

# **JEFFERSON COUNTY COMMISSION**

***MUNICIPAL SEPARATE STORM SEWER SYSTEM***

***PERMIT NUMBER: ALS000001***

**ANNUAL REPORT FOR REPORTING PERIOD**

**OCTOBER 1, 2016 TO SEPTEMBER 30, 2017**

## **Jefferson County Commission**

Commissioner Jimmie Stephens -President

Commissioner Sandra Little Brown-President Pro Tempore

Commissioner George Bowman

Commissioner T. Joe Knight

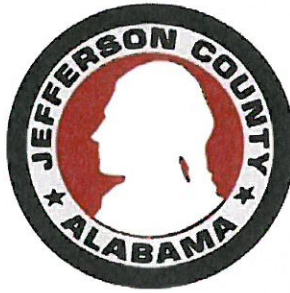
Commissioner David Carrington

Tony Petelos, Chief Executive Officer


Zhaleh M. McCullers, Interim Director

Development Services Department





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 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 a fine and/or imprisonment for knowing violations (NPDES PERMIT ALS000001, Section VI (B)(4)(H) dated October 12, 2001).

  
\_\_\_\_\_  
Tony Petelos, Chief Executive Officer

12-20-17

Date

  
\_\_\_\_\_  
Zhaleh M. McCullers, Interim Director

12-18-2017

Date

**ANNUAL REPORT - Year Sixteen**  
**October 1, 2016 to September 30, 2017**

**TABLE OF CONTENTS**

**I. GENERAL INFORMATION**

A. Contacts

**II. PROGRAM EVALUATION**

A. Program Objectives

B. Major Findings

C. Major Accomplishments

D. Program Strength and Weaknesses

E. Future Direction

**III. SUMMARY TABLE**

**IV. PROGRAM MODIFICATIONS**

**V. FISCAL ANALYSIS OF PERMITTEE'S PROGRAM**

**VI. APPENDICES**

A. Stormwater Management Plan

B. Structural Controls; Roadways; Flood Control Projects; PHF

C. New Development and Redevelopment

D. Illicit Discharges; Improper Disposal; Spill Response

E. Industrial and High Risk Runoff Program

F. Construction

G. Education and Public Outreach

H. Monitoring

I. Budgets; Major Findings; MOU

J. Strength and Weakness; Future Direction

# I. General Information

## A. CONTACTS

The staff of the Jefferson County Commission, under the supervision of Tony Petelos, Chief Executive Officer, responsible for all the County Department functions and responsibilities, and Zhaleh M. McCullers, the Interim Director of the Development Services Department. The staff of the Stormwater Program collected, coordinated information from the various Jefferson County Departments for inclusion, and prepared this 2016-2017 Annual Report.

Any question in reference to this report should be directed to person(s) listed below:

**Zhaleh M. McCullers**

Interim Director

**Jeff Gunter**

Chief Civil Engineer

**Jefferson County Courthouse  
Development Services Department Room, B-200  
716 Richard Arrington Jr. Blvd. N.  
Birmingham, Alabama 35203  
Telephone: 205-325-5321  
[mccullersz@jccal.org](mailto:mccullersz@jccal.org)  
[gunterj@jccal.org](mailto:gunterj@jccal.org)  
<http://jeffonline.jccal.org/>**

## **II. Program Evaluation**

## **A. PROGRAM OBJECTIVES**

The requirements of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit ALS000001 (Permit), issued by the Alabama Department of Environmental Management (ADEM), list specific responsibilities for the Permittee/Co-Permittees. The Stormwater Program (SP) is responsible for implementing the Storm Water Management Plan (SWMP) within unincorporated Jefferson County, Alabama. The SP stipulates certain obligations that must be met in order for the Permittee to comply with the requirements of the Permit. The SP continued its work in accordance with the latest SWMP that was submitted to ADEM in the 2011-2012 Annual Report. Work implemented by other County departments which fulfills parts of the MS4 NPDES Permit requirements is reported by the SP in its Annual Report. Please refer to Appendix A for the latest version of the SWMP.

## **B. MAJOR FINDINGS**

During the Permit Year October 1, 2016, through September 30, 2017, the following information was collected and evaluated as major findings that have impacted water quality:

- The Alabama Water Agencies Working group (AWAWG) published a report on December 1, 2013. The report proposes the Alabama Water MAP Process as the State's mechanism for developing and implementing an initial comprehensive statewide water management plan that includes policy options for 12 water issue areas identified by the AWAWG. During this permit year, the AWAWG Focus Area Panel Chairs gave presentations at the Alabama Water Agencies Working Group Stakeholder Meeting held on April 5, 2016. The AWAWG is comprised of the Alabama Office of Water Resources, the Alabama Department of Environmental Management, the Geological Survey of Alabama, the Alabama Department of Conservation and Natural Resources, and the Alabama Department of Agriculture and Industries. To expand the efforts of not having a Statewide Plan, HB577 was introduced to the Alabama Legislator. This Bill was introduced too late to pass the House in the Spring 2017 Session, yet it received overwhelming support. Please see Appendix I
- The Jefferson County Manager's Office, Human Resources Department, and Receiver decided to merge the current Storm Water Management, Land Planning and Development Services, and Inspection Services Departments into one department, effective August 2016. Current Storm Water Management Department Director, Zhaleh M. McCullers, was appointed to serve as Interim Director of the resulting Development Services Department. This Department which has been broken down into three divisions will continue to implement Jefferson County's Stormwater Program. Two of the three divisions are Planning, Engineering and Permitting and Inspections and Enforcements. These two divisions are responsible for the following permit requirements:
  - Areas of New Development and Significant Redevelopment
  - Flood Control Projects
  - Construction Site Runoff
  - Education and Public Outreach
  - Monitoring Programs

The third division serves as support personnel for the other two divisions. Since the merger, the workflow and communication has been improved between these previously separate Departments. Please see Appendix I for the Development Services Department Merger Report and the Organizational Chart.

- As the economy improves, housing starts are increasing, although minimally. Many of the new houses are being built in subdivisions that were dormant during the recession. Although these subdivisions tended to stabilize by natural vegetation, the completed housing sites further stabilized these properties. This minimal development combined with maturing natural vegetation is minimizing the impact on the environment from these previously disturbed areas.
- According to the final 2016 water quality 303(d) list of ADEM and the EPA, 14 stream segments of waterways within, or flowing through, the Jefferson County jurisdiction are designated as impaired by not fully meeting their usage classification. This is a determination reached by ADEM in a federally required biennial evaluation of the status of water bodies

within the state. The evaluation is conducted from best available data and a determination of the waterway's ability to support its designated usage classification.

The 14 segments on the 303(d) list in the Black Warrior River basin are typically designated as impaired for chemical impairments as pesticides (Dieldrin), nutrients, organic enrichment, pH, pathogens, and siltation. Sources of this pollution range from agriculture, industrial sites, urban runoff, and municipal sites to abandoned surface mining operations and collection system failure.

A stream segment of a waterway on the 303(d) list is removed only when it has either: (1) a Total Maximum Daily Load (TMDL) approved by the EPA that allocates the pollutant reductions to the responsible parties, or (2) has improved in water quality as determined by further data. The original stream segments have been reduced to EPA-approved TMDLs within the MS4 area. The finalized, EPA-approved TMDLs\* are:

- Cahaba River for nutrients,
- Shades Creek (including Mud, Mill and Cooley Creeks) for pathogens,
- Shades Creek for siltation, and habitat alterations,
- Village Creek for metals, siltation, and habitat alteration,
- Village Creek (Bayview Lake) for siltation,
- Village Creek for pathogens,
- Camp Branch for pH, siltation, and habitat alteration,
- Patton Creek for organic enrichments and dissolved oxygen problems.

The EPA has approved the finalized Cahaba River TMDL for siltation. The total reduction in total suspended solids was revised from 53% to 48%. As an MS4 entity, Jefferson County will continue to address pollutant loading through proper BMPs, monitoring, stormwater management plans, and other mechanisms included in the Permit. The current 303(d) List is included in Appendix I.

\*Due to the complexity of the documented impairments for the above mentioned stream segments, *many have more than a single TMDL for that particular stretch*. In addition, at this time there is no implementation legislation in place for the designated reductions which are allocated to the MS4 in a TMDL. However, the *intent* of the EPA is to have the MS4 jurisdiction over the impaired water body to assume the responsibility for the nonpoint source allocations of the TMDLs in the re-issued Phase I NPDES Permits to be completed by ADEM. That intent has not been finalized by EPA through ADEM at this time.



## **C. MAJOR ACCOMPLISHMENTS**

The following list outlines major accomplishments during the Permit Year October 1, 2016, through September 30, 2017 in accordance with the 11 requirements as outlined in Jefferson County MS4 NPDES Permit:

### **1. Structural Controls**

- a. The County's Roads and Transportation Department maintains the storm sewer system within the unincorporated Jefferson County rights-of-way. During the reporting period, **10,209.4 cubic yards** of material were removed from the storm sewer system. Please see Appendix B.
- b. The Stormwater Program purchased several storm drain concrete stamps which say **"No Dumping Drains to Waterways**. All new concrete storm drain lids will be imprinted with the stamp as well as any lids that are in need or scheduled to be replaced. The County's Roads and Transportation Department installed **19 stamped inlet covers** during this Reporting Period. Please see Appendix B.
- c. During the permit year, the Stormwater Program staff, along with other agencies, continued to develop, promote and implement numerous workshops to promote structural controls on individual home sites. Jefferson County Commission formalized several ongoing Memorandums of Understanding with local, state and national agencies with similar goals. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10) and see Appendix I.
- d. The Stormwater Program staff continued to use their created materials and posters within the Jefferson County Clean Water Awareness Campaign to educate the public regarding this Permit requirement. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).

### **2. Areas of New Development and Significant Redevelopment**

- a. Jefferson County continued using its SmartCode Ordinance as part of its Comprehensive Planning Program during this reporting period. The SmartCode is intended to be used as a voluntary overlay zone to encourage low-impact development (LID) and to concentrate development in more dense clusters that will limit impervious surfaces, reduce the need for automobile travel, and make the use of public transit possible. The Ordinance is intended to address both new development and the re-development of older areas, to increase density in target areas and to reduce the discharge of pollutants into the storm sewer system. This Ordinance was adopted by the County Commission on October 19, 2010. Please see Appendix C.
- b. During Permit Year 2016-2017, **59 subdivision cases** were approved, 54 residential and 5 non-residential. Please see Appendix C.
- c. Jefferson County is located in a region which experiences the impacts of severe weather conditions including tornados, hurricanes, and both drought and heavy rainfall. In order to minimize the discharge of pollutants from these areas, the Stormwater Program staff has identified resources, coordinated efforts, and implemented projects to assist affected communities in replanting trees and other plants to restore the benefits that such vegetation brings, including reducing stormwater runoff, capturing and filtering pollutants, increasing stormwater infiltration, and reducing soil erosion. Jefferson

County continued using its program in effected areas due to severe weather. Below is the list of events that took place during this permit year:

- i. **The Plant Dig**, hosted by Keep Birmingham Beautiful Commission, the Birmingham Department of Public Works, and Alabama Forestry Commission, was held on February 25, 2017. This event was free to the public allowing citizens to dig up trees and shrubs at a Birmingham facility and replant them in their own yards. On February 18, 2017, **15 people attended** a free orientation workshop held at the Birmingham Botanical Gardens lead by local Master Gardeners. Information on species identification, the proper harvesting of plants and re-planting procedures were discussed and materials were distributed. Please see Appendix C.
- ii. The City of Birmingham Urban Forestry Division in conjunction with the Alabama Forestry Commission and the Jefferson County Conservation District conducted an **Arbor Day program** in Linn Park on February 22, 2017 as a means to distribute free tree seedlings to the public. It was reported that **1,750 tree** seedlings were given away during this event. Please see Appendix C.
- iii. The Centennial Tree Program founded at the Birmingham Botanical Gardens has planted more than 2,500 native trees throughout the Birmingham area since 2009. More than 100 of these trees were planted in North Smithfield Greenleaf Heights, a Jefferson County Community that took a direct hit from the April 2011 tornado outbreak. It was reported that only an additional 700 tree seedlings were planted during this reporting period, a significant reduction to what was planned because of the drought. Please see Appendix C.
- d. Jefferson County partnered with the City of Birmingham in the City's Village Creek Watershed study. The study was investigating and defining solutions to flooding and pollution problems along the length of the creek and throughout the watershed. Jefferson County provided various digital data to the City to be used on this study. In addition, the Stormwater Program staff has been involved and participated in their projects and served on many committees along with Birmingham. The City of Birmingham finalized this study and the report was distributed to interested parties and all their partners.
- e. The Stormwater Program staff continued to use their created materials and posters within the Jefferson County Clean Water Awareness Campaign to educate the public regarding this Permit requirement. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).

### 3. Roadways

- a. The County's Roads and Transportation Department deicing program was implemented by Camp Bessemer and Camp Ketona. A total of **414.3 tons** of sand was applied during this reporting period for ice control on County roadways. Please see Appendix B.
- b. The County's Roads and Transportation Department maintains the County's roadways. During this reporting period, **244 bags** and **798 tons** of trash was collected from along Jefferson County roadways. Please see Appendix B.

- c. During this reporting period, **8 fulltime employees** were hired and assigned in the County's Roads and Transportation Department to pick up litter from along roadways in unincorporated areas of Jefferson County. Please see Appendix B.
- d. The Jefferson County Commission continued using a 24 hour hotline for the public to call and report illegal dumping and trash issues (205-582-6555) which was promoted by the news and social media, in various written publications, and at the Jefferson County Commission website. These calls initiate an investigation into the source and subsequent removal of the dumped materials. Please see Appendix B.
- e. The Jefferson County Litter Squad Program was implemented by the Jefferson County Court System. The court assigns probationers to community service picking up litter from alongside a designated one mile stretch of roadway. In past reporting years, this program was implemented in conjunction with Jefferson County departments which provided training, materials, record keeping, and removal of collected trash bags. The Jefferson County Court and its staff coordinate the probationers, assigning them to assist with specific roadside cleanup events that are spearheaded by various organizations and/ or communities. During this reporting year, **666 probationers** were assigned by the Court to pick up litter from along **82.8 miles of roadways**. A total of **1,641 45-gallon bags of litter and trash** were removed from roadways by the probationers. Litter and trash removed from unincorporated Jefferson County roadways is included in the County's Road and Transportation Department's yearly tonnage report under material removed from ditches. Please see Appendix B.
- f. Stormwater Program staff developed a partnership with People Against a Littered State (PALS) promoting and coordinating various community based roadside litter cleanups in Jefferson County including the 2017 "**Don't Drop it On Alabama**" statewide Spring Cleanup. PALS reports over 400 tons of litter was collected statewide. Please see Appendix B.
  - i. In Jefferson County, **69 roadside cleanups** were held resulting in **2,012 volunteers** spending over **8,048 hours** picking up **75.71 tons** of litter along **317.55 linear miles** of roadways and out of ditches. Of those totals, **45 cleanups** were held in unincorporated areas of Jefferson County resulting in **1,212 volunteers** spending **4,848 hours** picking up **43.57 tons** of litter along **196.75 liner miles** of roadways and out of ditches which was disposed of by the County's Roads & Transportation Department (R&TD). The amount of material collected is contained in the County's R&TD yearly tonnage report under material debris removed from ditches. Please see Appendix B.
  - ii. Jefferson County was recognized at the Alabama PALS Governor's Awards Program which was held on November 16, 2016 for its outstanding commitment in the areas of local cleanup efforts, environmental education and volunteerism. Jefferson County Roads and Transportation Department, Jefferson County Land Planning and Development Services Department, Jefferson County Sheriff's Office, Lottie Green and Ricky Farley with McDonald Chapel Community, Rick House with McCalla/McAdory Community, Minor High School, and Oak Grove High School Student Government Association all received awards in their respective categories. These achievements were featured in the Alabama PALS

Winter Quarter 2017 newsletter, *The PALS Prints Volume 37*. Please see Appendix B.

- iii. On November 17, 2016, the Jefferson County Commission honored the Jefferson County Departments which received AL PALS Awards at their Committee meeting. On February 9, 2017, the Jefferson County Commission presented Resolutions to the PALS Community Award winners from Jefferson County. Please see Appendix B.
- iv. A presentation on the Jefferson County Volunteer Roadside Cleanup Campaign was made to the Jefferson County Commissioners during the Committee Meeting held on December 6, 2016. It included a summary of all the events that took place during the FY 2016.
- v. The Alabama PALS Summer Quarter 2017 newsletter, *The PALS Prints Volume 37*, featured roadside cleanups held throughout Jefferson County this past spring. Please see Appendix B.
- g. Stormwater Program staff developed partnerships with various agencies specifically targeting the removal of trash and debris from waterways. In Jefferson County, **46 cleanups** were held resulting in **1,651 volunteers** spending over **6,604 hours** picking up **105.19 tons** of litter along creek banks, bridge abutments, nearby roadways and ditches and out of the creeks themselves. Of those totals, **6 cleanups** were held in unincorporated areas of Jefferson County resulting in **322 volunteers** spending **1,288 hours** picking up **14.97 tons** of litter which was disposed of by the County's Roads & Transportation Department (R&TD). The amount of material collected is contained in the County's R&TD yearly tonnage report under material debris removed from ditches. Please see Appendix B.
- i. The **Turkey Creek Nature Preserve (TCNP)** led **34 cleanups** resulting in **574 volunteers** picking up and removing **60 tons** of debris from their property, Turkey Creek and surrounding roads. The Jefferson County Commission and the TCNP work together under an ongoing formalized Memorandum of Understanding to reduce water quality pollution along roadways. There also were several local schools and service organization volunteers participating in the events. Please see Appendix B and I.
- ii. Three ***Renew Our Rivers Cleanups*** were scheduled during Permit Year 2016-2017. Reports show that trash and debris was removed from the **Warrior River during the Bankhead Lake Cleanup held on May 13, 2017**. As part of this event, a community wide cleanup was also promoted to have local residents pick up trash and debris along roadsides and in sloughs from May 6 until May 12, 2017. It was reported that **48 volunteers** removed approximately **10 tons** of debris. The items collected during this event were placed in an onsite dumpster and hauled away with normal trash pickup. Please see Appendix B.

**The Valley Creek Cleanup was held on August 19, 2017** with two prior work days to remove the heavier items from 5 various locations on August 16 and 17, 2017. This cleanup focused on public awareness and trash removal throughout the Valley Creek Watershed. The cleanup was coordinated by the municipalities throughout the watershed, various agencies, and a coalition of local citizens and

businesses. There were **7 volunteer site registration locations** for the volunteers this year. More than **250 volunteers** removed **13.35 tons** of debris. Please see Appendix B.

**The Village Creek Fall Cleanup was held on September 14-16, 2017. 204 volunteers** along with the Birmingham Fire and Rescue Service, Vulcan Materials Company, City of Birmingham and Jefferson County Commission participated in a cleanup in Village Creek conducted by the Village Creek Society and the Alabama Power Company on September 14-15, 2017. As part of this event, a community wide cleanup was also promoted to have local residents pick up trash and debris along roadsides on September 16, 2017. The local community, various schools and supporting partners removed **9.16 tons** of debris and trash. Additional cleanups on Village Creek were held on March 25 and May 6, 2017. The **March 25** event was in partnership with the University of Alabama Birmingham (UAB), Village Creek Human and Environmental Justice Society, Jefferson County Commission, Jefferson County Department of Health Watershed Protection Program, Unincorporated communities of Mulga Mines and Minor Heights and the Town of Mulga. UAB students along with volunteers from neighboring communities participated in a cleanup along Mulga Loop Road as part of UAB's *Into the Streets* program whose mission is to encourage partnerships that improve education, health, economic prosperity and quality of life through service at home and around the globe. A total of **6.0 tons** of material was picked up and properly disposed as a result of this event. A total of **113 volunteers** removed 2.05 tons of the total debris on the day of the event and the City of Birmingham Public Works picked up 3.95 tons of heavier material the week after this event as a follow up to identified items too large for volunteers to safely remove. Reports show that **96 volunteers** from local schools removed **3.56 tons** of debris during the **May 6** cleanup. Please see Appendix B.

- iii. A community cleanup was held at the Grants Mill Cahaba Landing and Irondale River Walk on **June 16, 2017**. A total of **13 volunteers** removed **0.195** tons of trash.

Church of the Highlands, located along Grants Mill Road, held both a roadside and a river cleanup as part of its *Day of Service* project to prevent litter and trash from entering the Cahaba River. On **July 15, 2017**, **60 volunteers removed 0.467 tons** of trash and tires from along Grants Mill Road and **40 volunteers removed 0.35 tons** of trash and tires from the Cahaba River and its riverbanks at Highway 280. Reporting totals are included in the Jefferson County Roadside Cleanup totals. Please see Appendix B.

- iv. A total of 4 creek cleanups were held along Shades Creek during this reporting period. On **April 29, 2017**, **32 volunteers** from Samford University removed **0.09 tons** of trash from the banks of Shades Creek.

Spearheaded by Freshwater Land Trust and the Cahaba River Society, cleanups were held on August 24 and August 25, 2017. A total of **82 volunteers** from the University of Alabama, Birmingham removed **1.85 tons** of trash and tires from the creek banks, floodplain and nearby roadway.

On **September 23, 2017**, **175 volunteers** removed **4.125 tons** of trash and tires during the **19<sup>th</sup> Annual Shades Creek Cleanup**. Jefferson County Stormwater Program provided the trash bags for this event. Reporting totals are included in the Jefferson County Roadside Cleanup totals. Please see Appendix B.

- h. The Stormwater Program staff used its created materials and posters within the Jefferson County Clean Water Awareness Campaign to educate the public regarding this Permit requirement. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).

#### **4. Flood Control Projects**

- a. During this Permit year, **28 Floodplain Development Permits** were completed and **4 Floodplain Violations** were issued. Please see Appendix B and F.
- b. The Stormwater Program staff continued to use the created materials and posters within the Jefferson County Clean Water Awareness Campaign to educate the public regarding this Permit requirement. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).

#### **5. Pesticides, Herbicides and Fertilizer Application**

- a. Camp Ketona of the County's Roads and Transportation Department applied herbicides on **3,921 acres** of land by using **613 gallons of Hard Ball, 107 gallons of Milestone, 980 gallons of Target, and 31 gallons of Ground Zero**. Please see Appendix B.
- b. Camp Bessemer of the County's Roads and Transportation Department applied herbicides on **3,585 acres** of land by using **392 gallons of Hard Ball, 512 gallons of RoundUp, 73 gallons of Milestone, 408 gallons of MSMA, and 408 gallons of 2-4-D**. Please see Appendix B.
- c. The County has **14 staff** members who are **certified PHF applicators** and hold a certified PHF license. Please see Appendix B.
- d. Camp Ketona of the County's Roads & Transportation Department has **2 secure locations** for the storage of pesticides, herbicides and fertilizers. The first storage area is a 40' x 20' structure attached to the warehouse which has a concrete floor and walls, heating and air conditioning, a ventilation fan, and both a walk-in door and bay door that are locked at all times with a 24 hour guard. The second storage location is a 10' x 10' area in the downstairs of the Bridge Division which is kept locked and secured.
- e. The County's General Services Department followed their Standard Operating Procedures (SOPs) which were enhanced in the 2011-2012 Reporting Period for pesticides, herbicides and fertilizers, including: disposal, hygiene, symptoms of poisoning, mixing and loading, and recognition and management. Please see Appendix B.
- f. The Operation Center in the Grounds Area of General Services stores its chemicals in a secure location inside an OSHA approved chemical storage room and OSHA approved containers. For a list of materials and amounts, please see Appendix B.
- g. The County's General Services Department applied **111 gallons of RoundUp**. No fungicide or fertilizer was applied for the 2016-2017 reporting period. Please see Appendix B.

- h. The County's General Services Department has **1 staff** member who is a **certified PHF applicator** and holds a certified PHF license. Please see Appendix B.
- i. In May 2017, **20** Jefferson County employees from **5** departments attended the Chemical Spill Response Training. Those in attendance include staff from General Services, Environmental Services, Development Services, Roads and Transportation, and Fleet Management Departments. The 8-hr course meets OSHA, EPA, and DOT training standards. It is used for Continuing Education by ADEM for water and wastewater operators, and is approved by the Department of Agriculture and Industries for pesticide applicators. It also satisfies the annual refresher requirement for other Hazmat Training. Please see Appendix B.
- j. Local governments are prohibited from passing ordinances regulating pesticides by the State Code of Alabama, Section 2-27-5.1. The Alabama Department of Agriculture and Industries is the state agency charged with enforcing laws relating to landscaping and pest management. Anyone continually dealing with pesticides, herbicides, and/or fertilizers must be licensed by the State of Alabama Department of Agriculture and Industries Pesticide Management Section. Anyone applying pesticides, installing plants or designing landscapes for a fee or those applying restricted use pesticides for the production of an agricultural commodity on their own property or on the property of another person with whom they trade services must pass a certification exam and maintain the license to legally operate in Alabama. Please refer to Major Accomplishments, Industrial High Risk Runoff (II.C.8) and see Appendix B and E.

During the 2011-2012 Permit Year, Jefferson County Commission formalized an ongoing Memorandum of Understanding with the Alabama Green Industry Training Center (AGITC) through the Alabama Cooperative Extension System (ACES). This year AGITC promoted or held **23 events** regarding proper use of pesticides, herbicides and fertilizers as well as runoff reduction. The AGITC is a local agency that has been recognized by the Alabama Department of Agriculture and Industries and the ACES as a provider of workshops, training and testing to fulfill state regulations which identify individuals who are required to obtain state certification and permits. Please see Appendix B and I.

- k. The **Green Industry Web (GIW) Portal**, hosted by Auburn University at Montgomery (<http://www.giwportal.org>) is a free web based service for the Green Industry to help improve the educational and credentialing efforts of the industry by supplying high quality archived videos, vignettes, PowerPoint presentations and hands-on training throughout the state. This year GIW Portal promoted and/or held **75 events** regarding proper use of pesticides, herbicides and fertilizers as well as runoff reduction. There are currently **45 training videos** posted with future plans to develop live classes and virtual office hours. The GIW Portal is a partnership with funding from the Appalachian Regional Commission, Alabama State Department of Education, the Daniel Foundation of Alabama, the Alabama Nursery and Landscape Association, the Alabama Cooperative Extension System, the Alabama Department of Agriculture and Industries, the Alabama Green Industry Training Center and many more. During the 2011-2012 Permit Year, Jefferson County Commission formalized an ongoing Memorandum of Understanding with the Alabama Green Industry Training Center (AGITC) through the Alabama Cooperative Extension System (ACES), both partners of the GIW. Please see Appendix B and I.

- l. The Alabama Cooperative Extension System published the Alabama IPM Communicator, a comprehensive statewide pest management newsletter for farmers, foresters, retailers, gardeners, and homeowners. The newsletter contains articles from research and Extension personnel from all educational institutions in Alabama. Articles are published as blog and PDF formats. The main purpose of the newsletter is to provide readers information about critical crop production and pest management information as well as promote upcoming workshops, events, and webinars that pertain to proper use and alternatives to chemicals, such as beneficial insects. All past issues of the newsletter are available for viewing at the [aces.edu](http://www.aces.edu) website (<http://www.aces.edu/agriculture/insects-diseases-weeds-pests/IPMCommunicator/>). Stormwater Program staff promoted the free publication at events, community based meetings and the Lunch and Learn seminars. During the 2011-2012 Permit Year, Jefferson County Commission formalized an ongoing Memorandum of Understanding with the Alabama Cooperative Extension System. Please see Appendix B and I.
- m. Initiatives were implemented in order to have a positive effect on the amount of pesticides and fertilizers being applied. EPA launched the new Bee Advisory Box located on pesticide labels in an effort to protect pollinators. Stormwater Program staff continued promoting the EPA initiative to pesticide labels at various venues. Workshops and presentations about the proper use of and alternatives to chemicals were held locally and articles were published in local newspapers. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10) and see Appendix B.
- n. Stormwater Program staff continued an Integrated Pest Management (IPM) program to responsibly control mosquitos and other bugs called *Step Away From The Spray!* For publicly owned lands, Bacillus thuringiensis israelensis (Bti) tablets and a handout with information about responsible pesticide use as well as information on local resources which offer alternatives to yard chemicals, were provided to County Departments for their management of these pests. A more expansive IPM program was initiated to address the proper use and application of pesticides on privately owned lands. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10) and see Appendix B.
- o. The Stormwater Program staff continued using the created materials and posters within the Jefferson County Clean Water Awareness Campaign to educate the public regarding this Permit requirement. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).

## **6. Illicit Discharges and Improper Disposal**

- a. The County's Environmental Services Department continued administering a program to address sanitary sewer overflows. To assist in minimizing the occurrence of sanitary sewer overflows, the sewer pipes are cleaned on a routine maintenance schedule. Once the department is aware of a sanitary sewer overflow, the staff is dispatched to investigate and correct the problem as stipulated in the July 2012 Sanitary Sewer Overflow and Response and Reporting Program Standard Operating Procedure. A list of sanitary sewer overflow locations, including actions taken by the staff, is included. Please see Appendix D.
- b. The County's Environmental Services Department (ESD) administers a county-wide household cooking oil and grease recycling program to reduce the amount of cooking



oil that enters the sanitary sewer system, thereby reducing sanitary sewer overflows. This is a free service to all of the citizens of Jefferson County. Collection bins are located at several sites around the county with free plastic containers for residents to take home. Once a container is filled, it can be returned to the collection bin and exchanged for a clean container. The containers are collected weekly by the Grease Control Program inspectors and the oil is picked up at the Shades Valley Wastewater Treatment Plant by local rendering companies. Grease and oil accumulate in the sewer system and require diligent maintenance to prevent sanitary sewer overflows. ESD developed this program in the ongoing effort to prevent overflows and protect the water resources. The bins were constructed by the County's General Services shop and are 4' wide by 4' tall and 2' deep and sit on legs 6" off the ground. The bins sit in a hard, durable plastic tray which provides a liquid retention barrier should a container leak or spill. There are currently **21 drop-off points** that accept filled containers for recycling, which reflects the addition of one new site since last year. A total of **2,830 gallons** was collected between October 1, 2016, and September 30, 2017.

The County's ESD distributed over **2,500 flyers** within apartment complexes, made **12 presentations**, provided **bilingual program materials** that were both displayed throughout the complexes and distributed to residents. In addition, a form letter which can be sent to the residents as a reminder of the Household Cooking Oil and Grease Recycling Program was made available to the apartment complex management.

The Stormwater Program staff promotes this program and distributes materials, containers and scrapers at various events. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10) and see Appendix D.

- c. Stormwater Program staff have worked closely with Jefferson County Environmental Services Department along with the City of Birmingham to find and remove illicit discharges that have been discovered in Valley Creek Watershed since 2015. The City is identifying the source of the illicit discharge. The County's Environmental Services Department provided the City with the maps of the sanitary sewer and assisted the City with the lab analysis on samples that were taken by the City staff. Please see Appendix D.
- d. To promote proper disposal of various household items, the Jefferson County Commission partnered with Alabama Environmental Council (AEC) on its recycling program, **Recycle Alabama**. The Stormwater Program staff promotes Recycle Alabama through its Jefferson County Clean Water Awareness Campaign posters, newsletters, presentations and events. The AEC runs a nonprofit recycling center in downtown Birmingham which accepts textiles, plastics, glass, metal, cardboard, paper and other items. AEC created and promotes Recycle Alabama through its website ([www.recycAL.com](http://www.recycAL.com)) and printed materials. Under the Recycle Alabama campaign, AEC in partnership with Jefferson County Department of Health, the University of Alabama at Birmingham, Jefferson County Commission and several municipalities organized the purchase and distribution of recycling drop-off trailers. There were **10 trailers** distributed to various outlying communities in Jefferson County that do not have recycling opportunities. The recycling trailers have a modified version of the **Trash Blows! Tarp and Tie Your Load** poster prominently displayed to remind those dropping off materials that even recycled materials can become litter that can pollute our waterways. This past April, the AEC moved the downtown recycling center to a

- new location just outside the downtown area that would allow more room to expand the items they collect such as glass. During this reporting period AEC collected over **19.3 tons of plastic, 224 tons of paper, 88.2 tons of cardboard, and 35.8 tons of metals**. Jefferson County Commission has a formal partnership through an ongoing Memorandum of Understanding with the Alabama Environmental Council and its recycling campaign known as Recycle Alabama in an effort to reduce expenses by sharing knowledge and resources, minimizing duplication of effort, and enhancing the efficiency of stormwater pollution prevention outreach efforts. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10) and see Appendix I.
- e. Stormwater Program staff promoted **2 National Prescription Drug Take-Back Events** held in the Jefferson County area on **October 22, 2016** and **April 29, 2017**. These events are designed to promote safe and proper disposal of unwanted or expired medications, and to prevent drugs from being flushed down toilets and ending up in waterways. Over **815 tons** of medication were collected nationwide during these events according to the Drug Enforcement Administration. Materials to promote this program were available in both English and Spanish and in various formats (posters, handouts, etc.). The Drug Enforcement Administration (DEA) published its Notice of Proposed Rulemaking for the Disposal of Controlled Substances in the Federal Register Dec 21, 2012. The proposed regulations seek to implement the Secure and Responsible Drug Disposal Act of 2010. Please see Appendix D.
  - f. As an ongoing effort to promote the proper disposal of cigarette butts, the Stormwater Program in partnership with Keep Birmingham Beautiful Commission (KBBC) and City Action Partnership (CAP) created a sticker which was placed on **59 cigarette receptacles**. Please see Appendix D.
  - g. A phone hotline was established so that citizens can report suspected water pollution. The **hotline number (205.325.5792)** is publicized on all printed materials (Clean Water Awareness Campaign posters, calendar, brochures and flyers) and at the Stormwater Program web site which is located at the County's website <http://www.jccal.org/Default.asp?ID=1112&pg=StormWater>. The pollution reporting hotline contains a recorded message for those citizens calling after normal business hours. The message instructs the caller to leave enough detailed information so staff can investigate the complaint. The hotline received **193 calls** during this reporting period. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10) and see Appendix D.
  - h. The Stormwater Program staff continued using the created materials and posters within the Jefferson County Clean Water Awareness Campaign to educate the public regarding this Permit requirement. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).

## 7. Spill Prevention and Response

For Permit Year 2016-2017, Jefferson County Emergency Management Agency (EMA) had the responsibility for spill prevention and response, and responded to **63 events**. There are 6 Hazmat units in Jefferson County that are within the fire departments of various jurisdictions. These units along with EMA respond to the various hazardous material incidents for all of the jurisdictions within Jefferson County.

EMA distributes an informational *Kids Wheel on ... Common Household Products* that lists the proper care, usage and disposal of many common household chemical products that include: paint, arts and craft products, pest products, cleaners, and batteries. These wheels are distributed at various public education events throughout the year including **EMA's Be Ready Day** which is held annually in the fall. The spill prevention and response effort is coordinated and implemented in conjunction with fire departments located within Jefferson County. Please see Appendix D.

## 8. Industrial and High Risk Runoff

- a. Jefferson County has implemented programs to address the food service and the pesticide, herbicide, and fertilizer vendors.
  - i. Jefferson County Environmental Services Department continued implementing a Grease Control Program in an effort to eliminate sanitary sewer overflows caused as a direct result of fats, oils and grease from food service facilities\*. The purpose of this program is to decrease the amount of grease discharged into the sanitary sewer system and thereby reduce the number of dry weather sanitary sewer overflows.

\*A food service facility means restaurants, coffee shops, cafeterias, short order cafes, luncheonettes, taverns, lunchrooms, places which manufacture retail sandwiches, soda fountains, institutional cafeterias, catering establishments, and similar facilities by whatever name called.

A Grease Control Ordinance, adopted in 2006, requires every food service facility to obtain a Food Service Facility Grease Control Program Permit. Permits, which are not transferable, are written authorization to discharge to the County's wastewater collection system and are assigned to the owner of the food service facility. All facilities are subject to inspection and monitoring. Other Permit conditions include annual renewals, maintenance and compliance, retention of records, implementation of best management practices, training for employees, and proper disposal. Training DVDs and Best Management Practice (BMP) posters are provided to each permitted food service facility. The Grease Control Ordinance also requires all grease haulers to be licensed by the Jefferson County Department of Health and hold a Septic Tank Haulers Permit. Failure to comply with the Grease Control Ordinance will result in fines and/or termination of the right to discharge to the Jefferson County sanitary sewer system.

Information about the Grease Control Program, including how to apply for a permit, can be obtained from the County's Environmental Services Department or downloaded from Jefferson County's website. Some of the materials are available in Spanish. (<http://www.jeffcoes.org/Default.asp?ID=26&pg=Customer+Care>).

During this reporting period, **2,238** food service facilities were **permitted**, and **2,032 annual site inspections** to food service facilities were made. The annual site inspection includes training food service facility employees on BMP's, supplying these employees with a training DVD, and ensuring the facility has the current BMP poster displayed in the sink area. Replacement BMP posters are made available if needed. A total of **161** food service facilities were found to be **non-compliant** with their permits. The violations include expired or no permit, failure of the 25% rule

(exceeding discharge limit), no paperwork on file for training or manifesting, failure to pay permits costs and/or fees, and failure to execute an action plan to address a non-compliant issue. Jefferson County trained **7 employees** (program staff and inspectors) and offer training classes for food service facility employees to attend on a quarterly basis. Please see Appendix D and E.

- ii. As set forth in the Alabama Pesticides Act, Title 2, Chapter 27 the Commissioner of Agriculture and Industries of the State of Alabama administers and enforces all pesticide regulations. The Pesticide Management Section regulates individuals or companies that sell, use, or supervise the use of restricted-use pesticides, engage in the commercial application of pesticides, and structural pest control or horticultural activities as described in the Agriculture and Industries Chapter 28, Title 2, Code of Alabama, 1975, and the Agricultural Chemistry Administrative Codes 80-1-13, 80-1-14, 80-5-1 and 80-10-9. Under Section 2-27-5.1 of the Alabama Code, local governments are prohibited from passing ordinances regulating pesticides. To comply with the County's MS4 NPDES Permit and Alabama Law, the Jefferson County Commission formalized an ongoing partnership with agencies through a Memorandum of Understanding to comply with this Permit requirement. Please see Appendix B, E and I.
- b. The Fleet Management Division (FMD) of the County's Roads and Transportation Department implements a recycling program. For the Permit Year 2016-2017, the FMD properly disposed of **629 batteries** and recycled **18,440 quarts** of oil. Please see Appendix E.
- c. Jefferson County owns three landfills that are operated by Santek Waste Services. During the 2012-2013 Permit Year, the Turkey Creek Landfill (ALG160139) closed the active cell and the facility operates as a drop-off location, similar to the Johns Transfer Station. To date, there is only **1 active** landfill site within unincorporated Jefferson County which is in Mount Olive located at 101 Barber Parkway, Gardendale, AL 35071 (ALG 890326). Stormwater program staff conducted inspections of the facilities to identify and control pollutants from industrial and high risk runoff sites. The sites were in compliance at the time of inspection, and the completed inspection forms are included in Appendix E.
- d. A pollution prevention video training module series entitled "Preventing Storm Water Pollution: What We Can Do" is available for various Department staff to utilize in training County employees on stormwater pollution prevention. The six video series includes: Introduction – What We Can Do; Construction Activities and Land Disturbances; Fleet Maintenance and Material Handling; Streets and Drainage Maintenance; Parks and Grounds Maintenance; and Solid Waste Management. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).
- e. The Fire Departments within Jefferson County are notified when an industrial site receives a shipment of hazardous material. The Departments make site inspections at these sites in order to familiarize themselves with the location of the material in the event of a spill or fire. The departments will instruct the host facility in the event that the material is not stored correctly and will continue with periodic site visits.
- f. The County's Roads and Transportation Department implemented **2 NPDES industrial permits** issued by ADEM to the County. Please see Appendix E.

- g. The Stormwater Program staff continued using the created materials and posters within the Jefferson County Clean Water Awareness Campaign to educate the public regarding this Permit requirement. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).

## 9. Construction Site Runoff

- a. Jefferson County's Subdivision and Construction Regulations, Article 13 Erosion and Sedimentation Ordinance requires all land disturbing activities to obtain permits or an exclusion as part of the zoning process. The County's Development Services Department reviews plans, issues Land Disturbing Activity Permits (or exclusions), and inspects sites for compliance for both commercial and residential sites. Once staff determines the site to be stable, as specified in the plans, a Certificate of Occupancy is issued and the permit is closed. During this reporting period, established SOPs were followed for the permitting, reviewing and inspection components of the Ordinance.

During the Permit Year 2016-2017, the County's Development Services Department staff issued Land Disturbance Activity Permits for **265 residential single family homes** as part of its zoning approval process. A total of **119 exclusions for single family homes** which were exempt from Land Disturbance Permit requirements were issued. In addition, a total of **24 commercial** Land Disturbance Activity Permits and **12 commercial exclusions** were issued. Land Disturbance Activity Permits were issued to **4 government** construction projects.

A total of **474 erosion and sediment control inspection activities** were performed for the above permitted sites during the Permit Year 2016-2017. Complaints associated with permitted sites are handled through site inspections. Please see Appendix F.

- b. The County's Development Services Department staff distributed materials to inform applicants of the process and requirements of Jefferson County's Subdivision and Construction Regulations, Article 13 Erosion and Sedimentation Ordinance, Land Disturbing Activity Permit. Please see Appendix F.
- c. The County's Development Services Department issued **1,292 zoning approvals** and received **390 complaints** related to weed and litter, criminal littering, and zoning violations. During this reporting period, **491 notices of violation** cases have been corrected and resolved. Please see Appendix F.
- d. The County's Development Services Department had **8 staff** complete the Qualified Credentialed Inspector (QCI) training for erosion and sedimentation control offered by the Home Builders Association of Alabama (HBAA). The course is a collaborative effort between the HBAA and ADEM and is offered several times throughout the year. Staff attended the QCI training on November 2, 2017, which included tools and strategies to help achieve and maintain compliance with the Storm Water Permit on all construction sites, including linear and roadway construction. Please see Appendix F.
- e. Jefferson County has **15 inspectors, supervisors and staff** that carry a current Qualified Credentialed Inspector certification. Please see Appendix F.
- f. The County's Stormwater Program assumes responsibility for hosting and coordinating an Erosion and Sedimentation Control (ESC) workshop on an alternating basis with the Jefferson County Department of Health, the City of Birmingham, and the City of Bessemer. Staff entered into a partnership with the Homebuilders Association of

Alabama (HBAA) to provide its ESC workshops and maintain a database of attendees. A total of **60 people** attended the **2 HBAA ESC Workshops** held on October 18, 2016 and April 27, 2017. The purpose of these workshops was to provide appropriate education and training measures for construction site operators and municipal staff as required in ALS000001 and to reduce the impact of erosion and sedimentation in waterways. Educational materials were distributed at the workshops. Completion of the workshop allows an individual building a single family home to use this certification in lieu of posting the \$3,000.00 per acre surety required to ensure site stabilization. The *Field Guide for Erosion and Sediment Control on Construction Sites in Alabama* is distributed to attendees of the Erosion and Sediment Control Workshops for single family homebuilders. *Field Guides* in Spanish are available and will be distributed to Spanish speaking attendees as needed. Please see Appendix F.

- g. The County's Roads and Transportation Department currently implements **7 NPDES general permits** issued by ADEM to the County. Please see Appendix B.
- h. The Stormwater Program staff continued using the created materials and posters within the Jefferson County Clean Water Awareness Campaign to educate the public regarding this Permit requirement. Please refer to Major Accomplishments, Education and Public Outreach (II.C.10).

## 10. Education and Public Outreach

Education and public outreach is a Permit requirement and also is used as a delivery tool that aids in implementing the other Permit requirements. A summary graph has been created to identify every Permit requirement that the following education initiatives, listed alphabetically, addressed. The graph has been included at the end of the Summary Table (III).

### a. **Alabama Water Watch Chemical Workshops**

Stormwater Program staff coordinated and conducted **4 Alabama Water Trainings on May 15, 2017** (Basic Water Chemistry; Chemistry Recertification; Bacteria Certification; Bacteria Recertification) to certify **6 and recertify 8 volunteer citizen monitors**. These community volunteers become stewards of the watershed and act as liaisons who will teach their friends, neighbors and community leaders the importance of reducing stormwater pollution. This program trains volunteers to use standardized equipment and techniques to gather credible water information using quality assurance protocols and to use that data for environmental education, waterbody restoration and protection and watershed stewardship. Volunteers may also identify problems by analyzing data and taking action steps to resolve water quality problems. Please see Appendix G.

### b. **Boards, Committees, Stakeholder Group**

Stormwater Program staff participate in and/or serve on **12 various boards, committees and stakeholder groups** in an effort to evaluate needs, identify potential resources, and coordinate efforts with the goal of addressing concerns through projects, events, campaigns, and/or educational materials. The Stormwater Program staff worked with the following entities during Permit Year 2016-2017: Birmingham Botanical Garden Brown Bag Lunch and Learn Committee, Birmingham Metropolitan Planning Organization (MPO) Policy Committee, Birmingham MS4 Partners, Clean

Water Partnership, Health Action Partnership Environmental Quality Committee, Household Hazardous Waste Day Committee, Jefferson County Water Festival Committee, Martin Luther King Service Day Project Committee, Rain Barrel Workshop Committee, Valley Creek Cleanup Committee, Village Creek Human and Environmental Justice Society, and Village Creek Watershed Group. Please see Appendix G.

c. **Brochures and Flyers**

The Stormwater Program staff distributed various brochures and flyers to inform and educate the public about stormwater runoff, and to provide helpful tips and resources to improve water quality. These **7 brochures** and **7 flyers** are displayed at the County's Development Services two front counters in brochure holders.

The brochures are: **Identifying and Reporting Water Pollution** (illicit connection, illicit discharges, illegal dumping, public reporting); **Lawn & Garden Products, Yard Waste** (fertilizer, pesticide, herbicide, illegal dumping); **Preventing Stormwater Polluted Runoff** (used oil, fertilizer, pesticide, herbicide, illegal dumping, household hazardous waste, public reporting); **Vehicle & Equipment Care & Maintenance** (motor oil); **Let's Look at Sediment** (issues resulting from erosion and sedimentation and offers preventative measures); **Rain Rain Come Our Way** (rain barrel project) and **Fat Free Sewers**. Four of the brochures (Vehicle & Equipment Care & Maintenance; Identifying and Reporting Water Pollution; Lawn & Garden Products, Yard Waste; and Preventing Stormwater Polluted Runoff) include the education website address and the hotline number for public reporting as well as a "what you can do" list of behaviors to reduce polluted runoff.

The flyers are: **It's Your "Doody"** (dog waste), **Jefferson County Cooking Oil and Grease Recycling Locations**, **Erosion and Sedimentation Control Best Management Practices** (outlines BMP requirement for Article 13), **Major Development Checklist** (includes erosion and sedimentation control requirements), **Mobile Homes** (includes erosion and sedimentation control requirements), **Commercial Construction** (includes erosion and sedimentation control requirements), and **New Residences** (includes erosion and sedimentation control requirements).

Please refer to Major Accomplishments, Pesticides, Illicit Discharges and Improper Disposal (II.C.6), Major Accomplishments, Construction (II.C.9) and see Appendix G.

d. **Brown Bag Lunch and Learn Seminars**

Stormwater Program staff, in partnership with the Friends of the Birmingham Botanical Garden, Alabama Cooperative Extension System, and the City of Birmingham, created a series of **free informational seminars** called *The Brown Bag Series*, **11** of which were **held during this reporting period**. The seminars were held at the Birmingham Botanical Gardens; were open to all residents of Jefferson County; were promoted in the **JeffCo H2O** Newsletters, blogs and partner's websites; and flyers were distributed at community events and meetings. Instructors from varying organizations were chosen for each topic. The topics, intended to be of practical application to homeowners, included the stormwater benefits to low impact landscape designs, proper planting and gardening techniques, and prudent use of fertilizers and pesticides. There were **321 participants** during this reporting period. The topics were: **"Ask an**

**Expert**", October 12; **"They're So Wicked"**, October 26; **"Home Invaders"**, May 24; **"Sustainable Lawn Care"**, June 14; **"Battle Against Weeds and Bugs"**, June 28; **"Drip Irrigation"**, July 12; **"Companion Planting"**, July 26; **"PermaCulture for the Home"**, August 16; **"Ins and Outs of GMO's"**, August 30; **"Benefits of Trees"**, September 13; and **"Plant in a Straw Bale"**, September 27. Please see Appendix G.

e. **Calendar**

A 12 month printed 2017 calendar was created in partnership with the City of Birmingham, Alabama Rain Barrel Project and Alabama Water Watch to provide a cost effective way to support the Clean Water Awareness posters and related components of the Clean Water Awareness Campaign. Complaint reporting of pollution and sanitary sewer overflow reporting information was made available along with other local information. The graphic chosen for the 2017 Stormwater Calendar promotes sustainable stormwater friendly practices such as capturing and storing rainwater from the roof to reapply in the yard. Each month the calendar highlights a pollutant and the negative effects that pollutant has on local water quality along with simple prevention strategies people can incorporate in their everyday life. The helpful tips will assist people to become better stewards of their communities and watersheds. The calendar also featured Alabama Water Watch's new infographic, *America's Amazon*, which promotes Alabama's aquatic biodiversity. A total of 1600 **calendars** were printed and distributed, with **700** of those distributed in unincorporated Jefferson County communities. Please see Appendix G.

f. **Clean Water Awareness Campaign**

Stormwater Program staff created the Clean Water Awareness Campaign to inform and educate the public as well as affect behavioral change in order to reduce polluted stormwater runoff caused by the impacts of vehicle fluids, yard chemicals, pet waste, and litter. The campaign was designed to transcend the County's limited funds, noncontiguous geography and diverse population.

The Stormwater Program staff identified the need to create a system that would improve its ability to deliver the Clean Water Awareness Campaign messages to the public. The staff developed a collaborative network of agencies and organizations whose missions intersect with stormwater pollution prevention in some manner. This collaborative network has resulted in a message delivery system which has expanded the reach of the Clean Water Awareness Campaign by opening access to new audiences, reducing message fragmentation, and enhancing credibility through message uniformity. These partnerships have assisted us in identifying key community contacts to potentially serve as change agents in regard to stormwater pollution prevention. The community contacts have assisted us in targeting programs, tailoring events and encouraging community participation.

A series of posters was created to serve as the flagship component and an e-newsletter and a calendar were launched to provide a cost effective way to support the posters and related components of the Clean Water Awareness Campaign. Please see Appendix G.

g. **Complaint Reporting**



The Stormwater Program has a dedicated Hotline number for the public to report suspected water pollution. Please refer to Illicit Discharges and Improper Disposal (II.C.6).

#### h. Events

The County's Stormwater Program information is generally displayed at a table or booth where the public can acquire information about the program, upcoming events and/or educational campaigns. Please see Appendix G unless noted otherwise.

- i. Do Dah Day. On May 20, 2017, Stormwater Program staff displayed Clean Water Awareness Campaign posters at a booth during the event. In addition, Stormwater Program staff reached out to residents from the surrounding community to assist with placing *In a Perfect World* and *It's Your "Doody"* posters on over **40 port-a-potties** set up for the event. Stormwater staff from the City of Birmingham, with which Jefferson County Commission has a memorandum of understanding (MOU), assisted in distributing materials during the event. The *It's Your "Doody"* flyer along with free pet waste bags were distributed to attendees. The purpose of Stormwater Program staff participation in this event was to bring about awareness of the impacts of pet waste on local water quality and the benefits of pet friendly landscaping to reduce PHF as well as erosion and sedimentation. A fun and interactive poo toss game was offered to teach people the proper behavior for pet waste disposal. In addition, approximately **20 Fight the Bite mosquito prevention dunks** with information about the proper use, storage and disposal of yard chemicals and other household products as well as information regarding other resources available to residents were distributed. Approximately **150 pet waste bags** and flyers were distributed. The Do Dah Day Board estimated that **7,000 people** attended this event.
- ii. Earth Day at the Gardens. On April 22, 2017, the Clean Water Awareness Campaign posters were displayed at a booth along with a fun interactive activity for the kids at an event that was free and open to the public. A visual display showcased how used motor oil and used cooking oil and grease can impact the environment when not disposed of properly along with a glass jar that patrons could shake that contained various common pollutants rain water carries to the local waterways during rain events. Cooking oil and grease recycling containers were distributed along with other printed materials on Jefferson County's Household Oil and Grease Recycling Program along with a current list of all the local Recycling Centers. Jefferson County Soil and Water Conservation District staff, with which Jefferson County Commission has a memorandum of understanding (MOU), shared this booth and assisted in the kid's water blot painting activity, which while pretty, also educated about the properties of oil and water which reinforced the visual display showing that oil and water do not mix. It was reported that **1,035 people** attended this annual event held at the Birmingham Botanical Gardens.
- iii. National Neighborhood Night Out. On August 1, 2017, the Clean Water Awareness Campaign posters were displayed at a booth. An estimated **300 people** attended this free event in Center Point. Cooking oil and grease recycling containers, scrapers and recycling location flyers; Brown Bag Lunch and Learn Series flyers; and *Step Away from the Spray* mosquito dunks with information about the proper

use, storage and disposal of yard chemicals and other household products as well as information regarding other resources available to residents, were distributed as well as other stormwater educational materials.

- iv. Rain Barrel Workshop. A total of **2 Rain Barrel Workshops** were held during this reporting period. On June 17, 2017, **42 people** participated in a Rain Barrel Workshop that was held at the Birmingham Botanical Gardens. Through a working Rain Barrel Workshop Committee, the Alabama Cooperative Extension System (ACES), Alabama Environmental Council (AEC), Friends of Birmingham Botanical Gardens, City of Birmingham, City of Bessemer, Clean Water Partnership, Jefferson County Department of Health, Jefferson County Soil and Water Conservation District, Jefferson county Storm Water Management, Keep Birmingham Beautiful and Storm Water Management Authority hosted the event and provided instruction, materials, and rain barrel assembly assistance for participants. Participants learned the benefits of capturing and storing rain water from their roof and how best to reapply the water in their yard. *Fight the Bite* mosquito prevention kits were distributed to all class participants and door prizes were awarded. The Committee publicized this event through flyers and social media. The Committee members plan to offer more frequent Rain Barrel Workshops to the public in 2018 at various venues.

On July 8, 2017, Alabama Environmental Council held a Rain Barrel Workshop at their Community Recycling Center. It was reported that **14 people** participated in the event.

- v. Urban Forestry Fair. On February 22, 2017, Stormwater Program staff provided an educational game for **281 fifth grade students** from various schools within Jefferson County at the annual Urban Forestry Fair. The interactive and engaging game is designed to reinforce the idea of conserving natural resources and improving water quality.

- i. **Friends of Birmingham Botanical Gardens**

The Friends of Birmingham Botanical Gardens (FBBG) coordinated and administered various children's programs and adult classes during its past fiscal year ending in June 2017. The FBBG promotes knowledge and appreciation of plants and the environment with educational offerings to over 350,000 visitors annually. The FBBG Strategic Plan emphasizes and implements practices that reduce stormwater runoff. The Jefferson County Commission formalized an ongoing Memorandum of Understanding which enhances the efforts of the Storm Water Management Division and FBBC. Please see Appendix G and I.

- j. **Jefferson County Water Festival**

Stormwater Program staff serve on the festival committee that planned and implemented the thirtieth Annual Jefferson County Water Festival held on May 4, 2017, at University of Alabama Birmingham (UAB). The Water Festival educated **804 fourth grade students**, teachers and parents from various schools from across Jefferson County. The purpose of the Water Festival is to educate students about where drinking water comes from and how to protect and keep it clean for themselves and future generations. Students participate in three hands-on activities and experiments

and attended the Fishing Magicians magic show. All the hands-on activities directly correlate with the Alabama Course of Study Science and SAT Objectives for fourth grade. Prior to the festival, students from participating schools submitted artwork depicting the Water Festival theme, *Where Does Your WaterShed*, chosen for this year. The festival committee selected one winner whose artwork was used as the Water Festival logo on t-shirts distributed free to participating students, teachers and volunteers. Please see Appendix G.

k. **Media**

Various strategies have been implemented to utilize both traditional and new media. Please see Appendix G.

- i. An email database of **27 local print and electronic media contacts** was updated and utilized to assist Stormwater Program staff in informing Jefferson County residents about Clean Water Awareness Campaign information as well as announcements regarding workshops, activities, and events.
- ii. Articles with stormwater pollution prevention information and links to resources aimed at reducing stormwater pollution were written for publication and submitted to the Turkey Creek Nature Preserve (TCNP) WordPress blog site and *The Leaf*, formerly a print and online monthly publication which serves the southern and western areas of Jefferson County. The submitted articles were targeted to County residents and encourage stormwater friendly behaviors. According to WordPress, the TCNP blog site was **viewed 89,140 times, and the five stormwater articles posted were viewed a total of 168 times** during this reporting period. In addition, the articles also were posted at the TCNP Facebook page which currently has **8,739 “Likes”**. Although articles were submitted monthly, the TCNP blog site administrator has not posted new articles since March 2017; consequently this media outlet will not be utilized until it once again is active. In May 2017, *The Leaf* ceased publishing its printed edition and converted to an exclusively online format. This changeover has resulted in the publication losing revenue, staff and readership. Twelve stormwater articles were submitted and published in *The Leaf* during this reporting period. As a print and online publication, *The Leaf* previously reported a readership of 35,000; the publication currently reports a **monthly online readership of 1,900**.
- iii. Radio interview with iheartradio was held on February 22, 2017. The interview covered the AL PALS Spring Cleanup and aired March 5, 2017.
- iv. TV interview with Simply Southern <https://www.alpals.org/index.cfm/news/alpals-spring-cleanup-featured-on-simply-southern-tv/> on April 29, 2017. The interview featured the McAdory roadside cleanup and the anti-litter efforts of Jefferson County in this segment about the statewide Alabama People Against a Littered State (AL PALS) Don't Drop it on Alabama Spring Cleanup. The segment aired on July 24, 2017.
- v. Press releases and media alerts with stormwater pollution prevention events, initiatives, accomplishments, and information are written and distributed to local media through the email database.

- vi. Stormwater Program staff utilizes the social media capabilities of other local organizations and agencies with which a signed ongoing Memorandum of Understanding exists in order to assist with distributing Clean Water Awareness Campaign information and informing the public about upcoming workshops, activities, and events.

1. **Monitor Slides**

A series of slides was created to display Stormwater Education information and events as well as components of the Clean Water Awareness Campaign posters. The slides deliver stormwater pollution prevention information in a highly visual manner in order to attract attention while overcoming language barriers, and utilize catchy headlines and taglines to further engage the public. Some slides are a call to action outlining the problems with various pollutants on our environment and easy realistic solutions that can be implemented by the public to reduce stormwater runoff while others are informational about how the public can get involved with our program such as how to report pollution or host a volunteer roadside litter cleanup. A total of **38 slides** have been created.

These slides are displayed on the Jefferson County Revenue Department's monitors located in the downtown Jefferson County Courthouse. The monitors can be seen by any resident of Jefferson County who comes in person to renew a vehicle or boat tag and/or driver's or business license. Please see Appendix G.

m. **Newsletters**

A quarterly e-newsletter, *JeffCo H2o News*, was launched in 2012 and continues to provide a cost effective way to support the posters and related components of the Clean Water Awareness Campaign. The e-newsletter content expands upon the poster topics and provides links to resources that can assist positive behavioral change. The e-newsletter is distributed electronically on a quarterly basis to **2,100 Jefferson County employees, 230 local organizations, businesses and individuals, and 37 print and electronic media**, and is posted at the **Jefferson County Commission website, Facebook page, and on Twitter**. Recipients are encouraged to and often do redistribute the e-newsletter to their own contacts. Printed copies of the e-newsletters are available at events and presentations during the year. A signup sheet is also available for the public to register for future e-newsletters. Please see Appendix G.

n. **Pesticide, Herbicide Fertilizer/Landscape (articles, publications and workshops)**

During this reporting period, several workshops were held, various articles and newsletters written, and programs initiated in order to provide residents, private land owners, and those that lease land from Jefferson County information specific to the proper use and application of yard chemicals, care of landscaping and pest management, and sustainable home lawn and garden practices. These activities and publications were promoted through the Jefferson County Clean Water Awareness Campaign and by various partnering organizations including Alabama Cooperative Extension System, Friends of Birmingham Botanical Gardens, Alabama Green Industry Training Center and Green Industry Web Portal. Please refer to Major Accomplishments, Pesticides, Herbicides, Fertilizers (II.C.5) and see Appendix G and I.

- i. Alabama IPM Communicator. A statewide newsletter filled with articles and publications from various accredited school researchers and Alabama Cooperative Extension personnel, includes seminars and other training events along with helpful homeowner information on various topics pertaining to pest management and sustainable home lawn and garden practices.
- ii. *Step Away From The Spray – Fight The Bite!* During this reporting period, an Integrated Pest Management Program was promoted. The program makes available information that helps residents manage pests in a more environmentally friendly manner, as well as, provides references to experts who offer homeowners a variety of targeted controls. It advises residents about the harmful effects of indiscriminately using broad spectrum pesticides because of the unintentional consequence these materials have on beneficial insects, natural predators and water quality. The program encourages wildlife habitat that attracts animals known to assist in controlling pests and other unwanted bugs. It provides a biologic tool, *Bacillus thuringiensis israelensis* (Bti) tablets, to assist residents in managing a common Alabama pest that people routinely treat with broad spectrum pesticides. These materials were made available at the Stormwater Program office, County Satellite Courthouses, community based meetings, events, seminars, workshops and given to partnering agencies to distribute.

o. **Posters**

A series of posters was created to serve as the flagship component of the Clean Water Awareness Campaign. The posters deliver stormwater pollution prevention information in a highly visual manner in order to attract attention while overcoming language barriers, and utilize catchy headlines and taglines to further engage the public. The posters juxtapose potential stormwater pollution problems with practical solutions that focus on the benefits they bring to residents. A total of **30 posters** have been created.

These posters are printed and displayed at various locations throughout Jefferson County as well as distributed electronically in various newsletters, blogs and articles, including the downtown Jefferson County Courthouse Revenue Monitors, in kiosks at the Turkey Creek Nature Preserve, and at various events throughout the year. Please see Appendix G.

i. ***From Roof to Stream***

This stormwater pollution prevention **poster** was developed to serve as an umbrella under which all other Clean Water Awareness Campaign posters and programs will reside. The poster informs people how their everyday activities can have a negative effect on water quality, but stresses that these effects can be prevented.

ii. ***1 Drop Matters!***

This oil and grease/vehicle fluid program contains **2 posters** that focus on proper maintenance, cleanup and disposal of fluids from all types of vehicles. The posters were created to educate vehicle owners that one drop of oil leaked on the ground really does matter. One drop of oil dripping from each of the 740,000 vehicles registered in Jefferson County adds up to more than 64 quarts of oil, which is

capable of polluting 16 million gallons of water a day. These posters also include the following information:

1 drop of oil dripping per car X 740,000 cars in Jefferson County = 740,000 drops of oil  
 $740,000 \text{ drops} \div 11,520 \text{ drops per quart} = 64 \text{ quarts of oil}$   
4 quarts are capable of polluting 1 million gallons

iii. ***Bag It and Trash It!***

This pet waste/nutrient program contains **2 posters** that focus on pet owners. These posters were created to inform pet owners on the importance of picking up and properly disposing of pet waste both at home and on public lands. Preliminary discussions were held with the Alabama Veterinary Medicine Association, Greater Birmingham Humane Society, and Doo Dah Day to establish partnerships that would assist the Stormwater Program with its pet waste management education efforts.

iv. ***Household Oil and Grease Recycling***

This program contains **6 posters** and one flyer that promote proper disposal of used household cooking fats oil and grease (FOG). The posters focus on the correlation between pouring FOG down household drain pipes resulting in clogs, sanitary sewer overflows and stormwater pollution. A companion poster focuses on the correlation between pouring FOG outside on the ground and stormwater pollution. The flyer details the guidelines of the program and promotes the positive results from participating in the recycling program and gives information on how to properly dispose of these items. These materials are a shared resource between Environmental Services Department and the Stormwater Program. Please also refer to Major Accomplishments, Illicit Discharges and Improper Disposal (II.C.6).

v. ***It's 'Mulch' Better!***

This runoff reduction and erosion prevention program contains **8 posters** which address the benefits of mulching, such as moisture retention, weed reduction, managing yard debris, reducing soil erosion, and nutrient delivery. The posters also focus on the ways in which utilizing mulch reduces storm water runoff, reduces the need for fertilizers and herbicides and helps replenish ground water.

vi. ***Reduce Runoff!***

This program contains **1 poster** that focuses on stormwater polluted runoff. It informs people that water, either by rain or irrigation, carries lawn chemicals, pet waste and vehicle fluids directly to creeks. It reminds people to direct downspouts and sprinklers to water only vegetation and not impervious surfaces.

vii. ***'Spread' the Word***

This pesticide, herbicide, and fertilizer program contains **6 posters** that focus on people who apply lawn and garden chemicals. These posters were created to educate the public on the importance of applying the appropriate product in the correct amounts. The following is emphasized: test the soil before purchasing products, calibrate equipment to prevent applying too much, fertilize correctly by not over spraying the product on paved surfaces, and clean up any excess products or yard waste when finishing the job. The last two posters in this series pertain to

bees and the impact pesticides have on the pollinators. These posters remind citizens that insecticides are not choosy; hence, they kill a wide range of insects, not just the pesky ones.

viii. ***Trash Blows! Trash Floats!***

This floatable/litter abatement program contains **4 posters** that focus on people transporting trash, debris and other waste to landfills. Intentional or not, items that blow out of vehicles becomes litter that pollutes waterways. Flyers, posters and demonstrations were used to help teach people to “tarp and tie” the load and to utilize a “brick and bucket” in the back of the pickup to hold trash.

At the downtown recycling center, run by the Alabama Environmental Council (AEC), a variation of the Trash Blows! posters are on display. These posters were customized to reflect recyclable materials. These customized posters were also part of the graphics placed on the recycling trailers which are located throughout the County. Please refer to Major Accomplishments, Illicit Discharges and Improper Disposal (II.C.6).

p. **Presentations**

Presentations directly related to the County’s Stormwater Program, water quality and the Alabama MS4 NPDES requirements were given in various formats. Presentations were made at neighborhood meetings, schools, Erosion and Sedimentation Control workshops, and community forums. Please see Appendix G.

- i. Alabama Water Watch Anniversary Celebration. Stormwater program staff made **1 presentation** on June May 20, 2017 to **40 people** to discuss how Alabama Water Watch has been an important tool for community outreach and stormwater reduction.
- ii. Birmingham Southern College Environmental Methodology Class. Stormwater Program staff made **2 presentations**. On February 15, 2017, a presentation on how public education and outreach programs can be helpful in improving water quality by changing public behavior along with water quality monitoring was made to **25 students**. A presentation on testing for E.coli along with field water testing was made on February 20, 2017 to the same 25 students.
- iii. Camp Fletcher. Stormwater Program staff made 4 fantastic filtration presentations on April 12, 2017 at the Camp Fletcher Environmental Field Day. Over **170 students** attended this event. Each student participated in 5 activities that pertained to the negative impacts pollution has on the environment and water quality.
- iv. Erosion and Sedimentation Control (ESC) Workshops. Stormwater Program staff made **2 presentations** at the ESC workshops to teach single family home builders, contractors, municipal employees and others involved in land disturbance activities about the requirements of the MS4 NPDES Permit, their responsibilities under Article 13 of the Jefferson County Subdivision and Construction Regulations and the proper usage of Best Management Practices (BMPs) on construction sites within Jefferson County. Please refer to Major Accomplishments, Construction (II.C.9.h).

- v. Minor High School. Stormwater Program staff made **2 presentations**. On January 16, 2017 a presentation was made in the Minor High School Volunteer Cleanup assembly to **200 people**. The purpose of this assembly was to inform cleanup volunteers the negative impacts litter has on our environment and local waterways and to encourage the students, teachers and administrators to talk to their family, neighbors and friends to stop littering and participate in future roadside cleanups. This event was spearheaded by the Village Creek Society and Minor High School Environmental Science Club. On April 20, 2017 a presentation was made to **30 Minor High School Environmental Science students** as part of a day long Outdoor Classroom held on the banks of Village Creek. Please also refer to Major Accomplishments, Roadways (II.C.3).
- vi. North Titusville Community Environmental Workshop. Stormwater Program staff made a presentation to the North Titusville Community on March 27, 2017 as part of a panel of presenters organized by the Village Creek Human and Environmental Justice Society. The presentation, originally scheduled for February 15 but rescheduled because of weather, provided attendees with an overview of the efforts implemented by the Stormwater Program which seek to improve water quality within the Village Creek Watershed and provided residents with opportunities to participate and receive further information. It was reported **that 34 people** attended this event.
- vii. Stormwater program staff gave **3 presentations** to Jefferson County communities, local organizations, schools, and neighborhood associations in an effort to obtain community participation in roadside litter cleanup events and to promote the use of integrated pest management practices through the *Step Away From the Spray – Fight the Bite!* Campaign. The presentations also included information about the effects of many pollutants such as: litter and debris, pet waste, lawn and garden chemicals, bare soil, vehicle fluids and cooking oil and grease to our local waterways and how these pollutants can be prevented. The meetings were held on December 13, 2016 (Adamsville Forestdale Lions Club); April 6, 2017 (Mobile Junction Civic League) and May 25, 2017 (Brewster Road Community Church). Please refer to Major Accomplishments, Roadways (II.C.3).
- viii. Stormwater program staff gave **1 presentation** to students attending Outdoor classrooms at the Turkey Creek Nature Preserve on June 29, 2017. Because of rain, the event was moved to the camp facility located at Northside Christian School. A total of **25 students** participated in this program which included a segment on air quality and pollution, water testing and environmental awareness.
- ix. The UAB Center for Community Outreach Development (CORD) Summer Science Program. Stormwater Program staff provided **3 educational presentations** (June 8, 2017; June 22, 2017; and July 13, 2017) for the “Over the Hills and Through the Vales” Camps. The students viewed the Weather Channel’s *After the Rain* video, played the USGS *Water Jeopardy Game*, and watched a PowerPoint presentation called *Beyond The Roof*. A total of **53 students** attended the 6<sup>th</sup> Grade CORD Summer Camps.
- x. Valley Creek Cleanup /Interview. One interview was given to local media to promote participation in the Valley Creek Cleanup held on August 19, 2017. The



presentation was held on August 15, 2017. Please also refer to Major Accomplishments, Roadways (II.C.3).

q. **Staff Development and Training**

Opportunities are offered for County staff to earn certifications; affiliate and join with professional associations; attend conferences, classes and webinars; in order for them to acquire new knowledge, advance job skills, and meet Permit requirements.

- i. Stormwater Program staff participated in **27 various training, staff development, and networking opportunities**. These events are in addition to the other events that have already been reported in prior sections. For a complete listing, please see Appendix G.
- ii. The Stormwater Program purchased Municipal Pollution Prevention training materials. The “**Preventing Stormwater Pollution: What We Can Do**” video and accompanying Stormwater Pollution Prevention Training Module Series includes the following topics: Introduction: Preventing Stormwater Pollution; Construction Activities and Land Disturbances; Fleet Maintenance and Material Handling; Streets and Drainage Maintenance; Parks and Grounds Maintenance; and Solid Waste Management. These items are available to various Departments for staff to view. Please see Appendix G.

r. **Surveys**

An analysis of the Stormwater Survey implemented during the prior two reporting years was run by faculty from the Department of Communications Studies, University of Alabama – Birmingham. The analysis is being used by Stormwater Program staff to re-evaluate current Clean Water Awareness campaign messages, refine messages to better address targeted audiences, identify and remove any obstacles to behavior change, and more efficiently direct resources. Please see Appendix G.

s. **Turkey Creek Nature Preserve (TCNP)**

Through a formal partnership, established by an ongoing Memorandum of Understanding, the TCNP assists the Stormwater Program staff in achieving educational goals by including a stormwater education component to all student curriculums, community events and cleanups. TCNP also provides various opportunities to promote the Clean Water Awareness Campaign messages at their blog site, and in kiosks throughout the park. TCNP houses a recycling trailer for area residents to properly dispose of paper aluminum and plastic. Please refer to Major Accomplishments, Roadways (II.C.3) and see Appendix G and I.

t. **Website**

The Jefferson County website had to undergo a major redevelopment because of a server failure. This resulted in the loss of a significant amount of data and every County Department’s website to be recreated with new software. While Stormwater Program Staff work on creating a new website, a temporary webpage with limited information has been posted (<http://www.jccal.org/Default.asp?ID=1112&pg=StormWater>). Please see Appendix G.

## 11. Monitoring Programs

Jefferson County began its own Stormwater Program at the beginning of Permit Year 2009-2010. Initially, staff reviewed the unincorporated area of Jefferson County in order to set up the monitoring plan. The staff established **6 instream** monitoring locations to be sampled each season during wet and dry weather periods. The Permit requires all outfalls to be screened during the permit cycle. As previously reported, 100% of the MS4 outfalls have been screened. Dry weather screening of the MS4 will resume when the new MS4 Permit is issued, should the same requirements be included therein. In March 2010, Jefferson County submitted a revised SWMP to ADEM that included an Interim Monitoring Plan. The revised monitoring plan has been accepted by ADEM with no further comments. Please see Appendix A.

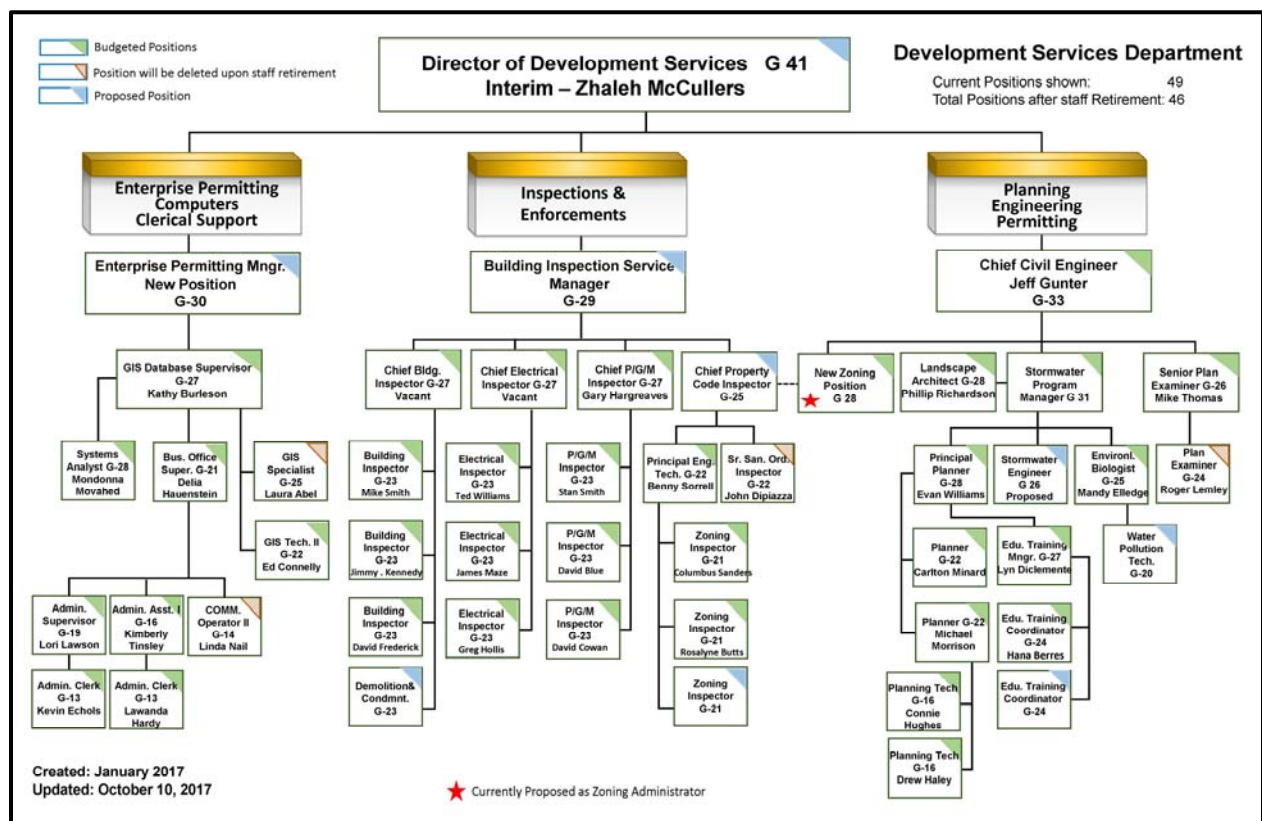
During Permit Year 2016-2017, Stormwater Program staff collected **27** instream and **6** investigation samples for wet and dry weather screening. This information is summarized and quantified in the Summary Tables. Please see Appendix H.

## **D. PROGRAM STRENGTH AND WEAKNESSES**

The strength of the Jefferson County Stormwater Program was outlined in detail within the Major Accomplishments Section. Please refer to Section II.C.

- A limitation of the Jefferson County Stormwater Program is its current water quality monitoring data. Establishment of trends in stormwater pollutant concentrations depends on a vast amount of water quality data. The County currently does not have enough data to support a determination of improvement or degradation in water quality overall. Furthermore, the climate during the year was not conducive for collecting all planned samples, much like that of years past. Jefferson County experienced a drought during the beginning of the permit year; so much so, the Birmingham Water Works implemented Stage 3 of their Drought Management Plan. Moreover, the drought caused over 900 wildfires across the state. Even with heavy rains in the winter, 96 percent of Alabama remained in a drought. The spring and summer were rainier than indicated in the long-range weather forecast with many areas experiencing significant flooding for days on end. One after another, meteorologists, statistics, and news reports documented weather extremes statewide. Appendix H includes supporting documentation of the adverse climatic conditions which prohibited the collection of all samples.
- A second limitation of the Jefferson County Stormwater Program is the way in which the County is geographically situated and politically structured. The 50 receiving waters specified in the Permit flow in and out of both incorporated and unincorporated areas of the County. While the County has the authority over unincorporated areas of Jefferson County, this authority has been removed in incorporated areas and left to individual jurisdictions. There are no consistent programs, regulations or standards for monitoring that assist the County with its evaluation of water quality improvement. These constraints limit the ability of Jefferson County to fully evaluate water quality.
- A strength of the County's Stormwater Program has been its public education program. While the County's Stormwater Program is responsible for unincorporated areas of the County, its educational efforts often extend into incorporated areas of the County, thereby educating people who reside in adjoining areas. The launch of the Clean Water Awareness Campaign and its poster series has provided a method to disseminate information to the public as well as serve as a catalyst for partnering with other entities. Stormwater Program staff has focused on developing and formalizing alliances and partnerships with agencies, organizations and associations which have similar goals in order to expand its educational reach throughout Jefferson County. The staff also implemented a countywide survey to assess knowledge level and behaviors related to improving water quality. The results of the survey will help focus efforts and allocate resources to more efficiently and effectively deliver public education.
- Jefferson County was recognized at the Alabama PALS Governor's Awards Program which was held on November 16, 2016 for its outstanding commitment in the areas of local cleanup efforts, environmental education and volunteerism. Jefferson County Sheriff's Office, Kenna Allen Environmental Science Teacher with Minor High School, Oak Grove High School Student Government Association, Jefferson County Roads and Transportation Department and the Jefferson County Land Planning and Development Department all received awards in their respective categories. Please see Appendix B.

- The Alabama PALS Summer Quarter newsletter, *The PALS Prints Volume 37*, featured roadside cleanups held throughout Jefferson County this past spring. Please see Appendix B.
- A strength of the County’s Stormwater Program is the selection of the Accela Civic Platform by Jefferson County to move its planning, permitting, inspection, plans review and code enforcement services toward a web-based platform. Implementing Accela will transition the County departments away from paper based processes and siloed software systems that do not communicate with each other toward an integrated platform in which all related Departments will participate. The implementation of this software also will deliver enhanced efficiencies and capabilities to the services and functions that the County offers to the public. Please refer to Future Direction (II.E.7) and see Appendix J.
- The Jefferson County Manager’s Office, Human Resources Department, and Receiver decided to merge the current Storm Water Management, Land Planning and Development Services, and Inspection Services Departments into one department, effective August 2016. Storm Water Management Department Director, Zhaleh M. McCullers, was appointed effective September 6, 2016, to serve as Interim Director of the resulting Development Services Department. The creation of the Development Services Department has provided the opportunity to increase operating efficiencies and enhance customer service by more effectively utilizing personnel; improving services provided to the public by streamlining permitting, inspection and approval processes; and applying a more customer focused business model. This Department will continue to implement Jefferson County’s Stormwater Program in addition to providing other services to the public. Please Refer to Major Findings (II.B.2) and see Appendix I.



## **E. FUTURE DIRECTION**

- Jefferson County's Stormwater Program will continue working on previously established programs for the Permit Year October 1, 2017, through September 30, 2018. Jefferson County is aware that ADEM is in the process of issuing new NPDES MS4 Phase I Permits. Until that time, Jefferson County will continue to work toward addressing current Program requirements.
- Work was completed in partnership with the City of Birmingham on a 12 month 2018 calendar which will be printed and distributed during the 2017-2018 Permit Year. The calendar features outdoor venues that reflect the history, diversity and future of Jefferson County. Each month highlights a venue with a photo as well as a description of its unique features and attractions. The venues were chosen based upon their contributions to reducing pollution in stormwater runoff and improving water quality in local creeks and streams through their preservation, conservation, restoration, and education initiatives. We hope that this calendar will encourage people to visit the featured locations and experience the unique ways in which each portrays our past, shapes our future and contributes to our quality of life. Please see Appendix J.
- Jefferson County looks to triple the amount of litter crews with the use of state inmates. Please see Appendix J.
- Work began on a Valley Creek Student Anti-litter Video Competition created to expand the education and outreach efforts associated with the Valley Creek Cleanup Committee (VCCC). Efforts will focus on driving age teens attending public high school within the Valley Creek Watershed by implementing a project that will teach the negative impacts of littering and better engage this demographic in proactively preventing litter. The VCCC created the Valley Creek Student Anti-litter Video Competition, an anti-littering video contest, and introduced it to all ten Jefferson County public high schools whose campuses are located within the Valley Creek Watershed. The contest requires that each participating school create and submit a 60 second video to the VCCC. The VCCC will post all submitted videos at the YouTube channel for a period of two weeks. During that timeframe, the students, families, friends, and the community will promote the videos and encourage people to "like" them. The video with the greatest number of unique 'likes' will be declared the winner. In order to fund the contest, the VCCC has applied for a \$5000 grant from CaWaCo. The grant money will be used to award the winning school a \$1000 cash prize, the second place winner a \$500 cash prize, and third place winner a \$250 cash prize. The remaining grant money will be used to purchase advertising time on local television stations so that the winning video can be aired and used as an anti-litter educational tool. To date, six schools have indicated that they will participate in the contest. A PowerPoint presentation, to be shown at all 10 public High Schools, was created and vetted by a focus group. The presentation includes information on watersheds and Valley Creek, litter and its impact on the environment and waterways and a summary of the Video Competition. Please see Appendix J.
- Stormwater Program Staff met with staff from the Alabama Environmental Council (AEC) to discuss the potential for developing an ongoing partnership that would create the opportunity for Jefferson County residents to properly dispose of Household Hazardous Waste on a regular basis for free or at a reduced cost. AEC's Community Recycling Center, located in the Avondale neighborhood of Birmingham, is working toward having the capacity to collect and store items for proper pickup and disposal. This initial meeting is expected to result in

further discussion with AEC staff as well as the identification of additional potential partners who will be contacted to determine interest, resources and capability. Please see Appendix J.

- The County's Development Services Staff identified sites within unincorporated areas of Jefferson County which are habitually subject to illegal dumping. Potential sites on which to place dumpsters that would provide residents with the means for proper disposal of trash and other discards were identified and visually assessed for their potential to serve as permanent locations. The dumpsters would be made available to the public at regular periodic intervals to reduce the incident of illegal dumping. Cost, potential liability, and feasibility will be explored to assess the efficacy of creating and implementing a plan to install dumpsters at strategic locations. Please see Appendix J.
- The County's Development Services Department began the process of upgrading its computer based systems in order to better integrate the merger of the previous three departments (Land Planning and Development Services, Inspection Services and Storm Water Management) into one and streamline services provided to the public. To assist in that process, Jefferson County selected the Accela Civic Platform to move the County's planning, permitting, inspection, plans review and code enforcement services toward a web-based, technology-driven solution to improve service delivery, efficiently process building permits, leverage mobile capabilities for field staff and speed up approvals for new construction. Implementation of this new software is planned to begin in 2018, with full integration expected within 18-24 months. Please refer to Strength and Weaknesses (II.D.6) and see Appendix J.
- The County's Development Services Department Staff began updating and improving its webpages, located within the Jefferson County website [www.jccal.org](http://www.jccal.org), to better reflect the merger of the previous three departments into one and to better provide the public with information and resources regarding the services delivered by the new combined department.

### **III. Summary Table**

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities Required</i>	<i>Complied With</i>	<i>Activities Accomplished During Calendar Year</i>	<i>Comments</i>
Structural Controls	Operate the MS4 and structural controls to reduce pollutant discharge	Maintenance and inspection performed	●	19 stamped stormwater inlet covers installed	See <b>Appendix B</b>
	Operate the MS4 and structural controls to reduce pollutant discharge	Maintenance and inspection performed	●	10,209.4 cubic yards removed from ditches	See <b>Appendix B</b>
New Development and Significant Redevelopment	Comprehensive master planning process to minimize pollutant discharge	Minimize pollutants after construction is complete	●	1,750 seedlings were distributed countywide	See <b>Appendix C</b>
	Comprehensive master planning process to minimize pollutant discharge	Minimize pollutants after construction is complete	●	59 subdivision cases were approved	See <b>Appendix C</b>
	Comprehensive master planning process to minimize pollutant discharge	Minimize pollutants after construction is complete	●	Redevelopment plans for the 2011 tornado-stricken communities continue	See <b>Appendix C</b>



<i>Element of Program</i>	<i>Requirement</i>	<i>Activities Required</i>	<i>Complied With</i>	<i>Activities Accomplished During Calendar Year</i>	<i>Comments</i>
Roadways	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	1,641 45-gallon bags of litter and trash were removed from 82.8 miles of roadways by 666 probationers	See <b>Appendix B</b>
	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	Roads and Transportation Department removed 244 bags and 798 tons of trash from roadside	See <b>Appendix B</b>
	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	43.57 tons of litter were removed from Unincorporated Jefferson County roadways in 45 Cleanups by 1,212 volunteers	See <b>Appendix B</b>
	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	60 tons of debris were removed from Turkey Creek in 34 Cleanups by 574 volunteers	See <b>Appendix B and Appendix I</b>
	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	10 tons of debris were removed during the Warrior River Bankhead Cleanup by 48 volunteers	See <b>Appendix B</b>
	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	13.35 tons of trash and debris removed from Valley Creek by 250 volunteers	See <b>Appendix B</b>

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities Required</i>	<i>Complied With</i>	<i>Activities Accomplished During Calendar Year</i>	<i>Comments</i>
Roadways Continued	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	18.72 tons of trash and debris removed from Village Creek watershed in 3 Cleanups by 413 volunteers	See <b>Appendix B</b>
	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	1.01 tons of trash, debris, and tires were removed from Cahaba River roadsides in 2 Cleanups by 113 volunteers	See <b>Appendix B</b>
	Operate and maintain to minimize pollutants	Refuse, litter, and debris removal	●	6.065 tons of trash and tires removed from Shades Creek in 4 Cleanups by 289 volunteers	See <b>Appendix B</b>
	Operate and maintain to minimize pollutants	Street maintenance and litter control	●	Executed upon public complaint or as-needed basis	
	Operate and maintain to minimize pollutants	De-icing activities	●	Jefferson County applied 414.3 tons of sand on as-needed basis	See <b>Appendix B</b>

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities Required</i>	<i>Complied With</i>	<i>Activities Accomplished During Calendar Year</i>	<i>Comments</i>
Flood Control Projects	Assess impacts on water quality	Evaluate structures based on Jefferson County Floodplain Ordinance	●	All flood management projects were reviewed; 0 Flood control permits were issued; 28 floodplain applications	See <b>Appendix B</b>
Pesticide, Herbicide, and Fertilizer Application	Reduce pollutant discharge related to storage and application	Implement controls for discharge and storage	●	Chemicals are stored in secure, climate controlled warehouses	See <b>Appendix B</b>
	Reduce pollutant discharge related to storage and application	Implement controls for discharge and storage	●	General Services applied 111 gallons of herbicide	See <b>Appendix B</b>
	Reduce pollutant discharge related to storage and application	Implement controls for discharge and storage	●	Camp Ketona applied 1,731 gallons of herbicide to 3,921 acres of land	See <b>Appendix B</b>
	Reduce pollutant discharge related to storage and application	Implement controls for discharge and storage	●	Camp Bessemer applied 1,793 gallons of herbicide to 3,585 acres of land	See <b>Appendix B</b>
	Reduce pollutant discharge related to storage and application	Implement controls for application	●	Chemicals minimally applied to right of way and County owned properties by 14 Licensed Applicators.	See <b>Appendix B</b>

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities Required</i>	<i>Complied With</i>	<i>Activities Accomplished During Calendar Year</i>	<i>Comments</i>
Illicit Discharges and Improper Disposal	Detect and eliminate discharges to the MS4	Establish and publicize a hotline for public use	●	Hotline and email notifications were established	See Appendix D
	Detect and eliminate discharges to the MS4	National Prescription Drug Take-Back Event	●	Almost 815 tons of medication were collected nationwide	See Appendix D
	Detect and eliminate discharges to the MS4	Jefferson County Environmental Services operates oil and grease recycling program	●	2,830 gallons of cooking oil and grease were collected	See Appendix D
Spill Prevention and Response	Prevent, contain, and respond to spills	Conduct spill response	●	EMA responded to 63 spills	See Appendix D

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities Required</i>	<i>Complied With</i>	<i>Activities Accomplished During Calendar Year</i>	<i>Comments</i>
Industrial & High Risk Runoff	Identify and control pollutants in stormwater discharges	Inspection of food service facilities	●	2,238 sites were permitted, 2,032 sites were inspected, and 161 sites were non-compliant	See <b>Appendix D and E</b>
	Identify and control pollutants in stormwater discharges	Inspection of industrial and high risk runoff sites	●	1 landfill & 2 transfer station inspections conducted	See <b>Appendix E</b>
	Identify and control pollutants in stormwater discharges	Jefferson County Fleet Management operates in-house recycling program	●	629 batteries were recycled	See <b>Appendix E</b>
	Identify and control pollutants in stormwater discharges	Jefferson County Fleet Management operates in-house recycling program	●	18,440 quarts of motor oil were recycled	See <b>Appendix E</b>
Construction Site Runoff	Reduce pollutant discharge from construction sites	Staff training as Qualified Credentialed Inspector (QCI)	●	15 Jefferson County employees certified	See <b>Appendix F</b>
	Reduce pollutant discharge from construction sites	Inspection of land disturbing activities and BMPs	●	293 Land Disturbing Permits were issued; 24 Commercial permits, 265 Residential permits, and 4 Government permits	See <b>Appendix F</b>

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities Required</i>	<i>Complied With</i>	<i>Activities Accomplished During Calendar Year</i>	<i>Comments</i>
Construction Site Runoff Continued	Reduce pollutant discharge from construction sites	Inspection of land disturbing activities and BMPs	●	131 Exclusions were issued; 12 Commercial exclusions and 119 Residential exclusions	See <b>Appendix F</b>
	Reduce pollutant discharge from construction sites	Inspection of land disturbing activities and BMPs	●	474 construction inspections were performed	See <b>Appendix F</b>
	Reduce pollutant discharge from construction sites	Erosion and Sedimentation Control workshop for developers, contractors, government officials	●	60 people attended	See <b>Appendix F</b>
	Reduce pollutant discharge from construction sites	Inspection of Jefferson County NPDES construction sites	●	7 NPDES permitted sites within calendar year	Bridge installation, spoils area, road work, borrow pit; See <b>Appendix B</b>
	Reduce pollutant discharge from sites	Complaint reporting application was utilized	●	390 Complaints received and investigated; 491 NOV's were issued	See <b>Appendix F</b>
Public Education	Report activities	Activities pertain to all Permit Requirements	●	A Summary Graph was created to reflect the Education Activities	See <b>Summary Graph</b> below

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities Required</i>	<i>Complied With</i>	<i>Activities Accomplished During Calendar Year</i>	<i>Comments</i>
Monitoring Program	Detect presence of illicit connections and improper discharges to the MS4	Dry Weather Screening	●	21 Instream sites sampled	See <b>Appendix H</b>
	Detect presence of illicit connections and improper discharges to the MS4	Wet Weather Screening	●	6 Instream sites sampled	See <b>Appendix H</b>
	Detect and eliminate discharges to the MS4	Wet Weather Investigative Monitoring	●	6 Investigation sites sampled	See <b>Appendix H</b>
	Monitor pollutants in stormwater discharges to the MS4	Industrial and High Risk Runoff	●	Collected by industrial facilities	On file at ADEM office (Facilities governed by NPDES Permits submit info to ADEM)
	Dry weather screening	Screen MS4 outfalls	●	100% previously accomplished	

● =Yes

		Permit Requirements										
		Structural Controls	New Development & Redevelopment	Roadways	Flood Control Projects	PHF Storage & Application	Illicit Discharges & Improper Disposal	Spill Prevention & Response	Industrial/High Risk Runoff	Construction Site Runoff	Public Education	Monitoring Program
<b>Educational Initiatives</b>	Alabama Water Watch Chemical Workshops					X	X	X	X	X	X	X
	Boards, Committees, Stakeholder Groups	X	X	X		X	X	X	X	X	X	
	Brochures and Flyers	X	X	X	X	X	X	X	X	X	X	X
	Brown Bag Lunch and Learn Seminars	X	X	X		X	X	X	X	X	X	
	Calendar	X	X	X		X	X	X	X	X	X	
	Clean Water Awareness Campaign	X	X	X		X	X	X	X	X	X	



		Permit Requirements										
		Structural Controls	New Development & Redevelopment	Roadways	Flood Control Projects	PHF Storage & Application	Illicit Discharges & Improper Disposal	Spill Prevention & Response	Industrial/High Risk Runoff	Construction Site Runoff	Public Education	Monitoring Program
<b>Educational Initiatives</b>	Complaint Reporting Hotline Phone and Email	X	X	X	X	X	X	X	X	X	X	X
	Events	X	X	X	X	X	X	X	X	X	X	X
	Friends of Birmingham Botanical Gardens	X	X		X	X	X	X	X	X	X	X
	Jefferson County Water Festival	X	X	X	X	X	X	X	X	X	X	X
	Media	X	X	X		X	X	X	X	X	X	
	Monitor Slides	X	X	X		X	X	X	X	X	X	

		Permit Requirements										
		Structural Controls	New Development & Redevelopment	Roadways	Flood Control Projects	PHF Storage & Application	Illicit Discharges & Improper Disposal	Spill Prevention & Response	Industrial/High Risk Runoff	Construction Site Runoff	Public Education	Monitoring Program
Educational Initiatives	Newsletters	X	X	X		X	X	X	X	X	X	
	Pesticide, Herbicide, Fertilizer/Landscape		X			X	X	X	X		X	
	Posters: Floatables	X		X			X	X			X	
	Posters: Oil & Grease			X			X	X	X	X	X	
	Posters: Pesticides, Herbicides & Fertilizers			X		X	X	X		X	X	
	Posters: Pet Waste / Nutrients	X		X			X				X	

		Permit Requirements										
		Structural Controls	New Development & Redevelopment	Roadways	Flood Control Projects	PHF Storage & Application	Illicit Discharges & Improper Disposal	Spill Prevention & Response	Industrial/High Risk Runoff	Construction Site Runoff	Public Education	Monitoring Program
<b>Educational Initiatives</b>	Posters: Runoff Reduction	X	X	X	X						X	
	Posters: From Roof to Stream	X	X	X	X	X	X	X		X	X	X
	Posters: Erosion Prevention			X		X	X			X	X	
	Posters: Cooking Oil & Grease Recycling			X			X	X	X		X	
	Presentations	X	X	X	X	X	X	X	X	X	X	X
	Staff Development and Training	X	X	X	X	X	X	X	X	X	X	X

		<b>Permit Requirements</b>										
		<b>Structural Controls</b>	<b>New Development &amp; Redevelopment</b>	<b>Roadways</b>	<b>Flood Control Projects</b>	<b>PHF Storage &amp; Application</b>	<b>Illicit Discharges &amp; Improper Disposal</b>	<b>Spill Prevention &amp; Response</b>	<b>Industrial/High Risk Runoff</b>	<b>Construction Site Runoff</b>	<b>Public Education</b>	<b>Monitoring Program</b>
<b>Educational Initiatives</b>	Surveys	X		X		X	X	X	X		X	
	Turkey Creek Nature Preserve	X	X	X		X	X	X		X	X	X
	Website						X			X	X	

## **IV. Program Modifications**

## **PROGRAM MODIFICATIONS**

- There is no major proposal to modify the Stormwater Program in anticipation of the upcoming new permit. There are a few additions to the education program to enhance the current program.

## **V. Fiscal Analysis of Permittees' Program**

The budgets from the Jefferson County Departments that have requirements that pertain to the MS4 NPDES Permit have been included. Please see Appendix I.