through the City web site and at the designated phone number and mailing address.

The measurable goal for implementation of receiving public input on proposed and current construction projects is to log the receipt of this information, respond within 1 business day where applicable and to document any complaint inspection or enforcement actions taken.

4.2.6 Maintain design criteria, standard details and specifications for BMPs in City standards

City of Liberty has selected utilization of design criteria, standard details and specifications for BMPs in City standards for implementation as part of this Storm Water Management Program.

The measurable goal for implementation of this BMP is to review existing design criteria, standard details and specifications annually to ensure that any new technologies or practices are included.

4.2.7 Sample ESC plans for residential construction

City of Liberty has selected sample ESC plans for residential construction for implementation as part of this Storm Water Management Program. The City will use the documents prepared by the APWA and will work with residential contractors to ensure the BMPs are installed properly.

The measurable goal for implementation is to document that sample plans are readily available to all residential contractors and to document any other assistance provided to this target audience in achieving better construction site runoff control.

4.2.8 Construction Site Inspections

Section 4.2.4.1.5 of the Permit requires the City to develop procedures to inspect sites and enforce control measures, including prioritization of site inspections.

The measurable goal for implementation of construction site inspections is for new and re-development projects disturbing more than one acre to be inspected at least monthly ensuring that selected BMPs are installed and functioning at the site. This is an ongoing program. The number of inspections completed will be documented annually.

The City inspector follows established procedures (via checklist) for site inspections.

4.2.9 Plan to Ensure Compliance

Section 4.2.4.1.6 of the Permit requires the City to develop a plan to ensure compliance with the ordinance, including the sanctions and enforcement mechanisms the City will use to ensure compliance and procedures for when certain sanctions will be used. Section 31-98 of the City Code has enforcement procedures including escalation of enforcement based on the number and types of violations. This is also documented in the City's Enforcement Response Plan. The City Code is available on the City's web site. The Enforcement Response Plan is available in the City Engineer's office.

At least once during the permit cycle, the ordinance and ERP will be reviewed to determine their effectiveness and if any additional changes are needed. They will also be reviewed if any changes to the Missouri General Permit are made during the term of the MS4 permit.

4.3 *Evaluation of Construction Site Runoff Control Program*

Section 4.2.4.1.7 of the Permit requires the City to describe how they will evaluate the success of this minimum control measure. The City of Liberty will capture metrics related to the success of their construction site runoff control program. These metrics will be reported in their annual reports. These metrics include the number of construction plans reviewed, the number of inspections conducted and the number of enforcement actions taken.

5. Post Construction Storm Water Management for New Development/ Redevelopment

5.1 Regulatory Requirement

40 CFR 122.34 (b)(5) –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 that are less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for your community. Use an ordinance or other regulatory mechanism to address post-construction runoff. Ensure adequate long-term operation and maintenance of BMPs.

Section 4.2.5.1 of the Missouri general permit for small municipal separate storm sewer systems (“Permit”) requires that the City develop, implement, and enforce a program to address the quality of long-term 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 City’s regulated small MS4. The City’s program shall ensure that controls are in place that have been designed and implemented to 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 City shall assess site characteristics at the beginning of the construction design phase to ensure adequate planning for storm water program compliance. The purpose for this approach is to arrive at designs and practices that provide for most effective water quality treatment through infiltration, flow rates and similar site-design opportunities.

5.2 Priority Areas for Post-Construction Program

Section 4.2.5.1.4 of the Permit requires the City of Liberty to specify priority areas for this program. The City considers any area that may be developed or re-developed a “priority area” for the post-construction stormwater management program. The closer that the site is to a perennial or intermittent stream and/or wetland, the higher the priority within the program. Additionally, large tracts of undeveloped or agricultural land that may become developed in the near future (near the bleeding edge of the more suburban land uses), are of particular concern.

5.3 Selected BMPs for Post Construction Storm Water Management for New Development/Redevelopment

Per Section 4.2.5.1.1 of the Permit, the City of Liberty has implemented a strategy to minimize water quality impacts of new and redevelopment (disturbing greater than one acre) by reasonably mimicking pre-development condition to the maximum extent practicable. This plan includes the following structural and non-structural Best Management Practices:

5.3.1 Detention Requirements

Section 4.2.5.1.2 of the Permit requires the City of Liberty to develop 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. The City of Liberty passed an update to the Unified Development Ordinance (UDO) on February 9, 2009. The revisions in Section 30-97.9 outline the requirements for development and design standards related to stormwater management. The section highlights the requirements for adherence to the adopted stormwater management ordinance (Chapter 31), on-site detention and retention, and a post construction management plan. In addition, the City adopted the KC APWA Section 5600 Stormwater Design Criteria and KC APWA/MARC Manual of Best Management Practices for Stormwater Quality documents as part of the City's design criteria in May 2009. The City design criteria references the latest edition of these documents so that amendments are not required as new editions are issued.

5.3.2 Stream Buffer Requirements

The City of Liberty passed an update to the UDO on February 9, 2009. The revisions highlighted the use of stream buffers as a filtration, infiltration and stabilization Best Management Practice (BMP). It clarified where the buffer is measured from (Ordinary High Water mark). It also provided guidance for protection and re-establishment of native vegetation to the maximum extent practicable when riparian areas could not be avoided (ie. road/utility crossings, etc.).

5.3.3 Open Space Requirements

The City of Liberty will continue and annually re-evaluate the effectiveness of their open space requirements. Planning staff will be integrally involved with the decision-making process.

The City of Liberty passed an update to the UDO 2/9/09 modified the required open space in a development to 20% from the previous 15%.

5.3.4 Wetland Protection

When the UDO was updated in February 2009, no modifications related to wetland protection were deemed necessary. The City cooperates with the Army Corps of Engineers regulation of jurisdictional wetlands. The site

plan requirements set forth in the APWA standards requires the identification of wetlands on any proposed development plans.

5.3.5 Conservation Subdivision

The City will continue to use the Conservation Subdivision as a mechanism to allow flexibility in design for better stormwater quality and quantity management. The City will annually evaluate the effectiveness of this option for developers.

5.3.6 Stormwater Master Plan

The City's Stormwater Master Plan will be reviewed each permit cycle to verify it reflects current water quality policies and goals.

The City of Liberty updated the Stormwater Master Plan in January 2011 with an addendum that clarified the work completed towards meeting NPDES Phase II requirements. The addendum further clarifies current water quality objectives relative to the City's stormwater capital improvement program.

5.3.7 City Comprehensive Plan

The City's Comprehensive Plan will be reviewed each permit cycle to verify it reflects current water quality policies and goals.

5.3.8 Unified Development Ordinance (UDO)/Stormwater Ordinance (Chapters 30 and 31 of the City Code)

The City of Liberty will continue to evaluate the effectiveness of various development requirements in the UDO. Other development codes may be reviewed for ways to create incentives for developers to use Low Impact Development or other measures to further protect water quality.

The City of Liberty passed an update to the UDO 2/9/09 in which modifications were incorporated in the UDO to address stormwater management. In particular, Section 30-97.9 outlines the requirements for development and design standards related to stormwater management and Section 30-97.3 outlines requirements for treatment of stormwater from parking areas. An increase to required open space was also incorporated in the revision.

In the first permit year, the City of Liberty will review and amend the UDO and/or Stormwater Ordinance to provide additional clarity of the requirement to mimic pre-development hydrology and provide treatment of the water quality volume (defined as the "...storage required to capture and treat 90 percent of the average annual stormwater runoff volume.") utilizing the methodologies outlines in the MARC Manual for Best

Management Practices for Stormwater Quality (October 2012). The manual provides extensive information to developers regarding the design and implementation of a variety of non-structural (per permit requirement 4.2.5.1.5) and structural (per permit requirement 4.2.5.1.6) post-construction BMPs.

The revision to the ordinance will indicate a mandate that the water quality volume be treated to a level of service commensurate with the type of development (ie. new or redevelopment). The City will also review existing ordinances and standards that may conflict with the post-construction requirements and make modifications as necessary.

All development applications require a pre-application meeting with pertinent staff to discuss development issues, including stormwater related considerations and requirements.

5.3.9 Ensure ongoing effectiveness of existing and future post-construction structural BMPs

Section 4.2.5.1.3 of the Permit requires the City of Liberty to have a plan to ensure adequate long-term operation and maintenance of selected BMPs, including types of agreements between the City and other parties such as the post-development landowners or regional authorities.

The City of Liberty passed revisions to Chapter 31 of the City Code on 9/20/08. These revisions included specific requirements for owners of BMP's related to ongoing operation and maintenance. An enforcement response plan is also outlined in this section. These requirements can be found in Section 31-56(b) of the City Code.

Additionally, the City of Liberty has developed a written policy and procedure for the inspection of post-construction best management practices. This document is available in the City Engineer's office. Generally, it requires annual inspections of the BMPs. All inspections are documented on a written form with sufficient photographs attached. The document outlines what the inspector looks for based on the type of BMP being inspected.

5.4 Evaluation of Post-Construction Stormwater Management Program

Section 4.2.5.1.7 of the Permit requires the City to describe how they will evaluate the success of this minimum control measure. The City of Liberty will capture metrics related to the success of their post-construction stormwater management program. These metrics will be reported in their annual reports. These metrics include the number of post-construction plans reviewed, the number of post-construction BMP inspections conducted and the number of enforcement actions taken.

6. Pollution Prevention/Good Housekeeping for Municipal Operations

6.1 Regulatory Requirement

40 CFR 122.34 (b)(6) Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

Section 4.2.6.1 of the Missouri general permit for small municipal separate storm sewer systems ("Permit") requires that the City develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

6.2 Municipal Operations

Section 4.2.6.1.1 of the Permit requires the City to list of all municipal operations that are impacted by this operation and maintenance program. The City shall also include a list of industrial facilities the City owns or operates that are subject to NPDES permits for discharges of storm water associated with industrial activity that ultimately discharge to their MS4. The City shall include the permit number or a copy of the industrial application form for each facility.

The City has created a list of municipal operations that are relevant to the MS4 program. This list includes: street, sidewalk and parking lot operation and maintenance (including maintenance yards and salt/sand storage); storm sewer operation and maintenance; wastewater treatment; wastewater collection system operation and maintenance; potable water treatment; potable water distribution system operation and maintenance; parks operation and maintenance; maintenance of city buildings and other facilities; fire department field operations; police department field operations; maintenance of the waste transfer station (by contract); and all city vehicle and equipment maintenance. Additionally, any construction or land disturbance undertaken by City crews or by contractors to the City would be considered "municipal operations".

This document is available in the City Engineer's office.

6.3 Selected BMPs for Municipal Operations

6.3.1 Maintenance BMPs, schedules and inspection procedures for MS4

Section 4.2.6.1.2 of the Permit requires the City of Liberty to identify maintenance BMPs, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the City's regulated small MS4.

The City of Liberty has established written Standard Operating Procedures (SOPs) related to the inspection and maintenance of its MS4. These SOPs include:

- Catch Basin/Storm Drain System/Outfall Repair
- Catch Basin/Inlet Cleaning
- Vactor Truck Waste Handling/Storage
- Erosion and Sediment Control
- Illicit Discharge Detection and Elimination

Metrics related to these municipal operations will be tracked and reported on annually. Catch basin/inlet inspections and cleaning will be tracked by the number of inlets inspected and reported for cleaning each year.

6.3.2 Pollution control for streets/parking lots

Section 4.2.6.1.3 of the Permit requires the City of Liberty to implement controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots. The City has established written SOPs related to the control of pollutants generated on publicly owned streets and parking lots.

These SOPs include:

- Street Sweeping
- Salt/Sand Storage and Application

Metrics related to these municipal operations will be tracked and reported on annually. Street sweeping will be tracked by the number of lane miles swept each year.

6.3.3 Pollution control for maintenance/storage yards, waste transfer stations, fleet and maintenance shop, outdoor storage, salt/sand storage

Section 4.2.6.1.3 of the Permit also requires the City of Liberty to implement controls for reducing or eliminating the discharge of pollutants from maintenance and storage yards, waste transfer stations, fleet and maintenance shop, outdoor storage, salt/sand storage areas. The City of Liberty has established written Standard Operating Procedures (SOPs) related to the pollution control from municipal maintenance facilities.

These SOPs include:

- Good Housekeeping (General SOP)
- Building Maintenance
- Vehicle/Equipment Storage
- Vehicle/Equipment Washing
- Salt/Sand Storage and Application
- Weed and Pest Control
- Mowing and Irrigation

The following facilities are inspected annually for pollution control issues:

- Street Maintenance (400 Suddarth)
- Parks Maintenance (970 S. 291 Hwy)
- Fountain Bluff Sports Complex (2200 Old 210 Hwy)

Inspections and activities related to the control of pollutants from City-owned maintenance facilities will be reported on annually.

6.3.4 Solid waste control

Section 4.1.5 of the Permit requires the City of Liberty to implement good housekeeping practices at facilities under their control in order to keep solid waste from entry into waters of the state to the maximum extent practicable. Additionally, Section 4.2.6.1.5 of the Permit requires the City to adopt procedures for the proper disposal of waste removed from the City's MS4 and area of jurisdiction, including dredged material, accumulated sediments, floatables, and other debris.

The City of Liberty has established written Standard Operating Procedures (SOPs) related to solid waste control/garbage handling. These SOPs direct employees to manage solid waste through proper collection, storage and disposal of waste materials.

6.3.5 Fueling facilities

Section 4.1.6 of the Permit requires the City of Liberty to adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, including spill prevention, control and counter measures at all fueling facilities under their control. The City of Liberty has established Standard Operating Procedures (SOPs) related to pollution prevention as it relates to fueling of City vehicles and equipment.

As of February 2010, nearly all vehicles and large equipment are fueled at commercial stations using a fuel card system. Parks Maintenance has a 300 gallon fuel tank for smaller equipment that is in secondary containment (and has a shed roof to keep the containment area dry).

6.3.6 RCRA/CERCLA substances

Section 4.1.7 of the Permit requires the City of Liberty to manage all substances regulated by federal law under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that are transported, stored, or used for maintenance, cleaning or repair by the City according to the provisions of RCRA and CERCLA.

The City of Liberty has established written Standard Operating Procedures (SOPs) related to management of materials that fall under the RCRA and CERCLA standards.

6.3.7 Paints/Solvents/Petroleum/Petroleum Waste Products (besides fuel)

Section 4.1.8 of the Permit requires the City of Liberty to store all paints, solvents, petroleum products and petroleum waste products under their control so that these materials are not exposed to storm water. Sufficient practices of spill prevention, control, and/or management will be provided to prevent any spills of these pollutants from entering a water of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.

The City of Liberty has established written Standard Operating Procedures (SOPs) related to the management of paints, solvents and non-fuel petroleum products (including waste products). These SOPs include:

- Painting
- Parts Cleaning and Storage
- Petroleum and Chemical Handling, Storage and Disposal
- Spill Prevention and Control

6.3.8 Procedures to ensure flood control projects are evaluated for water quality impacts and existing projects are assessed for retrofit

Section 4.2.6.1.6 of the Permit requires the City of Liberty to adopt procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practice.

The City of Liberty has a procedure to ensure new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. New flood management projects completed by private developers must follow the MARC BMP Manual which requires the treatment of the water quality storm (aka "first flush"). The review engineer determines whether or not the development plans submitted accomplish this goal. The City of Liberty rarely completes new flood management projects. However, in the event that one is scheduled on the capital projects list, the City Engineer will review the plans to determine if the water quality storm has been effectively treated.

The City has developed a list of existing flood control projects. At this time, all of these projects are privately owned and there is no enforcement mechanism to require retrofitting unless a redevelopment occurs in the contributing watershed. However, when such a redevelopment occurs, treatment of the water quality storm will be required.

6.3.10 Employee training program

Section 4.2.6.1.7 of the Permit requires the City of Liberty to implement a government employee training program 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 shall describe any existing, available materials it plans to use such as those available from EPA, State or other organizations. The City shall describe how this training program will be coordinated with the outreach programs developed for the public information minimum measure and the illicit discharge minimum measure.

The City of Liberty has a policy and procedure for employee training. A copy of this document can be found in the City Engineer's office. It outlines how employees will receive initial training, ongoing public education, training related to specific standard operating procedures, and training on specialized tasks (such as inspection and enforcement for selected staff). Additionally, the training program will be reviewed annually.

The annual report will contain a summary of training received by City employees each year.

6.4 *Evaluation of Good Housekeeping Program*

Section 4.2.6.1.8 of the Permit requires the City to describe how they will evaluate the success of this minimum control measure. The City of Liberty will capture metrics related to the success of their good housekeeping in municipal operations program. These metrics will be reported in their annual reports. These metrics include the number of lane miles of street swept, number of catch basins inspected/cleaned, the number of employees trained and the type of training received, the lineal feet of sanitary and storm sewers inspected with CCTV, etc.

7. General Rationale

7.1 Decision Process

Section 4.1.9 of the Permit requires the City to document the decision process for each minimum control measure and include rationale statements for each BMP and measurable goal defined. Liberty reviewed the General Permit requirements and selected each of the BMPs after reviewing research from notable sources such as the EPA and the Center for Watershed Protection. Programs from other communities were also examined. Various BMPs were selected based on the evidence that they will have a positive impact on targeted pollutants. City staff also examined each BMP for how it could fit into existing activities and mechanisms. The SWMP will be made available for public inspection and comment upon completion.

7.2 Responsible Person

Section 4.1.3 of the Permit requires the City to identify the person primarily responsible for the SWMP, and the person(s) responsible for each minimum control measure if different from the primary responsible person. The person responsible for the overall management and implementation of the City's stormwater management program is the City Engineer. Others will be involved in the execution of each of the individual activities in the program.

7.3 Evaluation

The City of Liberty will report annually on the level of achievement toward all measurable goals. Where applicable, metrics will be documented. Qualitative anecdotal evidence will also be documented where possible. Additionally, MARC performs a biannual water quality survey that is funded through their water quality program membership that can serve as a measurement in the change of the public's attitudes and behaviors.

7.4 Modifications and Updates

The City of Liberty understands that this plan is intended to be a "living document" with measurable goals and objectives. However, it is difficult to speculate the resources that will be available from year to year. Therefore, the annual report will provide an opportunity to improve the specificity of the goals and objectives set forth in more general terms within this plan. Each year, the annual report will include details of the progress made under each minimum control measure as well as details of the proposed activities for the coming year towards each goal. The annual reports will be added as appendices to this plan and act as interim updates as such.

8. Implementation Schedule Summary (2013 – 2018)

Minimum Control Measure #1 – Public Outreach and Education

BMP	Task	Timeline	*Party
MARC Water Quality Program	City provides financial participation, as well as participation in program management.	Annual payment February (2014, 2015, 2016, 2017, 2018). Attend MARC Water Quality Committee meetings quarterly.	RE
Public Access Television	Broadcast information (slideshow) related to stormwater quality on City Public Access television channel.	Broadcast information at least 2x/year.	CE
Utility Bill Announcements	Produce stormwater quality inserts to be included in utility bills.	Include information at least 1x/year.	CE/UC
News Flash (E-Newsletter)	Publish stormwater quality related information in News Flashes.	Include information at least 2x/year.	CE/CD
Household Hazardous Waste Program Information	Publish information about biannual household hazardous waste collection events on website.	Completed - Published on website and updated accordingly.	CE/CD
Dog Waste Disposal Program Signage	Install dog waste disposal program signs.	Completed - Maintain signs and replace if damaged or removed.	CE/PM
Social Media	Post stormwater related information on City Facebook page and Twitter.	Post information to social media (ie. Facebook, Twitter, etc.) at least 2x/year.	CE/CD
Evaluation of MCM #1 Program	Evaluate success of MCM #1 by determining if goals and timelines have been met.	Complete evaluation at end of permit cycle (2018) and include progress in annual report.	CE/SC

Minimum Control Measure #2 – Public Involvement

BMP	Task	Timeline	*Party
Encourage Local Participation in MARC Water Quality Programs	Publish information and links on City Stormwater webpages to MARC Water Quality Programs	Completed - Maintain website links and update information as necessary.	RE
Invite Input through Existing Meetings (w/ Public Notice)	Public comments related to stormwater quality may be heard during public hearings at City Council and Planning & Zoning meetings.	All City Council Meetings (2x per month) and P&Z Hearings (1x per month) – Provide annual summary of input received.	CE/CC/PZ

Invite Input through “Let Us Know” Link	Create “Let Us Know” link on the homepage of the City of Liberty website where residents can easily provide stormwater quality input online.	Completed - Provide annual summary of input received.	CE/WM
Community Group Activities	Information on storm drain marking and other volunteer opportunities are available on the City of Liberty stormwater quality webpage.	Annually (2013-2018) host/coordinate 2 volunteer activities, such as storm drain marking, stream cleanup, etc. Provide annual summary of volunteer activities completed.	CE/VC
Information From Public	The Public is invited to provide input or additional information on stormwater quality related issues.	Provide annual summary of input and/or information received from the Public.	CE
MARC Public Attitude Survey	MARC distributes, collects, and analyzes a stormwater quality related Public Attitude Survey in the Kansas City Metropolitan area.	Biannually, review findings of water quality survey conducted by MARC.	RE/CE
Evaluation of MCM #2 Program	Evaluate success of MCM #2 by determining if goals and timelines have been met.	Complete evaluation at end of permit cycle (2018) and include progress in annual report.	CE/SC

Minimum Control Measure #3 – Illicit Discharge Detection and Elimination

BMP	Task	Timeline	*Party
Storm Sewer Map	Create, update, and maintain a map of the Liberty storm sewer system.	Update as new construction occurs or when discrepancies are discovered.	RE/GIS
IDDE Ordinance	Adopt an IDDE Ordinance.	Completed – Review at end of permit cycle to determine if updates or revisions are needed.	CE/SC
Priority Areas Identified	Liberty based businesses prioritized according to potential stormwater quality impact (low, minimal, medium, high).	Update priority areas as necessary due to new construction, changes in use, abandonment, etc.	CE/RE
Dry Weather Field Screening	Inspect Liberty major outfalls annually via dry weather field screening inspections (written inspection forms).	Conduct dry weather field screening inspections annually.	EI
Procedures for Detecting and Tracing Illicit Discharges	Implement procedures for detecting and tracing illicit discharges.	Completed – Review procedures at end of permit cycle, update/modify if necessary. Inspect 20% of inlets each year for IDDE and cleaning requirements.	CE/SC

Enforcement Response Plan	Implement enforcement response plan.	Completed – Review response plan at end of permit cycle, update/modify if necessary.	CE/SC
Public Education on IDDE	Publish information on the City of Liberty website related to illicit discharge detection and reporting.	Completed - Review and update/modify information if necessary.	CE
Investigate Cross-Connection with Sanitary Sewers (CCTV)	Inspect sanitary sewers (CCTV) to investigate if any cross-connections with storm sewers.	Report on footage inspected and discovered connections annually (2013-2018).	CE/WC
HHW Program	Host Household Hazardous Waste collection events twice per year and provide HHW related information on the City website.	HHW collection events conducted in spring and fall. Maintain and update HHW information on website as necessary.	CE
Storm Drain Stamping and Marking	Organize volunteer storm drain marking events. Update the City storm sewer system map with new and existing drains that have been marked.	Report annually the number of storm drains constructed with stamp in concrete or existing inlets marked by volunteers.	CE/RE/GIS
IDDE Information from Public	The Public is invited to provide input or additional information on IDDE related issues.	Provide annual summary of input and/or information received from the Public.	CE
Addressing Non-Stormwater Flows	Review the need (if any) to address these flows.	Review need (or lack thereof) to address these flows at the end of the permit cycle.	CE/SC
Addressing Incidental Non-Stormwater Flows	Review the need to address these flows.	Review need to address these flows at the end of the permit cycle.	CE/SC
Commercial/Industrial Facilities Inventory and Inspections	Review the need to address these flows.	Review need for inspections at the end of the permit cycle	CE
Evaluation of MCM #3 Program	Evaluate success of MCM #3 by determining if goals and timelines have been met.	Complete evaluation at end of permit cycle (2018) and include progress in annual report.	CE/SC

Minimum Control Measure #4 – Construction Site Runoff Control

BMP	Task	Timeline	*Party
Construction Site Runoff Control Ordinance	Adopt construction site runoff control ordinance	Completed – Review at the end of the permit cycle.	CE/RE
Construction Site Waste Ordinance	Adopt site waste ordinance	Completed – Review at the end of the permit cycle.	CE/RE
Pre-Construction Plan Review	Review development plans for compliance with City construction site runoff requirements.	Summarize number of plans reviewed annually.	RE

Public Education on Construction Site Runoff Control	Publish information on the City of Liberty website related to construction site runoff control.	Completed – Review and modify information if necessary.	CE
Public Input on Construction Projects	Facilitate Public input on construction projects via public hearings at City Council and P&Z meetings, or contacting City staff.	Provide annual summary of input and/or information received from the Public.	CE/CC/PZ
Maintain Design Criteria and Standard Details	Review and update design criteria and standard details as necessary and compare with new metro area criteria and standard changes.	Review design criteria and standard details at the end of the permit cycle, or as necessary with metro area changes.	CE/RE
Sample ESC Plans	Adopt City of Liberty Erosion and Sedimentation Control Manual.	Completed – Document assistance given to contractors annually. Review ESC manual at the end of the permit cycle and update if necessary.	CE/BI
Construction Site Inspections	Inspect construction sites and verify Contractors are in compliance.	Inactive sites inspected once per month and active sites inspected once per week. Summarize number of inspections completed annually.	EI/BI
Ensure Compliance - ERP	Apply enforcement actions to those out of compliance.	Summarize number of enforcement actions taken and results of these actions annually.	CE/EI/BI
Evaluation of MCM #4 Program	Evaluate success of MCM #4 by determining if goals and timelines have been met.	Complete evaluation at end of permit cycle (2018) and include progress in annual report.	CE/SC

Minimum Control Measure #5 – Post-Construction Runoff Control

BMP	Task	Timeline	*Party
Ordinance/Design Guidance – Detention Requirements	Review all proposed development applications for conformance with applicable ordinances.	Annual Summary of Developments Reviewed that Utilized Detention BMPs Review at the end of the permit cycle	CE/RE
Ordinance/Design Guidance – Stream Buffers	Review all proposed development applications for conformance with applicable ordinances.	Annual Summary of Developments Reviewed that Utilized Stream Buffers Review at the end of the permit cycle	CE/RE

Ordinance/Design Guidance – Open Space	Review all proposed development applications for conformance with applicable ordinances.	Annual Summary of Developments Reviewed that Protected/Increased Open Space Review at the end of the permit cycle	CE/RE
Ordinance/Design Guidance – Wetland Protection	Review all proposed development applications for conformance with applicable ordinances.	Annual Summary of Developments Reviewed that Protected Wetlands Review at the end of the permit cycle	CE/RE
Ordinance/Design Guidance – Conservation Subdivision	Review all proposed development applications for conformance with applicable ordinances.	Annual Summary of Developments Reviewed that Utilized Conservation Subdivision Ordinance Review at the end of the permit cycle	CE/RE
Stormwater Master Plan	Evaluate and update City’s Stormwater Master Plan to reflect permit water quality goals.	Review during year 3 (2015) and implement appropriate revisions as necessary.	CE
City Comprehensive Plan	Evaluate and update City’s Comprehensive Plan to reflect permit water quality goals.	Review during year 2 (2014) or during plan update.	CE/PL
Unified Development and Stormwater Ordinances	Review and modify ordinances to meet permit requirements as required.	Review Ordinances in year one (2013) – to meet permit requirements. Modify Ordinance to meet all permit requirements in year one (2013).	CE/RE/SC
Ensure Ongoing Effectiveness of Long-Term BMPs – O&M Ordinance	Facilitate requirements for O&M Ordinance pertaining to Long-Term BMPs	Review ordinance in year 3 (2015) for effectiveness.	CE/SC
Ensure Ongoing Effectiveness of Long-Term BMPs – Inspections	Continue inspections of long-term BMPs Notify property owners of required corrective actions	Annual (2013-2018) - summary of inspections completed. Annual (2013-2018) – summary of notifications or required corrective actions.	CE/EI
Evaluation of MCM #5 Program	Evaluate success of MCM #5 by determining if goals and timelines have been met.	Complete evaluation at end of permit cycle (2018) and include progress in annual report.	CE/SC

Minimum Control Measure #6 – Good Housekeeping in Municipal Operations

BMP	Task	Timeline	*Party
List of Municipal Operations	Review Municipal Operations list for pertinent changes or modifications.	Review annually (2013-2018) Municipal Operations list to capture and report any changes or modifications.	CE/SC
MS4 Maintenance Operations	Inspect (20%) and clean (as required) storm sewer piping and inlets within the City's storm system.	Annually (2013-2018) – inspect (20%/year) and provide summary of catch basins and pipes inspected and cleaned.	CE/SM
Streets/Parking Pollution Control	Sweep/Clean streets and municipal parking lots.	Sweep all municipal streets once per year. Sweep arterial streets once per month. Municipal lots swept twice per year and after community events. Provide annual (2013-2018) summary of sweeping/cleaning.	CE/SM
Storage/Maintenance Facility/Salt & Sand Storage Pollution Control	Maintain and inspect municipal storage and maintenance facility according to written SOPs.	Provide annual summary of inspections of storage and maintenance facilities. Review and update SOPs in year 2 (2014) of permit.	CE/SM/PM
Solid Waste Control	Utilization and review of written solid waste control SOPs.	Review and update SOPs once in permit cycle – year 4 (2016).	CE/SM/PM
Fueling Facilities	Utilization and review of written fueling related SOPs.	Review and update SOPs once in permit cycle – year 4 (2016).	CE/SM/PM
RCRA/CERCLA	Utilization and review of written RCRA/CERCLA related SOPs.	Review and update SOPs once in permit cycle – year 4 (2016).	CE/SM/PM
Paints/Solvents/Petroleum Waste Products	Utilization and review of written Paints/Solvents/Petroleum Waste Product related SOPs.	Review and update SOPs once in permit cycle – year 4 (2016).	CE/SM/PM
Disposal of Waste Removed from MS4	Utilization and review of written Waste Disposal related SOPs.	Review and update SOPs once in permit cycle – year 4 (2016).	CE/SM
Review of Flood Control Projects	Review Flood Control projects (existing or proposed) and Incorporate water quality objectives.	Provide annual (2013-2018) summary of any flood control projects incorporating water quality objectives.	CE/RE

Employee Training	Review training materials and provide annual training program for municipal employees.	Provide annual (2013-2018) summary of the type of training provided and the number of employees trained. Year 1 (2013) - MCM6 Parks and Street Maintenance. Year 2 (2014) – MCM4 Building and Project Inspectors Year 3 (2015) – MCM3 Parks, Utility and Street Maintenance. Year 4 and 5 (2015, 2016) – MCM6 Parks and Street Maintenance.	CE/SM/PM
Evaluation of MCM #6 Program	Evaluate success of MCM #6 by determining if goals and timelines have been met.	Complete evaluation at end of permit cycle (2018) and include progress in annual report.	CE/SC

*** Responsible Parties:**

RE	Review Engineer	VC	Volunteer Clearinghouse
CE	City Engineer	WM	Web Master
UC	Utility Clerk	GIS	GIS Technician
CD	Communications Director	EI	Engineering Inspector
SC	Stormwater Consultant	WC	Wastewater Collections Supervisor
PM	Parks Maintenance Supervisor	BI	Building Inspector
CC	City Council	SM	Street Maintenance Supervisor
PZ	Planning & Zoning Board	PL	Planning Staff