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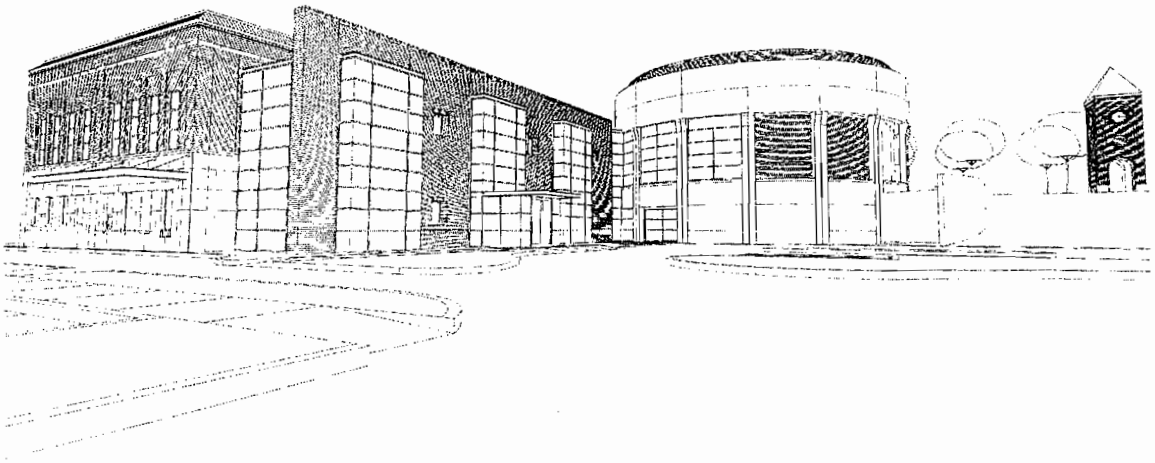
WATER PROTECTION PROGRAM

STORM WATER MANAGEMENT PLAN



CITY OF FULTON, MISSOURI

Prepared by: Engineering Department
September 19, 2007

STORM WATER MANAGEMENT PROGRAM

City of Fulton, Missouri

Table of Contents

Definitions 1

Objective 2

Permit Overview 2

Current State of Compliance 2

Storm Water Management Program Overview 2

MCM 1 - Public Education and Outreach on Storm Water Impacts .. 3

MCM 2 - Public Involvement/Participation 9

MCM 3 - Illicit Discharge Detection and Elimination 10

MCM 4 - Construction Site Storm Water Runoff Control 15

MCM 5 - Post-Construction Storm Water Management in New Development and Redevelopment 20

MCM 6 - Pollution Prevention/Good Housekeeping for municipal operations 23

Appendix A (Program Summary Tables)..... 27

Appendix B (Existing Applicable Ordinances) 33

Definitions

Best Management Practices (BMP's) - Schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to storm water, receiving waters, or storm water conveyance systems. BMP's also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Municipal Separate Storm Sewer - A conveyance or system of conveyances including roads and highways with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, paved or unpaved channels or storm drains designated and utilized for routing of storm water.

MS4 - An acronym for municipal separate storm sewer system.

Regulated MS4 - A MS4 which serves a population of one thousand (1,000) or more within an urbanized area, or a MS4 which serves a population of ten thousand (10,000) or more elsewhere in the state.

Small Municipal Separate Storm Sewer System - Owned or operated by the United States, a state, city, town, borough, county, parish, district, association or other public body having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or a designated and approved management agency under section 208 of the Clean Water Act that discharges to water of the United States.

Illicit Discharge - 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 fire fighting activities.

Objective

The goal of the City of Fulton's storm water management program is to comply with the six minimum control measures outlined in the Missouri State Department of Natural Resources Operating Permit for regulated small municipal separate storm sewer systems (MS4) and reduce the discharge of pollutants from the city's storm sewer system to the maximum extent practicable.

Permit Overview

The Missouri State Department of Natural Resources Operating Permit requires the following six minimum control measures (MCM) to be met:

1. Public education and outreach on storm water impacts
2. Public involvement/participation
3. Illicit discharge detection and elimination
4. Construction site storm water runoff control
5. Post-construction storm water management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

Current State of Compliance

The city does have existing city codes that pertain to storm water runoff and management, solid waste disposal, collection, and storage, prohibited discharges to public sewers, and floodplain development. These codes are located respectively in the environment, solid waste, utilities, and flood ordinances located in appendix B.

Storm Water Management Program Overview

The storm water management program proposes a five year plan to reduce storm water pollution throughout the City of Fulton. This program is set up to be flexible enough for unforeseen future challenges. The program addresses each of the six minimum control measures (MCM), which are listed in the permit overview. Each minimum control measure (MCM) uses best management practices and measurable goals to improve storm water quality while gauging the effectiveness of the program. The city's plan for addressing each MCM is outlined in a detailed manner following this overview but is briefly discussed in the following paragraphs. ?

The city will comply with the public education and outreach MCM by making and distributing informative articles to its citizens and target audiences promoting behavioral changes which will improve storm water quality along with heightening the public's awareness on storm water issues. These articles will reference the cities website which will house further educational material along with a city contact number for the public to call if a storm water quality problem in the city is perceived to exist.

MCM 2 – Public Involvement/participation will be addressed through discussions with the city council encouraging ideas and practices for public involvement while implementing a stream restoration community service program.

In order to comply with the illicit discharge detection and elimination MCM, the city will acquire new aerial photography and GPS equipment which will allow the city to update the existing storm sewer system mapping and position future improvements to the exiting system. The city will also prepare and enact an ordinance to improve the ability to regulate, monitor, inspect, and test pollutants discharged to the MS4 as well as penalize sources of illicit discharge. Along with this ordinance, a yearly on-site inspection and detection plan of prioritized areas of the city will be implemented.

The Construction Site Storm Water Runoff Control MCM will be met and enforced through an adopted new city land disturbance ordinance or an amended current storm water runoff and management ordinance (Appendix B). This adopted or amended ordinance will require storm water management plans to be submitted to the engineering department for review, comment, and approval before any work can be done. Along with this ordinance, site inspections will be administered on a regular basis by the appointed representative of the engineering department.

MCM 5 – Post-construction storm water management in new development and redevelopment will continue to be implemented under an existing ordinance which controls runoff release rates from all developments along with restricting developments in the flood plain (Appendix B). Proper amendments to this ordinance or a new ordinance will incorporate any necessary new BMP's, adequate long-term operation and maintenance of BMP's, and authorize proper enforcement.

The city will comply with MCM 6 – pollution prevention/good housekeeping for municipal operations by developing an operation and maintenance program for its public streets, vehicles, facilities, grounds, and airport which will include proper training for public employees to aid in the proper working procedures, handling of hazardous materials, and maintenance of public facilities , grounds, and equipment. Parks?

MCM 1 - Public Education and Outreach on Storm Water Impacts

(See Summary Table in Appendix A)

How we plan to inform individuals and households about the steps they can take to reduce storm water pollution

YEAR 1

Best Management Practices

- Create a link on the City website to either the EPA or MODNR website
- Insert a quiz on storm water issues on the city website.

Measurable Goals

- Document website link. (review every 6 months)
- Document storm water quiz. → gauging use? polling citizens?

Research and Planning

- Research existing printed materials and communication techniques for future promotion of improving storm water quality.

YEAR 2

Best Management Practices

- Make and distribute printed materials on improving storm water quality throughout the city. Reference the cities website and storm water links in all distributed educational methods.
- Create a second link on the City website to inform citizens on ways to become involved in improving storm water quality.
- Evaluate storm water quiz on city website and modify for future use.

Measurable Goals

- Document all sources of information used in the development of public educational material(s). (6 articles circulated to every mailbox in the city)
- Document website link, record any modifications, and record number of hits received annually.
- Record any modifications made to quiz and record amount of quizzes taken annually. (Review every 6 months)

Research and Planning

- Research existing printed materials and communication techniques for future promotion of improving storm water quality.

goal

what messages? see page 1

show improvement?

gauging behavior changes?

YEAR 3

Best Management Practices

- Make and distribute printed materials on improving storm water quality throughout the city. Reference the cities website and storm water links in all distributed educational methods.
- Enhance the cities website to better inform citizens on ways to become involved in improving storm water quality.
- Evaluate storm water quiz on city website and modify for future use.

Measurable Goals

- Document all sources of information used in the development of public educational material(s). (6 articles circulated to every mailbox in the city)
- Document website link, record any modifications, and record number of hits received annually.
- Record any modifications made to quiz and record amount of quizzes taken annually. (Review every 6 months)

Research and Planning

- Research existing printed materials and communication techniques for further promotion of improving storm water quality.
- Discuss further ideas for public education with the city counsel.

YEAR 4-5

Best Management Practices

- Make and distribute printed materials on improving storm water quality throughout the city. Reference the cities website and storm water links in all distributed educational methods.
- Continue to enhance the cities website to better inform citizens on ways to become involved in improving storm water quality.
- Evaluate storm water quiz on city website and modify for future use.
- Approve and adopt ideas for public education made by the city counsel.

Measurable Goals

- Document all sources of information used in the development of public educational material(s). (6 articles circulated to every mailbox in the city)
- Document website link, record any modifications, and record number of hits received annually.
- Record any modifications made to quiz and record amount of quizzes taken annually. (Review every 6 months)
- Document and adopt approved ideas contributed by the city council

Research and Planning

- Research existing printed materials and communication techniques for further promotion of improving storm water quality.
- Discuss further ideas for public education with the city counsel.

How we plan to inform individuals and groups on how to become involved in the storm water program (with activities such as local stream restoration activities)

YEAR 1

Research and Planning

- Explore techniques to promote individual household behavioral changes which aid in decreasing neighborhood storm water pollution.
- Develop a stream restoration community service program.

How will you involve them in SWMP development + implement

YEAR 2

Best Management Practices

- Implement the stream restoration community service program.
- Promote household behavioral changes which aid in decreasing neighborhood storm water pollution in printed material distributed to residents or target audiences or strategically located for residents or target audiences.

Measurable Goal

- Document all sources of information used in the development of public educational material(s). (6 articles circulated to every mailbox in the city)

duplicative of #1

YEAR 3

Best Management Practices

- Promote household behavioral changes which aid in decreasing neighborhood storm water pollution in printed material distributed to residents or target audiences or strategically located for residents or target audiences.
- Modify existing stream restoration community service program to enhance future involvement.

How will you use this to involve them in swamp proper pollut

Measurable Goal

- Document all sources of information used in the development of public educational material(s). (6 articles circulated to every mailbox in the city)
- Record successes or failures of stream restoration community service program. (2 clean ups) is this a goal in year 1 & 2?

Research and Planning

- Discuss further ideas for public involvement and participation with the city counsel.

YEAR 4-5

Best Management Practices

- Promote household behavioral changes which aid in decreasing neighborhood storm water pollution in printed material distributed to residents or target audiences or strategically located for residents or target audiences.
- Modify existing stream restoration community service program to enhance future involvement.
- Approve and adopt ideas for public involvement and participation made by the city counsel.

again same as 1 month

Measurable Goal

- Document all sources of information used in the development of public educational material(s). (6 articles circulated to every mailbox in the city)
- Record successes or failures of stream restoration community service program. (2 clean ups)
- Document and adopt approved ideas contributed by the city council

Research and Planning

- Discuss further ideas for public involvement and participation with the city counsel.

Identification of target audiences for our education program and explanation of why those target audiences were selected

YEAR 1

Research and Planning

- Identify groups, business, or individuals who handle potential pollutants that may impact the community's storm water quality.
- Identity existing interest groups in the city that may be interested in improving the city's storm water quality.

YEAR 2

Best Management Practices

- Communicate and educate identified groups, business, or individuals on the potential impact of pollutants on storm water and practices which can aid in improving storm water quality.
- Contact existing interest groups in the city about improving the city's storm water and involve them with the city's plan.

Measurable Goal

- Document all target audiences contacted, why each audience was contacted, and the educational tool(s) used to promote and/or involve each audience in improving storm water quality. (1 mailing)
- Record interest groups contacted and any involvement taken

Year 3-5

Best Management Practices

- Communicate and educate identified groups, business, or individuals on the potential impact of pollutants on storm water and practices which can aid in improving storm water quality.
- Contact existing interest groups in the city about improving the city's storm water and involve them with the city's plan.

Measurable Goal

- Document all target audiences contacted, why each audience was contacted, and the educational tool(s) used to promote and/or involve each audience in improving storm water quality. (1 mailing per year)
- Record interest groups contacted and any involvement taken

Research and Planning

- Discuss further target audiences with the city counsel.

The target pollutant sources our program is designed to address

YEAR 1

Research and Planning

- Research pollutant sources that have a major impact on storm water quality

Should start w/ some known

YEAR 2

Best Management Practices

- Target and investigate areas of the city that have the greatest potential to become pollutant sources.

Measurable Goal

- Document each target area's findings. (2 target areas investigated)

Research and Planning

- Research educational material that will aid these target areas in improving their storm water quality.

target all areas w/in 5 yea
— overall assess

YEAR 3-4

Best Management Practices

- Make and distribute printed materials and perform communication techniques on improving storm water quality in these specific target areas.

Measurable Goal

- Document all sources of information used in the development of public educational material(s). (1 watershed specific article distributed to each target area)

Research and Planning

- Research additional educational material that will aid these target areas in improving their storm water quality.

YEAR 5

Best Management Practices

- Make and distribute printed materials and perform communication techniques on improving storm water quality in these specific target areas.

Measurable Goal

- Document all sources of information used in the development of public educational material(s). (1 watershed specific article distributed to each target area)
- Reevaluate target areas to access the level of improvement obtained by the program and compare to previous results.

Identification of person(s) responsible for overall management and implementation of our storm water public education and outreach program and the person responsible for each of the BMPs identified for our program.

YEARS 1-5

- The City Engineer or duly appointed representative is responsible for the management and implementation of the City of Fulton's storm water public education and outreach program. Others will be involved in the actual execution of the various activities and programs but most of the activities will be implemented by and executed through the Engineering Department.

How will we evaluate the success of this minimum measure and how the measurable goals for each of the BMPs were selected?

YEARS 1-5

- The success of this minimum measure will be gauged by the measurable goals listed for each of the public education and outreach requirements. The measurable goals were selected after researching the effectiveness of various best management practices.

Include annual reporting as measurable goal

MCM 2 - Public Involvement/Participation

(See Summary Table in Appendix A)

How we have involved the public in the development and submittal of the application and storm water management program.

YEARS 1

Best Management Practices

- Submission of the storm water management program to the city council for open discussion, suggestions, and approval.

Measurable Goal

- Record, approve, and incorporate ideas and suggestions in the storm water management program.

Not just city council need all public notified & invited to participate

How we plan to actively involve the public in the development and implementation of our program.

YEARS 1-5

Best Management Practices

- Discussions with the city council encouraging ideas and practices for public involvement
- The stream restoration community service program

Measurable Goals

- Ideas and suggestions will be recorded, approved, and incorporated in the storm water management program.
- Record successes or failures of stream restoration community service program. (2 clean ups per year)

The target audiences for our public involvement Program

- Local Government Officials
- Citizens
- Community Service Organizations
- Environment friendly groups
- Business Leaders

The types of public involvement activities included in our program

YEARS 1-5

Best Management Practices

- Discussions with the city council encouraging ideas and practices for public involvement
- The stream restoration community service program

Measurable Goals

- Ideas and suggestions will be recorded, approved, and incorporated in the storm water management program.
- Record successes or failures of stream restoration community service program. (2 clean ups per year)

Identification of person(s) responsible for overall management and implementation of our storm water public education and outreach program and the person responsible for each of the BMPs identified for our program.

YEARS 1-5

- The City Engineer or duly appointed representative is responsible for the management and implementation of the City of Fulton's storm water public involvement/participation program. Others will be involved in the actual execution of the various activities and programs but most of the activities will be implemented by and executed through the Engineering Department.

How will we evaluate the success of this minimum measure and how the measurable goals for each of the BMPs were selected?

YEARS 1-5

- The success of this minimum measure will be gauged by the measurable goals listed for each of the public involvement/participation requirements. The measurable goals were selected after researching the effectiveness of various best management practices.

MCM 3 - Illicit Discharge Detection and Elimination

(See Summary Table in Appendix A)

Develop or submit a storm sewer system map.

YEARS 1-5

Best Management Practices

- A map showing the location of all identified outlets is attached to this permit. The cities current system for mapping is digital topographic maps based off of aerial photography completed in 1994. The City of Fulton is currently in the process of acquiring new aerial photography and GPS equipment. The new aerial photography combined with the existing topographic mapping system and new GPS equipment will allow the city to update the existing storm sewer system and position future improvements to the existing storm sewer system using data points based off of existing control points.

Measurable Goals

- Digital mapping of all existing, new, and improved storm sewer outfalls.

Effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into our storm sewer system and implement appropriate enforcement procedures and actions.

YEARS 1-5

Best Management Practices

- Prepare and enact an ordinance to improve the ability to regulate pollutants discharged to the MS4 by any user, to prohibit illicit connections and discharges to the MS4, and to establish the legal authority to carry out all inspections, surveillance, testing and monitoring necessary to insure compliance with this ordinance.

Measurable Goals

- Documentation of ordinance.

Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the city's system.

YEARS 1-5

Best Management Practices

- Implement an on-site visual inspection plan to detect and address non-storm water discharges.
- The public will be encouraged (through the public education and outreach minimum control measure) to report any non-storm water discharges to the city's engineering department for investigation.
- Identify storm water testing facilities which can analyze storm water for any illicit discharges.

Measurable Goals

- Record on-site visual inspections. (3 priority areas inspected per year)
- Document printed material with engineering department's contact information for public involvement in detection of illicit discharges.
- Document identified facilities which can analyze storm water for any illicit discharges.

Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

- See the public education and outreach minimum control measure.

Non-significant contributors of non-storm water discharges or flows of pollutants to the City of Fulton's regulated small MS4.

- The following categories of non-storm water discharges or flows have not been identified as significant contributors of pollutants to Fulton's MS4.
    - Landscape irrigation or rising groundwater
    - Uncontaminated groundwater infiltration (as defined in 10 CSR 20-6.200)
    - Uncontaminated pumped groundwater
    - Discharges from potable water sources including waterline flushing and fire hydrant testing, foundation drains and air conditioning condensation.
    - Springs
    - Water from crawl space pumps
    - Footing drains
    - Lawn watering
    - Flows from riparian habitats and wetlands
    - Street wash water

  Discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water runoff and will only be addressed where they are considered significant sources of pollutants to waters of the state.

Occasional/incidental non-storm water discharges that will not be addressed as illicit discharges

- The City of Fulton's program does not include a list of other similar occasional or incidental non-storm water discharges such as non-commercial or charity car washes. These will not be addressed as illicit discharges since they are not significant sources of pollutants to the MS4. However, if these occasional or incidental discharges are identified in the future as problematic, steps will be taken to address the issue(s).

The decision process for the development of the storm water illicit discharge detection and elimination program

- Fulton's proposed illicit discharge detection and elimination program developed from research of various effective best management practices (BMP's), evaluation of the current illicit discharge detection and elimination needs along side the city's current economic state, and the need for future growth and development.

How Fulton will develop a storm sewer map showing the location of all outlets and the names and location of all receiving waters.

- See - Develop or submit a storm sewer system map under this minimum control measure

The mechanism used to effectively prohibit illicit discharges into the MS4 and why Fulton chose that mechanism.

YEARS 1-5

Best Management Practices

- Presently, the city of Fulton's Code of Ordinances does not explicitly address illicit discharges in to the storm sewer system. An ordinance will be proposed to allow for proper inspection and testing, and to establish enforcement procedures. The ordinance mechanism was selected because ordinances are commonly used by the city of Fulton as well as other municipalities to establish laws and set forth the various regulatory procedures and penalties.

Measurable Goals

- Documentation of ordinance.

Fulton's plan to ensure through appropriate enforcement procedures and actions that the city's illicit discharge ordinance is implemented

YEARS 1-5

Best Management Practices

- Prescribe (through ordinance) fines and penalties that will appropriately discourage any source of illicit discharge.
- Random on-site inspections.

Measurable Goals

- All fines, penalties, and on-site inspections will be recorded.

Fulton's plan to detect, locate, and address illicit discharges to the City's system

YEARS 1-5

Best Management Practices

- Identify from storm sewer maps and current aerial photography priority buildings and/or areas which will be inspected during each year of the permit.
- Respond to citizens' comments and/or complaints.
- Perform on-site visual inspections.
- Perform, if deemed necessary, lab testing.
- Trace illicit discharge to its source. Administer appropriate fines, penalties, and remedial actions when facilities are found to be failing.

- It is believed that on-site sewage disposal systems are a very minor source of pollution to the storm sewer system, but Fulton fully intends to continue to expand and improve the city's sewer system by incorporating areas of the city not currently hooked up to the city's sanitary sewer system.

Measurable Goals

- Document explanation of chosen priority areas/buildings.
- Record on-site visual inspections. (3 priority areas inspected per year)
- Record lab test results.
- Record tracing techniques.
- Document all fines, penalties, and remedial actions.
- Document yearly sanitary sewer improvement projects.

Procedures for tracing the source of an illicit discharge

YEARS 1-5

Best Management Practices

- The city of Fulton will employ various techniques in order to trace and detect the source of illicit discharge. These include dye testing, visual inspection and TV monitoring.

Measurable Goals

- Record any traced or detected source of illicit discharge and procedure of tracing and detection used.

Procedures for removing the source of an illicit discharge

YEARS 1-5

Best Management Practices

- Illicit discharges will be disconnected by the authority of the proposed ordinance.

Measurable Goals

- Record any disconnections made due to illicit discharge detection.

Procedures for program evaluation and assessment

- The program will be evaluated based on achieving those measurable goals identified for each best management practice. Additionally, although not a listed measurable goal, the number of illicit connections identified and eliminated may also be used to evaluate the program.

How Fulton plans to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

- See the public education and outreach and public involvement/participation minimum control measures

Identification of person(s) responsible for overall management and implementation of Fulton's storm water illicit discharge detection and elimination program and the person responsible for each of the BMPs identified for our program.

YEARS 1-5

- The City Engineer or duly appointed representative is responsible for the management and implementation of the City of Fulton's storm water illicit discharge detection and elimination program. Others will be involved in the actual execution of the various activities and programs but most of the activities will be implemented by and executed through the Engineering Department.

How will we evaluate the success of this minimum measure and how the measurable goals for each of the BMPs were selected?

YEARS 1-5

- The success of this minimum measure will be gauged by the measurable goals listed for each of the storm water illicit discharge detection and elimination program requirements. The measurable goals were selected after researching the effectiveness of various best management practices.

MCM 4 - Construction Site Storm Water Runoff Control

(See Summary Table in Appendix A)

An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance.

YEAR 1

Research and Planning

- Research ordinances or resolutions for erosion and sediment controls and methods in order to either adopt a new city land disturbance ordinance or amend the city's current storm water runoff and management ordinance to comply with required erosion and sediment controls and sanctions.

YEAR 2

Best Management Practices

- Develop and enact either an adopted new city land disturbance ordinance or an amended current storm water runoff and management ordinance (Appendix B) to comply with required erosion and sediment controls and sanctions.

Measurable Goals

- Document development process and enactment date of new or amended ordinance.

Requirements for construction site operators to implement appropriate erosion and sediment control best management practices

YEAR 1-5

Best Management Practices

- Construction site operators will be required (by ordinance) to obtain an approved storm water management plan and implement all erosion and sediment control BMP's as shown on this plan before any clearing, except that necessary to establish sediment and erosion control devices, shall begin.

Measurable Goals

- An inspector for the city will document that all BMP's shown on the approved storm water management plan have been established before start of construction.

Requirements for construction site operators to control waste such as discarded building materials at the construction site that may cause adverse impacts to water quality.

- Construction site operators will be required to adhere to the proposed illicit discharge ordinance for all construction activity.

Procedures for site plan review which incorporate consideration of potential water quality impacts.

YEAR 1-5

Best Management Practices

- All construction sites greater than one acre will be required, by ordinance, to submit construction plans, known as storm water management plans, to the city of Fulton's engineering department for review, comment, and approval prior to commencing any grading or land disturbance activities. Work will be allowed to begin once the plans are approved by the engineering department and a construction permit is issued by the planning and codes department.

Measurable Goals

- The engineering department will document requested revisions to the proposed storm water management plan and will keep a copy of the final approved storm water management plan.

Procedures for receipt and consideration of information submitted by the public

YEAR 1-5

Best Management Practices

- The public, through distributed educational materials, will be made aware of the importance of construction site storm water runoff control and will be encouraged to contact the city's engineering department (either by phone or in person) when a violation is perceived to exist.

Measurable Goals

- The engineering department will document any complaints made by the public and actions, if any, taken.

Procedures for site inspection and enforcement of control measures

YEAR 1-5

Best Management Practices

- Construction sites will be inspected by the engineering department on a regular basis to insure compliance with the approved land disturbance plan. The construction site operator will be notified if any area on the construction site does not comply with the storm water management plan and necessary actions that need to be taken to ensure proper storm water runoff quality.

Measurable Goals

- Construction site inspections will be documented.

The mechanism the City of Fulton will use to require erosion and sediment controls at construction sites and why they chose that mechanism.

YEAR 1-5

Best Management Practices

- The mechanism the City of Fulton will use is either an adopted new city land disturbance ordinance or amended current storm water runoff and management ordinance (Appendix B) to comply with required erosion and sediment controls and sanctions. The ordinance mechanism was selected because ordinances are commonly used by the city of Fulton as well as other municipalities to establish laws and set forth the various regulatory procedures and penalties.

Measurable Goals

- Any amended or newly developed land disturbance ordinance will be properly documented and recorded.

Fulton's plan to ensure compliance with the erosion and sediment control regulatory mechanism, including the sanctions and enforcement mechanisms the city will use to ensure compliance.

YEAR 1-5

Best Management Practices

- The City of Fulton will include a notice of compliance with the approved storm water management plan in the bid document for all contractors to sign before any work shall be done. Construction site operators will then be required to implement appropriate erosion and sediment control BMP's as shown on the approved storm water management plan or (by ordinance) be subject to a stop work order applicable to all construction activity except that necessary for correction of the violation. For continued violation a public hearing on the matter shall be conducted by the city council and if the city council concludes that the issuance of additional correction notice will be futile, any bonds or cash deposits posted with the city shall be forfeited and used for completion of the storm water management plan as approved.

Measurable Goals

- All notices, requested corrective procedures, violations, enforcement mechanisms, and public hearings will be properly documented and recorded.

Fulton's requirements for construction site operators to implement appropriate erosion and sediment control BMPs and control waste at the construction sites that may cause adverse impacts to water quality.

- The sanctions and enforcement techniques outlined in both the illicit discharge ordinance and amended current storm water runoff and management ordinance (Appendix B) or new land disturbance ordinance will require the construction site operators to implement appropriate erosion and sediment control BMPs and control waste at the construction site.

Fulton's procedures for considering the potential water quality impacts of pre-construction site plans

YEAR 1-5

Best Management Practices

- The procedure for considering the potential water quality impacts prior to construction will be analyzing the existing conditions at the site which includes runoff water quality and receiving bodies of water.

Measurable Goals

- Pre-construction site plans will be recorded and each site will be visited before construction. Any pre-construction site assessments will be documented and recorded.

Fulton's procedures for receipt and consideration of information submitted by the public

YEAR 1-5

Best Management Practices

- Fulton will receive information submitted by the public through either formal complaints made by phone or in person. Fulton will consider information submitted by prioritizing the complaints by level of impact on water quality and acting in a timely manner in order to prevent any further damage to the environment.

Measurable Goals

- The engineering department will document any complaints made by the public and actions, if any, taken.

Fulton's procedures for site inspection and enforcement of control measures

YEAR 1-5

Best Management Practices

- Fulton will inspect construction sites on a weekly basis and after a major storm event has occurred. A follow up with the owner/operator will occur in the event that maintenance activities are needed. If the inspector concludes the site does not meet the storm water management plan or best management practices are not maintained, the owner/operator may be subject to the enforcement measures covered previously.

Measurable Goals

- Site inspections along with all notice of violations to the owner/operator of the storm water management plan will be documented and recorded.

Identification of person(s) responsible for overall management and implementation of Fulton's construction site storm water control program and the person responsible for each of the BMPs identified for our program.

- The City Engineer or duly appointed representative is responsible for the management and implementation of the City of Fulton's construction site storm water control program. Others will be involved in the actual execution of the various activities and programs but most of the activities will be implemented by and executed through the Engineering Department.

How will we evaluate the success of this minimum measure and how the measurable goals for each of the BMPs were selected?

- The success of this minimum measure will be gauged by the measurable goals listed for each of the Construction Site Storm Water Runoff Control program requirements. The measurable goals were selected after researching the effectiveness of various best management practices.

MCM 5 - Post-Construction Storm Water Management in New Development and Redevelopment

(See Summary Table in Appendix A)

Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the city of Fulton's community.

YEAR 1-5

Best Management Practices

- Fulton will continue to implement, under existing ordinances (Appendix B), the best management practices of controlling runoff release rates from all developments by not permitting it to exceed the predevelopment rate and restricting development in the flood plain.
- Fulton will adopt and implement researched structural and/or non-structural best management practices that will be appropriate for the cities community.

Measurable Goals

- Document and uphold existing ordinances restricting runoff release rates and flood plain development.
- Document and uphold adopted and implemented researched structural and/or non-structural BMPs that will be appropriate for the cities community.

Use 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.

YEAR 1-5

Best Management Practices

- Fulton will continue to implement, under an existing ordinance (Appendix B), the best management practice of controlling runoff release rates from all developments by not permitting it to exceed the predevelopment rate. Proper amendments to this ordinance or a new ordinance will incorporate any new control measures that are deemed necessary.

Measurable Goals

- Document and uphold existing ordinance restricting runoff release rates and any amendments to this ordinance or new ordinance.

Ensure adequate long-term operation and maintenance of BMPs

YEAR 1-5

Best Management Practices

- Fulton will implement annual inspections of selected privately maintained BMPs with necessary corrective action and enforcement pursued if needed. City maintained BMPs will be subject to annual inspection also.

Measurable Goals

- Two (2) privately maintained long-term BMPs will be inspected each year and the existing conditions and any necessary actions taken will be documented

Fulton's program to address storm water runoff from new development and redevelopment projects (including any specific priority areas for this program).

- The goal of Fulton's proposed program is to enact, enforce, and maintain a new development/redevelopment storm water runoff program. In order to enact this program, new or amended existing ordinances (Appendix B) will be developed to establish controlling requirements. Ordinances are commonly used effectively in Fulton to enact and enforce policies and programs. These ordinances will be enforced through plan review of all construction projects covering an area greater or equal to an acre. Inspections by the engineering department will help ensure maintenance of BMPs.

How Fulton's program will be specifically tailored for their local community, minimize water quality impacts, and attempt to maintain pre-development runoff conditions.

- The program will be specifically tailored to Fulton by allowing enough flexibility in the choice of BMPs to accommodate the wide variety of construction sites located with in the city. The program will also have to take into consideration the economic feasibility in administering and implementing each BMP while allowing for future growth and development.

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 buffer along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation.

- Fulton's proposed program will consider for inclusion into the post-construction storm water management program ordinance(s) the following:
  - Protection of environmentally sensitive areas (wetlands, riparian areas, steep slopes, etc.)
  - Stream bank buffer requirements
  - Increased restrictions on the use of on-site wastewater systems
  - Flexible design standards for infrastructure
  - Pervious medians

Policies or ordinances that encourage infill development in higher density urban areas and areas with existing storm sewer infrastructures

- Fulton is continuously encouraging redevelopment of unused or abandoned developed land within the city limits. This encouragement is presently done through city projects that redirect development to previously abandoned areas and facilities. Fulton will continue to look for ways to encourage infill development with the higher density areas of the city.

Education programs for developers and the public about project designs that minimize water quality impacts

- See the public education and outreach and public involvement/participation minimum control measures

Storage practices such as grassed swales, bioretention cells, sand filters and filter strips and infiltration practices such as infiltration basins and infiltration trenches.

- Fulton's program will encourage the use of storage practices and infiltration practices such as grassed swales, detention basins, infiltration basins, and infiltration trenches.

How Fulton will ensure the long-term operation and maintenance of our selected BMPs. Options to help ensure the future O&M responsibilities are clearly identified include an agreement between Fulton and another party such as the post-development landowners or regional authorities.

YEAR 1-5

Best Management Practices

- Fulton will implement annual inspections of selected privately maintained BMPs with necessary corrective actions addressed and enforcement pursued if needed. City maintained BMPs will be subject to annual inspection also.
- Fulton will incorporate, in an amended existing or new ordinance, responsibilities of operation and maintenance for post-development landowners in the upkeep of permanent BMPs.

Measurable Goals

- Two (2) privately maintained long-term BMPs will be inspected each year and conditions and any necessary actions taken will be documented
- Proper documentation of any ordinances or amendments to ordinance developed in regard to long-term operation and maintenance of permanent BMPs.

Identification of person(s) responsible for overall management and implementation of Fulton's post-construction storm water management program and the person responsible for each of the BMPs identified for our program.

- The City Engineer or duly appointed representative is responsible for the management and implementation of the City of Fulton's construction site storm water control program. Others will be involved in the actual execution of the various activities and programs but most of the activities will be implemented by and executed through the Engineering Department.

How will we evaluate the success of this minimum measure and how the measurable goals for each of the BMPs were selected?

- The success of this minimum measure will be gauged by the measurable goals listed for each of the post-construction storm water management in new development and redevelopment control program requirements. The measurable goals were selected after researching the effectiveness of various best management practices.

MCM 6 - Pollution Prevention/Good Housekeeping for Municipal Operations

(See Summary Table in Appendix A)

The city of Fulton will develop an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

YEAR 1-5

Best Management Practices

- Fulton will develop and implement an operation and maintenance program for its public streets, vehicles, facilities, grounds, and airport. Items that may be included in the operations and maintenance program may cover landscaping chemical usage, open space management (limiting maintenance operations near watercourses by leaving a buffer area), fleet maintenance (assessing if stored products are protected from the elements and spillage), street sweeping, outdoor storage, snow removal and street salting, municipal parking lot sweeping, erosion and sediment control, and disposal of construction debris. This operation and maintenance program will include proper training for public employees to aid in the proper working procedures, handling of hazardous/pollutant materials, and maintenance of public facilities, grounds, and equipment.

Measurable Goals

- Document all material used to research and develop the operation and maintenance program, all operations and maintenance procedures, and all training programs.

Using training materials that are available form EPA, State, or other organizations, Fulton shall develop 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.

YEAR 1-5

Best Management Practices

- In researching, developing, and implementing employee training programs, park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance training material will be incorporated into the training program.

Measurable Goals

- Document all material used for employee training programs.

The City of Fulton's operation and maintenance program to prevent or reduce pollutant runoff from Fulton's municipal operations. Fulton shall specifically list the municipal operations that are impacted by this operation and maintenance program. Fulton shall also include a list of industrial facilities Fulton owns or operates that are subject to EPA's Multi-Sector General Permit or individual NPDES permits for discharges of storm water associated with industrial activity that ultimately discharge to Fulton's MS4. Fulton shall include the permit number or a copy of the Industrial application form for each facility.

- Fulton's developed operation and maintenance program will impact street, transportation, maintenance, and ground facilities and municipal operations.

Any government employee training program that Fulton uses 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. Fulton shall describe any existing, available materials Futon plans to use. Fulton shall describe how this training program will be coordinated with the outreach programs developed for the public information minimum measures and the illicit discharge minimum measure.

- In developing training programs, Fulton will research and use previously developed training aids developed by the EPA, MDNR, Center for Watershed Protection, Storm Water Managers Research Center, and other storm water pollution reduction friendly entities. The material used will be tailored to the community of Futon and will be incorporated with the public education and outreach and illicit discharge detection and elimination minimum control measures in order to heighten awareness city wide. Inspectors for the city will be trained for pre and post construction inspection of best management practices and illicit discharge detection.

Maintenance activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to Fulton's regulated small MS4

- Maintenance activities, maintenance schedules, and long-term inspection procedures will be established in a manner that will promote a year round day to day improvement in reducing floatables and other pollutants to Fulton's storm sewer system.

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 Fulton operates.

- Controls for reducing or eliminating the discharge of pollutants may include, but are not limited to, sweeping of municipal parking lots and garages, street sweeping, review of the hazardous materials storage areas, an annual inspection of the salt storage building, and training of municipal employees in the areas of road salt application, fleet maintenance, street sweeping, and storm sewer maintenance.

Procedures for the proper disposal of waste removed from Fulton's MS4 and area of jurisdiction, including dredged material, accumulated sediments, floatables, and other debris.

- Fulton will implement procedures for the proper removal of accumulated sediments, floatables, dredge material, and other material. The city landfill will be utilized for all non-hazardous materials.

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 practices.

- All best management practices used for flood plain management projects will address improving water quality as well as reduction of peak discharge. The practices used for flood plain management will be EPA approved practices. All existing projects will be assessed through yearly inspections described under the illicit discharge detection and elimination minimum control measure.

Identification of the person(s) responsible for overall management and implementation of Fulton's pollution prevention/good house keeping program and, if different, the person responsible for each of the BMPs identified for this program.

- The City Engineer or duly appointed representative is responsible for the management and implementation of the City of Fulton's pollution prevention/good housekeeping for municipal operations program. Others will be involved in the actual execution of the various activities and programs but most of the activities will be implemented by and executed through the Engineering Department.

How Fulton will evaluate the success of this minimum measure, including how Fulton selected the measurable goals for each of the BMPs.

- The success of this minimum measure will be gauged by the measurable goals listed for each of the pollution prevention/good housekeeping for municipal operations requirements. The measurable goals were selected after researching the effectiveness of various best management practices.

APPENDIX A

PUBLIC EDUCATION AND OUTREACH

YEAR 1	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Create a link on city website concerning storm water pollution and prevention	Document link on website
Insert a storm water pollution quiz on city website	Document quiz
YEAR 2	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Make and distribute printed educational materials on improving storm water quality	Document material and sources of information. (6 articles circulated to every mailbox in the city every year)
Create a second link on city website concerning storm water pollution	Document website link and record number of hits received annually
Evaluate storm water quiz on city website and modify for future use	Record any modifications made to quiz and record amount of quizzes taken annually (biannual review)
Implement the stream restoration community service program	2 clean ups per service group
Strategically locate information promoting changes in behavior which will decrease storm water pollution	Document material and sources of information. (1 strategically located pamphlet)
Educate target groups on potential impact of pollutants on storm water and practices which can aid in improving storm water quality	1 pamphlet mailed
Contact and involve interest groups about improving the city's storm water	Record interest groups contacted and any involvement taken
Target and investigate areas of the city that have great potential to become pollutant sources	Document each target area's findings (2 on-site investigations)
YEAR 3	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Make and distribute printed educational materials on improving storm water quality. Reference city website and storm water links	Document material and sources of information. (6 articles circulated to every mailbox in the city every year)
Enhance city website	Record website modifications and number of hits received annually
Evaluate storm water quiz on city website and modify for future use	Record any modifications made to quiz and record amount of quizzes taken annually (biannual review)
Strategically locate information promoting changes in behavior which will decrease storm water pollution	Document material and sources of information. (1 strategically located pamphlet)
Modify existing stream restoration community service program to enhance future involvement	Record successes or failures of stream restoration community service program (2 clean ups per service group)
Educate target groups on potential impact of pollutants on storm water and practices which can aid in improving storm water quality	1 pamphlet mailed

Contact and involve interest groups about improving the city's storm water	Record interest groups contacted and any involvement taken
Educate target area businesses and citizens on improving storm water in their specific watershed	Document material and sources of information. (1 watershed specific article distributed to each target area)

YEAR 4

BEST MANAGEMENT PRACTICE	MEASURABLE GOAL
Make and distribute printed educational materials on improving storm water quality. Reference city website and storm water links	Document material and sources of information. (6 articles circulated to every mailbox in the city every year)
Enhance city website	Record website modifications and number of hits received annually
Approve and adopt ideas for public education made by the city council	Document any approved and adopted ideas made by the city council
Evaluate storm water quiz on city website and modify for future use	Record any modifications made to quiz and record amount of quizzes taken annually (biannual review)
Strategically locate information promoting changes in behavior which will decrease storm water pollution	Document material and sources of information. (1 strategically located pamphlet)
Modify existing stream restoration community service program to enhance future involvement	Record successes or failures of stream restoration community service program (2 clean ups per service group)
Approve and adopt ideas for public involvement made by the city council	Document any approved and adopted ideas made by the city council
Educate target groups on potential impact of pollutants on storm water and practices which can aid in improving storm water quality (involve council)	1 pamphlet mailed
Contact and involve interest groups about improving the city's storm water (involve city council)	Record interest groups contacted and any involvement taken
Educate target area businesses and citizens on improving storm water in their specific watershed	Document material and sources of information. (1 watershed specific article distributed to each target area)

YEAR 5

BEST MANAGEMENT PRACTICE	MEASURABLE GOAL
Make and distribute printed educational materials on improving storm water quality. Reference city website and storm water links	Document material and sources of information. (6 articles circulated to every mailbox in the city every year)
Enhance city website	Record website modifications and number of hits received annually
Approve and adopt ideas for public education made by the city council	Document any approved and adopted ideas made by the city council
Evaluate storm water quiz on city website and modify for future use	Record any modifications made to quiz and record amount of quizzes taken annually (biannual review)
Strategically locate information promoting changes in behavior which will decrease storm water pollution	Document material and sources of information. (1 strategically located pamphlet)

Modify existing stream restoration community service program to enhance future involvement	Record successes or failures of stream restoration community service program (2 clean ups per service group)
Approve and adopt ideas for public involvement made by the city council	Document any approved and adopted ideas made by the city council
Educate target groups on potential impact of pollutants on storm water and practices which can aid in improving storm water quality (involve city council)	1 pamphlet mailed
Contact and involve interest groups about improving the city's storm water (involve city council)	Record interest groups contacted and any involvement taken
Educate target area businesses and citizens on improving storm water in their specific watershed	Document material and sources of information. (1 watershed specific article distributed to each target area) Reevaluate target areas to access level of improvement obtained by program

PUBLIC INVOLVEMENT/PARTICIPATION

YEAR 1	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Submit storm water management program to city council for open discussion, suggestion, and approval.	Record, approve, and incorporate ideas and suggestions in the storm water management program
YEAR 1-5	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Discuss with the city council ideas and practices for public involvement	Record, approve, and incorporate ideas and suggestions in the storm water management program
The stream restoration community service program	2 clean ups per service group

ILLICIT DISCHARGE DETECTION AND ELIMINATION

YEAR 1-5	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Using new aerial photography combined with the existing topographic mapping system and new GPS equipment the city will update the existing storm sewer system map, record future improvements to the existing storm sewer system map, and identify priority areas which will be inspected.	An up to date map of all existing, new, and improved storm sewer system structures and outfalls. Document explanation of chosen priority areas/buildings.

Prepare and enact an illicit discharge detection and elimination ordinance	Document ordinance. Document all fines, penalties, disconnections, and remedial actions administered to violators of ordinance.
Implement an on-site visual inspection plan to detect and address non-storm water discharges	Record on-site visual inspections. (3 priority areas inspected per year)
Encourage the public to report non-storm water discharges to the engineering department	Document printed material with engineering department's contact information for reports of illicit discharges
Identify storm water testing facilities which can analyze storm water for illicit discharges	Document identified facilities which can analyze storm water for illicit discharges. Record all lab results.
Trace and detect the sources of illicit discharges	Record traced or detected source of illicit discharge and procedure of tracing and detection used.

CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

YEAR 1-5	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Develop and enact either an adopted new city land disturbance ordinance or an amended current storm water runoff and management ordinance	Document development process and enactment date of new or amended ordinance. Document all notices, requested corrective procedures, violations, enforcement mechanisms, and public hearings administered under this ordinance.
Construction site operators will be required (by ordinance) to obtain an approved storm water management plan and implement all erosion and sediment control BMP's as shown on this plan	An inspector for the city will document that all BMP's shown on the approved storm water management plan have been established before start of construction.
Inform public of the importance of construction site storm water runoff control and encourage contacting the city if any violation is perceived to exist	Document complaints made by public and any actions taken.
Construction sites will be inspected by the engineering department on a regular basis to insure compliance with the approved land disturbance plan	Construction site inspections will be documented
Identify storm water testing facilities which can analyze storm water for illicit discharges	Document identified facilities which can analyze storm water for illicit discharges. Record all lab results.
Trace and detect the sources of illicit discharges	Record traced or detected source of illicit discharge and procedure of tracing and detection used.

POST CONSTRUCTION STORM WATER MANAGEMENT

YEAR 1-5	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Fulton will continue to implement, under existing ordinances, the controlling of runoff release rates from all developments and restricting development in the flood plain.	Document and uphold existing ordinances restricting runoff release rates and flood plain development.
YEAR 2-5	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Adopt proper amendments to existing ordinances or new ordinances which will incorporate structural or nonstructural BMPs, adequate long-term operation and maintenance of BMP's, and authorize proper enforcement to ensure compliance	Document amendments or new ordinances, any agreements between the city and post development landowners concerning long-term O&M, and any enforcement used to ensure compliance
Implement researched structural and/or non-structural best management practices that will be appropriate for the cities community	Document implemented researched structural and/or non-structural BMPs
Fulton will implement annual inspections of selected privately maintained BMPs with necessary corrective action letters sent and enforcement pursued if needed. City maintained BMPs will be maintained by the city street department	Two (2) privately maintained long-term BMPs will be inspected each year and the existing conditions and any necessary actions taken will be documented.

POLLUTION PREVENTION/GOOD HOUSEKEEPING

YEAR 1-2	
BEST MANAGEMENT PRACTICE	**MEASURABLE GOAL**
Develop an operation and maintenance program for its public streets, vehicles, facilities, grounds, and airport. This operation and maintenance program will include proper training for public employees to aid in the proper working procedures, handling of hazardous/pollutant materials, and maintenance of public facilities, grounds, and equipment.	Document all material used to research and develop the operation and maintenance program, all operations and maintenance procedures, and all training programs.