



UNIVERSITY OF
SOUTH ALABAMA

ANNUAL MS4 REPORT 2023

Prepared by:

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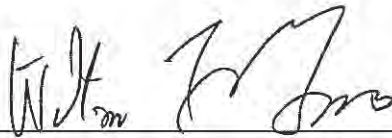
1. Certification and Introduction

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information 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 several departments and individuals at the University. I serve as the University's responsible official and authorized representative as set forth in ADEM Admin. Code r. 335-6-6-.09. In addition, I serve to initiate programs intended to promote and ensure the Plan's objectives and as ADEM's primary point of contact for the referenced permit. Should you have any questions or require further documentation, please do not hesitate to contact me.

Signature:



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Date:

May 26, 2023

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Introduction

The purpose of this annual report is to describe the University of South Alabama's (University) compliance efforts in support of the Storm Water Management Program Plan (SWMPP), and how the University is operating its SWMPP along with how it records and documents measurable success.

This report will provide an assessment of the program, describe public education and outreach initiatives, list planned storm water controls for the next reporting cycle and current construction site details. In addition, this report will provide an overall picture of efforts taken by the University to reduce the discharge of pollutants from the 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). Reports, ADEM permits, and relevant information on the University's MS4 initiatives can be found on the Department of Safety and Environmental Compliance website <https://www.southalabama.edu/departments/environmental/>.

The report has been prepared by Driven Engineering, Inc. (DEI) to provide for transparency in the self-assessment process. This document reports the on-going achievements of the University's reporting year and continues upon required work. Specific references for attainment of SWMPP goals and permit compliance have been verified through documentation provided by the University and observations and confirmation by DEI.

Site Description

The main campus of the University spreads across 1,200 acres, with a landscape that includes cultivated flower gardens, walking paths and groves of pine trees, more than ten miles of bike trails, indoor and outdoor pools, and a disc golf course. The Glenn Sebastian Nature Trail contains more than three miles of trails that wind through ninety-five acres of native pine and oak woodlands. The campus is bisected by Three Mile Creek (303(d) watercourse) and Twelve Mile Creek (off Hillcrest Property).

History of Plan

The University filed a Notice of Intent for the Small Municipal Separate Storm Sewer System (MS4) General Permit in June 2017. Each year the University has submitted an annual report to ADEM describing actions taken in that year. In 2018, the University submitted the first Storm Water Management Program Plan (SWMPP).

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

The SWMPP includes:

- Best Management Practices (BMP).
- Control techniques and system design, and engineering methods.
- Coordination among entities.
- Measurable goals for each of the BMPs.
- Person or persons responsible for implementing and coordinating BMPs.
- Minimum Control Methods.

2. Stormwater Management Self-Assessment

Assessments were conducted to report on the effectiveness of the goals and objectives set forth in the SWMPP related to the measurable goals and requirements of the MS4 permit pertaining to requirements not specifically listed in the SWMPP. This section discusses relevant achievements and on-going permit compliance matters not considered a measurable BMP in the SWMPP, as well as clarification on permit requirements not specifically indicated in the BMP goal(s) attainment of this report. The Subsequent section discusses measurable BMPs identified in the SWMPP.

The report is set out in a logical manner that identifies each measurable BMP indicated in the SWMPP by category, intent of the BMPs, goals the BMPs are committed to achieve, measure of the achievement of the goals, and anticipated future initiatives for the subsequent reporting year. This will help guide the University in its overall goal of being a good steward for the health of its direct and indirect impacts to Three Mile Creek and Twelve Mile Creek.

The University continues to achieve, and in many cases, exceed the goals set forth in the SWMPP. During this reporting year, the continuation of the installation and evaluation of the bio-filtration systems being installed (as part of a grant and previously monitored by Dr. Kevin White) is limiting the targeted constituents from entering Three Mile Creek. In recognition of the importance of limiting impacts to Three Mile Creek in a sustainable manner, additional structural BMPs were added.

Core to the achievements and compliance with the MS4 permit is the Safety and Environmental Compliance (SEC) department, which oversees ADEM permitting and activities that may or may not reveal impact upon the requirements of the permit. This allows for a single point of contact and monitoring of not only the MS4 permit requirements, but any overlap with other permit responsibilities to ensure consistency with the University's goal to promote environmental stewardship.

The University has completed the marking of 90% of the stormwater inlets within the MS4 area. These markings, which were referenced in the 2021-2022 report, have been an effective educational tool that reminds the public, staff, and students where the inlets discharge to, as well as the importance of being a good steward to the environment. Stormwater inlet medallions are replaced and/or added as needed.

The University has continued to expand its development of infrastructure and building facilities. Recognizing that runoff from construction sites could adversely impact receiving waters, the University has taken an initiative-taking approach to limiting pollutant laden stormwater from leaving construction sites. Reviews are conducted for all sites, regardless of size, for permit compliance.

For sites greater than 1-acre, the University uses the ADEM NOI process, inclusive of individual CBMPP manuals and erosion control plans, through the NOI system. This allows for a consistent approach for the mitigation of runoff from construction sites and ensures that the University is current with ADEM's requirements. The University is in contract with a consulting firm to perform the inspections required as a result of rainfall threshold exceedance, or in the event of no rainfall 30-day inspections in conjunction with daily inspections by the contractor. Reports are generated by the consulting engineer indicating any deficiencies in the BMPs and actions required to remedy the issues identified. Additionally, the University conducts its own inspections via staff. When observations indicate that repairs to BMPs are required, the issues are communicated to the University project manager for immediate rectification. For sites less than 1-acre, the University conducts internal reviews

with the assistance of an outside consulting firm to ensure construction stormwater impacts are minimized.

SEC has implemented additional controls for construction and development activities on campus with the creation of a land disturbance checklist. The checklist provides the manager of a construction project the means of assuring compliance with the University's environmental compliance regulations to minimize construction stormwater runoff.

Much of the success and accomplishments of the program along with its partners in 2022-2023 include:

- USA Southerners hosted a campus cleanup held on November 14, 2022, around the Intramural Fields, Basketball and Volleyball Courts. A total of four bags were collected among twenty three participants.



Figure 1: Multiple students picking up trash at the USA Southerners Campus Cleanup

- Students from the University of South Alabama participated in the First Year Council Campus Cleanup, held on November 20, 2022, around the dorms and surrounding park areas. A total of six bags were filled with trash by twenty eight student participants.



Figure 2: A couple of participants and their trash gathered at First Year Council Campus Cleanup

The USA Green Jags were founded in 2009 and are the university's primary student environmental club. Green Jags are in association with multiple organizational cleanups, including the following:

- USA Southerners
Campus Cleanup
(November 14, 2022)



- First Year Council
Campus Cleanup
(November 20, 2022)

Figure 3: USA Green Jags Logo

They host a variety of events such as campus clean-up days, adopt-a-stream clean-up days, and garden workdays.

Dr. Kevin White, P.E., former University professor of civil, coastal, and environmental engineering worked with ADEM to conduct research on the effectiveness of bio-retention swales to minimize runoff volume and to capture sediment from unvegetated areas, parking lots, and roads. Landscaped bio-retention swales were installed in five areas between Whiddon Administration Building and Meisler Hall in 2017. The swales have been regularly monitored since 2017 and have shown a 75% to 78% reduction of sediment loads for the capture area. As a result of the reduced sediment loads, it is estimated that there has been a 40 to 70% reduction in nitrates and phosphates. See appendix L for the latest evaluation of these bio-retention swales completed by a consulting engineering firm.

In June 2019, an additional humanity “parking lot bio-infiltration swales” project (funded by ADEM) was installed. The project incorporated similar bio-infiltration features that capture runoff from parking areas before it enters a highly eroding gully just upstream of its confluence with Three Mile Creek. This parking lot bio-infiltration project reduces sediment loading to Three Mile Creek, thus improving both habitat and water quality.



Figure 4: Dr. White and a student discussing bio-infiltration swales beside a flower bed

The University conducted two different Three Mile Creek clean-up days on April 14, 2019, and April 20, 2019. Participation for the first annual clean-up day was considered average for the initial function. Gulf State Park sent an emissary to speak to the University staff about the importance of sustainability programs and what efforts the State Park is taking to further their own sustainability programs. This will help further ideas for the University’s own programs.

Three flyers were created that emphasize the importance of limiting unwanted constituents into the natural water systems that surround the USA campus. The flyers have been made available to the public in all elevators throughout the Campus. The flyers can be seen below:

Preventing Polluted Runoff

Everybody's Business

pet waste, fertilizer, chemicals, auto fluids

Homeowners can prevent polluted runoff by using fertilizers and chemicals sparingly, maintaining septic systems, and picking up pet waste.

nutrients, pesticides, sediment

Farmers can prevent polluted runoff by managing soil and animal feeding operations and buffering streams with native trees and plants.

oil, heat, road salts, sediment, chemicals

Developers and planners can prevent polluted runoff by using low impact development and providing structural and nonstructural controls.

USA
UNIVERSITY OF
SOUTH ALABAMA

THE YEAR OF
CLEAN WATER
2003

For more information, visit www.epa.gov/nps

Figure 5: Flyer 1 - Preventing Polluted Runoff

Soak Up the Rain with Green Infrastructure

www.epa.gov/soakuptherain



Tree Canopy



Rain Barrel



Rain Garden



Green Roof



Tree Planter Box



Pervious Concrete

Learn more. Take Action.



Poster created by U.S. EPA Office of Wetlands, Oceans and Watersheds.

Created January 2020 by the Dept. of Safety & Environmental Compliance.

Figure 6: Flyer 2 - Soak Up the Rain with Green Infrastructure (QR code at bottom of page for easy access to SEC website)

The Journey of Trash



Plastic bags, cups, straws and cigarette butts wash into storm drains and end up in our rivers, lakes and bays.

They eventually find their way into the food chain.



Figure 7: Flyer 3 - The Journey of Trash

The University recognizes specific requirements of the permit that are not SWMPP measured BMPs, which are also important. This report represents all additional commentary towards specific requirements of the permit that are not SWMPP measured, regardless of if it is accomplished or not yet met. They are listed below to help ensure transparency in the University's efforts of continuing to comply with the permit requirements. The items are numbered in a manner consistent with the ADEM permit for clarity and are as follows:

Part III.B.2.a.i.1 Requirement-Achieved -The latitude/longitude of all known outfalls on map: The map is being updated quarterly as IDDE inspections occur (See Appendix E).

Part III.B.2.a.i.3 Requirement-Achieved-Structural BMPs owned, operated, or maintained by the Permittee, if applicable: The map has been updated as of 04/19/2023 (See Appendix E). Currently there are no applicable BMPs to show on the map.

Part III.B.3.a.i Requirement-Achieved-Specific procedures for construction site plan (including erosion prevention and sediment controls) review and approval: The MS4 procedures must include an evaluation of plan completeness and overall BMP effectiveness: The Land Disturbance Checklist provides procedures for the review and approval of construction site plans, See Appendix I. An outside consultant reviews all construction plans.

Part III.B.3.a.iv Requirement-Achieved-Within 365 days of the effective date of the permit, develop and implement a construction site inspection form to include at least the items listed in Parts III.B.3.d.i.: Please see the Land Disturbance Checklist in Appendix I.

Part III.B.3.a.v Requirement-Achieved- Within 365 days of the effective date of the permit, maintain an inventory of qualifying construction sites containing relevant contact information for each construction site (i.e., tracking number and construction site contact name, address, phone number, etc.), the size of the construction site, whether the construction site has submitted for permit coverage under ADEM's Construction General Permit ALR100000, and the date the MS4 Permittee approved the site construction plan. The MS4 Permittee must make the inventory available upon the Department's request: The University's Safety and Environmental Compliance Department acquires all said documentation and is available at the Department's request.

Part III.B.3.c.i. Requirement-Achieved-Procedures for site plan reviews as required by Part III.B.3.a.i: The Land Disturbance Checklist provides procedures for the review and approval of construction site plans, See Appendix I.

Part III.B.3.c ii. Requirement Achieved-A copy or link of the ordinance or other regulatory mechanism required by Part III.B.3.a.ii: In Appendix B of the 2023 SWMPP, the Land Disturbance Checklist contains a link to the Alabama Soil & Water Conservation Committee, a regulatory entity for erosion and sediment control.

Part III.B.4.a.i.1 Requirement-Achieved-Develop/revise and outline in the SWMPP procedures for the site plan review and approval process and a required re-approval process when changes to post-construction controls are required: Please see the Land Disturbance Checklist in Appendix B of the 2023 SWMPP.

Part III.B.4.a.i.2 Requirement-Achieved-Develop/revise and outline in the SWMPP procedures for a post-construction process to demonstrate and document that post-construction storm water measures have been installed per design specifications, which includes enforceable procedures for bringing non-compliant projects into compliance. The post-construction procedures can be found on page 24 of the 2023 SWMPP.

Part III.B.4.a.iii Requirement-Achieved-Encourage and Educate landowners and developers to incorporate the use of low impact development (LID)/green infrastructure where feasible. Information on low impact development (LID)/green infrastructure is available on the following websites: <http://www.adem.alabama.gov/programs/water/waterforms/LIDHandbook.pdf>; <http://epa.gov/nps/lid>. The Permittee shall include a narrative description in the SWMPP as to the means that will be taken to implement the requirement to encourage landowners and developers to incorporate the use of low impact development (LID)/green infrastructure; The procedures used are through the requirements of the ADEM NOI-Construction Stormwater Permit Process, and the SWMPP submitted on 03/24/2023 to ADEM includes those procedures. Please see page 24 of the 2023 SWMPP for more information.

Part III.B.5.a.iii 1-8 Requirement-Achieved-A Standard Operating Procedures (SOP) detailing good housekeeping practices to be employed at municipal facilities (that have the potential to discharge pollutants via stormwater runoff) and during municipal operations that may include, but not limited to, the following: (1) equipment washing, (2) street sweeping, (3) maintenance of municipal roads including public streets, roads, and highways, including but not limited to unpaved roads, owned, operated, or under the responsibility of the permittee, (4) storage, use, and disposal of chemicals, pesticide, herbicide and fertilizers (PHFs) and waste materials; (5) vegetation control, cutting, removal, and disposal of the cuttings; (6) vehicle fleets/equipment maintenance and repair; (7) external building maintenance; and (8) material storage facilities and storage yards. The University has established good housekeeping practices and made them a part of new employee orientation and works to educate visitors through the use of flyers and posters posted in various locations across the campus. The 2023 SWMPP also includes housekeeping BMPs in section 2.6 (Page 29).

Part III.B.5.a.iv Clarification / Requirement-Achieved-A program for inspecting municipal facilities for good housekeeping practices, including BMPs. The program shall include checklists and procedures for correcting noted deficiencies: Please see the Post-Construction Form in Appendix C of the 2023 SWMPP for the inspection procedure/checklist of storm water run-off.

Part III.B.5.b.iii Requirement-Not Achieved- Schedule for developing the SOP of good housekeeping practices required by Part III.B.5.a.iii: The MS4 Advisory Committee will provide a schedule for developing good housekeeping SOPs in next year's SWMPP.

Part III.B.5.b.iv Requirement- Not Achieved- An inspection plan and schedule to include inspection frequency, checklists, and any other materials needed to comply with Part III.B.5.a.iv: The Post-Construction Inspection Form can be found in Appendix C of the 2023 SWMPP. The MS4 Advisory Committee will provide a schedule for developing good housekeeping SOPs in next year's SWMPP.

Part IV.A.1 Requirement- Not Achieved-If the Permittee is relying on another entity to satisfy one or more requirements of this permit, then the Permittee must note that fact in the SWMPP. The permittee remains responsible for compliance with all requirements of this permit, except as provided by part III.B.3.b and reliance on another entity will not be a defense or justification for noncompliance if the entity fails to implement the permit requirements. Site plan reviews from outside consultants will be stated in next year's SWMPP.

3. Public Education and Outreach

The University of South Alabama’s Safety and Environmental Compliance Office has implemented a public education and outreach program that distributes educational materials and information to the campus community. This education and outreach program is to inform University staff, students, and residents about preventing illicit discharges to Three Mile Creek and Twelve Mile Creek, as well as steps that can be taken to reduce pollutants in storm water runoff to the maximum extent practical. These efforts are also designed to encourage individuals and groups to take active steps to reduce pollutants in storm water runoff. Additionally, the “Adopt-a-Stream” program signage and participation continues to grow and serves as a visual reminder of the importance of keeping our waterways clean and healthy.

Rationale

Each Best Management Practice (BMP) within the public education and outreach measure was selected by examining BMP databases and examples. The effectiveness of previously utilized BMPs have been analyzed and the evaluation of educational methodologies are already in place at The University of South Alabama.

Target Audience

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

BMP-1: Printed Materials

Materials promoting green spaces, stormwater quality and the importance of the environment with distributions through various locations in addition to education flyers for illegal dumping.

Measurable Goals:

Develop and distribute flyers. The flyers shall include the following: General impacts litter has on water bodies, how trash is delivered to streams via the MS4 and ways to reduce the litter; general impacts of storm water flows into surface water from impervious surface; and source control BMPs in areas of pet waste, vehicle maintenance, landscaping, and rainwater reuse.

Progress on Goals 2022-2023:

The USA SEC Department will be working on new flyers for next year’s reporting period. USA currently has three developed flyers. Flyer-1 pertains to source control BMPs in areas of pet waste, vehicle maintenance, and landscaping.

Flyer-2 provides examples of low impact development, and how to reuse rainwater. Flyer-3 was created in 2021, reflecting on the general impacts litter has on water bodies, and how trash is delivered to streams.

Planned Activities for 2023-2024:

1. Modify current flyers as needed.
2. Develop a new flyer regarding how to reduce litter, and the general impacts of stormwater flows into surface water from impervious surfaces.
3. Continue with distribution and posting.

Target Audience:

General public, faculty/staff, students.

BMP-2: Stormwater Quality Website

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

Measurable Goals:

Stormwater Quality website.

Progress on Goals 2022-2023:

The 2023 SWMPP has been made available to the public via the USA SEC Department website. [USA Storm Water Management Program Plan \(southalabama.edu\)](http://www.southalabama.edu/departments/environmental/index.html). USA has maintained the website and updated the information being provided to ensure consistency with the public education and outreach program and to track usage. This website was viewed 8,744 times in 2022. <http://www.southalabama.edu/departments/environmental/index.html>

Planned Activities for 2023-2024:

Continue maintaining the website and update the information being provided to ensure consistency with the public education and outreach program and to track usage. 2024 SWMPP to be made available to the public, when applicable.

Target Audience:

General public, faculty/staff, students.

BMP-3: Public Service Advertisements

Public service advertisement BMP focuses on material that relates to the impact of storm water runoff on local bodies of water and steps that can be taken to reduce storm water pollution. SEC will review, edit update, and modify the advertisements to ensure relevancy to current water quality issues. SEC will maintain records regarding the advertisements and will report the type and frequency in the annual report.

Measurable Goals: Maintain records of advertisements.

Progress on Goals 2022-2023: USA currently has three developed flyers. Flyer-1 pertains to source control BMPs in areas of pet waste, vehicle maintenance, and landscaping. Flyer-2 provides examples of low impact development, and how to reuse rainwater. Flyer-3 was created in 2021, reflecting on the general impacts litter has on water bodies, and how trash is delivered to streams. Approximately 750 copies of flyers were distributed and placed at various locations and passed out in meetings in 2022.

Planned Activities for 2023-2024: SEC to maintain good records regarding the advertisements and will report the type and frequency of distribution.

Target Audience: General public, faculty/staff, students.

BMP-4: Education Program for Impacts of Illegal Dumping and Littering

Educating the campus community of the impacts of illegal dumping and littering is vital to the cleanliness and beauty of the University of South Alabama campus. SEC, in conjunction with other sources, has developed educational materials and programs that discuss the harmful impact of illegal dumping and littering and will provide the mechanisms for reporting incidents. SEC will review, edit and modify information to ensure relevancy to current issues. SEC will distribute public education materials that describe the harmful impacts of dumping on water bodies.

Measurable Goals: Create and update as needed a program that highlights the harmful impact of illegal dumping.

Progress on Goals 2022-2023: There were no reporting incidents and/or visual confirmation of illegal dumping at the USA campus in 2022. A “Toolbox Talk” program has been created for all facility staff at the University as a 5-year refresher training. The discussion topics can be seen in appendix C. Flyers have also been distributed across campus that describes illegal dumping and littering. New employee orientation educates new University employees on the impacts of illegal dumping and littering. See appendix C regarding the new employee orientation PowerPoint, and list of people that attended.

Planned Activities for 2023-2024: Continue with education programs to be affiliated with 100% of campus community. SEC to review, edit, and modify programs to ensure relevancy.

Target Audience: General public, faculty/staff, students.

BMP-5: Education Program for Construction Stormwater Activities

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

Measurable Goals: Develop, staff, and maintain a campus wide inspection regime.

Progress on Goals 2022-2023: A total of 58 BMP stormwater inspections were conducted, two of which failed, and were reported as incidents. The two failed BMP inspections are currently being addressed. There were no incidents reported on the USA SEC Department website in 2022. William Guess has informed Student Community Groups of reporting procedures. Construction site runoff reporting is included in the “Confidential Environmental/ Hazard Report” on the Safety and Environmental Compliance website. [Confidential Environmental/Hazard Report | Department of Safety and Environmental Compliance \(southalabama.edu\)](#).

Planned Activities for 2023-2024: Continue with current programs, add more mechanisms to inform the campus community where/when applicable.

Target Audience: General public, faculty/staff, students, Visitors, and Contractors

BMP-6: Education on Importance of Water Quality

The education of the campus community on the importance of water quality is a vital priority for the Department of Safety and Environmental Compliance. Among the campus community, students are a major focus group. This group is likely to have a significant future impact on national, state, and local attitudes toward water quality issues. SEC, in partnership with USA’s MS4 Advisory Committee, will review, edit and modify materials and programs to ensure relevancy to the University of South Alabama student population and current issues. SEC will provide information regarding education of the importance of water quality as part of the annual report.

- Measurable Goals:** Coordinate with the MS4 Advisory Committee on water quality issues.
- Progress on Goals 2022-2023:** There was a total of one MS4 Advisory Committee meeting during 2022.
- Planned Activities for 2023-2024:** Continue with quarterly meetings starting back in 2023 and training as part of employee orientation will resume as well.
- Target Audience:** General public, Faculty/staff , students.

BMP-7: Education of University Employees and Contractors

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

- Measurable Goals:** Develop communication protocols for contractors and education programs for existing staff and new hires.
- Progress on Goals 2022-2023:** A total of 203 employees/contractors/construction supervisors were educated on erosion and sediment control on construction sites, in accordance with the MS4 permit. Training programs such as the “Illicit Discharge Toolbox Talk” for a permit refresher, and the “New Employee Orientation Revision” for new hires, have been implemented/revised as of 2022. See Appendix C for the new orientation PowerPoint, as well as the toolbox talk.
- Planned Activities for 2023-2024:** Update training program with edited or new information as required.
- Target Audience:** Contractors, Staff and Project Managers

BMP-8: Adopt a Stream Signage

The University has installed signage that encourage the general public, staff, and students to protect waterways and to Increase public awareness of the Campus' nonpoint source pollution and water quality issues.

Measurable Goals: Number of campus and stream clean-up days and amount of trash collected.

Progress on Goals 2022-2023: Two campus cleanup days took place in 2022, totaling 10 bags of trash collected.

Planned Activities for 2023-2024: Update training program with edited or new information as required.

Target Audience: General Public, faculty/staff, students.

4. Public Involvement and Participation

The University of South Alabama is implementing a public involvement program which will create opportunities for the campus community to get involved in the SWMP. Opportunities for involvement in activities that directly benefit the environment and lead to improvements in overall water quality will be available. SEC will notify the campus community of opportunities to participate in water quality improvement activities and SWMP implementation by public notice of MS4 Advisory meetings. These public notice announcements of meetings will be published in the Vanguard campus newspaper and in the University of South Alabama electronic media; <http://www.southalabama.edu/specialprojects/usasustainability/>.

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

Rationale

The University's stormwater management program(s) can be greatly improved by involving the community throughout the entire process of developing and implementing the program. Involving the public benefits the University as well as the community. By listening to the public's concerns and coming up with solutions together, the University will gain the public's support and the community will become invested in the program.

BMP-1: MS4 Advisory Committee

To oversee the implementation of the SWMPP and provide advice and consultation, SEC created the MS4 Advisory Committee (previously incorrectly referred to as the Storm Water Management Committee). The MS4 Advisory Committee is made up of various members of the campus community who have a stake in SWMPP; individuals with an expertise which would be of benefit to the program and other representatives of the campus community. The MS4 Advisory Committee will meet on an as need basis but at least once per year. During this permit cycle Safety and Environmental Compliance will request committee review of the education materials, inspection procedures, guidance information and investigation methods detailed in the BMPs specified in the six minimum control measures. SEC will provide notifications of committee meetings to the campus community through regular notice.

- Measurable Goals:** Post minutes of the MS4 Advisory Committee's meeting on the Safety and Environmental Compliance Website.
- Progress on Goals 2022-2023:** Due to miscommunication, the Storm Water Management Committee is actually called the MS4 Advisory Committee. The committee conducted one meeting in 2022 .
- Planned Activities for 2023-2024:** MS4 Advisory Committee to continue meetings in 2023.

Target Audience: Committee Members, Campus Community

BMP-2: Storm Sewer Marking

The storm sewer marking campaign provides a way for civic organizations and individuals to make a positive, hands on, impact on local water quality. SEC will provide storm sewer inlet medallions, which state, “Drains to Three Mile Creek” or “Drains to 12 Mile Creek” and adhesive to attach said medallions. To ensure continued success through the permit cycle SEC will seek to identify groups that may be interested in program participation, provide support to individuals or groups who volunteer for storm sewer marking and the Adopt-A-Stream program and update procedures as needed.

Measurable Goals: Continuation of storm sewer marking campaign and civic group engagement with the ultimate goal of 100% of 683 inlets marked, marking of newly installed inlets, and replacement of missing or damaged inlets.

Progress on Goals 2022-2023: There has been a misunderstanding based on previous Annual Report documentation. 81 medallions were marked along Three Mile Creek in 2022, one being a replacement. There are roughly 110 inlets that are unmarked going into 2023. See Appendix K regarding the inlet medallions. Approximately 85% of all inlets along Three Mile Creek are marked with medallions.

Planned Activities for 2023-2024: USA SEC Department plans to place as many medallions as possible on any unmarked inlets along Three Mile Creek. Once all construction is finished at the Hillcrest property (Twelve Mile Creek Outfall), USA SEC Department will identify the number of new inlet medallions needed, and start with placement.

Target Audience: General public, faculty/staff, students.

5. Illicit Discharge Detection and Elimination

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

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

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

Industrial and Non-Storm Water discharges are not permitted under this program. There shall be no trace of any storm water or non-storm water discharge associated with industrial activity unless the discharges are regulated by a separate NPDES permit.

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

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

- Dechlorinated swimming pool discharges.
- Discharges authorized and in compliance with a separate NPDES permit.

Prohibited Storm Water Discharges

The following discharges are not authorized by this permit:

- Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are in compliance with a separate NPDES permit or determined by the Department not to be a significant contributor of pollutants to waters of the State.
- Storm water discharges associated with industrial activity as defined in 40 CFR Part 122.26(b)(14)(i)-(ix) and (xi).
- Storm water discharges associated with construction activity as defined in 40 CFR Part 122.26(b)(14)(x) or 40 CFR 122.26(b)(15) and subject to Alabama Department of Environmental Management (ADEM) Code r. 335-6-12.
- Storm water discharges currently covered under another NPDES permit.
- Discharges to territorial seas, contiguous zone, and the oceans unless such discharges are in compliance with the ocean discharge criteria of 40 CFR Part 125, Subpart M;
- Discharges that would cause or contribute to instream exceedances of water quality standards.
- Discharges of any pollutant into any water for which a Total Maximum Daily Load (TMDL) has been approved or developed by EPA unless the discharge is consistent with the TMDL.
- Illicit discharges, including spills, of oils or hazardous substances, from responsibilities and liabilities under State and federal law and regulations pertaining to those discharges.
- The discharge of sanitary wastewater through cross connections or other illicit discharges through the MS4 is prohibited.

BMP-1: Develop Improper Disposal of Discharges Policy

Measurable Goals:	Review and update policies and SOPs that relate to improper discharges on a yearly basis or more frequent if necessary.
Progress on Goals 2022-2023:	A total of 11 SOPs were updated in 2022. No policies were updated.
Planned Activities for 2023-2024:	Continue with policy and SOP updates as needed and continue monitoring for successful implementation.
Target Audience:	Faculty/staff

BMP-2: Authorization to Control Improper Disposal of Discharges

Measurable Goals:	Identify Department(s) that have authority to direct those causing the illicit discharge to cease discharge activities.
Progress on Goals 2022-2023:	Mr. William Guess (Director, Safety and Environmental Compliance) has been given authority requiring activities to cease if generating improper discharges. See current letter of authority in Appendix F. There has been no change regarding the decrease in reported illicit discharges (0 reported illicit discharges).
Planned Activities for 2023-2024:	SEC to continue exercising authority to cause improper activities to cease.
Target Audience:	Faculty/staff

BMP-3: Dry Weather Screening

Measurable Goals:	Dry weather screening of approximately 15% of major outfalls was to occur annually with all (100%) of major outfalls being screened at least once during the five-year period.
Progress on Goals 2022-2023:	100% Complete for the yearly requirement. Six inspections were conducted in 2022. After 7 total attempts by USA personnel and outside contractors, outfall NA-1 was not able to be found (Via on foot and drone). This outfall is most likely underwater, although the surrounding area at given coordinates showed no sign of illicit discharge. This outfall is now removed from the outfall map due to being unable to locate. However, the dry weather screening percentage complies with the 15% minimum. The outfall inspections for 2022 can be found in Appendix B. The 2022 SWMPP measure of effectiveness should state “Number of outfalls inspected during the reporting period meets the inspection goals”.
Planned Activities for 2023-2024:	Continue with screening program as required. All outfalls have been inspected (excluding NA-1). The 5-year 100% outfall inspections will begin a new rotation in Quarter 2 of 2023. The total number of outfalls will go from 27 to 26.
Target Audience:	Staff

BMP-4: Stormwater Network Mapping

Measurable Goals: Review of storm drain location map for updates on a yearly basis.

Progress on Goals 2022-2023: The map was reviewed and updated in 2022.

Planned Activities for 2023-2024: Review and update as needed

Target Audience: Staff

BMP-5: IDDE Reporting

Measurable Goals: The University will develop and maintain a storm water discharge monitoring policy and systems to report and investigate illicit discharges. This policy will be posted on the University’s website.

Progress on Goals 2022-2023: Illicit discharge reporting can be done through the “Confidential Environmental/ Hazard Report” on USA’s website. The website had 8,744 hits in 2022. There were 0 confidential reports for 2022. [Confidential Environmental/Hazard Report | Department of Safety and Environmental Compliance \(southalabama.edu\)](https://southalabama.edu/safety/environmental-hazard-report/)

Planned Activities for 2023-2024: Review and update as needed

Target Audience: General public, faculty/staff, students

BMP-6: IDDE Plan Implementation

Measurable Goals: Train personnel performing illicit discharge screening on the IDDE Plan at least once per year.

Progress on Goals 2022-2023: 100% of trained staff considered training effective

Planned Activities for 2023-2024: Review and update screening as needed

Target Audience: General public, faculty/staff, students

BMP-7: Reporting of Improper Disposal of Discharges

Measurable Goals: Maintain confidential reporting system webpage to report non-storm water discharges into storm drains.

Progress on Goals 2022-2023: The 2022 SWMPP measure of effectiveness should have stated “The number of reported non-stormwater discharges into storm

drains and confirmed functionality of the confidential reporting system”. For 2022, there were no reported improper discharges. The “Confidential Environmental/Hazard Report” on USA’s website is used for all environmental/hazard issues, including the reporting of non-storm water discharges into storm drains. [Confidential Environmental/Hazard Report | Department of Safety and Environmental Compliance \(southalabama.edu\)](https://southalabama.edu/safetyandenvironmentalcompliance/confidential-environmental-hazard-report). Functionality of the confidential reporting system has been confirmed.

Planned Activities for 2023-2024: Update and monitor reporting system as necessary.

Target Audience: General public, faculty/staff, students

BMP-8: Maintenance

Measurable Goals: Maintain and update campus storm water conveyance system, including Three Mile Creek outfalls.

Progress on Goals 2022-2023: Conducted inspections as required and in conjunction with dry weather reporting and kept general campus maintained. Campus groundskeepers monitor conditions and maintain inlets and outfalls as needed. Logs for this work are maintained by the grounds department and are available on request.

Planned Activities for 2023-2024: Continue with maintenance activities.

Target Audience: Staff

BMP-9: Education

Measurable Goals: Educate the campus community (students, staff, faculty, and visitors) on the prohibition of dry weather flows into the University’s storm water system.

Progress on Goals 2022-2023: The prohibition of dry weather flows, along with the rest of the MS4, was presented at a total of four community meetings in 2022 (SEC Annual Education, Universal Waste Presentation, Building and Safety Compliance meeting, and New Student Orientation). 100% of community comments/responses received indicated that they considered the training effective.

Planned Activities for 2023-2024: Continue with public education and outreach. Review and update dry weather flow education as needed.

Target Audience: General public, faculty/staff, students

BMP-10: Train Staff

Measurable Goals: Conducting training of University staff and faculty at least once per permit cycle. Grounds and Project Management departments new team members receive IDDE Awareness training within six months of employment or as determined by the Department to which the employee is assigned. USA SEC Department to repeat training at an interval of every 5-years or less.

Progress on Goals 2022-2023: IDDE Awareness Training is completed via new employee orientation. Illicit Discharge Toolbox Talk has also been implemented as a permit refresher. See Appendix C for both training materials . 100% of trained staff considered the training effective for both sets of training. There has been no change in the percentage due to the fact that 100% of trained staff considered training effective in 2021 as well.

Planned Activities for 2023-2024: Provide training to all new hires during department orientation and review/update IDDE Awareness training as needed.

Target Audience: Faculty, staff

BMP-11: Analyze Illicit Discharges

Measurable Goals: Analyze data of illicit discharges.

Progress on Goals 2022-2023: Six outfalls have been analyzed in 2022. No illicit discharges have been discovered to date. There is no change in the percentage of illicit discharges due to the fact there were zero in 2021 and 2022. There were no illicit discharges found during inspections in 2022. All reportable outfalls have been inspected.

Planned Activities for 2023-2024: Continue monitoring outfalls for illicit discharges in order to target education to prevent them. The 5-year 100% outfall inspections will begin a new rotation in Quarter 2 of 2023.

Target Audience: Staff

BMP-12: Three Mile Creek & Twelve Mile Creek Monitoring

Measurable Goals: Conduct quarterly monitoring of BOD, COD, DO, E. Coli, Fecal coliform at an upstream and downstream location that encompasses the University's MS4 area.

Progress on Goals 2022-2023: 100% compliance with quarterly monitoring program test results in 2022. Quarterly monitoring has been conducted and provided for in this report. Test results have been obtained from Pace Labs, as well as Analytical Chemical Testing Lab (ACT Lab). Testing was also performed by university students on Three Mile Creek, testing for water temperature, pH, total alkalinity, and total hardness. An example document, as well as the testing location, can be found in Appendix D.

Planned Activities for 2023-2024: Continue with the BMP.

Target Audience: General public, faculty/staff, students

6. Construction Site Storm Water Runoff Control

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

Rationale

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

The construction site runoff control measures are designed to do the following: identify mechanisms which will be used to require sediment and erosion controls on construction sites, to establish enforcement procedures, to establish requirements for construction site supervisors to implement erosion and sediment control BMPs, to establish requirements for waste control on construction sites, to establish procedures for site plan reviews that consider water quality impacts, to establish procedures for site inspection and enforcement, and to develop education and training for construction site supervisors and the University of South Alabama personnel overseeing construction projects. A Quality Control (QC) consultant performs the associated inspections. The success of the construction site runoff control measure BMPs will be evaluated through analysis of each BMP goal.

BMP-1: Education

Training to be developed and provided to the University of South Alabama project supervisors and managers. This training will include proper site management procedures as well as protocols for reporting discharges and inspection results. To ensure personnel and contractors are properly trained, Safety and Environmental Compliance will ensure that training materials take advantage of new technologies for managing storm water runoff on construction sites. Educational programs will be updated and modified as needed. QCI training shall be in accordance with QCI training in accordance with ADEM Admin Code. R. 335-6-12 or the Alabama Construction Site General Permit). Applicable MS4 site inspection staff shall be trained at least once per year.

Measurable Goals: Provide training to the University of South Alabama applicable personnel.

Progress on Goals 2022-2023: There were a total of 67 supervisors and managers trained in 2022. 100% of trained staff considered the training effective. There is no change due to the fact that 100% of trained staff considered the training effective in 2021.

Planned Activities for 2023-2024: Continue with the BMP.

Target Audience: Staff

BMP-2: Construction Plan Review for Construction Stormwater

In order to effectively minimize occurrences of erosion and sediment transfer at construction sites the construction process must begin with the development of plans that incorporate BMPs for construction sites that are relevant to site conditions. To accomplish this the University of South Alabama will detail requirements for written project sediment and erosion control plans; implement plan review procedures to address conformance to storm water guidelines and the use of erosion controls; and provide an opportunity for the MS4 Advisory Committee to review procedures to evaluate effectiveness.

Measurable Goals: Number of plans reviewed.

Progress on Goals 2022-2023: A total of six sets of plans were reviewed in 2022 (University Storm Shelter, North Drive Utilities Improvements, Communication Line to Hancock Whitney Stadium, Sitework for Modular Clinic, Modular Clinic Infrastructure Package, and Operating Rooms/PACU). No violations were reported in 2022.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

BMP-3: Construction Site Inspections

The University of South Alabama has developed standardized procedures for conducting construction site inspections to ensure compliance with storm water management requirements. The University of South Alabama will review existing procedures for tracking construction activities and revise as needed.

For sites greater than 1-acre, the University uses the ADEM NOI process inclusive of individual CBMPP manuals and erosion control plans through ADEM's AEPACS system. This allows for a consistent approach to the mitigation of runoff from construction sites and ensures that the University is up to date with ADEM's general permit requirements for construction stormwater management. The University contracts with a consulting firm to perform the inspections required as a result of rainfall threshold exceedance or in the event of no rainfall, 30-day inspections in conjunction with daily inspections by the contractor. Reports are generated by the consulting engineer indicating any deficiencies in the BMPs and actions required to remedy the issues identified.

Additionally, the University conducts its own inspections via staff. When observations indicate repairs to BMPs are required, the issues are communicated to the contractor for immediate rectification. For sites less than 1-acre, the University conducts internal reviews with the assistance of an outside consulting firm to ensure construction stormwater impacts are minimized. The University of South Alabama will require contractors to utilize an independent QC to inspect and monitor construction sites. The University of South Alabama will require contractors to take immediate corrective actions when conditions are discovered that are not in compliance with construction site storm water guidelines. The University of South Alabama will maintain copies of QC inspections and corrective

actions and report the number in the annual report. The University has developed and implemented a construction site inspection form to include at least the items listed in Parts III.B.3.d.i.

The University maintains an inventory of qualifying construction sites containing relevant contact information for each construction site (i.e., tracking number and construction site contact name, address, phone number, etc.), the size of the construction site, whether the construction site has submitted for permit coverage under ADEM’s Construction General Permit ALR100000, and the date the MS4 Advisory Committee received a copy of the site construction plan. The University will make the inventory available upon the Department’s request.

Measurable Goals: Report the number of inspections and corrective actions.

Progress on Goals 2022-2023: From a total of 58 BMP inspections, two BMP’s contained deficiencies. This is being addressed by the USA SEC Department, and corrective actions are being incorporated. This is an increase in violations from last year, considering there were no BMP violations in 2021.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

BMP-4: Construction Site Problem Reporting

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

Measurable Goals: The 2022 SWMPP measurable goals should have stated “A mechanism for the public to report complaints regarding discharges from qualifying construction sites”.

Progress on Goals 2022-2023: The 2022 SWMPP measure of effectiveness should have stated “The number of reported storm water and storm quality concerns related to construction projects, as well as confirmed functionality of the confidential reporting webpage system and phone number.” Two issues were reported regarding construction activity problems. 100% of issues were reported. The “Confidential Environmental/Hazard Report” on USA’s website is used for all environmental/hazard issues, including the reporting of storm water and storm quality concerns. [Confidential Environmental/Hazard Report | Department of Safety and Environmental Compliance \(southalabama.edu\)](#). Functionality of

the confidential reporting system has been confirmed. There has been a total of 8,744 website hits in 2022. The phone number for reporting storm water/storm quality concerns is the main line for the USA SEC Department (8 AM – 5 PM, Monday – Friday): (251) 460-7070. For any concerns after hours, please call Mr. William Guess at (251) 709-7783.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

7. Post Construction Storm Water Management in New Development and Redevelopment

The post construction storm water runoff measures consist of BMPs that are designed to minimize water quality impacts from new and redevelopments once construction activities are complete. BMPs selected are designed to: ensure that appropriate reviews are conducted, preconstruction conditions are taken into consideration during the design, and to take preconstruction conditions into consideration throughout the design, construction, and postconstruction phases.

The University has developed a site-plan review and approval process and a required re-approval process when changes to post-construction controls are required.

The University has developed procedures for a post-construction process to demonstrate and document that post-construction storm water measures have been installed per design specifications, which includes enforceable procedures for bringing noncompliant projects into compliance. These procedures are bound within contract documents, completion bonds, maintenance bonds, and performance bonds. The documents either compel the contractor to rectify non-compliant project issues prior to acceptance by the University or provides for remedies during the warranty period.

The University has developed a Land Disturbance Checklist to ensure, to the maximum extent practicable, that the post construction runoff mimics pre-construction hydrology. The checklist is included in Appendix I.

The University of South Alabama encourages and promotes the incorporation and use of low impact development (LID)/green infrastructure where feasible for all of its development projects.

During the initial project briefing phase, the University consults with landscape architects, civil engineers, and building architects with experience and exposure to LID/green infrastructure to identify opportunities to incorporate these technologies into the building project. Once the opportunities are identified, they are assessed for inclusion into the project.

Rationale

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

BMP-1: Plan Review for Construction Activities

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

Measurable Goals: Report on number of plans reviewed.

Progress on Goals 2022-2023: 100 percent of plans were reviewed. A total of six sets of plans were reviewed in 2022 (University Storm Shelter, North Drive Utilities Improvements, Communication Line to Hancock Whitney Stadium, Sitework for Modular Clinic, Modular Clinic Infrastructure Package, and Operating Rooms/PACU). No violations were reported in 2022.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

BMP-2: Three Mile Creek & Twelve Mile Creek Monitoring of Water Quality

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

Measurable Goals: Conduct quarterly inspections on the biological health of the creeks for BOD, COD, DO, E. coli, and Fecal coliform.

Progress on Goals 2022-2023: 100% compliance attained regarding quarterly inspections on the biological health of Three Mile Creek and Twelve Mile Creek for BOD, COD, DO, E. coli, and Fecal coliform in 2022. In Q4 2022, one upstream and one downstream location along Twelve Mile Creek was incorporated into the quarterly testing of BOD, COD, DO, E. coli, and Fecal coliform due to new construction of multiple buildings off of Hillcrest Rd, just north of Twelve Mile Creek. Water Quality testing was also performed by university students on Three Mile Creek, testing for water temperature, pH, total alkalinity, and total hardness. An example document, as well as the testing location, can be found in Appendix D.

Planned Activities for 2023-2024: Continue with BMP and hold consultants accountable to ensuring these tests are completed quarterly as required.

Target Audience: General public, faculty/staff, students

BMP-3: LID/Green Infrastructure and Structural BMP Inspections

Measurable Goals: Conduct annual inspections on all LID/Green Infrastructure and structural BMPs.

Progress on Goals 2022-2023: Annual inspections have been made by USA SEC Staff. No maintenance/replacement has been needed.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

BMP-4: Record Keeping of Inspections and Maintenance

Measurable Goals: Maintain records of post-construction inspections, maintenance activities and make them available to the Department upon request and require corrective actions to poorly functioning or inadequately maintained postconstruction BMP's.

Progress on Goals 2022-2023: Postconstruction BMP information is kept by the USA SEC Department and is available upon request.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

BMP-5: Stormwater Network Mapping

Measurable Goals: Review of storm drain location map for updates on a yearly basis.

Progress on Goals 2022-2023: The map was reviewed and updated in 2022.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

8. Pollution Prevention and Good Housekeeping

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

Rationale

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

BMP-1 Road Maintenance

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

Measurable Goals (a): Conduct Road maintenance activities through the reporting year.

Progress on Goals 2022-2023: Maintained roads as problems occurred. There were no phone calls for individual road defects for 2021 or 2022, thus no change.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: General Public, faculty/staff, students

Measurable Goals (b): Number of alternate procedures created through the reporting year.

Progress on Goals 2022-2023: A total of 11 SOPs were updated in 2022.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: General Public, faculty/staff, students

BMP-2: Litter Collection

The University of South Alabama will continue to promote anti-litter on campus. Several procedures will be utilized in an effort to reduce the discharge of floatable materials into local bodies of water. The University of South Alabama will periodically evaluate the location of litter and trash receptacles, collect litter on an established schedule and adjust locations of receptacles and collection schedules as necessary. Currently a three person Grounds Department crew are dedicated full time to patrolling the campus and internal roadways to police areas for litter. Litter was collected on a daily basis. The University of South Alabama will include information regarding litter collection on campus as part of the annual report.

Measurable Goals: Establishment of schedule of litter collection / maintain schedule of litter collection.

Progress on Goals 2022-2023: A three-person Grounds Department crew is dedicated full time to patrolling the campus and internal roadways to police areas for litter. See Appendix J regarding the groundskeeper essential job functions. All litter was deposited into 1-20 yard and 3-30 yard roll offs on-site. The roll offs were dumped a total of 64 times in 2022 for a total of 1,880 yards removed from campus and prevented from entering downstream storm systems. There were no reports of litter received by the SEC Department.

Planned Activities for 2023-2024: Continue with scheduled activities.

Target Audience: Staff

BMP-3: Vehicle Maintenance

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

Measurable Goals: Retention of existing program

Progress on Goals 2022-2023: There were a total of five oil leaks and six coolant leaks reported for University vehicles in 2022. Scheduled repairs have been made.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

BMP-4: Hazardous Material Management

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

Measurable Goals: Retention of existing program.

Progress on Goals 2022-2023: No hazardous materials were measured. The University has an existing protocol for the management of hazardous materials and is incorporated into the overall MS4 requirements. The protocol complies with the RCRA permit. Department functions involving hazardous waste and materials management are shown in Appendix G.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

BMP-5: Training

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

Measurable Goals: Number of Employees Trained.

Progress on Goals 2022-2023: 154 employees have been trained. 100 percent considered the training effective. Thus, being the same percentage as 2021, no change has been noted.

Planned Activities for 2023-2024: Continue with BMP.

Target Audience: Staff

BMP-6: Litter Trap

Measurable Goals: Report on the pound of litter removed from the trap and any by-pass conditions observed.

Progress on Goals 2022-2023: The litter trap was removed due to very low trash accumulation. This BMP will be removed from future MS4 reports.

Planned Activities for 2023-2024: N/A.

Target Audience: Staff

Appendix A - Three Mile Creek & Twelve Mile Creek TMDL Data Collection, Results, and Commentary

This appendix includes reports from ACT Lab and Pace Labs for water sample testing on Three Mile Creek and Twelve Mile Creek.

April 24, 2023

William Guess
University of South Alabama
Department of Safety & Environmental Compliance
600 Clinic Drive
Mobile, Alabama 36688

Subject: MS4 Phase II TMDL Sampling, and Testing, Threemile and Twelvemile Creek
2022 Yearly Report
Driven Engineering, Inc. Project no: 17005

Dear Mr. Guess,

Pace Environmental Sciences and Analytical Chemical Testing Laboratory was contracted by Driven Engineering, Inc. on behalf of the University to obtain and test water samples upstream and downstream of the USA campus on a quarterly basis since 2018 at sites known as TMDL-1 and TMDL-2. Upstream (TMDL-3) and downstream (TMDL-4) locations along Twelvemile Creek have also been added to this project (tested by ACT Laboratory), effective Q4, 2022. Based on the fact that Pace has been unsuccessful in delivering 100% accessible testing reports, Driven Engineering has decided to hire ACT Laboratory for 100% of the testing related to this project moving forward.

This Report will include four quarterly testing reports of Threemile Creek from Pace Labs (3 wet, 1 dry), and one fourth-quarter report of Twelvemile Creek testing from ACT Laboratory (dry). For the 2023 year-end report, there will be eight total testing reports pertaining to this project. There will be three dry reports and one wet report each for Threemile and Twelvemile Creek, with quarter three being reported as the wet quarter.

The TMDL-1 site is located near the western boundary of the University. The TMDL-2 site is located near the eastern boundary of the University and downstream of the TMDL-1 site. The TMDL-3 site is located near Hillcrest Rd, on the southernmost west portion of South's property. The TMDL-4 site is located on the southernmost east boundary of South's property, downstream of TMDL-3. The results of the testing throughout the year indicate a healthy water course. The most recent results from 2022 are shown in the tables below (Q4). Lab results are presented in Appendix B.

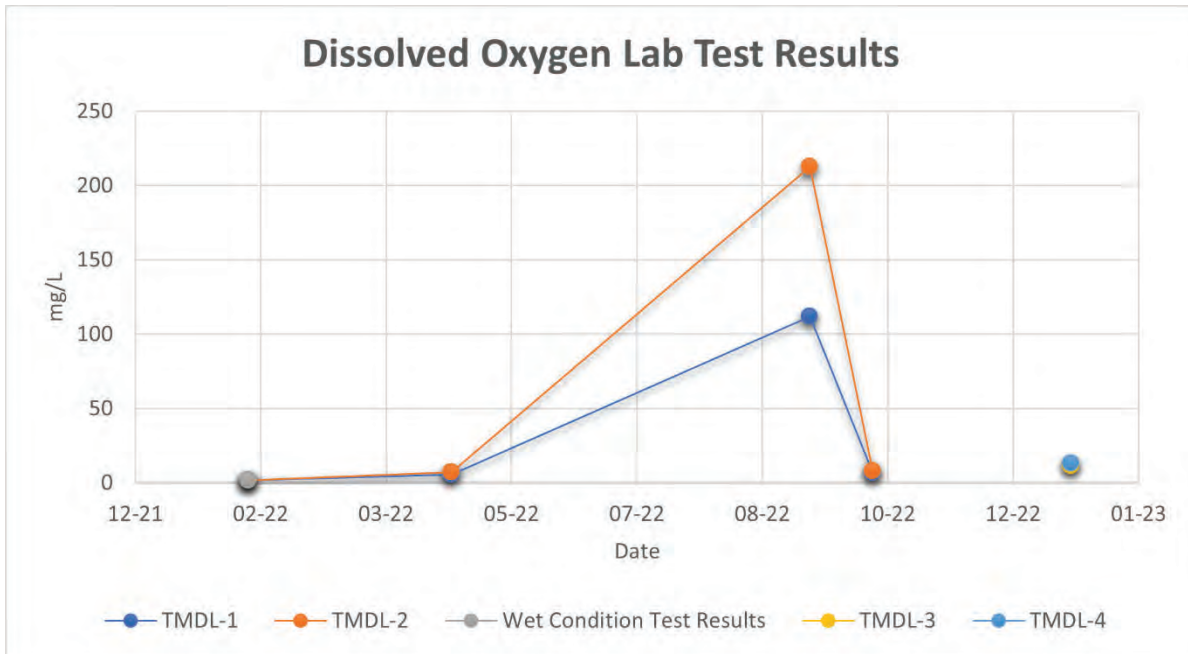


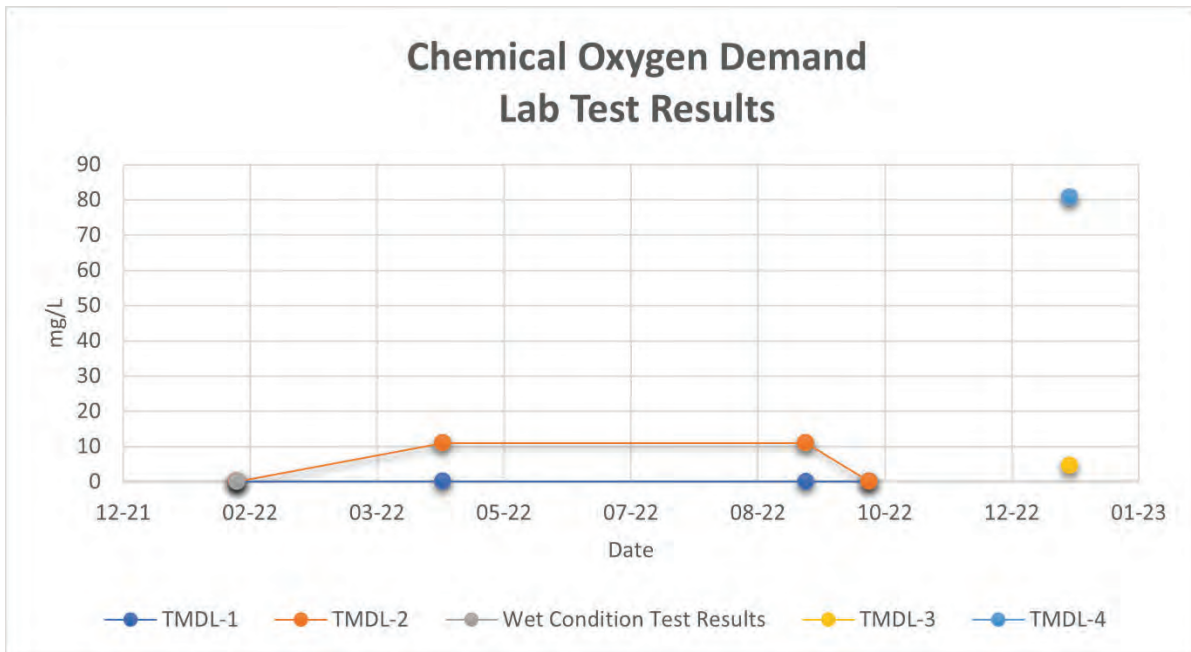
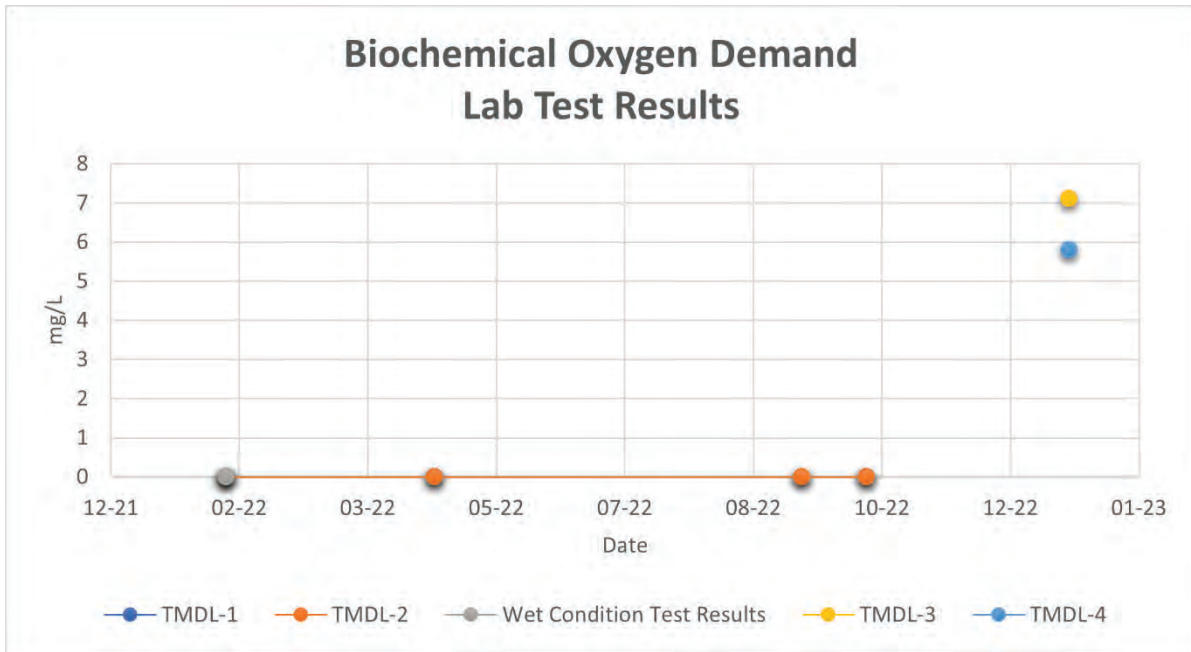


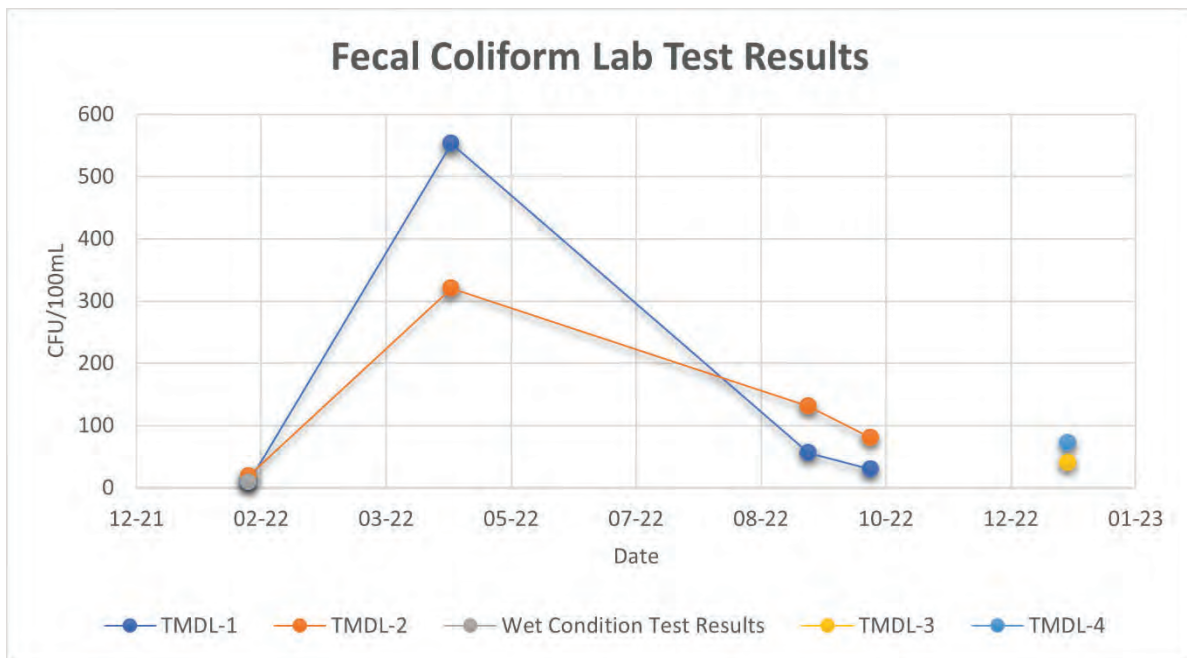
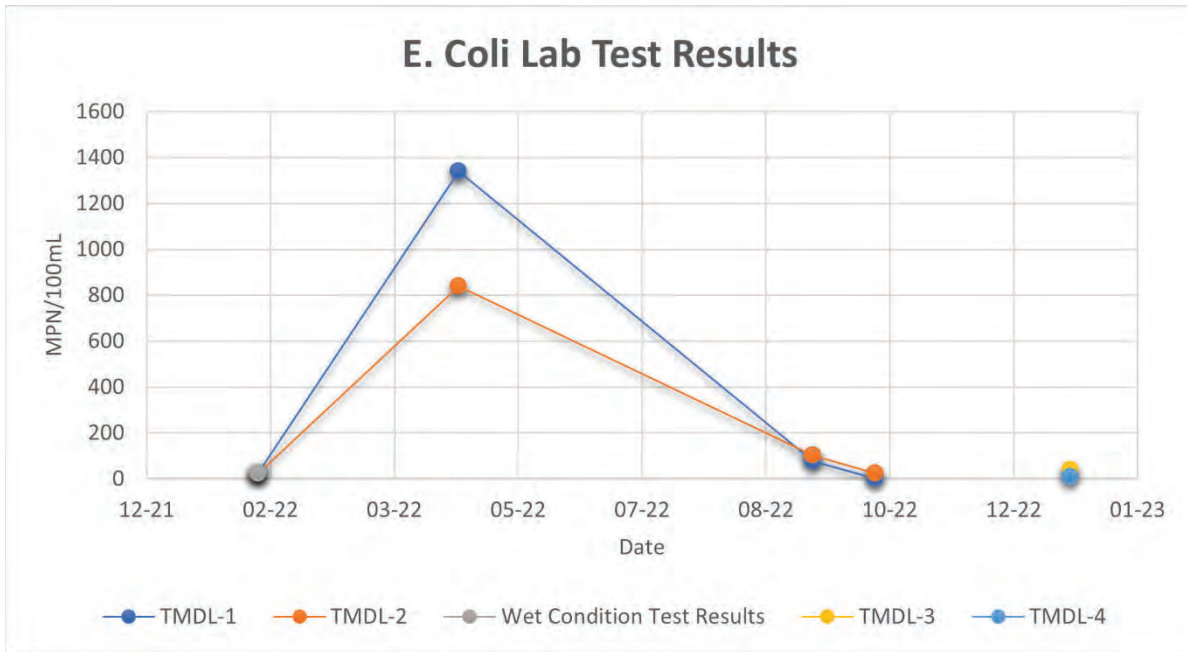
Quarter 4 2022 Test Cycle

Site	DO	BOD	COD	E.coli	Fecal Coliform
TMDL-1 (Threemile Creek)	6.93 mg/L	Not Detected	Not Detected	Not Detected	30 CFU / 100ml
TMDL-2 (Threemile Creek)	7.87 mg/L	Not Detected	Not Detected	25 MPN / 100ml	80 CFU / 100ml
TMDL-3 (Twelvemile Creek)	11.47 mg/L	7.1 mg/L	4.52 mg/L	40 MPN / 100ml	40 CFU / 100ml
TMDL-4 (Twelvemile Creek)	13.09 mg/L	5.8 mg/L	80.6 mg/L	8 MPN / 100ml	72 CFU / 100ml
Acceptable Limits	>3 mg/L	<5.0 mg/L	n/a	200-2000 MPN / 100ml	200-2000 CFU / 100ml

The quarter 4 2022 Test Cycle indicates a general increase of mostly everything in Three Mile Creek, except for Chemical Oxygen Demand (COD). Twelve Mile Creek shows relative fluctuation in Dissolved Oxygen (DO) and Biochemical Oxygen Demand (BOD), although an increase in Chemical Oxygen Demand (COD) and Fecal Coliform, as well as a decrease in E. Coli. Based on data acquired from the NOAA database at the time of sample collection, the colder weather and streamline flow are what effected these two creeks for quarter 4 of 2022.









General variations for all four testing components (Fecal Coliform, *E.coli*, COD and BOD) within the reporting cycle indicate variations from the upstream test location to the downstream location. Possible considerations for the increase could be attributed to exfiltration of sewerage across Three Mile Creek because of infiltration of rainfall runoff leaking into the sewer infrastructure. Rainfall data from NOAA suggests infiltration is not a contributing factor for some of the test results. ADEM reports for the TDML of Three Mile Creek and Twelve Mile Creek suggests variations in the reported constituents are primarily based on variations of temperature and stream flow.

Based on the totality of the data and structural BMPs reported in the annual MS4 report we have determined that the testing results indicate a healthy creek within the University's reporting area. Please contact our office if you have any questions.

Sincerely,
Driven Engineering, Inc.

**Andrew
Watley** Digitally signed by
Andrew Watley
Date: 2023.06.28
18:27:20 -05'00'
Andrew Watley, E.I.T.

Avalisha Fisher, P.E.

February 09, 2022

Gene Stacey
Driven Engineering
8005 Morris Hill Road
Semmes, AL 36575

RE: Project: Stormwater-Quarterly
Pace Project No.: 20233909

Dear Gene Stacey:

Enclosed are the analytical results for sample(s) received by the laboratory on February 03, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Mobile Labs
- Pace Analytical Services - New Orleans

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Savannah Wallace
savannah.wallace@pacelabs.com
251-344-9106
Project Manager

Enclosures

cc: Chris Fisher, Driven Engineering



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Stormwater-Quarterly
Pace Project No.: 20233909

Pace Analytical Services New Orleans

Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Pace Analytical Services Mobile

4320 Midmost Drive, Mobile, AL 36609

Alabama Certification #: 40810

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Stormwater-Quarterly

Pace Project No.: 20233909

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20233909001	TDML-1 Upstream	Water	02/03/22 12:00	02/03/22 13:07

:

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Stormwater-Quarterly
Pace Project No.: 20233909

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20233909001	TDML-1 Upstream	SM 9222D	PP1	1
		9223B / Quanti-Tray	PP1	2
			KAW	1
			DWR	1
		SM 5220D	NTG	1
20233909002	TDML-2 Downstream	SM 9222D	PP1	1
		9223B / Quanti-Tray	PP1	2
			KAW	1
			DWR	1
		SM 5220D	NTG	1

PASI-MO = Pace Analytical Services - Mobile Labs
PASI-N = Pace Analytical Services - New Orleans

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Stormwater-Quarterly

Pace Project No.: 20233909

Sample: TDML-1 Upstream		Lab ID: 20233909001	Collected: 02/03/22 12:00	Received: 02/03/22 13:07	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MOB 9222D Fecal Coli by MF		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - Mobile Labs						
Fecal Coliforms	<10	CFU/100 mL	10.0	10	02/03/22 15:00	02/04/22 14:00		N2
MOB Colilert/QT MPN		Analytical Method: 9223B / Quanti-Tray Preparation Method: 9223B / Quanti-Tray Pace Analytical Services - Mobile Labs						
Total Coliforms	7470	MPN/100mL	25.0	25	02/03/22 15:15	02/04/22 15:15		N2
E.coli, Bacteria	25.0	MPN/100mL	25.0	25	02/03/22 15:15	02/04/22 15:15		N2
Field Data		Analytical Method: Pace Analytical Services - Mobile Labs						
Oxygen, Dissolved	1.71	mg/L		1		02/03/22 12:00	7782-44-7	N2
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	ND	mg/L	3.0	3	02/04/22 11:00	02/09/22 12:59		L2
5220D COD		Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - New Orleans						
Chemical Oxygen Demand	ND	mg/L	10.0	1	02/07/22 11:02	02/07/22 15:35		

Sample: TDML-2 Downstream		Lab ID: 20233909002	Collected: 02/03/22 11:40	Received: 02/03/22 13:07	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MOB 9222D Fecal Coli by MF		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - Mobile Labs						
Fecal Coliforms	19	CFU/100 mL	10.0	10	02/03/22 15:00	02/04/22 14:00		N2
MOB Colilert/QT MPN		Analytical Method: 9223B / Quanti-Tray Preparation Method: 9223B / Quanti-Tray Pace Analytical Services - Mobile Labs						
Total Coliforms	38800	MPN/100mL	25.0	25	02/03/22 15:15	02/04/22 15:15		N2
E.coli, Bacteria	25.0	MPN/100mL	25.0	25	02/03/22 15:15	02/04/22 15:15		N2
Field Data		Analytical Method: Pace Analytical Services - Mobile Labs						
Oxygen, Dissolved	1.65	mg/L		1		02/03/22 11:40	7782-44-7	N2
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	ND	mg/L	3.0	3	02/04/22 11:00	02/09/22 13:02		L2
5220D COD		Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - New Orleans						
Chemical Oxygen Demand	ND	mg/L	10.0	1	02/07/22 11:02	02/07/22 15:36		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Stormwater-Quarterly
Pace Project No.: 20233909

QC Batch: 246779	Analysis Method: SM 9222D
QC Batch Method: SM 9222D	Analysis Description: MOB 9222D Fecal Coli by MF
	Laboratory: Pace Analytical Services - Mobile Labs

Associated Lab Samples: 20233909001, 20233909002

METHOD BLANK: 1171778 Matrix: Water

Associated Lab Samples: 20233909001, 20233909002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fecal Coliforms	CFU/100 mL	<1	1.0	02/04/22 14:00	N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Stormwater-Quarterly
Pace Project No.: 20233909

QC Batch: 246787	Analysis Method: 9223B / Quanti-Tray
QC Batch Method: 9223B / Quanti-Tray	Analysis Description: MOB Colilert/QT MPN
	Laboratory: Pace Analytical Services - Mobile Labs

Associated Lab Samples: 20233909001, 20233909002

METHOD BLANK: 1171855 Matrix: Water

Associated Lab Samples: 20233909001, 20233909002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
E.coli, Bacteria	MPN/100mL	ND	1.0	02/04/22 15:15	N2
Total Coliforms	MPN/100mL	ND	1.0	02/04/22 15:15	N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Stormwater-Quarterly
Pace Project No.: 20233909

QC Batch: 246867 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20233909001, 20233909002

METHOD BLANK: 1172246 Matrix: Water
Associated Lab Samples: 20233909001, 20233909002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	0.20	02/09/22 12:12	

LABORATORY CONTROL SAMPLE: 1172248

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	152	77	85-115	L2

SAMPLE DUPLICATE: 1172249

Parameter	Units	20233891001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	19.3	21.8	12	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: Stormwater-Quarterly
Pace Project No.: 20233909

QC Batch: 246944	Analysis Method: SM 5220D
QC Batch Method: SM 5220D	Analysis Description: 5220D COD
	Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20233909001, 20233909002

METHOD BLANK: 1172584 Matrix: Water
Associated Lab Samples: 20233909001, 20233909002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	02/07/22 15:31	

METHOD BLANK: 1172586 Matrix: Water
Associated Lab Samples: 20233909001, 20233909002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	02/07/22 15:34	

LABORATORY CONTROL SAMPLE: 1172585

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	100	102	102	90-110	

LABORATORY CONTROL SAMPLE: 1172587

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	100	100	100	90-110	

MATRIX SPIKE SAMPLE: 1172589

Parameter	Units	20233650001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	1330	1000	2320	99	75-125	P1

SAMPLE DUPLICATE: 1172588

Parameter	Units	20233650001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	1330	1360	2	20	P1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Stormwater-Quarterly
Pace Project No.: 20233909

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

ANALYTE QUALIFIERS

- L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
- N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
- P1 Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Stormwater-Quarterly
Pace Project No.: 20233909

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20233909001	TDML-1 Upstream	SM 9222D	246779	SM 9222D	246821
20233909002	TDML-2 Downstream	SM 9222D	246779	SM 9222D	246821
20233909001	TDML-1 Upstream	9223B / Quanti-Tray	246787	9223B / Quanti-Tray	246822
20233909002	TDML-2 Downstream	9223B / Quanti-Tray	246787	9223B / Quanti-Tray	246822
20233909001	TDML-1 Upstream		246886		
20233909002	TDML-2 Downstream		246886		
20233909001	TDML-1 Upstream	SM 5210B	246867	SM 5210B	247171
20233909002	TDML-2 Downstream	SM 5210B	246867	SM 5210B	247171
20233909001	TDML-1 Upstream	SM 5220D	246944	SM 5220D	247006
20233909002	TDML-2 Downstream	SM 5220D	246944	SM 5220D	247006

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

4320 Midmost Dr Mobile AL 36609

WO#: 20233909

PM: SLW Due Date: 02/14/22
CLIENT: BM-Driven

Project #:

Courier: Pace Client FedEx UPS Other Tracking # _____

Custody Seal on Cooler/Box Present [see COC] Custody Seals intact Yes No

Thermometer Used: Therm Fisher IR 001
 Other:

Type of Ice: Wet Blue None

Samples on ice [see COC]

Cooler Temperature [see COC]

Date and Initials of person examining contents: MAS 2/3/22

Temp must be measured from temperature blank when present Comments

Temperature Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Short Hold Time Analyses (<72 hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Rush Turn Around Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers received within manufacturer's precautionary and/or expiration dates:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
All containers needing chemical preservation have been checked (except VOA, micro, & O&G):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14
All containers preservation checked found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	17

If No, was preservative added? Yes No
If added record lot no.: HNO3 _____ H2SO4 _____

Client Notification/Resolution:
Person Contacted: _____ Date/Time: _____
Comments/ Resolution _____

May 03, 2022

Gene Stacey
Driven Engineering
8005 Morris Hill Road
Semmes, AL 36575

RE: Project: Quarterly SW 4/25/22
Pace Project No.: 20241522

Dear Gene Stacey:

Enclosed are the analytical results for sample(s) received by the laboratory on April 25, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Mobile Labs
- Pace Analytical Services - New Orleans

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Savannah Wallace
savannah.wallace@pacelabs.com
251-344-9106
Project Manager

Enclosures

cc: Chris Fisher, Driven Engineering



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Quarterly SW 4/25/22

Pace Project No.: 20241522

Pace Analytical Services New Orleans

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):

E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Pace Analytical Services Mobile

4320 Midmost Drive, Mobile, AL 36609

Alabama Certification #: 40810

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SAMPLE SUMMARY

Project: Quarterly SW 4/25/22
Pace Project No.: 20241522

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20241522001	TDML-1	Water	04/25/22 06:46	04/25/22 08:15

;

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Quarterly SW 4/25/22

Pace Project No.: 20241522

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20241522001	TDML-1	SM 9222D	PP1	1
		9223B / Quanti-Tray	PP1	2
			KAW	1
		SM 5210B	RVJ	1
		SM 5220D	RVJ	1
20241522002	TDML-2	SM 9222D	PP1	1
		9223B / Quanti-Tray	PP1	2
			KAW	1
		SM 5210B	RVJ	1
		SM 5220D	RVJ	1

PASI-MO = Pace Analytical Services - Mobile Labs

PASI-N = Pace Analytical Services - New Orleans

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Quarterly SW 4/25/22
Pace Project No.: 20241522

Sample: TDML-1		Lab ID: 20241522001	Collected: 04/25/22 06:46	Received: 04/25/22 08:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MOB 9222D Fecal Coli by MF		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - Mobile Labs						
Fecal Coliforms	553	CFU/100 mL	10.0	10	04/25/22 12:10	04/26/22 12:30		N2
MOB Colilert/QT MPN		Analytical Method: 9223B / Quanti-Tray Preparation Method: 9223B / Quanti-Tray Pace Analytical Services - Mobile Labs						
Total Coliforms	11600	MPN/100mL	20.0	20	04/25/22 11:20	04/25/22 11:29		N2
E.coli, Bacteria	1340	MPN/100mL	20.0	20	04/25/22 11:20	04/25/22 11:29		N2
Field Data		Analytical Method: Pace Analytical Services - Mobile Labs						
Oxygen, Dissolved	5.66	mg/L		1		04/25/22 06:46	7782-44-7	N2
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	ND	mg/L	3.0	3	04/26/22 16:26	05/01/22 10:56		
5220D COD		Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - New Orleans						
Chemical Oxygen Demand	ND	mg/L	10.0	1	04/27/22 13:18	04/27/22 15:41		

Sample: TDML-2		Lab ID: 20241522002	Collected: 04/25/22 07:01	Received: 04/25/22 08:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MOB 9222D Fecal Coli by MF		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - Mobile Labs						
Fecal Coliforms	320	CFU/100 mL	10.0	10	04/25/22 12:10	04/26/22 12:30		N2
MOB Colilert/QT MPN		Analytical Method: 9223B / Quanti-Tray Preparation Method: 9223B / Quanti-Tray Pace Analytical Services - Mobile Labs						
Total Coliforms	11000	MPN/100mL	20.0	20	04/25/22 11:20	04/25/22 11:29		N2
E.coli, Bacteria	840	MPN/100mL	20.0	20	04/25/22 11:20	04/25/22 11:29		N2
Field Data		Analytical Method: Pace Analytical Services - Mobile Labs						
Oxygen, Dissolved	7.11	mg/L		1		04/25/22 07:01	7782-44-7	N2
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	ND	mg/L	3.0	3	04/26/22 16:26	05/01/22 10:59		
5220D COD		Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - New Orleans						
Chemical Oxygen Demand	11.0	mg/L	10.0	1	04/27/22 13:18	04/27/22 15:41		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Quarterly SW 4/25/22
 Pace Project No.: 20241522

QC Batch: 253660 Analysis Method: SM 9222D
 QC Batch Method: SM 9222D Analysis Description: MOB 9222D Fecal Coli by MF
 Laboratory: Pace Analytical Services - Mobile Labs

Associated Lab Samples: 20241522001, 20241522002

METHOD BLANK: 1206108 Matrix: Water
 Associated Lab Samples: 20241522001, 20241522002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fecal Coliforms	CFU/100 mL	<1	1.0	04/26/22 12:30	N2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Quarterly SW 4/25/22
 Pace Project No.: 20241522

QC Batch: 253658	Analysis Method: 9223B / Quanti-Tray
QC Batch Method: 9223B / Quanti-Tray	Analysis Description: MOB Colilert/QT MPN
	Laboratory: Pace Analytical Services - Mobile Labs

Associated Lab Samples: 20241522001, 20241522002

METHOD BLANK: 1206106 Matrix: Water

Associated Lab Samples: 20241522001, 20241522002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
E.coli, Bacteria	MPN/100mL	ND	1.0	04/25/22 11:29	N2
Total Coliforms	MPN/100mL	ND	1.0	04/25/22 11:29	N2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Quarterly SW 4/25/22

Pace Project No.: 20241522

QC Batch: 253785

Analysis Method: SM 5210B

QC Batch Method: SM 5210B

Analysis Description: 5210B BOD, 5 day

Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20241522001, 20241522002

METHOD BLANK: 1206595

Matrix: Water

Associated Lab Samples: 20241522001, 20241522002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	0.20	05/01/22 10:42	

LABORATORY CONTROL SAMPLE: 1206597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	176	89	85-115	

SAMPLE DUPLICATE: 1206598

Parameter	Units	20241641001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	16.6	17.5	5	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Quarterly SW 4/25/22
Pace Project No.: 20241522

QC Batch: 253903 Analysis Method: SM 5220D
QC Batch Method: SM 5220D Analysis Description: 5220D COD
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20241522001, 20241522002

METHOD BLANK: 1207100 Matrix: Water
Associated Lab Samples: 20241522001, 20241522002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	04/27/22 15:39	

LABORATORY CONTROL SAMPLE: 1207101

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	100	103	103	90-110	

MATRIX SPIKE SAMPLE: 1207103

Parameter	Units	20241659001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	74.0	100	150	76	75-125	

SAMPLE DUPLICATE: 1207102

Parameter	Units	20241659001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	74.0	86.0	15	20	

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QUALIFIERS

Project: Quarterly SW 4/25/22
Pace Project No.: 20241522

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Quarterly SW 4/25/22
Pace Project No.: 20241522

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20241522001	TDML-1	SM 9222D	253660	SM 9222D	253735
20241522002	TDML-2	SM 9222D	253660	SM 9222D	253735
20241522001	TDML-1	9223B / Quanti-Tray	253658	9223B / Quanti-Tray	253733
20241522002	TDML-2	9223B / Quanti-Tray	253658	9223B / Quanti-Tray	253733
20241522001	TDML-1		253676		
20241522002	TDML-2		253676		
20241522001	TDML-1	SM 5210B	253785	SM 5210B	254150
20241522002	TDML-2	SM 5210B	253785	SM 5210B	254150
20241522001	TDML-1	SM 5220D	253903	SM 5220D	253904
20241522002	TDML-2	SM 5220D	253903	SM 5220D	253904

REPORT OF LABORATORY ANALYSIS

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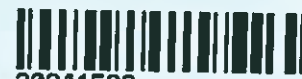


CHAIN-OF-CUSTODY / Analytical Request

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.pacelabs.com>

WO#: 20241522



20241522

Section A

Required Client Information:

Company: Driven Engineering
 Address: 8005 Morris Hill Road
 Semmes, AL 36575
 Email: gene.stacey@drivenengineering.com
 Phone: (251)649-4011 Fax:
 Requested Due Date:

Section B

Required Project Information:

Report To: Gene Stacey
 Copy To:
 Purchase Order #:
 Project Name: Stormwater - Quarterly
 Project #:

Section C

Invoice Information:

Attention:
 Company Name:
 Address:
 Pace Quote:
 Pace Project Manager: savannah.wallace@pacelabs.com
 Pace Profile #: 9640

Regulatory Agency:
 State / Location:

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique	MATRIX Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Other OT Tissue TS	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Y/N	Requested Analysis Filtered (Y/N)					Residual Chlorine (Y/N)					
						START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2SO3	Methanol		Other	Analyses Test	BOD 5-day	COD	Fecal Coli		E Coli	Field Dissolved Oxygen			
						DATE	TIME	DATE	TIME																					
1	TDML-1	WT				4-25-22	6:40													X	X	X	X	X					5.66	
2	TDML-2	WT				7:01														X	X	X	X	X					7.11	
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELEASED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Field-DO	<i>[Signature]</i>	4/25/22	0815	<i>[Signature]</i>	4/25/22	0815	6.4	Y	W	Y

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:						
SIGNATURE of SAMPLER:		DATE Signed:				

WO#: 20241522

PM: SLW

Due Date: 05/04/22

CLIENT: BM-Driven



Sample Condition Upon Receipt

4320 Midmost Dr Mobile AL 36609

Project #:

Courier: Pace Client FedEx UPS Other Tracking # _____

Custody Seal on Cooler/Box Present [see COC] Custody Seals intact Yes No

Thermometer Used: Therm Fisher IR 001 Other

Type of Ice: Wet Blue None

Samples on ice [see COC]

Date and Initials of person examining contents: 4/25/2022 RAW

Cooler Temperature [see COC]

Temp must be measured from temperature blank when present

Comments:

Temperature Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Short Hold Time Analyses (<72 hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Rush Turn Around Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9
Correct Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers received within manufacturer's precautionary and/or expiration dates:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
All containers needing chemical preservation have been checked (except VOA, micro, & O&G):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14 <i>4/25/22 RAW</i>
All containers preservation checked found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15
		If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	17

Client Notification/Resolution:

Person Contacted _____ Date/Time _____

Comments/ Resolution _____

September 25, 2022

Avalisha Fisher
Driven Engineering
8005 Morris Hill Road
Semmes, AL 36575

RE: Project: SW (Dry) Quarterly 09/15/22
Pace Project No.: 20255748

Dear Avalisha Fisher:

Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Mobile Labs
- Pace Analytical Services - New Orleans

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Savannah Wallace
savannah.wallace@pacelabs.com
251-344-9106
Project Manager

Enclosures

cc: Chris Fisher, Driven Engineering
Jolinda Fisher, Driven Engineering
Ben Rodrigo, USA Safety & Environmental Compliance
Andrew Watley, Driven Engineering



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SW (Dry) Quarterly 09/15/22
Pace Project No.: 20255748

Pace Analytical Services New Orleans

Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Pace Analytical Services Mobile

4320 Midmost Drive, Mobile, AL 36609

Alabama Certification #: 40810

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SW (Dry) Quarterly 09/15/22

Pace Project No.: 20255748

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20255748001	TDML-1	Water	09/15/22 09:57	09/15/22 10:35

;

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SAMPLE ANALYTE COUNT

Project: SW (Dry) Quarterly 09/15/22

Pace Project No.: 20255748

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20255748001	TDML-1	SM 9222D	LMR	1
		9223B / Quanti-Tray	MAS	2
			KAW	1
		SM 5210B	MEW	1
		SM 5220D	JLH	1
20255748002	TDML-2	SM 9222D	LMR	1
		9223B / Quanti-Tray	MAS	2
			KAW	1
		SM 5210B	JMB	1
		SM 5220D	JLH	1

PASI-MO = Pace Analytical Services - Mobile Labs

PASI-N = Pace Analytical Services - New Orleans

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SW (Dry) Quarterly 09/15/22
Pace Project No.: 20255748

Sample: TDML-1		Lab ID: 20255748001	Collected: 09/15/22 09:57	Received: 09/15/22 10:35	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MOB 9222D Fecal Coli by MF		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - Mobile Labs						
Fecal Coliforms	56	CFU/100 mL	10.0	10	09/15/22 14:00	09/16/22 12:40		N2
MOB Colilert/QT MPN		Analytical Method: 9223B / Quanti-Tray Preparation Method: 9223B / Quanti-Tray Pace Analytical Services - Mobile Labs						
Total Coliforms	10300	MPN/100mL	25.0	25	09/15/22 13:10	09/16/22 13:55		N2
E.coli, Bacteria	77.5	MPN/100mL	25.0	25	09/15/22 13:10	09/16/22 13:55		N2
Field Data		Analytical Method: Pace Analytical Services - Mobile Labs						
Oxygen, Dissolved	112.04	mg/L		1		09/15/22 09:57	7782-44-7	N2
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	ND	mg/L	3.0	3	09/16/22 16:24	09/21/22 14:02		
5220D COD		Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - New Orleans						
Chemical Oxygen Demand	ND	mg/L	10.0	1	09/19/22 12:38	09/20/22 17:52		

Sample: TDML-2		Lab ID: 20255748002	Collected: 09/15/22 10:16	Received: 09/15/22 10:35	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MOB 9222D Fecal Coli by MF		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - Mobile Labs						
Fecal Coliforms	131	CFU/100 mL	10.0	10	09/15/22 14:00	09/16/22 12:40		N2
MOB Colilert/QT MPN		Analytical Method: 9223B / Quanti-Tray Preparation Method: 9223B / Quanti-Tray Pace Analytical Services - Mobile Labs						
Total Coliforms	21700	MPN/100mL	25.0	25	09/15/22 13:10	09/16/22 13:55		N2
E.coli, Bacteria	102	MPN/100mL	25.0	25	09/15/22 13:10	09/16/22 13:55		N2
Field Data		Analytical Method: Pace Analytical Services - Mobile Labs						
Oxygen, Dissolved	212.55	mg/L		1		09/15/22 10:16	7782-44-7	N2
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	ND	mg/L	3.0	3	09/17/22 08:17	09/22/22 06:29		L2
5220D COD		Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - New Orleans						
Chemical Oxygen Demand	11.0	mg/L	10.0	1	09/19/22 12:38	09/20/22 17:52		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SW (Dry) Quarterly 09/15/22

Pace Project No.: 20255748

QC Batch: 265902

Analysis Method: SM 9222D

QC Batch Method: SM 9222D

Analysis Description: MOB 9222D Fecal Coli by MF

Laboratory: Pace Analytical Services - Mobile Labs

Associated Lab Samples: 20255748001, 20255748002

METHOD BLANK: 1271302

Matrix: Water

Associated Lab Samples: 20255748001, 20255748002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fecal Coliforms	CFU/100 mL	<1	1.0	09/16/22 12:40	N2

SAMPLE DUPLICATE: 1271303

Parameter	Units	20255778001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fecal Coliforms	CFU/100 mL	65000	67000			N2

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QUALITY CONTROL DATA

Project: SW (Dry) Quarterly 09/15/22

Pace Project No.: 20255748

QC Batch: 265899

Analysis Method: 9223B / Quanti-Tray

QC Batch Method: 9223B / Quanti-Tray

Analysis Description: MOB Colilert/QT MPN

Laboratory: Pace Analytical Services - Mobile Labs

Associated Lab Samples: 20255748001, 20255748002

METHOD BLANK: 1271283

Matrix: Water

Associated Lab Samples: 20255748001, 20255748002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
E.coli, Bacteria	MPN/100mL	ND	1.0	09/16/22 13:55	N2
Total Coliforms	MPN/100mL	ND	1.0	09/16/22 13:55	N2

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QUALITY CONTROL DATA

Project: SW (Dry) Quarterly 09/15/22

Pace Project No.: 20255748

QC Batch: 266047	Analysis Method: SM 5210B
QC Batch Method: SM 5210B	Analysis Description: 5210B BOD, 5 day
	Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20255748001

METHOD BLANK: 1272170 Matrix: Water

Associated Lab Samples: 20255748001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	0.20	09/21/22 13:41	

LABORATORY CONTROL SAMPLE: 1272172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	171	86	85-115	

SAMPLE DUPLICATE: 1272173

Parameter	Units	20255931001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	4.1	4.4	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SW (Dry) Quarterly 09/15/22

Pace Project No.: 20255748

QC Batch: 266053	Analysis Method: SM 5210B
QC Batch Method: SM 5210B	Analysis Description: 5210B BOD, 5 day
	Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20255748002

METHOD BLANK: 1272234 Matrix: Water

Associated Lab Samples: 20255748002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	0.20	09/22/22 06:20	

LABORATORY CONTROL SAMPLE: 1272236

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	162	82	85-115	L2

SAMPLE DUPLICATE: 1272237

Parameter	Units	20255787012 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1.8	1.5	18	20	

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QUALITY CONTROL DATA

Project: SW (Dry) Quarterly 09/15/22

Pace Project No.: 20255748

QC Batch: 266120	Analysis Method: SM 5220D
QC Batch Method: SM 5220D	Analysis Description: 5220D COD
	Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20255748001, 20255748002

METHOD BLANK: 1272498 Matrix: Water

Associated Lab Samples: 20255748001, 20255748002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/20/22 17:51	

METHOD BLANK: 1272507 Matrix: Water

Associated Lab Samples: 20255748001, 20255748002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/20/22 17:51	

LABORATORY CONTROL SAMPLE: 1272508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	100	100	100	90-110	

LABORATORY CONTROL SAMPLE: 1272509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	100	107	107	90-110	

MATRIX SPIKE SAMPLE: 1272501

Parameter	Units	20255639001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	133	100	215	82	75-125	

SAMPLE DUPLICATE: 1272500

Parameter	Units	20255639001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	133	135	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SW (Dry) Quarterly 09/15/22
Pace Project No.: 20255748

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

ANALYTE QUALIFIERS

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SW (Dry) Quarterly 09/15/22

Pace Project No.: 20255748

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20255748001	TDML-1	SM 9222D	265902	SM 9222D	266046
20255748002	TDML-2	SM 9222D	265902	SM 9222D	266046
20255748001	TDML-1	9223B / Quanti-Tray	265899	9223B / Quanti-Tray	266242
20255748002	TDML-2	9223B / Quanti-Tray	265899	9223B / Quanti-Tray	266242
20255748001	TDML-1		266260		
20255748002	TDML-2		266260		
20255748001	TDML-1	SM 5210B	266047	SM 5210B	266312
20255748002	TDML-2	SM 5210B	266053	SM 5210B	266430
20255748001	TDML-1	SM 5220D	266120	SM 5220D	266261
20255748002	TDML-2	SM 5220D	266120	SM 5220D	266261

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

4320 Midmost Dr Mobile AL
36609

WO# : 20255748

PM: SLW

Due Date: 09/26/22

CLIENT: BM-Driven

Project #:

Courier: Pace Client FedEx UPS Other Tracking # _____

Custody Seal on Cooler/Box Present [see COC] Custody Seals intact Yes No

Thermometer Used: Therm Fisher IR 001
 Other

Type of Ice: Wet Blue None

Samples on ice [see COC]

Date and Initials of person examining contents: 9/15/22 AS

Cooler Temperature: [see COC]

Temp must be measured from temperature blank when present

Comments:

Temperature Blank Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5
Short Hold Time Analyses (<72 hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Rush Turn Around Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Sufficient Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9
Correct Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
Filtered vol Rec for Diss tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11
Sample Labels match COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers received within manufacturer's precautionary and/or expiration dates:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
All containers needing chemical preservation have been checked (except VOA, micro, & O&G):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14
All containers preservation checked found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15
Headspace in VOA Vials (>6mm)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	17

Client Notification/Resolution:

Person Contacted _____ Date/Time: _____

Comments/ Resolution: _____

October 18, 2022

Avalisha Fisher
Driven Engineering
8005 Morris Hill Road
Semmes, AL 36575

RE: Project: SW-Quarterly (Dry) 10/10/22
Pace Project No.: 20258141

Dear Avalisha Fisher:

Enclosed are the analytical results for sample(s) received by the laboratory on October 10, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Mobile Labs
- Pace Analytical Services - New Orleans

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Savannah Wallace
savannah.wallace@pacelabs.com
251-344-9106
Project Manager

Enclosures

cc: Chris Fisher, Driven Engineering
Jolinda Fisher, Driven Engineering
Ben Rodrigo, USA Safety & Environmental Compliance
Andrew Watley, Driven Engineering



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SW-Quarterly (Dry) 10/10/22

Pace Project No.: 20258141

Pace Analytical Services New Orleans

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):

E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):

02006

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-

00119

Pace Analytical Services Mobile

4320 Midmost Drive, Mobile, AL 36609

Alabama Certification #: 40810

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SW-Quarterly (Dry) 10/10/22
Pace Project No.: 20258141

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20258141001	TDML-1	Water	10/10/22 13:31	10/10/22 14:14

;

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SW-Quarterly (Dry) 10/10/22

Pace Project No.: 20258141

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20258141001	TDML-1	SM 9222D	LMR	1
		9223B / Quanti-Tray	LMR	2
			KAW	1
			MEW	1
		SM 5210B	JLH	1
20258141002	TDML-2	SM 9222D	LMR	1
		9223B / Quanti-Tray	LMR	2
			KAW	1
			MEW	1
		SM 5220D	JLH	1

PASI-MO = Pace Analytical Services - Mobile Labs

PASI-N = Pace Analytical Services - New Orleans

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SW-Quarterly (Dry) 10/10/22
Pace Project No.: 20258141

Sample: TDML-1		Lab ID: 20258141001		Collected: 10/10/22 13:31	Received: 10/10/22 14:14	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MOB 9222D Fecal Coli by MF		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - Mobile Labs						
Fecal Coliforms	30	CFU/100 mL	4.0	4	10/10/22 15:50	10/11/22 15:20		N2
MOB Colilert/QT MPN		Analytical Method: 9223B / Quanti-Tray Preparation Method: 9223B / Quanti-Tray Pace Analytical Services - Mobile Labs						
Total Coliforms	ND	MPN/100mL	25.0	25	10/10/22 15:40	10/11/22 15:45		N2
E.coli, Bacteria	ND	MPN/100mL	25.0	25	10/10/22 15:40	10/11/22 15:45		N2
Field Data		Analytical Method: Pace Analytical Services - Mobile Labs						
Oxygen, Dissolved	6.93	mg/L		1		10/10/22 13:31	7782-44-7	N2
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	ND	mg/L	3.0	3	10/11/22 11:27	10/16/22 08:03		
5220D COD		Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - New Orleans						
Chemical Oxygen Demand	ND	mg/L	10.0	1	10/12/22 11:00	10/12/22 18:02		

Sample: TDML-2		Lab ID: 20258141002		Collected: 10/10/22 13:40	Received: 10/10/22 14:14	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MOB 9222D Fecal Coli by MF		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - Mobile Labs						
Fecal Coliforms	80	CFU/100 mL	4.0	4	10/10/22 15:50	10/11/22 15:20		N2
MOB Colilert/QT MPN		Analytical Method: 9223B / Quanti-Tray Preparation Method: 9223B / Quanti-Tray Pace Analytical Services - Mobile Labs						
Total Coliforms	10900	MPN/100mL	25.0	25	10/10/22 15:40	10/11/22 15:45		N2
E.coli, Bacteria	25.0	MPN/100mL	25.0	25	10/10/22 15:40	10/11/22 15:45		N2
Field Data		Analytical Method: Pace Analytical Services - Mobile Labs						
Oxygen, Dissolved	7.87	mg/L		1		10/10/22 13:40	7782-44-7	N2
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	ND	mg/L	3.0	3	10/11/22 11:29	10/16/22 08:05		
5220D COD		Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - New Orleans						
Chemical Oxygen Demand	ND	mg/L	10.0	1	10/12/22 11:00	10/12/22 18:02		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SW-Quarterly (Dry) 10/10/22
 Pace Project No.: 20258141

QC Batch: 268028 Analysis Method: SM 9222D
 QC Batch Method: SM 9222D Analysis Description: MOB 9222D Fecal Coli by MF
 Laboratory: Pace Analytical Services - Mobile Labs

Associated Lab Samples: 20258141001, 20258141002

METHOD BLANK: 1282252 Matrix: Water
 Associated Lab Samples: 20258141001, 20258141002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fecal Coliforms	CFU/100 mL	<1	1.0	10/11/22 15:20	N2

SAMPLE DUPLICATE: 1282258

Parameter	Units	20258141001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fecal Coliforms	CFU/100 mL	30	40			N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SW-Quarterly (Dry) 10/10/22
 Pace Project No.: 20258141

QC Batch: 268029 Analysis Method: 9223B / Quanti-Tray
 QC Batch Method: 9223B / Quanti-Tray Analysis Description: MOB Colilert/QT MPN
 Laboratory: Pace Analytical Services - Mobile Labs

Associated Lab Samples: 20258141001, 20258141002

METHOD BLANK: 1282263 Matrix: Water

Associated Lab Samples: 20258141001, 20258141002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
E.coli, Bacteria	MPN/100mL	ND	1.0	10/11/22 15:45	N2
Total Coliforms	MPN/100mL	ND	1.0	10/11/22 15:45	N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SW-Quarterly (Dry) 10/10/22
Pace Project No.: 20258141

QC Batch: 268110 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20258141001, 20258141002

METHOD BLANK: 1282562 Matrix: Water
Associated Lab Samples: 20258141001, 20258141002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	0.20	10/16/22 07:36	

LABORATORY CONTROL SAMPLE: 1282564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	180	91	85-115	

SAMPLE DUPLICATE: 1282565

Parameter	Units	20258179002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	<3.0	ND		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SW-Quarterly (Dry) 10/10/22
Pace Project No.: 20258141

QC Batch: 268156 Analysis Method: SM 5220D
QC Batch Method: SM 5220D Analysis Description: 5220D COD
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20258141001, 20258141002

METHOD BLANK: 1282853 Matrix: Water
Associated Lab Samples: 20258141001, 20258141002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/12/22 18:00	

METHOD BLANK: 1283090 Matrix: Water
Associated Lab Samples: 20258141001, 20258141002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/12/22 18:00	

LABORATORY CONTROL SAMPLE: 1282854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	100	108	108	90-110	

LABORATORY CONTROL SAMPLE: 1283091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	100	107	107	90-110	

MATRIX SPIKE SAMPLE: 1282856

Parameter	Units	20258228001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	215	100	287	72	75-125	M1

SAMPLE DUPLICATE: 1282855

Parameter	Units	20258228001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	215	215	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SW-Quarterly (Dry) 10/10/22
Pace Project No.: 20258141

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SW-Quarterly (Dry) 10/10/22
Pace Project No.: 20258141

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20258141001	TDML-1	SM 9222D	268028	SM 9222D	268151
20258141002	TDML-2	SM 9222D	268028	SM 9222D	268151
20258141001	TDML-1	9223B / Quanti-Tray	268029	9223B / Quanti-Tray	268150
20258141002	TDML-2	9223B / Quanti-Tray	268029	9223B / Quanti-Tray	268150
20258141001	TDML-1		268119		
20258141002	TDML-2		268119		
20258141001	TDML-1	SM 5210B	268110	SM 5210B	268639
20258141002	TDML-2	SM 5210B	268110	SM 5210B	268639
20258141001	TDML-1	SM 5220D	268156	SM 5220D	268289
20258141002	TDML-2	SM 5220D	268156	SM 5220D	268289

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Do

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must

WO# : 20258141



Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.pacelab.com>

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: Driven Engineering	Report To: Gene Stacey	Attention:		Company Name	
Address: 8005 Morris Hill Road	Copy To:	Address		Pace Quote:	
Semmes, AL 36575	Purchase Order #:	Pace Project Manager: savannah.wallace@pacelabs.com.		Pace Profile #: 9640	
Email: gene.stacey@drivenengineering.com	Project Name: Stormwater - Quarterly	Regulatory Agency		State / Location	
Phone: (251)649-4011	Fax:	Pace Project Manager:		State / Location	
Requested Due Date:	Project #:	Pace Profile #: 9640		State / Location	

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Y/N	Anlyses Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)										
				START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other					BOD 5-day	COD	Fecal Coli	E Coli	Field Dissolved Oxygen					
				DATE	TIME	DATE	TIME																								
1	TDML-1	WT		10-10	1331			5	2	1				2			X	X	X	X	X									100:6.93	
2	TDML-2	WT		10-10	1340			5	2	1				2			X	X	X	X	X									200:7.87	
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Field ID	ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
			<i>John M. Brown</i>	10-10	1414	<i>[Signature]</i>	10/10	1414	2.2	Y	N

SAMPLER NAME AND SIGNATURE			TEMP IN C Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)
PRINT Name of SAMPLER: <i>John M. Brown</i>		DATE Signed: <i>10-10-22</i>	
SIGNATURE of SAMPLER: <i>[Signature]</i>			



Sample Condition Upon Receipt

4320 Midmost Dr Mobile AL 36609

WO#: 20258141

PM: SLW Due Date: 10/19/22
CLIENT: BM-Driven

Project #:

Courier: Pace Client FedEx UPS Other Tracking # _____

Custody Seal on Cooler/Box Present [see COC] Custody Seals intact Yes No

Thermometer Used: Therm Fisher IR 001
 Other:

Type of Ice: Wet Blue None

Samples on ice [see COC]

Cooler Temperature [see COC]

Date and Initials of person examining contents: 10/19/22 AS

Temp must be measured from temperature blank when present

Comments

Temperature Blank Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name on COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5	
Short Hold Time Analyses (<72 hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Rush Turn Around Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7	
Samples Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9	
Correct Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
Filtered vol Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11	
Sample Labels match COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers received within manufacturer's precautionary and/or expiration dates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	
All containers needing chemical preservation have been checked (except VOA, micro, & O&G)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14	
All containers preservation checked found to be in compliance with EPA recommendation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16	
Trip Blank Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	17	

Client Notification/Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

ANALYTICAL CHEMICAL TESTING LABORATORY, INC.

Consulting Chemists, Scientists, & Engineers

January 4, 2023

Report To: Driven Engineering, Inc.
8005 Morris Hill Road
Semmes, AL 36575

Report Of: **USA MS4 - Twelve-Mile Creek Locations Upstream/Downstream**
Proposal #1: 1-3, 1-4 Locations -Sampling, Testing 4th Quarter 2022
Purchase Order #: 17005

Job #: 22-3793

Attention: Mr. Andrew Watley, E.I.T.

Analytical Chemical Testing Laboratory, Inc. has completed the analysis of water samples taken from the listed locations above. The samples were analyzed as directed, and the following is reported:

SAMPLED: 12/09/22 by S. Lindqvist, C. Bodin

ANALYZED: 12/28/22–01/03/23 by SWL, SRC

REVIEWED: 01/04/22 by R. Naman

<u>SAMPLE/DATA/INFO</u>	<u>TESTS</u>	<u>RESULTS</u>	<u>DATE/TIME/ANALYST</u>
ACT ID 22-3793-1228-1 Grab Sample Upstream Location 1-3 USA MS4 Sampled: 12/28/22 @ 1200	Dissolved Oxygen	11.47 p.p.m.	1228-1200-SWL
	Total Coliform	40 CFU/100mL	1228-1330-SWL
	Fecal Coliform	40 CFU/100mL	1228-1330-SWL
	Biochemical Oxygen Demand (B.O.D.)	7.1 p.p.m.	1228-1646-SRC
	Chemical Oxygen Demand (C.O.D.)	4.52 p.p.m.	0103-0950-SWL

CFU=Colony-Forming Units

p.p.m. = parts per million = milligrams per Liter

<u>SAMPLE/DATA/INFO</u>	<u>TESTS</u>	<u>RESULTS</u>	<u>DATE/TIME/ANALYST</u>
ACT ID 22-3793-1228-2 Grab Sample Downstream Location 1-4 USA MS4 Sampled: 12/28/22 @ 1205	Dissolved Oxygen	13.09 p.p.m.	1228-1205-SWL
	Total Coliform	8 CFU/100mL	1228-1330-SWL
	Fecal Coliform	72 CFU/100mL	1228-1330-SWL
	Biochemical Oxygen Demand (B.O.D.)	5.8 p.p.m.	1228-1646-SRC
	Chemical Oxygen Demand (C.O.D.)	80.6 p.p.m.	0103-0950-SWL

CFU=Colony-Forming Units
p.p.m. = parts per million = milligrams per Liter

METHODS: Standard Methods for the Examination of Water and Wastewater, 21st Edition.
SW-846, Portable D.O. Meter-HACH.

We appreciate this opportunity to be of service. If there are any questions, please feel free to call.

Very truly yours,

ANALYTICAL CHEMICAL TESTING LABORATORY, INC.



**Robert M. Naman, President
Analytical Chemist
AL Inspector Certification# AIN0221694867
Qualified Credentialed Inspector #T6112
Fellow, American Institute
of Chemists, Reg. 15488**

RMN/swl
Attachment: Custody Form

Company Name/Address: Driven Engineering	Billing Information:	Pres Chk	Analysis / Container / Preservative	Chain of Custody Page ___ of ___ Analytical Chemical Testing Laboratory Inc. 251)479-9205 P.O. Box 161198 Mobile, AL 36616 bobnaman@gmail.com
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Report to:	Email To:	
Project Description:	City/State Collected:	Please Circle: PT MT CT ET

Phone:	Client Project #	Lab Project #
Collected by (print): S Lindqvist, C Bodin	Site/Facility ID #	P.O. #
Collected by (signature):	Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day	Quote #
Immediately Packed on Ice N ___ Y ___	Date Results Needed	

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Dissolved Oxygen	Biochemical Oxygen Demand	Chemical Oxygen Demand	Fecal Coliform	E Coli							Remarks	Sample # (lab only)
22-3793-1228-1, 1-3	Grab	GW		12/28/22	1200	4	X	X	X	X	X								
22-3793-1228-2, 1-4	Grab	GW		12/28/22	1200	4	X	X	X	X	X								

* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____	Remarks: <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	pH _____ Temp _____ Flow _____ Other _____	<u>Sample Receipt Checklist</u> COC Seal Present/Intact: ___NP___Y___N COC Signed/Accurate: ___Y___N Bottles arrive intact: ___Y___N Correct bottles used: ___Y___N Sufficient volume sent: ___Y___N <u>If Applicable</u> VOA Zero HeadSpace: ___Y___N Preservation Correct/Checked: ___Y___N RAD Screen <0.5 mR/hr: ___Y___N
--	--	---	--

Relinquished by : (Signature) Spangler Lindqvist	Date: 12/28/22	Time: 1230	Received by: (Signature) Robert Naman	Trip Blank Received: Yes / No HCL / MeoH TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)		If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:			Condition: NCF / OK

Appendix B - Three Mile Creek & Twelve Mile Creek Outfall Inspections, Data Collected, and Commentary

April 24, 2023

William Guess
University of South Alabama
Department of Safety & Environmental Compliance
600 Clinic Drive
Mobile, Alabama 36688

Subject: MS4 Phase IV IDDE Outfall Monitoring Report
Driven Engineering, Inc. Project no: 17005

Dear Mr. Guess:

This letter report presents the results of the observation(s) conducted from January 2022 to December 2022 at outfall(s) JUN-120, UNKHW 18", UNKHW 30", G3-0X, H3-01, and OUT-13 as required by the Phase II MS4 Permit as shown on the Three Mile Creek & Twelve Mile Creek Outfall Map by Driven Engineering, Inc. dated 04-24-2023.

No evidence of IDDE was found at the locations inspected.

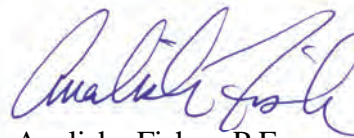
Inspection checklists for the outfalls are presented in Appendix B.

Please contact our office if you have any questions.

Sincerely,
Driven Engineering, Inc.

**Andrew
Watley** Digitally signed by
Andrew Watley
Date: 2023.06.28
18:27:45 -05'00'

Andrew Watley, E.I.T.


Avalisha Fisher, P.E.



Stormwater Outfall Inspection Checklist

Outfall ID# UNLHW 18th Location Aid _____

Date: 4/11/2022 Time: 3pm
 Surveyor/Observer: JOUNVIA GILBERT

Weather Today: CLOUDY
 Weather over past 72 hours: OVERCAST

Flow Observed (circle): YES NO

1. Flow Observations (fill out this section only if flow is observed)	Pipe Flow Depth (Inches) Note: measure from pipe invert	Channel, Ditch or Swale Flow Depth (Inches) Note: measure from center of conveyance	Flow Appearance / Color	Flow Odor	Field Monitoring Data (note: fill in units for each parameter)				Comments and Notes	
	Turbidity	Temperature	pH	Conductivity						
	_____ Depth	_____ Depth	___ Clear ___ Cloudy/Milky ___ Dark (Tea) ___ Sheen ___ Suspended sediment (opaque) ___ Other *	___ None ___ Chemical ___ Petroleum ___ Sewage ___ Other *						
2. Structure Details (pipe or other conveyance info.)	Pipe Material	Pipe Condition	Channel, Ditch or Swale Condition	Diameter or Width (specify distance units)	Slope (degrees)	Outlet Structure	GPS Coordinates	Discharge directly to surface water?*	Comments and Notes	
	<input checked="" type="checkbox"/> Clay <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Corrugated Steel <input type="checkbox"/> PVC <input type="checkbox"/> Cast Iron <input type="checkbox"/> HDPE <input type="checkbox"/> Steel (DI)	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Cracked <input type="checkbox"/> Exposed Steel <input type="checkbox"/> Corroded <input type="checkbox"/> Other*	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Clogged <input type="checkbox"/> Debris <input type="checkbox"/> Scoured or Eroded <input type="checkbox"/> Other*	<u>18" x 18"</u>	<input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Steep	<input checked="" type="checkbox"/> Headwall <input type="checkbox"/> Riprap <input type="checkbox"/> Flared End <input type="checkbox"/> No Outlet Protection <input type="checkbox"/> Other*	<u>30.6990</u> Lat <u>88.1788</u> Lon	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No * If Yes, Provide Receiving Water Name		
3. Outfall Observations (general conditions at outfall)	Deposits	Surrounding Vegetation	Erodibility	Land Use at Outfall	Land Use Upstream of Outfall	Appearance / Color	Odor	Sediment Depth (Inches) (if present)	Comments and Notes	
	<input checked="" type="checkbox"/> None <input type="checkbox"/> Grease/Oil <input type="checkbox"/> Paper/Trash <input type="checkbox"/> Foam <input type="checkbox"/> Heavy sediment deposits <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> Little or No Distress <input type="checkbox"/> Moderate Distress <input type="checkbox"/> High Distress	<input checked="" type="checkbox"/> Little or No Erosion <input type="checkbox"/> Small Areas of Erosion <input type="checkbox"/> Many Eroded Areas	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Waterbody <input type="checkbox"/> Detention Pond/Basin	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *	<u>N/A</u>		
4. Laboratory Analysis (check if submitted)	Surfactant	Ammonia Concentration	E. coli	Oil & Grease (if oil or sheen is observed)	VOCs (if solvent odor is present)	Additional Field Comments and Notes				

Notes:

* Provide additional comments to describe the observations made for the category

** Discharges directly to surface waters are defined as: any conveyance or discernable concentrated flow (i.e., pipe, swale, ditch) other than overland sheet flow that enters a body of water

Stormwater Outfall Inspection Checklist

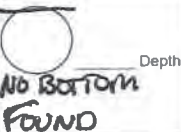
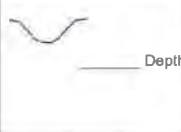
Outfall ID# JUN-120 Location Aid _____

Date: 4-11-2022 Time: 3pm

Surveyor/Observer: JACINDA GILBERT

Weather Today: CLOUDY
Weather over past 72 hours: OVERCAST

Flow Observed (circle): YES **NO**

1. Flow Observations (fill out this section only if flow is observed)	Pipe Flow Depth (Inches) Note: measure from pipe invert	Channel, Ditch or Swale Flow Depth (inches) Note: measure from center of conveyance	Flow Appearance / Color	Flow Odor	Field Monitoring Data (note: fill in units for each parameter)				Comments and Notes	
	Turbidity	Temperature	pH	Conductivity						
			<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *						WATER LEVEL ABOVE PIPE WITH NO FLOW
2. Structure Details (pipe or other conveyance info.)	Pipe Material	Pipe Condition	Channel, Ditch or Swale Condition	Diameter or Width (specify distance units)	Slope (degrees)	Outlet Structure	GPS Coordinates	Discharge directly to surface water?*	Comments and Notes	
	<input type="checkbox"/> Clay <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Corrugated Steel <input type="checkbox"/> PVC <input type="checkbox"/> Cast Iron <input type="checkbox"/> HDPE <input type="checkbox"/> Steel (DI)	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Cracked <input type="checkbox"/> Exposed Steel <input type="checkbox"/> Corroded <input type="checkbox"/> Other*	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Clogged <input type="checkbox"/> Debris <input type="checkbox"/> Scoured or Eroded <input type="checkbox"/> Other*	48" RCP	<input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Steep	<input checked="" type="checkbox"/> Headwall <input type="checkbox"/> Riprap <input type="checkbox"/> Flared End <input type="checkbox"/> No Outlet Protection <input type="checkbox"/> Other*	30.7006 Lat. 88.1772 Lon.	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Provide Receiving Water Name		
3. Outfall Observations (general conditions at outfall)	Deposits	Surrounding Vegetation	Erodibility	Land Use at Outfall	Land Use Upstream of Outfall	Appearance / Color	Odor	Sediment Depth (Inches) (if present)	Comments and Notes	
	<input checked="" type="checkbox"/> None <input type="checkbox"/> Grease/Oil <input type="checkbox"/> Paper/Trash <input type="checkbox"/> Foam <input type="checkbox"/> Heavy sediment deposits <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> Little or No Distress <input type="checkbox"/> Moderate Distress <input type="checkbox"/> High Distress	<input checked="" type="checkbox"/> Little or No Erosion <input type="checkbox"/> Small Areas of Erosion <input type="checkbox"/> Many Eroded Areas	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Waterbody <input type="checkbox"/> Detention Pond/Basin	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *	N/A		
4. Laboratory Analysis (check if submitted)	Surfactant	Ammonia Concentration	E. coli	Oil & Grease (if oil or sheen is observed)	VOCs (if solvent odor is present)	Additional Field Comments and Notes				

Notes:

* Provide additional comments to describe the observations made for the category

** Discharges directly to surface waters are defined as: any conveyance or discernable concentrated flow (i.e., pipe, swale, ditch) other than overland sheet flow that enters a body of water



Stormwater Outfall Inspection Checklist

Outfall ID# OUT-13 Location Aid _____

Date: 12/27/22 Time: 9:12 AM
 Surveyor/Observer: Andrew Watley

Weather Today: Sunny
 Weather over past 72 hours: Sunny

Flow Observed (circle): **YES** NO

1. Flow Observations (fill out this section only if flow is observed)	Pipe Flow Depth (inches) Note: measure from pipe invert	Channel, Ditch or Swale Flow Depth (inches) Note: measure from center of conveyance	Flow Appearance / Color	Flow Odor	Field Monitoring Data (note: fill in units for each parameter)				Comments and Notes
					Turbidity	Temperature	pH	Conductivity	
			<input checked="" type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *					
2. Structure Details (pipe or other conveyance info.)	Pipe Material	Pipe Condition	Channel, Ditch or Swale Condition	Diameter or Width (specify distance units)	Slope (degrees)	Outlet Structure	GPS Coordinates	Discharge directly to surface water**	Comments and Notes
	<input checked="" type="checkbox"/> Clay <input type="checkbox"/> Concrete <input type="checkbox"/> Corrugated Steel <input type="checkbox"/> PVC <input type="checkbox"/> Cast Iron <input type="checkbox"/> HDPE <input type="checkbox"/> Steel (DI)	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Cracked <input type="checkbox"/> Exposed Steel <input type="checkbox"/> Corroded <input type="checkbox"/> Other*	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Clogged <input type="checkbox"/> Debris <input type="checkbox"/> Scoured or Eroded <input type="checkbox"/> Other*	30" RCP	<input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Steep	<input checked="" type="checkbox"/> Headwall <input type="checkbox"/> Riprap <input type="checkbox"/> Flared End <input type="checkbox"/> No Outlet Protection <input type="checkbox"/> Other*	30.7031 Lat -88.1769 Lon	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Provide Receiving Water Name 3 mile Creek	
3. Outfall Observations (general conditions at outfall)	Deposits	Surrounding Vegetation	Erodibility	Land Use at Outfall	Land Use Upstream of Outfall	Appearance / Color	Odor	Sediment Depth (inches) (if present)	Comments and Notes
	<input type="checkbox"/> None <input type="checkbox"/> Grease/Oil <input checked="" type="checkbox"/> Paper/Trash <input type="checkbox"/> Foam <input type="checkbox"/> Heavy sediment deposits <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> Little or No Distress <input type="checkbox"/> Moderate Distress <input type="checkbox"/> High Distress	<input checked="" type="checkbox"/> Little or No Erosion <input type="checkbox"/> Small Areas of Erosion <input type="checkbox"/> Many Eroded Areas	<input checked="" type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Waterbody <input type="checkbox"/> Detention Pond/Basin	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *	10 3/4" - 11"	
4. Laboratory Analysis (check if submitted)	Surfactant	Ammonia Concentration	E. coli	Oil & Grease (if oil or sheen is observed)	VOCs (if solvent odor is present)	Additional Field Comments and Notes			
						Minimal amount of paper/trash observed at outfall			

Notes:

* Provide additional comments to describe the observations made for the category

** Discharges directly to surface waters are defined as: any conveyance or discernable concentrated flow (i.e., pipe, swale, ditch) other than overland sheet flow that enters a body of water

Stormwater Outfall Inspection Checklist

Outfall ID# H3-01 Location Aid _____

Date: 12/27/22 Time: 10:19 AM

Weather Today: Sunny

Surveyor/Observer: Andrew Watley

Weather over past 72 hours: Sunny

Flow Observed (circle): YES NO

1. Flow Observations (fill out this section only if flow is observed)	Pipe Flow Depth (inches) Note: measure from pipe invert	Channel, Ditch or Swale Flow Depth (inches) Note: measure from center of conveyance	Flow Appearance / Color	Flow Odor	Field Monitoring Data (note: fill in units for each parameter)				Comments and Notes
					Turbidity	Temperature	pH	Conductivity	
	_____ Depth	_____ Depth	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *					
2. Structure Details (pipe or other conveyance info.)	Pipe Material	Pipe Condition	Channel, Ditch or Swale Condition	Diameter or Width (specify distance units)	Slope (degrees)	Outlet Structure	GPS Coordinates	Discharge directly to surface water?*	Comments and Notes
	<input type="checkbox"/> Clay <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Corrugated Steel <input type="checkbox"/> PVC <input type="checkbox"/> Cast Iron <input type="checkbox"/> HDPE <input type="checkbox"/> Steel (DI)	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Cracked <input type="checkbox"/> Exposed Steel <input type="checkbox"/> Corroded <input type="checkbox"/> Other*	<input type="checkbox"/> Good <input type="checkbox"/> Clogged <input type="checkbox"/> Debris <input checked="" type="checkbox"/> Scoured or Eroded <input type="checkbox"/> Other*	<input type="checkbox"/> Good <input type="checkbox"/> Clogged <input type="checkbox"/> Debris <input checked="" type="checkbox"/> Scoured or Eroded <input type="checkbox"/> Other*	24" RCP	<input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Steep	<input checked="" type="checkbox"/> Headwall <input type="checkbox"/> Riprap <input type="checkbox"/> Flared End <input type="checkbox"/> No Outlet Protection <input type="checkbox"/> Other*	30.7012 Lat. -88.1760 Lon.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Provide Receiving Water Name
3. Outfall Observations (general conditions at outfall)	Deposits	Surrounding Vegetation	Erodibility	Land Use at Outfall	Land Use Upstream of Outfall	Appearance / Color	Odor	Sediment Depth (inches) (if present)	Comments and Notes
	<input type="checkbox"/> None <input type="checkbox"/> Grease/Oil <input checked="" type="checkbox"/> Paper/Trash <input type="checkbox"/> Foam <input type="checkbox"/> Heavy sediment deposits <input type="checkbox"/> Other *	<input type="checkbox"/> Little or No Distress <input checked="" type="checkbox"/> Moderate Distress <input type="checkbox"/> High Distress	<input type="checkbox"/> Little or No Erosion <input type="checkbox"/> Small Areas of Erosion <input checked="" type="checkbox"/> Many Eroded Areas	<input checked="" type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Waterbody <input type="checkbox"/> Detention Pond/Basin	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *	9 1/2"	
4. Laboratory Analysis (check if submitted)	Surfactant	Ammonia Concentration	E. coli	Oil & Grease (if oil or sheen is observed)	VOCs (if solvent odor is present)	Additional Field Comments and Notes			
						- Moderate amount of trash/debris - 4'-5' sediment drop-off approx. 6' DS from outfall structure.			

Notes:

* Provide additional comments to describe the observations made for the category.

** Discharges directly to surface waters are defined as: any conveyance or discernable concentrated flow (i.e., pipe, swale, ditch) other than overland sheet flow that enters a body of water

Stormwater Outfall Inspection Checklist

Outfall ID# G3-0X Location Aid _____

Date: 9-8-2021 Time: 9:15 AM

Weather Today: OVERCAST
Weather over past 72 hours: SUNNY

Surveyor/Observer: JOURNIA G. WISSELT

Flow Observed (circle): YES NO

1. Flow Observations (fill out this section only if flow is observed)	Pipe Flow Depth (Inches) Note: measure from pipe invert	Channel, Ditch or Swale Flow Depth (Inches) Note: measure from center of conveyance	Flow Appearance / Color	Flow Odor	Field Monitoring Data (note: fill in units for each parameter)				Comments and Notes
	Turbidity	Temperature	pH	Conductivity					
	<u>2.3"</u> Depth		<input checked="" type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *					
2. Structure Details (pipe or other conveyance info.)	Pipe Material	Pipe Condition	Channel, Ditch or Swale Condition	Diameter or Width (specify distance units)	Slope (degrees)	Outlet Structure	GPS Coordinates	Discharge directly to surface water?*	Comments and Notes
	<input checked="" type="checkbox"/> Clay <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Corrugated Steel <input type="checkbox"/> PVC <input type="checkbox"/> Cast Iron <input type="checkbox"/> HDPE <input type="checkbox"/> Steel (DI)	<input type="checkbox"/> Good <input type="checkbox"/> Cracked <input checked="" type="checkbox"/> Exposed Steel <input type="checkbox"/> Corroded <input type="checkbox"/> Other*	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Clogged <input type="checkbox"/> Debris <input type="checkbox"/> Scoured or Eroded <input type="checkbox"/> Other*	<u>60" RCP</u> <u>x4</u>	<input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Steep	<input checked="" type="checkbox"/> Headwall <input type="checkbox"/> Riprap <input type="checkbox"/> Flared End <input type="checkbox"/> No Outlet Protection <input type="checkbox"/> Other*	<u>30.7017</u> Lat. <u>88.1769</u> Lon.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Provide Receiving Water Name <u>3 MILE CREEK</u>	
3. Outfall Observations (general conditions at outfall)	Deposits	Surrounding Vegetation	Erodibility	Land Use at Outfall	Land Use Upstream of Outfall	Appearance / Color	Odor	Sediment Depth (Inches) (if present)	Comments and Notes
	<input checked="" type="checkbox"/> None <input type="checkbox"/> Grease/Oil <input type="checkbox"/> Paper/Trash <input type="checkbox"/> Foam <input type="checkbox"/> Heavy sediment deposits <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> Little or No Distress <input type="checkbox"/> Moderate Distress <input type="checkbox"/> High Distress	<input checked="" type="checkbox"/> Little or No Erosion <input type="checkbox"/> Small Areas of Erosion <input type="checkbox"/> Many Eroded Areas	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Waterbody <input type="checkbox"/> Detention Pond/Basin	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *	<u>NONE</u>	
4. Laboratory Analysis (check if submitted)	Surfactant	Ammonia Concentration	E. coli	Oil & Grease (if oil or sheen is observed)	VOCs (if solvent odor is present)	Additional Field Comments and Notes			
						<u>WE NEED TO DO ANOTHER INSPECTION IN THE DRY SEASON TO ASSES THE PIPE AND BE ABLE TO SEE MORE OF THE HEADWALL</u>			

Notes:

* Provide additional comments to describe the observations made for the category

** Discharges directly to surface waters are defined as: any conveyance or discernable concentrated flow (i.e., pipe, swale, ditch) other than overland sheet flow that enters a body of water

Stormwater Outfall Inspection Checklist

Outfall ID# UN/ HW 30" Location Aid _____

Date: 4-11-2022 Time: 9:00 AM
 Surveyor/Observer: JOUNDA GILBERT

Weather Today: Cloudy
 Weather over past 72 hours: OTHER CAST

Flow Observed (circle): YES NO

1. Flow Observations (fill out this section only if flow is observed)	Pipe Flow Depth (Inches) Note: measure from pipe invert	Channel, Ditch or Swale Flow Depth (Inches) Note: measure from center of conveyance	Flow Appearance / Color	Flow Odor	Field Monitoring Data (note: fill in units for each parameter)				Comments and Notes
	_____ Depth	_____ Depth	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *	Turbidity	Temperature	pH	Conductivity	
_____ Depth 									
2. Structure Details (pipe or other conveyance info.)	Pipe Material	Pipe Condition	Channel, Ditch or Swale Condition	Diameter or Width (specify distance units)	Slope (degrees)	Outlet Structure	GPS Coordinates	Discharge directly to surface water?*	Comments and Notes
	<input type="checkbox"/> Clay <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Corrugated Steel <input type="checkbox"/> PVC <input type="checkbox"/> Cast Iron <input type="checkbox"/> HDPE <input type="checkbox"/> Steel (DI)	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Cracked <input type="checkbox"/> Exposed Steel <input type="checkbox"/> Corroded <input type="checkbox"/> Other*	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Clogged <input type="checkbox"/> Debris <input type="checkbox"/> Scoured or Eroded <input type="checkbox"/> Other*	<u>30" RCP</u>	<input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Steep	<input checked="" type="checkbox"/> Headwall <input type="checkbox"/> Riprap <input type="checkbox"/> Flared End <input type="checkbox"/> No Outlet Protection <input type="checkbox"/> Other*	<u>30.6992</u> Lat <u>88.1782</u> Lon	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Provide Receiving Water Name	
3. Outfall Observations (general conditions at outfall)	Deposits	Surrounding Vegetation	Erodibility	Land Use at Outfall	Land Use Upstream of Outfall	Appearance / Color	Odor	Sediment Depth (Inches) (if present)	Comments and Notes
	<input checked="" type="checkbox"/> None <input type="checkbox"/> Grease/Oil <input type="checkbox"/> Paper/Trash <input type="checkbox"/> Foam <input type="checkbox"/> Heavy sediment deposits <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> Little or No Distress <input type="checkbox"/> Moderate Distress <input type="checkbox"/> High Distress	<input checked="" type="checkbox"/> Little or No Erosion <input type="checkbox"/> Small Areas of Erosion <input type="checkbox"/> Many Eroded Areas	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Waterbody <input type="checkbox"/> Detention Pond/Basin	<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy/Milky <input type="checkbox"/> Dark (Tea) <input type="checkbox"/> Sheen <input type="checkbox"/> Suspended sediment (opaque) <input type="checkbox"/> Other *	<input checked="" type="checkbox"/> None <input type="checkbox"/> Chemical <input type="checkbox"/> Petroleum <input type="checkbox"/> Sewage <input type="checkbox"/> Other *	<u>N/A</u>	
4. Laboratory Analysis (check if submitted)	Surfactant	Ammonia Concentration	E. coli	Oil & Grease (if oil or sheen is observed)	VOCs (if solvent odor is present)	Additional Field Comments and Notes			

Notes:
 * Provide additional comments to describe the observations made for the category
 ** Discharges directly to surface waters are defined as: any conveyance or discernable concentrated flow (i.e., pipe, swale, ditch) other than overland sheet flow that enters a body of water

Appendix C – University of South Alabama Education and Training Material



USA Employee Orientation Safety Awareness Presentation

Lisa Cobb, RN



UNIVERSITY OF
SOUTH ALABAMA

Safety and Environmental Compliance

The screenshot shows the official website for the Department of Safety and Environmental Compliance at the University of South Alabama. The page features a dark blue header with the university's logo and navigation links. A sidebar on the left contains a menu with items like 'About Us', 'Education and Training', and 'Policies and Standards'. The main content area includes a 'Mission Statement' and a 'Policy of Safety and Environmental Compliance' section, both detailing the department's commitment to a safe environment. A 'Useful Information' section lists resources such as AED locations and emergency protocols. A 'Storm Ready' logo is prominently displayed, indicating the university's preparedness for severe weather. The footer contains contact information and social media links.

The footer section contains the University of South Alabama logo on the left, followed by contact details: (251) 460-4101, 600 Clinic Drive, Mobile, AL 36688. It also lists 'USA Resources' such as Bookstore, Parking Services, and the 'Upward & Onward' campaign logo. Social media icons for Facebook, Twitter, YouTube, Instagram, and LinkedIn are present. The footer concludes with the text '© 2018 University of South Alabama'.



THOUGHT OF THE DAY:

*"Life is like riding a bicycle.
To keep your balance, you must
keep moving"*

Albert Einstein



2 New Programs:

SUSTAINABILITY PROGRAM

CLEAN WATER IS EVERYBODY'S BUSINESS:

The most recent National Water Quality Inventory reports that runoff from urbanized areas is the leading source of water quality impairments to surveyed estuaries and the third-largest source of impairments to surveyed lakes!

Homeowners can use fertilizers sparingly and sweep driveways, sidewalks, and roads instead of using a hose. Instead of disposing of yard waste, they can use the materials to start a compost pile. Developers and city planners should attempt to control the volume of runoff from new development by using low impact development, structural controls, and pollution prevention strategies. Controlling runoff from existing urban areas can be done through first identifying and implementing pollution prevention strategies and examine source control opportunities. Local governments are encouraged to take lead roles in public education efforts through public signage, storm drain marking, pollution prevention Outreach campaigns, etc.

USA has a robust recycling program at the current time which helps to keep pollutants out of the water.



New Programs Continued:

MS4 PROGRAM

THE WATER PLANET

We call the earth the water planet because water covers 70% of its surface. Americans depend on clean water to drink, to irrigate crops, and to run industries. Water resources provide opportunities such as fishing and swimming, and wetlands provide protection from floods. Rivers, lakes, estuaries, and wetlands also provide critical habitat for wildlife. Estuaries serve as birthplace and nursery for most saltwater fish and shellfish!

Whenever rain falls or snow melts, chemicals, fertilizers, sediment, and other pollutants from the land are washed into lakes, streams, wetlands, and rivers. To achieve healthy watersheds, the EPA needs the help of citizens like you! Because no matter where you live you live in a watershed.

USA has a growing but fully functional MS4 Program through water quality testing, 3 Mile Creek clean up projects around the water masses on campus, erosion and sediment control on construction sites, etc.



Illicit Discharges

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

University staff and students will assist Safety & Environmental Compliance with preventing and reporting any of the following prohibited discharges:

- Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are in compliance with a separate NPDES permit or determined by the Department not to be a significant contributor of pollutants to waters of the State.
- Spills of oils or hazardous substances



Illicit Discharges

- Sanitary wastewater
- Chlorinated pool water
- Commercial vehicle wash water
- Contaminated water
- Storm water discharges associated with industrial industry
- Storm water discharges associated with construction activity. These require a separate permit.
- Discharges that would cause or contribute to instream exceedances of water quality standards
- Discharges of any pollutant into any water for which a Total Maximum Daily Load (TMDL) has been approved or developed by EPA unless the discharge is consistent with the TDML . (Three Mile Creek is subject to this and the majority of the campus drains to Three Mile Creek)
- Corrective actions for detecting non-allowable discharges include notifying the Safety & Environmental Compliance office at 251-460-7070.



General Safety

*5,250 fatal work related injuries were recorded in the U.S. in 2018
(highest since 2008)

Violence and other injuries by persons or animals	828
Transportation Incidents	2080
Fires & Explosions	115
Falls, Slips, Trips	791
Exposures to harmful substances or environments	621
Contact with objects and equipment	786



Whenever an injury or death happens in the workplace, most of the time it could have been prevented. Not following safety procedures and guidelines may not seem like a big deal, but skipping that extra step could cost you your life!

General Safety

Avoid carelessness caused by:

Complacency – job is routine and taking shortcuts

Emotions such as anger that cause you to forget safety

Fatigue – too little sleep or too much work (Ex. Just returning from a trip late Sunday night and returning back to work early Monday), not understanding risks or recognizing hazards due to insufficient training

Reckless attitude – thinking that the rules don't apply to you



General Safety

Pay attention during safety training

Follow safety procedures at all times

Stay alert

Be focused

RESPONSIBILITY is the main concept of safety



Basic Safety Rules

- ❖ Read labels and Safety Data Sheets of hazardous materials (previously MSDS's)
- ❖ Use the right personal protective equipment
- ❖ Be careful around electricity
- ❖ Use proper ventilation
- ❖ Exercise caution around construction zones and pedestrian crossings



Basic Safety Rules

- ❖ Turn off equipment when not in use
- ❖ Make sure tools and equipment are working properly and use the equipment only for the intended purpose
- ❖ Follow all safety rules and work procedures
- ❖ Use step stools or ladders to reach
NOT ROLLING CHAIRS



What You Should Do If Injured

- Try to Stay Calm
- Seek Medical Attention
- Report All Injuries (per incident report process)
- Report Near Misses
- Report Illnesses to supervisors

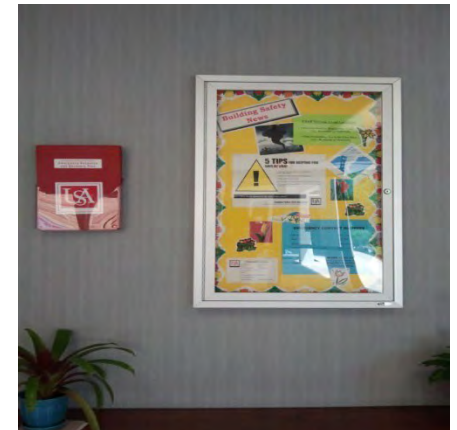


Building Safety Coordinators

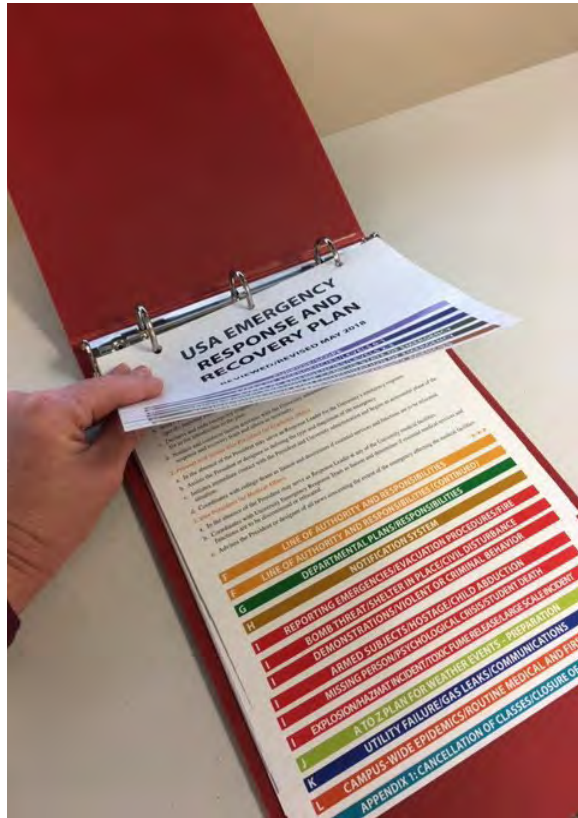
Main Campus and MCI have Building Safety Coordinators. Both hospitals and clinics have designated safety representatives.

Assignment: Find out who your BSC is or your “Go To Person”

How to: Submit Maintenance Work Orders



Emergency Response Plan



Copies of The University **Emergency Response and Recovery Plan** are in a printed flip chart format and placed near a land mark (ex. elevators)

Emergency Response Plan

Shelter in place



- **Find shelter within a building – immediately**
- If a hazardous materials release occurs outside your building, the following two distinct actions are recommended without delay:
 1. Turn off HVAC units and/or contact Central Utilities (460-7047) to remotely turn units off.
 2. Secure doors and windows; if possible put floor mats at the base of doors to provide a better seal.
 - Once the threat has passed have normal HVAC operations resumed and ventilate the building.
- **For Severe Weather Event:**
 - Find Shelter in an enclosed stairwell or interior room without windows. This your best areas of refuge.
- **Armed or Dangerous Individual:**
 - Secure doors and windows immediately.
 - If necessary, find shelter in an obscured location until any danger has passed.

Emergency Procedures

In case of spill, leak, fire or other emergent incident

- Evacuate and secure the area
- Know how to contact emergency response personnel – and do it immediately
- **Listen for instructions!**

Current chemical inventory records must be submitted to Safety & Environmental Compliance annually.



Knox Boxes



Accessible only to Mobile Fire-Rescue

Contains a Master Key/Access Card for that specific building

May Contain a USB Stick:

- Chemical Inventory for the laboratories in that building
- Building plans of that specific building
- Emergency Contact Numbers as provided to SEC

Fire Safety



- Keep flammables away from ignition sources
- Practice electrical safety
- Practice good housekeeping techniques in your work area
- As of August 2015 smoking is **prohibited** on campus
- **For an active fire** (you see flames or smoke) Dial 9-911
- **For an unknown fire alarm** (alarm is ringing, but no flames or smoke)* Dial 460-6312 (University Police). Dial 460-7047 (Central Utilities)
- Go to the Designated Assembly Point for your building

*University Police will determine whether it is necessary to contact Mobile Fire Department

Fire Safety

R Relocate/Rescue

A Alarm

C Confine

E Extinguish



Fire Safety

- ❖ Know the location of the nearest exit
- ❖ Be familiar with at least **two evacuation routes** from your work area
- ❖ Know the location of the closest pull station and fire extinguisher
- ❖ Be familiar with emergency numbers for reporting fires
- ❖ Know the location of the designated meeting area in the event of a building evacuation



Using a Fire Extinguisher

P **PULL** the pin

A **AIM** at the base of the fire

S **SQUEEZE** the lever

S **SWEEP** from side to side

Using a Fire Extinguisher

- ❖ Attempt to use a fire extinguisher only if the fire is contained and you have received appropriate training
- ❖ Make certain that an alarm has been sounded, people are leaving the building and the fire department has been notified
- ❖ Consider the danger posed by hazardous or highly flammable materials near the fire area
- ❖ Have an unobstructed escape route



Discharged Fire Extinguishers

Pull inspection tag

Lay used fire extinguisher on its side away from traffic

Contact Maintenance for Replacement

Never place a discharged fire extinguisher back into cabinet!



Right To Know

Hazard Communication

Employees must understand the potential hazards associated with their job functions and how to protect themselves against these hazards to include the use of personal protective equipment.



Hazards In The Workplace

Supervisor Responsibilities

- ❖ Determine which workplace materials are hazardous
- ❖ Provide employees with information, training and equipment needed to protect themselves and others
- ❖ Compile an available list of hazardous materials known to be present in each work area

Employee Responsibilities

- ❖ Participate in University provided safety training
- ❖ Use training, safety procedures and protective equipment to work safely
- ❖ Report safety issues to appropriate supervisor or department

Hazards In The Workplace

What Should You Do if You See
Something Like This on Campus???



Engineering and Work Practice Controls

Engineering Controls: An attempt to design safety into the tools and workplace organization

- ❖ Grounding cables
- ❖ Eye washes/Safety shower stations
- ❖ Hand washing facilities
- ❖ Tube racks
- ❖ Fume hoods

Work Practice Controls: Behaviors necessary to use engineering controls effectively such as proper use of

- ❖ Hand washing facilities
- ❖ Eye washes/Safety showers
- ❖ Fume hoods
- ❖ Grounding cables



Basic work area safety rules

If you are working in an area where there is a reasonable likelihood of exposure you should never:

- Eat
- Drink
- Smoke
- Apply cosmetics or lip balm
- Handle contact lens



USA

Bloodborne Pathogen Standard

(Designed to protect the nation's workers from exposure to bloodborne pathogens)

Universal Precautions

The concept that all blood and certain body fluids are to be treated as if contaminated with HIV, HBV, HCV or other bloodborne pathogens



Prevention

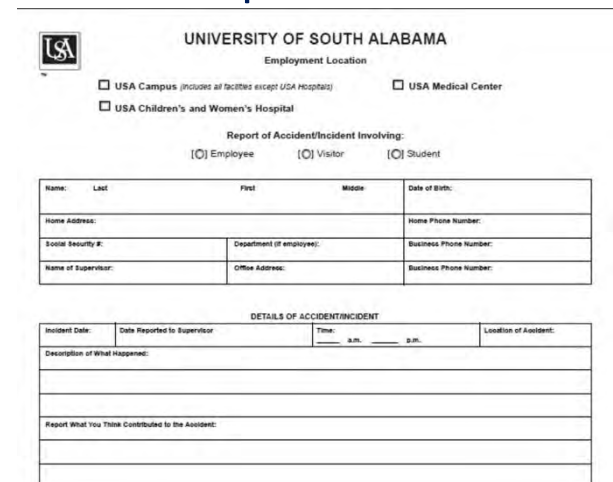
To minimize exposure to bloodborne pathogens, there are four strategies of prevention:

- ❖ Engineering controls
- ❖ Work practice controls
- ❖ Personal protective equipment
- ❖ Universal (Standard) Precautions

Reporting of Accidents/Incidents

For any incident/accident/injury occurring on a USA campus:

- ❖ Notify supervisor
- ❖ Complete and submit an Accident/Incident Form and indicate if employee, student or visitor
- ❖ Follow USA Policy & Procedure



The form is titled "UNIVERSITY OF SOUTH ALABAMA" and "Employment Location". It includes checkboxes for "USA Campus (includes all facilities except USA Hospital)", "USA Medical Center", and "USA Children's and Women's Hospital". Below these are radio buttons for "Employee", "Visitor", and "Student". The form is divided into two main sections: "Name" and "DETAILS OF ACCIDENT/INCIDENT".

UNIVERSITY OF SOUTH ALABAMA			
Employment Location			
<input type="checkbox"/> USA Campus (includes all facilities except USA Hospital)		<input type="checkbox"/> USA Medical Center	
<input type="checkbox"/> USA Children's and Women's Hospital			
Report of Accident/Incident Involving:			
<input type="radio"/> Employee		<input type="radio"/> Visitor	<input type="radio"/> Student
Name: LAST	FIRST	MIDDLE	Date of Birth:
Home Address:		Home Phone Number:	
Social Security #:	Department (if employee):	Business Phone Number:	
Name of Supervisor:	Office Address:	Business Phone Number:	
DETAILS OF ACCIDENT/INCIDENT			
Incident Date:	Date Reported to Supervisor:	Time: _____ a.m. _____ p.m.	Location of Accident:
Description of What Happened:			
Report What You Think Contributed to the Accident:			

Accident/Incident Forms are to be routed as per the “Employee Incident Report Routing Form” (HR document). Each incident is evaluated by Risk Management for trends and for potential follow-up, and are reviewed by the USA Safety & Environmental Compliance.

Would You Do This?



What About This? Safe or Unsafe?



FINAL THOUGHT:

*“SUCCESS IS NOT FINAL,
FAILURE IS NOT FATAL:
IT IS THE COURAGE TO CONTINUE THAT COUNTS”*

WINSTON S. CHURCHILL



Summary

Q & A

None of us work or exist in a vacuum. What we do and how we do it whether safely or unsafely affects others, whether it be our co-workers or our loved ones who care about and depend on us. Let's all work safely together.



ILLICIT DISCHARGE TOOLBOX TALK

What is an Illicit Discharge?

An Illicit Discharge (Improper Disposal) is any kind of emission to a Municipal Separate Storm Sewer Systems (MS4) that is not entirely composed of storm water. The MS4 consists of storm drains, ditches, man-made channels, and municipal streets. Eliminating illicit discharges into storm water can reduce pollution of our waterways.

Allowable Storm Water Discharges

- Water Line Flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground water
- Uncontaminated ground water infiltration
- Uncontaminated pumped ground water
- Discharges from water sources
- Foundation and footing drains
- Air conditioning condensation
- Springs
- Water from crawl space pumps
- Lawn watering runoff
- Individual residential car washing and charitable car washes
- Flows from wetlands
- De-chlorinated swimming pool discharges
- Residual street wash water
- Discharges from firefighting activities
- Flows from riparian habitats and wetlands
- Non-storm water discharges which are in compliance with a separate National Pollutant Discharge Elimination System (NPDES) permit

Prohibited Storm Water Discharges

- Oil sheen in a body of water
- Leaves or grass clippings deposited in storm drains
- Spills or dumping of oil, paint, household cleaners, antifreeze, pesticides, or fertilizers
- Discharge of chlorinated swimming pool water to a storm drain
- Sediment tracking from construction sites into streets
- Illegal dumping (at sites where regular garbage and trash is not picked up)
- Someone dropping litter
- Anything being disposed of into a storm drain

Procedure for Reporting a Suspected Illicit Discharge

To report a suspected illicit discharge on campus you may either:

- Call the Safety & Environmental Compliance office at (251) 460-7070
- Go to the Safety & Environmental Compliance webpage and fill out the “Confidential Environmental/Hazard Report” listed under the MS4 Information header. The link is as listed below...

<https://www.southalabama.edu/departments/environmental/confidentialreport.html> .

Reports can be made anonymously.

Procedure for the Corrective Action of Suspect Illicit Discharge

If a suspected illicit discharge is reported on campus, the following procedure for corrective action shall be as follows:

1. Give reference points/landmarks to the observed location of the discharge.
2. Document the characteristics of the discharge (odor, color, etc..).
3. Document the date and time of observation.
4. Document the general weather conditions.

UNIVERSITY OF SOUTH ALABAMA

MS4 Permit Refresher

December 2022

	Name-Please Print	J#	Department
1.	Frances anna Foster		SEC
2.	Brodrick Nettles		SEC
3.	GORDON CRAWLEY		SEC
4.	Deborah Bryans		SEC
5.	Catherine Scott		SEC
6.	Piper Cobb		SEC
7.	William J. Jr		Safety & Envt. Comf.
8.			
9.			
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MS4 Permit Refresher:

What does ms4 stand for?

MS4. Municipal Separate Storm Sewer System

What is the ms4 program?

An **MS4** is a conveyance or system of conveyances that is: owned by a state, city, town, village, or other public entity that discharges to waters of the U.S., designed or used to collect or convey stormwater (e.g., storm drains, pipes, ditches), not a combined sewer.

What is ms4 compliance?

Program evaluations of Municipal Separate Stormwater Sewer Systems (**MS4**) are being conducted to determine permittee **compliance** with NPDES permit requirements and to evaluate the implementation status of EPA's stormwater regulations.

What is an ms4 outfall?

An **outfall** is defined as any point where a separate storm sewer system discharges to either Water of the United States or to another **MS4**. **Outfalls** include discharges from pipes, ditches swales, and other points of concentrated flow.

What does NPDES permit mean?

The Clean Water Act authorizes EPA and states, which are delegated the authority by EPA, to regulate point sources that discharge pollutants into waters of the United States through the National Pollutant Discharge Elimination System (**NPDES**) **permit** program.

What does NPDES stand for?

National Pollutant Discharge Elimination System

NPDES stands for **National Pollutant Discharge Elimination System** (US EPA

What kind of program is the NPDES?

The **NPDES** permit **program** addresses water pollution by regulating point sources that discharge pollutants to waters of the United States.

What is a stormwater discharge outfall?

In general, an industrial **outfall** is the point where **stormwater** associated with industrial activity **discharges** to waters of the United States or a municipal separate storm sewer system (MS4). ... This term does not include return flows from irrigated agriculture or agricultural **stormwater** runoff.

What is stormwater discharge?

Stormwater runoff is generated from rain and snowmelt events that flow over land or impervious surfaces, such as paved streets, parking lots, and building rooftops, and does not soak into the ground. ... Operators of these sources might be required to obtain an NPDES permit before they can **discharge stormwater**.

What is an illicit discharge?

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.

Problems to watch for:

- Illegal dumping
- Sediment & erosion control/runoff on construction sites
- Handling & storage of hazardous materials
- Litter control
- Bad vehicle & equipment maintenance
- Discharge of floatable materials in local bodies of water
- Improper use of herbicides
- Street operations & management (maintenance)
- Spills
- Non storm water discharges
- Targeted pollutant sources
- Runoff related to grounds maintenance
- Facility operations

For more information:

If you have a need for reporting health and/or safety hazards or unsafe conditions you should go to the Safety & Environmental Compliance main webpage, under the heading “MS4 Information”, and fill out the “Confidential Environmental/Hazard Report” (just click on the link). You will also find additional information, including the MS4 Annual Report.

Did you find this training to be effective? Yes_____ No_____
Comments and/or questions?

Appendix D – Dr. Sawyer Water Testing Summary and Data Collection

Information included in this section pertains to water testing of Three Mile Creek, conducted by Professor Dr. Carole Sawyer's Geology class.

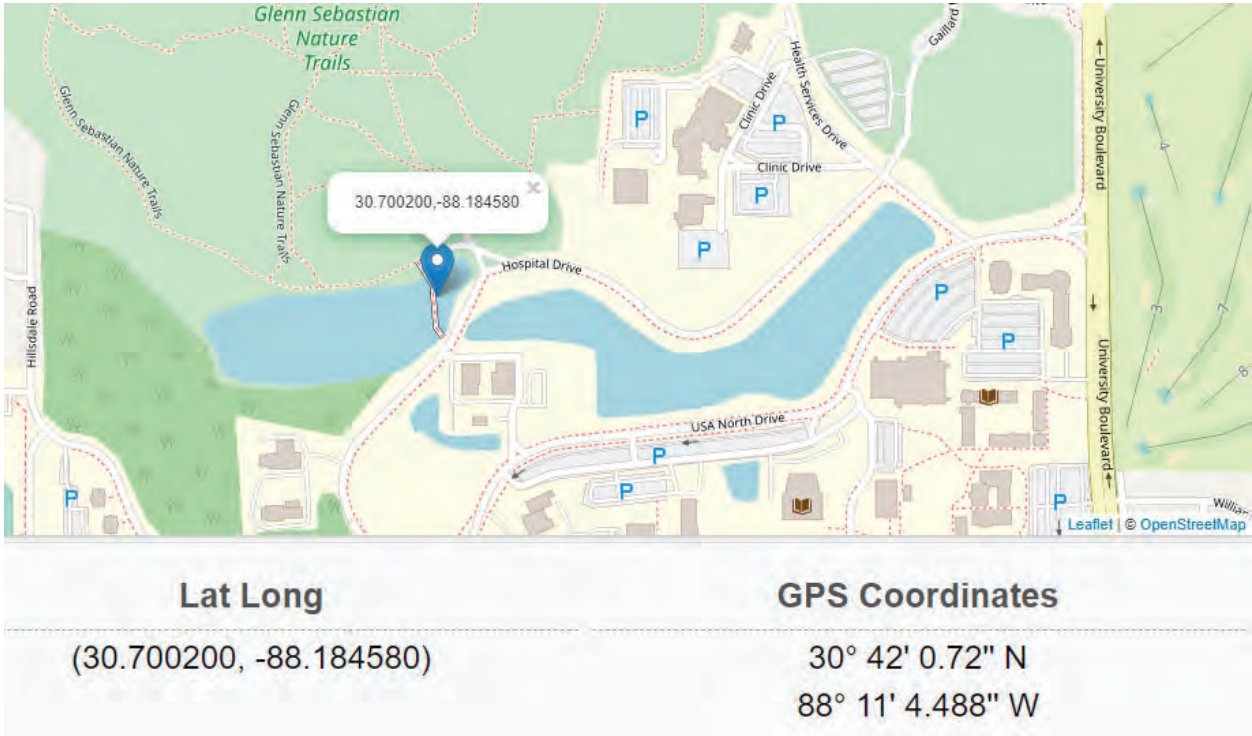


Figure 2: Location of Dr. Sawyer's Water Testing

ALABAMA WATER WATCH

WATER CHEMISTRY MONITORING DATA FORM

Group Name: _____ online

Collector(s): Chauncey Garrison Address: _____

City: _____ State: _____ Zip: _____ Phone No: _____

Sample Date: 4/12/2022 Sample Time: 11:05 AWW Site Code: _____

Watershed: _____ Waterbody: _____ County & State: _____

Sampling site location: Three-mile creek

(Notify the AWW office about any changes in sampling site location.)

Waterbody condition:	<input checked="" type="checkbox"/> Adequate Depth	<input type="checkbox"/> Inadequate Depth	<input type="checkbox"/> Dry	<input type="checkbox"/> No Access
Tidally influenced rivers:	<input type="checkbox"/> Rising Tide	<input type="checkbox"/> Falling Tide	<input type="checkbox"/> Uncertain	<input checked="" type="checkbox"/> Not Applicable

Variable	Value	Comments
Air Temperature	<u>26</u> °C	Measure air temperature before water temperature.
Water Temperature	<u>20.5</u> °C	Read with bulb submerged if possible.
pH	<u>6.0</u> Standard international units	Record to nearest 0.5 unit.
Dissolved Oxygen (DO)	Rep 1: _____ ppm Rep 2: _____ ppm	Make sure two readings are within 0.6 ppm.
Specific Gravity / Salinity	S. G. _____ Salinity: _____ ppt	If salinity is present do not test for hardness.
% Oxygen Saturation	_____ Avg DO _____ % DO Sat	Estimate from chart found in the AWW manual.
Total Alkalinity	<u>8</u> # drops x 5 = <u>40</u> mg/L	Add drops until no more color change. Record number of drops that produced final change.
Total Hardness	<u>3</u> # drops x 10 = <u>30</u> mg/L	
Turbidity	_____ # 0.5 mL x 5 (50mL) = _____ JTU _____ # 0.5 mL x 10 (25mL) _____ JTU	Enter zero (0) mL and 2 JTU if one addition of reagent surpassed the turbidity of the sample. Use bottom line ONLY if 25 mL sample volume was used.
Secchi Depth	_____ meters	Do not record depth if disk hits bottom while visible.

Comments: Note evidence of rainfall, runoff within previous 24 hours, unusual smell, unusual color, cows or other animals in creek, etc.	AWW Office Use
---	----------------

--	--

Other Chemistry Tests	YSI Meter data, Nitrates, Phosphate, etc.
-----------------------	---

I hereby declare that at the time of this water sampling my AWW Water Chemistry Certification was current and that I confirmed the freshness of each reagent used for these tests. All data entered above the **Comments** section were obtained using AWW techniques.

Check for electronic signature. _____
Monitor signature

Water Testing
Option A: Field-based assignment

1. Complete the attached worksheet in the field. **Note: I will have copies of the form to give to you.** Fill in/conduct all the tests highlighted in yellow on the form. Scan the completed form.
2. Look at the table below to compare the data you recorded and the acceptable range of that variable. Then, **answer the following questions:**
3. Were any variables outside of the acceptable range? (list all) No
 - a. If yes, what are some of the reasons for those results? _____

4. Look on a map of this region. What do you perceive to be the biggest threats to this water body upstream?

Trash and other debris from the neighborhoods and maybe car oil

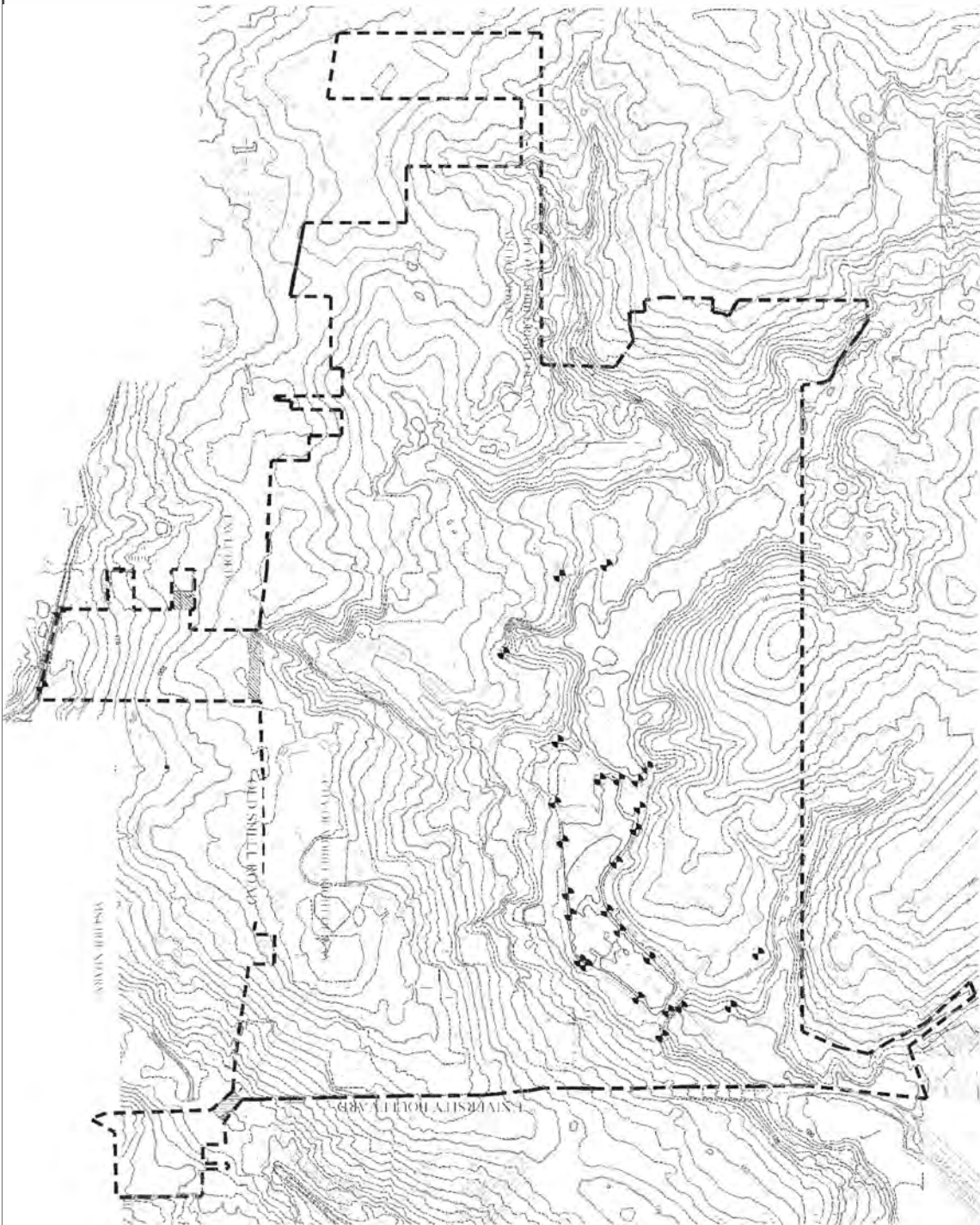
5. What water body does Three Mile Creek flow into? Municipal Park Lake #1 and Mobile River

6. What do you think is the biggest threat to the water quality of this stretch of Three Mile Creek?

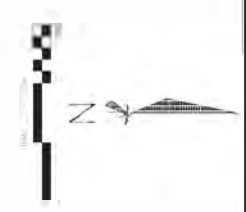
Urban runoff from the streets and other places the creek passes

Variable	Acceptable level
Air temperature (°C)	N/A
Water temperature (°C)	N/A
pH	6.0 to 8.5
Dissolved Oxygen (DO) ppm	5 ppm
% Oxygen Saturation	60 % of max
Alkalinity (mg/L)	n/a
Total Hardness	Soft: 0-60; Hard: 60-120; Very Hard: 120+
Turbidity	High turbidity > 50 JTU

Appendix E – Updated Outfall Inspection Map
(04/24/2023)



Point	Loc.	Latitude	Longitude	Elevation (ft)
MS4E	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS4D	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS4C	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS4B	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS4A	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS4	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS3E	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS3D	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS3C	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS3B	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS3A	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS3	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS2E	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS2D	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS2C	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS2B	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS2A	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS2	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS1E	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS1D	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS1C	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS1B	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS1A	7° 14' 30"	88° 04' 00"	88° 04' 00"	100
MS1	7° 14' 30"	88° 04' 00"	88° 04' 00"	100

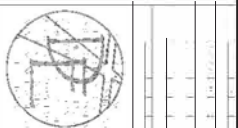


UNIVERSITY OF SOUTH ALABAMA
MS4 AREA MAP

UNIVERSITY OF SOUTH ALABAMA
307 N UNIVERSITY BLVD
MOBILE, AL 36608

Driven 
Engineering, Inc.

UNIVERSITY OF SOUTH ALABAMA
307 N UNIVERSITY BLVD
MOBILE, AL 36608



Appendix F – Authorization Letter



UNIVERSITY OF SOUTH ALABAMA

March 16, 2021

Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, AL 36110

To whom it may concern:

As the Executive Vice President at the University of South Alabama, I hereby grant to Mr. William Guess, Director of Safety and Environmental Compliance, the authority to act as a responsible official for permit application and reporting to the Alabama Department of Environmental Management.

Sincerely,

John W. Smith
Executive Vice President

JWS/sed

Appendix G – Safety and Environmental Compliance

Safety and Environmental Compliance

The office of Safety and Environmental Compliance strives to ensure all University campuses provide occupants a healthy and hazard free environment that complies with applicable federal, state, and local regulatory requirements. As part of their effort, Safety and Environmental Compliance provides technical consultations, training, building inspections and other specialized services in the following areas:

Fire Safety & Emergency Response

As a component of the University's Safety and Environmental Compliance program the Fire Safety program directly impacts every facility, department and individual. The National Fire Protection Association - NFPA primarily serves as the industry standard and source for relevant fire codes. The design and construction of buildings and structures, testing of building components and fire protection systems, and the enforcement of regulations pertaining to Life Safety from fire and other related hazards are addressed by specific Fire Code requirements.

A fire safety inspection program is a vital aspect of the overall Safety and Environmental Compliance program. Annually each building or structure is evaluated by the University's Fire Marshal and department representatives to identify unsafe conditions or deficiencies related to current codes and regulations.

Other key program components:

- Fire Drills and Fire Extinguisher Classes
- Fire investigations
- Code compliance reviews

Hazardous Waste and Materials Management

The department of Safety and Environmental Compliance hazardous materials and waste program is managed by the University's Chemical Hygiene Officer and department representatives each as certified hazardous materials first responders. Other department functions are listed below:

- Coordination of hazardous material transportation, handling and disposal
- EPA and ADEM permit management
- Inspections to include associated enforcement duties
- Code Compliance monitoring

Industrial Hygiene

The Industrial Hygiene program serves to identify, evaluate where potential health hazards may exist, and thereby develops and manages programs that promote a safe environment for all staff, faculty, students and visitors through engineering controls and or work practices. Several aspects of the program are listed on SEC website to include:

- Chemical fume hood and Biological Cabinet inspections & certifications
- Hearing conservation
- Water quality testing
- Indoor Air quality testing
- Health complaint investigations
- EPA and ADEM permit management
- ACM and LBP testing
- Code Compliance monitoring

Occupational Safety & Health Training

Education and associated training is an integral part of the Safety and Environmental Compliance program. The department's training specialist has created a series of training initiatives based on function specific job analysis and industry standards. Safety and Environmental Compliance participates in all campus new hire orientations, student orientations while offering the following to faculty and staff:

- Respiratory Fit testing & training
- BBP & Health training
- Hazardous waste and materials training
- Laboratory chemical hygiene training
- Quarterly occupational safety and health publications

Emergency Response and Recovery Plan

The University of South Alabama's Emergency Response and Recovery Plan has been developed by the Safety and Environmental Compliance Office and is managed to follow the National Incident Management System (NIMS). This includes NIMS concepts, principles, terminology and training programs. The plan serves as a guide for potential emergency responses, recovery actions and mitigation programs. The primary objective is to protect students, employees, visitors and the University properties from a wide spectrum of possible emergency events. The plans are categorized into thirteen event responses:

1. Events requiring building evacuations or occupant relocation
2. Campus evacuation
3. Civil disturbance
4. Violent or Criminal behavior

5. Psychological Crisis
6. Explosion or Hazardous Materials Incident
7. Large scale – community
8. Weather related
9. Utility
- 10 Gas leak
- 11 Power failures
- 12 Communications
- 13 Biological or Infectious Epidemics

The President has delegated to the Director of Safety and Environmental Compliance the responsibility and authority for assuring overall compliance with applicable safety and environmental standards university wide. In emergency situations and when required to do so by regulation, code, or agreement, the Director of Safety and Environmental Compliance or his/her representative may require the immediate halt or suspension of practices or conditions that have been determined to constitute a substantial risk of life or serious harm to others or the environment.

The University Safety and Environmental Compliance Committee serves as a referral group for all advisory and administrative committees related to the matter of Safety and Environmental Compliance and shall review recommended changes in University policies pertaining to Safety and Environmental issues. The Director serves as alternate Chair for the Committee while others from the department have reporting functions.

Successes over the last several years are numerous and can be difficult to quantify from a statistical standpoint. Educational programs including fall-protection, confine space, electrical safety, HazComm and many others were developed and are routinely offered. University buildings on every campus are annually inspected for Life Safety Code Compliance and general safety conditions, deficiencies are considerably less than when the program was first initiated. Building occupants now take a more active role in the inspections and serve as safety coordinators.

Challenges in the field of safety and environmental compliance vary at all levels of the organization. Healthcare facilities are held to different standards than those applied to an academic setting, this requires constant research and collaboration among our peers to remain current and in compliance. Many of the issues we face require an investment from the institution just as recent state funding cuts impact departments and divisions. Support from within the organization has always been positive during these difficult economic times.

Short Term Goals

Renew all current University EPA/ADEM permits managed by the Safety and Environmental Compliance department and maintain compliance with regulatory standards.

Expand department training initiatives to include web based options. This goal has been partially reached with a Laboratory Safety Training component recently initiated on line.

Other courses to be developed as this component is modified and testing issues are resolved.

Market and increase the overall (WARN) Wide Area Rapid Notification on-line enrollment percentages to a range consistent with other institutions of similar size and demographics. Currently 60 - 65% of registered students by comparison. This goal remains for the 2013 - 2014 period, possible changes to data collection and or the service provider system being researched.

Conduct an on campus emergency preparedness drill within the next six months. Drill postponed from November 2013 for logistical reasons to early April 2014. The new Laboratory of Infectious Diseases facility and Cancer Classroom Buildings will serve as the drill site.

Long Term Goals

Serve as the National Safety Council's primary site for safety related training initiatives and conferences in lower Alabama. This goal will remain as a long term goal while partnerships are being developed within professional organizations.

Develop and recruit an Emergency Preparedness Coordinator position as the University community continues to grow.

Key Accomplishments

The department has processed in excess of 250 tons of hazardous materials during the last ten years, this while passing several rigorous EPA/ADEM joint inspections. Our most recent accomplishment was obtaining a Firehouse Subs Public Safety Foundation grant for 22 new automatic external defibrillators (AED's) to complete our program coverage of 36 units throughout the University.

Key Challenges

Environmental issues on the University of South Alabama campuses are routinely discussed by various groups from faculty to students with sincere interest however few coordinate efforts from a global standpoint. Areas of interest are identified, programs initiated while few remain in long term operation. Recycling as an example is marginally effective with University personnel performing the bulk of the work to keep the program going.

Watershed engineering and management on a campus such as the University of South Alabama's is extremely important with Federally recognized wetlands cutting through the northern half. A Storm Water Master Plan has never been fully supported, yet each new project places additional demand on the system.

Appendix H – University of South Alabama Sustainability Committee Meetings

William Guess <wguess@southalabama.edu>**Fwd: Sustainability Meetings**

1 message

William Guess <wguess@southalabama.edu>

Tue, Feb 14, 2023 at 1:24 PM

To: Lisa Cobb <lisacobb@southalabama.edu>

----- Forwarded message -----

From: **Nicole Benard** <nicolebenard@southalabama.edu>

Date: Thu, Jan 12, 2023 at 10:27 AM

Subject: Re: Sustainability Meetings

To: William Guess <wguess@southalabama.edu>

Good morning Mr. Guess,

There were a total of 4 Sustainability Committee Meetings held in 2022. Dates: March 7, April 22, July 27, November 9, 2022.

On Thu, Jan 12, 2023 at 10:04 AM William Guess <wguess@southalabama.edu> wrote:

Nicole,

Can you tell me the number of Sustainability Committee meetings held in 2022? I need the information for an annual MS4 Stormwater report.

Thanks,

Bill

William L. Guess

University of South Alabama

Director – Safety and Environmental Compliance

wguess@southalabama.edu

P: (251) 460-7070

F: (251) 460-7278

University of South Alabama

EOB 220 / 600 Clinic Dr.

Mobile, AL 36688-0002

Southalabama.edu*Nicole Benard*

Appendix I – Land Disturbance Checklist



Land Disturbance Checklist

Project: _____ Date: _____

Location: _____

Printed Name of Engineer: _____

Signature of Engineer: _____

Professional License No.: _____

The following items must be submitted to the USA Safety and Environmental Compliance Office.

- _____ Vicinity Map
- _____ Plans drawn to scale, stamped and signed by an Alabama licensed P.E.
- _____ Topographical details for existing conditions and proposed development.
- _____ If an existing detention facility is utilized, documentation that the detention facility has been field- surveyed to verify the capacity and functionality of the existing detention facility. If is found to be deficient, the pond will be brought up to the required capacity and functionality.
- _____ Engineering calculations showing that the receiving storm drainage system can handle the additional flow due to the proposed development are provided.

Confirm the following:

- _____ Sedimentation and erosion control plan in accordance with the latest version of Alabama Handbook for Erosion Control, Sediment Control, and Storm Water Management on Construction Sites and Urban Areas, stamped by a professional engineer licensed in the state of Alabama.

<https://alabamasoilandwater.gov/>

- _____ That the grading and drainage plans comply with existing federal, state, University standards and guidelines.

_____ That if an existing detention facility is utilized, the detention facility has been field-surveyed to verify the capacity and functionality of the existing detention facility. Deficient, the pond will be brought up to the required capacity and functionality.

_____ That the receiving storm drainage system(s) can handle the additional flow due to the proposed development. Based on one of the following being met under condition A or B:

A. Flood Plain Management Plan, "An adequate channel shall be defined as a natural or man-made channel or pipe which is capable of conveying the run-off from a 25-year storm without overtopping its banks or eroding after development of the site in question, or without causing the flooding of structures from the 25-year storm event."

B. If the outfall is into a natural watercourse, the 25-year peak flow from the development within the watershed must be at a flow rate and velocity, which allows the watercourse to handle without erosion or over bank flooding.

_____ The existing outfall system does not meet the required 25-year design capacity; therefore, the post development peak flow has been reduced by an amount large enough to avoid making improvements to the outfall system.

_____ Analysis of the existing outfall system is provided. I have verified that there is no historical flooding in the area, based on examination for evidence of prior flooding. I certify that there is no flooding problem created with this development for a 25-year storm.

_____ Analysis of the existing outfall system is provided. I have verified that there is historical flooding in the area, based on examination for evidence of prior flooding. A storm water detention system providing 100-year volume with a pre-development two-year release (volume and velocity) has been designed.

_____ There is no existing outfall. A drainage system is being constructed to tie to the nearest storm drainage system (within 300 feet of the project). The design and calculations for the proposed drainage system are provided. The receiving system has been analyzed and meets condition A or B:

A. Flood Plain Management Plan, "An adequate channel shall be defined as a natural or man-made channel or pipe which is capable of conveying the run-off from a 25-year storm without overtopping its banks or eroding after development of the site in question, or without causing the flooding of structures from the 25-year storm event."

B. The existing outfall system does not meet the required 25-year design capacity; therefore, the post development peak flow has been reduced by an amount large enough to avoid making improvements to the outfall system.

_____ That site drainage is tied to the City of Mobile's storm water system.

_____ That wetlands are not show on-site or on the GIS system.

- _____ That if wetlands exist on-site or shown on GIS system, they have been delineated by a certified professional, and the delineation is depicted on the plans and the following is confirmed.
 - _____ wetlands are not disturbed.
 - _____ wetlands are disturbed and a Corps of Engineers permit has been submitted with this application.
 - _____ wetlands are disturbed and a Corps of Engineers permit will be submitted at a later submittal. I understand that the submission of the Corps of Engineers permit is required before a land disturbance permit will be issued.
- _____ That wetlands are show on GIS system, but are not present on-site, and the attached letter from a licensed environmental professional has disproved their existence.
- _____ That if the site is in an OWR Flood Plain, all requirements of ADECA Floodplain Management are in compliance.

1/2/20

Appendix J – Groundskeeper Essential Job Functions

Groundskeeper I - Essential Job Functions

1. Trims and fertilizes trees and shrubs.
2. Mows and edges lawns.
3. Polices grounds and picks up trash and debris.
4. Waters plants as needed or directed.
5. Hoes, weeds and otherwise tends flower beds, gardens and lawns.
6. Collects, loads and hauls off trash.
7. May operate a tractor or other groundskeeping equipment, implements and vehicles.
8. Digs and plants flowers, shrubs and trees.
9. May be responsible for performing groundskeeping and custodial duties in maintaining a small group of buildings and grounds.
10. Installs wee fabrics and mulches.
11. Stakes and guys trees.
12. Removes debris.
13. Cleans trash and debris from storm inlets.
14. May apply chemical to lawns, trees, shrubs, flowers and paved surfaces as required.
15. Solid waste collection campus-wide to include pick up of bagged, boxed and loose materials and transport by truck to dumpsters located throughout campus for unloading.
16. Assist in installation and repair of irrigation systems.
17. Operate power washer to clean sidewalks and other paved surfaces.

Groundskeeper II - Essential Job Functions

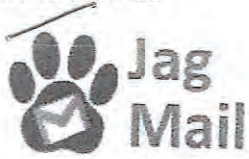
1. Mows and edges lawns.
2. Removes grass clippings, leaves, pine needles, trash and debris from lawns and landscape areas.
3. Prunes shrubbery and trees.
4. Plants and mulches shrubs, trees and flowers.
5. Installs stakes and guys on trees as required.
6. Applies irrigation water to trees, shrubs and flowers.
7. Applies chemical and fertilizers to lawns, trees, shrubs and flowers.
8. Operates tools and equipment such as pruner, line trimmer, blower, rake, shovel push mower, edger, sod cutter, riding mower, tractor mounted flail/bush hog, hydraulic tree spade, tractor mounted spreader/sprayer and high-speed chipper grinder.
9. Loads and unloads bags of fertilizer, peat moss and other materials up to 60 lbs. in weight.
10. Sweeps streets, driveways and parking lots.
11. Operates a variety of pickup trucks and other trucks, including water tanker.
12. Maintains and calibrates equipment as required.
13. Installs and repairs irrigation systems.

Appendix K – Inlet Medallions





Appendix L – Bio-infiltration Assessment



William Guess <wguess@southalabama.edu>

RE: Bio-infiltration Assessment

1 message

Ray Womack <ray.womack@krebseng.com>

Fri, May 13, 2022 at 4:09 PM

To: Buckley Kelley <bkelley@southalabama.edu>, William Guess <wguess@southalabama.edu>

Bill,

The system is effective in that it is functioning well as a bio-infiltration system. The media appears to still be in good shape as well as the stone topping and overflows are still well above the stone top layer. The system is just not intercepting as much water as we would have liked due to the overall size and height of the downstream diversion berms.

Thanks,

Ray

O. Ray Womack, P.E., LEED AP

Senior Associate

Krebs Engineering, Inc.

www.KrebsEng.com

Office No. 334.271.0986 ext 3002

Cell No. 334.202.3852



From: Buckley Kelley <bkelley@southalabama.edu>

Sent: Friday, May 13, 2022 1:25 PM

To: William Guess <wguess@southalabama.edu>

Cc: Ray Womack <ray.womack@krebseng.com>

Subject: Re: Bio-infiltration Assessment

Appendices can be made available upon request by contacting:

University of South Alabama Safety & Environmental Compliance Department

251-460-7070

safetyandenv@southalabama.edu