

# MADISON COUNTY

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## STORMWATER MANAGEMENT PROGRAM

### Annual Report

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# April 2018 – March 2019

Developed pursuant to:

Madison County's Phase II MS4 Permit # ALR040014  
Permit Term: October 1, 2016 – September 30, 2021

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# **I INTRODUCTION**

## **1. BACKGROUND OF STORMWATER MANAGEMENT PROGRAM**

Phase I of the U.S. Environmental Protection Agency’s (EPA) Municipal Stormwater Program relied on the National Pollutant Discharge Elimination System (NPDES) permit coverage to address stormwater runoff from “medium” and “large” municipal separate storm sewer systems (MS4s). The Phase II Program expanded the Phase I Program by requiring additional operators of “small” MS4s to implement programs and practices to control polluted stormwater runoff.

In Alabama, the NPDES permit program is administered by the Alabama Department of Environmental Management (ADEM). The Phase II Rule requires operators of small MS4s located in “urbanized areas”, as delineated by the Bureau of the Census, to apply for NPDES permit coverage. Based on the 2000 Census, part of Madison County was classified as being in an urbanized area. Therefore, the EPA and ADEM designated that area as a regulated small MS4 and required the County to comply with the Phase II Municipal Stormwater Program regulations – obtain coverage under the NPDES General Permit and develop a Stormwater Management Program (SWMP) – to reduce the contamination of stormwater runoff from the MS4 to the maximum extent practicable.

At a minimum, the SWMP must employ control measures to address the following six areas:

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

Madison County’s SWMP is comprised of specific actions that will be taken over the five-year permit period to aid in the efforts to protect water quality and reduce pollutant discharges from the County’s MS4. The SWMP Plan (SWMPP) details the programs and activities, referred to as best management practices (BMPs), chosen to meet the regulatory requirements, as well as their associated measurable goals and implementation schedules. Madison County’s progress in program implementation is documented in annual reports to ADEM.

Copies of the current NPDES General Permit and Madison County’s Stormwater Management Program Plan can be viewed at the Madison County Public Works Department or on the Madison County website.

## **2. PERMIT STATUS**

Madison County is currently in its third permit term. The permit was applied for in October 2015. After an administrative extension, General Permit ALR040014 became effective on October 1, 2016 and will expire on September 30, 2021.

## **3. PURPOSE OF ANNUAL REPORT**

To assess the effectiveness of the program, the permit requires an annual review and report of the Stormwater Management Program. The SWMP must be revised, as necessary, to maintain compliance with the permit requirements and must be implemented on all new areas added to the municipal separate storm sewer system. In the annual report, completed and planned activities must be documented, as well as any proposed changes to the program.

#### 4. ANNUAL REPORT COMPONENTS

The permit requires Madison County to submit annual reports to ADEM by May 31<sup>st</sup> of each year. **The coverage period for this report is April 2018 through March 2019.**

The report includes:

- Narrative report for each of the six control areas including activities/BMPs completed and in progress, an assessment of the control measures, and any revisions made or proposed;
- Summary table of stormwater controls planned/scheduled for the next reporting cycle; and
- Overall evaluation of the Stormwater Management Program including major accomplishments, determination of the program effectiveness, reasons any goals were not performed, and results/analysis of any information collected.

Please note, the BMPs and activities described in this annual report are based on the latest revision of the Madison County SWMPP, updated in November 2017.

All documentation associated with the Stormwater Management Program and annual reports are maintained at the Madison County Public Works Department. The records are available for public review when requested in writing.

#### 5. CONTACTS AND RESPONSIBLE PARTIES

The Public Works Department is responsible for overall program coordination and/or implementation, as well as documentation and annual reporting.

##### PROGRAM CONTACTS:

##### **Madison County Public Works Department**

266-C Shields Road  
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256-746-2900

<http://www.madisoncountyal.gov/>

##### **County Engineer and Public Works/Water Department Director** – Charles “Chuck” Faulkner, PE

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##### **Assistant County Engineer (Water) and Assistant Water Department Director** – LaWanda West, EI

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## **II NARRATIVE REPORT OF CONTROL MEASURES**

### **1. ACTIONS COMPLETED / IN PROGRESS**

#### **A. Public Education and Outreach on Stormwater Impacts**

Madison County implements a public education and outreach program to inform the community about the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff. The program is designed to reach audiences such as the general public, businesses, and the construction community.

##### ***(A1) Stormwater/Pollution Prevention Activity at Annual Drinking Water Festival***

The activity “Watershed in a Box” was included in the Madison County Drinking Water Festival. This hands-on activity, along with others, was used to inform attending 4<sup>th</sup> graders, from all over the County, about stormwater impacts and pollution prevention. Approximately 1,500 students and teachers attended the two-day event in May, representing 18 local schools.

##### ***(A2) Stormwater Education for Local Schools***

Representatives of the Madison County Soil and Water Conservation District delivered educational programs to students in Madison County – 2 classes of elementary students at one school and 7 teachers-in-training at one university (June, February, March).

##### ***(A3) Educational Tips and Facts for Annual Drinking Water Report***

Six (6) articles containing tips and facts about stormwater, pollution prevention, nonpoint source pollution, conservation, recycling, etc. were included in the Madison County Drinking Water Report. The report was sent to Water Department customers (approximately 30,000 households/businesses at the time of mail-out) in July.

##### ***(A4) Educational Brochures and Fact Sheets for General Public***

Educational brochures and fact sheets, relevant to the general public, were displayed in the Madison County Public Works Complex and Water Department Office. The brochures/fact sheets displayed were “Water Quality: How it Works”, “The Care and Maintenance of Your Septic System” and “Get to Know Your H<sub>2</sub>O”. In addition, an article titled “Clean Water is Everybody’s Business” was posted on the County website under Stormwater Management, Information on How You Can Do Your Part.

##### ***(A5) Stormwater Education and Regulation Training for Construction Community***

When opportunities arise, Madison County assists other partners with training seminars for local builders, contractors and developers and/or displays brochures advertising such events.

##### ***(A6) Educational Outreach Efforts with Local Organizations and Partners***

Madison County partners with/helps support local organizations already active in educating the public about stormwater, pollution and conservation issues. Madison County displayed the brochure titled “Get to Know Your H<sub>2</sub>O” (developed by the Alabama Rivers and Streams Network) at the Public Works Complex and Water Department Office. Representatives of the Madison County Soil and Water Conservation District delivered educational programs to participants in Madison County – 105 attendees (October, March).

Networking contacts continue to be made through the newly established Alabama Stormwater Association. Contact information is being shared to participating MS4s in the State. This information will provide a means for MS4s to pool resources and circulate education/outreach materials, creating a more collaborating environment.

### ***(A7) Educational Brochures and Fact Sheets for Businesses and Construction Community***

The County developed brochure, titled “Do You Need a Construction Stormwater Permit?”, was displayed all year in the Madison County Public Works Complex and Water Department Office. The supply was restocked in March. The brochure was also posted on the County website under Stormwater Management and Subdivisions.

## **B. Public Involvement on Stormwater Impacts**

The SWMP includes ongoing activities for public involvement.

### ***(B1) Public Outreach Efforts with Local Organizations and Partners***

When opportunities arise, Madison County assists other partners with training seminars for local builders, contractors and developers and/or displays brochures advertising such events.

Networking contacts continue to be made through the newly established Alabama Stormwater Association. Contact information is being shared to participating MS4s in the State. This information will provide a means for MS4s to pool resources and circulate education/outreach materials, creating a more collaborating environment.

### ***(B2) Public Notification of Planned Activities***

The following were advertised in the water department’s annual drinking water report: Huntsville’s “Handle with Care Household Hazardous Waste” program, District Four’s October “Handle with Care Collection Day”, Madison County recycling specifics (curbside and drop-site), and Stormwater Program contact information. The report was delivered to approximately 30,000 households/businesses in July.

District Three’s “Large Debris Drop Off” events were advertised through Madison County’s mass email system in September.

District Four’s “Handle with Care Collection Day” information was sent out through Madison County’s mass email system, advertised on the County website in the calendar of events, and shared on the local news (April, September).

In addition, the following were posted on the Madison County website: a copy of the SWMP Plan and most current annual report, County recycling programs details (curbside, drop-site, and tire), information about County large debris collection services, a link to Huntsville’s “Handle with Care Household Hazardous Waste” program, and Stormwater Program contact information.

### ***(B3) Support of Local Clean-Up Projects***

Madison County supports local clean-up projects by supplying bags and pick-up services for projects requesting assistance.

### ***(B4) Public Notification of “Handle with Care” Program***

Huntsville’s Solid Waste Disposal Authority “Handle with Care” program was advertised in the annual drinking water report. Details included in the report were program contact information, collection days/times, center location and items accepted. The report was delivered to approximately 30,000 households/businesses in July. In addition, a link to the program was included on the County website under Waste Control and Recycling.

District Four’s “Handle with Care Collection Day” events were advertised through Madison County’s mass email system, on the County website in the calendar of events, in the annual drinking water report, and during the local news. The County is partnering with the Solid Waste Disposal Authority to provide another means for County residents to dispose of household hazardous waste without having to take the items in to Huntsville.

### ***(B5) Public Involvement in the Development and Review of the SWMP***

The latest versions of the SWMP plan and annual report were updated on the County website to provide an opportunity for public review and input (August). The stormwater contacts, also included on the website, provide the means for the public to comment.

### ***(B6) Publish Stormwater Contact Information in Annual Drinking Water Report/Website and Respond to Public Requests/Concerns***

Federal, state and Madison County stormwater contacts were included in the Madison County annual drinking water report, and on the County website. The report was delivered to approximately 30,000 households/businesses in July. There were 4 emails and a few misc. calls concerning stormwater drainage issues. These were forwarded to the appropriate County department. There was one email requesting information on how to maintain a detention pond. Materials and links for other information was provided. In addition, one email listed a neighborhood's concern about the clean-up practices on a local construction project. This email was also forwarded to the appropriate department.

## **C. Illicit Discharge Detection and Elimination (IDDE) Program**

Madison County implements an ongoing program to detect and eliminate illicit discharges into the MS4 service area, to the maximum extent practicable.

### ***(C1) Illicit Discharge Detection Training for Madison County Public Works Employees***

Materials from the City of Daphne were reviewed, and "Glovebox Guides" were created based on Daphne's example. Once all details are completed, roadside maintenance crews will be trained on the guide in order to help identify illicit discharges and will be instructed to report any findings to a Stormwater Management Program representative.

### ***(C2) Publish Stormwater Contact Information in Annual Drinking Water Report/Website and Respond to Public Requests/Concerns***

Federal, state and Madison County stormwater contacts were included in the Madison County annual drinking water report, and on the County website. The report was delivered to approximately 30,000 households/businesses in July. There were 4 emails and a few misc. calls concerning stormwater drainage issues. These were forwarded to the appropriate County department. There was one email requesting information on how to maintain a detention pond. Materials and links for other information was provided. In addition, one email listed a neighborhood's concern about the clean-up practices on a local construction project. This email was also forwarded to the appropriate department.

### ***(C3) Storm Sewer Map***

Impaired waters were updated to reflect the 2018 303(d) lists (November). A Priority Construction Zones layer was added (January). Continued analyzing drainage areas to identify major outfalls (throughout year as time allowed). As major/priority outfalls are identified, they are color-coded appropriately for easier identification.

### ***(C4) Illicit Discharge Detection and Elimination Plan***

County personnel conducted dry-weather screening of the priority outfalls (August). No illicit discharges were detected at the five sites.

One suspected illicit discharge was discovered and reported by County personnel. The site was forwarded to the Madison County Health Department, then on to ADEM through the eComplaint system (September). An inspection was completed by ADEM's Decatur field office in December.

Began using *BASINS* (EPA tool) and *StreamStats* (USGS tool) to conduct a "desktop analysis" of discharge points. The plan is to continue analyzing drainage areas to identify major outfalls in those areas. (throughout year as time allowed)

Materials from the City of Daphne were reviewed, and “Glovebox Guides” were created based on Daphne’s example (August/September). The plan is to provide these guides to County employees who frequent Madison County roads during their daily work routines, such as water department employees and road/bridge maintenance crews. With training and contact information from the guides, the employees will be able to inspect County roads for illicit discharges/connections and report their findings to the proper department/organization.

#### **D. Construction Site Stormwater Runoff Control**

Madison County implements a program to reduce, to the maximum extent practicable, pollutants in any stormwater runoff to the MS4 from construction activities that result in a total land disturbance of one or more acres and activities that disturb less than one acre but are part of a larger common plan of development or sale that would disturb one or more acres.

Madison County relies on ADEM to establish minimum standards for construction site erosion and sediment control practices through ADEM’s State-wide NPDES construction stormwater regulatory program with construction sites being subject to ADEM’s permits and regulations. The County uses its limited capability for enforcement of such standards to address non-compliant construction sites. However, the County refers to ADEM (through the eComplaint System) those non-compliant sites that do not adhere to the enforcement actions set forth by the County; thus necessitating further support/assistance from ADEM.

##### ***(D1) Stormwater Education and Regulation Training for Construction Community***

When opportunities arise, Madison County assists other partners with training seminars for local builders, contractors and developers and/or displays brochures advertising such events.

##### ***(D2) Stormwater Program Fact Sheets for Construction Sites***

The County developed brochure, titled “Do You Need a Construction Stormwater Permit?”, was displayed all year in the Madison County Public Works Complex which houses inspection, subdivision and engineering departments. The brochure was also displayed in the water department, first in the public works building then in the newly constructed water department building. The supply was restocked in March. The brochure was also posted on the County website under Stormwater Management and Subdivisions.

##### ***(D3) Publish Stormwater Contact Information in Annual Drinking Water Report/Website and Respond to Public Requests/Concerns***

Federal, state and Madison County stormwater contacts were included in the Madison County annual drinking water report, and on the County website. The report was delivered to approximately 30,000 households/businesses in July. There were 4 emails and a few misc. calls concerning stormwater drainage issues. These were forwarded to the appropriate County department. There was one email requesting information on how to maintain a detention pond. Materials and links for other information was provided. In addition, one email listed a neighborhood’s concern about the clean-up practices on a local construction project. This email was also forwarded to the appropriate department.

##### ***(D4) Inspection of Qualifying Construction Sites***

Madison County continued following the Standard Operating Procedure (SOP) for inspecting qualifying, priority construction sites within the MS4. County employed Qualified Credentialed Inspectors (QCIs) conducted monthly inspections at twelve sites. Nine warning letters were issued to the developers/owners of five of these sites, requesting them to correct deficiencies in their erosion and sediment control practices. See Appendix B for more details concerning inspections and trained personnel.

### ***(D5) Commercial/Subdivision Construction Site Plan Review and Approval***

Madison County continued the current process for approving construction site plans as stated in the Commercial Site Plan Application Procedures and the *Madison County Subdivision Regulations*. The subdivision regulations specify detailed review, approval and re-approval processes for project initiation and completion. Procedures, such as requiring qualifying construction sites to show proof of stormwater permit application before issuing permit to develop and confirming control practices are present on plans and consistent with the *Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas*, were utilized. The entire Subdivision Regulations and Commercial Site Plan Application Procedures can be viewed on the Madison County website (<http://www.madisoncountyal.gov/departments/public-works/subdivisions>).

### ***(D6) Stormwater Permit Requirement Notification for Qualifying Residential Construction Sites***

A checkbox is included on the building permit application form to aid with notifying owners/developers of when a stormwater permit is necessary. Discussed procedures with the inspection department (refresher for current employees plus explanation to new employees) (May).

## **E. Post-Construction Stormwater Management in New Development and Redevelopment**

With the application of Madison County's Subdivision Regulations, Madison County implements a post-construction stormwater management plan to address stormwater runoff, to the maximum extent practicable, from subdivision new development and redevelopment projects that disturb greater than one acre and projects less than one acre that are a part of a larger common plan of development or sale.

### ***(E1) Subdivision Development Site Plan Review and Approval***

Madison County's subdivision regulations specify detailed review, approval and re-approval processes for project initiation and completion: before approval of a Proposed Plat, applicants must submit Construction Plans that include a Storm Drainage Plan; detention and/or retention structures must be designed to accommodate a 10 year-24 hour storm event with post development flows not significantly exceeding predevelopment flows; any Final Plat submitted one year following Proposed Plat approval will not be considered until another Proposed Plat is submitted for re-approval; plus many more requirements. The entire Subdivision Regulations can be viewed on the Madison County website (<http://www.madisoncountyal.gov/departments/public-works/subdivisions>).

### ***(E2) Inspection and Completion of Post-Construction Control Measure Installation***

Madison County's subdivision regulations have sufficient procedures for inspecting subdivision development/redevelopment sites and enforceable procedures to either adequately bring any noncompliant projects into compliance or compensate the County for the noncompliance: prior to the final acceptance of the development, the County Engineer or his designee shall conduct a final inspection to verify post-construction BMPs have been installed per design specifications; if any of the required improvements have not been constructed in accordance with the County's specifications, the applicant is responsible for completing the improvements; wherever the cost of the improvements is covered by a surety, the applicant and the surety may be severally or jointly liable for completing the improvements; the remaining portion of the improvement guarantee will not be released until the satisfactory completion of all required improvements; plus more requirements. The entire Subdivision Regulations can be viewed on the Madison County website (<http://www.madisoncountyal.gov/departments/public-works/subdivisions>).

### ***(E3) Long-Term Operation and Maintenance of Post-Construction Control Measures***

Madison County assumes responsibility for the operation and maintenance of improvements within County easements (including any stormwater structures) after the conclusion of a two-year maintenance period during which the developer/owner maintains the public improvements. Details are included in the latest revision of the *Madison County*

*Subdivision Regulations.* The regulations can be viewed on the Madison County website (<http://www.madisoncountyal.gov/departments/public-works/subdivisions>).

In most cases, stormwater basins are maintained by a homeowner's association or by the landowner(s). Coordination/planning efforts will continue in order to come up with an efficient process to document exceptions – stormwater structures within County easements and, therefore, the County's responsibility.

#### ***(E4) Inspection and Maintenance of Post-Construction Control Measures***

During this reporting period, significant personnel changes have occurred in the County. Job responsibilities have been reassigned, and some duties have yet to be determined. Because of this, structural BMP inventory, inspection, and maintenance procedures will have to be readdressed to properly implement this BMP. The use of a consultant is also being considered.

#### ***(E5) Ensure Policies and Specifications Support Green Infrastructure and Low-Impact Development***

No revisions/changes were made to Madison County's subdivision regulations during the reporting period.

### **F. Pollution Prevention/Good Housekeeping for Municipal Operations**

Madison County implements a pollution prevention/good housekeeping program to prevent or reduce the discharge of pollutants in stormwater runoff from municipal operations to the maximum extent practicable.

#### ***(F1) Inventory of County Facilities***

The inventory list was updated to include the newly constructed water department warehouse.

#### ***(F2) Standard Operating Procedures for Good Housekeeping Practices***

The County plans to research previously noted resources and/or utilize consulting agencies to develop applicable practices to Madison County's facilities/operations. SOP development will be phased-in over the permit cycle.

#### ***(F3) Stormwater Training for Madison County Public Works Employees***

Stormwater procedures for the inspection department were reviewed with current employees (refresher) and new employees (instruction): why we ask the builders if they will be disturbing 1 acre or more; when to hand out permit requirements brochure; and when/how to notify of any qualifying, residential sites. (May)

As SOPs are developed for good housekeeping practices (BMP F2), training material will be updated and delivered to appropriate public works employees. Because SOP development will be phased-in over the permit cycle, updates to training material, as well as delivery, will also be phased-in.

#### ***(F4) Litter Pollution Reduction from County Roadsides***

The Health Department provides temporary signs to the rural, County district offices to be placed in the right-of-way at litter prone areas that they are aware of and/or citizens have complained about. The County sign department makes permanent signs to be placed at illegal dump sites.

The districts and sign personnel were reminded to report any dump site clean-ups and/or sign installations (April). Three "no dumping" signs in District 4, one in District 1, and two in District 3 were installed during the reporting period. District 4 also installed a camera to catch the perpetrators.

County forces and inmates collected litter along roadsides on 44 occasions during the reporting period. Approximately 54 ½ truckloads of waste were collected.

***(F5) Herbicide Reduction for County Roadside Maintenance***

Madison County continued low herbicide use in Districts 1, 3 and 4. County roads were maintained with a mixture of 1 to 2 herbicide applications and mowing the rest of the season.

***(F6) Curbside Recycling for Residents of Rural Madison County***

Recycle bins and pick-up services of recycled items were provided for 41,000+ residents. Items collected include plastic, aluminum, steel, paper, newspapers, magazines, household dry cell batteries, cardboard and used motor oil. Totals collected, for both curbside and drop-site recycling, were 2,738 gallons of used motor oil and 2,588 tons of the remaining items combined.

***(F7) Drop-Site Recycling for Residents of Rural Madison County***

Four recycling drop-sites were supplied at centralized locations in rural Madison County. The sites were located in Hazel Green, New Hope, New Market and Owens Cross Roads (through June, then the Hazel Green site was removed). Items collected include plastic, aluminum, steel, paper, newspapers, magazines and cardboard. Totals collected, for both curbside and drop-site recycling, were 2,588 tons of the items combined.

***(F8) Recycling Programs and Large Debris Collection Services for Residents of Rural Madison County***

Monthly, large debris collection services were provided to residents in Districts 1, 3 and 4. District 3 had two community days where residents could drop off large items such as TVs, computers, tires, and furniture (September, October). A tire recycling program allowed residents to dispose of 285 tons of tires at the district offices/landfills.

Madison County has also begun a “Handle with Care Collection Day” program for residents of the rural districts. The County is partnering with the Solid Waste Disposal Authority to provide other means for County residents to dispose of household hazardous waste without having to take the items in to Huntsville. District 4 had two collection days – one in April and the other in October. During the April event, 189 cars participated.

***(F9) Employee Attendance at Stormwater/Pollution Prevention Workshops and Seminars***

Madison County employees attended the following: three (3) employees attended the “ALDOT Annual QCI Refresher Course” in July; one (1) employee attended the Alabama Stormwater Association meeting “Tools for Construction Site Stormwater Runoff Control & Compliance” in February.

***(F10) Inspections of County Facilities and Pollution Prevention BMP Implementation***

As SOPs are developed for good housekeeping practices (BMP F2), trained public works employees and/or consulting agencies will conduct inspections of County operation facilities.

Because SOP development will be phased-in over the permit cycle, training on SOPs/inspecting and the actual facility inspections will also be phased-in.

## **G. Monitoring of Impaired Waterbodies**

Madison County received guidance during the August 2017 audit concerning the County’s monitoring program, and permission was granted to follow the then current implementation schedule for updating the Monitoring Plan. The plan was revised and submitted to ADEM in December 2018.

Sampling equipment was purchased in February. Standard operating procedures for grab sampling and a Field Data Sheet were developed in March (see Appendix A). Two field staff employees were trained and began quarterly monitoring, also in March. See Appendix C for the results.

## 2. ASSESSMENT OF CONTROLS

### A. Public Education/Outreach and Public Involvement

With the use of the annual drinking water festival and annual drinking water report, Madison County was able to reach out to approximately 1,500 local students and approximately 90,000 County residents. Even though the quantitative results are hard to measure, Madison County feels these educational and notification efforts are making a positive impact on overall public awareness and involvement.

County customers, developers and contractors are interested in environmental education material as suggested by the disappearance of displayed brochures. The distribution of these brochures and fact sheets, along with the several partnerships Madison County maintains with other local organizations active in public education/involvement programs, will yield more outreach opportunities.

Since the inclusion of stormwater program contacts in the annual drinking water report and on the County website, several emails and phone calls were received concerning stormwater issues. Although most concerns were about stormwater quantity, it is evident having the contacts available has provided an avenue for more public involvement.

Public notification was instrumental to the success of the County's new "Handle with Care Collection Day". This new program has had great success as suggested by the number of residents participating.

Networking contact information is being shared between members of the newly established Alabama Stormwater Association. This information will provide a means for MS4s to pool resources and circulate education/outreach materials, creating a more collaborating environment.

### B. IDDE Program

Based on recommendations/guidelines from ADEM during the audit and through networking opportunities made possible through the newly established Alabama Stormwater association, progress has been made toward implementing a more practical IDDE Program. Through more functional inspections, updated employee training, and publishing of stormwater program contacts, more improvements in illicit discharge detection and elimination are expected. Assessments of changes will follow implementation.

### C. Construction Site Stormwater Runoff Control

Madison County has very limited regulatory, monitoring and enforcement authority concerning stormwater matters (due to state and local laws). Consequently, the County relies on ADEM to establish minimum standards for construction site erosion and sediment control practices and to take enforcement actions against non-compliant construction sites after the County has unsuccessfully exhausted its available enforcement authority.

Madison County will continue to review subdivision/commercial developments site plans to confirm control practices are present and consistent with the *Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas*, as outlined in the requirements set forth in the Madison County Subdivision Regulations; supplement with public education/notification of state permit requirement; and practice monthly inspections of qualifying construction sites within the MS4. This process should lessen construction sites' adverse impacts on water quality prior to non-compliance and ADEM involvement.

### D. Post-Construction Stormwater Management

Madison County's Subdivision Regulations provide requirements for post-construction stormwater management for subdivision developments and redevelopments. The subdivision regulations specify detailed review, approval and re-

approval processes for project initiation and completion; have sufficient procedures for inspecting subdivision development/redevelopment sites and enforceable procedures to either adequately bring any noncompliant projects into compliance or compensate the County for the noncompliance; and require the development operators to enter in to a two-year maintenance period after the improvements are accepted by the Madison County Commission (after which the County, landowner, or association assumes responsibility of the improvements). These provisions support permanent stormwater management over the life of the properties.

The permit requirement to inspect/maintain post-construction control measures is scheduled to be phased-in over the permit cycle and will, therefore, be assessed after implementation.

### **E. Pollution Prevention/Good Housekeeping for Municipal Operations**

Madison County provides multiple pollution prevention/reduction programs for County residents. The large number of participants indicates the programs are beneficial.

Madison County's current good housekeeping practices, along with others that will be phased-in over the permit cycle (SOP development, training updates, and facility inspections), will aid municipal operations in preventing and/or reducing the discharge of pollutants in stormwater runoff. Assessment of these practices will be conducted after implementation.

### **F. Monitoring of Impaired Waterbodies**

The Monitoring Plan, and subsequent results, will be used to help determine if the MS4 is contributing to any impairments, identify potential sources of pollution, and assess the effectiveness of BMPs. The Monitoring Plan will be re-evaluated annually and updated when necessary, or if directed to do so by ADEM.

According to guidance received during the 2017 audit, the quarterly monitoring program can be assessed after two years of monitoring. Then, depending upon the results, permission to drop to twice a year may be granted.

From the results of our first quarterly monitoring (see Appendix C), it appears the MS4 did not contribute to any impairments. The downstream values were lower than the upstream ones.

### 3. REVISIONS TO PROGRAM / PLAN

The table below outlines the revisions made.

BMP #	REVISION/COMMENT	SWMPP Section
	<a href="#">Appendices</a>	
	STORMWATER MANAGEMENT PROGRAM CONTACTS: revised county contact info	Appendix A
	None	Appendix B
	None	Appendix C
	None	Appendix D
	MONITORING PLAN AND RESULTS: revised plan - submitted December 2018	Appendix E
	ANNUAL REPORTS FOR CURRENT PERMIT CYCLE: added 2017/2018 report	Appendix F
	None	Appendix G
	None	Appendix H
	None	Appendix I
	STANDARD OPERATING PROCEDURES AND CORESPONDING FORMS: created Stormwater Sampling SOP (for grab samples); created Field Data Sheet/Chain of Custody Form to use in field when collecting samples	Appendix J
	INVENTORY OF COUNTY FACILITIES WITIN MS4: updated inventory list	Appendix K

### III ACTIVITIES PLANNED FOR THE NEXT REPORTING CYCLE

BMP #	PLANNED/PROPOSED FOR 2019-2020
	<b>Public Education and Outreach on Stormwater Impacts</b>
A1	Include stormwater/pollution prevention activity in annual drinking water festival
A2	Deliver stormwater education to local schools (when opportunities arise)
A3	Include articles on stormwater, pollution, recycling, etc. in annual drinking water report
A4	Display educational brochures for general public at county locations and on county website
A5	Assist other partners with training seminars for local builders, contractors and developers (when opportunities arise)
A6	Participate in, or help sponsor, existing stormwater and water quality outreach programs (when opportunities arise)
A7	Display educational brochures for businesses/construction community at county locations and on county website
	<b>Public Involvement on Stormwater Impacts</b>
B1	Participate in, or help sponsor, watershed/stream clean-ups and workshops (when opportunities arise)
B2	Notify the public of planned activities and ways the public can participate (when events warrant)
B3	Support local community, roadside, school, etc. clean-up projects (when opportunities arise)
B4	Notify public of "Handle with Care" Program in drinking water report and on website
B5	Provide copies of plan/reports to members of local advisory committees and on website
B6	Publish stormwater program contact information in drinking water report & on website Respond to any public requests/concerns (when needed)
	<b>Illicit Discharge Detection and Elimination (IDDE) Program</b>
C1	Update training material as needed Train appropriate public works employees
C2	Publish stormwater program contact information in drinking water report & on website Respond to any public requests/concerns (when needed)
C3	Continue analyzing drainage areas to identify major outfalls and update discharge points on map accordingly Add any new structural BMPs/outfalls to map
C4	Finalize outfall analysis; update major/priority outfalls list as outlined in IDDE Plan and SWMPP Inspect outfalls as outlined in the IDDE Plan/SOP Investigate any reported problems
	<b>Construction Site Stormwater Runoff Control</b>
D1	Assist other partners with training seminars for local builders, contractors and developers (when opportunities arise)
D2	Supply fact sheets, relevant to construction sites, to developers/owners (when requested or warranted) Display fact sheets at relevant county offices and on website Update material if needed
D3	Publish stormwater program contact information in drinking water report & on website Respond to any public requests/concerns (when needed)
D4	Make sure all construction site inspectors have QCI certifications Continue priority construction site inspections according to SOP Notify ADEM of any non-compliant sites Update SOP if needed
D5	Continue current process for approving construction site plans Require qualifying construction sites to show proof of stormwater permit application
D6	Provide checkbox on building permit form to notify when a stormwater permit is needed Continue following SOP guidelines Update SOP if needed

<b>Post-Construction Stormwater Management in New Development and Redevelopment</b>	
E1	Continue current process of reviewing and approving development site plans
E2	Continue current procedures for inspecting and enforcing BMP installations
E3	Ensure developers/owners under 2-yr maintenance period take care of improvements Assume responsibility of improvements (within county easements) after 2-yr maintenance period ends Coordinate/plan a more efficient process for documenting the structures maintained by the county Correct any operational problems when needed
E4	Continue developing inventory list of known structural BMPs within MS4 area Coordinate/begin inspecting structural BMPs as the inventory list is developed Correct any deficiencies noted during inspections Add new structural BMPs to inventory as the county assumes responsibility Update SOP if needed
E5	Make efforts to ensure regulations/codes do not limit green infrastructure/LID techniques (if needed) Update policies/specifications (if needed)
<b>Pollution Prevention/Good Housekeeping for Municipal Operations</b>	
F1	Update list of county operation facilities (if needed)
F2	Begin developing good housekeeping SOPs for county facilities and county operations Begin implementing any developed SOPs
F3	Begin updating guidance manual/training material to include any developed SOPs Train appropriate employees on completed SOPs as they are developed
F4	Use county forces and inmates to pick up litter/dump sites along county roadsides (when forces are available)
F5	Continue low herbicide use for county roadside maintenance
F6	Continue curbside recycling program for rural county residents
F7	Continue drop-site recycling program for rural county residents
F8	Apply for recycling grants Implement recycling programs when granted Provide large debris collection services to residents in rural districts
F9	Attend workshops and seminars on stormwater/pollution prevention topics (when opportunities arise)
F10	Begin inspecting facilities and operations (after SOP development and training) Implement necessary BMPs to address pollution/runoff problems (when needed)
<b>Monitoring Program</b>	
	Continue quarterly monitoring as outlined in Monitoring Plan

## IV EVALUATION OF PROGRAM

### 1. MAJOR ACCOMPLISHMENTS

#### A. Revised Monitoring Plan

After the audit conducted in 2017, Madison County was required to submit a revised SWMP Plan, including Monitoring Plan, to reflect any program changes and/or plan updates resulting from the guidance received during the audit. However, permission was granted to allow for the submittal of the Monitoring Plan by the end of 2018. The plan was updated accordingly and submitted to ADEM in December 2018.

#### B. Quarterly Monitoring of Impaired Waterbodies

Sampling equipment was purchased, and monitoring was conducted for the 1<sup>st</sup> quarter of 2019.

#### C. District 4 “Handle with Care Collection Day”

District 4 conducted two “Handle with Care” Collection Days. The district hopes to continue this event semi-annually.

#### D. Storm Sewer Map Updates

Impaired waters were updated to reflect the 2018 303(d) lists, and the Priority Construction Zones layer was added.

#### E. IDDE Program

Materials from the City of Daphne were reviewed, and “Glovebox Guides” were created based on Daphne’s example. Once all details are completed, roadside maintenance crews will be trained on the guide. The guide will help employees identify illicit discharges and will make contact information readily available for them to report any findings.

### 2. GOALS NOT PERFORMED AND WHY

Intended actions were performed according to the SWMPP implementation schedules with only marginal deviations:

- **Goal:** provide copies of SWMPP and annual report to members of local advisory committee (BMP B5)  
**Reason:** The responsibilities of the agency that hosts the advisory committee meetings have changed, and no meetings were planned. However, the plan and report were still made available on the County website.
- **Goal:** begin inspecting structural BMPs (BMP E4)  
**Reason:** During this reporting period, significant personnel changes have occurred in the County. Job responsibilities have been reassigned, and some duties are yet to be determined. Because of this, personnel and/or procedures will have to be revisited to properly implement this BMP.
- **Goal:** begin developing good housekeeping SOPs and begin inspecting County facilities and operations based on the developed SOPs (BMPs F2 and F10)  
**Reason:** SOP development and/or implementation is planned to be phased-in over the permit cycle. Due to County personnel changes and scheduling, only a small amount of time was dedicated to SOP research. Personnel and/or procedures will have to be revisited to properly implement this BMP.

As noted in the SWMPP and this annual report, some BMPs are not fully functional. The development and/or implementation of these controls will be phased-in over the permit cycle.

### **3. OVERALL PROGRAM STRENGTHS/WEAKNESSES**

#### **A. Strengths**

Madison County considers its public education/outreach efforts, local partnerships, subdivision regulations implementation, and litter reduction/recycling practices to be the program's greatest strengths.

- Through the annual Drinking Water Report and the annual Drinking Water Festival, education/outreach endeavors have the potential to reach a sizeable audience more efficiently;
- By combining forces with other partners, better programs can be developed and more residents can be reached;
- Through Madison County's subdivision regulations, the following are specified: review/approval processes for project initiation and completion, procedures for inspecting subdivision development sites, and practices for long-term operation/maintenance of post-construction controls;
- With the application of litter reduction/recycling programs, rural residents have a means to recycle and dispose of large debris, helping to decrease the occurrences of illegal dumping and burning in the County.

#### **B. Weaknesses**

Madison County is organized in to separate districts with multiple departments and various programs. Coordinating stormwater efforts from a central location, coupled with limited resources, can cause activity execution, information gathering, and record keeping to be challenging and difficult to standardize. Consequently, even though the County can satisfy SWMPP conditions, at times implementation of control measures must be phased-in over the permit life cycle.

### **4. OVERALL PROGRAM EFFECTIVENESS**

The control measures performed during the reporting period appear to be effective in meeting the stormwater program goals. The implementation schedules were followed with minor deviations, and overall compliance with the General Permit was met. The Permit requirements Madison County cannot satisfy are those the County are prohibited to fulfill by State and local laws, as noted in the SWMPP.

Because more measures are scheduled to be phased-in over the permit period, a better assessment of the program's effectiveness will be available once these controls/ plans are fully implemented and analyzed.

### **5. FUTURE DIRECTION OF THE PROGRAM**

Madison County will continue to follow the SWMPP, conducting activities as previously done. Also, as noted in the SWMPP and detailed in the implementation schedules, some of the BMPs are being phased-in over the current permit's life cycle.

Because significant personnel changes have occurred in the County (new County Engineer, new Assistant County Engineer, and new job responsibilities for the Stormwater Program Manager), several job duties have been reassigned and some have yet to be determined. Consequently, the use of outside help is being considered to better implement the more challenging aspects of the stormwater program.

## V. 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 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 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 and imprisonment for knowing violations.



Charles "Chuck" Faulkner, PE  
Madison County Engineer  
Madison County, AL

30 MAY 2019

Date

# APPENDIX A

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## NEW/REVISED DOCUMENTS

(created this reporting period)

### Monitoring Plan

*Stormwater Sampling – Standard Operating Procedure [new]*

*Field Data Sheet/Chain of Custody Form (for in-house testing) [new]*

## STORMWATER SAMPLING - STANDARD OPERATING PROCEDURE DIRECT GRAB SAMPLE COLLECTION WITH SAMPLE BOTTLE

### 1.0 Purpose and Scope

This document is the Madison County *Stormwater Sampling Standard Operating Procedure* (SOP) for collecting grab samples directly into sample bottles or containers for the purpose of stormwater sampling and analysis.

### 2.0 Scope and Applicability

The procedures described in this document pertain to the proper collection of grab samples for laboratory analysis of turbidity and total suspended solids (TSS). Samples are intended to be collected from surface water and stormwater monitoring sites with direct access to the flow stream or sample medium. It is intended that this document pertain only to surface water and stormwater sampling sites that allow access to the entire flow stream and/or when sampling is done just beneath the water's surface. If the flow stream is well-mixed and the chemistry is relatively uniform, the methods described in this SOP are sufficient to represent the water body. Laboratories are to use EPA Methods and Standard Methods to perform analyses. Sampling details are found in the *Stormwater Monitoring Plan*.

### 3.0 Equipment and Materials

- The following is a list of equipment for collecting stormwater grab samples.
- Plastic sample bottles
- Extension sampler pole
- Cooler containing ice Labels or permanent marker
- Field data sheet
- Chain of custody form
- Safety vest for sites accessed from roadways

#### 3.1 Sample Containers

The sample containers are polyethylene bottles. Madison County will purchase and supply 125mL bottles for turbidity sampling, and the laboratory on County bid will supply 1000mL bottles for TSS sampling.

### 4.0 Procedures

The following procedures relate to the direct collection of stormwater samples with the sample container itself or with a container from which the sample will be transferred.

#### 4.1 Field Preparation

1. Gather necessary field/sampling documentation and site-specific information.
2. Reference the project checklist and/or field file to determine appropriate number of sample bottles and assemble sampling/safety equipment.
3. Obtain sample bottles from the certified laboratory and/or Madison County.
4. All equipment and containers that will come in contact with the sample must be clean to avoid contamination.

#### 4.2 General Sampling Techniques

The following guidance should be consistently considered:

1. Avoid touching the inside of the bottle, bottle cap, or mouth to prevent contamination.
2. Avoid disturbing the sediment from the stream bed, particularly in slow moving waters.

3. Avoid sample collection from the surface layer (top inch of water column), near the streambank, and from eddies and side channels. In shallow depths, make notes on field data sheet if a surface sample is unavoidable.
4. Avoid sample collection from stagnant waters (generally less than 0.1 ft/s) and eddies.
5. Collect samples from the active part of the stream where there is sufficient mixing to ensure the sample is representative.
6. If sample is collected from a boat, collect upstream of the boat's engine to avoid hydrocarbon contamination.

### 4.3 Sample Collection

**Hand Dip Method:** This method is typically used to collect samples within reach of the water surface (when standing in/or near the stream or from a small boat).

1. Label the bottle with Madison County, sample site ID, date, and time of sample collection prior to collecting the sample.
2. Move to a well-mixed location, such as the deepest part of the active channel or another location where a representative sample may be collected. Do not contaminate the sample location by wading upstream of it. *Note: Use the Extension Pole Method if sampling from a lake or wide stream or river.*
3. Hold the base of the sample bottle with one hand and remove the bottle cap. Invert the bottle, reach upstream, and submerge the bottle into the water about 6 inches, and then tip the bottle mouth upstream and toward the water surface. Allow the bottle to fill to approximately the shoulder and take it out of the water. If the bottle is overfilled, immediately dump some water from the bottle. *Note: In shallow surface water, ensure that the sample bottle does not touch or disturb the stream bed, potentially contaminating the sample. Submerge the sample bottle to approximately the midpoint of the water column and tip upwards toward the direction of the flow. Samples should be collected far enough below the surface to avoid contamination from surface film and debris. If a surface sample is unavoidable, note this on the field data sheet.*
4. Replace the cap securely, avoiding contamination to the inside of the bottle or cap.

**Extension Pole Method:** This method is typically used to reach a more representative or undisturbed sample location from the stream bank, or when sampling a lake or slow-moving stream.

1. Label the bottle with Madison County, sample site ID, date, and time of sample collection prior to collecting the sample.
2. Make sure the sample bottle is secure in the extension pole clamp.
3. Move to a location where a representative sample can be reached with the pole.
4. If using a new bottle, remove the bottle cap avoiding contamination of the cap or inside of the bottle. If using a previously used bottle on the sampler, loosen the cap on a new bottle and set aside.
5. Position the bottle over the desired sampling location. *Note: If collecting the sample in a previously used sampler bottle, be sure to rinse the bottle three (3) times before collecting the current sample.*
6. Invert the bottle and in one quick motion submerge the mouth of the bottle into the water column to a depth of approximately six inches. Slowly move the bottle upstream with the bottle mouth tipped toward the surface until the bottle fills to the bottle shoulder. If the bottle is overfilled, immediately dump some water from the bottle. *Note: In shallow surface water, ensure that the sample bottle does not touch or disturb the stream bed, potentially contaminating the sample. Submerge the sample bottle to approximately the midpoint of the water column and tip upwards toward the direction of the flow. Samples should be collected far enough below the surface to avoid contamination from surface film and debris. If a surface sample is unavoidable, note this on the field data sheet.*
7. Replace the cap securely, avoiding contamination to the inside of the bottle or cap. *Note: If using a bottle that was previously set aside, transfer the sample to this container first, then secure the cap.*

#### **4.4 Field Processing**

1. Ensure the bottle label matches the desired sample site and includes the correct date and time.
2. Place the sample bottle in cooler. The sample needs to be placed on ice in a cooler as soon as possible after collection. Note: maximum holding time for turbidity is 48 hours; 7 days for TSS.
3. Complete the field data sheet and chain of custody form. Other notes on conditions of the sampling sites, adjacent land activities, or sample collection methods should be recorded on the field data sheet.

#### **5.0 Records Management**

Field data sheets, chain of custody forms, and field/laboratory results will be stored in the Madison County stormwater project files. Laboratory results will be reviewed and verified.

#### **6.0 Safety**

- Field staff will typically work in a team of two and carry a cell phone. In some circumstances, field staff will collect samples independently. In this case, it is essential that a cell phone is carried.
- High-visibility safety vests will be worn, particularly when working from or near a roadway.
- Field staff should use caution when approaching sampling sites. Sites may have slippery or unstable conditions. If field staff have concerns regarding accessing a site safely due to environmental conditions, construction, or other factors, the sample collection for that site should be aborted. The reason for not collecting a sample should be noted on the field data sheet. If the condition is permanent, the site may need to be relocated.

#### **7.0 References**

Whatcom County (Washington) Public Works-Natural Resources. 2015. *Standard Operating Procedure Direct Grab Sample Collection with Sample Bottle*.

Environmental Protection Agency (EPA). 1992. *NPDES Storm Water Sampling Guidance Document*. USEPA Office of Water.

## MADISON COUNTY FIELD DATA SHEET

### STORMWATER SAMPLING

Type: GRAB		Collected by:				
Preservation: ON ICE, IN COOLER				(Print)		
<b>Sample ID</b>	<b>Waterbody</b>	<b>Location Description</b>	<b>Date</b>	<b>Time</b>	<b>Size</b>	<b>Analysis</b>
SW1	Chase Creek	Jordan Rd			1000 ml	TSS
	Comments:					
SW2	Flint River	Winchester Rd - upstream			125 ml	Turbidity
	Comments:					
SW3	Flint River	Brownsboro Rd - downstream			125 ml	Turbidity
	Comments:					
SW4	Indian Creek	Kelly Spring Rd - upstream			1000 ml	TSS
	Comments:					
SW5	Indian Creek	Old Monrovia Rd - downstream			1000 ml	TSS
	Comments:					
<b>Samples 2 &amp; 3</b> -- Mountain Fork Water Treatment Facility to perform analyses						
Relinquished by:		Date:		Time:		
(Print/Signature)						
Received by:		Date:		Time:		
(Print/Signature)						
<b>Samples 1, 4 &amp; 5</b> -- See lab chain of custody form						

# APPENDIX B

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## **Construction Site Stormwater Runoff Control**

### ***Additional Documentation***

# Construction Sites Details within MS4

## (April 2018-March 2019)

SITE NAME	# of Inspections	# of Warning Letters	# of Complaints	Referred to ADEM
Cedar Brook	3	1	0	N
Lakeshore Meadows 3	4	0	0	N
Oak Forest	12	2	0	N
Shellborne Parke 2	4	0	0	N
Trotwood 5	9	2	0	N
Turner Farms 5	9	0	0	N
Cedar Brook 2	2	2	0	N
Inspiration Pointe 4	2	0	0	N
Monroe Manor	2	0	0	N
Pennington	2	0	0	N
Riverbend 8	2	2	0	N
The Oaks at Indian Creek	2	0	0	N

### Qualified Certified Inspectors

LaWanda West  
 Christopher Capshaw  
 Raymond Scott Medley  
 Bailee Robinson *(part of year)*

### Qualified Certified Professionals

Charles "Chuck" Faulkner, PE  
 John Buxton, PE *(part of year)*  
 Houston Matthews, PE *(part of year)*

# APPENDIX C

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## Monitoring Results

