Storm Water Management Program Plan
March 2016

City of Madison, Alabama
Individual Phase II MS4
NPDES Permit No. ALS000014

March 1, 2016

City of Madison
100 Hughes Road
Madison, Alabama 35758

Attention: Ms. Gina Romine

Reference: **Madison MS4 Storm Water Management Program Plan**
City of Madison
Madison, Alabama
S&ME Project No. 4482-15-032

Dear Ms. Romine:

S&ME, Inc. has assisted the City of Madison with the preparation of the Storm Water Management Program Plan (SWMPP) for the Madison Individual Phase II Municipal Separate Storm Sewer System in accordance with S&ME Proposal No. 44-1500179, dated June 18, 2015 and authorized by Purchase Orders 2015-00001463 and 2016-00000128, dated July 20, 2015 and October 22, 2015, respectively.

One electronic copy of the SWMPP was submitted on CD to the Alabama Department of Environmental Management on February 29, 2016. One hardcopy of the SWMPP and an electronic copy are included for your records.

S&ME appreciates the opportunity to be of service to you. If you have any questions regarding the information provided herein, please do not hesitate to contact us.

Sincerely,

S&ME, Inc.

Sarah L. Yeldell, P.E.
Project Engineer

Deborah J. Jones, P.E.
Senior Engineer

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1.0 Introduction

The Storm Water Management Program Plan (SWMPP) is required by Part II of the Alabama Department of Environmental Management (ADEM) National Pollutant Discharge Elimination System (NPDES) Individual Permit ALS000014 for discharges from the City of Madison municipal separate storm sewer system (Madison MS4).

1.1 Permit History

The Storm Water Phase I Final Rule issued by the United States Environmental Protection Agency (EPA) in 1990 requires coverage of all operators of "medium" and "large" MS4s serving populations of 100,000 or greater. The Phase I NPDES Permit ALS000005 for storm water discharges from the Huntsville Area Medium MS4 was issued to the City of Madison, the City of Huntsville, and the Alabama Department of Transportation (ALDOT) with an effective date of October 1, 2001. The five-year permit expired on September 30, 2006 and permit coverage was administratively extended.

NPDES Permit ALS000005 covered all areas within the corporate boundaries of the City of Madison and the City of Huntsville. From 2001 to 2013, the City of Madison, the City of Huntsville, and ALDOT operated as co-permittees under the joint MS4 Permit. In April of 2013, ALDOT was issued an individual NPDES MS4 permit and ALDOT's coverage under the permit with Madison and Huntsville was terminated.

The Storm Water Phase II Rule issued by the EPA in 1999 requires nationwide coverage of all operators of small MS4s located within the boundaries of an "urbanized area" as defined by the latest decennial Census. As of the 2010 Census, approximately 86.6% of the area of City of Madison was located within the *Huntsville, Alabama Urbanized Area*.

In August of 2014, the City of Madison received a draft of the Phase I permit for reissuance. In October 2014, the City met with ADEM to discuss a transition to an Individual Phase II Permit. The draft of Individual NPDES Permit ALS000014 was filed for public notice on February 18, 2015.

Individual Phase II NPDES Permit No. ALS000014 for storm water discharges from the Madison MS4 was issued to the City of Madison with an effective date of **May 1, 2015**. The Phase II permit replaces the Phase I permit previously issued to the City of Madison, the City of Huntsville, and the Alabama Department of Transportation. Individual Permit ALS000014 currently covers all urbanized areas within the corporate boundaries of the City of Madison. The permit will expire on **April 30, 2020**. A copy of the individual Phase II NPDES Permit is included in Appendix B.

1.2 Madison MS4 Area

The City of Madison Municipal Separate Storm Sewer System (Madison MS4) is defined as the area within both the city limits and the urbanized area boundary. The Madison MS4 comprises approximately 25.8 square miles (12.22%) of the *Huntsville, Alabama Urbanized Area*. A map outlining the approximate boundary of the *Huntsville, Alabama Urbanized Area* is included in Appendix A as **Figure 1**. A map outlining the approximate boundary of the Madison MS4 is included in Appendix A as **Figure 2**.

According to the 2010 Census, the City of Madison has a total population of 42,938, approximately 99.75% of which live within the designated urbanized area boundary.

1.3 Hydrologic Units in the MS4 Area

The Tennessee River is the ultimate receiving water for the Madison MS4.

Table 1-1 Hydrologic Hierarchy

REGION	06	Tennessee
SUBREGION	06-03	Middle Tennessee-Elk
BASIN	06-03-00	Middle Tennessee-Elk
SUBBASIN	06-03-00-02	Wheeler Lake

Table 1-2 Watersheds in the MS4 Area

Watershed	10 Digit HUC
Indian Creek	06030002-05
Limestone Creek	06030002-07
Tennessee River-Wheeler Lake	06030002-09

Table 1-3 Subwatersheds in the MS4 Area

Subwatershed	12 Digit HUC	Portion of MS4 in Subwatershed (Sq Mi)	% of MS4 In Subwatershed
Barren Fork Creek	06030002-05-04	17.69	68.64
Beaverdam Creek	06030002-09-05	1.91	7.41
Lower Indian Creek	06030002-05-05	3.99	15.48
Middle Limestone Creek	06030002-07-02	1.44	5.59
Upper Indian Creek	06030002-05-01	0.71	2.76

A map showing the subwatersheds in relation to the Madison MS4 boundary is included as **Figure 3** in Appendix A.

1.4 Water Quality Concerns

Section 303(d) of the Clean Water Act (CWA), as amended by the Water Quality Act of 1987, and the USEPA Water Quality Planning and Management Regulations (40 CFR 130) require states to identify waterbodies not in compliance with the water quality standards applicable to their designated use classifications. Section 303(d) then requires that total maximum daily loads (TMDLs) be determined for all pollutants causing violation of applicable water quality standards in each identified segment.

The Madison city limits currently encompass portions of two subwatersheds for waterbodies with TMDLs. Limestone Creek north of Highway 72 (segment AL06030002-0703-102) and Indian Creek north of Highway 72 (segment AL06030002-0501-100) are identified as impaired waterbodies. TMDLs were established for both segments in February of 2002.

None of the City's outfalls discharge directly to an impaired waterbody; however, construction sites within the Middle Limestone Creek and Upper Indian Creek watersheds are considered Priority Construction Sites, as defined in Part IV.T.31 of the Alabama Construction General Permit.

A map showing the impaired waterbodies in relation to the Madison city limits is included as **Figure 4** in Appendix A. A map showing the portions of the City located within the TMDL watersheds is included as **Figure 5** in Appendix A.

2.0 SWMPP Development, Review, and Update

2.1 SWMPP Components

Part II of the Individual Phase II Permit requires that the Permittee develop and implement a storm water management program plan that includes the following six minimum control measures:

1. Storm Water Collection System Operations
2. Public Education and Involvement/Participation
3. Illicit Discharge Detection and Elimination (IDDE)
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

Program details are outlined in the following sections.

2.2 Annual Review

The Storm Water Management Program Plan will be reviewed annually by the City of Madison as required by Part II.D.1 of the Individual Phase II Permit. The review will be performed in conjunction with the preparation of the Annual Report required by Part IV of the permit.

2.3 Updates to the SWMPP

The SWMPP may be updated following the procedures laid out in Part II.D of the Individual Phase II Permit. Changes to the SWMPP adding components, controls, or requirements may be made at any time, provided the ADEM is notified in writing. The changes must also be documented in the Annual Report.

2.4 Responsible Party

The **Engineering Department** is responsible for the coordination and implementation of the Storm Water Management Program Plan. Coordination between City departments is established in each section of the SWMPP.

3.0 Annual Reports

Part IV of the Individual Phase II Permit issued to the City of Madison outlines the annual reporting requirements.

Annual Reports are due to the ADEM by **January 31** of each year. The Annual Report will cover October 1 through September 30 of the year prior to the submittal date and will include:

1. List of contacts and responsible parties
2. Overall evaluation of the Storm Water Management Program
3. Narrative report of all SWMP elements
4. Monitoring data summary
5. Status of SWMPP implementation and proposed changes to the SWMPP
6. Summary of inspections and enforcement actions
7. Implementation status of public education programs
8. Status of expenditures and budget for the past fiscal year and the next fiscal year

3.1 Recordkeeping

The SWMPP shall be retained for at least five years after coverage under the Individual Phase II permit is terminated. The following records shall be maintained for at least three years following termination of permit coverage:

- Records of all monitoring information
- Copies of all reports required by the permit
- Records required by the permit
- Records of all other data required by or used to demonstrate compliance with the permit

4.0 Storm Water Collection System Operations

4.1 Rationale Statement

The City's goal is to develop and implement a program to remove trash from the Madison MS4 and to prevent trash deposition in waterways, tributaries, and storm water structures within the MS4 area to the maximum extent practicable.

4.2 Strategies

The City will implement the following strategies to control litter, trash, floatables, and debris.

4.2.1 Trash Removal

Strategy 1. Install BMPs for direct removal of trash from waterbodies

To affect direct removal of trash from waterbodies, the City intends to install alternative BMPs at specific locations that will allow for the cumulative removal of trash within waterbodies.

Locations will be selected based on the greatest potential benefit of trash removal and areas that have the potential to flood if trash were to accumulate.

Trash collected by the implemented BMPs will be removed by City employees or contractors and disposed of properly.

Evaluation Criteria: The City will report the number of BMPs installed and the estimated quantity of trash collected by the BMPs during the reporting period.

Strategy 2. Install BMPs for direct removal of trash from the MS4

Beginning in the 2015-2016 fiscal year, the City will install BMPs to remove trash from ponds, inlets, and/or culverts within the MS4. BMPs selected for implementation may include, but are not limited to, screens, trash racks, and floating booms.

Locations for the installation of trash-capturing BMPs will be selected based on the expected potential for maximum trash removal from the MS4.

Trash collected by the implemented BMPs will be removed by City employees or contractors and disposed of properly.

Evaluation Criteria: The City will report the number of BMPs installed and the estimated quantity of trash collected by the BMPs during the reporting period.

Strategy 3. Trash removal from roadways and public areas

Trash removal from City-owned and maintained properties and rights-of-way (ROWs) is conducted by contracted maintenance crews or City personnel. The ROW maintenance contract issued in 2013

specifically includes litter/trash management for City roadways, selected medians and islands, the I-565 on and off ramps, Veteran's Park, the Village Green area, the downtown area, and municipal buildings.

ALDOT maintains the right of way for I-565. Trash collected by ALDOT crews is disposed of by ALDOT.

Evaluation Criteria: The City will report the estimated quantities of trash collected by City or contracted crews during the reporting period.

4.2.2 Trash Prevention

Strategy 4. Waste receptacles in public areas

The City will continue to maintain waste receptacles at City-owned parks, greenways, and the Village Green in downtown Madison. Additional exterior waste receptacles are provided at municipal buildings such as the library, senior center, City Hall, and Dublin Park.

Evaluation Criteria: The City will report if any additional receptacles were required due to increased littering at the above-listed City-managed properties during the reporting period.

Strategy 5. Prevention through additional enforcement

Section 22-3 of the Madison City Code of Ordinances states that, "It shall be unlawful for any person to deposit, discard or leave uncovered or exposed on any public or private roads, streets or highways or on any public or private premises, including property owned or under the control of such person, within the city or the police jurisdiction thereof, any decayed matter, bottles, cans, rubbish, trash, filth or garbage of any kind whatsoever."

Section 22-97(a) of the Madison City Code of Ordinances (Madison City Ordinance No. 98-171) requires that, "All land shall be maintained free from any accumulation of garbage, litter, debris, blight or deterioration."

Code Enforcement is responsible for responding to complaints regarding possible violations of the trash and litter ordinances.

Evaluation Criteria: The City will report the number of litter enforcement actions undertaken during the reporting period.

Strategy 6. Prevention through waste reduction practices

The City will recommend and consider waste reduction practices at municipal facilities and promote recycling and other disposal alternatives within the MS4. The City may consider automatic hand dryers to reduce paper waste, tap water filters to reduce plastic bottles, and increasing the number of recycling containers available at municipal facilities.

Evaluation Criteria: The City will report the number of waste reduction practices and disposal alternatives implemented within the MS4 during the reporting period.

Strategy 7. Prevention through construction site inspections

Construction sites will be inspected periodically by City personnel as described in Section 6.2 of this plan.

Part II.C of the Alabama Construction General Permit (ALG100000) requires that the permitted construction site must install BMPs to minimize the exposure of building materials, building products, construction wastes, trash, and landscape materials to precipitation and to stormwater. During the construction site inspections, City personnel will evaluate the management of construction-related materials, waste, and trash.

If necessary, the City will initiate enforcement actions to ensure that construction-related materials are stored properly and that construction waste and trash are collected on-site and disposed of properly.

Evaluation Criteria: The City will report the number of construction site BMP inspections performed during the reporting period.

4.2.3 Event Trash Management

Strategy 8. Temporary protection at public events

For City-managed events, the City will provide temporary protection of inlets, ditches, and other storm water conveyances, where feasible.

For privately-managed public events held within the public right of way, the City will require temporary protection of inlets, ditches, and other storm water conveyances, where feasible. The Special Events Permit and Parade/Race Permit (Ordinance 2012-45, Articles 8 and 9) will be revised to include the requirement that event organizers provide temporary protection, where feasible.

The temporary protection may include, but is not limited to:

- Inlet screens
- Drain bags
- Ditch wattles
- Screens or fencing at culverts
- Construction fencing to prevent access to sensitive areas

The temporary protection measures and the collected trash shall be removed within 24 hours of the event, but in no case, no more than one business day of the event.

Evaluation Criteria: The City will report the number of event permits issued during the reporting period. The City will also report the number of City-managed events held during the reporting period.

Strategy 9. Event trash receptacles

For City-managed events, trash receptacles and trash collection services will be provided by Public Works, Parks and Recreation, or the contracted venue.

For privately-managed public events, the City will revise the Special Events Permit and Parade/Race Permit (Ordinance 2012-45, Articles 8 and 9) to require event organizers to provide adequate trash receptacles. The City will also encourage event organizers to provide recycling services.

Evaluation Criteria: The City will report the number of Special Event Permits issued during the reporting period. The City will also report the number of City-managed events held during the reporting period.

Strategy 10. Prompt removal of event trash

Within 24 hours of the event, but in no case, no more than one business day of a privately-managed concert, festival, or other public event held in the public right of way, the City will require cleanup of the event area and related catch basins. The Special Events Permit and Parade/Race Permit (Ordinance 2012-45, Articles 8 and 9) will be revised to include the requirement for prompt trash removal.

Within 24 hours of the event, but in no case, no more than one business day of a City-managed public event, the City will provide for the cleanup on the event area and related catch basins.

Evaluation Criteria: The City will report the number of event permits issued during the reporting period.

4.2.4 Identify and Mitigate High-Trash Areas

Strategy 11. Identify high-trash areas

At the end of each reporting period, the City will determine which areas around the City are expected to generate higher amounts of trash. The City will provide additional trash receptacles or alternative BMPs in the identified areas as needed.

Evaluation Criteria: The City will identify the selected high-trash areas on the MS4 map, and include a map showing the selected areas with the annual report. The annual report will also include a brief description of the measures taken in the high-trash areas.

4.3 Responsible Parties

The **Public Works Department** is responsible for trash collection in City-maintained ponds, with the exception of those ponds maintained by Parks and Recreation. Public Works is also responsible for contracting ROW maintenance activities. Public Works will maintain records on the estimated quantities of collected litter. Public Works is responsible for providing the records to the ADEM Compliance Administrator for inclusion in the Annual Report.

The **contracted landscaping service** is responsible for litter and trash management for City roadways, selected medians and islands, the I-565 on and off ramps, Veterans' Park, the Village Green area, the downtown area, and the grounds of municipal buildings. The landscaping service is responsible for reporting estimated quantities of collected litter.

The **Building Department** is responsible for litter and trash management for City-maintained facilities, excluding Dublin Park. The Building Department is also responsible for contracting City-maintained facilities maintenance activities. The Building Department will maintain records of the estimated quantities of collected litter. The Building Department is responsible for providing the records to the ADEM Compliance Administrator for inclusion in the Annual Report.

The **Parks and Recreation Department** is responsible for trash collection in City-owned parks, greenways, and Dublin Park. Parks and Recreation is also responsible for trash management following City-managed public events. Parks and Recreation will maintain records on the estimated quantities of collected litter. Parks and Recreation is responsible for providing the records to the ADEM Compliance Administrator for inclusion in the Annual Report.

Code Enforcement is responsible for responding to complaints regarding violations of the litter and trash ordinances. Code Enforcement will maintain records on the locations and types of complaints and enforcement actions. Code Enforcement is responsible for providing the records to the ADEM Compliance Administrator for inclusion in the Annual Report.

The **Alabama Department of Transportation** is responsible for trash collection in the I-565 ROW.

The **ADEM Compliance Administrator** is responsible for compiling the required data, as received from participating departments, for inclusion in the Annual Report.

5.0 Public Education and Public Involvement

The City will implement the following strategies as part of their Public Education and Outreach Program. To evaluate the success of the program and aid in preparing the required Annual Reports, evaluation criteria have been established for each strategy.

5.1 Rationale

The City's goal is to have a comprehensive and effective public education and outreach program, the intent of which is to:

1. Generate awareness of storm water pollution prevention by educating people about the storm drain system and its relationship to the health of local waterways;

2. Change behavior patterns through education and encouragement of active participation in water pollution prevention; and,

3. Inform the public of steps they can take to reduce pollutants in storm water runoff.

5.2 Target Audiences

The following list outlines the primary target audiences within the City and the topics identified in the individual permit for each audience:

- **General Public (homeowners and citizens)**
  - General impacts litter has on water bodies and ways to reduce litter;
  - General impacts of storm water flows into surface water from impervious surface; and
  - Source control BMPs in areas of pet waste, vehicle maintenance, landscaping and water reuse.

- **General Public, Businesses (including home-based and mobile businesses)**
  - BMPs for the use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials;
  - Impacts of illicit discharges and how to report them.

- **Homeowners, Landscapers, and Property Managers**
  - BMPs for use and storage of pesticides and fertilizers;
  - Storm water pond maintenance.

- **Engineers, Developers, and Contractors**
  - Impacts of increased storm water flows into receiving water bodies; and
  - Low Impact Development techniques.

5.3 Strategies

5.3.1 Public Input

Strategy 1. City of Madison Storm Water Webpage

The City will continue to maintain a webpage about storm water on the City of Madison website. The webpage will:

- Include general information on the Madison MS4
- Discuss the storm water cycle and how common contaminants enter the storm water system
- Educate households and businesses about proper and improper use, storage, and disposal of common household chemicals
- Provide links to related storm water resources
- Provide contact information for reporting illicit discharges or other storm water complaints
- Provide a link to the most recent SWMPP
- Provide a link to the most recent Annual Report

Evaluation Criteria: Participation will be tracked by recording the number of "hits" on the webpage. The City will report the number of hits in the Annual Report.

Strategy 2. Seek public input

The City will upload the most recent Annual Report to the Storm Water Webpage. A link will be provided on the webpage for stakeholders to provide comments, questions, or concerns regarding the implementation of the SWMPP. The City will consider the received comments and respond as needed. This strategy will target the general public.

Evaluation Criteria: Participation will be tracked by the number of comments or questions received. The City will report the number of stakeholder comments received during the reporting period.

5.3.2 Litter Reduction

Strategy 3. Storm drain marking program

The City is considering a change to in the Construction Specifications Manual and Design Standards to include the requirement for pre-cast manhole covers to include a storm water awareness message. This strategy will target the general public.

Evaluation Criteria: The City will report the status of the proposed changes during the annual report.

Strategy 4. Adopt-a-Mile program

The Madison Beautification and Tree Board currently manages the City's Pride of Madison Program, which includes the Adopt-a-Mile program. Participants in the program are asked to schedule at least one work day per quarter. Public Works is responsible for disposal of the litter collected by Adopt-a-Mile participants. This strategy will target the general public.

The City will continue to support the Pride of Madison Program. A link to more information on the Adopt-a-Mile program will be provided on the Storm Water Webpage.

Evaluation Strategy: The City will report the estimated amount of litter collected by Adopt-a-Mile participants, if any, during the reporting period.

Strategy 5. Yard waste removal program

The City will continue to provide for weekly pickup of bagged residential yard waste. The City currently utilizes a contracted service to collect yard debris and other large items. The contract service is limited to the pickup of five (5) cubic yards per household. This strategy will target the general public.

Evaluation Strategy: The City will evaluate the number of complaints or identified issues pertaining to yard waste in the MS4.

5.3.3 Education on Pollution Reduction

Strategy 6. Distribution of Storm Water Educational Material

The City will distribute storm water educational material during each reporting period. Educational material may be developed by the City, organizations such as ADEM or the EPA, or other stakeholder groups. Educational materials may be distributed using:

- The City's Storm Water Webpage
- Flyers
- Brochures
- Channel 42

Educational materials may:

- Introduce the MS4 to the general public
- Discuss the storm water cycle and how common contaminants enter the storm water system
- Educate households and businesses about proper and improper use, storage, and disposal of common household chemicals such as herbicides, pesticides, and fertilizers
- Explain how the improper use of chemicals can impact storm water quality

- Explain what individual households and businesses can do to reduce storm water pollutants
- Provide information on BMPs for use and storage of common household chemicals
- Provide information on the effects of sedimentation on the environment
- Provide information on additional resources pertaining to storm water and storm water pollution
- Provide information on storm water contacts within the City of Madison and information on reporting potential storm water violations

Evaluation Criteria: The City will report the number of educational materials developed or prepared for distribution during the reporting period and the method of distribution.

Strategy 7. Plan Review and Permitting

The City will educate engineers, developers, and contractors through plan review and permitting of new construction and development. As discussed in section 7.3.4 of this plan, the City currently requires construction sites greater than 0.23 acre in size to provide an Erosion and Sediment Control Plan to the Authorized Enforcement Agent.

Plan review will ensure proposed projects adequately address the City's erosion, sediment, and pollution control requirements. Where possible, the City will encourage the use of Low Impact Development or other similar runoff reduction practices.

Evaluation Criteria: The City will report the total number of construction plans reviewed during the reporting period.

Strategy 8. Community Festival or Public Event Participation

The City will staff at least one community festival or other public event during the fiscal year to perform public outreach and promote awareness of the MS4 program. Outreach materials and/or displays may:

- Introduce the MS4 to the general public
- Discuss the storm water cycle and how common contaminants enter the storm water system
- Educate households and businesses about proper and improper use, storage, and disposal of common household chemicals such as herbicides, pesticides, and fertilizers
- Explain how the improper use of chemicals can impact storm water quality
- Explain what individual households and businesses can do to reduce storm water pollutants
- Provide information of the effects of sedimentation on the environment
- Provide information on additional resources pertaining to storm water and storm water pollution

- Provide information on storm water contacts within the City of Madison and information on reporting potential storm water violations

Evaluation Criteria: The City will report which events were targeted for storm water outreach. The estimated number of attendees at the events and the number of materials distributed will also be reported, if available.

Strategy 9. Pet Waste Management

Pet waste stations will be maintained at City and neighborhood parks where pet traffic is anticipated. Signs will be posted at key locations to educate the public on the impact of pet waste on water quality.

Evaluation Criteria: The City will report the number of pet waste stations maintained and the locations of pet waste signage installed during the reporting period.

5.3.4 Public Participation

Strategy 10. Promote a hazardous waste collection program

The City will promote a hazardous waste collection program such as the "Handle with Care" program administered by the Huntsville Solid Waste Disposal Authority (SWDA). The program encourages residents to properly dispose of hazardous materials.

Collection days are held the first Saturday of every month at the SWDA facility in Huntsville. During the monthly drop-offs, residents of Madison County may dispose of the following types of household hazardous waste free of charge:

- Paint and paint related products
- Automotive products
- Lawn and garden poisons
- Household cleaners
- Old TVs and computers
- Household chemicals

Evaluation Criteria: The City will report how the "Handle with Care" program was advertised or promoted.

Strategy 11. Curbside recycling program

Recycling within the City of Madison is currently accomplished through a weekly residential curbside program operated by the Huntsville SWDA. The City will promote the program on the City website and encourage citizens to participate. SWDA is responsible for picking up the recyclable materials and disposing of them in the appropriate manner.

Evaluation Criteria: The City will report how the recycling program was promoted and the estimated number of participants in the program. This information will help measure the public awareness of the program and degree of public participation.

Strategy 12. Reporting and tracking system for complaints

The City currently maintains a web-based reporting system for individuals to report concerns or problems. The "Let Us Know" feature on the webpage is part of the QAlert program. QAlert collects data entered by the individual making the report, including the location and type of issue and comments on the issue, and allows for the upload of photos or other documents.

The City will maintain the Let Us Know function on the Storm Water Webpage. The storm water category was added as a type of issue citizens may select, which allows the ADEM Compliance Administrator to be directly notified. Reports regarding non-compliant construction sites, illicit discharges, and violations of ordinances relating to storm water pollution will be directed to the ADEM Compliance Administrator.

Evaluation Criteria: The City will report the total number of received complaints, the number of addressed complaints, and the number of complaints resolved during the reporting period. This information will help measure the effectiveness of the reporting system, as well as public awareness and concern of storm water issues.

5.3.5 Program Evaluation

Strategy 13. Program Evaluation

As detailed above, the following information will be collected for each reporting period:

- Number of webpage hits
- Number of comments received on the Annual Report or SWMPP implementation
- The estimated amount of litter collected by Adopt-a-Mile participants
- Number of yard waste issues or complaints
- Number of storm water / IDDE complaints
- Number of educational materials developed/prepared for distribution and method of distribution
- Number of pet waste stations maintained and number of informational signage installed, if any
- Number of construction plans reviewed
- Number of events targeted and estimated number of attendees if available
- How the "Handle with Care" program was advertised or promoted
- How the recycling program was promoted and the estimated number of participants

The City will utilize the collected information to evaluate the effectiveness of the public education program.

In general, the number of webpage hits is expected to rise as the public becomes more aware of the MS4 program. If a decline in visitors is observed, the City may re-evaluate the structure and content of the webpage.

The comments received on the Annual Report and SWMPP will be used to determine if additional educational effort is needed on certain topics. The type and tone of the comments will help assess the effectiveness of previous public education efforts.

Yard waste issues or complaints will be used to determine if an area should be targeted for additional promotion of the City's yard waste collection program and/or additional education regarding the impact of yard debris on water quality.

5.4 Responsible Parties

The **Madison Beautification and Tree Board** is responsible for administering the Adopt-a-Mile program and reporting the results to the ADEM Compliance Administrator.

The **Public Works Department** is responsible for contracting out the collection of yard debris.

The **Huntsville Solid Waste Disposal Authority** is responsible for the curbside recycling program and the hazardous waste collection days.

The **Engineering Department** is responsible for performing plan review regarding erosion, sediment, pollution control, drainage, and flood control.

The **ADEM Compliance Administrator** is responsible for maintaining the Storm Water Webpage, coordinating public outreach events, developing or coordinating the development of educational materials or displays, addressing comments from the public, and compiling the required data, as received from participating departments, for inclusion in the Annual Report.

6.0 Illicit Discharge Detection and Elimination

6.1 Rationale

The City's Illicit Discharge Detection and Elimination (IDDE) program is primarily designed to locate, identify, and correct illicit discharges to the MS4. The City will review the IDDE program annually and will modify the program as necessary. IDDE program modification will be incorporated into the SWMP.

A brief summary of strategies that the City will implement as part of their IDDE Program is provided below. A more detailed scope of the planned activities, rationale, and implementation process is presented in the *City of Madison Illicit Discharge Detection and Elimination Program* included in Appendix D. To evaluate the success of the strategies and aid in preparing the required Annual Reports, evaluation criteria have been established for each strategy.

6.2 Strategies

6.2.1 Legal Authority

Strategy 1. Outfall Management IDDE Ordinance

City of Madison Ordinance Number 2015-037 was adopted on April 14, 2015 to amend Chapter 20 of the Code of Ordinances, City of Madison, Alabama by creating *Article VII. Municipal Separate Storm Sewer System*.

Prohibit Illicit Discharges

The IDDE Ordinance prohibits non-storm water discharges into the Madison storm sewer system, with the exception of those non-storm discharges explicitly exempted in the ordinance. The Ordinance also prohibits illicit connections.

Enforcement

The IDDE Ordinance provides the City with the ability to perform inspections, trace suspected illicit discharges, require elimination of confirmed illicit discharges, and compel compliance.

The IDDE Ordinance describes the enforcement actions available to the City. Enforcement actions include a written Notice of Violation, abatement or remediation of storm water pollution, and fines to cover administrative and remediation costs. The Ordinance also provides for suspension of MS4 access and for reporting of a non-compliant discharger to ADEM for further enforcement actions.

A copy of the Ordinance is located in Appendix C.

Evaluation Criteria: The IDDE Ordinance will be reviewed on an annual basis and updated as needed. The ordinance will be evaluated on its effectiveness in addressing identified illicit discharges and preventing repeat offenders.

The City will annually report the number of complaints received, the number of illicit discharges identified during the reporting period, and the number of resolved violations.

6.2.2 Field Assessment Activities

Strategy 2. MS4 Map

The City will develop and maintain a map of the Madison MS4 area. The map will include, at a minimum:

- Identified outfalls
- Waterbodies to which the MS4 discharges
- Locations of post-construction BMPs owned and maintained by the City

Evaluation Criteria: A copy of the updated map will be included with each Annual Report.

Strategy 3. Outfall Reconnaissance Inventory

The City will implement a stream-walking program designed to identify previously unknown outfalls to the MS4. The MS4 area is currently divided into five areas for outfall inventory in 2014 through 2018. The implementation process is detailed in Section 4 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will maintain records of field observations. The City will report the number of outfalls identified and the stream length walked during the reporting period. The City will provide updated tables and maps that include the outfalls identified by the stream-walking program.

Strategy 4. Verification of Outfalls Identified During Plan Review

During the review of construction plans, the City will identify the locations where a proposed development plans to discharge to a waterbody within the MS4. Following construction, as-built drawings are required to be submitted to the Engineering Department. Information provided on the as-built drawings will be verified through field observation during the final inspection. Outfalls identified during plan review will be added to the GIS database within 12 months of being verified. The implementation process is detailed in Section 4.3 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will maintain records of field observations. The City will report the number of outfalls verified during the reporting period. The City will provide updated tables and maps that include the verified outfalls.

Strategy 5. Dry Weather Inspections

The City or subcontracted crews will conduct dry weather inspections of all identified outfalls within the City at least once during each five-year permit cycle. Outfalls in designated Sensitive Areas will be visually inspected once every two years. The implementation process is detailed in Section 6 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will maintain records of field observations. The City will report the number of outfalls inspected during the reporting period.

Strategy 6. Suspect Discharge Screening

If a dry-weather flow is observed, it will be screened to determine if it is a potential illicit discharge. The implementation process is detailed in Section 6.9 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will maintain records of suspect discharge screening results. The City will report the number of identified dry weather flows observed during the reporting period, as well as the number of dry weather flows determined by field screening to be suspect discharges.

Strategy 7. Suspect Discharge Sampling

If a dry weather flow has a severity index of 3 on one or more indicators in Section 4 of the Outfall Reconnaissance Inventory Field Sheet, or if field screening indicates a suspect discharge, field crews will collect samples for further analysis. The implementation process is detailed in Section 6.10 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will maintain records of suspect discharge sampling results. The City will report the number of samples collected during the reporting period and the number confirmed to be an illicit discharge.

Strategy 8. Outfall Designation

Data from each Outfall Reconnaissance Inventory Field Sheet will be analyzed to designate the observed outfall as having obvious, suspect, possible, or unlikely discharge potential. Obvious and suspect illicit discharges will be investigated according to the schedule detailed in Section 6.12 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will report the number of outfalls that required further investigation.

6.2.3 Illicit Discharge Investigation

Strategy 9. Illicit Discharge Tracing

Illicit discharge investigations will be performed to determine the source of an identified illicit discharge. The implementation process is detailed in Section 7 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will report the number of illicit discharge investigations performed during the reporting period. The City will also report the number of confirmed illicit discharges.

6.2.4 Corrective Actions

Strategy 10. Corrective Action Record Keeping

When a suspect illicit discharge or illicit connection is identified, a case log detailing pertinent information will be created. Throughout the problem investigation and corrective action activities, all information related to the incident or property in question will be documented in the case log, as detailed in Section 7 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will maintain records of the correction actions. The City will report the number of confirmed illicit discharges and the number of illicit discharges corrected or eliminated during the reporting period. The City will also report the number of confirmed illicit discharges where corrective action is pending.

Strategy 11. Illicit Discharge Elimination

As discussed in Section 6.3.1 of this plan, enforcement actions available to the City include a written Notice of Violation, abatement or remediation of storm water pollution, fines to cover administrative and remediation costs, suspension of MS4 access, and reporting of a non-compliant discharger to ADEM for further enforcement actions.

The procedures for eliminating identified illicit discharges or connections are detailed in Section 8 of the IDDE Program in Appendix D.

Evaluation Criteria: The City will maintain records of the correction actions. The City will report the number of illicit discharges corrected or eliminated during the reporting period.

Strategy 12. Notify ADEM of Illicit Discharges from an Adjacent MS4

The Madison MS4 is bordered in several areas by the Huntsville MS4, the Madison County MS4, and the Redstone Arsenal MS4. Should the City identify a suspect illicit discharge originating within a neighboring MS4, the City will notify the appropriate MS4 and the ADEM Water Division within 48 hours of observation of the suspect illicit discharge.

The notification to the responsible MS4 and ADEM will include the following information:

1. Location of the suspect illicit discharge, including latitude and longitude, if known
2. Type of illicit discharge, if known
3. Estimated quantity or flow rate, if known
4. Origin or suspected origin of the suspect illicit discharge, if known
5. Date and time the suspect illicit discharge was observed
6. Description of affected media, including the name of the receiving waterbody, if known

7. Corrective actions being taken within the Madison MS4, if any

Evaluation Criteria: The City will report the total number of suspect illicit discharges reported to adjacent MS4s and ADEM during the reporting period. Copies of the notification reports will be included in the Annual Report.

6.2.5 Public IDDE Education

Strategy 13. Public Reporting

The City currently maintains a web-based reporting system for individuals to report concerns or problems. The "Let Us Know" feature on webpage is part of the QAlert program. QAlert collects data entered by the individual making the report including; the location and type of issue, comments on the issue, and allows for the upload of photos or other documents.

The City will maintain a link to the Let Us Know function on the Storm Water Webpage. A storm water category was added as a type of issue citizens may select, which allows the ADEM Compliance Administrator to be directly notified. Reports regarding non-compliant construction sites, illicit discharges, and violations of ordinances relating to storm water pollution will be directed to the ADEM Compliance Administrator.

Evaluation Criteria: The City will report the total number of received complaints, the number of addressed complaints, and the number of complaints resolved during the reporting period. This information will help measure the effectiveness of the reporting system, as well as public awareness and concern of storm water issues

6.2.6 Municipal Employee Training

Strategy 14. Municipal Employee Training

Appropriate City personnel will undergo annual training on illicit discharge identification, reporting, and corrective actions.

Evaluation Criteria: The City will report the dates municipal employees underwent IDDE training, the number of attendees, and the departments represented.

6.3 Responsible Parties

The **Engineering Department** is responsible for coordinating the Outfall Reconnaissance Inventory and managing the investigation of a suspect illicit discharge.

Other City departments, including the **Public Works Department**, the **Parks and Recreation Department**, the **Building Department**, the **Fire Department**, and the **Police Department**, will report illicit discharges observed during the course of their normal duties. Reports of observed or suspected illicit discharges will be made to the ADEM Compliance Administrator.

Madison Utilities is responsible for corrective actions regarding Sanitary Sewer Overflows (SSOs) and for reporting SSO corrective actions to the ADEM Compliance Administrator. The **Fire Department** is

responsible for corrective actions regarding hazardous spill response and for reporting spills over 25 gallons to the ADEM Compliance Administrator.

City departments storing, using, or disposing of potential pollutants are responsible for selecting all appropriate personnel to attend annual awareness training.

The **ADEM Compliance Administrator** is responsible for compiling the required data, as received by the participating departments, for inclusion in the Annual Report.

7.0 Construction Site Storm Water Runoff Control

7.1 Rationale

The City's Construction Site Storm Water Runoff Control Program is primarily designed to address storm water pollution due to erosion and sedimentation from construction sites.

7.2 Strategies

The City will implement the following strategies as part of the Construction Site Storm Water Runoff Control Program. To evaluate the success of the program and aid in preparing the required Annual Reports, evaluation criteria have been established for each strategy.

7.2.1 Legal Authority

Strategy 1. Erosion and Sediment Control Ordinance

City of Madison Ordinance Number 2015-038 was adopted on **April 14, 2015** to amend Chapter 20 of the *Code of Ordinances, City of Madison, Alabama* by creating *Article VIII. Erosion and Sediment Control*. A copy of the ordinance is located in Appendix C.

Require Erosion and Sediment Controls

The Erosion and Sediment Control Ordinance establishes that planned BMPs must meet the design criteria set forth in the most recent version of the *Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas.* The Ordinance also prohibits clearing and grading of natural resources (except in compliance with an applicable permit), identifies erosion and sediment control requirements, requires phasing, discusses watercourse protection, and requires stabilization of all construction entrances and exits. As provided by 40 CFR Part 122.35(b), the City intendeds to rely on ADEM for construction BMP standards.

Provisions for Inspections

The Ordinance provides for inspections of construction sites and specifically requires that the City's Authorized Enforcement Agent be granted access to the property. The section also requires that the permittee regularly inspect all control measures, document the inspections, and submit inspection records to the City.

Sanctions to Ensure Compliance

The Ordinance identifies the steps the City may take to enforce the erosion and sediment control ordinance. The escalating enforcement measures discussed in the section are:

1. Verbal warning
2. Written notice of violation

3. Suspension or revocation of City-issued permits

4. Notify ADEM of the non-compliant construction site

Evaluation Criteria: The Erosion and Sediment Control Ordinance will be reviewed on an annual basis and updated as needed. Municipal Employee Training

Strategy 2. Best Management Practices Training

City personnel tasked with plan review will undergo annual training on proper design, installation, inspection, and maintenance of on-site control measures, and on new technology and practices.

City personnel tasked with conducting BMP inspections will be certified under an ADEM-approved Qualified Credentialed Inspector (QCI) training program and will attend annual refreshers.

Evaluation Criteria: The City will provide copies of the QCI certificates and records of awareness training received during the reporting period.

7.2.2 Site Inspection

Strategy 3. Construction Site Tracking

The City will maintain a list of all active construction sites within the MS4 boundary. The sites will also be mapped in the City's GIS. Priority Sites will be identified on the list and GIS map.

Evaluation Criteria: The City will include the list of active construction sites with each annual report.

Strategy 4. Inspection of Qualifying Sites

In accordance with Ordinance 2015-38, Erosion and Sediment Control, the City will conduct regular inspections of construction sites within the Madison MS4.

Each site will be inspected quarterly until permit termination. The inspector will evaluate the following:

1. Condition of the site entrances/exits

2. Effectiveness of erosion controls (e.g., diversion channels, vegetation, outlet protection, etc.)

3. Condition of erosion controls

4. Condition of discharge points from the site

5. Evidence of off-site sediment deposition

6. Condition of sediment controls (e.g., silt fence, wattles, check dams, inlet protection, etc.)

7. Condition of any sediment basins

8. Concrete washout management

9. Fueling area management
10. Sanitary waste management
11. Construction debris and trash management
12. Whether an Erosion and Sediment Control plan meeting the City's requirements is present on the site

BMP inspections will be documented using the BMP Inspection Form located in Appendix E, or an equivalent form. Inspection documentation will include the following, at a minimum:

a. Facility type;

b. Inspection date;

c. Name and signature of inspector;

d. Location of construction project;

e. Owner/operator information (name, address, phone number, and email);

f. Description of conditions of BMPs, including but not limited to the following:

- vegetation and soils,
- inlet and outlet channels and structures,
- embankments, slopes, and safety benches;
- spillways, weirs, and other control structures; and
- sediment and debris accumulation in storage and forebay areas as well as in and around inlet and outlet structures;

g. At the discretion of the inspector, photographic documentation of storm water BMP components.

If deficiencies are noted during the inspection, the inspector will notify the ADEM Compliance Administrator. A copy of the inspection report will be provided to the Owner and/or permit holder.

Evaluation Criteria: The City will report the number of BMP inspections conducted by City employees.

Strategy 5. Inspection of Priority Sites

The City will conduct inspections of Priority Sites within the Madison MS4 at a minimum frequency of **once per month**.

BMP inspections will be documented using the BMP Inspection Form located in Appendix E, or an equivalent form. The inspector will evaluate the following:

1. Condition of the site entrances/exits

2. Effectiveness of erosion controls (e.g., diversion channels, vegetation, outlet protection, tec.)
3. Condition of erosion controls
4. Condition of discharge points from the site
5. Evidence of off-site sediment deposition
6. Condition of sediment controls (e.g., silt fence, wattles, check dams, inlet protection, etc.)
7. Condition of any sediment basins
8. Concrete washout management
9. Fueling area management
10. Sanitary waste management
11. Construction debris and trash management
12. Whether an Erosion and Sediment Control plan meeting the City's requirements is present on the site

If deficiencies are noted during the inspection, the inspector will notify the ADEM Compliance Administrator. A copy of the inspection report will be provided to the Owner and/or permit holder.

Evaluation Criteria: The City will report the number of BMP inspections conducted at Priority Sites by City employees.

7.2.3 Site Plan Review and Approval

Strategy 6. Require Plan Submittal

Ordinance 2015-38, Erosion and Sediment Control requires construction sites greater than 10,000 square feet (0.23 acre) in size to provide an Erosion and Sediment Control Plan to the Authorized Enforcement Agent.

The following activities are excluded from applicability under Article VIII:

1. Any emergency activity that is immediately necessary for the protection of life, property, or natural resources.
2. Existing nursery and agricultural operations conducted as a permitted main or accessory use.
3. Any development where City development approval is required by the City of Madison Subdivision Regulations or Zoning Ordinance. The City's approval of the development will serve as the land disturbance permit. No Land Disturbance Permit will be issued prior to or separate from the development approval.

4. Home construction activity concurrent with City-approved development are considered the same land disturbance activity and will remain active.

Ordinance 2015-38, Erosion and Sediment Control lists the requirements for the Erosion and Sediment Control Plan and establishes that planned BMPs must meet the design criteria set forth in the most recent version of the *Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas*.

Plan review will ensure proposed projects adequately address the City's erosion, sediment, and pollution control requirements. Plan review will also take into consideration what potential impacts to water quality the project may have.

Evaluation Criteria: The City will report the number of plans reviewed and the number of Land Disturbance Permits granted during the reporting period.

Strategy 7. Plan Review Procedures

Prior to issuing a Land Disturbance Permit, City personnel will review the Erosion and Sediment Control Plan submitted by the applicant. The plan will be reviewed for:

1. Estimated sequence of construction
2. Inclusion of appropriate erosion and sediment controls for each phase
3. Details on methods selected for temporary and permanent stabilization
4. Compliance with the Alabama Handbook

If the reviewed plan is determined to meet the applicable criteria, the plan will be approved in writing.

Evaluation Criteria: Based on the results of plan reviews conducted during the reporting period, the City will evaluate the plan review criteria to determine if additional metrics are necessary or if further clarification is needed for the existing metrics.

7.2.4 Enforcement Tracking

Strategy 8. Maintain Records of Public Complaints

The City currently maintains a web-based reporting system for individuals to report concerns or problems. The "Let Us Know" feature on the webpage is part of the QAlert program. QAlert collects data entered by the individual making the report, including the location and type of issue and comments on the issue, and allows for the upload of photos or other documents.

The City will maintain the Let Us Know function on the Storm Water Webpage. The storm water category was added as a type of issue citizens may select, which allows the ADEM Compliance Administrator to be directly notified. Reports regarding non-compliant construction sites, illicit discharges, and violations of ordinances relating to storm water pollution will be directed to the ADEM Compliance Administrator.

Records of public complaints will include the following:

a. Date, time and description of the complaint

b. Location of subject construction sites

c. Identification of any actions taken (e.g. inspections, enforcement, corrections). Identifying information must be sufficient to cross-reference inspection and enforcement records.

Evaluation Criteria: The City will report the total number of received complaints, the number of addressed complaints, and the number of complaints resolved during the reporting period. This information will help measure the effectiveness of the reporting system, as well as public awareness of and concern for storm water issues.

Strategy 9. Document Enforcement Actions

When a suspect illicit discharge or illicit connection is identified, a case log detailing pertinent information will be created. Throughout the problem investigation and corrective action activities, information related to the incident or property in question will be documented in the case log.

Documentation of enforcement actions will include the following, at a minimum:

a. Name of owner/operator

b. Location of construction project

c. Description of violation

d. Required schedule for returning to compliance

e. Description of enforcement response used, including escalated responses if repeat violations occur or violations are not resolved in a timely manner

f. Accompanying documentation of enforcement responses (e.g. notices of non-compliance, notices of violations, etc.)

g. Any referrals to different Departments or Agencies

h. Date the violation was resolved

Evaluation Criteria: The City will maintain records of the correction actions. The City will report the number of parties against which enforcement action is taken during the reporting period.

7.2.5 ADEM Notification

Strategy 10. Notify ADEM of Unpermitted Sites

The City will notify ADEM of any qualifying construction site that is not permitted under the Alabama Construction General Permit.

Evaluation Criteria: The City will report the total number of unpermitted qualifying construction sites reported to ADEM during the reporting period.

Strategy 11. Notify ADEM of Non-compliant Sites

The City will report any person who continues to violate the provisions as set forth in Ordinance 2015-38, Erosion and Sediment Control of the City of Madison, to ADEM.

Evaluation Criteria: The City will report the number of violations reported to ADEM during the reporting period.

7.3 Responsible Parties

The **Engineering Department** is responsible for implementing the Construction Site Storm Water Runoff Control Program.

The **ADEM Compliance Administrator** is responsible for compiling the required data, as received by the participating departments, for inclusion in the Annual Report.

8.0 Post-construction Storm Water Management

8.1 Rationale

Post-construction runoff can significantly impact a water body by increasing the type and quantity of pollutants in storm water runoff and by increasing the quantity of water delivered to the water body during storms. As runoff flows over areas altered by development, it collects sediment and chemicals such as oil, grease, pesticides, heavy metals, and nutrients. Instead of infiltrating, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff are delivered to the nearest receiving water. Both impacts can be mitigated by proper post-construction planning.

The City's Post-construction Storm Water Management Program is primarily designed to minimize the discharge of pollutants from post-construction storm water discharges from new development and redevelopment projects. The program is intended to:

- Ensure that post-construction runoff mimics pre-construction hydrology of the site;
- Remove suspended solids and other pollutants associated with activities occurring during and after development;
- Decrease the erosive potential of increased runoff volumes and velocities associated with development; and,
- Preserve natural systems including in-stream habitat, riparian areas, and wetlands.

8.2 Strategies

8.2.1 Legal Authority

Strategy 1. Post-Construction Storm Water Management Ordinance

Prior to April 30, 2017, the City will develop an ordinance to address post-construction runoff from new development and redevelopment projects.

The ordinance shall:

- Formally adopt guidelines for Post-Construction BMP standards.
- Establish general performance criteria for post-construction storm water management, including the requirement that post-construction runoff mimic preconstruction hydrology of the site.
- Establish general design criteria for post-construction BMPs, including the requirement that a 1.14 inch rainfall over a 24-hour period, preceded by a 72-hour antecedent dry period, be the

basis for the design and implementation of post construction BMPs to the maximum extent practicable.

- Establish requirements for post-construction storm water management plans.
- Establish procedures for plan submittal, review, and approval.
- Establish methods by which the City will require long-term operation and maintenance of post-construction BMPs.
- Provide authority for City personnel to inspect post-construction BMPs, both during construction and following completion.
- Require the performance of post-construction inspections and the maintenance of inspection and maintenance records.
- Establish enforcement procedures to address non-compliant plans and sites.

Evaluation Criteria: The City will annually evaluate the Post-Construction Storm Water Management Ordinance to ensure that post-construction BMPs within the MS4 are being correctly planned, properly installed, and adequately maintained. The evaluation will consider the results of the plan reviews and inspections conducted during the reporting period to determine if the ordinance should be updated.

The City will include a copy of or a link to the most recent version of the Post-Construction Storm Water Management Ordinance with each Annual Report once adopted.

8.2.2 Plan Review and Oversight

Strategy 2. Require Plan Submittal

The Post-Construction Storm Water Management Ordinance will require the submittal of plans showing the planned Post-Construction BMPs. Developers will be required to submit a ***Post-Construction Storm Water Management Plan*** to the City prior to construction or modification of post-construction controls.

The specific criteria for the storm water management plans will be established in the Post-Construction Storm Water Ordinance. Approval of the plan by the City's Technical Review Committee and, if required, the Planning Commission, will be required prior to the start of construction.

Plan review will ensure proposed projects adequately address the City's post-construction storm water management requirements. The review process will consider the environmental characteristics of the project site, the effectiveness of the measures proposed for managing storm water from the proposed development or redevelopment, and the potential impacts to water quality.

Evaluation Criteria: The City will report the number of Post-Construction Storm Water Management Plans approved during the reporting period.

Strategy 3. Plan Review Procedures

Prior to construction, the Technical Review Committee will review the Post-Construction Storm Water Management Plan submitted by the applicant. The plan will be reviewed for:

1. Compliance with the design criteria established in the ordinance
2. Compliance with the BMP standards adopted in the ordinance
3. Effectiveness of the selected BMPs
4. Details on methods selected for permanent stabilization
5. Inclusion of a long-term maintenance agreement
6. Inclusion of Low Impact Development strategies

If the reviewed plan is determined to meet the applicable criteria, the plan will be approved in writing.

Evaluation Criteria: Based on the results of plan reviews conducted during the reporting period, the City will evaluate the plan review criteria to determine if additional metrics are necessary or if further clarification is needed for the existing metrics.

Strategy 4. Reducing Post-Construction Runoff Volume

The City of Madison will develop and implement strategies to ensure that post-construction runoff mimics the pre-construction hydrology. The developed strategies may include both structural and non-structural BMPs. A 1.14-inch rainfall over a 24-hour period, preceded by a 72-hour antecedent dry period, will be the basis for the design and implementation of post construction BMPs.

Strategies the City will develop and implement may include:

- Detention ponds
- Retention ponds
- Bioswales
- Rain gardens
- Pervious pavement

Evaluation Criteria: The City will report the number of Post-Construction Storm Water Management Plans approved during the reporting period.

Strategy 5. Post-installation Inspections

To ensure that post-construction BMPs are installed in accordance with the reviewed and approved plans, the City will conduct an inspection following completion of the BMP. The inspection will be conducted as part of the required final inspection, prior to acceptance of the subdivision or the issuance of a Certificate of Occupancy. The inspection will evaluate the BMP for compliance with the approved plans.

If the inspected BMP is determined to be out of compliance, the City will require the owner to modify the BMP to meet the approved plans. Additional inspections will be conducted as necessary to determine if the required modifications have been made. A final approval will not be issued until the BMP is determined to be in compliance.

Evaluation Criteria: The City will report the number of post-construction BMPs installed and the number of final inspections conducted on post-construction BMPs during the reporting period.

8.2.3 Long-Term Operation and Maintenance

Strategy 6. Require Legal Agreement

The Post-Construction Storm Water Management Ordinance will include measures requiring the long-term operation and maintenance of post-construction BMPs. The ordinance will require at least one of the following agreements:

- The developer's signed statement accepting responsibility for maintenance until the maintenance responsibility is legally transferred to another party;
- Any other legally enforceable agreement that assigns permanent responsibility for maintenance of post-construction BMPs.

Evaluation Criteria: Prior to the end of each reporting period, the City will update the inventory of post-construction BMPs within the MS4.

Strategy 7. Periodic Inspections

The Post-Construction Storm Water Management Ordinance will provide for periodic inspections of post-construction BMPs approved after **October 1, 2015**. The inspections will be performed to confirm that the post-construction BMPs are functioning as designed.

The City will inspect City-owned or managed post-construction BMPs within the Madison MS4 at a minimum of once every five years. Inspection and maintenance records for post-construction BMPs will be maintained for a period of five years from the date of inspection or maintenance, and will be made available to ADEM upon request.

Evaluation Criteria: The City will report the number of inspections performed by City personnel on post-construction structural controls during the reporting period.

Strategy 8. Corrective Actions

Should a routine inspection of a post-construction identify a maintenance issue, the City will perform or require necessary maintenance or repairs. Additional inspections will be conducted as necessary to determine if the required repairs have been made.

Evaluation Criteria: The City will report the number of corrective or enforcement actions taken regarding deficient post-construction BMPs during the reporting period.

8.3 Responsible Parties

The **Engineering Department** is responsible for establishing design criteria for post-construction BMPs, drafting a Post-Construction Storm Water Ordinance, reviewing submitted Post-Construction Storm Water Management Plans, and performing inspections of post-construction BMPs.

The **ADEM Compliance Administrator** is responsible for compiling the required data, as received by the participating departments, for inclusion in the Annual Report.

9.0 Pollution Prevention/Good Housekeeping for Municipal Operations

9.1 Rationale

The City will develop and utilize BMPs designed to minimize pollution related to municipal operations and maintenance. These BMPs are intended to address storm water pollution from nutrients, sediments, petroleum products, and other common pollutants.

9.2 Strategies

9.2.1 Municipal Facilities

Strategy 1. Municipal Facilities Inventory

The City will continue to maintain the inventory listing all municipal facilities, including municipal facilities that have the potential to discharge pollutants via storm water runoff. The inventory will be updated annually.

Evaluation Criteria: The City will provide a summary of the municipal facility inventory for the reporting period with each Annual Report.

9.2.2 Pollution Prevention

Strategy 2. Street Sweeping Program

To reduce the amount of litter, floatables, and debris entering the MS4 from municipal operations, the City will implement a street sweeping program on residential and collector streets. Streets will be selected based on available budget and to maximize the effectiveness of debris removal from streets containing the maximum amount of foliage.

Evaluation Criteria: The City will report the number of lane miles swept during the reporting period.

Strategy 3. Remove and Dispose of Litter

To remove and dispose of litter, floatables, and debris material entering the MS4, the City will evaluate and select BMPs for ponds, inlets, and/or culverts within the MS4. The Public Works Department will be responsible for collection and disposal of the removed waste.

Evaluation Criteria: The City will report the number and type of BMPs implemented during the reporting period.

9.2.3 Standard Operating Procedures

Strategy 4. Pesticide, Herbicide, and Fertilizer Management

Pesticide, Herbicide, and Fertilizer (PHF) application within the City of Madison is currently performed by the Public Works Department under NPDES General Permit ALG870034. A Pesticide Discharge Management Plan (PDMP) is currently in place and was updated in September of 2014. Standard Operating Procedures for PHF application, storage, disposal, and equipment maintenance are included in the existing PDMP.

The **Public Works Department** is responsible for implementation of NPDES General Permit ALG870034 and compliance with the PHF permit conditions.

Evaluation Criteria: The Public Works Department will review and update the PDMP in accordance with the terms of the NPDES General Permit.

Strategy 5. Good Housekeeping Standard Procedures

The City will develop Standard Operating Procedures (SOP) detailing good housekeeping practices to be employed during municipal operations that may include, but are not limited to:

- Equipment washing
- Street sweeping
- Maintenance of municipal roads including public streets, roads, and highways, including but not limited to unpaved roads, owned, operated, or under the responsibility of the Permittee
- Storage and disposal of chemicals and waste materials
- Vegetation control, cutting, removal, and disposal of the cuttings
- Vehicle fleets/equipment maintenance and repair
- External building maintenance
- Materials storage facilities and storage yards

The SOPs will be developed by **September 30, 2017** and will be implemented at the appropriate municipal facilities no later than **September 30, 2018**.

Once implemented, the SOPs will be evaluated each year by September 30. A summary of proposed changes will be included in the Annual Report.

Evaluation Criteria: The City will report completion of the SOPs in the 2016-2017 Annual Report. The City will report the results of the annual evaluation of the SOPs in each subsequent Annual Report.

9.2.4 Inspection Program

Strategy 6. Inspection of Municipal Facilities

Municipal facilities will be evaluated to determine which facilities have operations with the potential to contribute pollutants to storm water runoff. The evaluation will consider the following:

- Types and amounts of chemicals stored at the facility
- Types and capacities of tanks, totes, or drums at the facility
- Outfall locations and types (e.g., ditch, culvert, pipe, etc.)
- Exterior operations at the facility (e.g., equipment washing, equipment fueling, etc.)

Municipal facilities with identified pollution potential will be inspected annually for good housekeeping practices and compliance with the developed SOPs. The Municipal Facility BMP Inspection Checklist is included in Appendix E.

The annual municipal facility inspections will be performed by the Engineering Department. Records of municipal facility inspections will be maintained by the ADEM Compliance Administrator.

If deficiencies are noted during an annual municipal facility inspection, the deficiencies will be addressed. The ADEM Compliance Administrator will notify the City department responsible for maintaining the non-compliant municipal facility. The facility will be re-inspected to ensure that corrective actions are taken and the deficiencies are corrected.

Evaluation Criteria: Municipal facilities with operations that have the potential to contribute pollutants to storm water will be noted on the Municipal Facility Inventory discussed in Strategy 1. The City will also report the number of municipal inspections conducted during the reporting period.

9.2.5 Employee Training

Strategy 7. Employee Training

Appropriate City personnel will undergo annual training on good housekeeping practices and the developed SOPs. Topics may include, but are not limited to:

- Equipment washing
- Street sweeping
- Maintenance of municipal roads
- Storage and disposal of chemicals and waste materials
- Vegetation control, cutting, removal, and disposal of the cuttings

- Vehicle fleets/equipment maintenance and repair
- External building maintenance
- Materials storage facilities and storage yards

Evaluation Criteria: The City will report the dates municipal employees underwent training, the number of attendees, and the departments represented.

9.2.6 Water Quality Impacts

Strategy 8. Assess Water Quality Impacts for City Flood Management Projects

The City will assess water quality impacts for City-owned or operated flood management projects (e.g., detention ponds, retention ponds, storm water conveyance improvements, etc.) implemented after **October 1, 2015**. The assessment will include an evaluation of pre-construction and post-construction discharge rates, potential wetland development, and 100-year flow reduction

Evaluation Criteria: The City will report the number of new flood management projects that were assessed for water quality impacts during the reporting period.

Strategy 9. Evaluate Retrofitting Existing Structural Controls

To address the issue of storm water from older developments, the City will evaluate the feasibility of retrofitting existing structural controls. Retrofits include new installations or upgrades to existing BMPs in developed areas where there is inadequate storm water treatment. Storm water retrofit goals may include, but are not limited to:

- Flood mitigation
- Improving infiltration
- Addressing selected pollutants
- Correction of identified performance issues
- Disconnecting impervious areas
- Demonstrating new technologies

Evaluation Criteria: The City will report the number of existing projects evaluated for retrofitting during the reporting period.

9.3 Responsible Parties

The **Engineering Department** will be responsible for conducting the municipal facility evaluations and inspections, evaluating water quality impacts from flood control project, and evaluating the feasibility of retrofitting existing structural controls. The Engineering Department is also responsible for administering the Street Sweeping Program.

The **Public Works Department** will be responsible for collection and disposal of the waste collected in City-owned or operated BMPs. The Public Works Department is also responsible for the implementation of NPDES General Permit ALG870034 and compliance with the PHF permit conditions.

The **ADEM Compliance Administrator** will be responsible for coordinating the annual Municipal BMP training and compiling the required data, as received by participating departments, for inclusion in the Annual Report.

10.0 Agency Certification

I certify under penalty of law that this Storm Water management Program and all attachments pertaining to the City of Madison Municipal Separate Storm Sewer System were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment for knowing violations.

Troy Trulock, Mayor
City of Madison, Alabama

2/29/2016
Date

Appendices

Appendix A - Figures

Appendix B - Permit Documentation

Appendix C - Ordinances

Appendix D - Illicit Discharge Detection and Elimination Plan

Appendix E - Forms

Outfall Reconnaissance Inventory Field Sheet

BMP Inspection Form

Municipal Facility BMP Inspection Checklist