



DEPARTMENT OF RISK MANAGEMENT & SAFETY

May 26, 2017

Hand Delivered

Alabama Department of Environmental Management
MS4/ Storm Water Management Branch
Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059
Attention: Marla Smith

Subject: Auburn University Municipal Separate Storm Sewer System (MS4)
Annual Report 2016/2017
Auburn University, Lee County (081) Alabama
ALR040030

Dear Ms. Smith:

Auburn University is pleased to submit the Annual Report and current Storm Water Management Program Plan (SWMPP) as required by the referenced general NPDES permit. The report covers the April 1, 2016 through March 31, 2017 compliance period.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The implementation of the University's Storm Water Management Program Plan is dependent upon multiple groups on campus. I serve to facilitate the progress towards the Plan's objectives and ADEM's primary point of contact for the referenced permit. Should you have any questions or require further clarification, please do not hesitate to contact the undersigned.

Very truly yours,



Tom P. McCauley, CHMM

Environmental Programs Manager

C: Phase II Annual Report + SWMPP May 2017

EC:

Executive Committee:



Mr. Dan King

Assistant Vice President

Facilities Management

MAY 17, 2017

Date



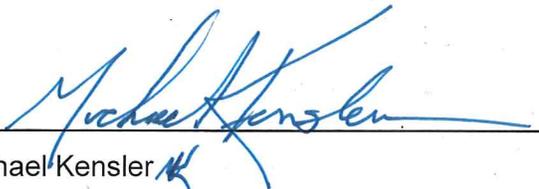
Dr. Puneet Srivastava

Director

Water Resource Center

05/24/17

Date



Mr. Michael Kensler

Director

Campus Sustainability

MAY 22, 2017

Date

Storm Water Management Program Plan

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BMP#5 Tom McCauley, 334-844-4870
Pollution Prevention Ron Booth, 334-844-4810

Good Housekeeping



AUBURN

UNIVERSITY

**MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) ANNUAL
REPORT REPORTING PERIOD APRIL 1, 2016 – MARCH 31, 2017**

Prepared by
AUBURN UNIVERSITY

STORM WATER MANAGEMENT COMMITTEE

Submitted May 2017

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Introduction

This Annual Report 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 October 1, 2016.

The purpose of this Annual Report is to describe the compliance efforts reflected in the University's Storm Water Management Program Plan (SWMPP). The Annual Report will identify the control measure specific efforts undertaken by Auburn University from April 1, 2016 through March 31, 2017 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).

This Annual Report is a result of a collaborative approach from individuals that represent both academic and operational areas of campus. The multi-disciplinary effort continues to be strengthened by its diversity and includes the following individuals and their areas of responsibility or interest:

Dr. Chris Anderson, Forestry & Wildlife Sciences

Mr. Daniel Ballard – City of Auburn Watershed Division

Mr. Nicholas Blair, Facilities Management – Design Services

Dr. David Blersch, Biosystems Engineering

Dr. Eve Brantley, Crop, Soil & Environmental Sciences, AL Cooperative Extension Services

Mr. Ben Burmester, Facilities Management – Office of University Architect

Mr. Ben Chapman, Facilities Management – Construction Management

Ms. Mona Dominguez, Alabama Water Watch

Mr. Jeffrey Dumars, Facilities Management – Office of University Architect

Mr. Malcolm Dailey, Facilities Management – Utilities & Energy

Ms. Valerie Friedmann, Architecture Planning & Landscape Architecture

Dr. Thorsten Knappenberger, Crop, Soil & Environmental Sciences

Mr. Mike Kensler, Office of Sustainability

Mr. Dan King, Facilities Management

Mr. Eric Klypas, Athletics Department – Field Management

Mr. Judd Langham, Facilities Management – Office of University Architect

Ms. Charlene LeBleu, Architecture Planning & Landscape Architecture

Mr. Glenn Loughridge, Campus Dining

Mr. Tom McCauley, Risk Management & Safety

Dr. Chandana Mitra, Department of Geosciences
Mr. Buster Reese, Facilities Management, Construction Management
Mr. Eric Reutebuch, Alabama Water Watch
Dr. Puneet Srivastava, Water Resource Center
Ms. Amy Strickland, Office of Sustainability
Mr. Justin Sutton, Facilities Management – Landscape Services
Mr. Vic Walker, Facilities Management – Waste Reduction & Recycling
Dr. Amy Wright, Department of Horticulture
Dr. Wesley Zech, Construction Engineering & Management

MS4 Description

Auburn University is a large teaching and research institution located in Auburn, Lee County, Alabama comprised of approximately 1800 acres of contiguous property. Auburn University is one of the major land grant/ 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.

Control Measures

Storm water management controls or Best Management Practices (BMPs) will be implemented to the MEP to minimize pollution in storm water discharges from Auburn University's main campus. AU has previously passed the Policy on Storm Water Management Compliance (Appendix A) which serves as the regulatory mechanism as required by the Permit. The Permit requires BMPs to be implemented to address five minimum control measures to be part of the SWMPP. As required by Part III.B. of the Permit, the Annual Report will describe the University's efforts performed during this reporting period to implement the established BMPs (Public Education & Public Involvement on Storm Water Impacts, Illicit Discharge Detection & Elimination, Construction Site Storm Water Runoff Control, Post Construction Storm Water Management in New and Redevelopments and Pollution Prevention / Good Housekeeping for Municipal Operations) and will include:

1. The status of AU's compliance with Permit conditions, an assessment of the appropriateness of the identified BMPs, and progress towards achieving the statutory goal for each of the minimum control measures.
2. Results of information collected and analyzed during this reporting period, including any monitoring data used to assess the success of the SWMPP at reducing discharge of pollutants to the MEP.

3. A summary of storm water activities the University plans to undertake during the next reporting cycle.
4. Updated Auburn University's SWMPP (Appendix B).
5. All monitoring results collected during the reporting period in accordance with Part V. of the Permit.

BMP: Public Education & Public Involvement on Storm Water Impacts

Storm water pollution prevention education leads to an informed and knowledgeable campus community that is more likely to support and comply with the BMP provisions. The targeted "Public" audiences of the University's SWMPP are Auburn University faculty, staff, students and visitors, which populate the campus on any given day. Within these populations, only students in residence housing live on campus. All other students, employees and visitors reside in the surrounding communities.

Throughout this reporting period, Auburn University initiated activities consistent with the SWMPP as follow:

Presentations and Events

Multiple presentations were offered by Auburn University throughout the course of this reporting period to promote water quality and storm water management principles. Presentations were offered by a variety of different AU entities and for diverse AU and non-AU audiences.

Storm Water Symposium (May 10-12, 2016)

The Alabama Storm Water Symposium was a statewide meeting for practical, informative discussions on the "Economics of Storm Water" which included active discussions on such topics as low impact development (LID) & green infrastructure (GI), storm water control measure technologies, innovative education strategies, case studies of storm water practices and erosion and sediment control. 125 attendees represented AU faculty, students, staff and local, state and federal regulators, developers, MS4 communities and consultants.





School of Forestry Outreach Event (May 13, 2016)

4-H Alabama Water Watch (AWW) facilitated a station to teach participating students about watersheds and non-point source pollution using the EnviroScape watershed model. Approximately 130 elementary students from Tallassee, AL participated and were visited by Aubie!



Stream Biomonitoring with AU Fish Camp (June 23, 2016)

AWW Staff facilitated a stream biomonitoring event on Saugahatchee Creek with a group of 20 high school students who were participating in Auburn University's Fish Camp. Students learned to collect, identify, and sort benthic macroinvertebrates. They then calculated a biotic index for the creek.

Young Water Ambassadors (July 19, 2016)

AU Water Resources Center Staff coordinated the annual Young Water Ambassadors visit to Auburn University. YWA is a six-week long program run by the Birmingham Water Works that provides high school students with an in-depth and hands-on learning experience related



to various aspects of water resources. Students must apply to participate in the competitive program. During their visit to AU, staff from AWW, the Arboretum, and AL Cooperative Extension System Water Resources provided 83 students with educational sessions related to pollution, storm water, low impact development, and watershed management.

Sustainability Picnic (August 24, 2016)

A zero-waste picnic designed to provide incoming Auburn University undergraduate students an opportunity to connect with sustainability activities, information, organizations, and suppliers for campus. This year over 27 organizations had a presence, representing a range of sustainability-related topics. Door prizes promoting sustainable behaviors were awarded to lucky winners and the event was attended by approximately 225 participants.



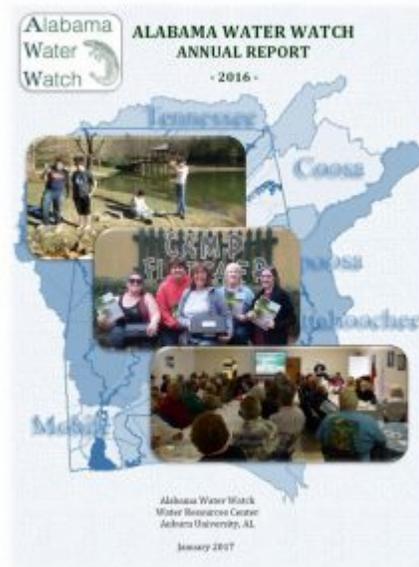
Sponsors
Office of Sustainability
Tiger Dining
Davis Arboretum
Waste Reduction and Recycling
Academic Sustainability Programs
Natural Resource Mgmt. Degree

Alabama Water Resource Conference (September 7-9, 2016)

AU's Water Resource Center hosted its annual AL Water Resource Conference. Sound management of water resources is crucial for Alabama's prosperity, and learning from the experiences of others enhances our abilities to effectively manage and protect these vital resources. The 2016 conference had numerous sessions that focused on Water Policy/Law, Aquatic Biology/Ecology and Flood Issues. Approximately 227 individuals were in attendance for the three day event.

Alabama Water Watch (AWW) Annual Report

The mission of the Auburn University Water Resources Center is to facilitate successful collaboration among Auburn University faculty and staff on multi-disciplinary, water-related research, outreach, and teaching; and to facilitate the active involvement of private citizens in the stewardship of water resources. To achieve its mission, vision, and objectives, the Auburn University Water Resources Center consists of interdisciplinary teams of research, teaching, and Extension outreach faculty and staff who address all types of water-related issues in Alabama, the Southeast, and around the globe. The outreach activities are done through the Alabama Cooperative Extension System and Center's programs such as Alabama Water Watch & Global Watch. These annual outreach activities are identified in the AWW Annual Report.



Before the Flood (November 3, 2016)

A special screening of the documentary, *Before the Flood*, which examines the global impacts of climate change and the steps individuals, businesses, and governments, can take to help mitigate and adapt to this new reality. The screening was attended by 75 individuals from campus.

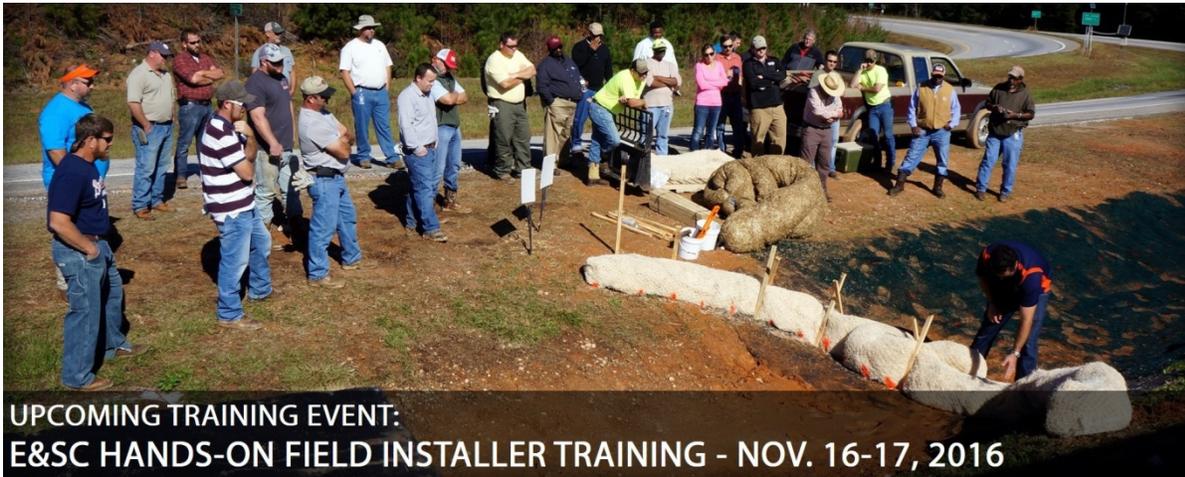


Erosion & Sediment Control Hands-On Field Installer Workshop & Innovative Erosion & Sediment Control Research Field Day (November 16-18, 2016)

Two separate training events were offered by AU College of Engineering to provide industry participants education on implementation tools and installation techniques to provide efficient and effective erosion and sediment controls in both horizontal and vertical construction in an effort to improve environmental compliance and water quality.

Erosion & Sediment Control Hands-On Field Installer Workshop: The 1.5 day event focused on providing classroom and hands-on training geared to participants (51) involved in the installation of construction site erosion and sediment control practices. A half-day classroom component covered a wide variety of topics that will be reinforced with field installations during the full day field component. The field component was held at the Auburn University – Erosion and Sediment Control Testing Facility and included trainee participation to install erosion and sediment control practices in a typical field setting and included channelized flow demonstrations that showed the effectiveness of properly installed practices. Participants gained knowledge in governing compliance regulations, leadership tactics, and hands-on

installation and implementation tools to provide efficient and effective erosion and sediment controls.



Innovative Erosion & Sediment Control Field Day: The field day provided industry participants (93) exposure to innovative research being performed on commonly employed construction site erosion and sediment control practices with hands-on field demonstrations and provided attendees with an opportunity to learn proper design and installation techniques on various erosion and sediment controls to achieve improved performance, and observe full-scale, channelized flow demonstrations.





Auburn Student Government Association's Big Event (March 4, 2017)

The BIG Event gives thousands of Auburn students the opportunity to give back to the Auburn & Opelika community. As students go into the community to serve its homeowners through yard work or housework, the student body was able to make a positive impact. Every year, hundreds of AU students participate in this community give back event where students initiate activities such as litter clean-up, yard work and build projects at the request of community members in need.

Designing Green (March 9, 2017)

Targeted for College of Architecture, Design & Construction (CADC) students, the Design Green discussion was attended by an estimated 75 students and faculty. The discussion was the opening lecture on the sustainability efforts of Auburn University for the Designing Green competition hosted by the Industrial Design program in CADC. The talk primarily focused on the operational practices taking place, including a review of storm water management best practices found on campus.

Campus Water Matters: An SEC Intra-Collegiate Competition (March 27-28, 2017)



One of the most urgent challenges facing the Southeast and the nation today is ensuring an adequate supply and quality of water for both humans and the environment. Growing populations and the resulting municipal, agricultural, and industrial demands for water diminish natural supplies and threaten the ecosystems that depend on those supplies. The SEC college campuses are microcosms of the larger-scale water challenge. Our campuses house sizable populations and cover expansive landscapes that contain multiple land uses and water bodies. The resources and teaching mission that our schools embody also offer an ideal opportunity to develop and showcase innovative designs for sustainable and resilient water resources. An intra-conference design competition, 'Campus Water Matters', is being sponsored by the 2017 SEC Academic Conference and Mississippi State University, with the goal of engaging students in designing sustainable water resource solutions on SEC campuses. AU Students representing a multitude of academic disciplines collaborated with AU Faculty and Staff to develop an innovative design to address existing conditions and needs of an urbanized storm water conveyance on campus. AU's student

team prepared a 10-page project narrative, an abstract, and a project design board (poster) and received 2nd place overall for their excellent effort!

No Impact Week (March 26-April 2, 2017)



Each year, Auburn University students, faculty, and staff are invited to conserve and reduce their impact on the environment as they participate in No Impact Week. No Impact Week is an international initiative designed to promote sustainability by challenging

people to live lifestyles that are better for them and for the environment. This week-long challenge is hosted by the College of Liberal Arts' Community and Civic Engagement Initiative, co-sponsored by International Paper, and in collaboration with the AU Academic Sustainability Programs.

The themes for each day were Trash, Transportation, Consumption, Food, Water, Energy, Giving Back and Eco Sabbath.

Watershed Clean-Up Efforts

Auburn University performed multiple stream clean-ups, invasive floral species removal projects within the campus watershed to further promote awareness and measures that can be taken to better protect our watershed. The following table provides a summary of the events that took place during this reporting period.



Location	Date	Participation	Participants
PMC @ West Magnolia	02-01-17	10	AU Sigma Phi Epsilon
PMC @ Samford Ave	02-28-17	14	AU Staff & Students
Campus Wide	Continual	11 Groups/Individuals Adopt-A-Spot	AU Students, Staff & Faculty

Web Resources

Information related to water quality and storm water management continues to be provided from a wide variety of Auburn University web sites. The AU Department of Risk Management and Safety provides the central web resource specific to the SWMPP and the requirements of the Phase II General Permit NPDES ALR040030 through the webpage located at auburn.edu/rms/stormwater. Other Auburn University websites which provide information relating to storm water BMPs and research supporting BMPs include:

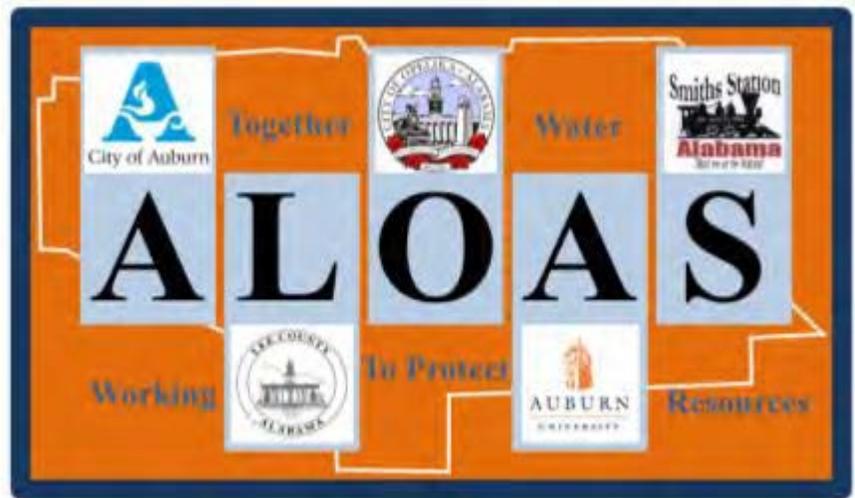
- Alabama Cooperative Extension System: aces.edu/main
- Alabama Water Watch Association: alabamawaterwatch.org
- College of Architecture, Design & Construction: cadc.auburn.edu/construction
- College of Science & Mathematics: auburn.edu/cosam
- College of Engineering: eng.auburn.edu
- Environmental Institute: auei.auburn.edu
- Office of Sustainability; auburn.edu/sustainability
- Facilities Management: auburn.edu/administration/facilities

Citizen Engagement

Auburn University is an active member of **ALOAS**, a citizen's advisory committee comprised of representatives from the City of Auburn, Lee County, the City of Opelika, Auburn University and the City of Smith Station.

The committee allows individuals from the community to interact with the ALOAS entities and provide and receive

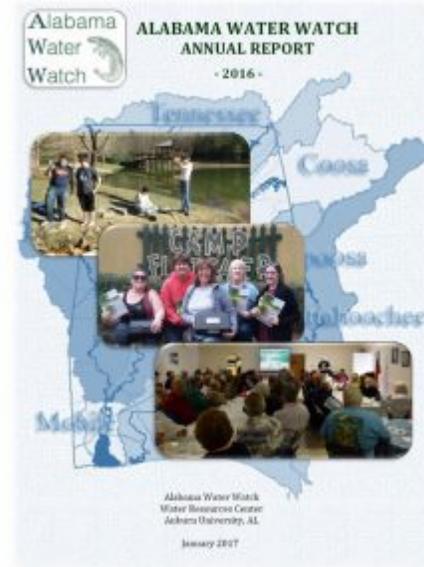
feedback related to storm water activities planned. This also promotes a positive forum for the community to participate. The committee has authority and direct input into regional storm water management efforts. The ALOAS committee met on a quarterly basis throughout this reporting period to discuss issues and coordinate community activities related to storm water management.



During this reporting period, Auburn University continued to be an active member in local watershed improvement and protection organizations such as Save our Saugahatchee (SOS); an organization dedicated to the restoration, preservation and enhancement of the watershed to include Parkerson Mill Creek. This involvement has proven to be beneficial as ideas and observations are commonly shared related to watershed preservation and protection.

Alabama Water Watch (AWW) & Global Water Watch (GWW)

Alabama Water Watch (AWW) is a statewide program dedicated to promote community-based watershed stewardship through developing citizen volunteer monitoring of Alabama's lakes, streams and coastal waters. Both AWW & GWW are programs within Auburn University's Water Resource Center. The outreach programs are funded primarily by the Alabama Agricultural Experiment Station (AAES) and the Alabama Cooperative Extension System (ACES), governmental grants and private sector funding sources.



Measure Specific Evaluation

Throughout this reporting period, Auburn University continued to foster an open and collaborative relationship with the many different groups on and off campus, through the continued pursuit of research initiatives and funding to improve and protect water resources as witnessed by the Auburn Water Resource Center, the continued and exhaustive efforts of the Alabama Water Watch / Global Water Watch Programs to engage and to train a local and global volunteer water monitoring network spanning all generations and for the continued efforts by the Office of Sustainability and the SGA to engage the campus community. Through these continued efforts, our connectivity with the environment and the importance of storm water management is better understood.

Measure specific activities planned for the next reporting period

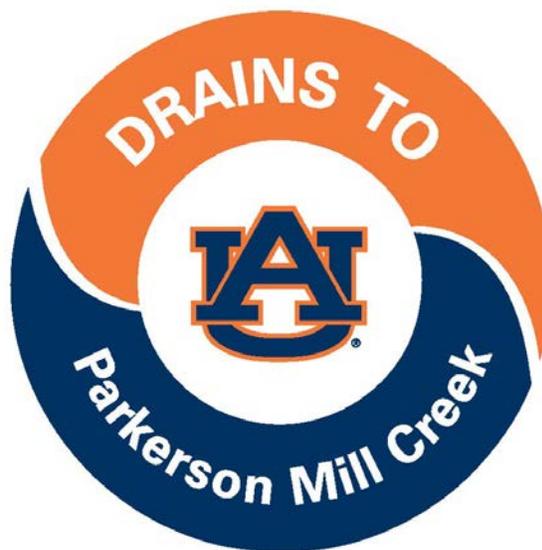
During this next reporting period, Auburn University plans to continue to promote engaging educational opportunities to support the objectives of the Public Education and Public

Involvement on Storm Water Impacts best management measure and shall include at a minimum:

1. Participate in the annual Lee County Water Festival (May 2017).
2. Host Alabama Storm Water Symposium (May 2017)
3. Sponsor the Alabama Water Resource Conference set for September 2017.
4. Continued promotion of Parkerson Mill Creek (PMC) and the PMC Watershed Management Plan.
5. Continue on-going effort to install storm-drain markers throughout campus.
6. Continue partnership with ALOAS to address local storm water challenges and community concerns.
7. Continue to promote sustainability initiatives to include storm water management best management practices.

BMP: Illicit Discharge Detection & Elimination

During this reporting period, Auburn University continued to utilize the storm water infrastructure engineering assessment to prioritize areas on campus requiring further assessment and/or repair along with field observations by AU Facilities Management – Utilities and Energy, Mechanical Shops, Water Resources and Risk Management & Safety to investigate sources of potential illicit discharges. An updated map is attached to this report and identifies the storm water conveyance system maintained by the University.



Upon discovery, any potential illicit discharge is investigated further. Individuals can contact Risk Management and Safety directly during normal business hours or submit a concern, question or relay an observation by following the “Ask Facilities” link found on the Facilities Management and Risk Management & Safety websites. A variety of measures can be deployed to track the source of the illicit discharge and may involve multiple AU groups as well as the City of Auburn as necessary.



Due to informed campus community and dry and wet weather screening, during his reporting period, AU identified and ceased multiple incidences of improper waste disposal and initiated projects that upon completion will address identified illicit discharges. Initiated projects include the stabilizing a dirt parking area along Hemlock Drive and stabilization of an eroded channel of an unnamed tributary of Parkerson Mill Creek which were both contributing to sedimentation. A third project will redirect wash water from a dumpster location along War Eagle Way to a nearby sanitary sewer rather than storm sewer.

The proper management of waste and the prohibition of illicit discharges on campus continued to be promoted by Auburn University through a variety of guidance documents, job aids design standards, recycling guidelines and contractual specifications:

- Chemical Waste Management Guide
- Medical Waste Guide
- Pharmaceutical Waste Job Aid
- Used Battery Job Aid
- Used Fluorescent Bulbs Job Aid
- Aerosol Container Management
- Used Oil Management
- Universal Waste Management

Measure Specific Evaluation

Throughout this reporting period, Auburn University was successful in meeting the objectives of the Illicit Discharge Detection Elimination measure as defined in the University's SWMPP.

Advance/improvements to the program are dependent upon an informed public. Continued educational efforts promoted by numerous groups on campus are successful in increasing the campus community's awareness towards proper waste management procedures and services. Routine screening (dry and wet) allowed for several incidences of illicit discharges to be identified. Projects were initiated during the reporting period to address the identified illicit discharges.

Measure specific activities planned for the next reporting period

Auburn University will continue the Illicit Discharge Detection and Elimination measures as defined in the University's SWMPP. During the next reporting period, the following activities are planned:

1. Provide annual IDDE training to University employee, students and visitors to increase community's level of awareness to pollution prevention.

2. Improve upon the dry weather screening efforts by utilizing the engineering assessment and inspection software utilized by AU Facilities Management for the management of University assets.

BMP: Construction Site Storm Water Runoff Control

In accordance with Part III (B) (4) of NPDES Permit No ALR040030, Auburn University developed the Construction Site Storm Water Runoff Control Best Management Practice. Auburn University's Facilities Management is responsible for all construction projects on campus and implementation of this measure.

During this reporting period, Auburn University began implementing the new Design and Construction Standards. These standards are meant to strengthen the storm water management efforts on all University construction sites.

During this reporting period, a total of sixteen (16) projects were initiated that required storm water protection measures to be implemented and maintained. Details specific to these 16 sites to include the number of inspections, number of complaint notices and number of run off complaints can be viewed in Appendix C of this report.

Section G10 – Site Preparation

<http://www.auburn.edu/administration/facilities/contractors/design-const-standards.html>

Section G10 steps the AU Project Manager, Design Engineer and AU Contractor through the process from a project's beginning to end. Most notably elements include:

Design Engineers responsibilities include:

- Designing the project following the Erosion and Sedimentation Control Standards into all projects greater than .25 acres.
- Design must include three phase (pre-construction, construction and post construction) Erosion Sedimentation Control Plan.

AU Contractor responsibilities include:

- Providing AU proof of ADEM Registration for qualifying site
- Request Land Disturbing Authorization for Approval by AU
- Performing QCI/QCP inspections per ADEM Registration
- Perform turbidity monitoring at all specified site outfalls at least monthly and within 24 hours of a 0.5" rain event. (Storm water outfall from any construction site on

campus shall not have a turbidity of more than 50 Nephelometric Turbidity Units (NTU) for any 25 year, 24-hour event and greater.)

AU responsibilities include:

- Assign Project Manager for all sites.
- Review and approve Land Disturbing Authorization request.
- Contract with Engineer of Record to perform QCP inspections at least monthly, before forecasted rain events and within 48 hours of a Rain Wave flagged 0.5” or greater event.
- Contract with Engineer of Record to perform turbidity monitoring at all specified site outfalls at least monthly and within 24 hours of a 0.5” rain event. (Storm water outfall from any construction site on campus shall not have a turbidity of more than 50 NTU for any 25 year, 24-hour event and smaller.)
- Notify contractors of all reported violations or BMP failures and inform them that corrections are to be made within 24 hours. If the contractor is non-responsive ADEM is to be notified.

Measure Specific Evaluation

Based on the requirements identified in Part III (B) (4) of NPDES Permit No ALR040030, Auburn University implemented the Design Standards to assist in meeting these requirements. The Design Standards establish a measurable performance standard to qualify the effectiveness of on-site controls. The utilization of Rain Wave a precipitation monitoring service continues to enable the AU Project Manager, AU Engineer of Record to have real-time precipitation data. The inclusion of turbidity monitoring into specified projects has been an excellent measure to evaluate the implementation of the site specific ESC Plan. The training events both internally as well as the externally, allowed for a collaborative exchange of information.

Measure specific activities planned for the next reporting period

Auburn University will continue implementing Construction Site Storm Water Runoff Control as defined in the University’s SWMPP. During the next reporting period, the following activities are planned:

1. Provide annual training event to AU Project Managers and Design Engineers.
2. Evaluate BMP following established AU environmental audit initiative.

3. Investigate opportunities to collaborate with local governments to offer training event to the public.

BMP: Post Construction Storm Water Runoff Control

The Auburn University Board of Trustees approved the University's first Landscape Master Plan February 5, 2016 as an update to the Comprehensive Campus Master Plan. The Landscape Master Plan contains the Post-Construction Storm Water Manual, completed in 2013, that establishes principles, guidelines and standards for storm water management planning, design and operation. Incorporated into the Design and Construction Standards, the Landscape Master Plan puts in place a set of comprehensive best management practices for storm water management so future campus construction projects protect and improve water quality, provide campus flood protection, and reduce storm water flow rates to downstream waters. Additionally, projects are reviewed using the storm water management project review checklist in the Post-Construction storm water manual to document compliance with the University's storm water project requirements.

As a component of the Auburn University Design and Construction Standards, the Post Construction Storm Water Manual provides the principles, guidelines and standards for storm water management design for new campus projects. By providing a set of comprehensive best management practices for storm water management, future campus construction projects will protect and improve water quality, provide campus flood protection, and reduce storm water flow rates to downstream waters. The Post Construction Storm Water Manual includes a storm water management review checklist to review compliance with the University's design standards. Multiple projects were completed, are in construction, or are currently being designed during this reporting period. These include:

Health Sciences Sector Infrastructure Project (AU Project 15-222) was completed in August 2016 to provide underground utilities and site improvements for the development of a new academic sector of campus located on the southeast corner of Lem Morrison Drive and South Donahue Drive. As a part of the project, over 1000 linear feet of concrete lined roadside ditch were removed and replaced with grassed swales. Additionally, a sediment pond was installed to manage construction runoff along with it able to be converted to a permanent facility following construction.



Lem Morrison Drive: Before



Lem Morrison Drive: After

Upper Quad Pavers Replacement Phase 1 (AU Project 15-319) was completed in August 2016 and replaced existing impervious pavers with a pervious paver system that will promote storm water infiltration and reduce impervious area.

Facilities Parking Lot Expansion (AU Project 15-358) expanded the parking lot in two locations within the Facilities Management Complex to increase the total number of parking spaces by approximately sixty. The project was completed in September 2016 and provided two separate water quality basins adjacent to both lots to meet the university quality and rate control standards.

Auburn Memorial at the Garden of Memory (AU Project 14-336) was completed in August 2016 redeveloping an existing greenspace on campus. As the headwaters for the Town Creek basin on campus, this project implemented storm water best management practices to protect that watershed that included utilizing pervious pavers, reshaping and existing pond to provide a wetland shelf, and stream improvements with three permanent in-stream structures.



Pervious pavers and reshaped pond



Stream enhancements

Risk Management and Safety Building (15-150) to be complete in May 2017 is a 10,000 square foot new facility located at the Facilities Management Complex. The storm water quality and rate requirements were met for this project with a new wet detention pond adjacent to the new building and parking.

The School of Nursing (AU Project 15-035) and Pharmacy Research Buildings (14-193) are being constructed at the same time on the site prepared by the Health Sciences Sector Infrastructure project. To be completed in June 2017, the project includes ten different bio-retention areas across the site along with retrofitting the sediment pond to a detention facility with underdrains and a fore bay for water quality.



Health Sciences Sector site under construction utilizing sediment pond

Band Practice Field – New Storage and Dressing Facility (AU Project 15-256) to be completed in June 2017, this project utilizes an existing regional detention pond sized and designed previously to support this facility. A new storm water analysis and report were created to document the project would not impact the downstream properties by using the planned for facility.

Mell Classroom Building (AU Project 11-209) is slated for completion in July 2017 as an addition to the Draughon Library on campus. With no existing storm water infrastructure near the site, the original design proposed a large underground detention basin to capture storm water and slowly release it to another drainage basin. During the plan review and storm water review process outlined in the Post Construction Storm Water Manual, a design change was recommended and made to eliminate the large underground detention basin and replace it with storm water infrastructure offsite that would allow the large underground detention basin be removed and have the site to maintain its current drainage basin.

President's Home Renovation and Addition (AU Project 14-296) will be completed in December 2017 and includes a bottomless underground chamber system provide reduction in storm water rate and volume along with water quality treatment.



Underground detention at the President's Home

Numerous projects are under various stages of design during this reporting period. Some projects that are further in the design and review process include:

Leach Hall Expansion (AU Project 15-208) provides underground detention.

Mell Corridor Improvements (AU Project 15-311) includes a bio-retention median and pervious pavers.

Brown-Kopel Engineering Student Achievement Center (AU Project 15-157) will contain a vegetated roof, enhanced grass swales, and bottomless underground detention.

Campus Safety Building Expansion (AU Project 16-119) provides bio-retention adjacent to the parking lot

Jordan-Hare Stadium Game Day Support Building (AU Project 16-324) will include pervious pavers.

Measure Specific Evaluation

During this reporting period, Auburn University continued efforts to strengthen this measure through education and increasing expectations. Utilizing an extensive plan review process, AU staff have been successful in promoting many storm water best management practices during this reporting period.

Measure specific activities planned for the next reporting period

Auburn University will continue implementation of Post Construction Storm Water Management in new development and redevelopment as defined in the University's SWMP. During the next reporting period, the following activities are planned:

1. Continue to provide training to University Design Leads on the Design Standards required for future University projects.
2. Further develop and document post construction BMP inspections to ensure they are being maintained and functioning as designed.
3. Perform environmental audit of the post construction storm water runoff control measure to ensure that the goals of the Campus Landscape Master Plan are being achieved.

BMP: Pollution Prevention / Good Housekeeping

Parking Lot, Parking Deck Cleaning Program

Facility Management's Landscape Services utilizes street sweepers on a daily basis to address the removal of accumulated debris from parking lots, parking decks, streets, pedestrian walkways and sidewalks. Landscape Services provides daily inspections of streets, street drains and curbs. During fall and winter months, Landscape Services removes leaves and other debris on a daily basis throughout campus. Landscape Services also incorporates the use of a large vacuum that allows the landscape debris, which is harvested on campus grounds, to be removed before it is introduced into a storm drain system. Mowers with mulching equipment pulverize leaves, limbs and debris on site which reduces possible storm drain blockage. This process is reduced during the spring and summer months unless storms or high winds cause leaves, limbs and debris to cover our campus grounds and streets; at that point we use the same procedures as the fall and winter removal. This system not only reduces the problem of storm drain blockage, but allows AU to compost the harvested material and eventually incorporate it back into campus landscape.

Storm Water Conveyance System Cleaning Program

Auburn University Landscape Services inspects all storm water conveyance outfalls routinely throughout the year. This is done after each heavy rain or storm activity. If any large limbs, trees, or debris are blocking the area, the blockage is removed as quickly as possible. Streamside maintenance to include invasive plant removal continues and allows better accessibility to Parkerson Mill Creek. On-going efforts to remove invasive vegetative species and replace with native species have further enhanced Parkerson Mill Creek. Throughout this

reporting period, Landscape Services calculated the removal of approximately 275 cubic yards of landscape debris.

Integrated Pest Management

All areas maintained on campus have a four-tiered management system, however all areas are not equal in tolerance and /or action thresholds. These thresholds are based on pedestrian traffic, tolerance thresholds set down by building occupants and historic importance of an area.

Understanding that over application of chemicals to control pests on campus landscapes can have a detrimental effect to the environment, Facility Management's Landscape Services objective is to survey/monitor selected areas on campus and determine if the thresholds of a pest warrants chemical applications. Incorporation of best management practices such as aeration, fertilization and proper irrigation promote healthy trees, shrubs and turf while reducing the unnecessary level of chemicals applied to the environment.

An estimated 235 acres of AU main campus's premium areas (turf, trees, shrubs and hardscapes) receives targeted IPM application. Leaves on turf and turf clippings are mulched and/or recycled to reuse on campus. It is estimated that 7200 cubic yards of grass clippings are beneficially reused on campus each year.

Waste Management Reduction & Recycling

The Waste Reduction and Recycling Department (WRRD) manages all waste contracts on campus and works with faculty, staff, and students on a daily basis to provide easy and convenient recycling to Auburn University.

WRRD manages the Campus Building Recycling program, Game day Recycling, office clean-outs, toner and ink cartridge recycling, indoor/outdoor event trash and recycling bins, secure document shredding services, and electronics recycling.

Waste reduction and recycling initiatives are also promoted through education and outreach on campus and in the surrounding community. Outreach initiatives encompass events, including America Recycles Day, and community partnerships, such as the East Alabama Recycling Partnership.

WRRD maintained a contract with Waste Management (WM). WRRD and WM operational staffs attended an annual training on litter prevention, spill clean-up and storm water management. WRRD will continue to conduct this annual training each year for all university and contracted waste and recycling operational staff.



This training outlines the steps that both University and contracted staff use to prevent and clean-up hydraulic oil spills.

Spill Prevention Control & Countermeasure (SPCC) Program

Auburn University maintains compliance efforts consistent with 40 CFR 112 and the University's SPCC Plan. The SPCC Plan addresses the University's program to manage oil and other petroleum products defined by 40 CFR 112.7(2) and 40 CFR 112.7(4). This includes the management of fuel oils, gasoline, jet fuel, lubricating oils, hydraulic and dielectric fluids as they are utilized and stored on Auburn University's main campus. The University inspects all applicable containers (fuel tanks, generators, elevators and drums) monthly and all transformers annually. These routine inspections evaluate the condition of the containers to ensure proper functionality and management to prevent releases to the environment.

Applicable SPCC containers	Number of Inspections	Volume of SPCC applicable oil (gallons)
Tanks, Generators, Drums	696	99173
Elevators	1596	19445
Pad Mount Transformers	237	110574
Satellite Equipment	21	3847

Annual training is provided to oil handling personnel employed by Auburn University to promote the objectives of the SPCC Plan, the regulatory responsibility associated with these regulated materials and to address in-house procedures necessary to respond to spills or releases from them. During this reporting period, 248 employees were trained.

Used Oil Recycling Program

Auburn University's Department of Risk Management & Safety routinely collects and recycles used oil from campus operations. Currently, the Department of Risk Management & Safety uses Universal Environmental Services, LLC based out of Peachtree City Georgia for removal and recycling of campus generated used oil. Throughout this reporting period, the Department of Risk Management & Safety collected 1200 gallons of used oil from campus operations.

Used Cooking Oil Recycling Program

Auburn University's Dining Services collects and recycles all used cooking oil generated from the University's dining facilities. During this reporting period, 2609 gallons of used cooking oil was collected under contract with Geo Bio Fuels LLC.

Measure Specific Evaluation

Throughout this reporting period, the on-going preventative measures taken by multiple groups on campus have removed items that could have been ultimately destined to our local landfill, groundwater and or surface waters. The University promotes waste minimization efforts to include regulated hazardous and non-hazardous wastes, e-waste and construction and demolition waste through reuse and recycling. The University has developed sound practices to manage equipment and operations to minimize releases to the environment and provides training to University and contractual employees on these best management practices. Per the newly issued permit, AU began efforts to inventory “municipal facilities”.

Measure specific activities planned for the next reporting period

Auburn University will continue to perform and promote sound pollution prevention good housekeeping management practices.

1. Provide pollution prevention environmental awareness training to municipal facility personnel.
2. Develop metrics to quantify the amount of floatable materials collected as a result of successful implementation of BMPs at municipal facilities.
3. Revise and update “municipal facility” inventory.

Monitoring Plan for Pathogen Impairment

The Parkerson Mill Creek Watershed is located in Lee County; the watershed is part of the Chewacla Watershed, in the lower Tallapoosa River Basin. The 9.3 square mile (5,981 acres) watershed contains 21,000 meters (68,500 ft.) of main stem perennial stream and approximately 86,000 meters (282,152 ft.) of tributary stream length. The stream network empties into Chewacla Creek, just south of the H.C. Morgan Water Pollution Control Facility

The watershed includes the City of Auburn, Auburn University and the surrounding areas. The headwaters of Parkerson Mill Creek are approximately 3,000 meters (9,845.5 ft.) in length and are located on the campus of Auburn University.

In 2007, ADEM listed Parkerson Mill Creek as impaired on Alabama’s 303(d) List of Impaired Waters for pathogens from point source and non-point sources, primarily urban runoff and storm sewer connections. As such, Auburn University monitors Parkerson Mill Creek by performing bacteriological analysis through the AU Water Resource Center’s Alabama Water Watch (AWW) program. The results of the monitoring effort for this reporting period are contained in Appendix D of this Annual Report.

Appendix A

Policy on Storm Water Management Compliance

April 1, 2016 through March 31, 2017

POLICY ON STORMWATER MANAGEMENT COMPLIANCE

I. POLICY STATEMENT

Auburn University ("The University") shall manage its stormwater in compliance with the National Pollutant Discharge Elimination System (NPDES) General Permit ALR040030 ("The Permit"), or subsequent permits, and the University's Stormwater Management Plan.

II. POLICY PRINCIPLES

A. The University's "Policy on Stormwater Management Compliance" governs the University's Stormwater Management Program. This Policy guides the University in administering the requirements and procedures of the Permit as required of the University and as administered by the Alabama Department of Environmental Management (ADEM).

B. Regulatory Background:

1. The United States Environmental Protection Agency (EPA) and ADEM have designated the University as an owner/operator of a Phase II municipal separate storm sewer system (MS4). The EPA's Clean Water Act Phase II Stormwater Regulations (implemented March 2003) require operators of regulated Phase II MS4s to obtain an NPDES permit and to develop a stormwater management program designed to protect water quality and to prevent harmful pollutants in stormwater runoff from being discharged into the MS4.

2. The intent of the Clean Water Act Phase II regulations is to reduce adverse impacts to water quality and aquatic habitat by instituting the use of best management practices on sources of stormwater discharges not regulated by other measures. In order to comply with the Clean Water Act Phase II regulations, the University must satisfy six "minimum control measures," including:

- a. Public Education and Outreach
- b. Public Participation/Involvement
- c. Illicit Discharge Detection and Elimination
- d. Construction Site Runoff Control
- e. Post-Construction Stormwater Management
- f. Pollution Prevention/Good Housekeeping

3. Parkerson Mill Creek was determined to be "Impaired Water" and consequently placed on the ADEM 303(d) list of impaired and threatened waters ("303(d) list") in 2008 and 2010. Known water quality concerns have been identified as pathogens resulting likely from urban runoff and sewer cross connections. A Total Daily Maximum Load (TMDL) for Parkerson Mill Creek was issued by ADEM in September 2011. Implementation of this stormwater TMDL was addressed in the Permit.

- C. A University Stormwater Management Plan (SWMP) has been created and annually updated since 2009. The SWMP was created in compliance with EPA and ADEM requirements as identified in the Permit and in concert with the Campus Master Plan, the Landscape Master Plan and the Policy for Natural Resource Management. The SWMP details the measures that are to be taken to meet the six minimum control measures identified above, identifies the University entity(s) having responsibility towards each measure and the metrics to evaluate their effectiveness.
- D. It is University policy that all stormwater shall be managed in accordance with the SWMP and that all University organizations and non-University organizations operating on University's main campus shall conduct their operations and activities in compliance with this plan.

III. EFFECTIVE DATE

This policy is in affect as of June 15, 2016.

IV. APPLICABILITY

This policy applies to all University organizations, as well as all University operations, construction projects, and other campus activities.

V. POLICY MANAGEMENT

Responsible Office: Auburn University Facilities Management

Responsible Executive: Executive Vice President, Auburn University

Responsible Officer: Associate Vice President, Facilities

VI. DEFINITIONS

303(d) List: List of impaired and threatened waters (stream/river segments, lakes) that the Clean Water Act requires all states to submit for EPA approval every two years on even-numbered years. States identify all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards, and establish priorities for development of TMDLs based on the severity of the pollution and the sensitivity of the uses to be made of the waters, among other factors. States then provide a long-term plan for completing TMDLs within 8 to 13 years from first listing.

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

Best Management Practices (BMP): Activities or structural improvements that help reduce the quantity and improve the quality of stormwater runoff. BMP include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Campus Master Plan: As stipulated in the University's "Campus and Capital Projects Planning Policy," the Campus Master Plan "is a physical plan and comprehensive set of policy directives that together provide long-range strategies for the growth and development of the Auburn University campus." The Campus Master Plan is updated periodically, as required, and the Board of Trustees reviews and approves all changes.

Campus Master Plan Land Use Element: The chapter of the Campus Master Plan that establishes formal Land Use Categories and Land Use Area boundaries that define permitted uses for all University Land.

Clean Water Act (CWA): Act passed by the United States Congress to control water pollution, formally called the Federal Water Pollution Control Act of 1972 or Federal Water Pollution Control Act Amendments of 1972.

Environmental Protection Agency (EPA): United States agency responsible for protecting human health and the environment.

Executive Facilities Committee: Appointed by the President, a senior group of University Administrators, representing major facility stakeholders, that considers and formulates recommendations for the President, regarding campus facility plans and programs.

Landscape Master Plan (LMP): Developed as a component, or sub-plan, of the Campus Master Plan, the LMP provides prescriptive requirements of a design approach that will guide the University toward implementation and realization of the landscape vision for the Auburn campus. The LMP document aids in defining the project scope of each campus project that affects Auburn University exterior facilities and provides tools designed to ensure that each project is viewed within its larger campus context and contributes to the success of the larger campus landscape.

Master Plan Committee: A representative committee appointed by the President that provides input regarding facilities, planning, transportation planning, land planning, infrastructure, and site development activities. The Committee also provides input on the continuing administration, maintenance, implementation, change, and updating of the Campus Master Plan.

Municipal Separate Storm Sewer System (MS4): is a conveyance or system of conveyances owned by a state, city, town, village or other public entity that discharges to waters of the U.S.

Natural Resource Management Area (NR): The Campus Master Plan Land Use Category and Land Use Area, identified on the Campus Master Plan as "NR," that identifies areas of the campus that are designated for natural resource protection and enhancement with limited development potential. NR areas include land located on either side of Parkerson Mill Creek and Town Creek and their tributaries, FEMA 100- year floodplains, wetlands, streams, steep slopes, and critical buffer zones.

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

Parkerson Mill Creek: One of two principal stream systems, including all tributaries and main channel streams, that flows on the University main campus (see appendix 1); a tributary of Chewacla Creek, which flows into the Tallapoosa River.

Parkerson Mill Creek Watershed: Area of land on the University main campus that drains the tributaries, main channel, stream banks, and floodplain of Parkerson Mill Creek (see appendix 1).

Pathogens: Microorganisms that can cause disease in other organisms or in humans, animals, and plants. They may be bacteria, viruses, or parasites and are found in sewage, in runoff from animal farms or rural areas populated with domestic and/or wild animals, and in water used for swimming. Fish and shellfish contaminated by pathogens, or the contaminated water itself, can cause serious illnesses.

Permit: The National Pollutant Discharge Elimination System (NPDES) General Permit ALR040030 issued to Auburn University.

Policy for Natural Resource Management: University policy that implements the Campus Master Plan Land Use Element as it relates to University Land designated as natural resource protection and enhancement areas with limited development potential, including the protection, enhancement, and restoration of Parkerson Mill Creek, Town Creek, and the tributaries within their watersheds on the main campus.

Stormwater: Runoff occurring when precipitation flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater runoff from naturally soaking into the ground. These discharges often contain pollutants in quantities that could adversely affect water quality. Federal regulations require permits for stormwater discharges associated with industrial activity, construction projects (disturbing one or more acre of land) and MS4s. These permits require controls to reduce the transport of pollutants in storm water to waters of the United States.

Stormwater Management Plan (SWMP): University plan developed for the implementation of NPDES permit requirements.

Stormwater Management Program: University plans, procedures and practices required by EPA and ADEM to obtain NPDES MS4 permit and NPDES construction stormwater permits for construction projects (disturbing one or more acre of land).

Stormwater Pollutant: Chemicals, sediment, trash, disease-carrying organisms, and other contaminants picked up by stormwater as it runs off roofs and roads into rivers, streams and other water bodies. Studies show that stormwater pollution rivals sewage plants and large factories as a source of damaging pollutants in drinking water and at water bodies.

TMDL: Total Maximum Daily Load designates the calculated maximum amount of pollutant that a body of water can receive and still safely meet water quality standards. $TMDL = \text{Wasteload Allocation (NPS)} + \text{Load Allocation (PS)} + \text{Margin of Safety}$.

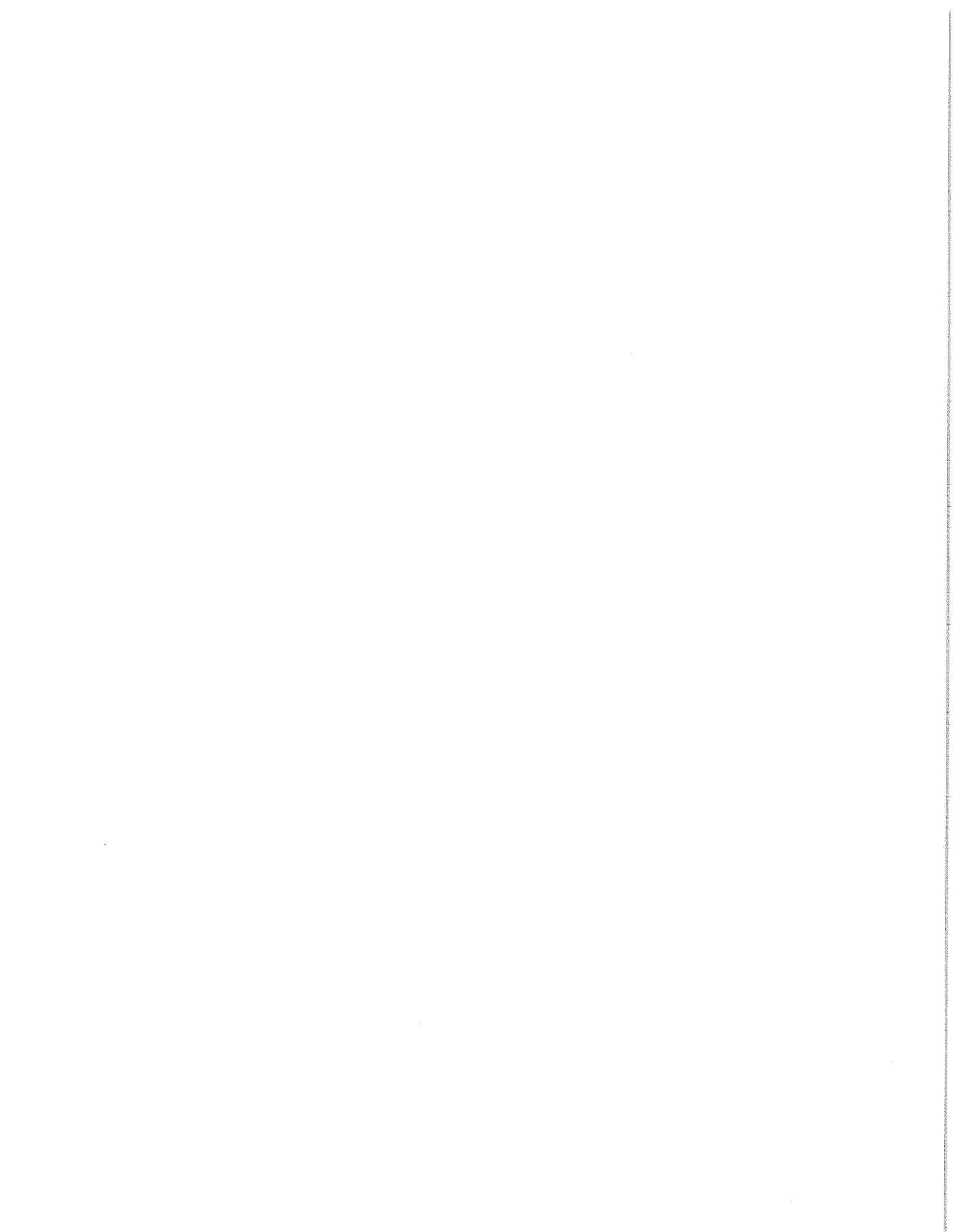
Town Creek: One of two principal stream systems, including all tributaries and main channel streams that flow on the University main campus (see appendix 1); a tributary of Chewacla Creek, which flows into the Tallapoosa River.

Town Creek Watershed: Area of land on the Auburn University main campus that drains the tributaries, main channel, stream banks, and floodplain of Town Creek (see appendix 1).

University Land: All land owned or leased by Auburn University.

VI POLICY PROCEDURES

- A. Auburn University Facilities Management ("Facilities Management") will administer this policy on behalf of the University.



- B. The University's Department of Risk Management and Safety is primarily responsible for reporting the University's compliance efforts, maintaining the University's SWMP and facilitating progress with other University groups that have responsibility towards the Permit's overall objective
- C. Facilities Management shall establish a Stormwater Management Committee (SWMC) as a subcommittee of the Master Plan Committee. The SWMC shall:
 1. Develop, implement, and maintain a Stormwater Management Program to, comply with the Permit, at a minimum, with a goal to have Parkerson Mill Creek removed from the 303(d) list between 2016 and 2021 consistent with 303d list guidelines;
 2. Review and update the SWMP as needed;
 3. Develop a checklist to ensure compliance with this policy and the management plans described herein.
- D. The SWMC will include members from the Master Plan Committee as well as additional ad hoc representatives, to include, but not limited to, the Alabama Cooperative Extension System; Athletics Department; Campus Planning; College of Agriculture; College of Sciences and Mathematics; Design and Construction; Housing & Residence Life; Landscape Services; the Office of Risk Management and Safety; the Office of Sustainability; the School of Forestry; and Division of Student Affairs.

VI. SANCTIONS

This Policy serves as the regulatory mechanism to prohibit activities on University Land that would be non-compliant with either the Permit or the Stormwater Program. In the event of non-compliant activity by an organizational unit of the University, the appropriate chain of command will be used to bring the activity back into compliance or cause it to stop. In the event of intentional non-compliant activity by a student(s), the Code of Student Discipline may apply. For intentional non-compliant activities by a University employee(s), progressive discipline measures may apply. For intentional or negligent non-compliant activities resulting from a University Contractor, work stoppage, formal project review, and appropriate corrective actions may apply.

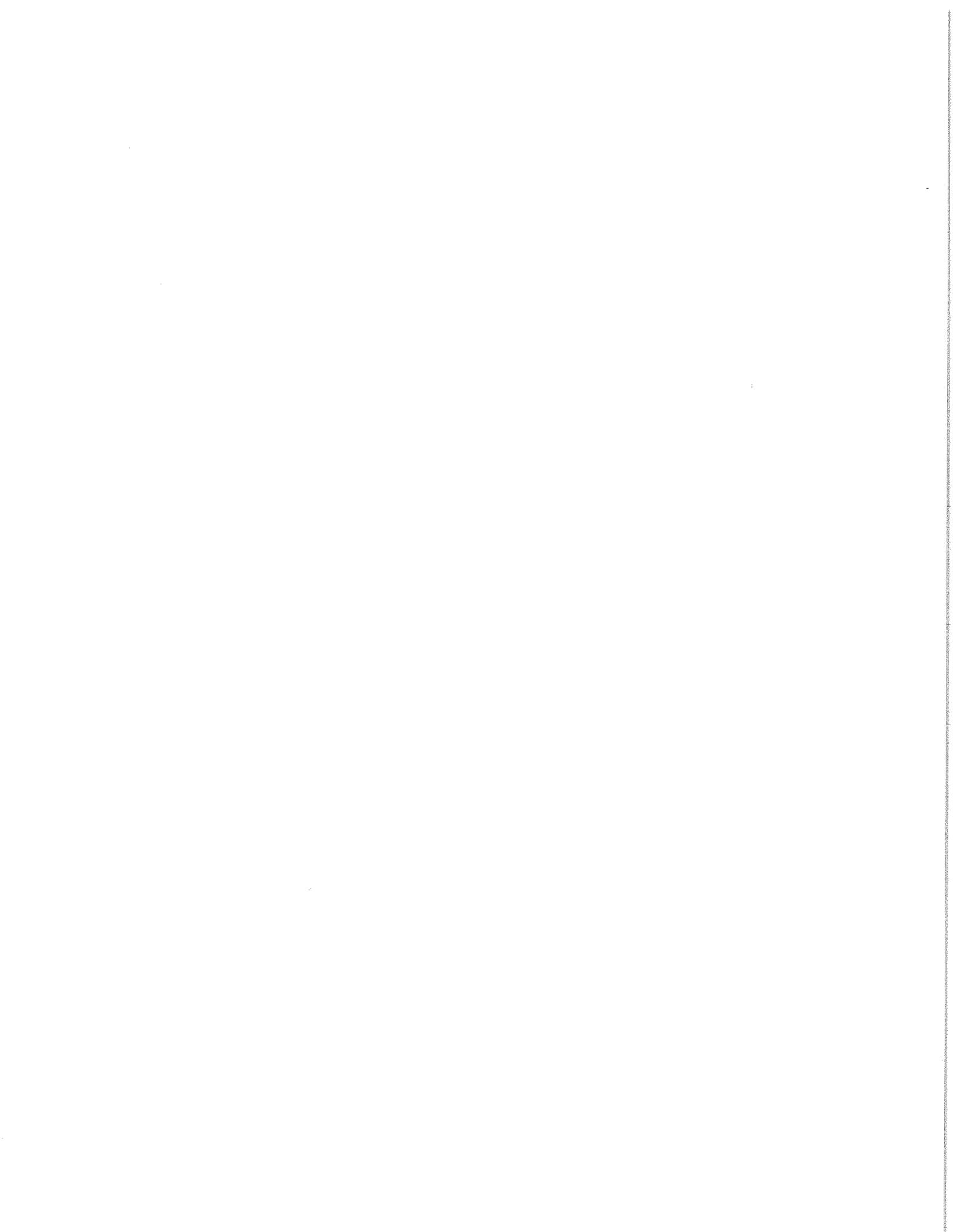
IX. EXCEPTIONS

This policy applies to the Auburn University main campus. All other University Land is exempt.

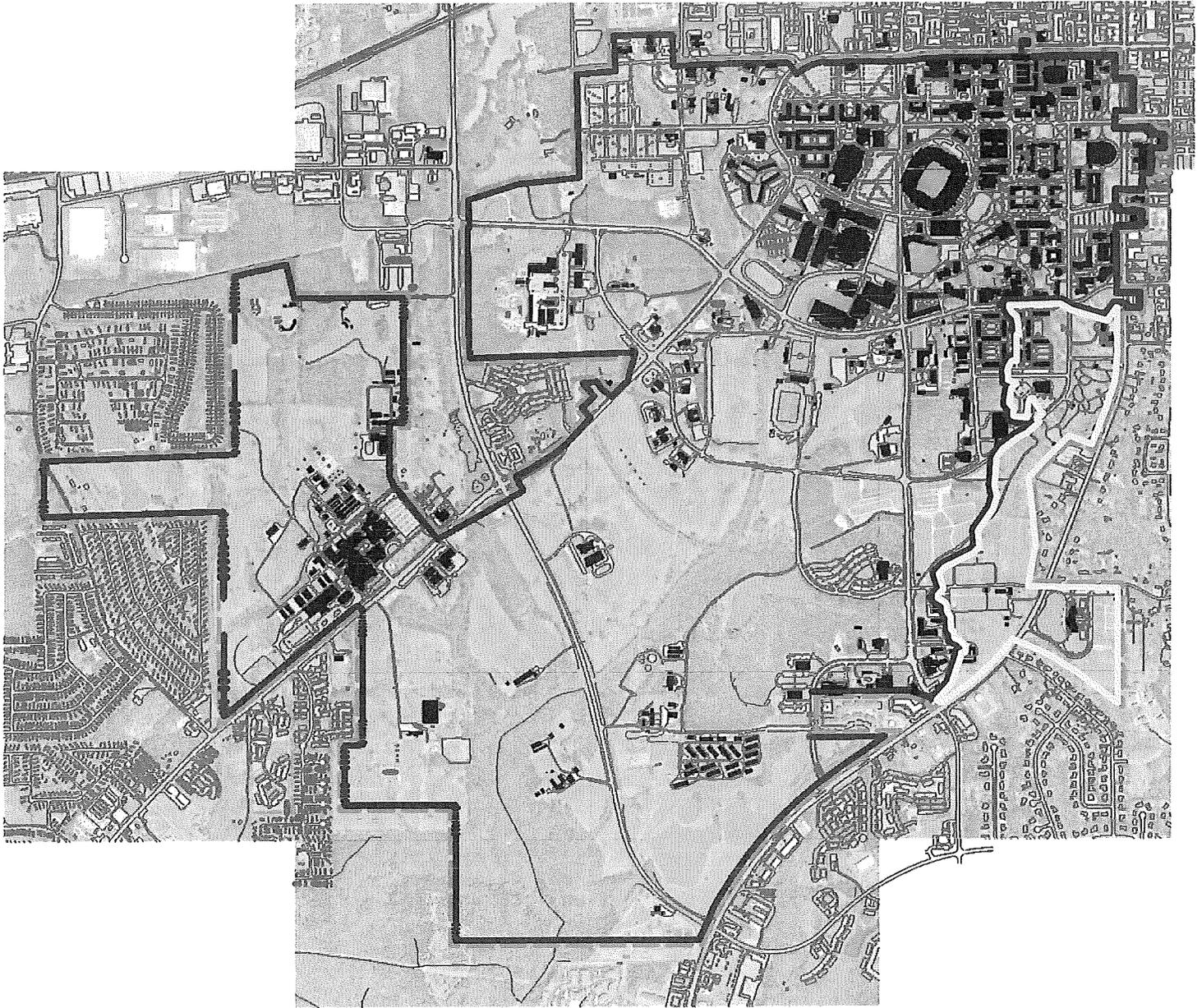
X. INTERPRETATION

The Responsible Officer is authorized to interpret questions and issues regarding the requirements and applicability of this policy.

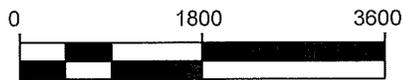
ADOPTED: June 15, 2016



APPENDIX 1



AUBURN
UNIVERSITY



SCALE:1:1800

LEGEND



AUBURN UNIVERSITY
MAIN CAMPUS BOUNDARY



PARKERSON MILL
CREEK WATERSHED



TOWN CREEK
WATERSHED



Appendix B

Storm Water Management Program Plan (SWMPP)

April 1, 2016 through March 31, 2017



AUBURN

UNIVERSITY

STORM WATER MANAGEMENT PROGRAM PLAN

Prepared by
AUBURN UNIVERSITY

STORM WATER MANAGEMENT COMMITTEE

May 2017

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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 ALR040030 Phase II General Permit effective October 1, 2016.

The purpose of this SWMPP 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).

The Storm Water Committee formed to develop this SWMPP 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:

Dr. Chris Anderson, Forestry & Wildlife Sciences

Mr. Daniel Ballard – City of Auburn Watershed Division

Mr. Nicholas Blair, Facilities Management – Design Services

Dr. David Blersch, Biosystems Engineering

Dr. Eve Brantley, Crop, Soil & Environmental Sciences, ACES

Mr. Ben Burmester, Facilities Management – Office of University Architect

Mr. Ben Chapman, Facilities Management – Construction Management

Ms. Mona Dominguez, Alabama Water Watch

Mr. Jeffrey Dumars, Facilities Management – Office of University Architect

Mr. Malcolm Dailey, Facilities Management – Utilities & Energy

Ms. Valerie Friedmann, Architecture Planning & Landscape Architecture

Dr. Thorsten Knappenberger, Crop, Soil & Environmental Sciences

Mr. Mike Kensler, Office of Sustainability

Mr. Dan King, Facilities Management

Mr. Eric Klypas, Athletics Department – Field Management

Mr. Judd Langham, Facilities Management – Office of University Architect

Ms. Charlene LeBleu, Architecture Planning & Landscape Architecture

Mr. Glenn Loughridge, Campus Dining

Mr. Tom McCauley, Risk Management & Safety

Dr. Chandana Mitra, Department of Geosciences

Mr. Buster Reese, Facilities Management, Construction Management

Mr. Eric Reutebuch, Alabama Water Watch

Dr. Puneet Srivastava, Water Resource Center

Ms. Amy Strickland, Office of Sustainability

Mr. Justin Sutton, Facilities Management – Landscape Services

Mr. Vic Walker, Facilities Management – Waste Reduction & Recycling

Dr. Amy Wright, Department of Horticulture

Dr. Wesley Zech, Construction Engineering & Management

Objective

The primary goal of the developed SWMPP is to improve the quality of surface waters at Auburn University by reducing the amount pollutants contained in storm water runoff to a maximum extent practicable (MEP). Auburn University 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 Auburn University and as required by ADEM General Permit ALR040030 (effective date October 1, 2016).

1.1 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.

1.2 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.

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 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: 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 (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 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 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 ALR040030 issued to Auburn University & became effective October 1, 2016.

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

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 lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, play lakes or natural ponds.

REGULATORY MECHANISM

Auburn University utilizes the Policy on Storm Water Management Compliance as the regulatory mechanism to prohibit activities on University Land that would be non-compliant with either the Permit or the SWMPP. Auburn University Facilities Management is the responsible for administering the Policy on behalf of the University.

[Policy on Stormwater Management Compliance](#)

CONTROL MEASURES

Storm water management controls or BMPs will be implemented to prevent pollution in storm water discharges from Auburn University's main campus. The Permit requires BMPs addressing five minimum control measures to be part of the SWMPP. These BMPs are described in the remaining subsections of this section with applicable measurable goals and scheduled implementation dates for each BMP.

The five control measures addressed by this SWMPP include:

- 2.1 Public Education and Public Involvement on Storm Water Impacts
- 2.2 Illicit Discharge Detection and Elimination
- 2.3 Construction Site Storm Water Runoff Control
- 2.4 Post Construction Storm Water Management in New and Redevelopment
- 2.5 Pollution Prevention / Good Housekeeping for Municipal Operations

2.1 Public Education and Public Involvement on Storm Water Impacts

An informed and knowledgeable "community" at Auburn University will be an important factor in the success of this SWMPP to reach its goal of reducing the discharge of pollutants associated with storm water runoff. The effective implementation of this measure will help Auburn University to ensure:

- 1) Greater awareness to the University community of the importance of managing discharges to local receiving waters;
- 2) Greater support from the University community for the storm water management program; and
- 3) Greater compliance with the requirements of the General NPDES Permit.

The Public Education and Public Involvement on Storm Water Impacts control measure consists of BMPs that focus on the development of educational materials and efforts designed to inform the public about the impacts that storm water discharges have on local water bodies and to foster community partnerships that provide opportunities for stakeholders to learn more about storm water practices and policies, demonstration projects and assessments of local water quality.

Educational materials, activities and partnerships will be designed to engage the public to better understand the impacts of storm water pollution, local MS4 efforts as well as to highlight and support measures to reduce the introduction of pollutants in storm water. The measure is expected to reach the constituents within the MS4s permitted boundary (Auburn University's main campus). An emphasis of these outreach efforts will be towards the removal of known pollutants from storm water to include floatables, pathogens and sediment.

A plan for effectively engaging in Public Education and Public Involvement on Storm Water Impacts (minimum measure #1) is presented below as required by the Permit.

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

Communication Mechanisms

Communication of storm water pollution prevention principles will include the following mechanisms AU web sites, interactive campus storm water BMP tour, AU Daily electronic bulletin that reaches the entire student body and all Auburn University employees, representation at quarterly ALOAS meetings, inclusion of storm water and stream information on signage in strategic locations on campus, presentations to student and watershed organizations, and continued participation in university-led activities such as Earth Day, Arboretum Game Day events, Adopt a Spot clean up events, student service events (i.e. 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, the Office of Sustainability and the Department of Risk Management and Safety (RMS).

Measurable Outcomes and Evaluation

Effectiveness of the activities related to this measure will be measured through:

1. Number of presentations delivered - AU SWMPP will partner with other programs to provide at a minimum of four presentations specific to storm water management annually.
2. RMS maintains the central electronic resource (webpage) to serve as primary reference site for the updated University SWMPP. [RMS-Stormwater](#)
3. Quantify the number of individuals reached through University led activities throughout each reporting cycle. Audience includes students, staff, employees and visitors to Auburn University and is targeted at 2500 individuals each reporting cycle.
4. Number of university led PMC cleanup efforts. AU SWMPP aims to promote 4 cleanup events throughout each reporting cycle.
5. Documented attendance to quarterly citizen advisory meetings (ALOAS) meetings.
6. Continued attendance, partnership, or participation in Alabama Water Watch monitoring workshops.
7. Continued installation of storm drain markers on all inlets located on campus.

2.2 Illicit Discharge Detection and Elimination

Per the Permit, an Illicit discharges is defined at 40 CFR Part 122.26(b)(2) and refers to “any discharge to an MS4 (municipal separate storm sewer system) that is not composed entirely of storm water ...” Exceptions include NPDES permitted discharges and discharges resulting from fire-fighting activities. Some examples of illicit discharges include: sanitary wastewater, effluent from septic tanks, car wash wastewaters, improper oil disposal, and radiator flushing disposal, laundry wastewaters, and 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-storm water 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 ground waters
- E. Uncontaminated ground water 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 ground water
- 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 Division by dialing 844-HELP or by contacting the Department of Risk Management and Safety at 844-4870. 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 storm water 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.

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.

Responsible Parties

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

Measurable Outcomes and Evaluation

1. Update map of all campus storm water outfalls. As required by Section III(b)(i) of the Permit, Auburn University will provide annual updates of the

map to ADEM by May 31st each year. (AU Utilities & Energy Department/ AU Risk Management & Safety)

2. Promote illicit discharge detection and elimination program in annual training efforts. A minimum of four presentations to include principles of the IDDE program will be provided to campus entities annually.
3. Continue bacteriological monitoring to identify possible sources of impairment. (AU Risk Management & Safety in conjunction with AU Water Resource Center and AU Facilities Management)
4. Perform and document routine outfall field inspections. Evaluate all outfalls to PMC annually.
5. Continue to evaluate recently completed storm water system model and develop a prioritized schedule for repairs and maintenance. (AU Utilities & Energy).
6. Evaluate IDDE Standard Operating Procedure (SOP).

Auburn University

Illicit Discharge Detection and Elimination

Standard Operating Procedure

1. Purpose of Standard Operating Procedure:

- A. To improve the quality of surface water and ground water within the watershed areas owned and maintained by Auburn University by preventing illicit discharges and illicit connections.
- B. To prevent the discharge of contaminated storm water runoff from Auburn University properties and operations into the storm drainage system and Parkerson Mill Creek.
- C. To comply with the requirements of Auburn University storm water permit.
- D. To comply with all United States Environmental Protection Agency and State laws applicable to storm water discharges.

2. Definitions

An Illicit Discharge is the discharge of pollutants or non-storm water materials to the storm drainage system via overland flow or direct dumping of materials into a catch basin or inlet. Examples of illicit discharges include overland drainage from car washing or cleaning paint brushes in or around a catch basin.

An Illicit Connection is the discharge of pollutants or non-storm water materials into the storm drainage system via a pipe or other direct connection. Sources of illicit connections may include sanitary sewer taps, wash water from laundry facilities, wash water from sinks, or other similar sources.

3. Illicit Discharges

No University employee, student, visitor, contractor, department, or unit shall cause or allow discharges into the Auburn University storm drainage system which are not composed entirely of storm water, except for the allowed discharges listed in Section 5.

Prohibited discharges include but are not limited to: oil, anti-freeze, grease, chemicals, wash water, paint, animal waste, garbage, and litter.

4. Illicit Connections

The following connections are prohibited, except as provided in Section 5 below:

Any drain or conveyance, whether on the surface or subsurface, which allows any non-storm water discharge, including but not limited to sewage, process water, waste water, or wash water, to enter the storm water drainage system, and any connections to the storm drain system from indoor drains or sinks.

5. Allowed Discharges

The following discharges to the storm drainage system are allowed:

A. Discharges that are specifically permitted under a State or federal storm water program.

B. Incidental non-storm water discharges which do not significantly contribute to the pollution of Auburn University surface waters and are limited to the following:

- water line flushing;
- reclaimed water line flushing;
- landscape irrigation, including but not limited to reclaimed water;
- diverted stream flows;
- rising groundwater;
- uncontaminated groundwater infiltration;
- uncontaminated pumped groundwater;
- discharges from potable water sources;
- foundation drains;
- air conditioning condensate (that does not contain biocide);
- springs;

- water from crawl space pumps;
- footing drains;
- flows from riparian buffers and wetlands;
- dechlorinated swimming pool discharges;
- flows from emergency firefighting; and
- building wash water without detergents, cleaners, or corrosive additives.

C. In the event that Auburn University determines that any of the above discharges contribute to pollution of campus streams or other surface waters or is notified by a State or federal government agency, such as the Alabama Department of Environmental Management, that the discharge must cease, Auburn University will instruct the responsible person to cease the discharge.

D. When instructed to cease the discharge, the discharger of substances newly classified as pollutants shall cease the discharge immediately and be given reasonable time to make corrections so that the discharge will not continue into the future.

E. Nothing in this SOP shall affect a discharger's responsibilities under federal or State law.

6. Enforcement and Penalties

A. Whenever Auburn University finds that a violation of this SOP has occurred; Auburn University may order compliance by written notice to the responsible person. Such notice may require without limitation:

- i. The performance of monitoring, analyses, and reporting;
- ii. The elimination of prohibited discharges or connections;
- iii. Cessation of any violating discharges, practices, or operations;
- iv. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
- v. Payment of any fee, penalty, or fine assessed against Auburn University to cover remediation cost;
- vi. The implementation of new storm water management practices; and
- vii. Disciplinary action up to and including dismissal, where appropriate.

B. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of these violation(s). Said notice may further advise that, if applicable, should the violator fail to take the required action within the established deadline, then Auburn University Department of Risk Management &

Safety will initiate work orders for the appropriate corrective actions and the individual or University department will be charged for the cost.

7. Dry weather outfall inspection and monitoring

Auburn University shall, at a minimum, visually inspect PMC outfalls annually during dry weather conditions. Flows suspected of containing illicit discharges due to the presence of odors, colors or sheens shall be investigated.

Investigation may include water chemistry field testing and/or bacteriological sampling and will be dependent upon the characteristics of the observed discharge. Investigations will involve Facilities Management Utility & Energy resources to trace source of suspect illicit discharge. Upon source discovery, measures will be implemented to cease discharge immediately as possible. Should immediate cessation not be practicable, a schedule will be developed. Should the source of discharge be determined to originate off campus, the MS4 community having jurisdiction will be notified within 24 hours as well as the Department. The physical condition of the outfall shall also be noted during the inspections. Compromised outfall structures requiring maintenance will be documented with a work order to correct noted deficiency submitted within 24 hours of its discovery.

8. Promote Illicit Discharge Detection & Elimination SOP

Promotion of this SOP shall be presented to Auburn University community via multiple methods to include but not limited to personnel training and web media.

2.3 Construction Site Storm Water Runoff Control

In accordance with Part III (B) (4) of NPDES Permit No ALR040030, Auburn University developed the Construction Site Storm Water Runoff Control Best Management Practice.

Target Audience

The Construction Site Runoff Control Program was developed for the contractors performing construction activities on campus and to assist AU Facilities Management personnel responsible for managing development on campus. 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.

Responsible Parties

Auburn University's Facilities Management is responsible for all construction projects on campus and implementation of this measure.

Auburn University Design and Construction Standards serve as the University's regulatory mechanism for the Construction Storm Water Control Program and were recently revised to strengthen the storm water management efforts on all University construction sites including the following sections.

Section G10 – Site Preparation

<http://www.auburn.edu/administration/facilities/contractors/design-const-standards.html>

Section G10 of the Design and Construction Standards was modified to provide the Contractor a contractual responsibility to meet the objectives of the General NPDES Permit. This section requires that the Contractor:

- Meet the requirements outlined in the Alabama Handbook for Erosion and Sediment Control and Storm Water Management of Construction Sites and Urban Areas and the ALOA developed Erosion and Sediment Control Policy.
- Demonstrate compliance with the ADEM registration requirements prior to initiating any earthwork at the site.
- Require turbidity monitoring at specified construction sites to ensure that site runoff not result in an increase of 50 NTU turbidity standards.

Auburn University will conduct routine turbidity monitoring at specified sites to determine the effectiveness of the on-site controls design, installation and maintenance. Construction contracts administered by Facilities Management further identify the procedures that will be taken by the Auburn University should NPDES non-compliance be identified to include withholding payment and notification to ADEM.

Measurable Outcomes and Evaluation

1. Continue turbidity monitoring program for new projects.
2. Perform annual training for contractors, designers and project managers to better understand the G10 requirements.

2.5 Post Construction Runoff Control

The post construction runoff control measure is designed to ensure that new construction designs do not result in increased storm water pollution.

Development can alter landscapes by increasing impervious areas (i.e. roofs, driveways, parking lots) and changing drainage patterns, thereby increasing the storm water rate, volume and velocity of runoff from a site. This can lead to degradation of receiving waters and increases in the occurrence of flooding. Storm water 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.

The goal of post-construction storm water management is to reduce runoff volume and improve water quality by replicating the natural hydrology and water balance of the site, based on historical conditions and undeveloped ecosystems in the region. Our intention is to develop storm water management designs in a manner best replicating natural site hydrology processes. New projects on campus shall address water quality and quantity impacts early in the design process to provide long-term water quality benefits. New projects offer many opportunities to reduce storm water runoff from the site. The implementation of Green infrastructure BMP designs that reduce impervious surfaces, provide water filtering services and encourage infiltration is preferred.

To meet the requirements of Part III B5 of the Permit, Auburn University developed a Campus Landscape Master Plan (CLMP) as part of the overall Comprehensive Campus Master Plan. The Master Plan is approved by the Board of Trustees and serves as the mechanism to ensure that the objectives of the CLMP are achieved. The CLMP embraces a sustainable environment, including an emphasis on Low Impact Development and Green Infrastructure approaches to storm water management that

incorporate best management practices for maintenance and implementation schedules, as well as campus watershed restoration opportunities.

The Design and Construction Standards performance requirements state a project is to not increase peak storm water flows for the 2, 5, 10, and 25 year storm events as well as provide water quality treatment for the first 1.2 inches of rainfall with an 80 percent Total Suspended Solids (TSS) reduction goal. Projects are also encouraged to reduce overall storm water runoff volume by reducing impervious cover campus wide and promotion of infiltration.

Responsible Parties

Auburn University's Facilities Management is responsible for the implementation of the CLMP and implementation of this measure.

Measurable Outcomes and Evaluation

1. Provide training to AUFM University Project Leads, maintenance personnel, and others reviewing plans for storm water management on all new and redeveloped AU properties. Design and construction requirements are stipulated in the Design and Construction Standards, which includes the guidelines established in the Post-Construction Storm Water Manual.
2. A storm water management plan that complies with the Design and Construction Standards shall be established for all new and redeveloped AU properties.
3. Should implementation of Low Impact Development and Green Infrastructure be considered, a report outlining such a plan shall be developed and reviewed by Facilities Management per the guidelines outlined in the Post-Construction Storm Water Manual.

2.6 Pollution Prevention / Good Housekeeping for Municipal Operations

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.

Part III.B.5.a. of the Permit requires Auburn University to inventory “municipal facilities” including municipal facilities that have a potential to discharge pollutants via storm water runoff, develop strategies to reduce litter, floatables and debris from entering the storm sewer system from these facilities, develop standard operating procedures (SOP) detailing good housekeeping practices to be employed at the appropriate municipal facilities, develop an inspection program to evaluate these operations and to develop a good housekeeping training program for municipal facility staff as outlined in the SOP.

Inventory of Municipal Operations

Facilities Management HQ	Chilled Water Plant 1	Chilled Water Plant 2	District Energy Plant
Chilled Water Plant 3	Hot Water Plant 1	Hot Water Plant 2	Satellite Steam Plant
Coliseum Steam Plant	44kV Substation	115 kV Substation	Plainsman Park
Horse Center	Jordan Hare Stadium	Soccer Complex	Jane B. Moore Field
Hutsell-Rosen Track	Student Ctr. Dinning	Foy Union Dinning	Village Dinning
Terrell Dinning	AG Land Resource Management	Environmental Health & Safety Facility	Housing & Residence Life HQ
Campus Parking Lots / Decks	Campus Roads		

Measureable Outcomes & Evaluation:

1. Quantify the amount of floatable materials collected as a result of the successful implementation of the BMPs at these municipal facilities.
2. Quantify the number of “municipal facility” inspections performed.
3. Provide pollution prevention annual training to municipal facility personnel.
4. Revise and update “municipal facility” inventory annually.

BMP Development & Implementation Schedule:

1. Development of SOP for municipal facilities by March 31, 2018. SOP will include inspection frequencies and documentation mechanism.

Responsible Department:

Auburn University Risk Management & Safety & 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 (monthly) 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. Document the number of inspections performed on regulated storage units on an annual basis (SPCC).
2. Document the number of preventive maintenance procedures performed on tanks, valves, pumps, pipes, and other equipment.
3. Document the number of training presentations performed and the number of employees trained annually.
4. Document the annual volume of used oil managed by AU.

Responsible Department:

Auburn University Risk Management & Safety & Facilities Management

Monitoring Plan for Pathogen Impairment

In accordance with Part V of the Permit, AU will continue to evaluate Parkerson Mill Creek (PMC) Watershed for its pathogen impairment. PMC is located in Lee County; the watershed is part of the Chewacla Watershed, in the lower Tallapoosa River Basin. The 9.3 square mile (5,981 acres) watershed contains 21,000 meters (68,500 ft.) of main stem perennial stream and approximately 86,000 meters (282,152 ft.) of tributary stream length. The stream network empties into Chewacla Creek, just south of the H.C. Morgan Water Pollution Control Facility

The watershed includes the City of Auburn, Auburn University and the surrounding

areas. The headwaters of PMC are approximately 3,000 meters (9,845.5 ft.) in length and are located on the campus of Auburn University.

In 2007, ADEM listed PMC as impaired on Alabama's 303(d) List of Impaired Waters for pathogens from point source and non-point sources, primarily urban runoff and storm sewer connections. As such, AU monitors PMC by performing bacteriological analysis through the AU Water Resource Center's Alabama Water Watch (AWW) program. The results of the monitoring effort will be reported with the submission of the annual report. Collaboration with the City of Auburn will continue as both entities contain and have influence to this waterbody.

REVIEW AND UPDATING SWMPP

Auburn University will review the SWMPP annually in conjunction with the preparation of the annual report required under Part IV, Section B 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 May 31st of each year and will cover activities for the previous reporting period (April 1- March 31).

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 SWMPP since the last annual report and a summary of the storm water activities AU plans to initiate during the next reporting cycle.
- Proposed changes to the SWMPP
- Description and schedule for implementation of additional BMPs that may be necessary based on monitoring results.
- Monitoring data

Annual reports are signed by Mr. Tom McCauley, Environmental Programs Manager
Department of Risk Management and Safety and the Storm Water Executive Committee.

Appendix C

Construction Site Runoff Control

Construction Site Details

April 1, 2016 through March 31, 2017

Appendix C
 Construction Site Details
 April 1, 2016 to March 31, 2017

Project #	Project Name	Design Lead	Const. Lead	Architect	Civil Engineer (CE)	General Contractor	Civil Contractor #1	Civil Contractor #2	# of Inspections	# of Non-Compliant Notices	# of Site Runoff Complaints
1	11-209	Mell Classroom	Chapman	WBA	LBVD	Bailey-Harris	JLD		8	0	0
2	14-193	Pharmacy Research Building	Conradson	GMC	LBVD	Bailey-Harris	JLD		19	0	0
3	14-296	President's House Renovation	Conradson	Christopher Architects	Gonzalez Strength	Rabren	Joe Mimms		2	0	0
4	14-336	Garden of Memory	Conradson	Holcombe Norton Partners	Schoel	Landscapes Services	Landscapes Services		15	0	0
5	15-035	School of Nursing	Conradson	Stacy Norman/Ayers Saint Gross	LBVD	Bailey-Harris	JLD		19	0	0
6	15-068	Broun Hall	Haney	Chamblee King	LBVD	Bear Brothers	Mike's Excavation		2	0	0
7	15-080	CDV Demo	Conradson	LBVD	LBVD	Virginia Wrecking	Complete Demolition		6	1	0
8	15-081	Food Service Demolition	Conradson	LBVD	LBVD	Complete Demolition	Complete Demolition		2	0	0
9	15-082	L-Bldg and Eng Shop Bldgs Demo	Haney	Foresite	LBVD	Bear Brothers	D&J		7	0	0
10	15-130	Food Animal Research Facility	Peacock	Foil Wyatt	Krebs	Nearen	JLD		8	0	1
11	15-150	Risk Management	Cannon	SS&L	LBVD	CAM Builders	JLD		3	3	1
12	15-222	Health Science Sector Infrastructure	Conradson	LBVD	LBVD	Lett	D&J	Adams	19	0	0
13	15-256	Band Practice	Cannon	Barganier Davis Sims	LBVD	Whatley Construction	Hudmon		3	2	1
14	15-358	Facilities Parking Lots	Cannon	N/A	Krebs	D&J	N/A		8	0	0
15	15-359	Davis Arboretum	Conradson	Holcombe Norton Partners	Schoel	Landscapes Services	Landscapes Services		15	0	0
16	16-015	Castilian Demo	Conradson	LBVD	LBVD	Complete Demolition	Complete Demolition		3	0	0

Appendix D

Parkerson Mill Creek

Water Quality Monitoring Data

April 1, 2016 through March 31, 2017

Appendix D

Parkerson Mill Creek Water Quality Monitoring
April 1, 2016 through March 31, 2017

AWW Site Code 7011035
Location Description Thach Ave near Rugby Field

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc Mean	Notes
20-Jul-16	25	26	16	23	26	2166.67	
21-Sep-16			10	6	8	800.00	

AWW Site Code 7007010
Location Description Wire Road and Samford Avenue

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
17-May-16	20	20	73	80	77	7666.67	
20-Jul-16	30	26	17	15	20	1733.33	
21-Sep-16	31	24	1	0	0	33.33	

AWW Site Code 7012004
Location Description Bridge on Samford Ave near Women's Soccer Field

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
17-May-16	19.5	20.5	37	41	32	3666.67	
20-Jul-16	28.5	25	2	2	5	300.00	
6-Sep-16	26	21.5	13	17	7	1233.33	
21-Sep-16	29	23	0	2	2	133.33	

AWW Site Code 7018002
Location Description Shug Jordan near AU Beef Unit

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
17-May-16	21	19.5	63	70	70	6766.67	
20-Jul-16	29	25.5	2	1	4	233.33	
21-Sep-16	29.5	25	0	0	0	0.00	