OFFICE OF
THE EXECUTIVE
DIRECTOR

AUBURN UNIVERSITY

DEPARTMENT OF RISK
MANAGEMENT AND SAFETY

Hand Delivered

August 1, 2011

Alabama Department of Environmental Management
Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059

Subject: Municipal Separate Storm Sewer System (MS4) Phase II General Permit
Storm Water Management Plan
Auburn University, Lee County Alabama
NPDES No. ALR040030

To whom it may concern:

Auburn University is pleased to present the Stormwater Management Plan to the Department as required by the subject permit. In accordance with Part IV D of the subject Permit, the Stormwater Management Plan includes the necessary Monitoring Plan.

Risk Management and Safety, will continue to coordinate the compliance objectives associated with this responsibility and will continue to serve as the primary point of contact for your Department. Should you have any questions, please contact me either by e-mail mccautp@auburn.edu or by phone at 334-844-4870.

Sincerely,

Tom P. McCauley, CHMM
Environmental Programs Manager

ADEM
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RECEIVED

C:\SWMP2011TL
EC: Steve Nelson, AU RMS
Dan King, Facilities Management
Sam Fowler, AU Water Resources Ctr
Mike Kensler, Office of Sustainability
Stormwater Plan Development Committee

AUBURN

UNIVERSITY

STORMWATER MANAGEMENT PLAN

Prepared by

AUBURN UNIVERSITY

STORMWATER MANAGEMENT COMMITTEE

August 2011

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The Stormwater Committee formed to develop this SWMP is comprised of individuals from both academic and operational areas of campus. The collaborative effort was strengthened by its diversity and includes the following individuals and their areas of responsibility or interest:

Mr. Donny Addison, Facilities Management Recycling & Waste Management
Dr. Eve Brantley, Alabama Cooperative Extension Services (ACES)
Mr. Charlie Crawford, Facilities Management Landscape Services
Mr. Jeffrey Dumars, Facilities Management Campus Planning & Space Management
Mr. Eric Kleypas, Athletics Department Field Management
Mr. Gregory Forthofer, Facilities Management, Design Services
Dr. Charlene Lebleu, School of Architecture, Landscape Architecture
Mr. Ken Martin, Facilities Management Utilities & Energy
Mr. Tom McCauley, Risk Management & Safety
Mr. Buster Reese, Facilities Management , Construction Management
Ms. Jessica Roberts, Agronomy & Soils
Mr. Ray Womack, Krebbs Engineering & Architecture

Executive Committee:

Mr. Dan King
Assistant Vice President
Facilities Management

July 29, 2011
Date

Dr. Sam Fowler
Director
Water Resource Center

7/29/11
Date

Mr. Michael Kensler
Director
Campus Sustainability

7/29/11
Date

Definitions:

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

ALOA: Citizens advisory committee formed during the first permit cycle and comprised of representatives from the City of **A**uburn, **L**ee County government, City of **O**pelika and **A**uburn University. The committee meets on a quarterly basis to provide a format for open exchange between entities and the public. During the first permit cycle, ALOA was responsible for the creation of an erosion and sediment control document and multiple brochures/pamphlets to promote stormwater management which are used by each entity.

Best Management Practices (BMP): 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 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.

Code of Federal Regulations (CFR): A codification of the final rules published daily in the Federal Register. Title 40 of the CFR contains the environmental regulations.

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

Control Measure: any Best Management Practice (BMP) or other method used to prevent or reduce the discharge of pollutants to Waters of the State.

Discharge: when 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: Systems and practices that use or mimic natural processes to infiltrate, evapotranspirate (the return of water to the atmosphere either through evaporation or by plants), or reuse stormwater 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 (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 stormwater, 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 stormwater 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 stormwater as a resource rather than a waste product.

Maximum Extent Practicable (MEP): Technology based discharge standard for municipal separate storm sewer systems (MS4) to reduce pollutants in stormwater discharges that was established by the Clean Water Act (CWA) Section 402(p). A discussion of MEP as it applies to small MS4s like Auburn University 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 stormwater which is not a combined sewer and which is not part of a

publicly owned treatment works.

Notice of Intent (NOI): The regulatory 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 ALR040030 issued to Auburn University & became effective February 1, 2011.

Permittee: Auburn University

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 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

Stormwater: defined at 40 CFR 122.26(b)(13) Stormwater runoff, surface runoff and drainage

Storm Water Management Plan (SWMP): 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 lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, play lakes or naturals ponds.

1.0 INTRODUCTION

This Stormwater Management Plan (SWMP) was developed in 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 ALR040030 Phase II General Permit effective February 1, 2011.

As required by the Permit, Auburn University is responsible for the development and implementation of a Stormwater Management Plan (SWMP). The purpose of the SWMP is to describe Auburn University and its operation, and identify the Best Management Practices (BMPs) to be utilized to reduce the discharge of pollutants from Auburn University'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 SWMP is to improve the quality of surface waters at Auburn University by reducing the amount pollutants contained in stormwater runoff to a maximum extent practicable (MEP). Auburn University will seek to reduce the pollutants from entering stormwater runoff through the implementation of best management practices. The SWMP will describe the minimum best management practices to be implemented by Auburn University and as required by ADEM General Permit ALR040030 (effective date February 1, 2011).

2.0 MS4 DESCRIPTION

Auburn University is a large land grant educational institution located in Auburn, Lee County, Alabama comprised of approximately 1800 acres of contiguous property.

Auburn University is one of the major liberal arts and science universities in the southeast. The area surrounding Auburn University consists of residential property to the east and southeast, agricultural property to the southwest and west and urban city property to the north and east. The headwaters of Parkerson Mill Creek (PMC) are approximately 3000 meters (9845.5 ft) in length and are located on Auburn University.

3.0 CONTROL MEASURES

Stormwater management controls or Best Management Practices (BMPs) will be implemented to prevent pollution in stormwater discharges from Auburn University's main campus. State and federal regulations require BMPs addressing six minimum control measures to be part of the SWMP. These BMPs are described in the remaining subsections of this section with applicable measureable goals and scheduled implementation dates for each BMP.

The six control measures addressed by this SWMP include:

3.1 Public Education and Outreach
3.2 Public Involvement / Participation
3.3 Illicit Discharge Detection and Elimination
3.4 Construction Site Storm Water Runoff Control
3.5 Post Construction Storm Water Management in New and Redevelopment
3.6 Pollution Prevention / Good Housekeeping for Municipal Operations

3.1 PUBLIC EDUCATION & OUTREACH - RATIONALE

An informed and knowledgeable "community" at Auburn University will be an important factor in the success of the this SWMP to reach its goal of reducing the discharge of pollutants associated with stormwater runoff to Parkerson Mill Creek (PMC) and it's tributaries. The implementation of an effective public education and outreach program will help Auburn University to ensure:

1) Greater awareness to the University community of the importance of managing discharges to local receiving waters (PMC and its unnamed tributaries);
2) Greater support from the University community for the stormwater management program; and

3) Greater compliance with the requirements of the General NPDES Permit.

The Public Education and Outreach minimum control measure consists of Best Management Practices (BMPs) that focus on the development of educational materials designed to inform the public (University community) about the impacts that stormwater discharges have on local water bodies. The educational materials will contain specific actions as to how the public, as individuals or collectively as a group, can help reduce pollutants and their impacts on the environment, and specifically to PMC. The Public Education and Outreach program and the other BMPs contained within this SWMP, in combination, are expected to reach all of the constituents within the MS4s permitted boundary (Auburn University's main campus). The emphasis of these outreach efforts will be towards the removal of known pollutants of PMC to include floatables, pathogens and sediment. Auburn University has a strong network of partners in its ongoing efforts to educate stakeholders on the importance of stormwater management, personal pollution prevention, and actions that have been implemented to protect and improve nonpoint source pollution to local surface waters. A plan for effectively engaging in Public Education and Outreach (minimum measure #1) is presented below as required by the Permit.

Communication to the Public

Traditional and innovative avenues will be utilized to communicate with the public. Examples of traditional media include newspapers such as the Plainsman (Auburn University student publication), the Opelika-Auburn News (local newspaper serving Auburn, Opelika, Lee County, and surrounding communities), and radio as a part of the weekly Alabama Cooperative Extension System Backyard Wisdom program. Innovative communication avenues will include electronic media and tours of campus that include highlighting stream resources and stormwater practices.

Target Audience

Auburn University has a unique opportunity to reach several distinct target audiences throughout the year. These audiences include Auburn University faculty and staff, students, parents of students, visitors, contractors on campus, and surrounding community stakeholders.

Pollutants of Concern

Primary stormwater pollutants of concern for Auburn University include pathogens as listed on the 2010 303(d) list, floatables i.e. litter from improper trash disposal, and sediment from land disturbing activities and in-stream erosion processes.

Communication Mechanisms

Communication of stormwater pollution prevention principles will include the following mechanisms interactive web sites such as a campus stormwater BMP tour, AU Daily electronic bulletin that reaches the entire student body and all Auburn University employees, creation of a stormwater listserve, inclusion of stormwater and stream information on electronic kiosks located in the strategically located on campus, presentations to student and watershed organizations, and participation in University-led activities such as Earth Day, Arboretum game day events, student service events (Big Event, IMPACT).

Responsible Parties

The Public Education and Outreach measure development and implementation will be overseen by a partnership between the University Water Resources Center and the Department of Risk Management and Safety.

Measurable Outcomes and Evaluation

Effectiveness of the activities related to education and outreach will be measured through:

1. Number of presentations delivered - AU SWMP will partner with other programs to provide four presentations each year throughout the Permit cycle specific to stormwater management, illicit discharge, detection and elimination, water quality and conservation.
2. Develop a central electronic resource (webpage) to serve as primary reference site for the University SWMP. The SWMP website is to be developed by January 1, 2012.
3. Estimates of numbers of target audience reached through University-led activities. The target audiences include students, faculty, staff, employees, and visitors to Auburn University. The number of individuals reached from August 1, 2011 to August 31, 2016 is targeted for 25,000, overall. The number of

participants for activities related to minimum measured in the AU SWMP will be documented.

4. Number of watershed plans developed through the AU Water Resource Center. Auburn University is designated by US EPA as a Center for Watershed Excellence. The AU Water Resource Center is a leader in enhancing Auburn's efforts to address water quality and availability issues in Alabama and the region. The AU SWMP will work with the program, colleges, and the entire University to provide hands-on, practical products, and services to solve watershed problems. As part of this designation, the AU Water Resource Center is to help develop a minimum of five watershed management plans. One of these plans will be for Parkerson Mill Creek Watershed which includes Auburn University.
5. Throughout the Permit period, a minimum of three (3) stream cleanups will be performed annually within Parkerson Mill Creek to include informative sessions on the impacts of litter.
6. Numbers of target audience participating in stream activities. In addition to the number of participants, the target audience for each activity will be documented to illustrate which audience (i.e. Students, Faculty, etc) are being targeted. 15,000 Students, 3,500 Faculty and Staff, and 500 visitors will be informed before August 2016 and participation will be documented.
7. The effectiveness of each Public Education & Outreach measureable outcome will be evaluated each year of the permit cycle through a variety of surveys and assessment tools

3.2 PUBLIC INVOLVEMENT & PARTICIPATION - RATIONALE

Public Participation is closely linked to Public Education and Outreach in that Auburn University's success in educating the public will directly affect the public participation in stormwater related activities. The public can provide valuable input and assistance in the implemented of the SWMP, therefore, where possible public participation should be encouraged. Auburn University has a successful history of participatory programming related to stormwater management and protection of surface waters as they flow through Auburn University properties. A plan for effectively engaging in Public Involvement and Participation (minimum measure #2) is presented below as required by the Permit.

Communication to the Public

Traditional and innovative avenues will be utilized to communicate with the public. Examples of traditional media include newspapers such as the Plainsman (Auburn University student publication), the Opelika-Auburn News (local newspaper serving Auburn, Opelika, Lee County, and surrounding communities), and radio as a part of the weekly Alabama Cooperative Extension System Backyard Wisdom program. Innovative communication avenues will include electronic media and tours of campus that include highlighting stream resources and stormwater practices.

Target Audience

Auburn University has a unique opportunity to reach several distinct target audiences throughout the year. These audiences include Auburn University faculty and staff, students, parents of students, visitors, contractors on campus, and surrounding community stakeholders.

Public Involvement Activities

Auburn University and community partners will provide opportunities for stakeholders to learn more about stormwater practices and policies, demonstration projects, and assessment of local water quality through ALOA public meetings, Alabama Water Watch citizen monitoring and assistance with the implementation of the PMC watershed plan.

Responsible Parties

The Public Education and Outreach measure development and implementation will be overseen by a partnership between the University Water Resources Center and the Department of Risk Management and Safety.

Measureable Outcomes and Evaluation

1. Effectiveness of the activities related to public involvement and participation will be measured through:
    a. Number of target audience participating in stream and stormwater programs and events (parallel with BMP #1 goal #6).

b. In addition to the number of participants the target audience for each activity will be documented to illustrate which audience (i.e. Students, Faculty, etc) are being targeted. 15,000 Students, 3,500 Faculty and Staff, and 500 visitors will be informed before August 2016 and participation will be documented.

2. Participation in four (4) citizen advisory meetings (ALOA) per year between 2011 and 2016.
3. Number of concerns or issues addressed. The Parkerson Mill Creek Watershed Plan documented a list of eleven primary concerns and potential causes which are further broken down into five primary areas of concern. A minimum of ten activities are to be documented addressing one or more of these primary concerns prior to August 31, 2016.
4. Attendance, partnership, or participation of Auburn University employees, faculty and/or students in the eight (8) projected Alabama Water Watch sampling workshops (i.e. four bacteriological and four water chemistry) offered to the target audience by August 2012. Attendance annually thereafter will be assessed and will depend upon the continuance of funding provided to AWW.

3.3 ILLICIT DISCHARGE, DETECTION & ELIMINATION - RATIONALE

Illicit discharges into a storm drain system are defined by EPA as "...any discharge to an MS4 that is not composed entirely of stormwater ..." Exceptions include permitted industrial sources and discharges from fire-fighting activities. Some examples of illicit discharges include: sanitary wastewater, effluent from septic tanks, car wash wastewaters, improper oil disposal, radiator flushing disposal, laundry wastewaters, spills from roadway accidents, and swimming pool discharges (that have not been de-chlorinated). These illicit discharges can enter a storm drain system either through a direct connection (e.g., a pipe connected directly to the storm drain) or indirectly (e.g., spills, dumped chemicals, cracks in sanitary sewers). As a result, inadequately treated wastes containing high levels of pollutants, such as heavy metals, oil and grease, toxics, viruses, and bacteria, are discharged to receiving waters. The next subsections describe Auburn University's current program to detect and eliminate both direct and indirect illicit discharges into the storm drain system and associated plans for the permit term.

Regulations require identification and elimination of all non-stormwater discharges and appropriate responses to protect the campus community and the environment. The following discharges are not considered illicit and are not regulated under this minimum control measure:

A. Water line flushing (including fire hydrant testing)
B. Landscape irrigation
C. Diverted stream flows
D. Rising groundwater
E. Uncontaminated groundwater infiltration (infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connection and foundation drains, from the ground through such means as defective pipes, sewer service connections or manholes.)
F. Uncontaminated pumped groundwater
G. Discharges from potable water sources
H. Foundation drains
I. Air conditioning condensation
J. Springs
K. Water from crawl space pumps
L. Footing drains
M. Flows from riparian habitats and wetlands
N. De-chlorinated swimming pool discharges
O. Street wash water
P. Discharges or flows from fire fighting

Auburn University relies upon multiple methods to identify illicit discharges as quickly as possible. All potential illicit discharges should be reported to Auburn University Risk Management and Safety upon discovery. Discovery and reporting methods include reports conveyed from the campus community to the University's Facilities Management or the Department of Risk Management and Safety. Reports might originate from faculty, staff, students, or campus visitors. In particular, AU staff with specific training on illicit discharge identification will increase the probability of proper and timely reporting.

Investigation of illicit discharges will commence as soon as practicable but always within

5 working days of the initial discovery or report. Investigation and mitigation measures are implemented upon detection to identify possible source(s) of illicit discharges and to either prevent or reduce adverse impacts to stormwater runoff and the environment. A written report will be prepared to document each illicit discharge investigation. Reports will include the nature of the discharge, possible sources, mitigation or cleanup measures implemented, any steps taken to prevent similar discharges in the future, and documentation of any ADEM reporting required.

As a large land grant public institution, Auburn University is unlike a traditional MS4. The University does not typically have enforcement mechanisms often used by municipal governments to effectively implement municipal ordinances. The University is governed by procedures and policies. Auburn University is committed to maintaining a safe and regulatory compliant campus. Should an illicit discharge be discovered originating from a University operation, efforts to immediately cease that practice will be implemented. Discharges resulting from outside university operations will be relayed to the City of Auburn to aid in further investigation and elimination efforts.

Responsible Parties

The Illicit Discharge Detection & Elimination measure development and implementation will be overseen by a partnership between the Auburn University Utilities & Energy Department, Department of Risk Management and Safety and the University Water Resource Center.

Measurable Outcomes and Evaluation

1. Map/model campus stormwater outfalls. As required by Section III(b)(i) of the Permit, Auburn University will provide annual updates of the map to ADEM by March 31st each year. (AU Utilities & Energy Department/ AU Risk Management & Safety)

2. Incorporate illicit discharge detection and elimination program into the Auburn University Public Education & Outreach initiatives. AU SWMP will partner with other programs to provide four presentations annually throughout the Permit period to include principles of the IDDE program.

3. Develop an on-line illicit discharge detection and elimination reporting form to be made available to the target audience via AU website. Develop reporting tool by March 31, 2012.

4. Perform a comprehensive structural assessment effort to determine the condition of the storm system by February 2012.

5. Perform water quality monitoring on a regular basis from multiple locations within the storm system. This monitoring effort will be conducted consistent to the procedures identified in the Monitoring Plan identified in Section 4.0 of and Appendix C of this SWMP and developed in accordance with Part IV D of the Permit.

3.4 CONSTRUCTION STORMWATER RUNOFF CONTROL - RATIONALE

Auburn University Facilities Management has overall responsibility for managing all construction projects on campus through the design phase to construction management through project completion. Facilities Management employees, design professionals, engineers and construction managers to lead these efforts for the University. Facilities Management recognizes the importance of erosion and sedimentation control on University projects and per the Permit will create a Construction Storm Water Runoff Program to address these responsibilities. The University has developed Design Standards and Construction Specifications that guide the projects through to substantial completion. These core documents already specify that the construction activity comply with the ALOA Erosion and Sediment Control document, the Alabama Handbook for Erosion Control and Stormwater Management on Construction Sites and Urban Areas and the all federal, state and local requirements related to stormwater and waste management. All construction sites on campus must follow these standards and prior to any earthwork, each project will be evaluated to ensure conformance with these

standards. To meet Permit requirements, these core documents will be reviewed and strengthened as necessary to include the development and implementation of the preventative measures to inspect priority sites on a periodic basis as well as to define the regulatory provisions that will specify the actions taken by the University when non-compliance is encountered.

Responsible Parties

The Construction Site Runoff Control measure development and implementation will be responsibility of Auburn University Facilities Management

Measurable Outcomes and Evaluation

1. Review and revise existing AU Design Standards and procedures to ensure all construction sites on campus comply with the requirements of Part III.B4 of the Permit. Design Standards will incorporate measures for pre-construction, construction and post construction phases. Necessary revisions to the Design Standards will be completed by March 2012.
2. Review and revise existing AU Construction Specifications to ensure all construction sites on campus comply with the requirements of Part III.B4 of the Permit. Construction Specifications will incorporate provisions for periodic site inspections, AU measures to address identified non-compliance and procedures to notify ADEM as necessary of any unresolved non-compliance. Necessary revisions to the Construction specifications will be completed by March 2012.
3. Perform annual erosion and sedimentation training to Facilities Management personnel. Training will provide Facilities Management personnel with updates to the regulatory requirements and advances to the control measures used on AU construction sites. By March 31st each year during the Permit cycle, record of the annual training will be provided to the ADEM.

3.5 POST CONSTRUCTION STORMWATER RUNOFF CONTROL - RATIONALE

The Post Construction Stormwater Runoff Control measure is designed to ensure that new developments and redevelopments designs and measures do not result in increased stormwater pollution.

Development can alter landscapes by increasing imperviousness (i.e. roofs, driveways, parking lots) and changing drainage patterns, thereby increasing the volume and velocity of runoff from a site. Increased volume leads to degradation of receiving waters and increases in the occurrence of flooding. Stormwater from developed impervious areas can also contain a variety of pollutants that are detrimental to water quality, such as sediment, nutrients, heavy metals, pathogenic bacteria, and petroleum hydrocarbons.

Considering water quality impacts early in the design process can provide long-term water quality benefits. For example, a project designed with reduced impervious surfaces and increased use of biofiltration practices will result in significant reductions in stormwater runoff volume from the site. New development projects on undeveloped land offer many opportunities to reduce storm water runoff from the site.

Responsible Parties

The Post Construction Stormwater Runoff Control measure development and implementation will be responsibility of Auburn University Facilities Management

Measurable Outcomes and Evaluation

1. Per the Permit, Auburn University is required to develop and implement this measure by January 31, 2013. To meet this requirement, the University intends to initiate the development of the Post Construction Runoff Control Plan in the Summer of 2011 either as part of the new Landscape Master Plan or the Comprehensive Campus Master Plan 2012 Update or as a stand alone project to include the following:

    a. Establishment of systematic controls for the University to prevent or minimize post-construction water quality impacts. Evaluation of LID and

Green technologies will be performed and implemented when and where feasible.

b. Develop Campus Wide Participation Process: The post-construction stormwater management program shall be developed through a campus wide participatory planning process that engages the various constituent groups of the University community to promote consensus and provide rigor to conclusions. The decision process for the development of all elements of this scope of services will be documented.

c. Develop Stormwater Management Existing Conditions: Analysis of the existing conditions for stormwater on the Auburn University main campus to include campus characteristics, drainage areas and condition, volume control for water quality and channel bank protection, conveyance capacity, flooding, detention capacity and campus stream conditions and opportunities.

d. Develop Stormwater Strategies: Strategies will include a combination of structural and non-structural best management practices (BMPs) designed to ensure that the volume, velocity and quality of pre-construction stormwater runoff is not significantly exceeded. A design rainfall event with a minimum intensity of a 1-year/24-hour storm event shall be the basis for the design and implementation of post-construction BMPs.

2. Develop an Implementation and Maintenance Plan: Auburn University recognizes that long term maintenance of structural BMPs is a critical component to ensure that these BMPs continue to function as originally designed or as necessary over time. As such, Auburn University will identify the maintenance plan for on-campus structural BMPs. The Maintenance Plan will be identified by March 2012.

3.6 POLLUTION PREVENTION/ GOOD HOUSEKEEPING - RATIONALE

Efforts to survey University activities and facilities will continue. These surveys focus on the storage of materials at the variety of areas managed by Facilities Management, Auxiliary Operations, various academic departments and the Athletic Department.

This measure requires Auburn University to establish standard operating procedures, a regular inspection protocol and frequencies as well as educative efforts to ensure that University operations are managed in a way to prevent the introduction of pollutants into the storm system. If necessary, Auburn University will modify current operations to help ensure a reduction in the amount and type of pollution, including pollution that collects on streets, and parking areas, maintenance areas and outdoor research related activities.

The activities implemented under this measure will focus on developing and implementing general procedures for the Auburn University campus operations and maintenance program that will reduce or eliminate the impacts of stormwater pollution from open streets, roads, parking lots, parking decks, maintenance and storage yards, waste/recycle collection locations, recycling processing facility, vehicle and building maintenance, landscaped areas, and stormwater conveyance system. The program will also develop and promote through employee training efforts, Standard Operating Procedures for each of the identified municipal operations listed below:

Parking Lot, Parking Deck Cleaning Program

Auburn University Facilities Management staff will research and develop procedures for parking lot, parking deck and street-cleaning practices to minimize pollutant discharge to receiving waters. These cleaning practices will remove surface sediment, debris, and other pollutants that are a potential source of significant pollution to the campus watershed.

Measurable Outcomes and Evaluation:

1. Street sweeping, leaf and litter collection will be performed on a regular basis throughout the permit term. The quantity of debris, trash, dirt, etc. disposed from the maintenance and cleaning/sweeping of numerous parking structures, surface lots and roadways throughout the University will be tracked for subsequent reporting.

2. Develop a strategy to reduce the runoff of total suspended solids (TSS) from paved surfaces to the maximum extent practicable, with a goal of reducing the annual total suspended solid loading by 25% as compared to annual loading with no suspended solids controls will be developed (2010-2012) and implemented (2013) at the University. An estimate of the TSS loading reduction achieved through this strategy will be provided in the progress reports.

Responsible Department:

Auburn University Facilities Management – Landscape Services

Storm Water Conveyance System-Cleaning Program

The Auburn University Facilities Management staff will investigate and develop procedures for inspecting and cleaning of the stormwater conveyance systems to reduce the amount of pollutants, sediments, debris and trash from entering receiving waters on campus. This program will be applied to the following units or areas of campus:

- Paved areas
- Vegetated areas
- Waterways
- Drains
- New development projects
- Waste and recycling material handling areas & collection points

Based on the results from the inspection procedures developed, repairs and maintenance measures will be determined for the appropriate campus operation.

Measurable Outcomes and Evaluation:

1. Twenty percent (20%) of all storm conveyance system outfalls, disposal sites and sediment basins maintained by Auburn University Facilities Management will be inspected and cleaned each year during the Permit term.

Responsible Department:

Auburn University Facilities Management – Landscape Services

Facilities Management - Fleet Maintenance Facilities

Auburn University Facilities Management maintains the majority of Auburn University vehicles as well as various equipment including mowers, tractors, rototillers etc. This entire fleet is maintained primarily at the Facilities Management compound located on West Samford Road. In general, only light to moderate repairs and maintenance activities occur at this location. All vehicles and equipment are regularly maintained to ensure proper and effective operation as well as to prevent impacts on stormwater quality.

Measurable Outcomes and Evaluation:

1. By March 2012, develop and provide a series of educational fact sheets and training efforts to educate employees in these areas as to the proper measures necessary to prevent pollutant discharge.

Responsible Department:

Auburn University Facilities Management

Auburn University Risk Management & Safety

Solid Waste/Recycling Collection and Processing Areas

Auburn University Facilities Management will investigate and develop a program for maintaining solid waste and recycling containers and collection sites in outdoor areas in order to reduce the amount of refuse, waste contaminated rainwater or hydraulic oil spills from compactors that can reach storm drains and ultimately discharge into receiving waters. Individual collection sites and containers will be reviewed to try to locate containers away from storm drains. All solid waste and recycling equipment will have lids or covers to not allow for rainwater to accumulate and leak out of the containers. In the event that a solid waste or inert waste container does not have a lid

(i.e. open top roll-off), the container will be sealed at the bottom to not allow for liquid to leak out of the container. All solid waste and recycling equipment will have plugs to contain water and other liquids to not allow them to leak out of the container. If this is not possible, Auburn University Facilities Management will maintain adequate spill equipment on-site to mitigate spills and releases.

Measurable Outcomes and Evaluation:

1. Identify training procedures for Auburn University and contracted solid waste hauler staff to maintain solid waste and recycling collection sites to reduce the amount of litter and clean up spills quickly.
2. Create educational guidelines for the campus community to follow with respect to how and where to dispose of certain types of waste.
3. Identify number of solid waste and recycling containers near storm drains.
4. Conduct inspections on all solid waste handling equipment annually to prevent any hydraulic leaks or liquid from seeping out of compactors, dumpsters and collection bins.
5. Track number of spills and incidents related to solid waste and recycling equipment, spills and clean-up remediation.
6. Generate a map of all solid waste and recycling collection containers and bins.

Responsible Department:

Auburn University Facilities Management

Spill Prevention Control and Countermeasure (SPCC) Program

Auburn University Department of Risk Management and Safety has developed and maintains the campus SPCC Plan. The Plan calls for the proper storage and management of oil containing equipment. The SPCC Plan identifies the procedures to be followed to regularly inspect applicable containers and instructs "oil handling personnel" on the appropriate measures to take in the event of a spill.

Measurable Outcomes and Evaluation:

1. Throughout the Permit period, document the number of inspections performed on regulated storage units on an annual basis (SPCC).
2. Throughout the Permit period, document the number of preventive maintenance procedures performed on tanks, valves, pumps, pipes, and other equipment annually.
3. Throughout the Permit period, document the number of training presentations performed and the number of employees trained annually.

Responsible Department:

Auburn University Risk Management & Safety

Used Oil Recycling Program

Auburn University Department of Risk Management and Safety manages used oil generated from the variety of University operations.

Measurable Outcomes and Evaluation:

1. Throughout the Permit period, document the volume (gallons) of used oil collected from University operations annually.

Responsible Department:

Auburn University Risk Management & Safety

Pesticide, Herbicide and Fertilizer Management and Use

The application of pesticides, herbicides and fertilizers are controlled by several departments to include Facilities Management, Athletic Department and Auxiliary Operations. For University buildings, the University outsources pest management. Per contract, the University employs Integrated Pest Management (IPM) methodology, an ecological approach to pest management, in University buildings. All available techniques are used to reduce pest populations to acceptable levels while minimizing the potential impact of pesticides upon humans and the environment.

Measurable Outcomes and Evaluation:

1. By December 2011, develop a standard operating procedure (SOP) for the management (storage, use and disposal) of pesticides, herbicides and fertilizers.
2. Throughout the Permit period, inspect these areas annually to ensure proper management

Responsible Department:

Auburn University Risk Management & Safety

4.0 Monitoring Plan for Pathogen Impairment

Parkerson Mill Creek (PMC) fails to meet the minimum water quality standards for its designation Fish and Wildlife use. In 2007, the ADEM listed Parkerson Mill Creek as impaired on Alabama's 303(d) List of Impaired Waters based on series of Auburn/Opelika Intensive Fecal Coliform Studies. PMC has an impaired status due to pathogens from point source and nonpoint sources, primarily urban runoff and storm sewer connections. The 303(d) List is a compilation of impaired waters that require the establishment of a Total Maximum Daily Load (TMDL) under the Clean Water Act. The TMDL is a calculation of the maximum amount of pollutant that a water body can receive and safely meet water quality standards. It is anticipated that the TMDL or loading capacity for pathogens in PMC will be written and released in 2011. Per the Permit, Auburn University will perform periodic and routine monitoring at determined locations to identify possible sources of pathogens. As identified in the University's Illicit Discharge Detection Elimination measure, should the source of pathogens originate on campus, efforts will be initiated within a timely manner to confirm, isolate and repair as necessary the sole or contributing source. Should pathogens identified through these monitoring efforts, originate off campus, Auburn University will immediately notify the City of Auburn Water Resource Division to further a cooperative investigation. The University will utilize the Alabama Water Watch (AWW) laboratory to perform the bacteriological analysis. AWW's Quality Assurance Project Plan (QAPP) is located in Appendix C

Results of this monitoring will be provided annually through the annual update due to ADEM by March 31st each year through the Permit period.

5.0 Review and Updating SWMP

Auburn University will review the SWMP annually in conjunction with the preparation of the annual report required under Part V, Section C of the General Permit.

The annual report will be submitted to the ADEM for each year of the Permit term. Reports are due to ADEM by March 31st of each year and will cover activities for the previous year.

The reports consist of:

- Compliance status including:
- Assessment of the appropriateness of the BMPs
- Progress towards achieving statutory goals of reducing the discharge of pollutants and protecting water quality
- Measurable goals for each of the minimum control measures
- Results of information collected and analyzed, if any, during the reporting period.
- Any changes made to the SWMP since the last annual report and a summary of the storm water activities Auburn university plans to initiate during the next reporting cycle.
- Proposed changes to the SWMP
- Description and schedule for implementation of additional BMPs that may be necessary based on monitoring results.

Annual reports will be reviewed by a review committee and signed by Tom McCauley, Environmental Programs Manager Department of Risk Management and Safety.