

NPDES Storm Water Management Program (SWMP) Plan



Prepared for:

The City of Satsuma
Phase II NPDES MS4 Permit Number ALR040046
5464 Old Highway 43
Satsuma, Alabama 36572

Prepared by:



Engineering. Environmental. Answers.

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1. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Base on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information 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 and imprisonment for knowing violations.

The Honorable Paul Murray
Mayor, City of Satsuma

Signature

Date



2. General Introduction

On November 16, 1990, the U.S. Environmental Protection Agency (EPA) promulgated regulations, under the Water Quality Act of 1987, setting forth application requirements for National Pollutant Discharge Elimination System (NPDES) storm water permits.

In 1999, EPA promulgated regulations establishing Phase II of the NPDES storm water program. The Phase II program extends coverage of the NPDES storm water program to regulated “small” MS4s. A regulated “small” MS4 is located within an “urbanized area” as defined by the Census Bureau or as designated by the NPDES permitting authority.

The Alabama Department of Environmental Management (ADEM) administers the storm water program for the State of Alabama. In February of 2013, the City of Satsuma (City) submitted a request to ADEM to be re-designated from a Phase I MS4 to a Phase II MS4. The information included in this Storm Water Management Program (SWMP) Plan has been developed to accompany the City’s Notice of Intent. The City’s SWMP Plan describes the City’s initial efforts to maintain compliance with the NPDES General Permit ALR040046 and shall be revised as needed to reflect the City’s MS4 activities.

2.1 Site Description

The City of Satsuma is located just south of the I-65 and Highway 43 intersection in Mobile County, Alabama. Established in 1959, the community now serves as a suburb for the City of Mobile. Though Satsuma is geographically small (6.5 sq. miles), its population has experienced significant growth in recent years. The current population, according to the 2010 census, is 6,168. With creeks and waterways on one side, Satsuma has become a gateway to the Mobile Delta and the Mobile River.

2.2 Water Quality Concerns

The City of Satsuma has four receiving waters to which the MS4 discharges to:

- Tensaw River
- Steele Creek
- Tidewater Branch



- Gunnison Creek

As a growing community, Satsuma recognizes the importance of protecting the natural environment, and balancing the need for growth and economic development with environmental consideration.

2.3 Responsible Party

The City's storm water program is managed by several City Departments and by community activities, which involve volunteer work. The City does not have the financial resources to dedicate personnel solely to storm water, water quality. Therefore these responsibilities are shared by employees and considered part of the efforts. The following individuals may be contacted to address questions or concerns regarding the City of Satsuma's MS4 program:

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2.4 Phase II MS4 Requirements

U.S. EPA defines the requirements for a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act in Title 40, Part 122, Sections 30 through 37 of the



Code of Federal Regulations (40 CFR Parts 122.30 through 122.37). These regulations are incorporated into the SWMP Plan by reference.

The Phase II storm water regulations require operators of small MS4s in urbanized areas to develop and implement storm water management programs employing best management practices (BMPs) to adequately address the six minimum control measures. These control measures include the following:

- Public Education and Outreach on Storm Water Impacts
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination (IDDE)
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operations

2.5 Primary Target Audiences

The City of Satsuma has created BMPs to best address the NPDES permit's requirements for all audiences located within the City's MS4. The following are the audiences that the City hopes to reach:

- General Public (homeowners and citizens) Potential contributors of stormwater pollution through activities such as illicit discharges and overfertilization of lawns. The primary pollutants potentially contributed by this target audience are nutrients and pathogens.
- Engineers, Developers and Contractors Potential contributors of stormwater pollution through development and construction activities as well as engineering design of stormwater pollution prevention best management practices. The primary pollutants potentially contributed by this target audience are sediment and nutrients.
- Landscape companies Potential contributors of stormwater pollution primarily through lawn maintenance activities. The primary pollutants potentially contributed by this target audience are excess nutrients.



- Local businesses Potential contributors of stormwater pollution through activities such as illicit discharges and daily business activities. The primary pollutants contributed by this target audience are excess nutrients and pathogens.

A. Public Education and Outreach on Storm Water Impacts

Rationale:

The City is dedicated to achieving the conditions of this permit by working to ultimately improve water quality by reducing pollutants in receiving waters within the City's MS4 area. The City's goals are to educate the general public, contractors, developers, business owners, and municipal employees on the storm water management program and focus on a unified approach to the identification and correction of problem areas.

The overall management and reporting personnel of the City's storm water public education and outreach program is detailed in Section 2.3. Success of the City's public education and outreach program will be assessed by the results from water quality monitoring as well as storm water pollution awareness in the community by the quantity of people reached in a permit year.

The City has established the following public education outreach program measureable goals and BMPs:

Newsletters

The City currently sends out a newsletter including upcoming storm water activities in the community as well as information on hazardous materials, in residents' water bills. The City plans to continue this activity on an as needed basis, but at least accomplish this goal once a year. The City hopes this circulation will reach over 2000 households through the water bill circulation.

City Website

The City utilizes the City website to inform the public (homeowners, business owners, employees, professionals, developers, contractors, and elected officials) of storm water pollution issues and events. The City also promotes waste disposal events, recycling programs, and City Council meeting minutes,



and updated ordinances and policies on the City website. The website is maintained and added to as needed. Screenshots of the current website information is located within Appendix B of this SWMP plan.

New Citizen Handouts

The City has made an effort and continues to make an effort to provide all new citizens with information about the area through a handout. These handouts answer new citizens' questions on waste removal in the City.

Water Festival

The City is working toward teaching its young citizens the value of clean water and a clean environment. The City is looking into funding options for providing a Water Festival for 4th graders to attend. Water Festivals address water filtration and water cycle activities to teach children about the importance of clean water. The City will be in contact with Mobile County to see if partnering with the County would be the best option for their program over the next year and work to establish a water quality or environment focused program by 2015.

Steel Creek Lodge

The Steele Creek Lodge is fitted with signs about the watershed areas to educate the public on the unique waterbodies surrounding the City of Satsuma. The City is proud to have this as an excellent tool for educational school field trips and also just to educate the general public.

*Table A.1: Schedule of Events for Public Education and Outreach Efforts**

Control Measure	BMP	Description	Activity Schedule
Public Education	City Website	Provide residents information	Continuous throughout year
Public Education	Newsletter	Provide residents information	As needed for events, at least 1/year
Public Education	New Citizen Handouts	Provide waste removal information	As needed
Public Education	Water Festival	Educational program for 4 th graders	Annual program beginning in 2015
Public Education	Steele Creek Lodge	Educational Signs	Continuous throughout year

*A detailed chart containing all control measures is located within Appendix A of the SWMP.



B. Public Involvement/Participation

Rationale:

The City's goals to involve the public with the development and implementation of its storm water program by providing activities to encourage and foster community participation in water quality improvement by reducing and eliminating pollution to receiving waters in the City's MS4.

The overall management and reporting personnel of the City's storm water public involvement and participation program is detailed in Section 2.3. Overall success of the City's public involvement and participation program will be assessed by the results from water quality monitoring as well as storm water pollution awareness in the community by the number of people attending each event.

The City has established the following public involvement and participation program measurable goals and BMPs:

Recycling Day

The City will be working toward holding an annual recycling day for residents. The City is researching ways to provide citizens with means to dispose of electronics, household hazardous waste and tires during one annual event starting in 2015.

Trash Ramp and Leaf Collection Program

The City provides citizens with access to the City's trash ramp. The City's website details the locations and information regarding information on the trash ramp and also information on alternative disposal information. The City also has a leaf vacuum that is used to clean up citizens' yard clippings.

Oil and Household Hazardous Waste

The City accepts only non-hazardous items for disposal at an approved facility. Residents are provided information on the disposal of common household wastes and given drop-off locations for those materials not accepted by the City. Also, information on waste disposal regularly appears on water bills, a monthly newsletter, and is posted on the City's website. The City's Water and Sewer Department is in the process of completing development of an oil and grease recycling program.



City Council Meetings

The City advertises City Council Meetings to allow the public to come in for public input or comment on decisions that the City is making. The City also posts council minutes on the City website to provide the public with multiple ways to know what is happening within the City and voice their opinions.

*Table B.1: Schedule of Events for Public Involvement and Participation Efforts**

Control Measure	BMP	Description	Activity Schedule
Public Involvement	Recycling Day	Household Waste Disposal	1/year starting in 2015
Public Involvement	Trash Ramp and Leaf Collection Program	Provides Recycling Information	Continuous throughout year
Public Involvement	Household Hazardous Waste	Recycling for the public	Continuous throughout year
Public Involvement	City Council Meetings	Community Input	Bi-Monthly
Public Involvement	Website	City Council Minutes	Continuous

*A detailed chart containing all NPDES permit requirement control measures is located within Appendix A of the SWMP.

C. Illicit Discharge Detection and Elimination (IDDE)

Rationale:

The City's goal is to continue to identify and correct illicit discharges within the City's MS4 system, while educating the public on the importance of protecting the environment from illicit discharges. The City's monitoring program will help to manage and enforce its IDDE program.

The overall management and reporting personnel of the City's storm water illicit discharge detection and elimination program is detailed in Section 2.3. Success of the City's illicit discharge detection and elimination program will be assessed by the results from water quality monitoring as well as storm water pollution awareness in the community.

The City has established the following illicit discharge detection and elimination measurable goals and BMPs:



Stormwater Ordinance

The City has updated their Stormwater Ordinance (see Appendix D) to prohibit materials not comprised of storm water, except discharges pursuant to a NPDES permit, from being discharged into the City's MS4. The City's Stormwater Ordinance allows the City to ensure compliance with NPDES General Permit, ALR040046 by providing "To the extent allowable under State and local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into your storm sewer system... and implement appropriate enforcement procedures and actions."

The City responds to illicit discharges, conducts inspections, investigates, and enforces violations based on the City's Stormwater Ordinance. Suspected illicit discharges are investigated and handled immediately. The City has developed a standard operating procedure for illicit discharge dry weather screening and this is included along with the monitoring plan and Nuisance Ordinance in Appendix D of this SWMP.

Monitoring and Screening

Field screening locations and monitoring stations were selected based upon proximity to major stream systems, drainage basins, and urban development. Field screening stations are examined during dry conditions to verify that flow exists only during rainfall events. Monitoring stations are located along water bodies that would receive runoff from overland flow and storm water outfalls. These stations were selected to be representative of the regional drainage conditions within the City's MS4 boundaries.

The City has updated their storm water outfall map detailing the field screening locations that is within Appendix D. The City will use the dry weather screening forms to evaluate the City's storm water outfalls.

Inspections

City personnel inspect and maintain major channels and storm inlets within the City's MS4 area throughout the year. The Water and Sewer Board for the City also monitors and reports Sanitary Sewer Overflows (SSOs) as required.

The City conducts inspections of industrial facilities on a continuous basis. Currently there are no facilities subject to regulation under the Resource Conservation and Recovery Act (RCRA) within the



City’s jurisdiction. Inspection officers make annual visits to all commercial facilities and respond to violations as needed.

Volunteer Training

The City’s Fire Department conducts in-house hazardous materials training for all volunteers on an as needed basis to ensure that volunteers understand how to handle hazardous materials.

*Table C.1: Schedule of Events for Illicit Discharge Detection and Elimination Efforts**

Control Measure	BMP	Description	Activity Schedule
IDDE	Inspections	Major Channel Inspections	12 channels 1/month
IDDE	Inspections	Storm Inlet Inspections	1000 inlets 1/month
IDDE	Maintenance	Major Channel Maintenance	12 channels as needed
IDDE	Monitoring	Wet Weather Screening	1 site 1/year
IDDE	Monitoring	Dry Weather Screening	6 sites 1/year
IDDE	Industrial	Industrial Inspections	4 sites 1/year
IDDE	Ordinances	Revisions	1/year
IDDE	Training	Hazardous Materials	As needed
IDDE	Update Mapping	Update Outfall Mapping	As needed/yearly review

*A detailed chart containing all NPDES permit requirement control measures is located within Appendix A of the SWMP.

D. Construction Site Storm Water Runoff Control

Rationale:

The City’s goal is to continue to identify and correct storm water pollution from construction projects within the City with the City’s construction site storm water runoff control program. The City’s monitoring program will help to manage and enforce its construction site storm water runoff control program.

The overall management and responsible reporting personnel of the City’s construction storm water runoff control program is detailed in Section 2.3. Overall success of the City’s construction storm water



control program will be assessed by the results from water quality monitoring, enforcement actions carried out during each permit year, as well as storm water pollution awareness with developers in the community.

The City has established the following construction storm water runoff program measurable goals and BMPs:

Ordinances, Regulations, and Codes

The City's Planning Board and Board of Adjustments were established to advise the City Council on current and future development within the City and Planning Jurisdiction of the City. The Building Department is responsible for protecting the health, safety, and welfare of the City and its residents through enforcement of the City's Subdivision Regulations, Building Codes, and Ordinances (see Appendices D and E).

The City's Stormwater Ordinance addresses runoff from construction sites and requires that storm water management BMP plans for construction projects be submitted for City's review as part of the approval process. The City requires that construction projects have an approved erosion and sediment control plan to obtain approval for a City building permit. The City will develop and implement a way to evaluate its Stormwater Ordinance on a yearly basis.

The City also has a flood ordinance that allows the City to implement regulations should any new developments negatively impact drainage capacity or downstream property. Potential drainage issues are addressed before the City approves any development plans. An example building application and all applicable items for the City's Construction Runoff Control section are located in Appendix E of this SWMP.

Construction Inspections

The City's Building Department is responsible for construction inspections to ensure all City codes, regulations, and ordinances are upheld. These codes, regulations, and ordinances include: building, electrical, plumbing, mechanical, gas, fire standard, and storm water management practices. The Building Department also prepares or approves land disturbance permits for construction. Once a



permit is obtained, the contractor must request inspections during specified stages of construction. The City requires that the contractor uphold all ADEM essential BMPs for construction projects.

Inspections are done during various times during the construction process. The City’s inspection process ensures that all construction projects are in compliance with ADEM permit regulations and City codes, regulations and ordinances.

*Table D.1: Schedule of Events for Construction Site Storm Water Runoff Control**

Control Measure	BMP	Description	Activity Schedule
Construction Runoff Control	Ordinances, Codes, and Regulations	Enforcement	As needed
Construction Runoff Control	Ordinances, Codes, and Regulations	Revisions	1/year
Construction Runoff Control	Inspections	Construction Site Inspections	As needed

*A detailed chart containing all NPDES permit requirement control measures is located within Appendix A of the SWMP.

E. Post-Construction Storm Water Management in New Development and Redevelopment

Rationale:

The City’s goal is to continue to improve post-construction storm water runoff in order to improve water quality within the City’s waterways. The City’s monitoring program will help to manage and enforce its post-construction storm water management program.

The overall management and reporting personnel of the City’s post-construction storm water management program is detailed in Section 2.3. Overall success of the City’s post-construction storm water management program will be assessed by the results from water quality monitoring as well as storm water pollution awareness in the community.

The City has established the following post-construction storm water management program measurable goals and BMPs:



Ordinances, Regulations, and Codes

The City's Planning Board and Board of Adjustments were established to advise the City Council on current and future development within the City and Planning Jurisdiction of the City. The Building Department is responsible for protecting the health, safety, and welfare of the City and its residents through enforcement of the City's Subdivision Regulations, Building Codes, and Ordinances (see Appendix D and E).

The City's ordinances, regulations, and building codes address the requirements for a construction project permits to be closed out through the City. The City requires construction projects to complete site stabilization before the permit can be closed out. The City will develop and implement a way to evaluate its codes, regulations, and ordinances on a yearly basis.

Detention Pond Inspections

City personnel inspect the City's detention ponds annually for maintenance. The City's Stormwater Ordinance details the requirements for maintenance of these structural controls. The Public Works Department maintains a photographic record of drainage problems and daily logs are kept detailing activities accomplished. A report of these activities is submitted to the Mayor and City Council biweekly.

*Table E.1: Schedule of Events for Post-Construction Storm Water Management**

Control Measure	BMP	Description	Activity Schedule
Post-Construction	Ordinances, Codes, and Regulations	Enforcement	As needed
Post-Construction	Ordinances, Codes, and Regulations	Revisions	1/year
Post-Construction	Inspections	Site Inspections	As needed for closeout
Post-Construction	Inspections	Detention Ponds	As needed

*A detailed chart containing all NPDES permit requirement control measures is located within Appendix A of the SWMP.



F. Pollution Prevention/Good Housekeeping for Municipal Operations

Rationale:

The City's goal is to continue to improve the pollution prevention and good housekeeping for municipal operations program in order to educate employees on ways to improve water quality within the City's waterways. The City's monitoring program will help to manage and enforce its pollution prevention and good housekeeping for municipal operations program.

The overall management and reporting personnel of the City's pollution prevention and good housekeeping for municipal operations program is detailed in Section 2.3. Overall success of the City's pollution prevention and good housekeeping for municipal operations program will be assessed by the results from water quality monitoring as well as storm water pollution awareness with City personnel.

The City has established the following pollution prevention and good housekeeping for municipal operations program measureable goals and BMPs:

Procedural General Order (PGO)

The City Police and Fire Department developed and implemented a PGO (see Appendix G) for the reporting and handling of hazardous and/or toxic materials, spills, and incidents. The City of Saraland and/or the City of Mobile's Hazardous Materials team is called in for spills or emergencies.

Roadway Maintenance

The City' Public Works Department performs small roadway maintenance projects throughout the City. Natural drainage ways are maintained, preserved, and utilized as much as possible in road design. Roadway maintenance is typically performed during the dry season to help avoid any illicit discharges to the City's waterways or MS4 system. The City does not currently have a street sweeping program, but the City does have a contract to remove debris after a named storm event in the area. Another program that the City employs is citizen leaf collection by a leaf vacuum. By providing the City with these debris removal services, drainage to the MS4 system is greatly improved in the City.



Employee Community Involvement

The City attends annual or as needed due to storm event hazard mitigation meetings and plans to partner with Mobile County for future endeavors dealing with drainage issues located within the City. The City has developed a detailed, comprehensive plan for future growth within the City through a contract with the South Alabama Regional Planning Commission.

Employee Training

The City is working to implement storm water training into its regular safety meetings. The City will assess what topics will most pertinent to cover by an annual survey for employees to fill out, then review the necessary topics throughout the year that the survey recommended be addressed. An example training schedule is listed below. All topics will be covered, but the quarter when the topics are addressed may vary from the chart due to a need within the City.

Table 1: Municipal Training Schedule

Quarter	Topic
(1 st) January - March	Educational Activities within the City
(2 nd) April - June	Construction Site Programs within the City
(3 rd) July - September	Illicit Discharge Detection and Elimination
(4 th) October-December	Information on the MS4 Permit Requirements

Schedule of Events for Pollution Prevention and Good Housekeeping for Municipal Operations*

Control Measure	BMP	Description	Activity Schedule
Pollution Prevention	PGO	Plan for Hazardous Materials	As needed
Pollution Prevention	Roadway Maintenance	Maintenance of Drainage Ways	As needed
Pollution Prevention	Mitigation Meetings	Drainage Issues	Annually/As needed
Pollution Prevention	Employee Training	Storm water Training	1/quarter
Pollution Prevention	Employee Survey	Training Needs Survey	1/year

*A detailed chart containing all NPDES permit requirement control measures is located within Appendix A of the SWMP.



9. Summary

The intent of this program is to reduce pollutants in storm water discharged from the storm sewer system and prevent the degradation of the receiving streams. The City of Satsuma will continue to work toward reducing pollutant loading in the storm water and to improve the City's water quality.

