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# **Baldwin County Commission**

322 Courthouse Square  
Bay Minette, Alabama 36507



## **Municipal Separate Storm Sewer System (MS4) Annual Report**

**NPDES Permit No. ALR040042**

May 2019

Reporting Period  
1 April 2018 to 31 March 2019

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Table of Contents

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**1. General Information**

---

- 1.1. Signatory Requirements.....
- 1.2. List of Contacts.....
- 1.3. Overview and Summary .....
- 1.4. MS4 Characterization .....
- 1.4.1. Known Problems 303(d) Listed Streams .....

**2. Program Evaluation**

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- 2.1. Program Objectives.....
- 2.2. Public Education and Outreach.....
  - 2.2.1. Local Partnerships .....
  - 2.2.2. Brochures .....
  - 2.2.3. Website.....
  - 2.2.4. Workshops.....
  - 2.2.5. Training.....
- 2.3. Public Involvement / Participation.....
  - 2.3.1. Baldwin County Water Festival.....
  - 2.3.2. Delta Woods and Waters Expo.....
  - 2.3.3. Earth Day.....
  - 2.3.4. Master Environmental Educator.....
  - 2.3.5. Litter Abatement Programs.....
  - 2.3.6. Recycling .....
  - 2.3.7. Citizen Service Center .....
  - 2.3.8. Household Hazardous Waste Collection.....
  - 2.3.9. Baldwin County Commission Meetings.....
  - 2.3.10. Baldwin County Planning Commission Meetings.....
  - 2.3.11. Baldwin County Boards of Adjustment Meetings.....
  - 2.3.12. Baldwin County Master Plan - 2013.....
- 2.4. Illicit Discharge Detection and Elimination.....
  - 2.4.1. Outfalls Screened .....
  - 2.4.2. Spill Reponse.....
  - 2.4.3. Sanitary Sewer System .....
  - 2.4.4. Enforcement.....
  - 2.4.5. Standard Operating Procedures.....

2.5.	Construction Site Storm Water Runoff Control .....	
2.5.1.	Requirements and Control Measures .....	
2.5.2.	Permitting, Plan Review and Inspections.....	
2.5.3.	Enforcement .....	
2.5.4.	Training.....	
2.6.	Post-Construction Storm Water Management .....	
2.6.1.	Low Impact Development .....	
2.6.2.	Development Regulations.....	
2.6.3.	Conservation Development.....	
2.6.4.	Post Construction BMPs .....	
2.6.5.	Operation and Maintenance.....	
2.6.6.	Tracking System .....	
2.6.7.	Training.....	
2.7.	Pollution Prevention / Good Housekeeping.....	
2.7.1.	Facility Inventory.....	
2.7.2.	Facility Assessments .....	
2.7.3.	Structural Controls .....	
	2.7.3.1. Data Management .....	
	2.7.3.2. Inspections.....	
2.7.4.	Roadways.....	
	2.7.4.1. License Agreements .....	
	2.7.4.2. Road Inspections .....	
	2.7.4.3. Bridge Inspections .....	
	2.7.4.4. Mowing .....	
	2.7.4.5. Litter Control .....	
	2.7.4.6. Resurfacing.....	
	2.7.4.7. Deicing Activities.....	
2.7.5.	Training.....	
2.7.7.	Flood Management.....	
	2.7.6.1. Community Rating System (CRS).....	
2.8.	Monitoring Plan .....	

### **3. Summary Tables**

---

3.1.	Public Education and Outreach .....
3.2.	Public Involvement / Participation.....
3.3.	Illicit Discharges Detection and Elimination.....
3.4.	Construction Site Runoff.....
3.5.	Post-Construction Storm Water Management.....
3.6.	Pollution Prevention / Good Housekeeping .....
3.6.1.	Structural Controls.....
3.6.2.	Roadways.....

### **4. MS4 Program Modifications**

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4.1.	SWMP Plan Update .....
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List of Tables

---

Table 1-1	Metropolitan Areas .....
Table 1-2	Baldwin County MS4 Area.....
Table 1-3	Baldwin County MS4 Area Watersheds .....
Table 1-4	2010 303(d) Listed Streams .....
Table 2-1	Outfalls Screened by Basin .....
Table 2-2	Storm Sewer Inlet Inventory .....
Table 2-3	Storm Sewer Pipe Inventory.....
Table 2-4	Cross Drain Pipe Inventory.....
Table 3-1	Public Education and Outreach.....
Table 3-2	Public Involvement / Participation.....
Table 3-3	Illicit Discharges Detection and Elimination .....
Table 3-4	Construction Site Runoff.....
Table 3-5	Post-Construction Storm Water Management .....
Table 3-6	Pollution Prevention / Good Housekeeping.....
Table 3-6.1	Structural Controls.....
Table 3-6.2	Roadways.....

---

List of Figures

Figure 1-1	SWMP Organizational Chart .....
Figure 1-2	Historical Population .....
Figure 1-3	Baldwin County Urbanized Area .....
Figure 1-4	Baldwin County Watersheds .....
Figure 1-5	Baldwin County Impaired Streams .....
Figure 2-1	Enforcement Action Flow Chart.....

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Appendices

Appendix A	Public Education and Outreach
Appendix B	Public Involvement / Participation
Appendix C	Illicit Discharge Detection and Elimination
Appendix D	Construction Site Storm Water Runoff Control
Appendix E	Post-Construction Storm Water Management
Appendix F	Pollution Prevention / Good Housekeeping
Appendix G	Monitoring Activities



## 1. General Information

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### 1.1. Signatory Requirements

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. Based 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.

Charles F. Gruber  
Name

Commission Chairman  
Title

  
Signature

May 21, 2019  
Date

Address: Baldwin County Commission  
Baldwin County Administration Building  
312 Courthouse Square, Suite 12  
Bay Minette, Alabama 36507

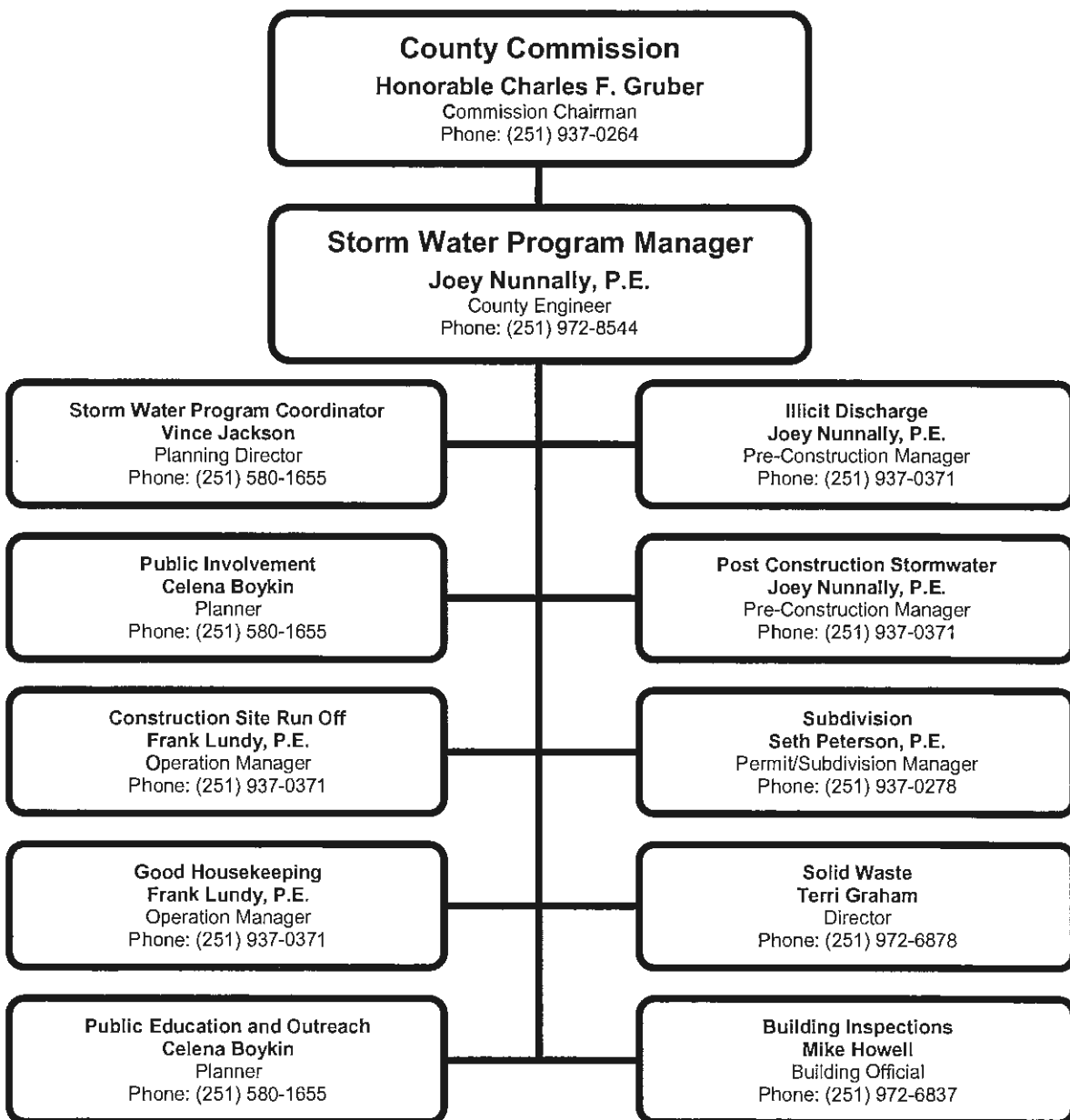
Phone: (251) 937-0264

Fax: (251) 580-2500

## 1.2. List of Contacts

Contacts and responsible parties (e.g. agency, name, phone number) that had input to and are responsible for the preparation of this annual report are summarized in Table 1-1. Various County Staff and departments contributed materials and data for incorporation into this annual report.

**Figure 1-1**  
**SWMP Organizational Chart**





Baldwin County also received assistance and guidance in preparation of this annual report from the following:

Dewayne Smith, P.E.  
Consultant  
Hydro Engineering Solutions, LLC  
2124 Moore's Mill Road, Suite 120  
Auburn, AL 36830  
(334) 740-6000

Any questions concerning Baldwin County's Municipal Separate Storm Sewer System (MS4) Annual Report should be directed to Mr. Vince Jackson, Planning Director/Storm Water Program Coordinator.

### **1.3. Overview and Summary**

In 1990, the U.S. Environmental Protection Agency (EPA) promulgated regulations establishing Phase I of the National Pollutant Discharge Elimination Systems (NPDES) storm water program. The Phase I program for municipal separate storm sewer systems (MS4s) requires operators of "medium" and "large" MS4s that generally serve populations of 100,000 or greater to implement a storm water management program to control polluted discharges from certain municipal, industrial and construction activities into the MS4.

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) presently has primary jurisdiction over permitting and enforcement of the storm water program for Alabama. In November 2011, Baldwin County submitted a request to ADEM to be re-designated from a Phase I MS4 to a Phase II MS4. On December 22, 2011, ADEM granted this request and issued coverage under the MS4 Phase II General Permit (NPDES Permit Number ALR040042) for storm water discharges associated with the Baldwin County MS4.

In June 2012, Baldwin County updated its Storm Water Management Program (SWMP) plan to address changes to the minimum control measures in Part III of the MS4 NPDES General Permit that include:

1. Public Education and Outreach on Storm Water Impacts;
2. Public 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 Re-development; and,
6. Pollution Prevention / Good Housekeeping for Municipal Operations.

Baldwin County's SWMP is a MS4 specific comprehensive program developed to reduce the discharge of pollutants from the small MS4 to the Maximum Extent Practicable (MEP) to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act.

This annual report summarizes the County's efforts for the reporting period from April 1, 2018, through March 31, 2019, to comply with the MS4 NPDES General Permit; the above listed six program elements, and requirements to the MEP.

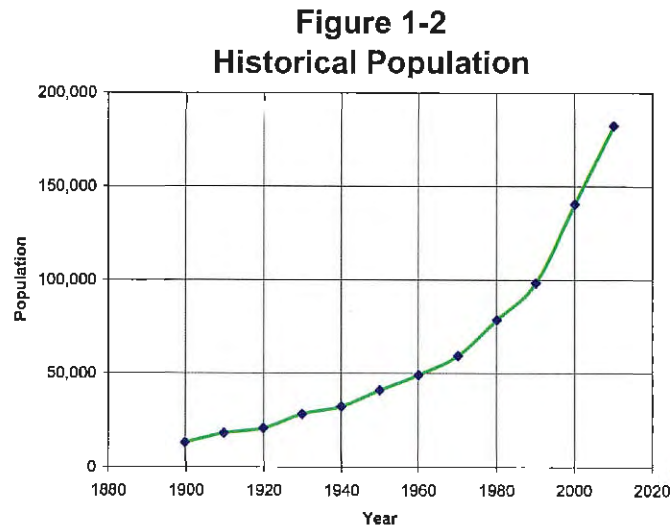
#### **1.4. MS4 Area**

Baldwin County is located in southwest Alabama and borders Mobile Bay and the Gulf of Mexico. The County occupies approximately 2,026.93 square miles that consist of approximately 1,596.35 square miles of land and 430.58 square miles of water. Metropolitan areas located within Baldwin County are listed in Table 1-1.

**Table 1-1**  
**Metropolitan Areas**

- |                |                    |
|----------------|--------------------|
| • Bay Minette  | • Daphne           |
| • Elberta      | • Fairhope         |
| • Foley        | • Gulf Shores      |
| • Loxley       | • Magnolia Springs |
| • Orange Beach | • Perdido Beach    |
| • Robertsdale  | • Silverhill       |
| • Spanish Fort | • Summerdale       |

Since the 1900's, Baldwin County has experienced a steady increase in population. Figure 1-2 provides a graph showing the historical population of Baldwin County since 1900.



According to the 2010 Census, the population of Baldwin County is 182,265. As compared to the population in 2000, Baldwin County has experienced a population increase of 41,850 (approximately 29.8%) over the past 10 years.

In accordance with 40 CFR 122.32, only portions of the County that are located within an Urbanized Area are regulated as a small MS4 under the NPDES storm water program. The County has defined its MS4 Areas based on the Daphne-Fairhope Urbanized Area. Unincorporated areas of the County that are located within the Daphne-Fairhope Urbanized Area are shown in Figure 1-3.

Incorporated areas located within the MS4 Area include Daphne, Fairhope and Spanish Fort.

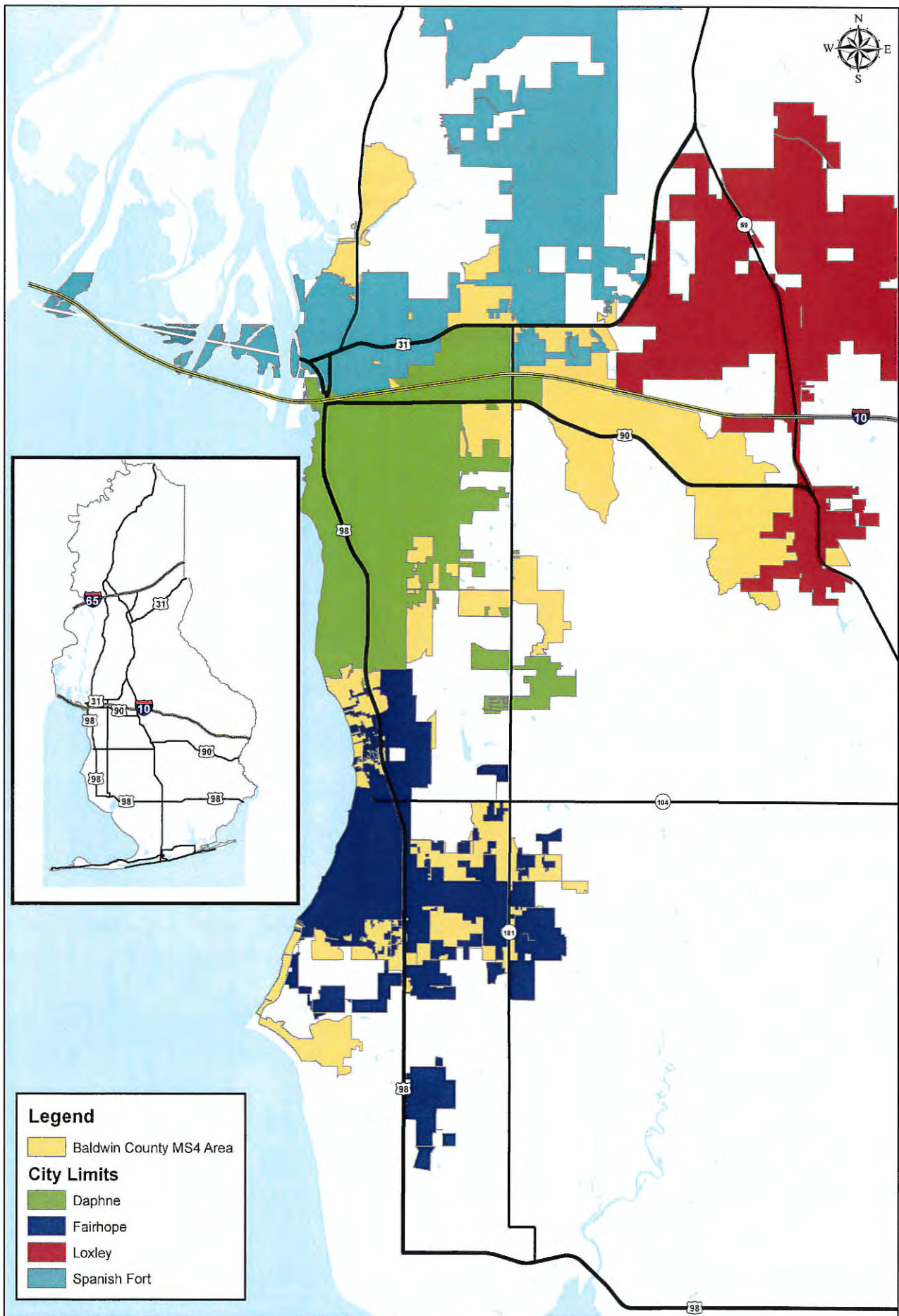
Table 1-2 provides a breakdown of the MS4 Area by permittee.

**Table 1-2**  
**Baldwin County MS4 Area**

Permittee	Population (2010)	MS4 Area	
		Area (mi <sup>2</sup> )	Area (%)
Daphne	21,570	16.39	25.5
Fairhope	15,536	13.19	20.5
Spanish Fort	7,520	28.00	43.6
Baldwin County	— <sup>(1)</sup>	6.67	10.4
Total	44,626	64.25	100.0

<sup>(1)</sup> Due to the level of detail currently available in the Census data, the population of Baldwin County's MS4 Area cannot be estimated.





BALDWIN COUNTY MS4 AREA

Figure 1-3

Unincorporated areas of Baldwin County located within the Daphne-Fairhope Urbanized Area occupies approximately 22.64 square miles.

Baldwin County's MS4 Area expands across eight (8) watersheds that have a 12-digit Hydrologic Unit Code (HUC 12). The areas of Baldwin County's MS4 Area located within each HUC 12 watersheds are summarized in Table 1-3 and shown in Figure 1-4.

**Table 1-3**  
**Baldwin County MS4 Area Watersheds**

HUC-12 Watershed	MS4 Area	
	Area (mi <sup>2</sup> )	Area (%)
Upper Fish River	11.286	49.9
Fly Creek	3.746	16.5
Lower Bay Minette Creek	2.600	11.5
Lower Fish River	2.361	10.4
Tensaw River – Apalachee River	1.654	7.3
Yancey Branch	0.467	2.1
Middle Fish River	0.407	1.8
Perone Branch	0.123	0.5
Total	22.644	100.0

The majority (approximately 62.6%) of the Baldwin County's MS4 area is located within the Fish River watershed.

#### **1.4.1. Known Problems (303(d) Listed Streams)**

According to ADEM's 303(d) list dated April 2010, there are eight (8) streams that are located within the drainage basins of the MS4 Area that have been designated as impaired. ADEM's 303(d) listed streams are summarized in Table 1-4 and shown in Figure 1-5.

**Table 1-4  
2010 303(d) Listed Streams**

Stream		Designated Use	Pollutant of Concern	Sources
Name	River Basin			
Bay Minette Creek	Upper and Lower Bay Minette Creek	Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition
Joes Branch	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
UT to D'Olive Creek	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
D'Olive Creek	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
UT to Tiawasee Creek	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
Tiawasee Creek	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
Cowpen Creek	Lower Fish River	Swimming, Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition
Fish River	Fish River	Swimming, Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition
			Pathogens	Pasture Grazing

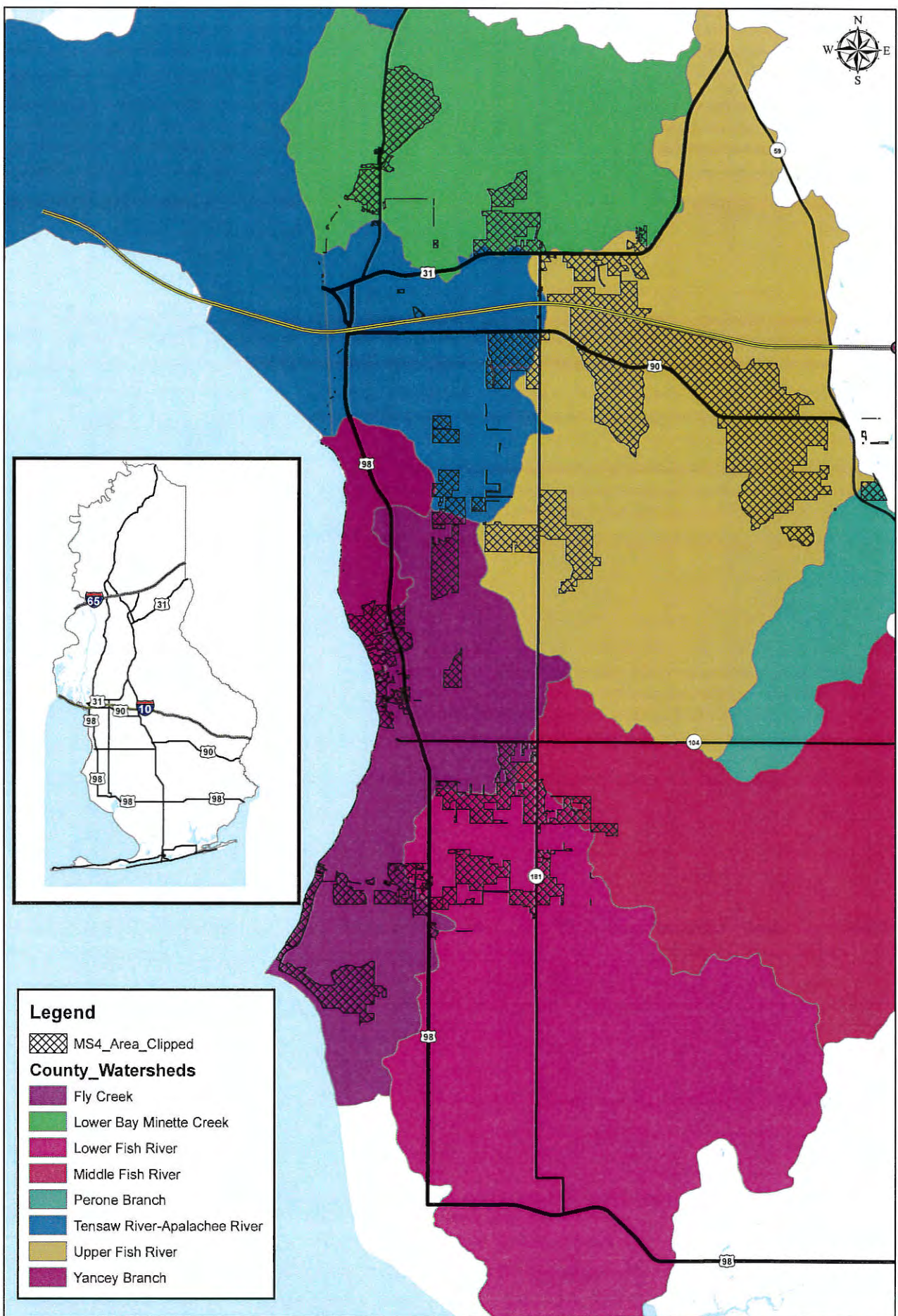
Bay Minette Creek is listed on the 303(d) list as impaired for metals (mercury). The source of this pollutant is identified as unknown. Due to the small area of Baldwin County's MS4 Area located within this watershed and the type of land uses, Baldwin County's MS4 should not be a contributor to the impairment on Bay Minette Creek.

Joes Branch, Tiawasee Creek, Unnamed Tributary to Tiawasee Creek, D'Olive Creek and Unnamed Tributary to D'Olive Creek are listed on the 303(d) list as impaired for siltation and habitat alteration. The source of this impairment is attributed to land development. The entire drainage basin for Joes Branch is located within the corporate limits of Daphne and Spanish Fort and should be addressed in their MS4 Programs. Most of the drainage basin of Tiawasee Creek and its tributary are located within the corporate limits of Daphne. There are small pockets of the drainage basin located within the County's MS4 Area. The land use within these pockets primarily consists of forested or agricultural and limited amount of residential or commercial.

The majority of the drainage basin of D'Olive Creek and its tributary are located within the corporate limits of Daphne and Spanish Fort. There is a small area located in the headwaters of the drainage basin that is located within the County's MS4 Area. The land use of this area is either forested or agricultural and should not be a significant contributor to the impairment of D'Olive Creek.

Cowpen Creek is listed on the 303(d) list as impaired for metals (mercury). The source of this pollutant is identified as atmospheric. Due to the type of land uses located within this watershed, Baldwin County's MS4 should not be a contributor to the impairment on Cowpen Creek. Figure 1-5 shows the drainage basin, 303(d) listed streams and the areas of the County's MS4 Area.

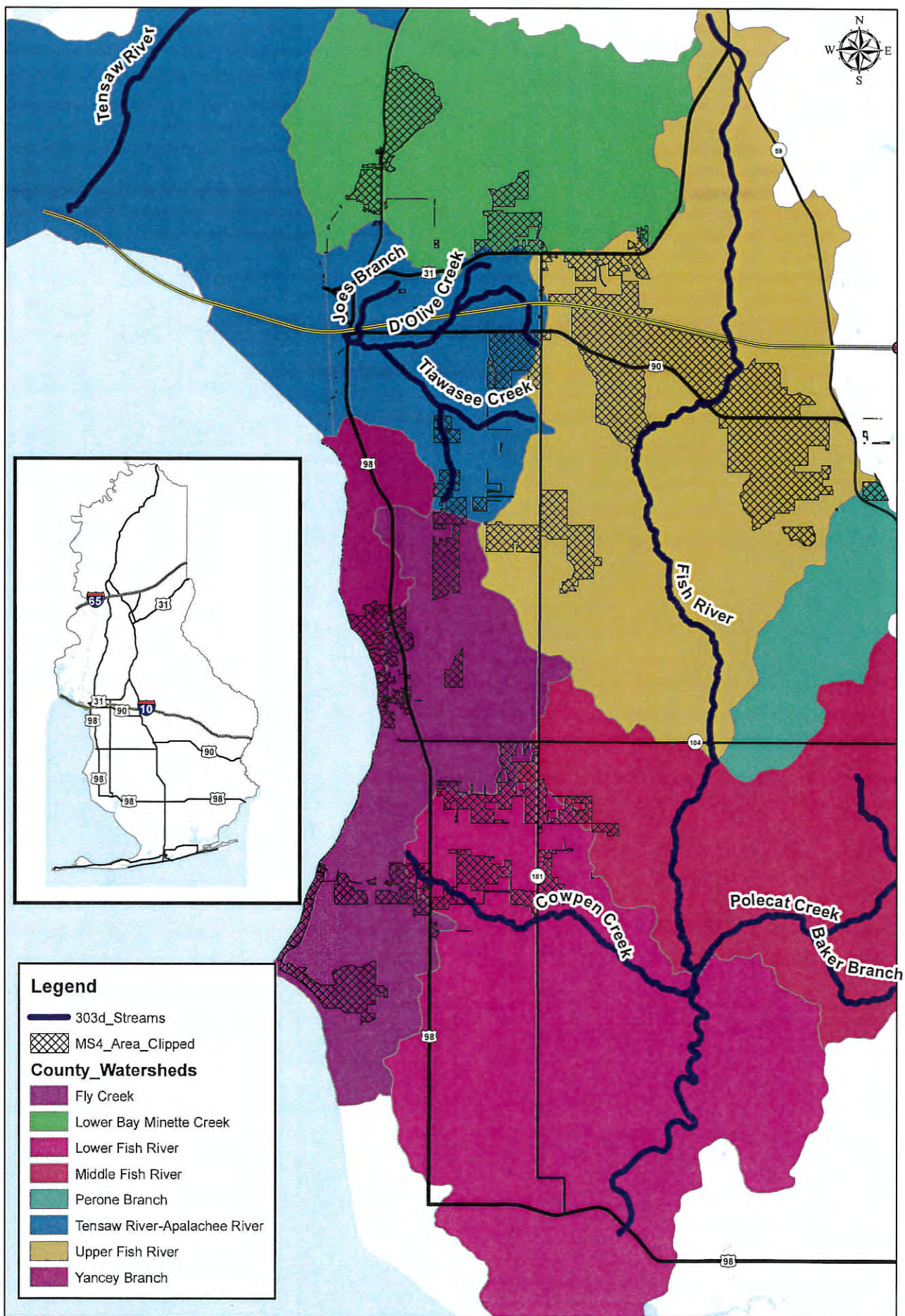




BALDWIN COUNTY MS4 AREA

Figure 1-4





BALDWIN COUNTY MS4 AREA

Figure 1-5



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## 2. Program Evaluation

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### 2.1. Program Objectives

The primary objective of the SWMP is to effectively prohibit the discharge of non-storm water discharges into the MS4 and reduce the discharge of pollutants from the MS4 to the MEP. Baldwin County has implemented, maintained and revised the SWMP as necessary to comply with the requirements of the NPDES permit.

Baldwin County has made significant progress over the past year in implementing its SWMP. Major accomplishments for each Minimum Control Measure are summarized in the following sections.

### 2.2. Public Education and Outreach

The MS4 NPDES permit requires the County to develop, implement and evaluate a public education and outreach program. Goals of the program are to:

- Educate the community about the impacts of storm water discharges into streams, rivers, lakes and ponds; and,
- Identify steps that the community can take to help reduce pollutants in storm water runoff.

Baldwin County has utilized several media outlets to accomplish these goals.

#### 2.2.1. Local Partnerships

Baldwin County's leadership and staff have been actively involved with environmental and citizen organizations located throughout the County. Previous and current activities include:

- Mobile Bay National Estuary Program;
- Weeks Bay Watershed Project;
- Wolf Bay Watershed Watch; and,
- D'Olive Watershed Project.

To capitalize on education materials and programs that have been developed, Baldwin County has formed partnerships with several state and local organizations including:

- Alabama Department of Environmental Management;
- Alabama Clean Water Partnership;
- Alabama Cooperative Extension System;
- City of Daphne;
- City of Fairhope;
- City of Spanish Fort;
- City of Foley;
- City of Robertsdale;
- Town of Magnolia Springs;
- Town of Silverhill;
- Town of Summerdale;
- Town of Loxley;
- Town of Perdido Beach;
- Alabama Coastal Foundation;
- People Against a Littered State;
- Eastern Shore Metropolitan Planning Organization;
- Alabama Soil and Water Conservation District; and
- Coastal Alabama Partnership

As the County's MS4 program continues to evolve, the County will seek partnerships with other agencies and organizations to facilitate the public education program.

#### **2.2.2. Brochures**

Baldwin County has developed several brochures for a variety of audiences and a variety of topics. Currently, most of the brochures are directed towards developers, contractors, and other professionals pertaining to planning, zoning, and construction. Copies of the brochures are available at the Baldwin County Courthouse in Bay Minette and Satellite Courthouses in Foley and Fairhope. Copies of brochures are provided in Appendix A.

#### **2.2.3. Website**

The internet provides a very accessible mechanism for making information and data available to residents. The County has developed and maintains a website (<http://www.baldwincounty.al.gov>) that provides some general information

regarding the County's services. Some topics currently presented on the website include the following:

- Contact Us
  - Contact information for all Departments
  - Contact Our Call Center
- Highway Department
  - Department Information
  - County Maintained Roadways
  - Subdivision Regulations
  - Watershed Studies
  - Permit/Subdivision Forms
- Solid Waste Department
  - Department Information
  - Solid Waste Garbage Collection
  - Landfills
  - Solid Waste Recycling Services
- Planning & Zoning Department
  - Department Information
  - Zoning Ordinances
  - Forms & Applications
  - CRS Flood Insurance Program
  - Stormwater Information

The County has coordinated with its CIS department and has dedicated a specific section of its Planning and Zoning Department web site to the MS4 Program and storm water related information.

#### **2.2.4. Workshops**

Workshops are useful in educating a specific target audience about a specific topic or issue. Capitalizing on existing training programs, the County is working with its partners to sponsor workshops in a variety of topics. Workshops that have been identified for this permit cycle may include the following:

- Nonpoint Education for Municipal Officials (NEMO) – The County may coordinate with ADEM to evaluate and identify workshops that will be beneficial to the County's leadership.
- Erosion and Sediment Control – The County will evaluate and identify workshops that will be beneficial to city staff, professionals and development community.

- Low Impact Development – The County has evaluated and identified workshops that will be beneficial to County staff, professionals and development community. County staff attended Low Impact Development (LID) workshops during previous cycles.
- Weeks Bay Stakeholders Workshops – Attended by constituent groups to provide input into the development of a Weeks Bay Watershed Management Plan. The final plan was submitted during November of 2017.
- Planning & Zoning Commission Training – County Planning and Zoning staff, Planning Commission members and one County Commissioner attended a workshop entitled Improving the Planning and Development Process. The workshop was held March 28, 2019 (9 attendees).

As the County's MS4 program continues to evolve, the types and frequency of workshops may be modified to address the changing needs of the County.

#### **2.2.5. Training**

The County is proactive in identifying and participating in educational opportunities that help to expand the knowledge and capabilities of its staff. County Staff has participated in the following:

- ACCA Annual Conference
- ACEA Fall County Engineers Meeting
- ALDOT Bridge Inspection Refresher Course
- Annual Transportation Conference
- ALDOT Guidelines for Grading County Roads
- QCI Training Program
- Evaluating the Role of Headwater Wetlands for Coastal Water Quality
- *Rain Check, IDDE Grate Concern and Ground Control Training Programs*
- Certified Alabama Planning and Zoning Official (CAPZO) Training
- Community Rating System (CRS) Webinars
- GIS of Alabama Conference
- Preparing for Change: Building Resilient Coastal Communities
- Alabama Association of Floodplain Managers Conferences
- South Alabama Flood Engagement Team (SAFE-T) Training

A summary of educational activities completed by County Staff is provided in Appendix A.

### **2.3. Public Involvement / Participation**

The County has participated in and supported public involvement opportunities for staff members and residents through numerous activities. Past and present public involvement and participation activities have included:

- Baldwin County Water Festival;
- Delta Woods and Waters Expo;
- Earth Day;
- Master Environment Education Program;
- Litter Abatement Programs;
- Public Involvement Opportunities

#### **2.3.1. Baldwin County Water Festival**

The mission of the Baldwin County Water Festival is to educate students about all aspects of surface water and groundwater and other related natural resources (such as wetlands, forestry, wildlife and much more) and to instill in them a general environmental awareness and stewardship ethic. Students and their teachers leave with increased knowledge and awareness of the importance of precious water resources and on becoming good environmental stewards of these resources. All 4<sup>th</sup> Grade students in Baldwin County including, public, private, and home-schooled students are invited to participate. The festival has had total participation over 7,000 participants since 2003.

The most recent Baldwin County Water Festival was held on October 24, 2018. The venue for this event, the Baldwin County Coliseum, was provided by the Baldwin County Commission which also provides support to the event's sponsors.

#### **2.3.2. Delta Woods and Waters Expo**

The Delta Woods and Waters Expo is an annual event sponsored by the City of Spanish Fort and held at 5 Rivers Delta Resource Center for the purpose of celebrating the beauty and diversity of the Mobile-Tensaw Delta. The event features a variety of informative presentations, exhibitions and interactive displays by experienced outdoorsmen, professionals, educators and enthusiasts.

It includes numerous fun and exciting hands-on demonstrations which allow attendees to learn and practice new skills with one-on-one instruction.

The mission of the Delta Woods and Waters Expo is to promote responsible and enjoyable outdoor recreational experiences through a fun and educational event.

At the request of the City of Spanish Fort, the Baldwin County Commission provided one Baldwin Regional Area Transportation System (BRATS) bus to assist with traffic flow during the events family day which took place on April 28, 2018. As a result, the County Commission was included as a sponsor.

### **2.3.3. Earth Day**

Earth Day is an annual celebration during which worldwide events are held for demonstrating support for environmental protection. The first Earth Day was celebrated in 1970. It is now celebrated in more than 192 countries around the world and is coordinated by the Earth Day Network. According to the Earth Day website ([www.earthday.org](http://www.earthday.org)), "The Earth Day Network's year-round mission is to broaden, diversify and activate the environmental movement worldwide, through a combination of education, public policy and consumer campaigns."

In Baldwin County, Earth Day Mobile Bay for 2018 was held April 21, 2018, at the Fairhope Pier Park in Fairhope, Alabama. Support from Baldwin County included the provision of transportation by the Baldwin Rural Area Transportation Service and the provision of recycling drop offs for aluminum, plastic and cardboard items, by the Baldwin County Solid Waste Department.

### **2.3.4. Master Environmental Educator**

County employees have participated in the Alabama Cooperative Extension Service's Master Environmental Educator (MEE) program. The Baldwin County MEE Program was created in 1995 and is an outreach program of the Baldwin County Extension Office. Volunteers are trained to teach eight environmental lessons pertaining to the most critical environmental issues facing Baldwin County:

- Aquatic Nuisance Species;
- Backyard Wildlife Habitat;
- Energy;
- Groundwater Pollution;
- Invasive Plant Species;
- Nonpoint Source Pollution;



- Recycling; and,
- The Water Cycle.

Volunteers throughout Baldwin County participate in an intensive two-day MEE training each year. Each volunteer gives back at least 20 hours a year to the community. Classroom teachers can request and schedule a lesson, which also correlates to the Alabama Course of Study for Science.

The Planning and Zoning Department includes a link to this program on its Stormwater Page. In addition, the Baldwin County Commission provides budget support to the Cooperative Extension Service.

### **2.3.5. Litter Abatement Programs**

The County partners with People Against a Littered State (PALS) to help implement litter abatement programs. Current litter abatement programs include:

- Adopt-a-Mile;
- Adopt-a-Stream;
- Alabama Coastal Cleanup;
- Annual Christmas Tree Recycling Program and,
- Baldwin County Clean Sweep.

The County currently has a link to apply for Adopt-a-Mile on their website. Citizens can “adopt” a stretch of county roads or federal or state highways.

In the fall of each year, PALS will plan, organize and host The Alabama Coastal Cleanup. The County is an in-kind sponsor with this event. The most recent Alabama Coastal Cleanup was held on September 15, 2018.

The Christmas Tree Recycling Program is an annual activity conducted by the Baldwin County Commission – Solid Waste Department which allows the citizens of Baldwin County at no charge. Christmas trees which are collected not only conserve landfill space but also contribute material to the compost program. Compost created from vegetative materials is available for sale. During the current reporting cycle, the Christmas Tree Recycling Program was held from December 26, 2018, through January 10, 2019.

Baldwin County Clean Sweep is an activity approved by the Baldwin County Commission which provides county residents a free day to discard any unwanted debris and waste. The event encourages the proper disposal of waste in Baldwin

County and discourages illegal dumping and piling of debris on roadways. Baldwin County Clean Sweep was most recently held on March 2, 2019.

#### **2.3.6. Recycling**

The County's Solid Waste Department has established 28 recycling locations throughout the County for residents to drop off items. Accepted recyclables include:

- Unwaxed Cardboard;
- Newspapers;
- Magazines;
- Phonebooks;
- Aluminum Cans;
- Aluminum Scrap Metal; and,
- Category 1 through 4 Plastics.

The County also has a used cooking oil recycling program which converts the oil into useable energy and a seasonal Christmas tree recycling program which contributes material to the County compost program.

#### **2.3.7. Baldwin County Citizen Service Center**

The County has a Citizen Service Center to receive complaints from its residents. Depending upon the type of complaint, the Citizen Service Center will route information to the appropriate department for evaluation and response. A centralized center has been established at the Baldwin County Emergency Operations Center in Robertsedale. Telephone contact information is listed as follows:

(251) 937-9561: North Baldwin County  
(251) 943-5061: South Baldwin County  
(251) 928-3002: Eastern Shore of Baldwin County

The Baldwin County Commission strives to provide citizens with the best customer service possible. Citizen Service Center information is provided on the County website.

#### **2.3.8. Household Hazardous Waste Collection**

The County operates a household hazardous waste collection facility at the Magnolia Landfill on a year-around basis. For a fee, residents can dispose of

household hazardous waste such as paints, motor oil, pesticides, herbicides, cleaners, solvents, etc.

### **2.3.9. Baldwin County Commission Meetings**

All regular meetings of the Baldwin County Commission are advertised and open to the public. Meetings are televised and broadcast on a delayed basis by local cable access stations. In addition, the meetings may be viewed live on the County website. Past meetings are also available on the website, and DVDs of these meetings may be obtained from the Baldwin County Archives Department. Public hearing items are advertised through certified mail and through notices in the newspapers of general circulation within Baldwin County, depending on legal requirements. An example of a County Commission Agenda Item is included with the documentation on the Delta Woods and Waters Expo. Another example involves Alabama Department of Environmental Management (ADEM) Stormwater Inspection Forms. Copies of selected forms, which are made part of the record, are included with this report.

Commission Work Sessions are held during the weeks prior to the regular County Commission meetings. Although no votes are taken, the work sessions are open to the public and serve as an additional opportunity for outreach. As an example, a presentation concerning Planning and Zoning Department Ordinances, Policies and Procedures was presented at the work session held on January 22, 2019. A copy of the presentation is included with Appendix B.

Agendas and minutes for the County Commission Meetings may be found at <http://openmeetings.baldwincountyal.gov>.

### **2.3.10. Baldwin County Planning and Zoning Commission Meetings**

All meetings of the Baldwin County Planning and Zoning Commission, as with the County Commission, are advertised and open to the public. Meetings are generally held on the first Thursday of each month, unless rescheduled due to a holiday. The Planning Commission is a recommending body to the County Commission on rezoning applications and amendments to the *Baldwin County Zoning Ordinance*, and is the final voting authority on conditional use applications, subdivisions and highway construction setback appeals. As of March 7, 2019, Planning Commission meetings are now live streamed with archived videos found on the County website. Twelve (12) Planning Commission meetings were held during the current reporting period.

Agendas and minutes for the Planning Commission Meetings may be found at <http://openmeetings.baldwincountyal.gov>.

### **2.3.11. Baldwin County Boards of Adjustment Meetings**

Baldwin County has four Boards of Adjustment which were created to consider variances, special exceptions and administrative appeals for the Planning (Zoning) Districts which have voted their desire to come under the Planning and Zoning authority of the Baldwin County Commission. The Boards hold public meetings on at least a quarterly basis, with the jurisdiction for each Board roughly corresponding to the County Commission district in which it is located. Issues considered by the Boards (primarily the Commission District 2 Board) are often found in the MS4 area. In addition, the Board meeting serve as a potential venue for public involvement and participation activities. Twenty-eight Board of Adjustment meetings were held during the current reporting period.

Agendas and minutes for the Boards of Adjustment may be found at <http://openmeetings.baldwincountyal.gov>.

### **2.3.12. Baldwin County Master Plan - 2013**

In accordance with Act No. 91-719 (Codified at Section 45-2-261, et seq., Code of Alabama 1975) the Baldwin County Planning and Zoning Commission prepared, and the Baldwin County Commission adopted, the Baldwin County Master Plan – 2013. According to the Act, the County Commission "shall appoint the Planning Commission to make and maintain in an up-to-date manner, a Master Plan for the physical development of the unincorporated areas of Baldwin County. The Master Plan with accompanying maps, plats, charts and descriptive material shall show the Planning Commission's recommendations for the use and development of the unincorporated area of Baldwin County".

The Master Plan consists of seven chapters covering topics such as implementation, composition, intergovernmental relations, parks and recreation and historic preservation. Maps incorporated into the plan include Planning Districts, Current Zoning, Future Land Use, School Locations, Parks and Public Access and Fire Districts. The final chapter of the Master Plan deals with revision and amendment. The plan is relevant to the MS4 permit in that it includes the enabling legislation for Planning and Zoning authority in Baldwin County.

The Master Plan is intended to be a living document. As such, it is proposed to be reviewed annually to determine if revisions and amendments are warranted due to changing conditions. The first review would take place within six months of initial adoption. A second review would be conducted six months later, and subsequent reviews would take place on an annual basis. Regarding future land

use, the plan initially calls for non-binding future land use designations in the Planning Districts which have voted their desire to come under the Planning and Zoning authority of the Baldwin County Commission. Future land use designations for specific planning areas and unzoned Planning Districts could be applied during review and amendment processes.

In preparing the Master Plan, the Planning Commission held eight work sessions and two public hearings. The first public hearing was held on July 11, 2013, for the purpose of obtaining public comment. The second public hearing was held on August 1, 2013. At that time, the Planning Commission voted unanimously to recommend approval of the Baldwin County Master Plan – 2013, to the County Commission. The vote of the Planning Commission served as its final report to the Baldwin County Commission for the adoption of the Master Plan.

When the plan was forwarded the County Commission, the first public hearing was held September 3, 2013. The second and third public hearings were held September 17, 2013, and October 1, 2013, with adoption occurring at the October meeting. The public hearings were advertised in the newspapers of general circulation within the County, and a draft copy of the plan was put on the County's website for review. Social media was also used as an advertising tool. The Commission meetings were televised as described above. Three citizens addressed the County Commission during the final public hearing on the Master Plan adoption.

The Master Plan may be found at the Planning and Zoning Department section of the County website. It is being studied for amendments and revisions.

## **2.4. Illicit Discharge Detection and Elimination**

The County has developed and implemented an Illicit Discharge Detection and Elimination Program in accordance with the SWMP Plan. The County has been divided into eight (8) watersheds which correspond to major drainage basins located within the County's MS4 area.

An Outfall Reconnaissance Inventory was conducted in order to locate and record basic characteristics of each outfall. During this process, each outfall was screened for the presence of illicit discharge(s). The County's outfall reconnaissance inventory was initially summarized in the 2014-2015 annual report.

### 2.4.1. Outfalls Screened

As the County updates the outfall inventory, the breakdown of major and minor outfalls by sub-basin will be updated and a map shall be developed. According to the SWMP Plan, beginning April 2017, the County shall screen all major outfalls within a five (5) year period within completion scheduled for April 2022.

**Table 2-1**  
**Outfalls Screened by Basin**

Basin	Total Outfalls	Major Outfalls	Minor Outfalls
Blackwater River	0	-	-
Fish River	10	-	-
Fly Creek	9	-	-
Lower Bay Minette Creek	0	-	-
Lower Tensaw River	3	-	-
Mobile Bay	0	-	-
Perone Branch	0	-	-
Yancey Branch	0	-	-
Totals	22		

An overview of how the outfall reconnaissance inventory is provided in Appendix C.

### 2.4.2. Spill Response

The County's Emergency Management Agency (EMA) is responsible for responding to any type of spill that may occur within the MS4 Area. If a spill enters the MS4, the EMA will notify the Storm Water Program Coordinator. The Storm Water Program Coordinator will evaluate the impacts of the spill on the MS4 and ensure appropriate corrective measures are taken to abate the spill. Follow up inspections of the affected area shall be performed as needed.

### 2.4.3. Sanitary Sewer System

Residents within the County's portion of the MS4 boundary are provided sanitary sewer service by one of the following sources;

- 1) Sanitary Sewer System; or
- 2) On-Site Sewage Disposal.

When the County observes any problems with sanitary sewer systems, the County reports the problem to the appropriate jurisdiction over system.

As the County acquires data regarding the location of on-site sewage disposal systems, the County will update GIS data and maps to incorporate best available data.

#### **2.4.4. Enforcement**

An effective illicit discharge and detection program uses an escalating scale of enforcement action to abate illicit discharges. Due to limited home rule, Baldwin County does not have the authority to create or adopt an Illicit Discharge Ordinance. Through the subdivision regulations and education, the County is encouraging the prevention of illicit discharges. The current procedure is to report illicit discharge complaints to the appropriate agency such as the Baldwin County Health Department or ADEM. In addition, the County can only maintain what is in the County right-of-way. It cannot maintain private subdivision storm water systems.

#### **2.4.5. Standard Operating Procedures**

The County has developed Standard Operating Procedures (SOPs) for the various activities required for implementing the Illicit Discharge Detection and Elimination Program. SOPs shall include but are not limited to the following:

- Sampling equipment use, maintenance and storage;
- Outfall Reconnaissance Inventory;
  - Field procedures
  - Data collection
  - Data management
  - Sample Collection

- Illicit discharge evaluation; and,
- Hazardous materials.

SOPs are included in Appendix C.

## **2.5. Construction Site Storm Water Runoff Control**

Baldwin County has developed and continuously implemented a Construction Site Runoff Program to monitor and control pollutants in stormwater discharges to the MS4 from the following land disturbing activities.

- Minor Project – Land disturbance activities less than one (1) acre limited to single family homes and accessory structures;
- Major Project – Land disturbance activity equal to or greater than one (1) acre or land disturbance involving less than one (1) acre that is part of a larger common plan of development; and,
- All other land disturbance activities that is not exempted from obtaining a permit. Land disturbing activities that are exempted from obtaining a permit are defined in Section 13.13.10 of the *Baldwin County Zoning Ordinance*.

### **2.5.1. Requirements and Control Measures**

The County's Construction Site Runoff Program requires owners and/or operators of construction sites to select, design, install, implement, inspect and maintain effective Best Management Practices (BMPs) to minimize the discharge of pollutants into the MS4 to the maximum extent practicable (MEP).

### **2.5.2. Permitting, Plan Review, Construction Site Inventory and Inspections**

The County has developed SOPs and check list to assist with the implementation of its Construction Site Storm Water Runoff Control Program. Documents include the following:

- Land Disturbance Permitting and Plan Review
- Construction Site Inventory
- Construction Site Inspections



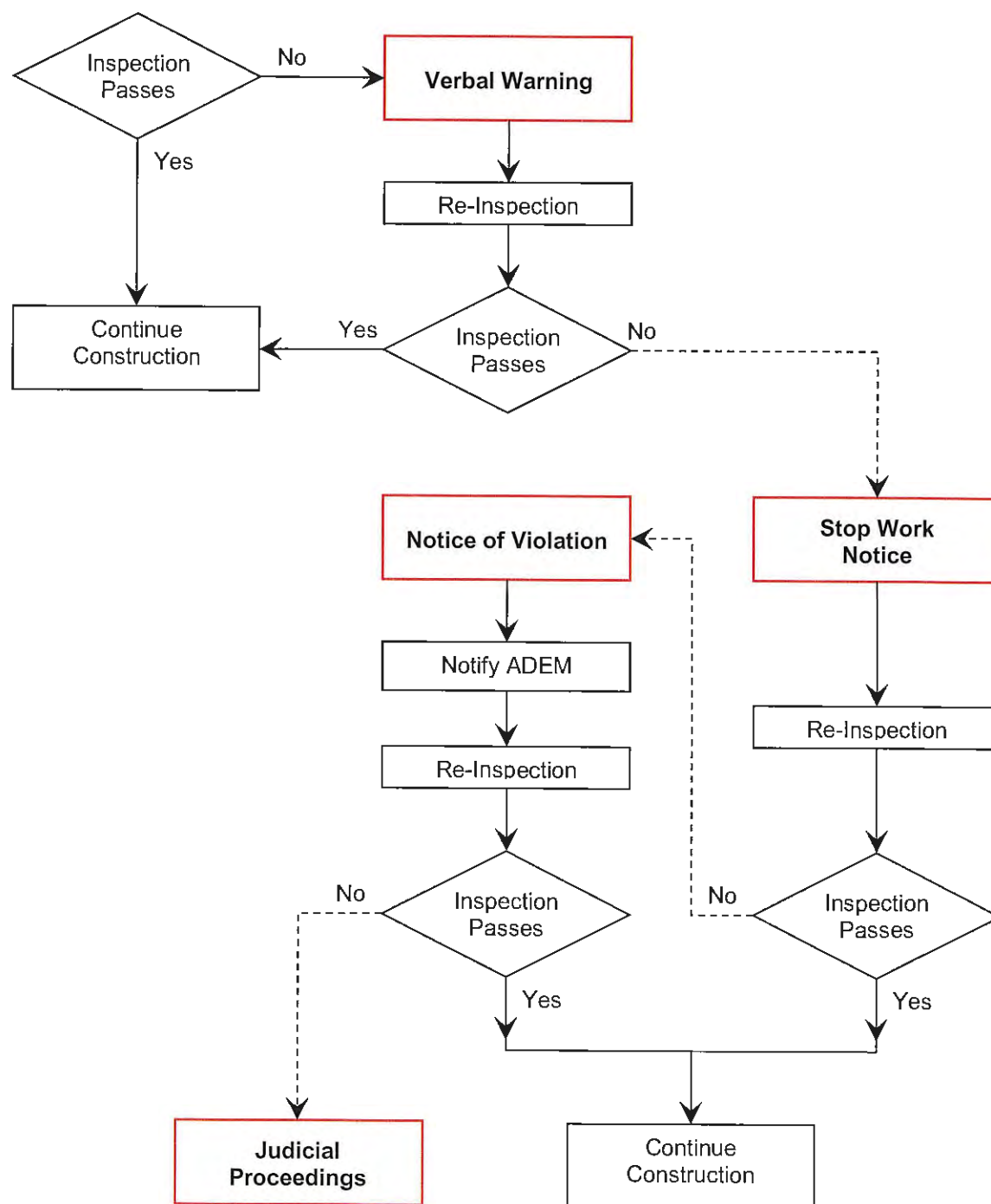
During the current reporting year, 99 Land Use Certificates were issued in the MS4 area. This included five (5) commercial Land Use Certificates. Two (2) Land Disturbance Permits were issued. An example of a residential Land Use Certificate, a commercial Land Use Certificate and a Land Disturbance Permit are included under Appendix D.

### **2.5.3. Enforcement**

The Erosion Control section of the zoning ordinance provides the Code Enforcement Officer with an escalating scale of enforcement action for violation of any provision in the ordinance. A flow chart showing the escalating scale of enforcement action is provided in Figure 2-1.

Three complaints were processed in the MS4 area during the current reporting period with documentation included with Appendix C.

**Figure 2-1**  
**Enforcement Action Flow Chart**



### **2.5.3. Training**

The Planning and Zoning Department and Highway Department have been tasked with the responsibility of implementing the Construction Site Runoff Program. Thirty (30) inspectors held certifications as Qualified Credentialed Inspectors (QCI) during the current reporting period. County staff attend a four (4) hour refresher training course provided by ALDOT. This training seminar is available to county and municipal staff. Additionally, Thompson Engineering provides a QCI initial eight (8) hour and refresher four (4) hour classes that are available to county, municipal, contractors, engineers and anyone else needing the obtain a QCI certification. Twenty-five (25) inspectors participated in a refresher course held on July 10, 2018.

Documentation of QCI trained inspectors is provided in Appendix D.

## **2.6. Post-Construction Storm Water Management**

Post construction storm water management involves the implementation of structural and/or non-structural BMPs to provide permanent storm water management over the life of a property's use. The County is in the process of evaluating and identifying BMPs that are suitable for this area and are within the County's regulatory control.

### **2.6.1. Low Impact Development**

Where feasible, the County has encouraged developers to utilize Low Impact Development (LID) and/or green infrastructure BMPs to minimize the post construction impacts of storm water runoff. The County will continue to evaluate and identify the most appropriate LID BMPs.

### **2.6.2. Development Regulations**

The County has developed a comprehensive process to implement and enforce controls that help reduce pollutants in storm water runoff. Documents used to define this process as well as the requirements for development within the County include.

- Zoning Ordinance; and,
- Subdivision Regulations.

A detailed description of these documents is provided in Section 1 of the SWMP Plan. The County has incorporated various Overlay Districts within the Zoning

Ordinance to provide additional protection of the County's natural resources. Overlay Districts include

- Flood Hazard Overlay District;
- Wetland Protection Overlay District; and,
- Gulf Beach Overlay District.

The Wetland Protection Overlay District requires a minimum buffer of 30-feet from a wetland. Regulations governing the Overlay Districts are contained in Article 10 of the Zoning Ordinance.

The County has developed a Master Plan that evaluates the existing land uses, development patterns and natural resources within the County. The County's zoning ordinance and subdivision regulations provide a mechanism to implement a post-construction storm water management program. Non-structural BMPs include but are not limited to the following.

- Develop design standards;
- Develop plan review and approval procedures;
- Develop post construction BMP evaluation and inspection procedures; and,
- Develop BMP maintenance requirements.

The subdivision regulations already contain a provision to address the quantity of post developed storm water runoff.

### **2.6.3. Conservation Development**

The County has developed regulations and requirements for a Conservation Development. The purpose of a Conservation Development is to provide a development option that permits flexibility of design to promote environmentally sensitive and efficient uses of the land. This development option was created to:

- Preserve in perpetuity unique or sensitive natural resources such as groundwater, floodplains, wetlands, streams, steep slopes, woodlands, and wildlife habitat;
- Preserve important historic and archaeological sites;
- Permit clustering of houses and structures on less environmentally sensitive soils which will reduce the amount of infrastructure, including

paved surfaces and utility easements necessary for residential development;

- Reduce erosion and sedimentation by minimizing land disturbance and removal of vegetation in residential development through a reduced building footprint;
- Promote contiguous greenways and corridors throughout the community;
- Promote contiguous green space with adjacent jurisdictions;
- Encourage interaction in the community by clustering houses and orienting them closer to the street, providing public gathering places and encouraging use of parks and community facilities as focal points in the neighborhood;
- Encourage street designs which reduce traffic speeds and reliance on major arteries;
- Promote construction of convenient landscaped walking trails and bike paths both within the subdivision and connected to neighboring communities, businesses, and facilities to reduce reliance on automobiles;
- Conserve scenic views and reduce perceived density by maximizing the number of houses with direct access to and views of open space;
- Preserve prime agricultural and forest lands and reduce the economic pressures of converting such land to urbanized uses.

Regulation governing Conservation Developments are contained in Article 11 of the Zoning Ordinance.

#### **2.6.4. Post Construction BMPs**

As the County's post construction storm water management program develops, the County will evaluate and identify the most appropriate BMPs. A design rainfall event with an intensity up to a 2-year, 24-hour storm event shall be the basis for the design and implementation of post-construction water quality BMPs.



#### **2.6.5. Operation and Maintenance**

For post developed BMPs to be effective, routine maintenance of the BMP will be required. The County is in the process of evaluating mechanisms that can be utilized to ensure proper maintenance of the BMPs.

#### **2.6.6. Tracking System**

As post development BMPs are implemented, the County is in the process of developing a tracking and inspection system to ensure that BMPs continue to function properly.

#### **2.6.7. Training**

Several Departments aid in implementing the County's Post Construction Storm Water Management program including the Highway Department, Building Inspection Department and Planning and Zoning Department. The County is continually evaluating potential training programs, activities and/or materials which can be used to educate the County's staff in storm water related issues.

### **2.7. Pollution Prevention / Good Housekeeping**

The pollution Prevention / Good Housekeeping Program is a key element to help the MS4 to reduce potential pollutants from entering storm water runoff. This control measure requires the County to evaluate existing facilities and operations to identify areas of improvement that will help ensure a reduction in the amount and type of potential pollutants.

#### **2.7.1. Facility Inventory**

The County has assessed its inventory of County facilities and areas that have a potential to interact with storm water runoff with the goal of a completed facility inventory map which will aid the County in identifying the facilities location with respect to water bodies. A comprehensive list and map of County facilities will help county employees build a better awareness of their locations within the MS4 and their potential to contribute pollutants in storm water runoff. Baldwin County has two (2) facilities located in the Fairhope MS4 area, but none within the County MS4 area.

### **2.7.2. Facility Assessments**

A comprehensive facility assessment is necessary to identify the facilities most likely to contribute storm water pollutants and the facilities in need of storm water controls. The facility assessments will involve a detailed site inspection to identify improperly stored materials, activities that should not be performed outside, and poor housekeeping practices.

### **2.7.3. Structural Controls**

The County maintains approximately 104.79 miles of paved roads, approximately 0.19 miles of unpaved roads and 11 bridges within the County's MS4 Area. The storm sewer system associated with these roads consist of box culverts, side drains, cross drains and storm sewer systems. Box culverts, cross drains and side drains are typically located along the roads to convey stormwater either underneath the road or along the road. Storm sewer systems are typically located within residential developments.

A summary of the storm sewer system components located within the County's MS4 area is presented in Table 2-2 and Table 2-3

**Table 2-2**  
**Storm Sewer Inlet Inventory**

<b>Inlet Type</b>	<b>Number (ea)</b>	<b>Inlet Type</b>	<b>Number (ea)</b>
Grate Inlet	16	Double Wing	331
Junction Box	98	Yard	67
Singe Wing	257	Slotted Drain	7
Curbed Inlet	5		

**Table 2-3  
Storm Sewer Pipe Inventory**

Pipe Shape	Pipe Size (in)	Number (ea)	Length (ft)	Pipe Size (in)	Number (ea)	Length (ft)
Arch	18 X 11	1	64	58 X 36	2	276
	29 X 18	3	85	73 X 45	1	26
	36 X 23	5	386	88 X 54	1	238
	51 X 31	2	402	N/A	1	26
Circular	12	2	926	30	70	10,034
	15	4	427	36	84	10,896
	18	284	27,720	42	17	2,254
	21	138	14,240	48	9	1,472
	24	148	20,852	54	2	361
	27	41	7,120	60	3	416
Elliptical	14 X 23	13	752	32 X 49	4	138
	19 X 30	7	687	34 X 53	3	626
Elliptical	22 X 34	5	494	38 X 60	1	123
	24 X 38	6	692	43 X 68	2	216
	29 X 45	2	138			

A summary of the cross-drain pipes located within the County's MS4 area is presented in Table 2-4.



**Table 2-4**  
**Cross Drain Pipe Inventory**

Pipe Shape	Pipe Size (in)	Number (ea)	Length (ft)	Pipe Size (in)	Number (ea)	Length (ft)
Arched	18 X 11	5	157	51 X 31	6	263
	22 X 13	1	16	58 X 36	3	72
	29 X 18	31	1,110	65 X 40	2	30
	36 X 23	23	898	73 X 45	2	78
	44 X 27	11	289			
Circular	12	3	115	36	3	60
	15	7	242	42	4	200
	18	67	2,966	48	5	267
	21	11	356	54	1	27
	24	49	1,635	60	3	75
	27	13	335	84	1	23
	30	15	383	96	1	43
Elliptical	14 X 23	18	681	27 X 42	1	82
	19 X 30	1	19	38 X 60	1	27
	24 X 38	2	95	43 X 68	1	12

### 2.7.3.1. Data Management

The County has a dedicated GIS/CIMS manager responsible for obtaining, developing, and maintaining the County's Graphic Information System (GIS) data and system. The County's GIS data includes mapping layers for box culverts, storm sewer pipes, storm sewer inlets and cross drain pipes.

Select attribute data for mapping layers used by the County include, but are not limited to, the following:

- Pipe shape;
- Material type;
- Number of barrels;
- Pipe size;
- Rip rap at inlet and/or outlet;
- Condition;
- Markers;
- Pipe length; and,
- Photographs.

The County has an on-going effort to update and maintain the information and data contained in the GIS system. To complement the GIS system, the County uses a Computer Information Management System (CIMS) to track time and activities associated with inspection and maintenance. County staff involved with maintenance will complete a Maintenance Activity Sheet daily that identifies where and what work was completed as well as by whom and the equipment used to complete the work. Maintenance activities can include:

- Structure clean out of leaves, sediment, floatables, and other debris;
- Mowing, clearing, or overhead limb removal to prevent drain blockage or reduced storm water flow;
- Regrading of swales and ditches to allow for proper storm water flow;
- Grass seeding/planting to prevent erosion;
- Replacing or repairing any reflective markers at cross drains; and,
- Replacing storm water structures.

This information is entered into the CIMS database. The CIMS Program provides the County with the ability to create activity reports that summarize the work performed on each structure for a period of interest.

Information on activities of the Baldwin County Highway Department is included in Appendix F. This information covers Fiscal Year 2018 and was obtained from year end reports prepared by the Highway Department. Activities specific to the MS4 area may be found under listings for Area 200. Additional information for the current reporting period will be included with future reports.

### **2.7.3.2. Inspections**

The County has begun performing an inspection of all structural storm water conveyance structures for this year. These inspections include, but are not limited to:

- Drainage elements such as ditches, erosion, pipe or drain condition, and any settlement occurring which may affect drainage watercourse;
- Shoulder roadside elements such as clearing, mowing, or encroachments maintenance;
- Percentage of overhead limbs on the roadway.

### **2.7.4. Roadways**

The County has implemented and maintained BMPs to provide a means of mitigating the negative impacts of various pollutants that can be carried off by rainfall and receiving waters.

The County maintains approximately 104.79 miles of paved roads, approximately 0.19 miles of unpaved roads and 11 bridges within the County's MS4 Area. Most roads located within the County's MS4 Area have open grassed drainage swales that parallel both sides of the road.

#### **2.7.4.1. License Agreement**

If a landowner(s) want to perform some type of modification or work on a County Right-of-Way (ROW), the County has established a process where the landowner(s) will execute a License Agreement with the County. The License Agreement defines the work or modifications that will be performed and who is responsible for maintenance of the work or modifications. This mechanism prevents a landowner(s) from performing any work within a ROW without the prior written approval from the County's Highway Department. Types of work allowed under the License Agreement include the following:

- Drainage improvements;
- Road improvements; and,
- ROW clearing.

The License Agreement does allow for beautification projects within the landowner's portion of the ROW. Eight (8) License Agreements were executed and inspected in the MS4 area during the current reporting period.

#### **2.7.4.2. Road Inspections**

The County has begun performing its inspections of all paved and unpaved County roads for its biennial (two-year) basis. These inspections include, but are not limited to:

- Surface treatment elements such as surface treatment type, patching, edge repairs, and leveling;
- Shoulder conditions;
- Drainage elements such as ditches, erosion, pipe or drain condition, and any settlement occurring which may affect drainage watercourse;
- Shoulder roadside elements such as clearing, mowing, or encroachments maintenance;
- Traffic control elements including signage and striping; and,
- Percentage of overhead limbs on the roadway.

As problems are identified that require immediate attention, the inspector will complete a Problem Request and schedule the necessary repairs. The need for repairs will be identified as Urgent, Priority, or Routine and addressed as follows:

- Urgent – Schedule the repairs within the same day.
- Priority – Schedule the repairs within the next 3 days.
- Routine – Schedule the repairs within the next 5 days

#### **2.7.4.3. Bridge Inspections**

Bridges for County roads are typically inspected on a bi-annual basis in accordance with NBIS standards.

#### **2.7.4.4. Mowing**

The County has crews dedicated to roadway maintenance. Typically, County ROWs are mowed a minimum of three times per season (April 1<sup>st</sup> through September 30<sup>th</sup>). Roads with higher traffic volumes or major corridors may be mowed more frequently.

#### **2.7.4.5. Litter Control**

Roadside litter control BMPs implemented by the County to address health and aesthetic concerns also improve the quality of stormwater runoff by limiting trash in runoff conveyance systems. BMPs implemented by the County include:

- Regular litter, trash and debris removal and disposal;
- Sponsoring Adopt-a-Road program; and,
- Public education.

The County's Solid Waste Department has four (4) to five (5) dedicated litter crews with one County employee serving as supervisor and two to three inmates serving as laborers. The litter crew produces a daily and weekly report summarizing the areas which were cleared of litter and tracks the amount of waste on a spreadsheet. Examples of the daily and weekly litter reports are provided in Appendix F. From October of 2017, through April of 2018, 167.82 tons of litter were collected.

The County supports the Adopt-a-Mile program in conjunction with the Alabama Department of Transportation (ALDOT) and People Against a Littered State (PALS). The County's website contains a link to redirect the user to the PALS website and Adopt-a-Mile registration. Currently, 6 miles of County roads within the MS4 Area are a part of the Adopt-a-Mile program.

#### **2.7.4.6. Resurfacing**

County roads with deteriorated paved surfaces are typically overlaid with new asphalt or milled, reclaimed, and replaced with new asphalt paving, depending on the deterioration cause.

#### **2.7.4.7. Deicing Activities**

Based upon the County's location, winter weather is infrequent. The County spreads sand on roads with snow or ice cover. After winter weather has subsided, the County removes the sand using a small front-end loader and a street sweeper. There were no deicing activities during the current reporting period.



### **2.7.5. Training**

The County is evaluating and developing a training program to educate County employees on how to incorporate pollution prevention / good housekeeping practices into County operations and facilities. Training topics may include the following.

- Federal and State storm water regulations;
- Storm water pollution prevention plan requirements;
- Significant materials and storage practices;
- Best Management Practices (BMPs);
- Non-storm water discharges and evaluations;
- Site inspection and documentation protocols;
- Application of pesticides, herbicides and fertilizers;
- Road maintenance BMPs; and,
- Facility specific standard operating procedures.

To minimize the cost and resources associated with training, the County anticipates utilizing training programs and materials that have already been developed by EPA, ADEM and/or other readily available sources.

### **2.7.6. Flood Management**

The NPDES permit requires the County to evaluate flood management projects for incorporation of additional water quality protection devices and practices to help improve water quality. If flood management projects are proposed within the County's MS4 area, the County will evaluate the projects for the potential incorporation of water quality features.

#### **2.7.6.1. Community Rating System (CRS)**

The National Flood Insurance Program (NFIP) provides federally backed flood insurance that encourages communities to enact and enforce floodplain regulations. To be covered by a flood insurance policy, a property must be in a community that participates in the NFIP. Baldwin County has been participants since 1978 and currently holds a Class 7 Building Code Effectiveness Grading Schedule (BCEGS) grade for One & Two-Family dwellings and Commercial & Industrial buildings.

The Community Rating System (CRS) Program is a point based system which provides incentives for communities to do more than simply regulate construction of new buildings to minimum national standards. Under CRS, flood insurance

premiums are adjusted to reflect community activities which reduce flood damage to existing buildings, manage development in areas not mapped by the NFIP, protect new buildings beyond the minimum NFIP protection level, help insurance agents obtain flood data and help people obtain flood insurance.

The objective of the CRS program is to reward communities that are doing more than meeting the minimum NFIP requirements to help citizens prevent or reduce flood losses. The goal of the CRS program is to encourage, by the use of flood insurance premiums adjustments, community and state activities beyond those required by the NFIP.

Baldwin County has voluntarily participated in the Community System Program since 1995 and currently has a Class 7 rating which represents a savings of 15 % for Special Flood Hazard policies and 5 % for standard risk policies.

The CRS program is broken down into 18 creditable activities as follows:

*Public Information Activities*

- Elevation Certificates
- Map Information Service
- Outreach Projects
- Hazard Disclosure
- Flood Protection Information
- Flood Protection Assistance

*Mapping & Regulatory Activities*

- Additional Flood Data
- Open Space Preservation
- Higher Regulatory Standards
- Flood Data Maintenance
- Stormwater Management

*Flood Damage Reduction Activities*

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- Floodplain Management Planning
- Acquisition and Relocation
- Flood Protection
- Drainage System Maintenance

*Flood Preparedness Activities*

- Flood Warning Program
- Levee Safety
- Dam Safety

Baldwin County provides public information to advise property owners, potential property owners, and visitors about hazards, ways to protect people and property from the hazards, and the natural beneficial functions of floodplains. Activities include flood determinations and technical assistances, public outreach and education, and real estate disclosure.

As a requirement of the CRS Program, Baldwin County must submit an annual recertification report each year and a cycle visit every five (5) years. The most recent cycle visit took place on December 16, 2015.

A recent effort related to CRS is the development of a new Flood Hazard Management Plan, which is a requirement of the CRS program. On May 3, 2016, the County Commission authorized the Building Official, the Emergency Management Agency (EMA) Director and the EMA Planning and Grants Coordinator to submit a planning grant application requesting \$25,000.00 in federal share funds, with the 25% cost match being met by local in-kind services, for the creation of an updated floodplain management plan covering the unincorporated areas of Baldwin County. The Floodplain Management Plan Agreement (FMA-PL-04-AL-2016-001) with the U.S. Department of Homeland Security in the amount of \$24,999.99 for the Baldwin County Emergency Management Agency through the Baldwin County Commission, was accepted on June 22, 2017. Wood Environment & Infrastructure Solutions, Inc. was subsequently selected to assist County staff in the development of the revised plan. Work began in early January of 2018.

The previous Flood Hazard Management Plan was adopted in 2000, but had not been updated. The revised plan addresses flood hazards and was developed in



accordance with CRS requirements. It is a single jurisdiction plan which geographically covers only the unincorporated area of Baldwin County. The County must review and revise the plan to reflect changes in development progress and local mitigation efforts, and resubmit it for approval within five (5) years to continue to be eligible for mitigation project grant funding. This plan has been prepared to meet this requirement, and will enable the County to earn additional points for its flood hazard mitigation efforts with the result being reduced flood insurance rates for the citizens of Baldwin County.

Opportunities for public comment on the updated plan were provided by the posting of the draft plan on the Building Inspection Department web site, and at the January 3, 2019, meeting of the of the Baldwin County Planning and Zoning Commission. Information from the Planning Commission meeting is included with Appendix F.

## **2.8 Monitoring Plan**

In December 2011, the County was re-designated from a Phase I MS4 to a Phase II MS4. In April 2012, the Census Bureau released updated Urbanized Areas based on the 2010 Census. Because of the 2010 Census the Daphne-Fairhope Urban Cluster was changed to the Daphne-Fairhope Urbanized Area and its boundaries expanded along the I-10 corridor.

Baldwin County requested an amendment to its monitoring program, in 2014, due to the fragmented nature of its MS4 area, and due also to the fact that the County is not a contributor to 303(d) listed waters or TMDL streams located within its MS4 area. The County received a Coastal Impact Assistance Grant to help protect wetlands and waterways by stabilizing unpaved roads and ditches. Because of this effort, the County will reduce the amount of sediment that enters streams and waterways. Currently, the County has paved approximately 16.42 miles of unpaved roads and stabilized approximately 119.43 acres. Turbidity sampling performed before the work was initiated and after the work was completed shows that paving dirt roads and stabilizing ditches significantly reduces the amount of sediment entering the streams and waterways. Documentation of monitoring for the County's dirt road paving projects is provided in Appendix G. Information is listed according to specific project numbers. This work is performed across the County and is not limited to the MS4 Area.

Future monitoring results will be included in future MS4 Annual Reports.

### 3. Summary Tables

Part V.C. of the NPDES permit requires that yearly activities performed by the County be summarized in a report. The purpose of the table is to document in a concise form the program activities, and permittee's compliance status with quantifiable permit requirements. The following tables in this section provide a summary of the Baldwin County's MS4 program activities.

#### 3.1. Public Education and Outreach

Requirement	SWMP Activity Schedule		
	Required	Complied	Accomplished
Local Partnerships	Mobile Bay National Estuary Program Participation	Yes	Provide Support and Participation
	Weeks Bay Watershed Project Participation	Yes	Provided Support and Participation
	Meet w/ Spanish Fort, Daphne & Fairhope	Yes	October 12, 2017, Most Recent Meeting
	Municipal Partnerships	Yes	Listed in Report
	Identify additional partnerships	Yes	Actively Seeking Partnerships
Brochures	Maintain Display at County Facilities	Yes	Displayed at County Courthouses and on Website
	Evaluate Target Audiences	Yes	Audiences Evaluated
	Evaluate Pollution Sources	Yes	Sources Evaluated
	Develop New Brochures	Yes	Brochures Developed
	Identify Public Events for Distribution	Yes	Actively Seeking Events
News Articles	Maintain Inventory of Articles	Yes	Articles on Website
Website	Incorporate Storm Water Page	Yes	Storm Water Page Developed

Section 3  
Regulatory Requirements

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Workshops	Evaluate Workshop Topics	Yes	Evaluation ongoing
	NEMO Workshop	Yes	Video Training
	Erosion Control Workshop	Yes	30 QCI Certifications
	Planning Commission Workshop	Yes	Attended Workshop, 9 Attendees
Training	Evaluate Training Needs	Yes	Training Evaluated
	Identify Training Programs / Materials	Yes	Actively Seeking Training Programs and Materials
	Conduct Training	Yes	4 Training Opportunities

**Comments:**

1. Supporting information for Public Education is provided in Appendix A.

### 3.2. Public Involvement / Participation

Requirement	SWMP Activity Schedule		
	Required	Complied	Accomplished
General Activities	Maintain Citizen Service Centers	Yes	Maintained Daily
	Adopt-a-Mile Program	Yes	6 Miles Adopted
	Coastal Clean-up and Baldwin County Clean Sweep	Yes	Provided Support
	Adopt-a-Stream Program	Yes	Program Developed
	Stream Signage	Yes	Streams signed at bridges
	Storm Drain Marking Program	Yes	Program Developed
	Recycling Program	Yes	28 Recycling Locations 985.03 Tons Collected
	Household Hazardous Waste Collection	Yes	2775 gallons collected
	Baldwin County Commission Meetings	Yes	Two regular meetings and two work sessions per month
	Baldwin County Planning Commission and Boards of Adjustment	Yes	12 Planning Commission meetings/28 Board of Adjustment meetings
Education Events	Baldwin County Groundwater Festival	Yes	Provided Event Venue, Held October 25, 2017
	Woods & Waters Expo	Yes	Provided Support
	Earth Day	Yes	Provided Support
	Master Environmental Educator	Yes	Provided Support
	Erosion Control Workshop	Yes	30 QCI Certifications

#### Comments:

- Supporting information and data associated with the Public Involvement / Participation is provided in Appendix B.

### 3.3. Illicit Discharges Detection and Elimination

Requirement	SWMP Activity Schedule		
	Required	Complied	Accomplished
Legal Authority	Develop Illicit Discharge Ordinance	Yes	Lack Legal Authority
	Adopt Illicit Discharge Ordinance	Yes	Lack Legal Authority
Data Acquisition	County GIS Data	Yes	System Updated
Outfall Inventory	Schedule	Yes	Schedule Completed
	Inspection Form	Yes	Form Developed
	Map	Yes	Map Developed
	Inventory	Yes	Inventory Completed
Illicit Discharges	Complaint Tracking System	Yes	Tracking System Developed
	Illicit Discharge Inspection Form	Yes	Form Developed
	Complaints	Yes	0 Complaints
	Illicit Discharge Investigations	Yes	0 Received
Standard Operating Procedures	Sample equipment use, maintenance	Yes	SOP Developed
	Outfall Reconnaissance Inventory	Yes	Inventory Conducted
	On-site sewer disposal system evaluation	Yes	SOP Developed
	Sanitary sewer overflow evaluation	Yes	SOP Developed

#### Comments:

1. Information and data associated with Illicit Detection and Elimination is provided in Appendix C.



### 3.4. Construction Site Runoff

Requirement	SWMP Activity Schedule		
	Required	Complied	Accomplished
Legal Authority	Erosion and Sediment Control Ordinance	Yes	Lack Legal Authority
	Subdivision Regulations	Yes	Regulations Being Evaluated for Updates
Permitting	Develop SOP	Yes	SOP Developed
	Develop Land Disturbing Activity Application Form	Yes	Application Developed
	Track Number and Type of Permits	Yes	99 Land Use Certificates Issued
Plan Review	Develop SOP	Yes	SOP Developed
	Develop Review Checklist	Yes	Check List Developed
	Develop Erosion Control Plan Requirements	Yes	Provided in Subdivision Regulations
	Track Number of Plans Reviewed	Yes	5 Commercial Land Use Certificates
Inspections	Develop SOP	Yes	SOP Developed
	Develop Inspection Form	Yes	Form Developed
	Track Number and Type of Inspections	Yes	1 Subdivision Inspection The Verandas, Phase 2
Enforcement Actions	Track Number and Type	Yes	3 Enforcement Actions
Training	QCI Training	Yes	30 Certifications

#### Comments:

1. Supporting information for the Construction Site Storm Water Runoff Program is provided in Appendix D.

### 3.5. Post-Construction Storm Water Management

Requirement	SWMP Activity Schedule		
	Required	Complied	Accomplished
Legal Authority	Develop Post Construction Storm Water Management Ordinance	Yes	Lack Legal Authority due to Limited Home Rule
	Adopt Post Construction Storm Water Management Ordinance	Yes	Lack Legal Authority due to Limited Home Rule
	Subdivision Regulations	Yes	Evaluating Regulations
	Zoning Regulations	Yes	Evaluating Regulations
Low Impact Development	Evaluate LID Practices	Yes	Evaluation in Progress
	LID Policy	Yes	Evaluation in Progress
Non-Structural BMPs	Develop Plan Review Procedures	Yes	Non-structural BMP plan review, inspection and maintenance requirements developed
	Develop Inspection Procedures	Yes	
	Develop Maintenance Requirements	Yes	
Structural BMPs	Evaluate and Identify BMPs	Yes	Structural BMPs, design standards and check list requirements developed
	Develop Design Standards	Yes	
	Develop Review Checklist	Yes	
Inspections	Develop SOP	Yes	Inspection Program Developed
	Develop Tracking System	Yes	
	Track Number and Type of Inspections	Yes	
Training	Evaluate Training Needs	Yes	Evaluation in Progress
	Identify Training Sources	Yes	Actively Seeking Sources
	Conduct Training	Yes	30 QCI Certifications/25 Refresher Course

#### Comments:

1. Supporting information for the Post-Construction Storm Water Management Program is provided in Appendix E.



### 3.6. Pollution Prevention / Good Housekeeping

Requirement	SWMP Activity Schedule		
	Required	Complied	Accomplished
Facility Inventory	Identify County Facilities and Operations	Yes	Inventory Developed
	Inventory Industrial and Commercial Facilities	Yes	
Facility Assessment	Develop Facility Evaluation Form	Yes	Facility Evaluations Assessed
	Conduct Facility Evaluation	Yes	
	Prioritize Facilities	Yes	
	Develop Facility Recommendations	Yes	
	Develop Schedule for Implementation	Yes	
Standard Operating Procedures	Bridge Inspection / Maintenance	Yes	SOPs Developed
	Dirt Road Inspection / Maintenance	Yes	
	Paved Road Inspections / Maintenance	Yes	
	Right-of-Way Maintenance	Yes	
	Facility Inspections	Yes	
Training	Evaluate Training Needs	Yes	Evaluation in Progress
	Identify Training Resources	Yes	ALDOT, Alabama Technology Center
	Implement Training	Yes	ALDOT QCI Course
Flood Management	Review Flood Projects	Yes	CRS Program

### 3.6.1. Structural Controls

Requirement	SWMP Activity Schedule		
	Required	Complied	Accomplished
Data Management	Storm Sewer Pipe Inventory	Yes	Inventory Completed
	Storm Sewer Inlet Inventory	Yes	Inventory Completed
	Cross Drain Pipe Inventory	Yes	Inventory Completed
Inspections	Drainage Swales	Yes	45 Inspected
	Storm Sewer Pipe & Inlets	Yes	18 Inspected
	Cross Drain Pipe	Yes	33 Inspected
Cleaning and Maintenance	Drainage Swales	Yes	41 Maintained
	Storm Sewer Pipe	Yes	17 Maintained
	Cross Drain Pipe	Yes	28 Maintained

### 3.6.2. Roadways

Requirement	SWMP Activity Schedule		
	Required	Complied	Accomplished
GIS Data	Road and Bridge Inventory Update	Yes	Inventory Updated
Roadway Design	Plan Reviews	Yes	No Plan Reviews
License Agreements	License Agreements Executed	Yes	8 Agreements Executed, MS4 Area
Inspections	Paved Roads	Yes	All Roads Inspected
	Unpaved Roads	Yes	No Inspections
	Bridges	Yes	7 Inspected
Roadway Maintenance	Mowing ROW	Yes	4 cycles completed
	Litter Control	Yes	167.82 Tons Picked-Up
Roadway Repair	Resurfacing - Overlay	Yes	3.32 Miles
Deicing Activities	Deicing Events	Yes	0 Events

**Comments:**

1. Supporting information and data associated with the Pollution Prevention / Good Housekeeping Program is provided in Appendix F.

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## 4. MS4 Program Modifications

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### 4.1. SWMP Plan Update

The County has completed an annual review of its Storm Water Management Plan. A revised SWMP was submitted to ADEM, as required, on September 1, 2018. There were no additional modifications during the current cycle.