STORM WATER MANAGEMENT PROGRAM PLAN

Prepared by
The University of South Alabama
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Introduction

This Storm Water Management Program Plan (SWMPP) was developed in general accordance with the guidelines provided in Title 40 Code of Federal Regulations (CFR), Part 122.26 (d) incorporated by reference in the Alabama Administrative Code 335-6 as administered by the Alabama Department of Environmental Management (ADEM) and NPDES ALR040060 Phase II General Permit effective October 1, 2016.

The purpose of this SWMPP is to describe The University of South Alabama and its operation, and identify the Best Management Practices (BMPs) to be utilized to reduce the discharge of pollutants from The University of South Alabama’s main campus to the maximum extent practicable (MEP) to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA).
1.1 Objective

The primary goal of the developed SWMPP is to improve the quality of surface waters at The University of South Alabama by reducing the amount of pollutants contained in storm water runoff to a maximum extent practicable (MEP). The University of South Alabama will seek to reduce the pollutants from entering storm water runoff through the implementation of best management practices. The SWMPP will describe the minimum best management practices to be implemented by The University of South Alabama and as required by ADEM General Permit ALR040060 (effective date October 1, 2016).

1.2 MS4 Description

The beautiful, tree-shaded main campus of the university spreads across 1,200 acres, with a landscape that includes cultivated flower gardens, walking paths and groves of pine trees, more than 10 miles of bike trails, indoor and outdoor pools and a disc golf course. The Glenn Sebastian Nature Trail contains more than three miles of trails that wind through 95 acres of native pine and oak woodlands.

1.3 Definitions

ADEM: Alabama Department of Environmental Management responsible for enforcing environmental regulations in the State of Alabama.

Best Management Practices (BMP): may include schedule of activities, prohibition of practices, maintenance procedures or other management practices to prevent or reduce the pollution of Waters of the State. BMPs also include treatment requirements, operating procedures and practices both structural and non-structural designed to control runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.

Clean Water Act (CWA): The Clean Water Act is an Act passed by U.S. Congress to control water pollution. It is formally referred to as the Federal Water Pollution Control Act of 1972 or Federal Water Pollution Control Act Amendments of 1972.


Composite Sample: A sample collected with consideration giving towards flow and time.

Control Measure: Best Management Practice or other method used to prevent or reduce the discharge of pollutants to Waters of the State.
**Discharge**: used without a qualifier, refers to “discharge of pollutant” as defined as ADEM Admin Code 335-6-6.02(m)

**EPA**: Environmental Protection Agency

**Grab Sample**: A sample that is taken on a one-time basis without consideration of the flow rate of the sampling media and without consideration of time.

**Green Infrastructure**: refers to systems and practices that use or mimic natural processes to infiltrate, evapotranspiration (the return of water to the atmosphere either through evaporation or by plants), or reuse storm water or runoff on the site where it is generated.

**Illicit Connection**: any man made conveyance connecting an illicit discharge directly to municipal separate storm sewer system (MS4)

**Illicit Discharge**: defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer (MS4) that is not entirely composed of storm water, except those discharges authorized or excluded under an NPDES permit.

**Low Impact Development (LID)**: an approach to land development (or redevelopment) that works with nature to manage storm water as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat storm water as a resource rather than a waste product.

**Maximum Extent Practicable (MEP)**: the technology based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by the Clean Water Act (CWA) Section 402(p). A discussion of MEP as it applies to small MS4s like the University of South Alabama is found at 40 CFR 122.34.

**Municipal Separate Storm Sewer System (MS4)**: A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm ditches) owned or operated by a state, city, town or other public body having jurisdiction over the collection and conveyance of storm water which is not a combined sewer and which is not part of a publicly owned treatment works.

**Notice of Intent (NOI)**: the mechanism used to “register” for coverage under a General Permit.

**National Pollutant Discharge Elimination System (NPDES)**: The national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under Section 307, 318, 402 and 405 of the CWA.

**Permit**: NPDES ALR040060 issued to the University of South Alabama and became effective October 1, 2016.
Permittee: The University of South Alabama

Priority Construction Site: any qualifying construction site in an area where the MS4 discharges to a waterbody which is listed on the most recently approved 303d list of impaired waters for turbidity, siltation, or sedimentation, any waterbody for which a TMDL has been finalized or approved by the EPA for turbidity, siltation or sedimentation, any waterbody assigned the Outstanding Alabama Water use classification in accordance with ADEM Admin Code 335-6-10-.09 and any waterbody assigned a special designation in accordance with 335-6-10.10.

Storm water: defined at 40 CFR 122.26(b)(13) storm water runoff, surface runoff and drainage.

Storm Water Management Program Plan (SWMPP): A plan developed for implementation of NPDES permit requirements.

Waters of the State: All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce. Waters of the State include but are not limited to all interstate waters and interstate waters and interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, play lakes or natural ponds.
CONTROL MEASURES

There are six minimum control measures outlined in the permit requirements. These are:

1. Public Education and Outreach.
2. Public Involvement and Participation.
3. Illicit Discharge Detection and Elimination (IDDE).
4. Construction Site Storm water Runoff Control.
5. Post-Construction Storm water Management in new Development and Redevelopment.
6. Pollution Prevention and Good Housekeeping.

Each Minimum control measure will be addressed and detailed separately as part of the SWMP.
2.1 Public Education and Outreach

Introduction

The University of South Alabama’s Safety and Environmental Compliance Office is implementing a public education and outreach program which will distribute educational materials and information to the campus community. This education and outreach measure will address the impact of storm water discharges on the Three Mile Creek and steps that can be taken to reduce pollutants in storm water runoff to the maximum extent practical. These efforts are also designed to encourage individuals and groups to take active steps to reduce pollutants in storm water runoff.
**Rationale**

Each best management practice (BMP) within the public education and outreach measure was selected by examining BMP databases and examples, analyzing the effectiveness of previously utilized BMP’s and the evaluation of educational methodologies that are already in place at The University of South Alabama.

**Summary**

The public education and outreach measure is organized to identify how the campus community will be informed about ways to reduce storm water pollution; to identify how the campus community will be informed regarding how they can become involved in the University of South Alabama’s storm water management program; to identify ways to reach the target audience and to identify the audience for the specified educational programs.

The target audience is The University of South Alabama’s campus community which includes faculty, staff, students and visitors. Segments of this audience may be targeted based upon specific goals or regulatory requirements. The goal of the public education and outreach measure is to reach all employees and students of the University of South Alabama within the life of the permitting cycle and to expose a significant segment of the visitor population to information regarding the impact of contaminated storm water discharges on local bodies of water and watersheds.

Targeted pollutant sources include sediment from construction sites, illicit discharges of hazardous materials, litter and runoff related to grounds maintenance. Other pollutants may be added as conditions on campus change or other parameters are added.

Evaluations of success of specific management practices will be determined by analysis of the goals for each BMP within the public education and outreach measure. Each BMP will have a measureable goal that is established by attainable goals for the BMP implementation steps and the ability of the University of South Alabama within the contract of financial and physical resources to meet stated goals.

**BMP Summary**

The University of South Alabama’s Safety and Environmental Compliance Office will utilize a variety of BMP’s to educate and inform the campus community regarding storm water quality issues. Among these are printed materials for direct distribution, a storm water management website, electronic and printed public service advertisements, educating the campus community regarding impacts of illegal disposal and littering, public education concerning construction activities, education on the importance of water quality and education of the University of South Alabama and contractor personnel on sediment control on construction sites.
Printed Materials

Safety and Environmental Compliance will develop and distribute brochures, fliers and posters for the purpose of educating the campus community on storm water quality issues. SEC will edit, update and modify as needed to ensure that messages conveyed are in concert with the public education and outreach program. SEC will provide materials at public meetings and training related to storm water quality and selected locations. SEC will include the number of printed materials provided in the annual report.

Storm water Quality Website

Safety and Environmental Compliance will maintain a section of the University of South Alabama's website, http://www.southalabama.edu/departments/environmental/index.html, to educate the public and the campus community of water quality issues and to provide a mechanism for feedback on storm water or water quality issues. SEC will edit, update and modify the information provided to ensure consistency with the public education and outreach program. SEC will report website traffic in the annual report.

Public Service Advertisements

Safety and Environmental Compliance utilized electronic and printed public service type advertisements. The material will focus on the impact of storm water runoff on local bodies of water and steps that can be taken to reduce storm water pollution. SEC will review, edit, update and modify the advertisements to ensure relevancy to current water quality issues. SEC will maintain records regarding the advertisements and will report the type and frequency in the annual report.

Impacts of Illegal Dumping and Littering

Educating the campus community of the impacts of illegal dumping and littering is vital to the cleanliness and beauty of the University of South Alabama campus. SEC, with other University Colleges, has developed educational materials and programs that discuss the harmful impact of illegal dumping and littering and will provide the mechanisms for reporting incidents. SEC will review, edit and modify information to ensure relevancy to current issues. SEC will distribute public education materials that describe the harmful impacts of dumping on water bodies. SEC will provide information regarding these educational materials as part of its annual report. http://www.southalabama.edu/colleges/engineering/ce/cererearch.html

Education Concerning Construction Activities

The University of South Alabama has a very aggressive construction and new development schedule, which results in almost continuous activity. Because of this activity it is important that there is a mechanism in place to inform the campus community on steps that can be taken to report potential construction site runoff problems.
Education on Importance of Water Quality

The education of the campus community on the importance of water quality is a vital priority for the Department of Safety and Environmental Compliance. Among the campus community students are a major focus group. This group is likely to have a significant future impact on national, state and local attitudes toward water quality issues. SEC, in partnership with USA’s Sustainability Committee, will review, edit and modify materials and programs to ensure relevancy to the University of South Alabama student population and current issues. SEC will provide information regarding education of the importance of water quality as part of the annual report.

Education of the University of South Alabama and Contractor Personnel

In order to ensure that the University of South Alabama construction project supervisors and contractor supervisors are informed on the most current policies and procedures related to sediment and erosion control on construction sites, Safety and Environmental Compliance and the Engineering & Design and Construction Office have developed educational programs to communicate principals of sediment and erosion control. This group will review, edit and modify educational and training programs regarding the proper design, selection, implementation and maintenance of erosion and sediment control on construction sites. SEC will provide information regarding education of construction supervisors as part of the annual report.

2.2 Public Involvement and Participation

Introduction

The University of South Alabama is implementing a public involvement program which will create opportunities for the campus community to get involved in the SWMP. Opportunities for involvement in activities that directly benefit the environment and lead to improvements in overall water quality will be available. SEC will notify the campus community of opportunities to participate in water quality improvement activities and SWMP implementation by public notice of SWMP meetings. These public notice announcements of meetings will be published in the Vanguard campus newspaper and in the University of South Alabama electronic media; http://www.southalabama.edu/specialprojects/usasustainability/.
Rationale

Each BMP within the public involvement measure was selected by analyzing techniques utilized by other permitted areas, analyzing the effectiveness of previously utilized BMP’s and consideration of selected BMP’s applicability to permit provisions.

Summary

Safety and Environmental Compliance will utilize a variety of outreach methods to encourage public involvement in the SWMP. The goals are to identify ways to notify individuals of opportunities to participate in activities related to the SWMP, to provide opportunities for the campus community to participate in activities leading to water quality improvement and identify activities that have relevance to the SWMP and improved water quality.

Targeted participants were selected based on permit requirements and the goal of creating opportunities for personal involvement in the SWMP and impact on water quality at the local level. The public involvement program, in conjunction with other best management practices, is expected to reach most members of the University of South Alabama campus community during the life of the permit cycle.

The success of public involvement will be evaluated through analysis of each program goal within the public involvement measure. Each will have a measureable goal that is established by attainable goals for the SWMPP implementation steps and the ability of the University of South Alabama within the context of financial and physical resources to meet stated goals.

BMP Summary

Safety and Environmental Compliance will utilize a variety of resources to provide and encourage public involvement in the SWMP. These are the Storm water Management Committee and the Storm Sewer Marking Campaign.

Storm Water Management Committee

To oversee the implantation of the SWMP and provide advice and consolation, Safety and Environmental Compliance created the Storm water Management Committee. The SWMP Committee is made up of various members of the campus community who have a stake in SWMP; individuals with an expertise which would be of benefit to the program and other representatives of the campus community. The SWMP Committee will meet on an as need basis but at least once per year.

During this permit cycle Safety and Environmental Compliance will request committee review of the education materials, inspection procedures, guidance information and investigation methods detailed in the BMP’s specified in the six minimum control measures. SEC will provide notifications of committee meetings to the campus community through regular notice
procedures. Public notice will be published in the Vanguard and will appear on the University of South Alabama’s Daily Digest. SEC will maintain records for committee meetings including attendance, minutes and agenda. The annual report shall include information concerning SWMP committee meetings including the number of meetings and a summary of discussions.

Storm Sewer Marking

The storm sewer marking campaign provides a way for civic organizations and individuals to make a positive, hands on, impact on local water quality. Safety and Environmental Compliance will provide storm sewer inlet disc which state “No Dumping Drains to River” and adhesive to attach discs. To ensure continued success through the permit cycle SEC will seek to identify groups that may be interested in program participation, provide support to individuals or groups who volunteer for storm sewer marking and update procedures as needed. SEC will include information regarding the Storm Sewer Marking Campaign as part of the annual report.
2.3 Illicit Discharge Detection and Elimination

Introduction

The MS4 Permit requires the University to implement an ongoing program to detect and eliminate illicit discharges and improper disposals to the MS4. According to 40 CFR 122.26(b)(2), an Illicit Discharge is defined as follows:

"Illicit Discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities."

Prohibition of Non-Storm Water Discharges

Section (p)(3)(B)(ii) of the Clean Water Act specifically requires an effective prohibition of non-storm water in the University’s MS4 Permit. According to the MS4 Permit, the following discharges, whether discharged separately or commingled with municipal storm water, are not authorized:

A. Non-Storm Water and Industrial Storm Water- discharges of non-storm water or any storm water
discharge associated with industrial activity, except where such discharges are regulated by a separate NPDES permit (or the discharges have been applied for such permit).

Allowable Storm Water Discharges

A. The University may allow, in accordance with 40 CFR 122.26(d)(2)(iv)(B)(1), certain non-storm water discharges to the MS4. The Storm Water Management Program shall identify any non-storm water discharges allowed under this paragraph:

- Water line flushing.
- Landscape irrigation.
- Diverted stream flows and uncontaminated ground water infiltration.
- Uncontaminated pumped groundwater and infiltration defined as water other than wastewater that enters a sewer system, including foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include and is distinguished from inflow.
- Discharges from portable water sources.
- Foundation and footing drains.
- Air conditioning drains.
- Irrigation water (not consisting of treated or untreated wastewater).
- Rising ground water and springs.
- Water from crawl space pumps and footing drains.
- Lawn watering runoff.
- Individual residential car washing, to include charitable carwashes.
- Residual street wash water.
- Discharge or flows from firefighting activities (including fire hydrant flushing).
- Flows from riparian habitats and wetlands.
- Dechlorinated swimming pool discharges.
- Discharges authorized and in compliance with a separate NPDES permit.

Spills

Discharges of material resulting from a spill, except emergency discharges, requires the prevention of an imminent threat to human health or the prevention of severe property damage, provided reasonable and prudent measures have been taken to minimize the impact of the discharge.

Improper Disposal Of Discharges

A. The University will create a policy to meet the requirements of the MS4 NPDES permit. The policy will address the following:

- Responsible Department(s). Safety and Environmental Compliance, Facility Management and EDC departments are currently responsible for the monitoring of illicit discharge and will maintain that respectively.
- Department(s) has authority to direct those causing illicit discharge to cease discharge activities. The departments that currently have the authority are the Safety and Environmental Compliance, Facility Maintenance and EDC departments.
• Provision for prohibiting any individual non-storm water discharge that is determined to be contributing significant amounts of pollutants to your MS4. USA has created an Internal MS4 Oversight Committee. Through actions of the Committee and the Safety and Environmental Compliance Department, USA has developed a web-based Confidential Reporting System that has a direct notification feature to Safety and Environmental Compliance. The President of the University has granted Authority of Intervention to the Safety and Environmental Compliance Department. The University also has preconstruction project guidelines for all projects constructed on the campus.

• Actions to be taken to insure similar discharges are minimized in the future. These will include enhanced education with applicable groups and modified BMP measure guidelines.

• Enforcement procedures and actions taken upon the receipt of illicit discharge reporting and or observation will include details on the immediate suspension of source activity, on-site meeting with responsible department and or contractor and corrective action and associated education documentation.

• Reporting criteria to ADEM for illicit discharges from adjacent MS4’s entering University permitted areas.

B. The university has also implemented a litter control program which is performed on a daily basis by staff and faculty. Trash cans have been placed in parking lots and within the walking areas of the campus to help control and prevent littering.

C. To further address this issue, the university has also established a website to report litter and other environmental compliance issues. When the report is received that litter is present on the campus, staff is dispatched to remove and investigate possible sources.

D. In addition, the university has also installed 5" diameter “Three Mile Creek” medallions on storm water inlets within the campus to indicate the importance of Three Mile Creek and the University’s commitment to the creeks water quality.

Outfall Identification and Classification

A. An inventory of outfalls discharging storm water from the University’s MS4 to Three Mile Creek (See Appendix A)

B. is vital in spotting and controlling illicit discharges and/or improper disposals. Each outfall, regardless of its size, has been field visited and identified. Investigation, verification and classification of outfalls shall occur quarterly at a minimum. Standard Operating Procedures for the investigation and classification shall generally include but are not limited to the following:

  • The field crew shall consist of two technicians with relevant safety equipment.
  • Crew members shall have received appropriate vaccinations and inoculations to prevent water-borne diseases.
  • Crew members shall have received safety training.
  • Walk and field investigate each Three Mile Creek outfall and traverse the sides of its banks to identify and confirm each outfall discharging to Three Mile Creek.
  • Record date, time, site conditions, outfall condition/characteristics, maintenance information, photograph and other pertinent information on a Checklist Inspection Form.
• If hazardous discharges or other discharges are encountered that could affect health and safety, evacuate the area and immediately notify emergency response agencies. Maintain a safe distance from the area.
• Record the presence of any flow from the outfall on the flow characteristics page of the Checklist Inspection Form and log for dry-weather monitoring and further investigation.
• Compile the above information in a data base.

Storm Drain Networking and Mapping

Storm drain network mapping is an important component to identifying the source of an illicit discharge. The University has field identified and mapped storm drain features including inlets, catch basins and pipes and has assigned names and/or numbers for field visited storm drain features to better track inventory, maintenance and repairs. The mapping will be organized and delineated for each outfall using the storm drain network and topographic contours.

Dry-Weather Monitoring/Field Screening

A. Any outfall found to be flowing shall be logged for further investigation. Standard Operating Procedures to identify outfalls with dry-weather flow shall generally include but are not limited to the following:

• The field crew shall consist of two technicians with relevant safety equipment.
• Crew members shall have received appropriate vaccinations and inoculations to prevent water-borne diseases.
• Crew members shall have received safety training.
• Walk and field investigate each Three Mile Creek outfall and traverse the sides of its banks to identify and confirm each outfall discharging to Three Mile Creek.
• Record date, time, site conditions, outfall condition/characteristics, maintenance information, photograph and other pertinent information on a Checklist Inspection Form.
• If hazardous discharges or other discharges are encountered that could affect health and safety, evacuate the area immediately and notify emergency response agencies. Maintain a safe distance from the area.
• Record the presence of any flow from the outfall on the flow characteristics page of the Checklist Inspection Form and log for dry-weather monitoring and further investigation.
• Compile the above information in a data base.
• The inspection crew shall have a HACH Storm water field test kit or approved equal kits for sampling and field testing.
• Field investigates outfalls that were previously tagged for investigation.
• Confirm the outfall coordinates (latitude and longitude) and outfall characteristics.
• Investigate the outfall if it is still flowing after 72 hours of a rain event.
• Conduct an initial field sampling and record results and the Checklist Inspection Form.
• If testing cannot be done in the field, collect and deliver to a laboratory or other suitable location for analysis.
• Follow-up with another site visit to the same outfall at least 6 hours later.
• Conduct a secondary field sampling/analyses and record results on the Checklist Inspection Form.
• If no flow exists during the second visit or if no pollutants are evident during the second sampling/analysis, do no log it as illicit discharge.
• If flow exists during the second visit and concentrations of sampling parameters are detected, identify if it is a non-allowable or an allowable discharge. If it is non-allowable discharge, tag the discharge for further investigation and begin source tracking procedures.

Source Tracking

Any outfall found to be flowing during the dry-weather shall be prioritized for investigation. Each outfall shall initially be sampled and tested for pH, total chlorine, copper, detergents and phenols using the Hach storm water test kit. The same outfall shall be re-sampled at least 6-hours later. If testing indicates constituents being tested for, the outfall shall be classified as a potential illicit and targeted for further investigation. Standard Operating Procedures to identify and track the source of the illicit discharge shall general include the following:

• Identify the storm drain network connected to the outfall and continue the investigation upstream of the outfall to the next junction in the storm drain network to confirm evidence of the discharge.
• Repeat the steps upstream until a junction is found with no evidence of the discharge.
• Isolate the section between the junctions and try to identify the source of the discharge.
• Investigate the surrounding area between the two junctions, to visually isolate and identify the source.
• Utilize video inspection, smoke testing (non-toxic) and/or dye testing (non-toxic) to further isolate and identify the source if necessary.
  - **Video Inspection**
    - Use camera capable of radial views
    - Inspect top, bottom and sides of the pipes
  - **Smoke Testing**
    - A process where spoke is introduced into the storm drain system and observed where the smoke surfaces.
    - Equipment typically includes a smoke source, smoke blower and pipe plugs. Notify residents, adjacent businesses and emergency agencies before undertaking any smoke testing.
  - **Dye Testing**
    - Necessary equipment typically includes dye tablets, liquid concentrate, dye strips, powder or dry wax cakes/doughnuts that are non-toxic.
    - Flush or wash dye down the drain, fixture or manhole.
    - Open the downstream manholes or outfalls and locate the dye.
  - **Investigate potential source facilities in the surrounding area. Investigate any spills that may have occurred in the surrounding area.**
  - Once the source of the illicit discharge and/or improper disposal has been traced and identified then initiate actions to stop or restrict discharge.
Measurable Goals

A. Measurable Goals-1:

1. During the first year, the University will develop and maintain a storm water discharge monitoring policy and systems to report and investigate illicit discharges. This policy will be posted on the University website. The policy shall include:
   - Responsible Department(s). Safety and Environmental Compliance, Facility Management and EDC departments are currently responsible for the monitoring of illicit discharge and will maintain that responsibility.
   - Department(s) has authority to direct those causing the illicit discharge to cease discharge activities. The departments that currently have the authority are the Safety and Environmental Compliance, Facility Management and EDC departments.
   - Provision for prohibiting any individual non-storm water discharge that is determined to be contributing significant amounts of pollutants to your MS4. USA has created an Internal MS4 Oversight Committee. Through actions of the Committee and the Safety and Environmental Compliance Department, USA has developed a web-based Confidential Reporting System that has a direct notification feature to Safety and Environmental Compliance. The President of the University has granted Authority of Intervention to the Safety and Environmental Compliance Department. The University also has preconstruction project guidelines for all projects constructed on the campus.
   - Actions to be taken to insure similar discharges are minimized in the future.
   - These will include enhanced education with applicable groups and modified BMP measure guidelines.
   - Enforcement procedures and actions taken upon the receipt of illicit discharge reporting and or observation will include details on the immediate suspension of source activity, onsite meeting with responsible department and or contractor and corrective action and associated education documentation.
   - Reporting criteria to ADEM for illicit discharges from adjacent MS4’s entering University permitted areas.

Responsible Departments Measureable Goals-1: Department of Safety and Environmental Compliance

B. Measurable Goals-2:

1. For year one (1) the University will train personnel performing illicit discharge screening on the IDDE Plan.
2. For year one (1) the University will provide a map of structural BMPs owned, operated or maintained by the University.
3. For year one (1) through year five (5) continue dry weather screening of approximately 15% of major outfalls annually with all (100%) of major outfalls screened at least once
during the five year period. Those outfalls deemed of highest risk for illicit discharges will be screened semi-annually with an effort to screen at least once during non-typical business hours.

4. For years one (1) through five (5), implement IDDE Plan.
5. Maintain a storm sewer system map, showing storm water inlets, catch basins and outfall locations along Three Mile Creek.
6. Maintain and update campus storm water conveyance system including Three Mile Creek outfalls.
7. Educate the campus community (students, staff, faculty and visitors) on the prohibition of dry weather flows into the University's storm water system.
8. Maintain confidential reporting system webpage to report non-storm water discharges into storm drains.

Responsible Departments for Measurable Goals-2: Department of Safety and Environmental Compliance, MS4 Contractor

C. Measurable Goals-3:

1. For year one (1) train University staff performing source tracking on the IDDE Plan.
2. For years one (1) through five (5), implement IDDE Plan.
3. Maintain a storm sewer system map, showing storm water inlets, catch basins, outfall locations along Three Mile Creek.
4. Maintain and update campus storm water conveyance systems

Responsible Departments for Measurable Goals-3: Department of Safety and Environmental Compliance and Facilities Maintenance Department

D. Measurable Goals-4:

1. For year one (1) the University will begin analyzing data of illicit discharges on University property.
2. The University will provide public education in areas where there are illicit discharges.

Responsible Departments for Measurable Goals-4: Department of Safety and Environmental Compliance and MS4 Contractor

E. Measurable Goals-5:

For year one (1) through year five (5), conducting training of University staff and faculty at least once per permit cycle. New staff or faculty receives IDDE Awareness training within six months of employment or as determined by the Department to which the employee is assigned.
Responsible Departments for Measurable Goals-5: Department of Safety and Environmental Compliance

F. Measurable Goals-6:

1. For year one (1) through year (5) review reported illicit discharge locations and types of illicit discharges.
2. For year one (1) through year (5) evaluates effectiveness of reporting and education by comparing the statistics to prior years.

Responsible Departments for Measurable Goals-6: Department of Safety and Environmental Compliance MS4 Contractor.

Impaired Waterbodies – Three Mile Creek

The goal of the Clean Water Act (CWA) is “to restore and maintain the chemical, physical and biological integrity of the Nation’s waters” (33 U.S.C § 125 (a)). Under section 303 (d) of the CWA, states, territories and authorized tribes, collectively referred to in the act as “ states,” are required to develop lists of impaired waters. These are waters for which technology-based regulations and other required controls are not stringent enough to meet the water quality standards set by states. The law requires that states establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs) for these waters. A TMDL includes a calculation of the maximum amount of a pollutant that can be present in a waterbody and still meet water quality standards. Three Mile Creek is a listed watercourse with an established TMDL.

Three Mile Creek extends approximately 14 miles upstream from its confluence with Mobile River in Mobile, Alabama. The watershed drains 30 square miles of the City of Mobile. Much of the lower watershed is defined by high intensity, urban land use activities. Low intensity residential areas and forested areas in the upper watershed comprise 33 and 25 percent of the total watershed area respectively. The University generally lies within the upper watershed.

The State of Alabama has identified three segments of the Three Mile Creek watershed as being impaired by organic enrichment/dissolved oxygen (OE/DO). The listings are reported on the Alabama’s §303(d) list of impaired waters. The TMDLs developed for the Three Mile Creek watershed are consistent with a phased-approach: estimates are made of needed pollutant reductions, load reduction controls will be implemented and water quality will be monitored for plan effectiveness. Flexibility is built into the plan so that load reduction targets and control actions can be reviewed and updated if monitoring indicates continuing water quality problems.

Monitoring will be performed at an in-stream monitoring location to analyze the quality of storm water discharges within the University’s MS4 program location. The storm water sampling protocol is performed in general conformance with EPA 833-B-92-001 “EPA NPDES
Storm water Sampling Guidance Document” (July 1992). Each sample is collected more than 72 hours after the end of the previous measurable rainfall event on a quarterly basis. In addition to the dry weather monitoring, at least 1 wet weather sample will be collected.

<table>
<thead>
<tr>
<th>Sample Site</th>
<th>Longitude</th>
<th>Latitude</th>
<th>Constituents Tested</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDML-1</td>
<td>30.69934</td>
<td>88.1840</td>
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### 2.4 Construction Site Storm Water Runoff Control

#### Introduction

The construction site runoff control measure consists of BMP’s that focus on the reduction of pollutants in storm water runoff that originates from construction activities that involve land disturbances of one acre or greater. The pollutant of greatest concern is sediments from land disturbance activities. The selected BMP’s are designed to minimize erosion and the transfer of sediments from construction to adjacent areas and outfalls.

#### Rationale

Each BMP within the construction site runoff control measure was selected by analyzing techniques utilized by other permitted entities, analyzing the effectiveness of previously utilized BMP’s and consideration of selected BMP’s applicability to permit provisions.

#### Summary

The construction site runoff control measure is designed to identify mechanisms which will be used to require sediment and erosion controls on construction sites, to establish enforcement procedures, to establish requirements for construction site supervisors to implement erosion and sediment control BMP’s, to establish requirements for waste control on construction sites, to establish procedures for site plan reviews that consider water quality impacts, to establish procedures for site inspection and enforcement and develop education and training for construction site supervisors and the University of South Alabama personnel overseeing construction projects. The success of the construction site runoff control measure BMP’s will be evaluated through analysis of each BMP goal. Each BMP will have a measureable goal that is established by attainable goals for the BMP implementation steps and the ability of the University of South Alabama within the context of financial and physical resources to meet stated goals.
BMP Summary

The University of South Alabama will utilize a number of BMP’s to control runoff from construction sites. Among these are education of the University of South Alabama project supervisors, construction plan review, inspection procedures and reporting of problems related to construction projects. Enhanced BMP guidelines including all construction bid specs.

Education

Training to be developed and provided to the University of South Alabama project supervisors and construction site operators. This training will include proper site management procedures as well as protocols for reporting discharges and inspection results. To make sure personnel and contractors are properly trained Safety and Environmental Compliance will ensure that training materials take advantage of new technologies for managing storm water runoff on construction sites. Educational programs will be updated and modified as needed. SEC will include the number of individuals trained as part of the annual report.

Construction Plan Review

In order to effectively minimize occurrences of erosion and sediment transfer at construction sites the construction process must begin with the development of plans that incorporate BMP’s for construction sites that are relevant to site conditions. To accomplish this the University of South Alabama will detail requirements for written project sediment and erosion control plans; implement plan review procedures to address conformance to storm water guidelines and the use of erosion controls; provide an opportunity for the SWMP Committee to review procedures to evaluate effectiveness; maintain records of plan review program as part of the annual report.

Construction Site Inspections

The University of South Alabama will develop standardized procedures for conducting construction site inspections to ensure compliance with storm water management requirements. The University of South Alabama will review existing procedures for tracking construction activities and revise as needed. The University of South Alabama will require contractors to utilize an independent QC to inspect and monitor construction sites. The University of South Alabama will require contractors to take immediate corrective actions when conditions are discovered that are not in compliance with construction site storm water guidelines. The University of South Alabama will maintain copies of QC inspections and corrective actions and report the number in the annual report.

Construction Site Problem Reporting

The University of South Alabama will provide a mechanism for the campus community to report storm water and water quality concerns related to construction projects. To this end the
University of South Alabama will provide a phone number and webpage for reporting concerns. Internal systems for accepting reported information will be reviewed and modified as necessary. Those sites reported by the campus community will be investigated. Records regarding the number of public reports received and responded to shall be maintained and included in the annual report.

2.5 Post Construction Storm Water Management in New Development and Redevelopment

Introduction

The post construction storm water runoff measure consists of BMP’s that are designed to minimize water quality impact from new and redevelopments once construction activities are complete. BMP’s selected are designed to ensure that appropriate reviews are conducted and pre-construction conditions are taken into consideration during the design, construction and post-construction phases.

Rationale

Each BMP within the post construction site runoff measure was selected by analyzing techniques utilized by other permitted entities, analyzing the effectiveness of previously utilized BMP’s and consideration of selected BMP's applicability to permit provisions.

Summary

The post construction site runoff measure will be used to identify procedures that will be used to address post construction runoff from new and redevelopment projects. Procedures for long term inspections and maintenance of post-construction BMP’s will also be developed.

The success of the BMP’s will be evaluated through analysis of each BMP goal. Each BMP will have a measureable goal that is established by attainable goals for the BMP implementation steps and the ability of the University of South Alabama within resources to meet stated goals.

BMP Summary

The University of South Alabama will utilize BMP’s to minimize the water quality impact of post-construction site runoff. These BMP’s will consider plan review, protection of sensitive and/or impaired water bodies and interaction with the City of Mobile to ensure coordination with their storm water runoff efforts.
Plan Review

In order to mitigate post construction site runoff issues construction plans will be reviewed to determine if post construction runoff from new and/or redevelopment will adversely affect water quality. If negative effects occur, the plans, procedures or methods will be revised or modified to ensure compliance with storm water guidelines.

Protection of Sensitive Waters

To facilitate the effective review of post construction BMP’s to be implemented on new and/or redevelopment projects a review of the potential impact to sensitive or impaired water bodies with approved TMDL’s will be conducted during the plan review process for all new and/or redevelopment projects on the University of South Alabama campus. To ensure an accurate review the University of South Alabama will examine the most current 303 (d) listing of impaired waters to determine if any are potentially affected. The approved TMDL’s will also be examined for applicability.

Local Interaction

The University of South Alabama will continue to interact with the storm water quality personnel of the City of Mobile which is a permitted MS4. The purpose of this interaction is to make them aware of the University of South Alabama efforts and to potentially coordinate some storm water quality issues.

2.6 Pollution Prevention and Good Housekeeping

Introduction

The Pollution Prevention and Good Housekeeping measure is made up of BMP’s that focus on the reduction of pollutants in the storm water runoff that originated from the University of South Alabama operation and maintenance activities. The operations and maintenance activities include vehicle equipment maintenance, materials handling and storage and facility operations. The BMP’s selected will focus on the prevention of circumstances that have the potential to create polluted runoff.

Rationale

Each BMP within the pollution prevention and good housekeeping measure was selected by analyzing techniques utilized by other permitted entities, analyzing the effectiveness of previously utilized BMP’s and consideration of selected BMP’s applicability to permit provisions.
Summary

The pollution prevention and good housekeeping measure is designed to identify procedures for transportation system maintenance, develop procedures for vehicle and equipment maintenance, review storage and handling of hazardous materials and develop employee training on proper good housekeeping and pollution prevention procedures.

The success of the pollution prevention and good housekeeping will be evaluated by analysis of each BMP goal. Each BMP will have a measurable goal that is established by attainable goals for the BMP implementation steps and the ability of the University of South Alabama within the context of financial and physical resources to meet stated goals.

BMP Summary

The University of South Alabama will utilize a number of BMP’s which are designed to minimize pollution related to operations and maintenance. Among these are street operations and management, litter control, herbicide application, vehicle maintenance, hazardous material management and employee training.

Roadway Maintenance

Routine street maintenance has significant potential to contribute to pollution runoff. In order to minimize potential impact from street maintenance the University of South Alabama will evaluate existing activities to determine if modifications would benefit storm water quality. The University of South Alabama will seek to identify alternative procedures or materials that would reduce the potential of maintenance activities to contribute to polluted runoff. Specifications and SOP’s will be revised according to identified alternative practices. The University of South Alabama will maintain records of road maintenance activities, alternate practices and include this information as a part of the annual report.

Street Sweeping

Street sweeping is an effective method of reducing sediment and pollutants from roadways. To ensure these activities are conducted in an effective manner the University of South Alabama will identify roadways that are to be swept. The University of South Alabama will further establish schedules for sweeping of identified roadways. The University of South Alabama will maintain records of street sweeping including man hours involved and roadways and will include information in the annual report.

Litter Collection

The University of South Alabama will continue to promote anti-litter on campus. Several procedures will be utilized in an effort to reduce the discharge of floatable materials into local bodies of water. The University of South Alabama will periodically evaluate the location of litter
and trash receptacles, collect litter on an established schedule and adjust locations of receptacles and collection schedules as necessary. The University of South Alabama will include information regarding litter collection on campus as part of the annual report.

Herbicide Application

The use of herbicides is a very effective tool on controlling the growth of unwanted vegetation. Improper or indiscriminate use can have potentially harmful effects on water quality. To ensure that herbicide application does not contribute to negative water quality the University of South Alabama will review all areas where herbicides are used and utilized alternatives where possible. The University of South Alabama will ensure compliance with herbicide application regulations.

Vehicle Maintenance

The University of South Alabama owns and operates a variety of vehicles and equipment used in the operation and maintenance of the facilities and services on campus. These vehicles range from passenger cars, trucks and vans to heavy equipment all of which require regular maintenance. Improperly maintained vehicles have a greater potential to contribute to water quality impairment. To ensure that vehicles do not contribute to impaired water quality the University of South Alabama will review and update the inventory of the University of South Alabama owned vehicles and equipment. The University of South Alabama will conduct routine maintenance of owned vehicles and shall inspect vehicles for the presence of fluid leaks during routine maintenance. The University of South Alabama will schedule repairs for vehicles determined to have leaks. Maintenance records shall be available for review as requested.

Hazardous Material Management

Safety and Environmental Compliance has operated for many years a hazardous material management program. This program along with campus facilities are periodically inspected by regulatory agencies for compliance with standards. SEC has an active material inventory system that tracks and accounts for hazardous materials and chemicals on campus. SEC will continue to operate the hazardous material program and will continue to perform environmental audits in laboratories and facilities on campus.

Employee Training

Safety and Environmental Compliance will prepare training that focuses on pollution prevention and good housekeeping measures. SEC will identify the University of South Alabama personnel who will be required to attend training and will maintain records to this training. Training materials will focus on vehicle and building maintenance, herbicides and hazardous material management.
Enforcement

The University of South Alabama will utilize a variety of enforcement strategies depending upon the nature of the incident and the individuals involved. Enforcement could include monetary penalties, civil action, institutional restrictions, police response and other actions. Students involved in activities requiring enforcement face academic actions including suspension up to expulsion. Faculty and staff are subject to supervisory discipline including possible termination. Contractors are subject to financial penalties, termination of contracts and expulsion from work on campus. Any individuals exercising willful violations of storm water management guidelines may be subject to police involvement and civil actions.