ANNUAL MS4 REPORT
2022

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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.

Si nature:

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Date: 5/37/22
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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 reports the on-going achievements the of the University over the reporting year and continuing work that is required. 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 winds 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:

- 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 to 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 impact 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 100% of the stormwater inlets within the MS4 area. These markings, which were referenced in the 2020-2021 report, have been an effective educational tool that remind 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 that 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 2021-2022 include:

- AED Prehealth Honor Society hosted a cleanup held on April 23, 2021. A total of seven bags were collected among eighteen participants.

![Figure 1: Two students picking up trash at AED Prehealth Honor Society Cleanup](image1)

- Students from the University of South Alabama participated in the First Year Council Campus Cleanup, held on March 20, 2021, along Glenn Sebastian Trail. Over seven bags were filled with trash by seven student participants.

![Figure 2: Group picture of participants and the trash gathered at First Year Council Campus Cleanup](image2)
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)
- Campus Cleanup (February 20)

They host a variety of events such as campus clean-up days, adopt-a-stream clean-up days, and garden workdays.
The University of South Alabama was an active participant for the Three/Twelve Mile Creek Restoration Collaboration on Jan. 31, 2021.

Dr. Kevin White, P.E., University adjunct 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.

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.

Two flyers were created, as well as one additional flyer during this reporting year, that emphasizes 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, as well as during the Partners for Environmental Progress (PEP) Reverse Trade Show on December 2, 2021, and the USA Police Department sponsored Multi-Department Team Building Event on December 16, 2021.
Figure 7: Flyer 1 - Preventing Polluted Runoff

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

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

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

For more information, visit www.epa.gov/nps
Figure 8: Flyer 2 - Soak Up the Rain with Green Infrastructure
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 9: Flyer 3 - The Journey of Trash
The University recognizes specific requirements of the permit which are not SWMPP measured BMPs are also important. This report represents all additional commentary towards specific requirements of the permit that are not SWMPP measured, regardless 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 on map: The map has been updated as of 12/16/2021 (See Appendix E).

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 procedures adopted mirror ADEM’S protocols in addition to daily informal inspections to monitor compliance.

Part III.B.3.a.iv Requirement-Achieved - Procedures for the periodic inspection of construction sites: The procedures used are through the requirements of the ADEM NOI Construction Stormwater Permit.

Part III.B.3.a.v Requirement-Achieved - Procedures, as outlined in the SWMPP, to notify ADEM of construction sites that do not have a NPDES permit or ineffective BMPs that are discovered during the periodic inspections. The procedures used are through the requirements of the ADEM NOI-Construction Stormwater Permit. For construction activities that do not require an ADEM NOI-Construction Stormwater Permit, inspections by Staff are conducted. Written procedures have been drafted and are included in the latest SWMPP.

Part III.B.3.c.i Requirement-Achieved - Procedures for site plan reviews as required by Part III.B.3.a.i: Additional procedures have been adopted that are in addition to the procedures used in 2020 that are consistent with the City of Mobile’s procedures. See checklist in Appendix I.

Part III.B.3.c.ii RequirementAchieved-A copy or link of the ordinance or other regulatory mechanism required by Part III.B.3.a.ii: A link to the ordinance and to ADEM has been added to the SEC website.

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: At the time of this report new committee member(s) have been appointed to address the procedures. The procedures and check lists will be completed prior to the next reporting year and included in the 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 procedures used are through the requirements of the ADEM NOI-Construction Stormwater Permit process.
Part III.B.4.a.iii Requirement-Achieved-To the extent allowable under State law, the Permittee must develop and institute the use of an ordinance or other regulatory mechanism to address post-construction runoff from qualifying new development and redevelopment projects. The procedures used are through the requirements of the ADEM NOI-Construction Stormwater Permit process. Additional processes have been developed through the appointment of an additional member to the Storm Water Management Advisory Committee.

Part III.B.5.a.iii 1-8 Requirement-Achieved-A Standard Operating Procedures (SOP) detailing good housekeeping practices to be employed at appropriate municipal facilities and during municipal operations. The University has established good housekeeping practices and made them a part of new employee orientation, new student orientation, included them in various applicable course syllabuses, and works to educate visitors through the use of flyers and posters posted in various locations across the campus.

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 checklist and procedures for correcting noted deficiencies: The University has existing permits that include multiple BMPs involving this item. A summary of the overlapping BMPs will be provided in an updated SWMPP within the next reporting year.

Part III.B.5.b.iii Requirement-Achieved-An inspection plan and schedule, including checklists and any other materials needed to comply with Part III.B.5.a.iv: The University has existing permits that include many of the BMPs for this item inclusive of inspections and mitigation planning.

Part III.B.5.b.iv Requirement-Achieved-A description of the training program and training schedule required by Part III.B.5.a.v: The University has current programs for this item in which training is included. Various orientation training programs are in place, and various courses taught on campus include these elements. See Appendix C and Appendix J regarding the new employee orientation and groundskeeper essential job functions.

Part IV.A.1 Requirement-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. The University utilizes outside engineering consultants to cover pre-construction project management meetings, and establishes expectations with contractors with respect to permit compliance, good housekeeping, inspections, required corrective actions, etc.
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 residences 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 preventing illegal dumping.

Measurable Goals: Develop and distribute flyers

Progress on Goals 2021-2022: USA has now developed 3-flyers. Flyer-1 was related to preventing polluted runoff through low impact development. Flyer-2 provided examples of low impact development. Flyer-3 was created in 2021, portraying the journey of trash via stormwater runoff.

Planned Activities for 2022-2023: Develop a new flyer and continue with distribution.

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 to 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.

**Measurable Goals:**
- Develop the website.

**Progress on Goals 2021-2022:**
- 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 3,483 times in 2021.
  - [http://www.southalabama.edu/departments/environmental/index.html](http://www.southalabama.edu/departments/environmental/index.html)

**Planned Activities for 2022-2023:**
- Continue maintaining the website and update the information being provided to ensure consistency with the public education and outreach program and to track usage.

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

BMP-3: Public Service Advertisements

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

**Measurable Goals:**
- Develop printed advertisements

**Progress on Goals 2021-2022:**
- Journey of Trash flyer has been created to encourage viewers to minimize stormwater pollution

**Planned Activities for 2022-2023:**
- 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 University Colleges, has developed educational materials and programs that discuss the harmful impact of illegal dumping and littering and will provide the necessary tools 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 program that highlights the harmful impact of illegal dumping.

Progress on Goals 2021-2022: Multiple programs have been created within the University’s curriculum. A geology curriculum has been created by Dr. Sawyer, and a water resources I/ Water Resources II curriculum has been created by Dr. Webb and Dr. Smallegan. These curriculums not only educate the harmful impacts of illegal dumping and littering, but also display measures that can be taken to prevent any future dumping on water bodies. The Class Curriculums can be seen in Appendix C. Flyers have also been distributed 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.

Planned Activities for 2022-2023: Continue with education programs to be affiliated with all students at the University of South Alabama. 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 an 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: Create program that educates the community on steps to report construction site runoff problems.

Progress on Goals 2021-2022: William Guess has informed Student Community Groups of reporting procedures. USA’s SEC website contains links to make reports.

Planned Activities for 2022-2023: Continue with current programs, add more specific training to the University employee orientation and groundskeeper procedures.

Target Audience: General public, faculty/staff, students
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 Sustainability Committee, will review, edit, and modify materials and programs to ensure relevancy to the University of South Alabama student population and current issues.

**Measurable Goals:** Coordinate with the Sustainability Committee and SEC on education on water quality issues. Members included on University’s website: [https://www.southalabama.edu/specialprojects/usasustainability/members.html](https://www.southalabama.edu/specialprojects/usasustainability/members.html)

**Progress on Goals 2021-2022:** Because of Covid restrictions, no meetings were held in 2021 and in-person training opportunities were limited. See Appendix H regarding the University’s covid restrictions.

**Planned Activities for 2022-2023:** Resuming with quarterly meetings starting back in 2022 and training as part of employee orientation will resume as well.

**Target Audience:** Faculty/staff

BMP-7: Education of University Employees and Contractors

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. 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 2021-2022:** Training programs such as the MS4 for employees have been implemented into New Employee Orientation, as well as new researchers. See Appendix C for the PowerPoint slide that is used during new employee orientation

**Planned Activities for 2022-2023:** Update training program with edited or new information as required.

**Target Audience:** Faculty/staff, contractors
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 stormwater pollution prevention. SEC will notify the campus community of opportunities to participate in water quality improvement activities and SWMPP implementation by public notice of SWMPP meetings. These public notice announcements of meetings will be published in the Vanguard campus newspaper and in the University of South Alabama electronic media via the Digest.

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 both the University itself 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: Storm Water Management Committee

To oversee the implementation of the SWMPP and provide advice and consultation, SEC created the Storm Water Management Committee. The SWMPP 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 SWMPP 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: Development of a stormwater management committee and reporting criteria.

Progress on Goals 2021-2022: Committee has not conducted any meetings in 2021 due to Covid. See Appendix H regarding the University’s covid restrictions.

Planned Activities for 2022-2023: Committee to resume holding meetings in 2022.

Target Audience: Committee Members
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 discs stating, “Drains to Three Mile Creek” and “Drains to Twelve Mile Creek” as well as adhesive to attach said discs to each inlet. 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 may volunteer for storm sewer marking, 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.

**Progress on Goals 2021-2022:** All markers have been installed. See Appendix K regarding the inlet medallions.

**Planned Activities for 2022-2023:** Continue with program. Add stormwater inlet medallions to all future projects within the Three Mile Creek and Twelve Mile Creek watershed.

**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:

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

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.

**BMP-1: Develop Improper Disposal of Discharges Policy**

The University will create a policy to meet the requirements of the MS4 NPDES permit. The policy will address the provision for prohibiting any individual non storm water discharge that is determined to be contributing pollutants to this MS4. USA has created an Internal MS4 Oversight Committee. The University also has preconstruction project guidelines for all projects constructed on the campus.

**Measurable Goals:** Identify responsible Departments for the management and implementation of improper disposal of discharges policy.

**Progress on Goals 2021-2022:** Department of Safety and Environmental Compliance (SEC) is managing/implementing the developed policy.

**Planned Activities for 2022-2023:** Continue with policy updates as needed and continue monitoring for successful implementation.

**Target Audience:** Faculty/staff

**BMP-2: Authorization to Control Improper Disposal of Discharges**

USA has created an Internal MS4 Oversight Committee. Through actions of the MS4 Oversight Committee and the Safety and Environmental Compliance Department, USA has developed a web based Confidential Reporting System that has a direct notification feature to Safety and Environmental Compliance office. IDDE inspections are conducted quarterly. Trained groundskeepers and SEC department staff are on the lookout for improper discharges. [https://www.southalabama.edu/departments/environmental/confidentialreport.html](https://www.southalabama.edu/departments/environmental/confidentialreport.html). The President of the University has granted Authority of Intervention to William Guess in the Safety and Environmental Compliance Department. See Appendix F regarding the authorization letter.

**Measurable Goals:** Identify Department(s) that have authority to direct those causing the illicit discharge to cease discharge activities.

**Progress on Goals 2021-2022:** Department of Safety and Environmental Compliance has been given authority requiring activities to cease if generating improper discharges. See current letter of authority in Appendix F.

**Planned Activities for 2022-2023:** SEC to continue exercising authority to cause improper activities to cease.

**Target Audience:** Faculty/staff
BMP-3: Dry Weather Screening

Any dry weather screening outfall found to be flowing shall be logged for further investigation. Standard Operating Procedures to identify outfalls with dry weather flow shall be implemented while completing inspections.

**Measurable Goals:**
For year one (1) the University trained personnel performing illicit discharge screening on the IDDE Plan. 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 2021-2022:**
100% Complete for the yearly requirement. Four inspections were conducted in 2021. The inspections can be found in Appendix B.

**Planned Activities for 2022-2023:**
Continue with screening program as required. Seven outfalls remain to be inspected. All remaining outfalls will be inspected in 2022.

**Target Audience:**
Staff

BMP-4: Stormwater Network Mapping

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

**Measurable Goals:**
Stormwater network mapping to be completed.

**Progress on Goals 2021-2022:**
100% complete.

**Planned Activities for 2022-2023:**
Update and add Twelve Mile Creek outfalls to storm drain maps due to campus expansion. Collect and place on map the latitude/longitude of all known outfalls and locations of all structural BMPs operated by the University.

**Target Audience:**
University Staff
BMP-5: Reporting of Improper Disposal of Discharges

Per the Permit, an Illicit discharge is defined at 40 CFR Part 122.26(b)(2) and refers to “any discharge to an MS4 (municipal separate storm sewer system) that is not composed entirely of storm water …” These illicit discharges can enter a storm drain system either through a direct connection (e.g., a pipe connected directly to the storm drain) or indirectly (e.g., spills, dumped chemicals, cracks in sanitary sewers). All potential illicit discharges should be reported to University of South Alabama Department of Safety and Environmental Compliance.

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

**Progress on Goals 2021-2022:** Webpage has been created.

[https://www.southalabama.edu/departments/environmental/confidentialreport.html](https://www.southalabama.edu/departments/environmental/confidentialreport.html)

**Planned Activities for 2022-2023:** Update and monitor reporting system as necessary

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

BMP-6: Maintenance

An inventory of outfalls discharging storm water from the University’s MS4 to Three Mile Creek (See Appendix F) is vital in spotting and controlling illicit discharges and/or improper disposals. Each outfall, regardless of its size, has been field visited and identified. The system has been mapped and categorized so that staff can report issues and complete maintenance logs in a meaningful way.

**Measurable Goals:** University staff to maintain and update campus storm water conveyance system, including Three Mile Creek and Twelve Mile Creek outfalls.

**Progress on Goals 2021-2022:** 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 of this work are maintained by grounds dept.

**Planned Activities for 2022-2023:** Continue with maintenance activities.

**Target Audience:** Staff
BMP-7: Education

Storm water pollution prevention education leads to an informed and knowledgeable campus community that is more likely to support and comply with the BMP provisions.

**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 2021-2022:**

Stormwater pollution prevention training has been added to the new employee orientation as shown in appendix C.

**Planned Activities for 2022-2023:**

Continue with public education and outreach. Additional information and training specific to identifying and preventing illicit discharges will be added to the new employee orientation material.

**Target Audience:**

General public, faculty/staff, students

BMP-8: Train Staff

Through continued educative efforts, an informed campus community is relied upon to relay observations of potential illicit discharges. These observations are communicated to University of South Alabama’s Administration through multiple methods to include the Department of Safety and Environmental Compliance.

**Measurable Goals:**

For year one (1) through year five (5), conducting training of university staff and faculty at least once per permit cycle. In Grounds and Project Management departments receives IDDE Awareness training within six months of employment or as determined by the Department to which the employee is assigned.

**Progress on Goals 2021-2022:**

This is completed via new employee orientation. See Appendix C for new employee orientation PowerPoint.

**Planned Activities for 2022-2023:**

Provide training to all new hires during department orientation and add specific training for IDDE to the orientation.

**Target Audience:**

Faculty, staff
BMP-9: Analyze Illicit Discharges

The University will analyze data of illicit charges on University property and provide public education in areas where illicit discharges are being found. Some examples of illicit discharges include sanitary wastewater, effluent from septic tanks, car wash wastewaters, improper oil disposal, and radiator flushing disposal, laundry wastewaters, and spills from roadway accidents, and swimming pool discharges (that have not been de-chlorinated). These illicit discharges can enter a storm drain system either through a direct connection (e.g., a pipe connected directly to the storm drain) or indirectly (e.g., spills, dumped chemicals, cracks in sanitary sewers).

Measurable Goals: For year one (1) through year (5) the University will begin analyzing data of illicit discharges.

Progress on Goals 2021-2022: Four outfalls have been analyzed in 2021. No illicit discharges have been discovered to date.

Planned Activities for 2022-2023: Continue monitoring outfalls for illicit discharges in order to target education against them. Seven outfalls remain to be inspected.

Target Audience: Staff

BMP-10: Education

Actions are to be taken to ensure that similar illicit discharges are eliminated in the future. These will include enhanced education with applicable groups and modified BMP measure guidelines for areas where there are illicit discharges.

Measurable Goals: The University will provide public education in areas where there are illicit discharges.

Progress on Goals 2021-2022: Public education will be implemented whenever known illicit discharge reports/locations are submitted/communicated.

Planned Activities for 2022-2023: Continue with the BMP.

Target Audience: General public, faculty/staff, students
BMP-11: Three Mile Creek Monitoring

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

**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 2021-2022:** Quarterly monitoring has been conducted and provided for in this report. Test results have been obtained from the University of South Alabama Geology Department to account for the missing inspections (See Appendix A&D).

**Planned Activities for 2022-2023:** Report on data for subsequent quarter(s).

**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, Preconstruction meetings to include applicable training will ensure that attendees take advantage of new technologies for managing storm water runoff on construction sites. Educational programs will be updated and modified as needed.

**Measurable Goals:**

Training to be developed and provided to the University of South Alabama applicable personnel.

**Progress on Goals 2021-2022:**

100% Complete-Training is developed, and inspections are conducted.

**Planned Activities for 2022-2023:**

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 SWMPP Committee to review procedures to evaluate effectiveness.

**Measurable Goals:** Reviews are currently provided through a Consulting Firm and in coordination with ADEM and the ADEM NOI process.

**Progress on Goals 2021-2022:** On-going, utilized ADEM processes for review. Review BMP checklist in addition to the ADEM process. Land Disturbance checklist is shown in Appendix I

**Planned Activities for 2022-2023:** Continue with BMP.

**Target Audience:** Staff

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**BMP-3: Construction Site Inspections**

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

**Measurable Goals:** Inspections are currently provided through a consulting firm and in coordination with ADEM and the ADEM NOI process.

**Progress on Goals 2021-2022:** On-going, utilized ADEM processes for inspections.

**Planned Activities for 2022-2023:** 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 confidential phone number and webpage for reporting confidential 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:**

Issues that are encountered with construction activities are currently provided through a consulting firm and in coordination with ADEM and the ADEM NOI process.

**Progress on Goals 2021-2022:**

On-going, utilized ADEM processes for reporting. SEC Director William Guess performs drive-by inspections on a weekly basis.

**Planned Activities for 2022-2023:**

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 pre-construction conditions into consideration throughout the design, construction, and post-construction phases.

**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**

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 2021-2022:** University staff and/or a third-party consulting firm is working in conjunction with the ADEM NOI process for construction stormwater.

**Planned Activities for 2022-2023:** Continue with BMP.

**Target Audience:** Staff
BMP-2: Three 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.

**Measurable Goals:**

Conduct quarterly inspections on the biological health of the creek for BOD, COD, DO, E. coli, Fecal coliform.

**Progress on Goals 2021-2022:**

Due to a miscommunication from Pace Labs, 50% of quarterly inspections on the biological health of the creek for BOD, COD, DO, E. coli, and Fecal coliform were obtained. Alternate test results were acquired from the University of South Alabama Geology Department to account for the missing inspections. See Appendix A for reasons why the BMP was not fully implemented.

**Planned Activities for 2022-2023:**

Continue with BMP and hold consultants accountable to ensuring these tests are completed quarterly as required.

**Target Audience:**

General public, faculty/staff, students
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. 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:** Road maintenance activities through the reporting year.

**Progress on Goals 2021-2022:** Maintained roads as problems occurred.

**Planned Activities for 2022-2023:** Complete the creation of a road maintenance program reporting criteria.

**Target Audience:** Staff

**BMP-2: Street Sweeping**

Street sweeping is an effective method of reducing sediment and pollutants from roadways. To ensure these activities are conducted in an effective manner the University of South Alabama will identify roadways that are to be swept. The University will further establish schedules for sweeping of identified roadways and will include information on the roads swept upon request.

**Measurable Goals:** Volume of sediment removed

**Progress on Goals 2021-2022:** A Street sweeping unit cleans each of the campus roads and parking lots by zone during the week. A copy of the zone
schedule and associated map is available upon request. All litter was deposited into one 30 yard roll off on-site. The roll off was dumped a total of 29 times in 2021 for a total of 870 yards removed from potentially entering the downstream storm systems.

**Planned Activities for 2022-2023:** Continue with BMP.

**Target Audience:** Staff

**BMP-3: Litter Collection**

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

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

**Progress on Goals 2021-2022:** A four person Grounds Department crew are 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 2021 for a total of 1,880 yards removed from campus and prevented from entering downstream storm systems.

**Planned Activities for 2022-2023:** Continue with scheduled activities.

**Target Audience:** Staff
**BMP-4: Herbicide Application**

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

**Measurable Goals:** Reduce the use of herbicides

**Progress on Goals 2021-2022:** USA has areas that have been converted to pollinator gardens to remove the necessity of spraying herbicides in that area. We have also reduced the number and type of herbicides being used.

**Planned Activities for 2022-2023:** Continue with BMP.

**Target Audience:** Staff

**BMP-5: 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 2021-2022:** 100% Complete-Routine maintenance of owned vehicles are inspected for the presence of fluid leaks during routine maintenance. The University of South Alabama schedules repairs for vehicles determined to have leaks. Maintenance records are available for review as requested.

**Planned Activities for 2022-2023:** Continue with BMP.

**Target Audience:** Staff
BMP-6: Hazardous Material Management

Safety and Environmental Compliance has operated a RCRA permitted hazardous material management program for many decades. 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 2021-2022: 100% Complete-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 2022-2023: Continue with BMP.

Target Audience: Staff

BMP-7: Employee Training

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

Measurable Goals: Number of Employees Trained.

Progress on Goals 2021-2022: 170 individuals have been trained.

Planned Activities for 2022-2023: Continue with BMP.

Target Audience: Staff

Additions to 2021 SWMPP

BMP-1a: Litter Trap

Measurable Goals: Installation of a litter trap at a stormwater pipe outfall on Aubrey Green Drive along Three Mile Creek.

Progress on Goals 2021-2022: Monitor volume removed and clean BMP.

Planned Activities for 2022-2023: Monitor volume removed and clean BMP.

Target Audience: Campus Community
Appendix A - Three Mile Creek TMDL Data Collection, Results, and Commentary

This appendix includes a narrative as to absence of test reporting periods by Pace, as well as an email from Pace Labs Project Manager, Savannah Wallace, regarding the missing test reports.
May 12, 2022

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, Three Mile Creek  
2021 Yearly Report  
Driven Engineering, Inc. Project no: 17005

Dear Mr. Guess:

Pace Environmental Sciences 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. This past year, Pace failed to obtain and test the samples for two of the four quarters. They said that their field department didn't catch that this was quarterly in 2021. They now have a new field manager, and he is aware that samples are required once a quarter. They also have been reminded about the need for the three dry and one wet condition samples. Internally, Mr. Stacey was managing these tests and he was paying the Pace invoices, so I was not aware that these tests had been missed. Pace’s new field manager is now monitoring these as well as three people internal to Driven (Jolinda Gilbert, Andrew Watley, and Avalisha Fisher). In addition, we have set up recurring task reminders internally to ensure that these occur on time.

On account of two missing laboratory results throughout 2021, this letter report will represent the results of the TMDL sampling conducted between April 2018 through December 2021 via graphs of each testing component, as well as present the 2021 results required by the Phase II MS4 Permit ALR040060 along Three Mile Creek at two locations known as TMDL-1 and TMDL-2 as shown on the Three Mile Creek Outfall Map by Driven Engineering dated 12-16-2021. The samples were tested for dissolved oxygen (DO), biochemical oxygen demand (BOD), chemical oxygen demand (COD), E.coli, and fecal coliform.

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 results of the test throughout the year indicate a generally healthy water course. The results from 2021 are shown in the tables below. Lab results are presented in Appendix B.
April 2021 Test Cycle

<table>
<thead>
<tr>
<th>Site</th>
<th>DO</th>
<th>BOD</th>
<th>COD</th>
<th>E.coli</th>
<th>Fecal Coliform</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMDL-1</td>
<td>8.14 mg/L</td>
<td>Not Detected</td>
<td>19.0 mg/L</td>
<td>6500 MPN / 100ml</td>
<td>6200 CFU / 100ml</td>
</tr>
<tr>
<td>TMDL-2</td>
<td>8.59 mg/L</td>
<td>Not Detected</td>
<td>20.0 mg/L</td>
<td>8660 MPN / 100ml</td>
<td>7400 CFU / 100ml</td>
</tr>
<tr>
<td>Acceptable Limits</td>
<td>&gt; 3 mg/L</td>
<td>&lt; 5.0 mg/L</td>
<td>n/a</td>
<td>200-2000 MPN / 100ml</td>
<td>200-2000 CFU / 100ml</td>
</tr>
</tbody>
</table>

September 2021 Test Cycle

<table>
<thead>
<tr>
<th>Site</th>
<th>DO</th>
<th>BOD</th>
<th>COD</th>
<th>E.coli</th>
<th>Fecal Coliform</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMDL-1</td>
<td>6.67 mg/L</td>
<td>80.5 mg/L</td>
<td>Not Detected</td>
<td>8660 MPN / 100ml</td>
<td>25000 CFU / 100ml</td>
</tr>
<tr>
<td>TMDL-2</td>
<td>5.86 mg/L</td>
<td>158 mg/L</td>
<td>Not Detected</td>
<td>6130 MPN / 100ml</td>
<td>10688 CFU / 100ml</td>
</tr>
<tr>
<td>Acceptable Limits</td>
<td>&gt; 3 mg/L</td>
<td>&lt; 5.0 mg/L</td>
<td>n/a</td>
<td>200-2000 MPN / 100ml</td>
<td>200-2000 CFU / 100ml</td>
</tr>
</tbody>
</table>

The September 2021 Test Cycle indicates an increase of average of Fecal Coliform and a decrease in *E.coli*. The increases are attributed to climate activities throughout the month based on data acquired from the NOAA data base for the time frame under consideration at the time of the sample collection.

Based upon only having two test results for 2021, further investigation was conducted to search for local companies/schools testing in the same area. Testing by the University of South Alabama Geology Department was located. The Geology Department collects water samples from Three Mile Creek, along the west side of Hospital Drive (30.700200, -88.184580). Since the location of testing is within a few hundred feet of TMDL-1, it has been determined that the Geology Department test results will be used in conjunction with the Pace reports. These results are incorporated into the graphs below, presenting the progression of each testing component since April 18, 2018.
Chemical Oxygen Demand
Lab Test Results

E. Coli Lab Test Results
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. However, rainfall data from NOAA suggests infiltration is not a contributing factor. ADEM reports for the TDML of Three Mile Creek suggests variations in the reported constituents based on variations of temperature and stream flow.

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

Sincerely,
Driven Engineering, Inc.

Avalisha Fisher, P.E.
Well, I don't have great news. It looks like our field department didn't catch that this was quarterly in 2021. I guess he thought it was semi-annual. We now have a new field manager, and he is aware that we need this sample once a quarter. I've explained the three dry and one wet condition. The Q1 for 2022 was under wet conditions. Please see the attached reports for the two from 2021 and the one for 2022.

So sorry for the oversight,

Savannah Wallace
Project Manager | Pace Environmental Sciences
4320 Midmost Drive, Mobile, AL 36609
251.243.0667 | 251.344.9106 | pacelabs.com | Online Bill Pay

Please make all kit request 72 hours in advance.

NEW: PROCESS PAYMENTS ONLINE – click on the link below
Online Bill Pay

Figure 1: Email from Savannah Wallace regarding Missing Water Test Reports
April 21, 2021

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

RE: Project: Stormwater- Quarterly  
Pace Project No.: 20196670

Dear Gene Stacey:

Enclosed are the analytical results for sample(s) received by the laboratory on April 15, 2021. 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
## CERTIFICATIONS

**Project:** Stormwater- Quarterly  
**Pace Project No.:** 20196670

**Pace Analytical Services New Orleans**  
California Env. Lab Accreditation Program Branch: 11277CA  
Florida Department of Health (NELAC): E87595  
Illinois Environmental Protection Agency: 0025721  
Kansas Department of Health and Environment (NELAC): E-10266

**Pace Analytical Services Mobile**  
4320 Midmost Drive, Mobile, AL 36609  
Alabama Certification #: 40810

<table>
<thead>
<tr>
<th>Certification Organization</th>
<th>Branch or ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisiana Dept. of Environmental Quality (NELAC/LELAP)</td>
<td>02006</td>
</tr>
<tr>
<td>Texas Commission on Env. Quality (NELAC)</td>
<td>T104704405-09-TX</td>
</tr>
<tr>
<td>U.S. Dept. of Agriculture Foreign Soil Import</td>
<td>P330-10-00119</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Florida Certification #</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E87977</td>
<td></td>
</tr>
</tbody>
</table>

**REPORT OF LABORATORY ANALYSIS**

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# SAMPLE SUMMARY

**Project:** Stormwater - Quarterly  
**Pace Project No.:** 20196670

<table>
<thead>
<tr>
<th>Lab ID</th>
<th>Sample ID</th>
<th>Matrix</th>
<th>Date Collected</th>
<th>Date Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>20196670001</td>
<td>TDML-1</td>
<td>Water</td>
<td>04/15/21 13:55</td>
<td>04/15/21 14:15</td>
</tr>
<tr>
<td>20196670002</td>
<td>TDML-2</td>
<td>Water</td>
<td>04/15/21 13:40</td>
<td>04/15/21 14:15</td>
</tr>
</tbody>
</table>

**REPORT OF LABORATORY ANALYSIS**

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## SAMPLE ANALYTE COUNT

**Project:** Stormwater - Quarterly  
**Pace Project No.:** 20196670

<table>
<thead>
<tr>
<th>Lab ID</th>
<th>Sample ID</th>
<th>Method</th>
<th>Analysts</th>
<th>Analytes Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>20196670001</td>
<td>TDML-1</td>
<td>SM 9222D</td>
<td>PP1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9223B / Quanti-Tray</td>
<td>PP1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SM 5210B</td>
<td>PP1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SM 5220D</td>
<td>MAP</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>20196670002</td>
<td>SM 9222D</td>
<td>PP1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>TDML-2</td>
<td>9223B / Quanti-Tray</td>
<td>PP1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SM 5210B</td>
<td>MAP</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>SM 5220D</td>
<td>RVJ</td>
<td>1</td>
</tr>
</tbody>
</table>

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.:** 20196670

### Sample: TDML-1

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Results</th>
<th>Units</th>
<th>Report Limit</th>
<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOB 9222D Fecal Coli by MF</td>
<td>6200</td>
<td>CFU/100 mL</td>
<td>200</td>
<td>200</td>
<td>04/15/21 16:00</td>
<td>04/16/21 15:00</td>
<td>N2</td>
<td></td>
</tr>
<tr>
<td>MOB Colilert/QT MPN</td>
<td>12100</td>
<td>MPN/100mL</td>
<td>5.0</td>
<td>5</td>
<td>04/15/21 15:45</td>
<td>04/16/21 15:47</td>
<td>N2,u2</td>
<td></td>
</tr>
<tr>
<td>E.coli, Bacteria</td>
<td>6500</td>
<td>MPN/100mL</td>
<td>5.0</td>
<td>5</td>
<td>04/15/21 15:45</td>
<td>04/16/21 15:47</td>
<td>N2</td>
<td></td>
</tr>
</tbody>
</table>

**Field Data**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Results</th>
<th>Units</th>
<th>Report Limit</th>
<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen, Dissolved</td>
<td>8.14</td>
<td>mg/L</td>
<td>1</td>
<td></td>
<td>04/15/21 13:55</td>
<td>7782-44-7</td>
<td>N2</td>
<td></td>
</tr>
<tr>
<td>5210B BOD, 5 day</td>
<td>ND</td>
<td>mg/L</td>
<td>3.0</td>
<td>3</td>
<td>04/16/21 16:00</td>
<td>04/21/21 14:21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5220D COD</td>
<td>19.0</td>
<td>mg/L</td>
<td>10.0</td>
<td>1</td>
<td>04/19/21 09:13</td>
<td>04/19/21 12:00</td>
<td></td>
<td></td>
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</tbody>
</table>

### Sample: TDML-2

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Results</th>
<th>Units</th>
<th>Report Limit</th>
<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOB 9222D Fecal Coli by MF</td>
<td>7400</td>
<td>CFU/100 mL</td>
<td>200</td>
<td>200</td>
<td>04/15/21 16:00</td>
<td>04/16/21 15:00</td>
<td>N2</td>
<td></td>
</tr>
<tr>
<td>MOB Colilert/QT MPN</td>
<td>12100</td>
<td>MPN/100mL</td>
<td>5.0</td>
<td>5</td>
<td>04/15/21 15:45</td>
<td>04/16/21 15:47</td>
<td>N2,u2</td>
<td></td>
</tr>
<tr>
<td>E.coli, Bacteria</td>
<td>8660</td>
<td>MPN/100mL</td>
<td>5.0</td>
<td>5</td>
<td>04/15/21 15:45</td>
<td>04/16/21 15:47</td>
<td>N2</td>
<td></td>
</tr>
</tbody>
</table>

**Field Data**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Results</th>
<th>Units</th>
<th>Report Limit</th>
<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen, Dissolved</td>
<td>8.59</td>
<td>mg/L</td>
<td>1</td>
<td></td>
<td>04/15/21 13:40</td>
<td>7782-44-7</td>
<td>N2</td>
<td></td>
</tr>
<tr>
<td>5210B BOD, 5 day</td>
<td>ND</td>
<td>mg/L</td>
<td>3.0</td>
<td>3</td>
<td>04/16/21 15:59</td>
<td>04/21/21 14:19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5220D COD</td>
<td>20.0</td>
<td>mg/L</td>
<td>10.0</td>
<td>1</td>
<td>04/19/21 09:13</td>
<td>04/19/21 12:00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**REPORT OF LABORATORY ANALYSIS**

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## QUALITY CONTROL DATA

**Project:** Stormwater - Quarterly  
**Pace Project No.:** 20196670

<table>
<thead>
<tr>
<th>QC Batch</th>
<th>QC Batch Method</th>
<th>Analysis Method</th>
<th>Analysis Description</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>222231</td>
<td>SM 9222D</td>
<td>SM 9222D</td>
<td>MOB 9222D Fecal Coli by MF</td>
<td>Pace Analytical Services - Mobile Labs</td>
</tr>
</tbody>
</table>

**Associated Lab Samples:** 20196670001, 20196670002

### METHOD BLANK: 1044285  
**Matrix:** Water  
**Associated Lab Samples:** 20196670001, 20196670002

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Blank Result</th>
<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal Coliforms</td>
<td>CFU/100 mL</td>
<td>0</td>
<td>1.0</td>
<td>04/16/21 15:00</td>
<td>N2</td>
</tr>
</tbody>
</table>

### METHOD BLANK: 1044286  
**Matrix:** Water  
**Associated Lab Samples:** 20196670001, 20196670002

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Blank Result</th>
<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal Coliforms</td>
<td>CFU/100 mL</td>
<td>0</td>
<td>1.0</td>
<td>04/16/21 15:00</td>
<td>N2</td>
</tr>
</tbody>
</table>

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.
QUALITY CONTROL DATA

Project: Stormwater - Quarterly  
Pace Project No.: 20196670

QC Batch: 222229  
QC Batch Method: 9223B / Quanti-Tray

Analysis Method: 9223B / Quanti-Tray  
Analysis Description: MOB Colilert/QT MPN

Associated Lab Samples: 20196670001, 20196670002  
Laboratory: Pace Analytical Services - Mobile Labs

METHOD BLANK: 1044274  
Matrix: Water

Associated Lab Samples: 20196670001, 20196670002

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Blank Result</th>
<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.coli, Bacteria</td>
<td>MPN/100mL</td>
<td>ND</td>
<td>1.0</td>
<td>04/16/21 15:47</td>
<td>N2</td>
</tr>
<tr>
<td>Total Coliforms</td>
<td>MPN/100mL</td>
<td>ND</td>
<td>1.0</td>
<td>04/16/21 15:47</td>
<td>N2</td>
</tr>
</tbody>
</table>

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.
QUALITY CONTROL DATA

Project: Stormwater- Quarterly
Pace Project No.: 20196670

QC Batch: 222356
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20196670001, 20196670002

METHOD BLANK: 1044983
Matrix: Water
Associated Lab Samples: 20196670001, 20196670002

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Blank Result</th>
<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD, 5 day</td>
<td>mg/L</td>
<td>ND</td>
<td>0.20</td>
<td>04/21/21 13:48</td>
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LABORATORY CONTROL SAMPLE: 1044985

<table>
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<tr>
<th>Parameter</th>
<th>Spike Conc.</th>
<th>LCS Result</th>
<th>LCS % Rec</th>
<th>% Rec Limits</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD, 5 day</td>
<td>mg/L</td>
<td>198</td>
<td>171</td>
<td>86</td>
<td>85-115</td>
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</table>

SAMPLE DUPLICATE: 1044986

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Result</th>
<th>Result RPD</th>
<th>Max RPD</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD, 5 day</td>
<td>mg/L</td>
<td>16.9</td>
<td>18.8</td>
<td>11</td>
<td>20</td>
</tr>
</tbody>
</table>

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.
### QUALITY CONTROL DATA

**Project:** Stormwater- Quarterly  
**Pace Project No.:** 20196670

<table>
<thead>
<tr>
<th>QC Batch:</th>
<th>Analysis Method:</th>
<th>QC Batch Method:</th>
<th>Analysis Description:</th>
<th>Laboratory:</th>
</tr>
</thead>
<tbody>
<tr>
<td>222407</td>
<td>SM 5220D</td>
<td>SM 5220D</td>
<td>5220D COD</td>
<td>Pace Analytical Services - New Orleans</td>
</tr>
</tbody>
</table>

**Associated Lab Samples:** 20196670001, 20196670002

<table>
<thead>
<tr>
<th>METHOD BLANK:</th>
<th>Matrix:</th>
<th>Associated Lab Samples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1045261</td>
<td>Water</td>
<td>20196670001, 20196670002</td>
</tr>
</tbody>
</table>

**Parameter** | **Units** | **Blank Result** | **Reporting Limit** | **Analyzed** | **Qualifiers** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>ND</td>
<td>10.0</td>
<td>04/19/21 11:54</td>
<td></td>
</tr>
</tbody>
</table>

**METHOD BLANK: 1045263**  
**Matrix:** Water  
**Associated Lab Samples:** 20196670001, 20196670002

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>Units</strong></th>
<th><strong>Blank Result</strong></th>
<th><strong>Reporting Limit</strong></th>
<th><strong>Analyzed</strong></th>
<th><strong>Qualifiers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>ND</td>
<td>10.0</td>
<td>04/19/21 11:58</td>
<td></td>
</tr>
</tbody>
</table>

**LABORATORY CONTROL SAMPLE: 1045262**

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>Units</strong></th>
<th><strong>Spike Conc.</strong></th>
<th><strong>LCS Result</strong></th>
<th><strong>LCS % Rec</strong></th>
<th><strong>% Rec Limits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>100</td>
<td>104</td>
<td>104</td>
<td>90-110</td>
</tr>
</tbody>
</table>

**LABORATORY CONTROL SAMPLE: 1045264**

<table>
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<tr>
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<th><strong>Units</strong></th>
<th><strong>Spike Conc.</strong></th>
<th><strong>LCS Result</strong></th>
<th><strong>LCS % Rec</strong></th>
<th><strong>% Rec Limits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>100</td>
<td>102</td>
<td>102</td>
<td>90-110</td>
</tr>
</tbody>
</table>

**MATRIX SPIKE SAMPLE: 1045266**

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>Units</strong></th>
<th><strong>20196910001 Result</strong></th>
<th><strong>Spike Conc.</strong></th>
<th><strong>MS Result</strong></th>
<th><strong>MS % Rec</strong></th>
<th><strong>% Rec Limits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>91.0</td>
<td>100</td>
<td>185</td>
<td>94</td>
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**SAMPLE DUPLICATE: 1045265**

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>Units</strong></th>
<th><strong>20196910001 Result</strong></th>
<th><strong>Dup Result</strong></th>
<th><strong>Max RPD</strong></th>
<th><strong>Qualifiers</strong></th>
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</thead>
<tbody>
<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>91.0</td>
<td>95.0</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

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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Date: 04/21/2021 03:58 PM
QUALIFIERS

Project: Stormwater- Quarterly
Pace Project No.: 20196670

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.
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.
u2 Colonies are too numerous to count. Actual result may be greater than reported.
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Stormwater - Quarterly
Pace Project No.: 20196670

<table>
<thead>
<tr>
<th>Lab ID</th>
<th>Sample ID</th>
<th>QC Batch Method</th>
<th>QC Batch</th>
<th>Analytical Method</th>
<th>Analytical Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>20196670001</td>
<td>TDML-1</td>
<td>SM 9222D</td>
<td>222231</td>
<td>SM 9222D</td>
<td>222331</td>
</tr>
<tr>
<td>20196670002</td>
<td>TDML-2</td>
<td>SM 9222D</td>
<td>222231</td>
<td>SM 9222D</td>
<td>222331</td>
</tr>
<tr>
<td>20196670001</td>
<td>TDML-1</td>
<td>9223B / Quanti-Tray</td>
<td>222229</td>
<td>9223B / Quanti-Tray</td>
<td>222334</td>
</tr>
<tr>
<td>20196670002</td>
<td>TDML-2</td>
<td>9223B / Quanti-Tray</td>
<td>222229</td>
<td>9223B / Quanti-Tray</td>
<td>222334</td>
</tr>
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<td>222338</td>
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<td>222356</td>
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<td>20196670002</td>
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<td>SM 5210B</td>
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<td>SM 5220D</td>
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<td>SM 5220D</td>
<td>22407</td>
<td>SM 5220D</td>
<td>22468</td>
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<tr>
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<td>No</td>
<td>N/A</td>
<td>Comments</td>
<td></td>
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<td>-----------------------------------------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Temperature Blank Present</td>
<td></td>
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</tr>
<tr>
<td>Chain of Custody Present</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Chain of Custody Complete</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Chain of Custody Reinquished</td>
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<tr>
<td>Sampler Name on COC</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Short Hold Time Analyses (&lt;72 hr)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Rush Turn Around Requested</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Arrived within Hold Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sufficient Volume</td>
<td></td>
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<tr>
<td>Correct Containers Used</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Filtered vol. Rec. for Diss. tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Sample Labels match COC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All containers received within manufacturer's precautionary and/or expiration dates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All containers needing chemical preservation have been checked (except VOA, micro, &amp; O&amp;G)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All containers preserved found to be in compliance with EPA recommendation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Client Notification/Resolution:
Person Contacted: ______________________ Date/Time: ______________________
Comments/Resolution: ____________________________________________________

F-NO-C-003-rev.10 16Feb2018 Mobile SCUR Form.xlsx
October 01, 2021

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

RE: Project: Stormwater-Quarterly
Pace Project No.: 20219805

Dear Gene Stacey:

Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2021. 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 - Tuscaloosa
- Pace Analytical Services - Allen

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
## CERTIFICATIONS

### Project: Stormwater-Quarterly
Pace Project No.: 20219805

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Certification Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pace Analytical Services Dallas</strong></td>
<td>400 West Bethany Dr Suite 190, Allen, TX 75013</td>
<td>Arkansas Certification #: 88-0647, Oklahoma Certification #: 8727, Florida Certification #: E871118, EPA#: TX00074, Kansas Certification #: E-10388</td>
</tr>
<tr>
<td><strong>Pace Analytical Services Mobile</strong></td>
<td>4320 Midmost Drive, Mobile, AL 36609</td>
<td>Alabama Certification #: 40810</td>
</tr>
<tr>
<td><strong>Pace Analytical Services Tuscaloosa</strong></td>
<td>3516 Greensboro Ave, Tuscaloosa, AL 35401</td>
<td>Alabama Certification #: 40170</td>
</tr>
</tbody>
</table>

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**REPORT OF LABORATORY ANALYSIS**

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## SAMPLE SUMMARY

Project: Stormwater-Quarterly  
Pace Project No.: 20219805

<table>
<thead>
<tr>
<th>Lab ID</th>
<th>Sample ID</th>
<th>Matrix</th>
<th>Date Collected</th>
<th>Date Received</th>
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</thead>
<tbody>
<tr>
<td>20219805001</td>
<td>TDML-1</td>
<td>Water</td>
<td>09/15/21 14:25</td>
<td>09/15/21 14:45</td>
</tr>
<tr>
<td>20219805002</td>
<td>TDML-2</td>
<td>Water</td>
<td>09/15/21 14:35</td>
<td>09/15/21 14:45</td>
</tr>
</tbody>
</table>

REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

**Project:** Stormwater-Quarterly  
**Pace Project No.:** 20219805

<table>
<thead>
<tr>
<th>Lab ID</th>
<th>Sample ID</th>
<th>Method</th>
<th>Analysts</th>
<th>Reported</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>20219805001</td>
<td>TDML-1</td>
<td>SM 9222D</td>
<td>PP1</td>
<td>1</td>
<td>PASI-MO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9223B / Quanti-Tray</td>
<td>PP1</td>
<td>2</td>
<td>PASI-MO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SM 5210B</td>
<td>KAW</td>
<td>1</td>
<td>PASI-MO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SM 5220D</td>
<td>MKP</td>
<td>1</td>
<td>PASI-TU</td>
</tr>
<tr>
<td>20219805002</td>
<td>TDML-2</td>
<td>SM 9222D</td>
<td>PP1</td>
<td>1</td>
<td>PASI-MO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9223B / Quanti-Tray</td>
<td>PP1</td>
<td>2</td>
<td>PASI-MO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SM 5210B</td>
<td>KAW</td>
<td>1</td>
<td>PASI-TU</td>
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<tr>
<td></td>
<td></td>
<td>SM 5220D</td>
<td>RRS</td>
<td>1</td>
<td>PASL-AT</td>
</tr>
</tbody>
</table>

**PASI-MO** = Pace Analytical Services - Mobile Labs  
**PASI-TU** = Pace Analytical Services - Tuscaloosa  
**PASL-AT** = Pace Analytical Services - Allen

---

**REPORT OF LABORATORY ANALYSIS**

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Page 4 of 13
## ANALYTICAL RESULTS

**Pace Analytical Services, LLC**  
1000 Riverbend Blvd - Suite F  
St. Rose, LA 70087  
(504)469-0333

### Sample: TDML-1  
Lab ID: 20219805001  
Collected: 09/15/21 14:25  
Received: 09/15/21 14:45  
Matrix: Water

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Results</th>
<th>Units</th>
<th>Report Limit</th>
<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOB 9222D Fecal Coli by MF</td>
<td>25000</td>
<td>CFU/100 mL</td>
<td>1000</td>
<td>09/15/21 15:55</td>
<td>09/16/21 15:10</td>
<td>N2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fecal Coliforms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOB Colilert/QT MPN</td>
<td>24200</td>
<td>MPN/100mL</td>
<td>10.0</td>
<td>09/15/21 15:30</td>
<td>09/16/21 15:23</td>
<td>N2,u2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Coliforms</td>
<td>8660</td>
<td>MPN/100mL</td>
<td>10.0</td>
<td>09/15/21 15:30</td>
<td>09/16/21 15:23</td>
<td>N2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.coli, Bacteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field Data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen, Dissolved</td>
<td>6.67</td>
<td>mg/L</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>09/15/21 14:25</td>
<td>7782-44-7</td>
</tr>
<tr>
<td>TUSC 5210B BOD, 5 day</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>BOD, 5 day</td>
<td>80.5</td>
<td>mg/L</td>
<td>10.0</td>
<td>09/17/21 07:30</td>
<td>09/22/21 13:16</td>
<td>N2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wet Chemistry 5220D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Oxygen Demand</td>
<td>ND</td>
<td>mg/L</td>
<td>35.0</td>
<td>09/21/21 07:55</td>
<td>09/21/21 11:52</td>
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### Sample: TDML-2  
Lab ID: 20219805002  
Collected: 09/15/21 14:35  
Received: 09/15/21 14:45  
Matrix: Water

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<th>Report Limit</th>
<th>DF</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>CAS No.</th>
<th>Qual</th>
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</thead>
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<tr>
<td>MOB 9222D Fecal Coli by MF</td>
<td>10688</td>
<td>CFU/100 mL</td>
<td>100</td>
<td>09/15/21 15:55</td>
<td>09/16/21 15:10</td>
<td>N2</td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>MOB Colilert/QT MPN</td>
<td>24200</td>
<td>MPN/100mL</td>
<td>10.0</td>
<td>09/15/21 15:30</td>
<td>09/16/21 15:23</td>
<td>N2,u2</td>
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</tr>
<tr>
<td>Total Coliforms</td>
<td>6130</td>
<td>MPN/100mL</td>
<td>10.0</td>
<td>09/15/21 15:30</td>
<td>09/16/21 15:23</td>
<td>N2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.coli, Bacteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Field Data</td>
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<tr>
<td>Oxygen, Dissolved</td>
<td>5.86</td>
<td>mg/L</td>
<td>1</td>
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<td>09/15/21 14:35</td>
<td>7782-44-7</td>
</tr>
<tr>
<td>TUSC 5210B BOD, 5 day</td>
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<td>BOD, 5 day</td>
<td>158</td>
<td>mg/L</td>
<td>60.0</td>
<td>09/17/21 07:30</td>
<td>09/22/21 13:19</td>
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<td></td>
</tr>
<tr>
<td>Chemical Oxygen Demand</td>
<td>ND</td>
<td>mg/L</td>
<td>35.0</td>
<td>09/21/21 07:55</td>
<td>09/21/21 11:52</td>
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**REPORT OF LABORATORY ANALYSIS**

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Date: 10/01/2021 05:09 PM  
Page 5 of 13
QUALITY CONTROL DATA

Project: Stormwater-Quarterly  
Pace Project No.: 20219805  

QC Batch: 235631  
QC Batch Method: SM 9222D  

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

Associated Lab Samples: 20219805001, 20219805002  

METHOD BLANK: 1110949  
Matrix: Water  

Associated Lab Samples: 20219805001, 20219805002  

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<th>Parameter</th>
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<th>Blank Result</th>
<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal Coliforms</td>
<td>CFU/100 mL</td>
<td>&lt;1</td>
<td>1.0</td>
<td>09/16/21 15:10</td>
<td>N2</td>
</tr>
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</table>

METHOD BLANK: 1110950  
Matrix: Water  

Associated Lab Samples: 20219805001, 20219805002  

<table>
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<th>Parameter</th>
<th>Units</th>
<th>Blank Result</th>
<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal Coliforms</td>
<td>CFU/100 mL</td>
<td>&lt;1</td>
<td>1.0</td>
<td>09/16/21 15:10</td>
<td>N2</td>
</tr>
</tbody>
</table>

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.: 20219805

QC Batch: 235629
QC Batch Method: 9223B / Quanti-Tray

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

Associated Lab Samples: 20219805001, 20219805002

METHOD BLANK: 1110946
Matrix: Water
Associated Lab Samples: 20219805001, 20219805002

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<th>Parameter</th>
<th>Units</th>
<th>Blank Result</th>
<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.coli, Bacteria</td>
<td>MPN/100mL</td>
<td>ND</td>
<td>1.0</td>
<td>09/16/21 15:23</td>
<td>N2</td>
</tr>
<tr>
<td>Total Coliforms</td>
<td>MPN/100mL</td>
<td>ND</td>
<td>1.0</td>
<td>09/16/21 15:23</td>
<td>N2</td>
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</table>

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.
QUALITY CONTROL DATA

Project: Stormwater-Quarterly
Pace Project No.: 20219805

QC Batch: 235719
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day TUSC
Laboratory: Pace Analytical Services - Tuscaloosa

Associated Lab Samples: 20219805001, 20219805002

METHOD BLANK: 1111413
Matrix: Water
Associated Lab Samples: 20219805001, 20219805002

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<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD, 5 day</td>
<td>mg/L</td>
<td>ND</td>
<td>1.0</td>
<td>09/22/21 12:54</td>
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LABORATORY CONTROL SAMPLE: 1111415

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<th>Spike Conc.</th>
<th>LCS Result</th>
<th>LCS % Rec</th>
<th>% Rec Limits</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD, 5 day</td>
<td>198</td>
<td>176</td>
<td>89</td>
<td>85-115</td>
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SAMPLE DUPLICATE: 1111416

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<th>Result</th>
<th>Result RPD</th>
<th>Max RPD</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD, 5 day</td>
<td>mg/L</td>
<td>423</td>
<td>433</td>
<td>2</td>
<td>20 N2</td>
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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.
# QUALITY CONTROL DATA

Project: Stormwater-Quarterly  
Pace Project No.: 20219805

QC Batch: 1743422  
QC Batch Method: SM 5220D  
Analysis Method: SM 5220D  
Analysis Description: Wet Chemistry 5220D  
Laboratory: Pace Analytical Services - Allen  
Associated Lab Samples: 20219805001, 20219805002

## METHOD BLANK: R3706706-1  
Matrix: Water  
Associated Lab Samples: 20219805001, 20219805002

<table>
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<th>Parameter</th>
<th>Units</th>
<th>Blank Result</th>
<th>Reporting Limit</th>
<th>Analyzed</th>
<th>Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>ND</td>
<td>35.0</td>
<td>09/21/21 11:52</td>
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</table>

## LABORATORY CONTROL SAMPLE: R3706706-2

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<th>LCS Result</th>
<th>LCS % Rec</th>
<th>% Rec Limits</th>
<th>Qualifiers</th>
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</thead>
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<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>500</td>
<td>533</td>
<td>107</td>
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## MATRIX SPIKE SAMPLE: R3706706-3

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<th>MS Result</th>
<th>MS % Rec</th>
<th>% Rec Limits</th>
<th>Qualifiers</th>
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</thead>
<tbody>
<tr>
<td>Chemical Oxygen Demand</td>
<td>mg/L</td>
<td>27.4</td>
<td>526</td>
<td>575</td>
<td>104</td>
<td>80-120</td>
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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.
QUALIFIERS

Project: Stormwater - Quarterly
Pace Project No.: 20196670

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-Nitrosodi phenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
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.
u2 Colonies are too numerous to count. Actual result may be greater than reported.
### QUALITY CONTROL DATA CROSS REFERENCE TABLE

**Project:** Stormwater-Quarterly  
**Pace Project No.:** 20219805

<table>
<thead>
<tr>
<th>Lab ID</th>
<th>Sample ID</th>
<th>QC Batch Method</th>
<th>QC Batch</th>
<th>Analytical Method</th>
<th>Analytical Batch</th>
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<td>202198050001</td>
<td>TDML-1</td>
<td>SM 9222D</td>
<td>235631</td>
<td>SM 9222D</td>
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<td>202198050002</td>
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<td>202198050001</td>
<td>TDML-1</td>
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<td>235629</td>
<td>9223B / Quanti-Tray</td>
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<td>236027</td>
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<td>SM 5220D</td>
<td>1743422</td>
</tr>
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</table>
### Sample Condition Upon Receipt

**PM:** SLW  
**Due Date:** 09/24/21  
**CLIENT:** BM-Driven

#### Courier:
- [ ] Pace  
- [ ] Client  
- [ ] FedEx  
- [ ] UPS  
- [ ] Other  

**Tracking #:**

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

#### Thermometer Used:
- [ ] Thermo Fisher IR 001  
- [ ] Other:

#### Type of Ice:
- [ ] Wet  
- [ ] Blue  
- [ ] None

**Cooler Temperature:** [see COC]

**Sample on ice:** [see COC]

#### Date and Initials of person examining contents:
- [ ] MAS 9/15

#### Temp must be measured from temperature blank when present

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Value</th>
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<tbody>
<tr>
<td>Temperature Blank Present</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Chain of Custody Present</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
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<tr>
<td>Chain of Custody Complete</td>
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</tr>
<tr>
<td>Chain of Custody Relinquished</td>
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<tr>
<td>Sampler Name on COC</td>
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<td>5</td>
</tr>
<tr>
<td>Short Hold Time Analyses (&lt;72 hr)</td>
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<tr>
<td>Rush Turn Around Requested</td>
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<tr>
<td>Samples Arrived within Hold Time</td>
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<tr>
<td>Sufficient Volume</td>
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<tr>
<td>Correct Containers Used</td>
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<td>10</td>
</tr>
<tr>
<td>Filtered vol. Rec. for Diss. tests</td>
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<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Sample Labels match COC</td>
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<td></td>
<td>12</td>
</tr>
<tr>
<td>All containers received within manufacturer’s precautionary and/or expiration dates</td>
<td></td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>All containers needing chemical preservation have been checked (except VOA, micro, &amp; O&amp;G)</td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>All containers preservation checked, found to be in compliance with EPA recommendation</td>
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<td>15</td>
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<tr>
<td>Headspace in VOA Vials (&gt;6mm)</td>
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<td></td>
<td>16</td>
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<tr>
<td>Trip Blank Present</td>
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<td>17</td>
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</tbody>
</table>

#### Client Notification/Resolution:

**Person Contacted:**

**Comments/Resolution:**

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Further appendices can be made available upon request