
STORMWATER MANAGEMENT PROGRAM MS4 ANNUAL REPORT



“Protecting, preserving, and restoring our local water resources.”

PERMIT YEAR

April 2021 – March 2022



City of Auburn

SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

PERMIT NUMBER ALR040003

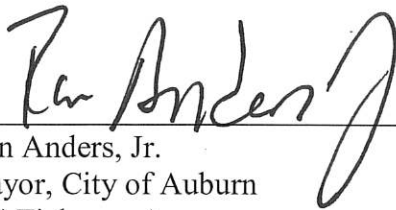
CITY OF AUBURN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEMS (NPDES)

PERMIT NUMBER ALR040003

MUNICIPAL STORMWATER PROGRAM ANNUAL REPORT

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TABLE OF CONTENTS

PROGRAM EVALUATION & EXECUTIVE SUMMARY.....	1
I. INTRODUCTION	8
II. SITE DESCRIPTION	9
III. KNOWN OR SUSPECTED WATER QUALITY PROBLEMS	10
IV. RESPONSIBLE PARTY	11
V. STORMWATER MANAGEMENT PROGRAM COMPONENTS.....	13
VI. PUBLIC EDUCATION AND PUBLIC INVOLVEMENT ON STORMWATER IMPACTS	14
A. ARTICLES IN THE CITY NEWSLETTER “OPEN LINE”	14
B. BROCHURE PUBLICATIONS.....	14
C. SOCIAL MEDIA.....	15
D. WEBSITE.....	16
E. PUBLIC WATER QUALITY VIEWER APPLICATION.....	17
F. PUBLIC PRESENTATIONS	17
G. WORKSHOPS/TRAINING HOSTED.....	18
H. HOUSEHOLD GREASE RECYCLING PROGRAM AND COMPOSTING.....	20
I. EDUCATIONAL FIELD ACTIVITIES	21
J. INTEGRATION OF GREEN INFRASTRUCTURE GUIDANCE DOCUMENT.....	25
K. COMPREHENSIVE STORMWATER MANAGEMENT COMMITTEE	25
L. CITIZENS ADVISORY COMMITTEE	26
M. WATERSHED ORGANIZATIONS	26
N. HOUSEHOLD HAZARDOUS WASTE COLLECTION DAY/DOCUMENT SHREDDING EVENT.....	28
O. WEBSITE HOTLINE.....	28
P. TREE GIVE AWAY	29
Q. CITY OF AUBURN CITIZEN SURVEY.....	30
R. NEWSPAPER ARTICLES.....	30
S. GREENSPACE ADVISORY BOARD/GREENSPACE MASTER PLAN	31
T. AUBURN INTERACTIVE GROWTH MODEL	31
U. COMPPLAN 2030	32
V. COMPPLAN 2040	32

W.	PET WASTE STATIONS.....	33
X.	STREAMBANK STABILIZATION PROJECTS	33
Y.	AUBURN STREET TREE EXPLORER.....	33
VII.	ILLCIT DISCHARGE DETECTION AND ELIMINATION	34
A.	STORM SEWER MAPPING	34
B.	ILLCIT DISCHARGE ORDINANCE.....	34
C.	STORMWATER OUTFALL RECONNAISSANCE INVENTORY	35
D.	PUBLIC EDUCATION ON ILLICIT DISCHARGES AND IMPROPER DISPOSAL	36
E.	HAZARDOUS WASTE EMERGENCY RESPONSE TEAM.....	36
F.	ILLCIT DISCHARGE HOTLINE AND REPORTING FORM	37
G.	WATER QUALITY MONITORING PROGRAM.....	38
VIII.	CONSTRUCTION SITE STORMWATER RUNOFF CONTROL.....	39
A.	EROSION AND SEDIMENT CONTROL ORDINANCE	39
B.	EROSION CONTROL INSPECTIONS	39
C.	EROSION CONTROL INSPECTION SOFTWARE	40
D.	RESIDENTIAL EROSION CONTROL	40
E.	RAINFALL DATA COLLECTION	41
IX.	POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT.....	42
A.	ENGINEERING DESIGN AND CONSTRUCTION MANUALS	42
B.	STREAM BUFFER REGULATIONS.....	43
C.	POST-CONSTRUCTION BMP INSPECTIONS.....	44
D.	CONSERVATION SUBDIVISION REGULATIONS.....	44
E.	SITE DEVELOPMENT REVIEW TOOL	45
F.	STUDENT CHAPTER OF AMERICAN SOCIETY OF CIVIL ENGINEERS CONSTRUCTED WETLAND	45
G.	SAUGAHATCHEE GREENWAY + BLUEWAY PROJECT	46
X.	POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	47
A.	STORMWATER MANAGEMENT TRAINING	47
B.	SPILL RESPONSE AND PREVENTION TRAINING	47
C.	RISK MANAGEMENT MANUAL	48
D.	MUNICIPAL OPERATIONS RECYCLING.....	48

E.	STREET SWEEPING & LITTER CONTROL	49
F.	ALABAMA CERTIFIED PESTICIDES APPLICATOR	49
G.	MUNICIPAL FACILITIES INVENTORY AND GOOD HOUSEKEEPING INSPECTIONS.....	49
XI.	STORMWATER INFRASTRUCTURE IMPROVEMENTS.....	51
A.	STORMWATER INFRASTRUCTURE PROJECTS COMPLETED.....	51
B.	STORMWATER INFRASTRUCTURE PROJECTS CURRENTLY UNDER CONSTRUCTION	52
C.	STORMWATER INFRASTRUCTURE PROJECTS UNDER DESIGN AND/OR CONSIDERATION	52
D.	SANITARY SEWER REHABILITATION PROJECTS	53

LIST OF APPENDICES

APPENDIX A	2021 PHASE II STORMWATER PERMIT
APPENDIX B	URBANIZED AREA MAP
APPENDIX C	2021 NEWSPAPER PUBLICATIONS
APPENDIX D	2021 STORMWATER QUALITY MONITORING REPORT
APPENDIX E	HYDROLOGY AND WATERSHEDS WITH APPROVED TMDLs MAP
APPENDIX F	MUNICIPAL FACILITIES
APPENDIX G	REVISED MONITORING PLAN
APPENDIX H	OUTFALL SCREENINGS 2021-2022

FOREWORD

FOREWORD:

The mission of the Watershed Division of the Water Resource Management Department of the City of Auburn is, first and foremost, to *protect, preserve, and restore the chemical, biological, and physical integrity of our local water resources*. And, although the City's comprehensive Stormwater Management Program is managed by the Watershed Division, the long-term success of the program will ultimately be determined by its ability to strengthen the resolve and desire of the entire community toward this same objective. This report is drafted with this understanding and therefore reflects the summary of the efforts of the community of Auburn as much as it does those of the staff of the City of Auburn. Although there are many success stories and much progress made in 2021, many challenges were met, such as the continued concerns with COVID-19, and concerns still remain, not the least of which is the continued status of impairment of three of the City's principal water resources; Saugahatchee Creek (Nutrients and Pathogens), Parkerson Mill Creek (Pathogens), and Moore's Mill Creek (Siltation). We will continue to improve upon and develop our Stormwater Management Plan in the coming years, focusing on building and expanding upon the program's strengths and identifying and implementing strategies for addressing threats to our local water resources.

STORMWATER MANAGEMENT PROGRAM ANNUAL REPORT



City of Auburn

PERMIT YEAR

April 2021 - March 2022

PROGRAM EVALUATION & EXECUTIVE SUMMARY

The City of Auburn is now entering its nineteenth year as a regulated owner/operator of a small municipal separate storm sewer system, with the current reporting year representing the first under the current Statewide General Permit ALR040003. Over these past nineteen years, the City's Stormwater Management Program (SWMP) has been managed and operated with a minimal number of staff and with the same operational budget. The City's physical infrastructure and population has continued to experience rapid growth during this same time period, with the population increasing by approximately 25% every ten years. This rapid urbanization, which began many years before the promulgation of Phase II of the NPDES program, has presented challenges to the City's SWMP, both in the form of legacy impacts to our water resources and in the form of the ever-evolving dynamics of the impacts of urban and suburban growth on local hydrologic conditions. The most outward physical evidence of these challenges is the continued status of impairment of three of the City's principal water resources; Saugahatchee Creek, Moore's Mill Creek, and Parkerson Mill Creek. Furthermore, the diversity of impairment (nutrients and pathogens, siltation, & pathogens respectively) between these waters highlights the complexity and uniqueness of the impacts of urbanization on our watersheds and underscores the need for prescriptive and strategic plans for protection, preservation, and restoration. The City's SWMP provides the framework for accomplishing this through both targeted regulations and policies (e.g. requirement of Water Quality Plans for developments discharging to impaired waters) and through the implementation of other targeted structural and non-structural control measures as required by the City's MS4 Permit and/or as outlined in the City's Stormwater Management Plan or any of the three approved Watershed Management Plans.

This report outlines, in detail, how the City is operating its SWMP and how it records and documents measurable success. Additionally, this report demonstrates how innovation, partnerships, collaboration, and dedication to a common mission have permitted the City to expand the capacity of its SWMP services to a growing population at little to no increased costs for over a decade. These partnerships, many of which started in the formative years of the program, are the foundation of the City's SWMP and have grown to include Auburn University, Save our Saugahatchee (SOS), Alabama Water Watch (AWW), the City of Opelika, the City of Smiths

April 2021 – March 2022

Station, Lee County Highway Department, Auburn City Schools, and the Alabama Water Environment Association. Some of the successes and accomplishments of the program in 2021-2022, many of which would not be possible without these partners, include:

- Green Infrastructure Master Plan—In 2019, the Green Infrastructure Master Plan transitioned to the City’s Integration of Green Infrastructure Guidance Document and was accepted by the City. During this reporting period, the City looked at ways to incorporate Green Infrastructure/Low Impact Development (GI/LID) into City projects such as the City’s new Public Works and Environmental Services facility.
- Integrated multiple Green Infrastructure practices into the design of the City’s new Public Safety Building and began construction of those practices. The Public Safety Building was completed in late Fall of 2020/Winter 2021. In addition, the City incorporated GI/LID into the new City Fire Station 6 which is to be completed Summer 2022. The GI/LID at Fire Station 6 includes permeable pavers and a bioretention swale.
- Gave 7 public presentations on stormwater and watershed management related topics to a variety of different groups and organizations.
- Visually screened 320 storm sewer outfalls within the City’s MS4, just above the mandated 22% identified in the City’s MS4 Permit.
- Responded and investigated 13 citizen water resource concerns received by citizens and resolved 12 with one still pending due to further investigation.
- Published 14 articles directly or indirectly related to stormwater and watershed management in the City’s OpenLine Newsletter, which is distributed monthly to approximately 21,900 customers.
- Continued discussions with Auburn University’s Comprehensive Stormwater Management Policy Initiative regarding opportunities for developing programmatic and regulatory consistency between the two programs.
- Continued to make improvements to the Watershed Division webpage, including providing information about how citizens can get involved with various stormwater programs (ex. Water Festival, Storm Drain Marking, Stream Clean-ups, etc.).
- Continued discussions with Alabama Water Watch (AWW) to explore a partnership to sponsor the training of citizens interested in performing water quality monitoring in the City of Auburn-Did a joint training workshop with AWW in February 2022.
- Continued meetings of the ALOAS organization with an in-person meeting on March 23, 2022. Meetings are currently scheduled for once a quarterly for the remainder of 2022 and into 2023.

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- Picked up 8,289 bags of litter from the right of way through the hours of community service/inmates.
- Recycled almost 26.5 Tons of household hazardous waste, a combined total of ~452 tons of newspaper, cardboard, glass and over 1,318 gallons of used cooking oil/grease.
- Performed ~1,575 Erosion and Sediment Control site inspections on developments >1 acre, resulting in 922 inspection reports and twenty-seven (27) 72-Hour Notices of Violation (NOV's) and 6 cease and desist orders.
- Maintained, implemented and enforced lot-level erosion and sediment control standards for single-family residential lots less <1 acre.
- Performed 1014 Initial Erosion and Sediment Control inspections on construction sites <1 acre. Of these inspections, 289 resulted in required corrective action prior to issuance of a building permit.
- Supported and participated in numerous community education and outreach opportunities, including the Easter Egg Hunt, Camp Kaleidoscope, Downtown Trick or Treat, Bark in the Park, After School Program and clean-up events, etc.
- Performed Stream Cleanups that resulted in the removal of 13+ garbage bags full of trash/debris from Town Creek/Graham McTeer Park and a stream within the COA's Tech Park.
- Performed ~400 detention pond inspections.
- Performed 63 stormwater inspections of City-owned facilities.
- Continued to implement the illicit discharge detection and elimination training module for City staff during this reporting period.
- Continued to implement numerous recommendations outlined in the Natural Systems section of the City's Comp Plan 2030.
- Continued routine monitoring of 52 stations throughout the City for turbidity, dissolved oxygen, temperature, pH, and specific conductance.
- Continued the City's in-sourcing Source Water Monitoring Plan.
- Continued to jointly fund and operate two USGS stream gaging operations on Saugahatchee and Chewacla Creeks.

- Completed the eighteenth year of conservation measures outlined in the Chewacla Creek Safe Harbor Agreement.
- Sustained a substantial reduction in sanitary sewer overflows since implementing a strategic maintenance and prevention program.
- Continued using the newly acquired IDEXX system for E. coli enumeration that replaced the Coliscan Easygel method previously utilized by the City. The Coliscan Easygel method may be subjective in determining the colony color, and the IDEXX system appears to have removed this subjectivity.
- Continued to use the Water Resource Management Stormwater Interns to assist the Watershed personnel on various jobs to include, but not limited to, water quality sampling, construction site inspections, municipal facility inspections and detention pond inspections.

Progress Update of Specific Goals Established for 2021-2022 and New Goals for 2022-2023

The Watershed Division regularly evaluates the effectiveness and efficiency of its operations, both from a permit compliance perspective as well as a mission/objectives and budgetary perspective. This allows staff to identify elements of the SWMP that are working, those that are not, and those that need or warrant modification. Staff work to continue those services that they determine effective, eliminate those that are not, and establish goals for improving those that could be. Below is an update of progress made toward goals established for 2021-2022 and a list of new goals established for 2022-2023.

2021-2022 Goals - Progress Updates

- Continue to increase public education and awareness through storm water activities, involvement with our local schools and other education and outreach initiatives.
 - During this reporting period, City personnel added additional events for educating citizens regarding stormwater runoff impacts to include the City's Easter Egg Hunt, Camp Kaleidoscope, After School Program, Alabama Water Watch and Neighborhood Conference
- Continue the City's new Stream Gaging Program through the installation of one (1) real-time stream gage per year until all major waterways are gaged and/or install additional rain gauges (Hobolink).
 - City staff were not able to install a new real-time gage on a new waterway this reporting period; however, City personnel continued updating and maintaining the current instruments and refining their measurements. The staff continued

to use the rain gauges (Hobolink) “rain-events” (3/4” within 24-hours) for construction site inspections and are looking to install additional rain gauges.

- Review the City’s Illicit Discharge Ordinance, and make any changes that may be deemed necessary for compliance with the City’s MS4 permit.
 - City personnel reviewed the Illicit Discharge Ordinance during this reporting period, but no changes were deemed necessary at this time.
- Continue to promote the city-wide online education program for Illicit Discharge Detection and Elimination
 - Due to the lingering effects of Covid-19 pandemic, the City staff were limited in the ability to host public events. However, City staff did have two Illicit Discharge Detection and Elimination training workshops with other City Department’s (Water and Sewer) which trained a total of 37 individuals. In addition, City Staff were able to provide Illicit Discharge Detection and Elimination (IDDE) training to citizens during the Alabama Water Watch Training Field Day. The event trained approximately 25 individuals for IDDE. The City will continue to promote the city-wide online education program for Illicit Discharge Detection and Elimination during the next reporting period.
- Continue to improve and promote the City’s Water Quality Monitoring Public Viewer Application.
 - City Staff is currently working with the City’s IT Department to improve and promote the City’s Water Quality Monitoring Public Viewer Application.
- Continue to assess City properties and facilities and perform annual inspections and improvements for stormwater management.
 - During this reporting period, several City projects were being constructed that will be added to the City’s municipal facilities list and be included in the annual inspections in the reporting period 2022-2023. The SWMPP will be revised and resubmitted when the facilities have been completed. During the 2021-2022 reporting period, City Staff inspected 63 City properties with minimal to no deficiencies.
- Continue to implement the City’s Green Infrastructure Master Plan where feasible with the goal to install at least one Green Infrastructure practice within the City.
 - During this reporting period, City personnel are currently overseeing the implementation of the GI/LID within the City’s Fire Station 6. Also, during

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this reporting period, the City is integrating green infrastructure practices within the planning of the City's Public Works and Environmental Services Facility.

- Complete the design and implementation of the H.C Morgan Stream Restoration Project.
 - This project has been put on hold until at least 2022-2023.
- Complete Phase IA of the Saugahatchee Greenway + Blueway Project, which includes the first 1.5 miles of greenway trail, two kayak put-in/take-out facilities, a small pocket park, and associated parking facilities.
 - This project has been on-hold due to DRT adjustments, but appears to be ready for bid in 2022-2023.
- Make improvements to the Watershed Division website.
 - Improvements to the Watershed Division website began in Winter 2022 and should be completed by Fall of 2022.
- Plan and host an erosion and sediment control workshop to help educate local engineers and contractors and/or City personnel on proper methods for the implementation of stormwater best management practices.
 - The City's Watershed Division hosted a lunch and learn to discuss cost effective best management practices and provide an overview of the City's Erosion and Sediment Control Policies. In addition, Chad Burns, with Burns Environmental was invited to demonstrate some erosion and sediment control practices and provide examples of best management practices for construction sites. The event hosted 13 attendees.

Goals For 2022-2023

- Complete the design and implementation of a Low Impact Development (LID)/Green Infrastructure (GI) Map of the City's LID/GI projects based on the City's existing LID/GI inventory.
- Continue to evaluate options to improve tracking and reporting features of stormwater program components of CityWorks.
- Promote the City's new Auburn Street Tree Explorer App launched in 2021. This APP continues to raise awareness to the Auburn's tree canopy and of the multiple benefits that trees bring to the community.

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- Continue to evaluate areas to implement additional rain gauges (Hobolink) at strategic areas within Auburn to help calculate rain events (3/4” within 24 hours) for construction site inspections.
- Continue to increase public education and awareness through storm water activities, involvement with our local schools and other education and outreach initiatives.
- Continue the City’s new Stream Gaging Program through the installation of one (1) real-time stream gage per year until all major waterways are gaged and/or install additional rain gauges (Hobolink).
- Review the City’s Illicit Discharge Ordinance, and make any changes that may be deemed necessary for compliance with the City’s MS4 permit.
- Continue to promote the city-wide online education program for Illicit Discharge Detection and Elimination
- Continue to improve and promote the City’s Water Quality Monitoring Public Viewer Application.
- Continue to assess City properties and facilities and perform annual inspections and improvements for stormwater management.
- Continue to implement the City’s Green Infrastructure Master Plan where feasible with the goal to install at least one Green Infrastructure practice within the City.

I. INTRODUCTION

In response to the National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Regulations, the City of Auburn (City) applied for and received an NPDES permit for stormwater discharges from the Alabama Department of Environmental Management (ADEM) on May 14, 2003. The current permit was issued September 16, 2021 and became effective October 1, 2021. A copy of this permit (ALR040003) is included in this report.

This report is being submitted to the ADEM pursuant to Part VI; paragraph 1 of NPDES Permit ALR040003. This annual report is the City's nineteenth report, and 1st under the reissued permit, and covers the reporting period from April 2021 through March 2022. The stormwater program outlined in this report is patterned after the program submitted ADEM in July 2021 in the City of Auburn's Notice of Intent (NOI) and in accordance with the City's revised Stormwater Management Plan submitted to the Department in March 2022.

II. SITE DESCRIPTION

The City of Auburn is located in East Central Alabama. A map of the City is provided in Appendix B. The Auburn, Alabama land area encompasses 58.07 square miles per the U.S. Census. Approximately 26.80 square miles of the Auburn City Limits are located within this urbanized area. The current population of Auburn is approximately 76,143 per the 2020 U.S. Census estimate. There are approximately 466 miles of creeks and streams flowing through Auburn, approximately 667 lakes, ponds, and other open waters, and +/- 370 acres of wetland. From the most recent City storm drainage system inventory, the storm drainage system contains approximately 155 linear miles of storm pipe (141 miles of which are owned by the City). The City is updating its stormwater infrastructure inventory on a routine basis using the City's survey crew, as well as private surveyors.

Geographic Context

The City of Auburn is situated within a unique transitional zone between the Piedmont and Coastal Plain physiographic regions of the Southeastern United States (see link below). More specifically, the City is located within the Level IV sub-ecoregion known as the Southern Outer Piedmont. This ecoregion is generally characterized as having lower elevations, less relief, and less precipitation than that exhibited in other regions of the Piedmont. Overstory cover type within this region consists mostly of mixed deciduous (oak, gum, hickory) and mixed coniferous (pines, firs, spruces, etc.) with the presence of numerous monotypic pine plantations scattered throughout. Specific to these transitional areas in the southeast is the presence of the “fall line”, the geographic divide between the Piedmont and Coastal Plain. More information can be found at the link provided below. The City's presence within this transitional area between the piedmont and coastal plain regions provides for a unique hydrogeomorphic diversity of water features within a relatively small geographic area. This diversity is exemplified in the abundance and variety of stream channel features, varying substrate composition, and variety of aquatic habitats. For example, streams in central Auburn generally exhibit piedmont characteristics, such as strong riffle/pool complex formation and cobble/gravel substrate composition, yet they cascade to a coastal plain dynamic of long runs and sandy substrates as they flow to the western and southern extents of the City. Similarly, the topography of each of the contributing watersheds follows the same pattern of increasing coastal plain-like features to the west and south of the City.

Link to a map of Alabama's physiographic regions:

http://alabamamaps.ua.edu/contemporarymaps/alabama/physical/al_physio.pdf

III. KNOWN OR SUSPECTED WATER QUALITY PROBLEMS

The City's MS4 discharges into streams located in three primary (10-digit HUC) watersheds; Saugahatchee Creek Watershed, Uphapee Creek Watershed, and Chewacla Creek Watershed. Smaller watersheds of the Saugahatchee Creek Watershed to which portions of the City's MS4 discharge include the Loblockee Creek Watershed and the Little Loblockee Creek Watershed. Smaller watersheds of the Chewacla Creek Watershed to which portions of the City's MS4 discharge include Parkerson Mill Creek, Moore's Mill Creek, and Town Creek. The only sub-watershed of the Uphapee Creek Watershed to which portions of the City's MS4 discharge is the Choctafaula Creek Watershed.

Moore's Mill Creek was placed on the draft 303(d) list in 1998 and has been listed on the final 303(d) lists from 2002 to present. Known water quality concerns within the jurisdictional area were identified as stream siltation resulting from sedimentation deriving from local development within the Moore's Mill Creek watershed and in-stream erosion. The ADEM final 2020 303(d) list identifies Moore's Mill Creek as a Low Priority for TMDL development. The Moore's Mill Creek Watershed Management Plan was drafted and finalized in May of 2008.

The Saugahatchee Embayment, where Saugahatchee Creek flows into Yates Lake, was placed on the final 303(d) lists from 1996 to 2008. The Embayment was listed on the 303(d) list primarily for nutrient enrichment (Organic Enrichment/Dissolved Oxygen). ADEM and the USEPA issued the final Total Maximum Daily Load (TMDL) for nutrients and organic enrichment/dissolved oxygen for Pepperell Branch and the Saugahatchee Embayment in April 2008. Implementation of the stormwater TMDL is addressed in the City's Phase II Permit that was issued on September 6, 2016 (effective on October 1, 2016) and the City's updated Stormwater Management Plan that was submitted to ADEM in December 2019. Saugahatchee was again listed on the final 2020 303(d) list for pathogens (E. Coli). The City included pathogen monitoring of the Saugahatchee Watershed in the summer of 2019 as detailed in the Water Quality Monitoring Report found in Appendix D.

Parkerson Mill Creek, from its source to Chewacla Creek, was placed on the final 303(d) list in 2008 and 2010. Known water quality concerns within the jurisdictional area were identified as pathogens resulting from urban runoff, storm sewers, and illicit discharges. A TMDL for Parkerson Mill Creek was issued by ADEM in September 2011. Implementation of this stormwater TMDL is addressed in the City's Phase II Permit issued on September 6, 2016 (effective on October 1, 2016) and the City's updated Stormwater Management Plan that was submitted to ADEM in December 2019. The Parkerson Mill Creek Watershed Management Plan was drafted and finalized in December of 2011.

A detailed map of the hydrology and watersheds with approved TMDLs is found in Appendix E of this report.

IV. RESPONSIBLE PARTY

The City's Stormwater Management Program (SWMP) is implemented through a diversity of programs operating under various departments within the City's organization. The City, in 2018, experienced a re-organization. As a result, components of the SWMP and each department's respective responsibilities may have changed from previous years, but are currently as follows:

- Environmental Services Department – Operates the collection of garbage, bulky waste (trash) and recycling, along with animal control services and the maintenance of the City's vehicles and equipment fleet; Hosts the household hazardous waste event, shredding event, and the Amnesty Trash Month;
- Parks and Recreation Department – Hosts annual Earth Day activities along with several other community events; Manages the City's Greenway/Greenspace Program and the Pet Waste Stations;
- Planning Services Department – Assists with reviewing and approving low impact development projects; Manages CompPlan 2030 and future land use planning efforts (CompPlan 2040);
- Inspection Services Department – Monitors residential and commercial construction, including construction stormwater inspection and enforcement for those entities;
- Public Works Department – Provides construction and maintenance services of the City's streets, sidewalks, storm drains, right-of-ways and public facilities. Within Public Works, several divisions play a role implementing the SWMP:
 - Landscape and Sustainability – Incorporates green infrastructure concepts and water quality management into the design and renovations of City facilities. The City's urban forestry program is managed through this division, thus supporting the Integration of Green Infrastructure Guidance Document, Urban Forestry Master Plan, and Tree Giveaway Program (Arbor Day and Christmas Parade);
 - Maintenance – Maintains the street network and storm drainage system by repairing streets that have been damaged by construction and assessing existing streets, curb and gutter, drain inlets and stormwater conveyance systems to identify defects and develop maintenance recommendations for the renewal and replacement of assets;
 - Right of Way Maintenance – Provides maintenance of public right of way to include streets and sidewalks to keep grass mowed, weeds maintained, trees cut back and sidewalks and curbs edged. Also, provides litter control within the right of way and street sweeping.
- Engineering Services Department – provides engineering and project management services for construction and improvements to roads, sidewalks, drainage structures and bridges

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within the City and coordinates the plan review process for engineering and utility construction proposed by the local development community. Performs detention pond inspections;

- Water Resource Management Department – Monitors residential and commercial construction and conducts erosion and sediment control inspections; Manages water quality sampling program; Manages public education and outreach program; Assists Engineering Services with annual detention pond inspections; Manages the overall SWMP and compliance with the MS4 Phase II Stormwater Permit.

When the City began its Phase II program, coordination and implementation of the individual SWMP was the responsibility of the Public Works Department. In October 2005, management of the stormwater program was transferred from the Public Works Department to the Water Resource Management Department, under a newly created Watershed Division. The intent of the move was to manage water supply operations, wastewater operations, and stormwater operations from a watershed perspective for all components that impact water quality within the City.

The following group is responsible for the coordination and implementation of the individual SWMP:

Water Resource Management Department
City of Auburn
1501 West Samford Avenue
Auburn, AL 36832
(334) 501-3060

V. STORMWATER MANAGEMENT PROGRAM COMPONENTS

The Phase II stormwater regulations require operators of small Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas to develop and implement stormwater management programs employing best management practices (BMPs) to adequately address five minimum control measures. The control measures include:

- Public Education and Public Involvement on Stormwater Impacts
- Illicit Discharge Detection and Elimination;
- Construction Site Stormwater Runoff Control;
- Post-Construction Stormwater Management; and
- Pollution Prevention/Good Housekeeping for Municipal Operations.

In March 2003, the City submitted to ADEM a Notice of Intent (NOI) to implement a SWMP under the Phase II stormwater regulations. The City's most recent update to its SWMP was in March 2022 to comply with the current Phase II. The goals and details of the City's program are outlined in the revised SWMP. At the end of permit year nineteen (1st year under the reissued permit) all program components outlined in the SWMP have been implemented. The City is currently re-evaluating and proposing additional revisions to its SWMP Plan, which will be submitted to the Department at the time revisions are made.

VI. PUBLIC EDUCATION AND PUBLIC INVOLVEMENT ON STORMWATER IMPACTS

A. Articles in the City Newsletter “Open Line”

Open Line is a monthly newsletter mailed to Auburn citizens through their utility bill. Articles and messages contained in the newsletter reach a large and diverse group of citizens. The goal for articles in Open Line is to produce five (5) articles per year. During the current reporting year, a total of fourteen (14) articles were published in which stormwater related issues were highlighted or affected:

- *Auburn Street Tree Explorer – April 2021*
- *Happy Birthday Auburn FixIt – May 2021*
- *Construction Regulation Reminders – May 2021*
- *A Better Way to Get Rid of Used Cooking Oil – July 2021*
- *Water Consumer Confidence Report – July 2021*
- *City of Auburn Neighborhood Conference—August 2021*
- *Saving Water This Summer – August 2021*
- *Fall Household Hazardous Waste Collection Day – October 2021*
- *Holiday Recycling Tips – November 2021*
- *Protecting Our Streams: Why Auburn Has a Stream Buffer Ordinance and What it Means – February 2022*
- *Citizen Survey - March 2022*
- *Arbor Day Celebration, Tree Giveaway – March 2022*
- *Trash Amnesty 2022 – March 2022*
- *Household Hazardous Waste Collection Day – April 2022*

Copies of these articles can be downloaded from the City’s website at:

<http://www.auburnalabama.org/openline/>

B. Brochure Publications

Pamphlets and brochures can be an effective way to present and explain stormwater issues. Unlike other communication methods, pamphlets and brochures can be distributed in many locations without requiring staffing and the location of distribution can specifically target the audience of interest. The City has produced various brochures over the past decade and the City’s goal is to continue to promote these previously developed brochures to the public by distributing at least one (1) stormwater brochure per year, at a minimum. The City will use these brochures to target a specific educational component (i.e. grass clippings) and make the brochures available to the



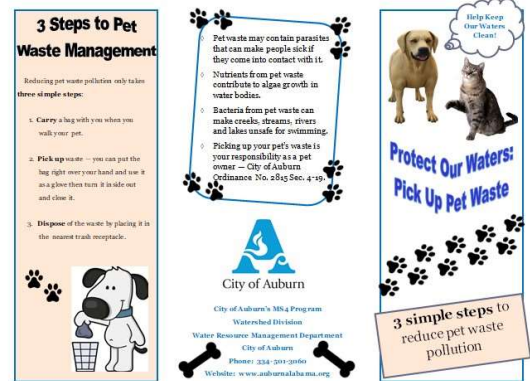
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public by distributing the brochures at City facilities, City functions and the City's Phase II stormwater website. In March 2022, the City distributed 100 of the "Protect Our Waters: Pick Up Pet Waste" to Auburn's citizens during the Bark in Park public event to help educate the importance of properly disposing of pet waste. The City continued to promote the "Recycle, Auburn, What are You Wasting For?" brochures available in different municipal facilities such as the Bailey-Alexander Water and Sewer Complex. In addition, brochures provided by the City over the past several years can be downloaded from the City's website at:

<https://www.auburnalabama.org/water-resource-management/watershed/aloas/>

Additional Brochures Made Available:

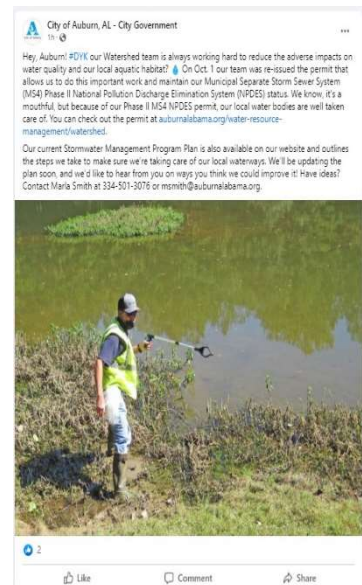
- Washing Cars (Alabama Clean Water Partnership (ALCWP))
- Changing Oil (ALCWP)
- Pets (ALCWP)
- Fertilizing (ALCWP)
- Saugahatchee Creek Watershed: Past, Present and Future (Saugahatchee Watershed Management Plan Group (SWaMP))
- Fats, Oils and Grease Recycling Program (City of Auburn)
- ALOAS brochures from previous years
- Alabama Scenic River Trail maps and information
- Protect Our Waters: Pick Up Pet Waste



C. Social Media

The City of Auburn takes advantage of social media as a communication tool with the citizens to let them know about upcoming stormwater events and festivals in the community, news articles involving stormwater issues, as well as updates to the City's MS4 stormwater program. The following networks are currently utilized by the City of Auburn:

- Facebook – The City currently has 20,503 followers. That is an increase of approximately 2,279 followers from last year. On average, there are 815 posts per year by the City.

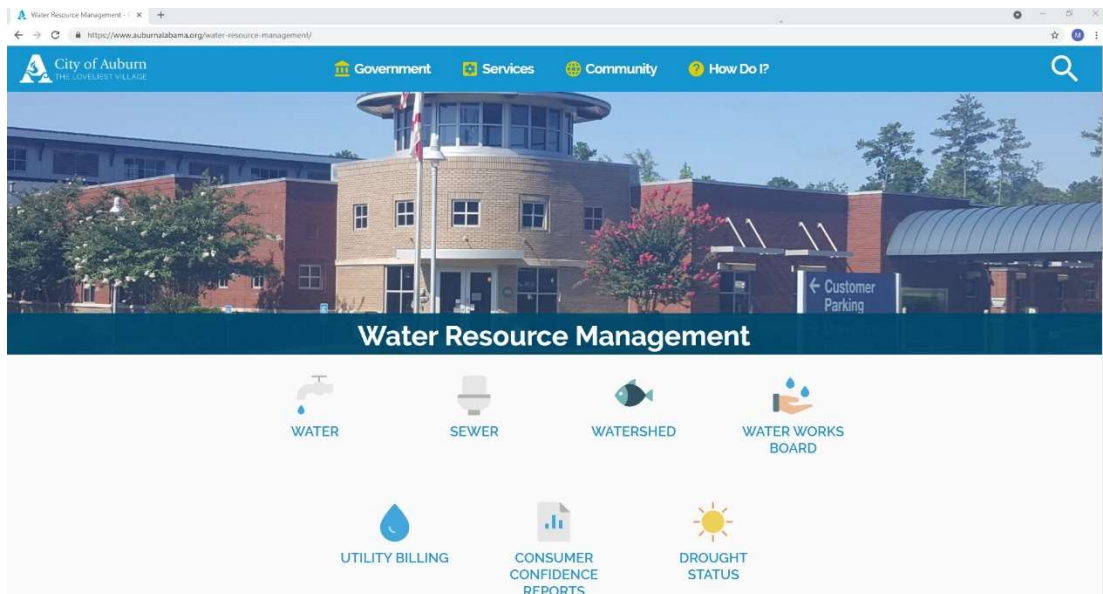


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- Twitter – The City currently has 8,853 followers which is an increase of 443 followers from last year. Also, the City had 4,803 Tweets during this reporting period which is an increase of 457 Tweets from the previous year. On average, there of 450 Tweets per year.
- Instagram – The City currently has 10,741 followers which increased approximately 1,792 followers from the previous year. The City currently has 3,776 posts and averages approximately 850 posts annually.
- Youtube – Currently, the City has 6,140 subscribers which increased by 430 subscribers from last year.
- Next Door Neighbor – Since the start of this network (March 2019), the City has reached 12,358 members. The number of members has increased by 2,042 members from the previous year.

D. Website

The City of Auburn is in the process of redesigning its Watershed portion of the Water Resource Management website, which houses the City’s stormwater information. The intent is to launch a newly designed website by the end of 2022 that will continue to improve access and functionality for a more user-friendly experience. Currently, citizens can go to the City’s website to obtain information on items of local interests. The web page is accessible 24 hours per day and can serve citizens that do not have the time or the ability to physically meet with staff during normal working hours.



During this reporting period, the Stormwater website was visited 774 times.

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For more information on the website please visit:

<https://www.auburnalabama.org/water-resource-management/watershed/>

E. Public Water Quality Viewer Application

This application, developed and launched in 2015 (updated in 2018), allows the public to view water quality data from forty (40) monitoring locations on streams throughout the City. These stations are monitored routinely by Watershed Division staff using modern water quality monitoring equipment, with the viewer application updated monthly to reflect current data. Water quality parameters analyzed and presented include Turbidity, Dissolved Oxygen, Temperature, Specific Conductance, and pH. More information about these parameters can be found through various webpage links provided in the application. This application helps to provide transparency in our monitoring operations, facilitate educational and research opportunities for students and teachers, and provide an additional tool for citizens to become aware and involved in helping to preserve and protect our local water resources. This application can be found at:

<http://webgis.auburnalabama.org/waterqualitypublic/#openModal#openModal#openModal>

F. Public Presentations

The City provides staff and/or resources to perform presentations for various groups and public meetings. Typically presentations are offered in PowerPoint format and the topics are chosen by the organization requesting the information. Due to the COVID-19 pandemic, the number of presentations was greatly reduced during this reporting period.

Seven (7) public presentations were made during the 2021-2022 reporting year. Presentations were given to various groups, including Auburn University students from various departments, City officials, and public service organizations.

- Soil and Water Conservation Society Alabama Chapter Conference --August 2021
 - A. Topic – Stormwater Trends in Alabama
 - 1. Presenter – Marla Smith
- Civil Engineering Class (Urban Hydraulic System Design)—Auburn University – September 2021
 - 1. Presenter – Tim Johnson
- Erosion and Sediment Control and Illicit Discharge Detection and Elimination Training – City’s Water and Sewer Departments – October 12 and 27, 2021

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A. Topic – City of Auburn Erosion and Sediment Control Program and IDDE Program

1. Presenters – Dustin Kimbrow, Dustin Rogers, and Ron M^cCurry
- Erosion and Sediment Control Class – Auburn University – February 2022

A. Topic – City of Auburn Erosion and Sediment Control Program

1. Presenter – Marla Smith
- AWW Monitor Training Field Day – Auburn University – February 2022

A. Topic – Illicit Discharge Detection and Elimination Training Program

1. Presenter – Dusty Kimbrow
- Civil Engineering Class (Urban Hydraulic System Design) – Auburn University – March 2022
1. Presenter – Tim Johnson

G. Workshops/Training Hosted

In an effort to educate contractors, developers, engineers, and staff, the City has initiated a series of workshops. The content of the workshops focuses on local stormwater issues of concern. Workshops/training hosted by the City over the past year include:

- **OPTI Stormwater Management Lunch and Learn (May 2021)** -- The City's Watershed personnel hosted a lunch and learn and invited Mr. Spencer Mill with OPTI (via zoom) to provide an overview of their stormwater management services. The event hosted 7 attendees
- **ADEM Construction General Permit Reissuance and Points of Emphasis Lunch and Learn (June 2021)** – The City's Watershed personnel invited Mr. Steve Newton to discuss changes to the NPDES Construction GP with the City Departments (i.e. Engineering, Inspection Services, and Water Resource Management). The event hosted 14 attendees.
- **Neighborhood Conference Day (June 2021)** – Watershed personnel set up in the Burke Place neighborhood to host a question and answer session for citizens that wanted to learn more about the impacts of stormwater runoff and what they could do to assist in alleviating the impacts.

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- **Erosion and Sediment Control (ESC) and Illicit Discharge Detection and Elimination Lunch and Learn (October 2021)** – The City’s Watershed personnel provided an ESC presentation regarding erosion concerns on lot-levels and an illicit discharge detection and elimination training session with the City’s Water Division within the Water Resource Management Department on October 12, 2021. The event hosted approximately 15 attendees. On October 27, 2021, the City Watershed personnel also provided an ESC presentation regarding erosion concerns on lot-levels and an illicit discharge detection and elimination training session to the City’s Sewer Division within the Water Resource Management Department. The event hosted 22 attendees.
- **Erosion and Sediment Control (ESC) Lunch and Learn (December 2021)** – The City’s Watershed Division hosted a lunch and learn to discuss cost effective best management practices and provide an overview of the City’s Erosion and Sediment Control Policies. In addition, Chad Burns, with Burns Environmental was invited to demonstrate some erosion and sediment control practices and provide examples of best management practices for construction sites. The event hosted 13 attendees.
- **Alabama Water Watch (AWW) Training Field Day (February 2022)** – The City’s Watershed Division partnered with AWW to provide a lunch and learn and field day with citizens who were interested in learning about illicit discharge detection and elimination, water chemistry monitoring and bacteria monitoring. Approximately, 25 individuals attended the lunch and learn IDDE training, 20 attended the water chemistry workshop and 21 attended the bacteria monitoring workshop.
- **Webcasts & Webinars** – The Water Resource Management Department regularly schedules and participates in online webinars and webcasts training opportunities. During this reporting year, stormwater and watershed-related webinars/webcasts attended by City staff included topics such as stormwater utilities, monitoring instrumentation, and source water protection and are listed below:
 - American Water Works Association (AWWA) – Developing Lead Service Line Inventories – 6/30/21
 - AWWA & Xylem - Bypass Pumping & Digital Solutions – 8/19/21
 - Bradley Arant & Goodwyn, Mills, & Cawood – New Funding Appropriations and the American Rescue Plan Update – 9/14/21
 - ADS Environmental Services – The Big Debate, Can Depth-Only Devices Be Used for I/I Work? – 9/30/21
 - AWWA – The Value of Single-Source Providers of Emerging Contaminant Removal, Including Per- and Poly-Fluoroalkyl Substances – 11/2/21
 - State Drinking Water Administrators – PFAS / UCMR 5 National Presentation – 12/8/21
 - Water Environment Federation – The City of Houston’s Holistic Approach to Building a Smart Water Network – 12/14/21

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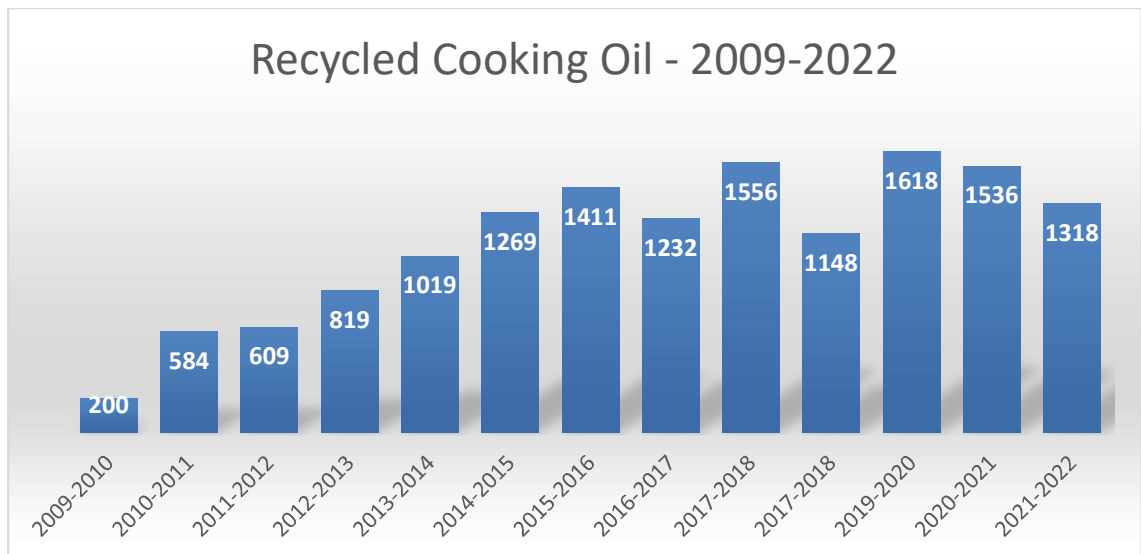
- EPA and Water ISAC – Water Sector Cybersecurity Threat Briefing – 5/20/21
- State Drinking Water Administrators – Lead Service Line Inventory Symposium – 2/2/21, 2/9/21, 2/16/21
- AWWA – Increasing Consumer Benefit & Engagement in AMI-Based Conservation Programs – 2/16/21

H. Household Grease Recycling Program and Composting

The Water Resource Management Department initiated a Household Grease Recycling Program in 2009 with containers and bins located at the recycling center. This program provides citizens with a mechanism to properly dispose of household grease and is targeted at reducing potential sanitary sewer overflows. In 2011, the Water Resource Management Department launched a curbside household grease recycling program that provides residents with an opportunity to collect their household grease and have it picked up by City personnel at their residence. **Approximately 14,300 gallons of used cooking oil/grease have been collected since implementation of the program began in March 2009, with 1,318 of those gallons collected during this reporting period.** For more information on our household grease recycling program, please visit:



<https://www.auburnalabama.org/water-resource-management/fog-recycling/>.



I. Educational Field Activities

Earth Day Activities

Normally, 2nd graders have the opportunity to experience hands-on Earth Day activities such as working with a water Enviroscope. An Enviroscope is a molded plastic model of a watershed complete with various types of landuse including residential, transportation, agricultural, construction, recreation and forestry areas. The interaction with the Enviroscope allowed the children to visually see how soil erosion, pesticides, and storm water runoff impact a watershed and helped them learn ways to protect the environment. **In 2021, Earth Day In-Person Activities were cancelled due to the COVID-19 pandemic. However, Watershed distributed 725 wildflower seeds with an Illicit Discharge message to all second graders within the Auburn City School System.**



Lee County Water Festival



Normally, the annual Lee County Water Festival is held at the Opelika SportsPlex during the first part of May. **Fourth graders from schools in the Lee County area usually attend the two-day event along with 50+ volunteers.** The primary purpose of the event is to educate young people on the importance of our water resources and the role each of us plays in conserving our water. During the event, students learned about water filtration, aquifers, and the water cycle through hands-on activities such as building an edible aquifer, making a water cycle bracelet, and building a mini-filtration unit. Volunteers from the City of Auburn, the Auburn Water Works Board, the City of Opelika, and other local groups helped make this past year's event a huge success. **The Auburn Water Works Board also helps to sponsor the annual Lee County Water Festival by providing a monetary donation in the amount of \$3,000/year.** Even though the Lee County Water Festival was cancelled for 2021 due to COVID-19, the Auburn Water Works board did make a monetary donation in the amount

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of \$3,000 for 2021 and this donation will be used for future Water Festival events. **The 2021 Lee County Water Festival was cancelled due to the COVID-19 pandemic.**

Even though the economy is allowing for more in-person gatherings, several activities were cancelled or altered due to the COVID-19 pandemic. Therefore, the City of Auburn continued to think outside the box to implement educational activities that would be consistent with the COVID-19 guidelines. The City of Auburn participated in the following three additional educational activities during this reporting period:

Easter Egg Hunt 2021

On April 3, 2021, the City's Watershed Division personnel handed out Easter goodie bags promoting the City's Illicit Discharge Elimination (IDDE) program, to include reporting information along with the slogan "Think Blue Auburn, Only Rain Down the Drain." Each bag included goodies and a pencil with a slogan, "Think Blue Auburn and Don't Pollute". Approximately 300 bags were given out to kids.



Camp Kaleidoscope 2021

On July 13, 2021, Watershed Personnel participated in teaching approximately 40 campers about filtering turbid water that may be a result of failed construction site best management practices (BMP s). In addition, Watershed Personnel used the Enviroscope to discuss the watershed in which they reside in and how they can also become good stewards to the environment. Providing a hands-on experience with the filtration units and the Enviroscope allowed the campers to visually see how soil erosion, pesticides, and storm water runoff impact a watershed and helped them learn ways to protect the environment.



Downtown Trick or Treating Event (October 2021)

On October 31, 2021, Watershed personnel participated in the City’s downtown trick or treating event. Watershed personnel handed out 200 Halloween goodie bags promoting the City’s Illicit Discharge (IDDE) program, to include reporting information along with the slogan “Think Blue Auburn Only Rain Down the Drain”. The City also gave out 200 pencils with the slogan “Think Blue Auburn Don’t Pollute”. In addition, kids were able to spin the Watershed Wheel to win prizes.



Yarbrough After-School Program (January 2022)

On January 27, 2022, Watershed Personnel taught approximately 70 students ranging from 3rd-5th grade the importance of properly implementing construction best management practices (BMPs) and how to filter turbid (muddy) water if construction BMPs fail. Watershed Personnel presented the filtration process in three twenty-minute rotations with approximately 22-25 kids in each rotation. Providing the hands-on interaction with the kids helped them to visualize the impact stormwater run-off potentially has on our waterbodies.



Bark in the Park (March 2022)

On March 19, 2022, Watershed personnel participated in the City's Bark in the Park event. Watershed personnel handed out 100 pet waste brochures and 75 pet waste bags and talked with citizens about the importance of properly disposing of your pet waste. In addition, City Personnel handed out 100 Bark in the Park goodie bags for kids, with an important message regarding illicit discharges and where to report potential illicit discharges to the City. In addition, kids were able to spin the Watershed Wheel to win prizes.



Public Clean-Ups

Stream Clean Up at Tech Park West (March 2022)

On March 26, 2022, in a collaborative effort, the City of Auburn's Watershed Division and Trail Life Troop 0034 volunteered to clean up a stream located in Tech Park West. A total of 13 boys collected 13 bags of trash and other debris (i.e. tire, pipe, and a hubcap). The City of Auburn provided waters, gloves, trash bags, trash-tongs and safety vests.



The Big Event (March 2022)

In conjunction with Auburn University’s BIG Event, the City of Auburn Watershed Division sponsored a stream cleanup event in Town Creek at Graham McTeer Park on March 26, 2022. The City’s Watershed Division provided gloves, trash-tongs, and plastic garbage bags. Several bags of trash were collected and disposed of properly.



J. Integration of Green Infrastructure Guidance Document

In 2016 the City began the process of planning for the future incorporation of Green Infrastructure as a “standard operating procedure”. The first step in this process is to develop a strategic plan that identifies impediments to the use of Green Infrastructure and specific opportunities for the incorporation of Green Infrastructure. The City selected a team of consultants in 2017, led by the Wood Group, Inc., to develop this guidance document. **During this reporting period, the City is in the process of incorporating some of these practices within City projects such as the City’s Public Works and Environmental Service Building.** For more information regarding this guidance document, please visit:

<https://www.auburnalabama.org/water-resource-management/watershed/green-infrastructure-master-plan>

K. Comprehensive Stormwater Management Committee

In 2016 Auburn University formed an internal team to begin discussions about ways to modernize its stormwater management policy and programs and to identify areas for the development of consistency between its MS4 program and the City’s. City staff have participated in these discussions since May of 2016, with meetings occurring quarterly to semi-annually. To date, this group has identified several ways in which each program can more effectively, and consistently, approach stormwater management within and between our respective jurisdictional areas. One such example includes joint annual review of our respective SWMP’s, thus identifying opportunities for developing program consistency and collaboration. Due to COVID-19, zoom discussions were held in place of in-person meetings during the 2021-22 year, but in-person meetings should resume this next reporting period.

L. Citizens Advisory Committee

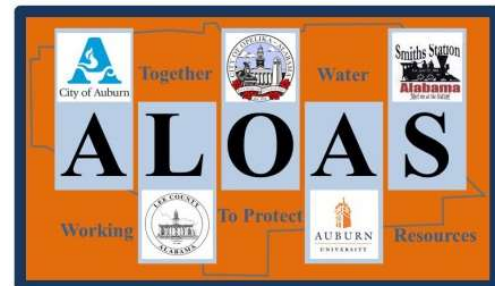
Both the EPA and ADEM recommend that the public be included in developing, implementing, and reviewing stormwater management programs through the establishment of a citizen's advisory committee. Communities that encourage citizens representing diverse backgrounds and interests to participate in the development of stormwater management programs are far more likely to gain community support during the implementation process.

ALOAS CITIZENS STORMWATER ADVISORY COMMITTEE (2001-present) - **ALOAS** is a Citizens' Advisory Committee that serves Auburn, Lee County, Opelika, Auburn University and Smiths Station. It meets on a quarterly basis to review and provide public input on current policies, brochure content, educational material, and proposed ordinances. Prior to 2012, the Citizens Advisory Group was known as ALOA. In 2012, the City of Smiths Station joined the group and the group renamed itself ALOAS to include the addition of Smiths Station. ALOAS meets once per year at a minimum. ALOAS members participated in an in-person meeting on March 23, 2022 and have quarterly meetings scheduled for the remainder of 2022-2023.

ALOAS members utilized educational materials that were either created by MS4 entities or obtained from other sources. These brochures and other materials are available to the citizens of Auburn and can be obtained at City Hall, the Bailey-Alexander Water and Sewer Complex or by contacting the Water Resource Management Department at (334) 501-3060. The brochures can also be downloaded from the City's website at <https://www.auburnalabama.org/water-resource-management/watershed/aloas/>.

M. Watershed Organizations

Regional watershed organizations bring together representatives from utilities, private industry, environmental awareness groups, farmers and branches of government to coordinate individual efforts, share information and plan for water resource and aquatic life protection. The regional approach allows participating entities to expand upon individual efforts in order to maximize limited resources. These organizations also allow for the sharing of ideas, lessons-learned, and development of professional networks.



Save our Saugahatchee and Alabama Water Watch Citizen Water Quality Monitoring Program (2014 - Present) – Beginning in 2014, the City of Auburn, the City of Opelika, and the Lee County Highway Department have contributed \$350 each to pay for material aid to the volunteer water quality monitoring programs operated by Save our Saugahatchee and the Alabama Water Watch organization. **In 2021, the City’s contribution was \$400.** These funds are



used for both physical-chemical monitoring of local waters as well as bacteriological monitoring used to guide illicit discharge detection and elimination efforts. **In 2021 the City’s contribution to these organizations financed routine monitoring of ~30 sites in the Saugahatchee Watershed, resulting in water chemistry and bacteriological monitoring.** All data collected is made available to the public via the Alabama Water Watch Data Portal at:

www.alabamawaterwatch.org/water-data

Parkerson Mill Creek (PMC) Watershed Management Plan Group (March 2010 – present) - Parkerson Mill Creek was placed on Alabama’s 303(d) List of Impaired Waters for pathogens in 2007 and a pathogen TMDL for the Parkerson Mill Creek Watershed was subsequently approved by ADEM in July 2011. The PMC Group continues to assist by supporting the bacteriological monitoring in Parkerson Mill Creek by Auburn University undergraduates students (ex. Sydney Smith), which in turn supports investigative illicit discharge detection and elimination activities for the City of Auburn and Auburn University. For more information on the Parkerson Mill Creek Watershed Management Plan, please visit <http://www.aces.edu/waterquality/pmc.htm>.

N. Household Hazardous Waste Collection Day/Document Shredding Event

The City hosted the Household Hazardous Waste Collection Day twice this reporting period. This event is a favorite among Auburn residents and was held one day during the months of October 2021 and March 2022. The City allowed its customers to drop off hazardous household chemicals at a collection site free of charge. The items are then disposed of in a safe manner, eliminating the possibility of these items being improperly dumped in local creeks and streams. **The 2021-2022 Household Hazardous Waste Collection Days combined days yielded approximately 26.46 Tons (Combined MXI and River Mill).** In addition to the collection of household hazardous waste, the City also provided document shredding events during these two days as well as electronic recycling. **The October 2021 Hazardous Waste Collection day yielded 328-car participants and the March 2022 Hazardous Waste Collection day yielded 351-car participants.**



O. Website Hotline

In an effort to provide the general public with an additional means of reporting potential erosion control violations, the City launched the “On-Line Hotline” in March 2003. Citizens now have the ability to log on to the website 24 hours a day and provide information on suspected violations. The information is forwarded to the Water Resource Management Department and an investigation is initiated. The website hotline has proven to be a valuable tool over the course of the past seventeen years by assisting City personnel in responding to citizen concerns. For more information concerning the hotline, please visit:

<https://www.auburnalabama.org/water-resource-management/watershed/illicit-discharges/>.

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In addition to the website hotline, the City is promoting the Auburn FixIt app launched during the last reporting period. This

online/mobile app allows citizens to request City services and report non-emergency concerns directly to City staff. Citizens can even track the progress of their concerns from the moment it is reported to resolution. In addition, the app

includes useful resources such as links to pay your utility bill, FAQs, and quick access to the City's downtown parking app. **For the 2021-2022 reporting period, the Watershed Division received eleven (11) citizen concerns regarding either IDDE, ESC, or Other Watershed Concerns via the FixIt App.**



P. Tree Give Away

The planting of trees improves water quality by reducing stormwater runoff and erosion while facilitating nutrient removal. During the City's 2021 Christmas Parade, held in December, Arbor Day in February 2022 and to continue to encourage the reforestation of the City's urban landscape, the City's Tree Commission gave away 2000 bare root seedlings.



Q. City of Auburn Citizen Survey

In years past, the Citizen Survey was facilitated on an annual basis; however, starting in 2018, the survey began being conducted every other year. The last survey, sent in 2020, contained several questions that were directly or indirectly related to stormwater issues. The questions covered issues such as infrastructure maintenance, trash collection, yard waste disposal, recycling, natural resource protection, greenspace initiatives and future growth planning. In 2020, the City received very high satisfaction levels in most areas. **The 2020 Citizen Survey found that 95% of residents surveyed, rated the City as an “excellent” or “good” place to live.**

To view the 2020 Citizen survey results, please visit:

<https://www.auburnalabama.org/survey/archives/>

In February 2022, surveys were mailed out to a random selection of Auburn residents.

R. Newspaper Articles

Newspaper articles covering local stormwater/environmental issues are a means for disseminating information to a large and diverse group of residents most directly impacted by these issues. Informative articles provide the reader with an independent point of view. The reader is not forced to rely on information generated by a single source (i.e. City through the newsletter Open Line or brochures).

The City is fortunate to have a local daily publication. The Opelika-Auburn News is a regional daily newspaper that covers local events and is widely read by residents of Lee County. A weekly newspaper publication, the Auburn Villager, began circulation in 2007. In addition, the Auburn Plainsman, is a student-run newspaper for Auburn University that is published weekly throughout each academic term and distributed throughout campus



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and surrounding cities, such as Auburn. **A total of 26 stormwater related articles were published during the reporting year.** A listing of articles and publication dates is included in Appendix C of this report.

S. Greenspace Advisory Board/Greenspace Master Plan

The Auburn Greenspace Advisory Board (GAB) was created by a City Council resolution in 2002. Its objective was to identify potential areas for future property acquisitions for parks, recreation facility projects, and greenways. Once identified, these properties could be purchased and/or protected from development.

In 2003, the GAB recommended a Greenspace/Greenway Master Plan for the City. It was adopted in December 2003 by the City Council and has been utilized by the Planning Commission in connection with approval of projects. The GAB revised the initial Plan to include a vast expansion of the proposed greenspace/greenway areas. This first amendment to the Greenspace/Greenway Master Plan was adopted by the City Council in October 2004.

This plan has resulted in the acquisition of several hundred acres of property located in environmentally sensitive areas. The greenspace/greenway areas include proposed bikeways and trails along existing and new roads and along waterways located within the City's growth boundary. Areas along waterways may be improved with natural trails and will be preserved by the dedication of conservation easements in developments or the acquisition of property by the City. **Additionally, the City continued its feasibility analysis, planning, and design work associated with a combined Blueway/Greenway along Saugahatchee Creek (general alignment as identified in Greenway Master Plan) during the 2021-2022 reporting period.**

T. Auburn Interactive Growth Model

In 2007 – 2008, the City, through its Planning Department, contracted with a firm to develop the Auburn Interactive Growth Model (AIGM), a tool the City utilizes annually to make informed planning decisions. Detailed inventories were conducted for current development such as housing unit by type, population by age groups and retail space by gross area. A demographic forecasting model was developed as well as models for other uses that will provide guidance for future land use allocations. The AIGM also forecasts the spatial distribution of the population over time and the apportionment of land uses necessary to meet the needs of the population. The Planning Department updates the AIGM annually. Since its initial completion, the AIGM's population projections have been used in projecting water and sewer demand, future traffic, regional growth, school growth and as the foundations of the Future Land Use Plan component of CompPlan 2030.

U. **CompPlan 2030**

In 2009, the City's Planning Department began development of CompPlan 2030, a comprehensive plan to guide future development in Auburn. CompPlan 2030 focuses on the following key areas: current and future land use, and how land use and the built environment affects our natural resources,



schools, parks, utilities, civic facilities and transportation. The Plan provides guidance for future planning based on public input, analysis of current and future conditions, and best practices. A series of public meetings was held in 2009 and 2010 to allow citizens to share their ideas for Auburn's future, giving citizens a voice in the development of the plan. The Future Land Use Plan provides parcel-level recommendations for the type and scale of new development for the next twenty years, and is the product of a strategy to promote infill development and growth in downtown Auburn. The Future Land Use Plan element of CompPlan 2030 replaces the 2004 Future Land Use Plan. The Natural Systems and Utility sections of CompPlan 2030 provide recommendations for water conservation and stormwater management. The plan was adopted by the Auburn City Council on October 4, 2011 and City Departments are now working to integrate components of the Plan into their operations. Revisions to the CompPlan 2030 were completed and adopted by the City in February of 2018. **For this reporting period, the Watershed Division is continuing to integrate components of the revised CompPlan into its operations.** For more information on CompPlan 2030, please visit:

<https://www.auburnalabama.org/CompPlan2030/>

V. **CompPlan 2040**

While originally slated to kickoff in April 2020, the 2040 planning process was postponed because of the COVID-19 pandemic. Eight community teams will be put together to discuss the future of Auburn known as Auburn 2040, Creating Community Together. These eight teams consist of Education, Public Safety, Intergovernmental, Growth



and Development, Utilities, Environment and Technology, Citizen Engagement, and Family and Community. Captains have been selected for the eight teams and member selection is open until June 13, 2021. The kickoff for all committees was held on Thursday, July 15, 2021. Due to the rise of COVID-19 cases in the area, the 2040 process was halted.

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In January 2022, the Auburn 2040 community-wide planning initiative has been postponed until late 2022 or early 2023 in light of the upcoming municipal election and continued uncertainty surrounding COVID-19. For more information on CompPlan 2040, please visit:

<https://www.auburnalabama.org/2040/>

W. Pet Waste Stations

Pet Waste Stations have been installed within the City of Auburn, especially within the City Parks such as Town Creek Park and Kiesel Park that are frequented by residents and visitors with their furry companions. The pet waste stations are emptied and bags replenished twice a week except those stations placed at Town Creek Park and Kiesel Park which are maintained daily. If pet waste is not removed from the ground, there is the potential for the waste to be carried in stormwater runoff to nearby waterbodies causing possible pathogen impairments. The installation, maintenance and promoting the use of these stations, will help to reduce the potential presence of harmful bacteria due to pet waste from entering our waterbodies.



X. Streambank Stabilization Projects

During this reporting period, no streambank stabilization projects were implemented. The City of Auburn is continuing to assess streambanks for future stabilization projects.

Y. Auburn Street Tree Explorer

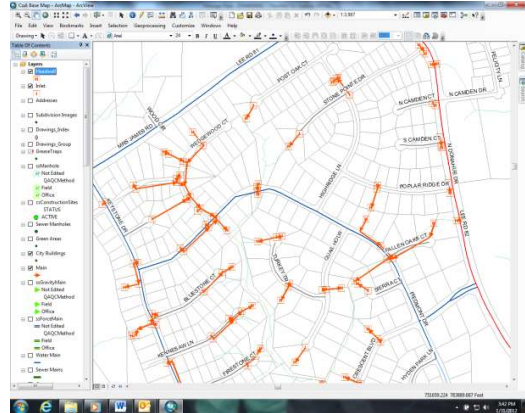
In early January 2021, the City of Auburn launched the Auburn Street Tree Explorer which calculates the stormwater uptake of all the City trees that have been inventoried within the City. During rain events, trees can physically intercept rainwater with their leaves preventing runoff from reaching the ground and flowing over impervious surfaces, like asphalt and concrete, potentially overwhelming stormwater collection systems and polluting our natural waterways and waterbodies.

<https://www.auburnalabama.org/public-works/landscape-and-sustainability/urban-forestry/explore-auburn's-tree-canopy/>

VII. ILLICIT DISCHARGE DETECTION AND ELIMINATION

A. Storm Sewer Mapping

The City of Auburn completed the initial mapping of its storm sewer system in 2003. The mapping is maintained in a Geographical Information Systems Database (GIS). Detailed information on pipe size, pipe material, direction of flow, inlets, manholes, bridges, box culverts, detention ponds, and headwalls are maintained in the City's GIS database. The City is currently working to collect stormwater infrastructure data throughout the entire City Limits. In 2013, the City began a Utility Mapping Project utilizing City survey crews and several outside surveying firms. This project, the initial inventorying phase, was completed in 2017. **In 2021-2022, the City added approximately 3.0 linear miles of storm sewer main. The GIS files are updated annually as new work is added or as old work is modified to current standards.** The latest revisions of the maps can be obtained through the Engineering Services Department located at 171 North Ross Street.



B. Illicit Discharge Ordinance

The Environmental Protection Agency (EPA) recommends municipalities implement an ordinance that provides the means to identify and enforce correction of illicit discharges. In the City's NOI, submitted to ADEM in March 2003, the stated goal was to develop and implement an Illicit Discharge Ordinance by December 2005. This goal was met two years ahead of schedule.

A draft copy of the Illicit Discharge Ordinance was reviewed by the **ALOA** (now ALOAS) Citizens Advisory Committee in November of 2003. A revised draft was forwarded to the City Attorney and Municipal Judge for review in December 2003.

The Auburn City Council adopted the Illicit Discharge Ordinance on January 20, 2004. **Revisions were made in 2017 and City Council adopted these revisions in May of 2018. No changes were made to the IDDE ordinance during this reporting period.**



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The City's IDDE Ordinance may be found at the following link: https://library.municode.com/al/auburn/codes/code_of_ordinances?nodeId=CO_CH7DR_FLCO

C. Stormwater Outfall Reconnaissance Inventory

In 2009, the Water Resource Management Department began a stormwater outfall reconnaissance inventory (ORI) program. The purpose of this ORI program is to familiarize staff with all receiving waters within the City limits, conduct an inspection of each stormwater outfall and prepare detailed documentation of each stormwater outfall in that basin so that water quality concerns are documented and corrective actions planned. City staff are able to document any current illicit discharges and provide more detailed location information concerning existing outfalls. The City's ORI program is patterned on recommendations outlined in the *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* (Center for Watershed Protection and Dr. Robert Pitt, October 2004). The City's goal is to inspect (or screen) all of its outfalls every five years (and/or 15% per year). In calendar year 2015 Watershed Division staff began planning for the second phase of its ORI Program. This included purchasing of a LaMotte Smart 3 Colorimeter for enhanced source identification and tracking, development of plans for a small laboratory at the WRM offices, and updates to the ORI tracking application. Upon the initial completion of its inventory, the WRM Department documented and inspected approximately two hundred forty (240) miles of stream and documented approximately one thousand two hundred twenty-eight (1,228) stormwater outfalls in the Saugahatchee, Parkerson Mill, Moore's Mill and Town Creek Watersheds. Staff also inspected approximately one hundred fifty (150) sanitary sewer aerial creek crossings and identified approximately eight hundred fifty-eight (858) concerns or potential concerns during the ORI program. Since 2015, the number of outfalls has increased significantly. **During the current reporting year, staff re-screened and/or performed water quality analyses at 320 of the City's one thousand four hundred twenty-five (1,429) outfalls representing 22% of all outfalls in the City.** This list is included in Appendix H.

The screenshot shows a web-based form for stormwater outfall reconnaissance. The top section contains metadata: ID 67542, Location M254, Status Closed, Resolution dropdown, Insp. Date 11/16/2020 2:08 PM, and Inspected By KIMBROW, DUSTIN F. Below this is the 'Observations' section with multiple rows of radio button options. The 'Flow Present?' row has 'No' selected. The 'Condition' row has 'Good' selected. The 'Odor Indicators' row has 'Sewage' and 'Sulfide' selected. The 'Color Indicators' row has 'Brown', 'Green', and 'Yellow' selected. The 'Floatable Indicators' row has 'Sewage' and 'Other' selected. The 'ID Characterization' row has 'Unlikely' selected. The 'Obstruction?' row has 'No' selected. The 'Repair Necessary?' row has 'No' selected. The 'Maintenance Necessary?' row has 'No' selected. The 'Sample Collected?' row has 'No' selected. A 'Reset' button is located below the observations. The 'Comments' section at the bottom features a photo of a stormwater outfall pipe in a grassy area.

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The Water Resource Management Department collaborated with the City’s Information Technology (IT) Department GIS Division in 2010 to develop a stormwater outfall tracking tool that allows for easy management, access and viewing of data collected during the ORI program. Staff from multiple departments can view the data assimilated by this application and can utilize that information to monitor progress at addressing concerns identified by field survey. This tool/application was updated in 2015 to include attribute fields for water quality data. A screenshot of this tool can be seen above.

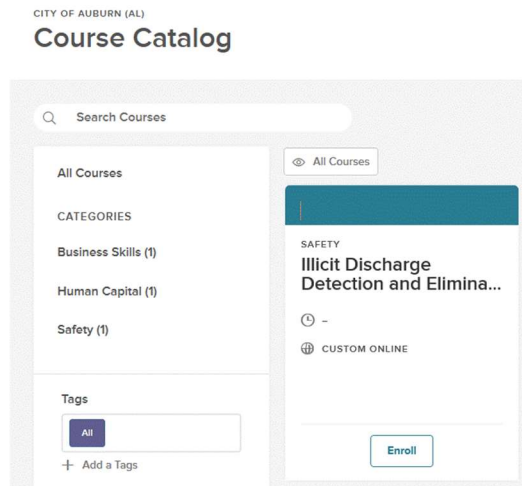
The ORI program is just one example of the measures the City has taken in creating and sustaining an efficient, effective and innovative stormwater management program, with the ultimate goal of protecting our local water resources. **Staff will continue both visual screening and water quality screening of select outfalls in 2022-2023.**

D. Public Education on Illicit Discharges and Improper Disposal

The City of Auburn created an illicit discharge brochure and has made it available to the public for review and/or download via the City’s website:

<https://www.auburnalabama.org/water-resource-management/watershed/aloas/>

In addition, the City routinely places articles in the City newsletter, Open Line and social media to educate citizens on illicit discharges. In 2018, the City also began working with its IT Department to develop an employee and citizen online training program for recognizing and responding to illicit discharges. This online training program was made available to all City employees in March 2019. **During this reporting period, the Water and Sewer Divisions within the City’s Water Resource Management Department were trained on IDDE. A combined total of 37 City employees were IDDE trained. In addition, 25 citizens were trained during the Alabama Water Watch Field Day in February 2022. The City is continuing to develop and implement an online training program for citizens.**



E. Hazardous Waste Emergency Response Team

The City maintains a mutual aid agreement with the City of Opelika to share some of the cost of operating an emergency response vehicle equipped to handle hazardous waste spills. The agreement provides the City with the ability to properly identify and address hazardous or potentially hazardous spills. **The mutual aid agreement is still in effect and no revisions were made to the mutual aid agreement during this reporting period.**

F. Illicit Discharge Hotline and Reporting Form

In 2008, the Water Resource Management Department developed an illicit discharge reporting form that residents can download, complete and e-mail back to the Department upon discovering a potential illicit discharge. This document is located on the Illicit Discharge Website, giving residents instant and 24-hour access to the form. This form assists the Department in tracking and responding to illicit discharges. This form can be downloaded from the City's website at <https://www.auburnalabama.org/water-resource-management/watershed/illicit-discharges/>.

Zero forms were submitted during this reporting period. The City hopes that the Auburn FixIt app will continue to phase out the reporting illicit discharge hotline and reporting form in the future.

The form is titled "City of Auburn Illicit Discharge Notification Form". It includes fields for "First Name", "Last Name", "Address", "City", "State", "Zip Code", "Phone No.", and "Email". Below these are sections for "Incident/Discharge Information" and "Description of Discharge". The "Incident/Discharge Information" section includes "Date Discharge Observed", "Time Discharge Observed", "Street Location", "Nearest Major Intersection", "Nearest Waterbody (if known)", and "Nature of Discharge" with checkboxes for "Spill", "Infiltration", "Construction", and "Paving". The "Description of Discharge" section includes "Color", "Smell", "Amount/Level", "Substance/Other Liquid", "Gas/Vapor/Steam", "Drinking Oil", "Appearance", "Clear", "Thick", "Cloudy", "White", "Other", "Solid/Waterable", "None", "Faint", "Severe", "Thick", "Other", and "Other Notes/Comments". At the bottom, there is a disclaimer: "Please submit this form as email to info@cityofauburn.org or deliver to the WRM Watershed Division, 2201 W. Sandford Ave., Auburn, AL 36822. If you have any questions, please call 204-301-2017. If this is an emergency and you feel the substance being discharged may be a hazardous or toxic substance, please contact the City of Auburn Police and Fire Departments."

The City of Auburn responded to several cases of reported illicit discharges during the current reporting year that were reported by phone. In each instance, the potential illicit discharge was investigated and if necessary, was traced back to its source and the violator was given a notice of violation and informed of the penalties for violating the City's Illicit Discharge Ordinance. In each incident, the City was able to ensure proper cleanup and corrective actions taken. **During this reporting period, the City received a total of 13 potential illicit discharge complaints.** Below is a summary table of the complaints received:

Type of Complaint	# of Complaints	Corrective Action	Resolved
Illicit Discharge	4	4 investigations	Yes
Erosion and Sediment Control (Construction Site Runoff)	1	1 investigation with correction of deficiencies performed on site or forwarded to different City Department for corrective action	Yes
Stream Erosion/Other Watershed Concern	8	8 investigations performed; 2 sent to another Department for corrective action, 5 resolved by Watershed and 1 ongoing investigation by Watershed Personnel	Yes/ (1)Pending

G. Water Quality Monitoring Programs

In 2004, the City of Auburn began a water quality monitoring program in an effort to analyze the effectiveness of stormwater best management practices (BMPs) on active construction sites within the City. This program has been significantly expanded over the past 16 years to include a diverse range of monitoring programs and more in-depth water quality monitoring.



The City of Auburn continues its water quality monitoring programs in accordance with its mission and Stormwater Quality Monitoring Plan. Altogether, thousands of data points are collected by City staff and are used to make data-driven decisions for the protection, preservation, and restoration of our local water resources. **For additional information concerning the City's Water Quality Monitoring Program, please see the 2021-2022 Annual Water Quality Monitoring Report included in Appendix D. This Water Quality Monitoring Report is being submitted in accordance with Part V of NPDES General Permit ALR040003.**

VIII. CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

A. Erosion and Sediment Control Ordinance

The City, in conjunction with the City of Opelika and Auburn University, adopted the Erosion and Sediment Control Policy drafted by the ALOA (now ALOAS) Citizens Advisory Committee in 2003. The policy provides for a regional set of rules that can be applied to contractors, developers and engineers in the area.

The Auburn City Council approved additions to the City’s Erosion and Sediment Control Ordinance in 2005 to establish protocol for enforcement of the Ordinance and to enable City personnel to issue citations to developers/contractors in violation of the Ordinance. The enforcement mechanisms have proven to be a valuable tool in ensuring compliance with the Ordinance.

For more information on the City of Auburn’s Erosion and Sediment Control Ordinance, please visit the following:

https://library.municode.com/al/auburn/codes/code_of_ordinances?nodeId=CO_CH7DR_FLCO_ARTIIERSECO

B. Erosion Control Inspections

The City, in an effort to patrol the management of erosion and sediment control measures on active construction sites, initiated a construction site inspection program in 2003. The inspection program is designed to identify deficiencies in erosion control and initiate corrective action. **Approximately 1,575 site erosion and sediment control inspections were performed on 117 sites during the current reporting**

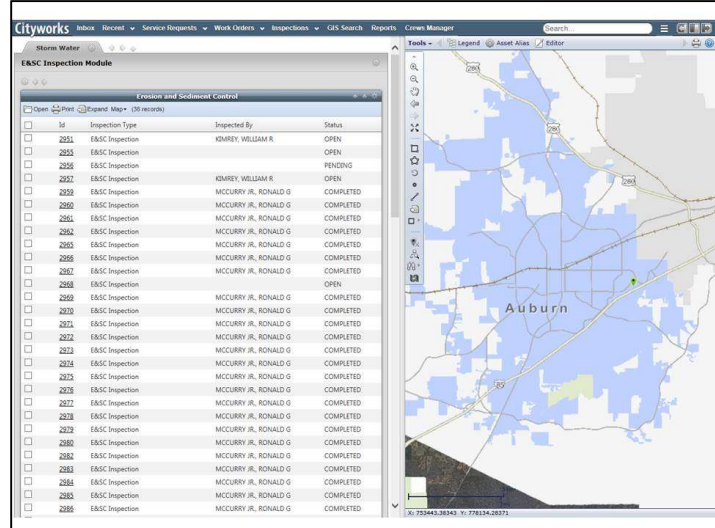


year (includes follow-up inspections), resulting in 922 inspection reports, twenty-seven (27) 72-Hour Notices of Violation and 6 Cease and Desist Orders. The number of inspections performed is relative to development activity and annual rainfall intensity and accumulation patterns. The City’s Water Resource Management Department maintains copies of the inspection reports in an electronic format and are available upon request.

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C. Erosion Control Inspection Software

In 2011, staff from the City’s Water Resource Management Department and Information Technology Department created an electronic erosion and sediment control inspection software program. This software gives staff the ability to fill out electronic copies of the erosion control inspection checklist using handheld units while in the field performing inspections. In 2015 Watershed Division staff began working with the City’s IT staff to migrate the erosion and sediment control inspection and enforcement tracking into CityWorks, a GIS-centric asset management software. **Watershed Division staff began using this software exclusively in 2016 and continued to use this software during the 2021-2022 reporting year.**



ID	Inspection Type	Inspected By	Status
2251	EASC Inspection	KIMREY, WILLIAM R.	OPEN
2253	EASC Inspection	KIMREY, WILLIAM R.	OPEN
2255	EASC Inspection	KIMREY, WILLIAM R.	PENDING
2257	EASC Inspection	KIMREY, WILLIAM R.	OPEN
2259	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2260	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2261	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2262	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2263	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2265	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2267	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2268	EASC Inspection	MCCURRY JR, RONALD G.	OPEN
2269	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2270	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2271	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2272	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2273	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2274	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2275	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2276	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2277	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2278	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2279	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2280	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2282	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2283	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2284	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2285	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED
2286	EASC Inspection	MCCURRY JR, RONALD G.	COMPLETED

D. Residential Erosion Control

The City now issues an Erosion and Sediment Control Permit that allows for minimal clearing to install the approved BMPs onsite. This minimizes the clearing and grading work that sometimes occurred in the past prior to getting the site BMPs installed. The City’s Inspection Services Department conducts an initial site inspection for all building construction in Auburn. Lots requesting the initial inspection must



have a construction entrance and other necessary best management practices (BMPs) in place prior to authorizing foundation construction. Deficiencies noted during the initial inspection are relayed to the building permit applicant for correction. **During the current reporting year, 1,014 pre-ESC lot level inspections were performed and of those**

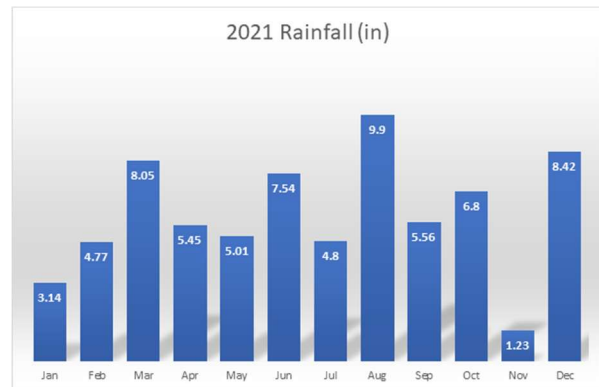
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inspections, 289 failed the pre-permitting inspection which in turn held the permit issuance until the BMPs were properly implemented.

The City’s Inspection Services Department also inspects stormwater BMPs during the building phase inspections. If there is a minor deficiency with the stormwater BMPs, then the inspector will require the contractor to correct the issue prior to the next inspection. If the issue has not been corrected by the next inspection, the subsequent inspection will not be performed. If there is a major deficiency with the stormwater BMPs, then the inspector will not perform the requested inspection and have the contractor correct the deficiency immediately. **During the current reporting year, 995 soil erosion lot level inspections were performed and of those inspections, 545 failed the soil erosion inspection which in turn held the permit issuance until the BMPs were properly implemented.**

E. Rainfall Data Collection

In 2005, the City began maintaining historical rainfall data records. The data is obtained through a subscription to the Agricultural Weather Information System (AWIS) website. AWIS records daily weather data from the NOAA weather station at the Auburn University Regional Airport. Daily rainfall data is also collected at the City’s two water pollution control facilities, as well as at Lake Ogletree and the James Estes Water

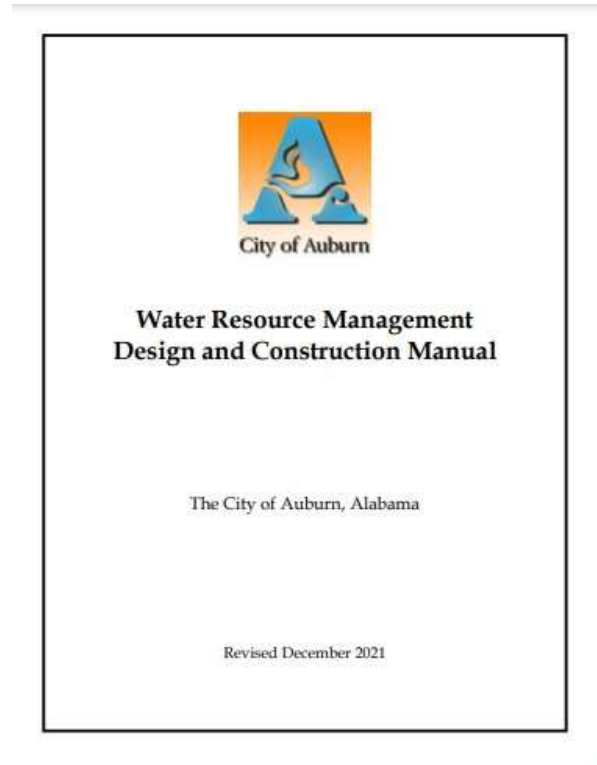


Treatment Plant. During 2021, the Watershed Division implemented additional rain gauges (HOBOLINK) at strategic areas within Auburn to help calculate rain events (3/4” within 24-hour period) to commence construction site “rain-event” inspections. Watershed staff will continue to assess areas within Auburn to implement additional rain gauges during this next reporting period. Details regarding rainfall during this reporting period can be found in the Water Quality Monitoring Report included in Appendix D of this report. **For the 2021 year, the City of Auburn received 70.67” of rain continuing our recent pattern of wet years, with 5 of last 7 being above 70” of rainfall.**

IX. POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

A. Engineering Design and Construction Manuals

In April 2003, the City of Auburn published a Stormwater Design Manual that effectively addressed stormwater runoff controls required for sites greater than one acre. The manual identified project requirements and specifications for new infrastructure and also addressed the requirements for stormwater system sizing and stormwater runoff control/detention. During its implementation, the manual proved to be a very successful tool for the City and developers. The Water Resource Management Department contracted with CH2M Hill to develop an Engineering Design Manual in 2008 that includes engineering design criteria for sewer and water infrastructure, as well as stormwater BMPs for water quality protection such as rain gardens and stormwater wetlands. The Water Resource Management Design Manual also simplifies the City's regulations regarding restrictions on development in steep slope areas. The Public Works Department also developed a comprehensive Engineering Design Manual. The Stormwater Design Manual has been updated and included as an appendix in the Public Works Manual. Both the Public Works and Water Resource Management Design and Construction Manuals were adopted by the City Council in November 2010 and became effective on January 1, 2011. Reviews of these manuals are performed annually during the first fiscal quarter (October-December). **Revisions were made and were adopted by City Council in December of 2021.**



For more information on the City of Auburn's Water Resource Management Design and Construction Manual, please visit the following:

<https://www.auburnalabama.org/water-resource-management/design-and-construction-manual/>

B. Stream Buffer Regulations

As part of the Erosion and Sediment Control Ordinance adopted by the City Council in July 2002, a minimum 25-foot non-disturbed vegetative buffer zone was required for new developments on “blue line” streams and creeks identified on USGS 7.5-minute topographic maps. In May 2006, the City Council adopted new Stream Buffer regulations. The 2006 buffer regulations were based on a managed-use type buffer rather than a strict non-disturbed buffer approach. The 2006 regulations implement a 3-zoned buffer (streamside zone, managed use zone and upland zone) with the width of the buffer being based on the drainage area of the stream. A copy of the 2006 regulations can be found under Article IV in the City’s Zoning Ordinance on the City’s website. Greater than 656 acres of riparian corridors have been set aside since the adoption of the new regulations. **During this reporting period, the City reviewed 80 development plans for compliance with the stream buffer ordinance.** The table below provides the City’s current stream buffer requirements.



Stream Buffer Requirements				
Drainage Area (Watershed) Designation	Streamside Zone	Managed Use Zone	Upland Zone	Total Buffer Width on each side of Stream
< 100 acres	25 feet	None	10 feet	35 feet
≥ 100 acres and ≤ 300 acres	25 feet	None	20 feet	45 feet
≥ 300 acres and ≤ 640 acres	25 feet	20 feet	10 feet	55 feet
≥ 640 acres	25 feet	50 feet	25 feet	100 feet

C. Post-Construction BMP Inspections

Existing post-construction BMPs need periodic inspections to evaluate the maintenance and operation of these vital components of the City's drainage system. Because vast quantities of stormwater are collected and passed through detention ponds every year, inspections of these facilities can identify potential problems and illicit discharges.



The Engineering Services Department and the Water Resource Management Department conduct annual inspections of all detention ponds (public and private) listed in the stormwater database. Upon inspection, the owner of the pond is notified of any corrective action needed. Enforcement measures are taken if the owner does not address the items listed in the report. **Approximately 400 detention ponds were inspected by the City within the 2021-2022 reporting period. Last year's reporting numbers were inflated as it included follow-up inspections and re-inspections. A list of the detention ponds is available upon request.**

D. Conservation Subdivision Regulations

In 2006, staff members from the Planning Department, Water Resource Management Department, Public Works Department and Parks and Recreation Department began developing conservation subdivision regulations to aid in the protection of local water resources. These regulations were approved by the Auburn City Council in 2007. The regulations promote water resource protection through the setting aside of open space and concentrating development away from water resources. The ordinance and subdivision regulations promote the use of low impact design concepts to protect natural resources in the Auburn area. While developer interest for conservation subdivisions has not been strong to this point, the City continues to promote conservation subdivisions and low impact development principles for developments within the City of Auburn. These regulations can be downloaded from the City's website at <https://www.auburnalabama.org/planning/development-services/subdivision-regulations/>.



E. Site Development Review Tool

In 2006, the Water Resource Management Department contracted with CH2M Hill to develop a Site Development Review Tool (Tool) that could be utilized by local engineers when designing stormwater BMPs on developments within the City. This Tool was modeled on a similar tool created by CH2M Hill for Gwinnett County, Georgia.

The Tool was developed using a Microsoft Excel platform and can be used by engineers and developers to design and

incorporate structural stormwater BMPs for developments within Auburn’s planning jurisdiction boundaries and to maximize the efficiency of runoff pollutant management following construction of developments. This Tool can also be used to meet the target pollutant removal efficiencies outlined in the City’s Conservation Subdivision Regulations.

The Tool provides pollutant removal estimates for site specific conditions based on removal efficiencies for a variety of stormwater BMPs including detention ponds, bioretention areas (i.e. rain gardens) and stormwater wetlands. This Tool analyzes a variety of stormwater pollutants including nutrients (phosphorus and nitrogen) and total suspended solids. City staff utilize the Tool during the plan review process to analyze development impacts on water quality within its water supply protection area (Lake Oglethorpe watershed). This Tool is also used by engineers when submitting water quality plans for developments located in the Saugahatchee Creek Watershed, the Parkerson Mill Creek Watershed, or the Lake Oglethorpe Watershed to assist them in determining if their post-development stormwater controls meet the City’s applicable pollutant removal criteria. A copy of the Tool can be downloaded at <https://www.auburnalabama.org/water-resource-management/standard-development-forms/>. During the 2021-2022 reporting year, the City reviewed approximately fifty (50) stormwater quality site development review tools.

City of Auburn Stormwater Quality Site Development Review Tool	
General Information	
Name of Developer:	SOUTHERN STATES BANK
Development Name:	SOUTHERN STATES BANK
Site Location / Address:	INTERSECTION OF N DEAN AND JOSEPH A. ROAD
Development Type:	Commercial/Industrial
Area of Development (acres):	1.03
Date Submitted:	11/5/2014
Permit Number:	
Developer Contact:	
Phone Number:	
Name of Engineer(s):	
Maintenance Responsibility:	
Summary of Site and Structural Control Information	
Number of Drainage Areas:	1
Sum of Drainage Areas (ac):	1.07
Total (A) Impervious Area (ac):	0.55
Total (DP) Disturbed Pervious Area (ac):	0.33
Total (N) Natural Conservation Area (ac):	0.41
Percent Imperviousness (%):	51%
Land Use Distribution Pie: Impervious: 45% Pervious: 55%	
Total # of Structural Controls Used:	0
Structural Controls: Stormwater Pond (No Detention Basin): 0 Bioretention Area: 0 Dry Detention / Dry ED Basin: 0 Extended Detention (Biosiltration): 0 Filter Strip: 0 Infiltration Trench: 0 Porous Pavement: 0 Proprietary Structural Control: 0 Sand Filter: 0 Stormwater Wetland: 0	
TSS Reduction	
Total TP Reduction (%):	51% Meets Goal
% Load Reduction Chart: The chart shows a single bar for Total TP Reduction at 51%, which is above the 50% goal line.	
Official Use Only	
Tracking #:	
Reviewed By:	
Date Approved:	
Conditions of Approval:	

F. Student Chapter of American Society of Civil Engineers Constructed Wetland

In 2015, the student chapter of the American Society of Civil Engineers (ASCE) of Auburn University worked to design and construct an Outdoor Civil Engineering Learning Lab (Auburn OutCELL) featuring educational displays and interactive exhibits meant to appeal to students of all ages. This project involved a collaborative effort with the City, which provided access to a city-owned site for developing the proposed learning center and design

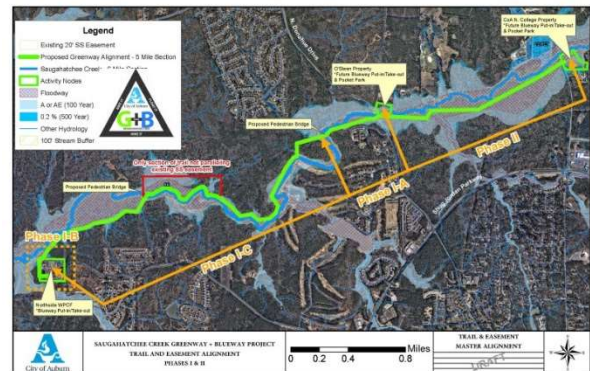
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and construction feedback to the student-led team. The Auburn OutCELL will serve as a center where local K-12 students can come (free of charge) with family or school groups to interactively engage and learn about the various disciplines of civil engineering, specifically highlighting elements of environmental, geotechnical, hydraulics, hydrology, materials, structural, and transportation engineering.

The main feature of Auburn OutCELL is a constructed stormwater wetland, which includes an improved sediment basin and constructed treatment wetland system. Not only does this stormwater treatment system provide an ideal setup for lessons on erosion control, water quality, watershed hydrology and native Alabama vegetation, but it also serves to actively improve the quality of stormwater flowing into the Saugahatchee Creek. The site's location just off the unpaved Miracle Road leads to extremely turbid stormwater flowing through the site, which formerly deposited large amounts of sediment into the Saugahatchee Creek. **Due to other developments in the area, the OutCELL project will be re-instated during the construction of the Saugahatchee Greenway + Blueway project anticipated to begin in late 2022 into early 2023.**

G. Saugahatchee Greenway + Blueway Project

Saugahatchee Creek is identified as a Primary Greenway Corridor in the City's Greenway and Greenspace Master Plan. In 2015 the City began performing the necessary feasibility assessments for the development of both a greenway and blueway component of this corridor. Staff have evaluated approximately six (6) miles of Saugahatchee for floatability and over six (6) miles of existing sanitary sewer easement for trail alignment. Between 2015 and 2018, the City has obtained more than 97 acres of land and/or public access easements thereto to convey +/-1.5 miles of Greenway and install two put-in/take-out locations. Additionally, in March of 2017 the City installed one realtime stream gage on Saugahatchee Creek, which will be used to develop a floatability index for kayaking. **During this reporting period, staff reviewed and commented on the revised CBMP plans for this project and commencement is anticipated during 2022-2023.**



X. POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

A. Stormwater Management Training

The City of Auburn continues to develop a training program that provides the Water Resource Management Department and other City departments with information on the proper methods for implementing site control measures on all municipal projects. City personnel also attend a variety of stormwater/water quality related conferences, workshops and seminars annually. Due to COVID-19, several conferences, workshops and seminars were cancelled during this reporting period.



Training opportunities during this reporting year included:

- **Alabama Water Resource Conference**—In September 2021, two City Staff members (Marla Smith and Ron McCurry) attended this conference.
- **AWWA Onshow Virtual** – In November 2021, Tim Johnson attended this workshop virtually.
- **Confined Space Training** – In March 2022, several City personnel attended Confined Space Training, including four Watershed personnel (Dusty Kimbrow, Dustin Rogers, Marla Smith, and Ron McCurry).
- **Qualified Credentialed Inspector Training** – The City of Auburn, over various Departments, has at least 30 City employees that maintain Qualified Credentialed Inspector (QCI) certification. This certification requires annual refresher training, for which all QCI certified personnel must perform in order to retain certification. In addition to QCI certified staff, the City has numerous professionals who qualify as Qualified Credentialed Professionals (QCP) through existing certifications. **In 2021, fifteen (15) WRM staff have maintained their QCI certifications. Also, two Watershed Division personnel have received their Certified Professional Erosion and Sediment Control (CPESC) certifications.**

B. Spill Response and Prevention Training

The City of Auburn has developed an in-house spill response training program. Staff from Water Resource Management and Public Works' Construction Management and Fleet Services Divisions routinely inspect their respective facilities for proper containment and signage associated with storage of petroleum products. Additionally, staff attend annual

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training on Spill Prevention, Control, and Countermeasure (SPCC) to ensure that they are prepared to respond to discharges in an appropriate manner.

C. Risk Management Manual

The City's Human Resources Department has developed a manual outlining specific requirements/policies for dealing with hazardous chemicals. Topic 12 (titled Hazard Communication Program) of the City's Risk Management Manual specifically requires City personnel to receive training on hazardous chemicals used. Safety Data Sheets (SDS) identifying personal protective equipment, permissible exposure limits (PEL) and Threshold Limit Values (TLV) are required for all hazardous chemicals used. The Hazard Communication Program was adopted as part of the Risk Management Manual.

D. Municipal Operations Recycling

It has been standard policy to encourage individual Departments to participate in the City's recycling program. Recyclable waste generated through City activities is collected and processed through the City's recycling center located on Donahue Drive. This recycling center accepts the following recyclables 24 hours a day, 365 days a year: aluminum cans; flattened cardboard; paper (all types); steel/tin cans; batteries (transistor only up to size D); cellular phones; cooking grease/oil; green glass; magazines/telephone books; mixed office paper; and plastics #1-#7. Computer equipment and other electronics (not TVs) may also be recycled, but an appointment must be made as these items require special handling.

In 2017, the City transitioned to single-stream recycling with 5,600 containers. Using 95-gallon containers/carts, citizens are able to place all recyclables into one container and place them at the curbside on their scheduled garbage collection day. Acceptable single-stream materials include: aluminum cans; flattened cardboard; paper (all types); plastic #1 through #7 and steel/tin cans. **As of March 2022, the City services a total of 14,971 curbside recycling households. During this reporting period, the City recycled approximately 2,050 tons of single-stream recyclables.**

April 21-March 22	
RecycleAuburn Tonnage Report	
Item	Total Tons
Newspaper	54.35
Green Glass	82.87
Clear Glass	94.83
Brown Glass	41.86
Aluminum Cans	7.88
Cardboard	178.07
Steel	7.78
Magazines	18.85
Mixed Paper	37.03
Plastics	0.00
Computers/Electronics	1.70
Batteries	0.10
Scrap Metal	34.74
Downtown Grease	24.87
Single Stream	2049.51
Total	2634.44
Monthly Average	219.54

E. Street Sweeping & Litter Control

Regular street sweeping has been proven as an effective means to reduce overall pollutant loading from roads and storm sewer systems. The Right of Way Maintenance Division of the City's Public Works Department currently performs street sweeping measures on a 4-week rotating basis, barring uncontrollable circumstances. **During this reporting period, the City swept streets and parking lots within the City, thereby removing approximately 821 tons of debris from the road. Additionally, the City removed 8,289 bags of litter from the right-of-way through community service/inmates.**



F. Alabama Certified Pesticides Applicator

The Parks and Recreation Department of the City maintains trained and certified personnel in the application of pesticides, including restricted-use pesticides. Although qualified to do so, the Parks and Recreation Department has not used any restricted-use pesticides in the previous decade. In order to maintain certification with the State of Alabama, the staff must document and complete 30 continuing education units (CEUs) over a three-year period. CEUs are earned at various conferences and workshops such as the Alabama Turfgrass Conference, Alabama Department of Transportation workshops, the Sports Turf Short Course and the Alabama Urban Forestry Association's Annual Conference. The CEUs cover the application of pesticides, information on the proper use of fertilizers and other chemicals typically used to maintain athletic fields, and best management practices for trees/shrubs/turf that are intended to reduce the need for pesticides, fertilizers and irrigation.

G. Municipal Facilities Inventory and Good Housekeeping Inspections

In 2017 the City completed an initial inventory and desktop assessment of all its properties and physical facilities, including an assessment of stormwater knowledge of the persons responsible for management and upkeep. The purpose of this inventory and assessment is to evaluate each property's respective potential to contribute to stormwater pollution, and to identify site-specific best management practices to improve maintenance and operation of these properties and facilities to reduce that potential. A total of 128 properties are currently owned and managed by the City. Of these 128 properties, 76 are developed

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(varying intensity) and 52 are in an undeveloped/natural condition. In 2018, the City re-evaluated the 128 properties, and determined that of the 128 properties, a total of 63 City properties have the potential to discharge pollutants via stormwater runoff. An updated table of City facilities and/or properties may be found in Appendix F. Several City projects are under construction at this time, and will be added to the municipal facilities list once completed. The SWMPP will be revised and resubmitted at that time. **During this reporting period, all 63 City properties were inspected with minimal deficiencies which have since been addressed.**

XII. STORMWATER INFRASTRUCTURE IMPROVEMENTS

In the 2021-2022 report year, the Engineering Services Department continued to make considerable progress toward installing, rehabilitating and upgrading stormwater infrastructure within the City of Auburn. A listing of projects completed is included below, along with projects under construction, projects under design and/or consideration and a list of stormwater maintenance activities.

A. Stormwater Infrastructure Projects Completed

- Opelika Road Improvement Phase 4 – This project included the installation of 1,123 LF of 15” RCP, 361 LF of 18” RCP, 333 LF of 24” RCP, 2 – grate inlets, 1 – junction boxes, 12 – single wing inlets, 2 – double wing inlets, 1 – area inlet, 1 – trench drain, 1 – 15” headwall. This project will also include the removal of 229 LF of 18” RCP and 858 LF of 15” RCP.
- Cox Road Widening – This project included the installation of 198 LF of 15” HDPE, 591 LF of 18” HDPE, 208 LF of 24” HDPE, 15 LF of 30” HDPE, 8 LF of 18” RCP, 31 LF of 24” RCP, 8 LF of 30” RCP, 25 LF of 42” RCP, 16 LF of 48 RCP, 9 – 15” headwalls, 13 – 18” headwalls, 16 – 24” headwalls, 1 – 30” headwall, 2 – 42” headwalls, 2 – 48” headwalls, 4 – single wing inlets, and 1 – junction box. Also included was the removal of 15 headwalls, 4 – inlets, 138 LF of 15”, 120 LF of 18”, and 186 LF of 24” pipe.
- Wright Street Parking Deck – This project included the installation of 1 – detention vault (4700CUFT capacity).
- Cox Road/Wire Road Roundabout – This project included the installation of 894 LF of 18” RCP, 8 – 18” headwalls, 1 – area inlet, and 5 – single wing inlets. Also included was the removal of 3 headwalls, 2 – inlets, 358 LF of storm pipe.
- Shug Jordan / N Donahue Intersection Improvements – This project included the installation of 18 LF of 18” RCP, 70 LF of 24” RCP, 1 – 18” headwall, and 4 – 24” headwalls.
- Town Creek Playground – This project included the installation of 28 LF of 12” HDPE, 646 LF of 15” HDPE, 192 LF of 18” HDPE, 19 LF of 24” HDPE, 15 LF of 30” HDPE, 8 LF of 18” RCP, 31 LF of 24” RCP, 8 LF of 30” RCP, 25 LF of 42” RCP, 16 LF of 48 RCP, 1 – 15” headwalls, 1 – 24” headwalls, 4 – grate inlets, 4 – single wing inlets, 2 – double wing inlets, and 4 – junction boxes. Also included was the removal of 92 LF of storm pipe.

B. Stormwater Infrastructure Projects Currently Under Construction

- Samford Avenue, South College Street, and Gay Street Intersection Improvement Project – This project will consist of the installation of 65 LF of 15” RCP, 49 LF of 18” RCP, 66 LF of 24” RCP, 636 LF of 30” RCP, 338 LF of 42” RCP, 242 LF of 48” RCP, 3 – junction boxes, 9 – double wing inlets, 10 – single wing inlets, and 2 – grate inlets. This project will also include the removal of 2 – junction boxes, 5 – double wing inlets, and 6 – single wing inlets.
- MLK Multiuse Path (Webster Road to Shug Jordon Pkwy) – This project will consist of the installation of 3 LF of 15” RCP, 136 LF of 18” RCP, 56 LF of 24” RCP, 7 – headwalls, 1 – junction box, and 2 – single wing inlets.
- William Buechner Pkwy – This project will consist of the installation of 84 LF of Double 12’x8’ Culvert, 84 LF of Double 12’x6’ Culvert, 81 LF Single 8’x4’ Culvert, 3850 LF of 18” RCP, 119 LF of 24” RCP, 80 LF of 30” RCP, 160 LF of 36” RCP, 132 LF of 44”x27” RCP, 3 – grate inlets, 31 – single wing inlets, 7 – double wing inlets, 2 – area inlet, 21 – headwalls.
- Soccer Complex Addition – This project will consist of the installation of 166 LF of 18” RCP, 906 LF of 24” RCP, 184 LF of 30” RCP, 96 LF of 42” RCP, 22 LF of 48” RCP, 5 – headwall, 4 – grate inlets, 3 – area inlets, 6 – double wing inlets.

C. Stormwater Infrastructure Projects Under Design and/or Consideration

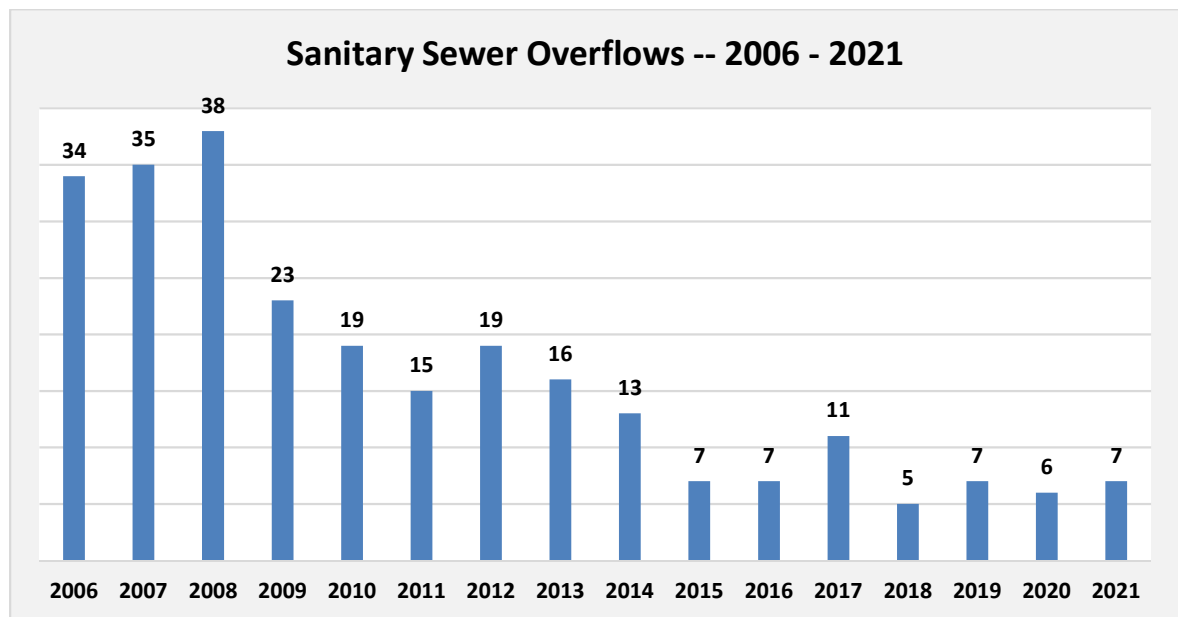
- Annaloe / EUD Intersection Improvements – This project will consist of the installation of 151 LF of 15” RCP, 361 LF of 18” RCP, 333 LF of 24” RCP, 2 – grate inlets, 8 – junction boxes, 12 – single wing inlets, 1 – double wing inlets, 2 – area inlet, 1 – 15” headwall. This project will also include the removal of 2 – inlets.
- Lake Wilmore – This project will consist of the installation of 2638 LF of 15” RCP, 55 LF of 18” RCP, 148 LF of 30” RCP, 70 LF of 36” RCP, 9 – headwalls, 42 – inlets, and 9 – junction boxes.
- MLK Streetscape – This project will consist of the installation of 1685 LF of 15” RCP, 814 LF of 18” RCP, 123 LF of 24” RCP, 3 – headwalls, 15 – single wing inlets, and 3 – double wing inlets.
- N Dean / EUD Intersection Improvement – This project will consist of the installation of 30 LF of 18” RCP, 24 LF of 24” RCP, 7 – junction boxes, 2 – double wing inlets, and 5 – single wing inlets.

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- Saugahatchee Blueway Greenway Phase 1 – 102 LF of 15” HDPE, 86 LF of 15 RCP, 60 LF of 18” RCP, 56 LF of 24” RCP, 174 LF of 30” RCP, 75 LF of 36” RCP, 35 LF of 42” RCP, 53 LF of 48” RCP, 1 – junction box, and 11 – headwalls.

D. Sanitary Sewer Rehabilitation Projects

Several years ago, the City began implementation of a program to identify and rehabilitate aging sanitary sewer infrastructure in the City of Auburn. The primary purpose of this program is to rehabilitate aging infrastructure, prevent sanitary sewer overflows (SSOs) and reduce inflow and infiltration (I/I). The City actively addresses these issues through various sanitary sewer evaluation surveys and rehabilitation projects. **Efforts to rehabilitate gaining infrastructure have reduced SSOs substantially since 2006. During this reporting period, the City had seven (7) reportable SSOs.**



APPENDIX A

2021 PHASE II STORMWATER PERMIT

September 21, 2021

Ron Anders, Jr.
Mayor
144 Tichenor Avenue
Auburn, AL 36830

RE: Small Municipal Separate Storm Sewer System General NPDES Permit
City of Auburn
Lee County (081)

Dear Hon.Anders, Jr.:

The Department has made a final determination to reissue General NPDES Permit No. ALR040000 for discharges from regulated small municipal separate storm sewer systems (MS4s). The reissued permit will become effective on October 1, 2021 and will expire on September 30, 2026.

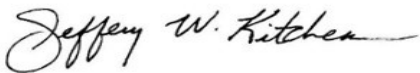
The Department notified the public of its tentative determination to reissue General NPDES Permit No. ALR040000 on July 2, 2021. Interested persons were provided the opportunity to submit comments on the Departments' tentative decision through August 3, 2021. In accordance with ADEM Admin. Code r. 335-6-6-.21(7), a response to comments received during the public comment period will be available on the Department's eFile system.

Based on your request, as evidenced by the submittal of a Notice of Intent, and on the information contained in the Notice of Intent coverage under **General NPDES Permit Number ALR040003** is granted. The effective date of coverage is October 1, 2021.

Coverage under this permit does not authorize the discharge of any pollutant or non-stormwater that is not specifically identified in the permit and by the Notice of Intent which resulted in the granting of coverage.

A copy of the General NPDES Permit under which coverage of your stormwater discharges has been granted is enclosed. If you have any questions concerning this permit, please contact Cammie Ashmore by email at cammie.ashmore@adem.alabama.gov or by phone at (334) 271-7795.

Sincerely,



Jeffery W. Kitchens, Chief
Water Division

Enclosure: Permit
File: NOI/1207



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT

DISCHARGE AUTHORIZED: STORMWATER DISCHARGES FROM REGULATED SMALL
MUNICIPAL SEPARATE STORM SEWER SYSTEMS

AREA OF COVERAGE: THE STATE OF ALABAMA

PERMIT NUMBER: ALR040003

RECEIVING WATERS: ALL WATERS OF THE STATE OF ALABAMA

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1378 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.

ISSUANCE DATE: September 16, 2021

EFFECTIVE DATE: October 1, 2021

EXPIRATION DATE: September 30, 2026


Alabama Department of Environmental Management

TABLE OF CONTENTS

Part I: Coverage under This General Permit	1
A. Permit Coverage.....	1
B. Authorized Discharges	1
C. Prohibited Discharges	2
D. Obtaining Authorization	2
E. Implementation	3
Part II: Notice of Intent (NOI) Requirements	4
A. Deadlines of Applications	4
B. Continuation of the Expired General Permit	4
C. Contents of the Notice of Intent (NOI)	4
D. Where to Submit MS4 Documents	5
Part III: Storm Water Pollution Prevention and Management Program.....	6
A. Storm Water Management Program (SWMP).....	6
B. Minimum Storm Water Control Measures	6
1. Public Education and Public Involvement on Storm Water Impacts.....	6
2. Illicit Discharge Detection and Elimination (IDDE) Program.....	8
3. Construction Site Storm Water Runoff Control.....	10
4. Post-Construction Storm Water Management in New Development and Redevelopment	13
5. Pollution Prevention/Good Housekeeping for Municipal Operations.....	14
Part IV: Special Conditions.....	16
A. Responsibilities of the Permittee	16
B. SWMPP Plan Review and Modification.....	16
C. Discharge Compliance with Water Quality Standards.....	16
D. Impaired Waters and Total Maximum Daily Loads (TMDLs).....	16
E. Requiring an Individual Permit.....	17
Part V: Monitoring and Reporting	18
A. Monitoring Requirements	18
B. Reporting of Monitoring Results	18
Part VI: Annual Reporting Requirements	19
A. Annual Report Submittal.....	19
B. Annual Report Contents	19
Part VII: Standard and General Permit Conditions.....	20
A. Duty to Comply	20
B. Continuation of the Expired General Permit	20
C. Need to Halt or Reduce Activity Not a Defense.....	20
D. Duty to Mitigate.....	20

TABLE OF CONTENTS

E. Duty to Provide Information	20
F. Other Information.....	20
G. Signatory Requirements	20
1. Notice of Intent.	20
2. Reports and other information.....	20
3. Changes to authorization.	21
4. Certification.	21
H. Property Rights.....	21
I. Proper Operation and Maintenance	21
J. Inspection and Entry.....	21
K. Permit Actions	22
L. Permit Transfers	22
M. Anticipated Noncompliance	22
N. Compliance with Statutes and Rules.....	22
O. Severability	22
P. Bypass Prohibition.....	22
Q. Upset Conditions	22
R. Procedures for Modification or Revocation.....	23
S. Re-opener Clause	23
T. Retention of Records.....	23
U. Monitoring Methods	23
V. Additional Monitoring by the Permittee.....	23
W. Definitions.....	23

PART I: COVERAGE UNDER THIS GENERAL PERMIT

A. PERMIT COVERAGE

This permit covers the urbanized areas designated as a Phase II Municipal Separate Storm Sewer System (MS4) within the State of Alabama.

B. AUTHORIZED DISCHARGES

1. This permit authorizes discharges of storm water from small MS4s, as defined in 40 CFR Part 122.26(b)(16). An entity may discharge under the terms and conditions of this general permit if the entity:
 - a. Owns or operates a small MS4 within the permit area described in Section A;
 - b. Is not a "large" or "medium" MS4 as described in 40 CFR Part 122.26(b)(4) or (7);
 - c. Submits a Notice of Intent (NOI) in accordance with Part II of this General Permit; and
 - d. Either:
 - i. Is located fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census, or
 - ii. Is designated for permit authorization by the Department pursuant to 40 CFR Part 122.32(a)(2).
2. This permit authorizes the following non-storm water discharges provided that they do not cause or contribute to a violation of water quality standards and that they have been determined not to be substantial contributors of pollutants to a particular small MS4 applying for coverage under this permit and that is implementing the Storm Water Management Program (SWMP) set forth in this permit:
 - a. Water line flushing
 - b. Landscape irrigation
 - c. Diverted stream flows
 - d. Uncontaminated ground water infiltration
 - e. Uncontaminated pumped groundwater
 - f. Discharges from potable water sources
 - g. Foundation drains
 - h. Air conditioning condensate
 - i. Irrigation water (not consisting of treated, or untreated, wastewater)
 - j. Rising ground water
 - k. Springs
 - l. Water from crawl space pumps
 - m. Footing drains
 - n. Lawn watering runoff
 - o. Individual residential car washing, to include charitable carwashes
 - p. Residual street wash water
 - q. Discharge or flows from firefighting activities (including fire hydrant flushing)
 - r. Flows from riparian habitats and wetlands

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

C. PROHIBITED DISCHARGES

The following discharges are not authorized by this permit:

1. Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are:
 - a. In compliance with a separate NPDES permit; or
 - b. Determined by the Department not to be a significant contributor of pollutants to waters of the State;
2. Storm water discharges associated with industrial activity as defined in 40 CFR Part 122.26(b)(14)(i)-(ix) and (xi);
3. Storm water discharges associated with construction activity as defined in 40 CFR Part 122.26(b)(14)(x) or 40 CFR 122.26(b)(15) and subject to Alabama Department of Environmental Management (ADEM) Code r. 335-6-12;
4. Storm water discharges currently covered under another NPDES permit;
5. Discharges to territorial seas, contiguous zone, and the oceans unless such discharges are in compliance with the ocean discharge criteria of 40 CFR Part 125, Subpart M;
6. Discharges that would cause or contribute to instream exceedances of water quality standards; Your SWMPP must include a description of the Best Management Practices (BMPs) that you will be using to ensure that this will not occur. The Department may require corrective action or an application for an individual permit or alternative general permit if an MS4 is determined to cause an instream exceedance of water quality standards;
7. Discharges of any pollutant into any water for which a Total Maximum Daily Load (TMDL) has been approved or developed by EPA unless your discharge is consistent with the TMDL; This eligibility condition applies at the time you submit a NOI for coverage. If conditions change after you have permit coverage, you may remain covered by the permit provided you comply with the applicable requirements of Part V. You must incorporate any limitations, conditions and requirements applicable to your discharges, including monitoring frequency and reporting required, into your SWMPP in order to be eligible for permit coverage. For discharges not eligible for coverage under this permit, you must apply for and receive an individual or other applicable general NPDES permit prior to discharging;
8. This permit does not relieve entities that cause illicit discharges, including spills, of oils or hazardous substances, from responsibilities and liabilities under State and federal law and regulations pertaining to those discharges.
9. The discharge of sanitary wastewater through cross connections or other illicit discharges through the MS4 is prohibited.

D. OBTAINING AUTHORIZATION

1. To be authorized to discharge storm water from small MS4s, you must submit a Notice of Intent (NOI) and a description of your SWMP) in accordance with the deadlines presented in Part II of this permit.
2. You must submit the information required in Part II on the latest version of the NOI form. Your NOI must be signed and dated in accordance with Part VII of this permit.
3. No discharge under the general permit may commence until the discharger receives the Department's acknowledgement of the NOI and approval of the coverage of the discharge by the general permit. The Department may deny coverage under this permit and require submittal of an application for an individual NPDES permit based on a review of the NOI.
4. Where the operator changes, or where a new operator is added after submittal of an NOI under Part II, a new NOI must be submitted in accordance with Part II within thirty (30) days of the change or addition.

5. For areas extended within your MS4 by the latest census or annexed into your MS4 area after you received coverage under this general permit, the first annual report submitted after the annexation must include the updates to your SWMP, as appropriate.

E. IMPLEMENTATION

1. This permit requires implementation of the MS4 program under the State and federal NPDES Regulations. MS4s shall modify their programs if and when water quality considerations warrant greater attention or prescriptiveness in specific components of the municipal program.
2. If a small MS4 operator implements the minimum control measures in 40 CFR 122.34(b) and the discharges are determined to cause or contribute to non-attainment of an applicable water quality standard as evidenced by the State of Alabama's 303(d) list or an EPA-approved or developed TMDL, the operator must tailor its BMPs within the scope of the six minimum control measures to address the pollutants of concern and implement permit requirements outlined in Part IV.D. and Part V of this permit.
3. Existing MS4s, unless otherwise stated within this permit, shall implement each of the minimum control measures outlined in Part III.B. of this permit immediately upon the effective date of coverage. Newly designated MS4s, unless otherwise stated in this permit, shall implement the minimum control measures outlined in Part III.B. of this permit within 365 days of the effective date of coverage. However, for newly designated MS4s, where new or revised ordinances are required to implement any of the minimum control measures, such ordinances shall be enacted within 730 days from the effective date of coverage.

PART II: NOTICE OF INTENT (NOI) REQUIREMENTS

A. DEADLINES OF APPLICATIONS

1. If you are automatically designated under 40 CFR Part 122.32(a)(1) or designated by the Department, then to request recoverage, you are required to submit an NOI or an application for an individual permit and a description of your SWMP at least 90 days before the expiration of this permit.
2. If you are designated by the Department after the date of permit issuance, then you are required to submit an NOI or an application for an individual permit and a description of your SWMP within 180 days upon notification. Within six months of initial issuance, the operator of the regulated small MS4 shall submit a SWMPP to the Department for review. A SWMPP shall be submitted electronically as described in Part II.D of this permit.
3. You are not prohibited from submitting an NOI after the dates provided in Part II.A.1-2. If a NOI is submitted after the dates provided in Part II.A.1-2., your authorization is only for discharges that occur after permit coverage is granted. The Department reserves the right to take appropriate enforcement actions for any unpermitted discharges.
4. Within six months of the date of re-issuance of coverage under this permit, all operators of regulated small MS4s shall submit a revised SWMPP to the Department for review.

B. CONTINUATION OF THE EXPIRED GENERAL PERMIT

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the ADEM Code r. 335-6-6 and remain in force and effect if the Permittee re-applies for coverage as required under Part II of this permit. Any Permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:

1. Reissuance or replacement of this permit, at which time you must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or
2. Issuance of an individual permit for your discharges; or
3. A formal permit decision by the Department not to reissue this general permit, at which time you must seek coverage under an alternative general permit or an individual permit.

C. CONTENTS OF THE NOTICE OF INTENT (NOI)

The Notice of Intent must be signed in accordance with Part VII.G of this permit and must include the following information:

1. The correct fee pursuant to ADEM Admin. Code R.335-1, Fee Schedule D.
2. Information on the Permittee:
 - a. The name of the regulated entity, specifying the contact person and responsible official, mailing address, telephone number and email address; and
 - b. An indication of whether you are a federal, State, county, municipal or other public entity.
3. Information on the MS4:
 - a. The name of your organization, county, city, or town and the latitude/longitude of the center or the MS4 location;
 - b. The name of the major receiving water(s) and an indication of whether any of your receiving waters are included on the latest 303(d) list, included in an EPA-approved and/or EPA developed TMDL or otherwise designated by the Department as being impaired. If you have discharges to 303(d) or TMDL waters, a certification that your SWMPP complies with the requirements of Part V;

- c. If you are relying on another governmental entity, regulated under the storm water regulations (40 CFR Part 122.26 & 122.32) to satisfy one or more of your permit obligations (see Part III), the identity of that entity(ies) and the elements(s) they will be implementing. The Permittee remains responsible for compliance if the other entity fails to fully perform the permit obligation, and may be subject to enforcement action if neither the Permittee nor the other entity fully performs the permit obligation; and
 - d. Must include if you are relying on the Department for enforcement of erosion and sediment controls on qualifying construction sites in accordance with Part III.B.3.b.
4. Include a brief summary of the BMPs for the minimum control measures in Part III of this permit (i.e. a brief summary of the MS4's SWMPP), a timeframe for implementing new or additional BMPs, and the person or persons responsible for implementing or coordinating your SWMPP.

D. WHERE TO SUBMIT MS4 DOCUMENTS

The Permittee must complete and submit its NOI or individual application electronically, and a description of your SWMP as allowed under Part II.A., signed in accordance with the signatory requirements of Section VII of this permit, to the Department via the Alabama Environmental Permitting and Compliance System (AEPACS) unless the Permittee submits in writing valid justification as to why the electronic submittal cannot be utilized and the Department approves in writing the utilization of hard copy submittals. The AEPACS can be accessed at the following link: <https://adem.alabama.gov/AEPACS>. Permit requests for initial issuance and modifications of the existing permit shall all be submitted through the AEPACS.

Requests as to why AEPACS cannot be utilized shall be addressed to:

**Alabama Department of Environmental Management
Water Division
Storm Water Management Branch
Post Office Box 301463
Montgomery, Alabama 36130-1463**

PART III: STORM WATER POLLUTION PREVENTION AND MANAGEMENT PROGRAM

A. STORM WATER MANAGEMENT PROGRAM (SWMP)

1. The Permittee is required to develop, revise, implement, maintain and enforce a SWMP which shall include controls necessary to reduce the discharge of pollutants from its MS4 consistent with Section 402(p)(3)(B) of the Clean Water Act and 40 CFR Parts 122.30-122.37. These requirements shall be met by the development and implementation of a SWMPP which addresses the BMPs, control techniques and systems, design and engineering methods, public participation and education, monitoring, and other appropriate provisions designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP).
2. The Permittee shall provide and maintain adequate finance, staff, equipment, and support capabilities necessary to implement the SWMPP and comply with the requirements of this permit.
3. The SWMPP must address the minimum storm water control measures referenced in Part III.B. to include the following:
 - a. A map of the Permittee's MS4 urbanized areas;
 - b. The BMPs that will be implemented for each control measure. Low impact development/green infrastructure shall be considered and actively encouraged where feasible. Information on LID/Green Infrastructure is available on the following websites: <http://www.adem.alabama.gov/programs/water/waterforms/LIDHandbook.pdf> and <https://epa.gov/nps/urban-runoff-low-impact-development>;
 - c. The measureable goals for each of the minimum controls outlined in Part III.B.;
 - d. The proposed schedule—including interim milestones, as appropriate, inspections, and the frequency of actions needed to fully implement each minimum control; and
 - e. The person and/or persons responsible for implementing or coordination the BMPs for each separate minimum control measure.
4. Unless otherwise specified in this permit, the Permittee shall be in compliance with the conditions of this permit by the effective date of coverage.

B. MINIMUM STORM WATER CONTROL MEASURES

1. Public Education and Public Involvement on Storm Water Impacts

- a. The Permittee must develop and implement a public education and outreach program to inform the public about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff to the MEP. The Permittee shall continuously implement this program in the areas served by the MS4. The Permittee shall also comply, at a minimum, with applicable State and local public notice requirements when implementing a public involvement/participation program. Each year, the Permittee shall implement a minimum of four BMPs, with two BMP emphasizing public education and two BMP emphasizing public involvement.
- b. The Permittee shall include within the SWMPP the following information:
 - i. Annually, seek and consider public input in the development, revision, and implementation of the SWMPP, that may include, but is not limited to publishing in local newspaper, posting on the Permittee's website, etc.;
 - ii. Address in its public education program, the targeted pollutant sources to include, at a minimum the land development community (i.e., construction contractors/developers);
 - iii. Specifically address the reduction of litter, floatables and debris from entering the MS4, that may include, but is not limited to:

- (1) Establishing a program to support volunteer groups for labeling storm drain inlets and catch basins with "no dumping" message; post and
 - (2) Posting signs referencing local codes that prohibit littering and illegal dumping at selected designated public access points to open channels, creeks, and other relevant waterbodies;
- iv. Inform and involve individuals and households about the steps they can take to reduce storm water pollution;
- v. Plans to inform and involve individuals and groups on how to participate in the storm water program (with activities that may include, but not limited to, local stream and lake restoration activities, storm water stenciling, advisory councils, watershed associations, committees, participation on rate structures, stewardship programs and environmental related activities, outreach on LID/GI). The target audiences and subject areas for the education program that are likely to have significant storm water impacts should include, but is not limited to, the following:
 - (1) General Public
 - (a) General impacts litter has on water bodies, how trash is delivered to streams via the MS4 and ways to reduce the litter;
 - (b) General impacts of storm water flows into surface water from impervious surface; and
 - (c) Source control BMPs in areas of pet waste, vehicle maintenance, landscaping and rain water reuse.
 - (2) General Public, Businesses, Including Home-Based and Mobile Businesses
 - (a) BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials; and
 - (b) Impacts of illicit discharges and how to report them.
 - (3) Homeowners, Landscapers, and Property Managers
 - (a) Yard care techniques that protect water quality;
 - (b) BMPs for use and storage of pesticides and fertilizers;
 - (c) BMPs for carpet cleaning and auto repair and maintenance;
 - (d) Runoff reduction techniques, which may include but not limited to site design, pervious paving, retention of forests, mature trees, and maintenance required for LID/GI; and
 - (e) Storm water pond maintenance.
 - (4) Engineers, Contractors, Developers, Review Staff and Land Use Planners
 - (a) Technical standards for construction site sediment and erosion control;
 - (b) Storm water treatment and flow control BMPs;
 - (c) Impacts of increased storm water flows into receiving water bodies; and
 - (d) Run-off reduction techniques and low impact development (LID)/green infrastructure (GI) practices that may include, but not limited to, site design, pervious pavement, alternative parking lot design, retention of forests and mature trees to assist in storm water treatment and flow control BMPs, and maintenance required for LID/GI.
- vi. Evaluate the effectiveness of the public education and public involvement program. If the Permittee determines any portion of the program (including BMPs) to be ineffective, then the Permittee shall update the SWMPP to address the ineffectiveness.

- c. The Permittee shall report each year in the annual report the following information:
 - i. A description of the method used to seek and consider input from the public in the development, revision, and implementation of the SWMPP;
 - ii. A description of the activities used to involve groups and/or individuals in the development, revision, and implementation of the SWMPP;
 - iii. A description of the targeted pollutant sources the public education and public involvement program addressed;
 - iv. A description of the individuals and groups targeted and how many groups and/or individuals participated in the programs;
 - v. A description of the activities used to address the reduction of litter, floatables and debris from entering the MS4 as required in Part III.B.1.b.iii.;
 - vi. A description of the communication mechanism(s) or advertisement(s) used to inform individuals, households, public and/or groups as well as the quantity that were distributed (i.e. number of printed brochures, copies of newspapers, workshops, public service announcements, etc.); and
 - vii. Results of the evaluation of the public education and public involvement program as required in Part III.B.1.b.vi.
- d. The Permittee shall make their SWMPP and their annual reports required under this permit available to the public when requested. The current SWMPP and the latest annual report should be posted on the Permittee's website, if available, and within 30 days of submittal of the SWMPP to the Department.

2. Illicit Discharge Detection and Elimination (IDDE) Program

- a. The Permittee shall implement an ongoing program to detect and eliminate illicit discharges into the MS4, to the maximum extent practicable. The program shall include, at a minimum, the following:
 - i. An initial map shall be provided in the SWMPP with updates, if any, provided each year in the annual report. The map shall include, at a minimum:
 - (1) The latitude/longitude of all known outfalls;
 - (2) The names of all waters of the State that receive discharges from these outfalls; and,
 - (3) Structural BMPs owned, operated, or maintained by the Permittee, if applicable.
 - ii. To the extent allowable under State law, an ordinance or other regulatory mechanism that effectively prohibits non-storm water discharges to the MS4. The ordinance or other regulatory mechanism shall be reviewed annually and updated as necessary and shall:
 - (1) Include escalating enforcement procedures and actions; and
 - (2) Require the removal of illicit discharges and the immediate cessation of improper disposal practices upon identification of responsible parties. Where the removal of illicit discharge within ten (10) working days is not possible, the ordinance shall require an expeditious schedule for removal of the discharge. In the interim, the ordinance shall require the operator of the illicit discharge to take all reasonable and prudent measures to minimize the discharge of pollutants to the MS4.
 - iii. A dry weather screening program designed to detect and address non-storm water discharges to the MS4. This program must address, at a minimum, dry weather screening of fifteen percent (15%) of the outfalls once per year with all (100 percent) screened at least once per five years. Priority areas, as described by the Permittee in the SWMPP, will be dry weather screened on a more frequent schedule as outlined in the SWMPP. If any indication of a suspected illicit discharge, from an unidentified source, is observed during the dry weather screening, then the Permittee shall follow the screening protocol as outlined in the SWMPP.

- iv. Procedures for tracing the source of a suspect illicit discharge as outlined in the SWMPP. At a minimum, these procedures will be followed to investigate portions of the MS4 that, based on the results of the field screening or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.
 - v. Procedures for eliminating an illicit discharge as outlined in the SWMPP;
 - vi. Procedures to notify ADEM of a suspect illicit discharge entering the Permittee's MS4 from an adjacent MS4 as outlined in the SWMPP;
 - vii. A mechanism for the public to report illicit discharges discovered within the Permittee's MS4 and procedures for appropriate investigation of such reports;
 - viii. A training program for appropriate personnel to be trained on identification, reporting, and corrective action of illicit discharges, at a minimum of at least once per five years;
 - ix. Address the following categories of non-storm discharges or flows (i.e., illicit discharges) only if the Permittee or the Department identifies them as significant contributors of pollutants to your small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (infiltration is 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), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering run-off, individual residential car washing, flows from riparian habitats and wetlands, discharge or flows from firefighting activities (to include fire hydrant flushing); dechlorinated swimming pool discharges, and residual street wash water, discharge authorized by and in compliance with a separate NPDES permit; and
 - x. The Permittee may also develop a list of other similar occasional incidental non- storm water discharges (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non- storm water discharges must not be reasonably expected (based on information available to the Permittees) to be significant sources of pollutants to the municipal separate storm sewer system, because of either the nature of the discharges or conditions you have established for allowing these discharges to your MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to impaired waterbodies, BMPs on the wash water, etc.). You must document in your SWMPP any local controls or conditions placed on the discharges. The Permittee must include a provision prohibiting any individual non- storm water discharge that is determined to be contributing significant amounts of pollutants to your MS4.
- b. The Permittee shall report each year in the annual report the following information:
- i. List of outfalls observed in the annual reporting year to demonstrate that 100% of outfalls are screened at least once per five years during the dry weather screening;
 - ii. Updated MS4 map(s) as required by Part III.B.2.a.i. unless there are no changes to the map that was previously submitted. When there are no changes to the map, the annual report must state this;
 - iii. Copies of, or a link to, the IDDE ordinance or other regulatory mechanism as required by Part III.B.2.a.ii. When there are no changes to the ordinance or other regulatory mechanism, the annual report should state this;
 - iv. Date(s) of training conducted for appropriate personnel; and
 - v. The number of illicit discharges investigated, the screening results, and the summary of corrective actions taken to include dates and timeframe of response.

3. Construction Site Storm Water Runoff Control

- a. The Permittee must develop/revise, implement and enforce an ongoing program to reduce, to the maximum extent practicable, the pollutants in any storm water runoff to the MS4 from qualifying construction sites. The program shall include the following at a minimum:
 - i. 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;
 - ii. To the extent allowable under State law, an ordinance or other regulatory mechanism to require erosion and sediment controls, sanctions to ensure compliance, and to provide all other authorities needed to implement the requirements of Part III.B.3 of this permit. The ordinance or other regulatory mechanism shall be reviewed annually and updated as necessary;
 - iii. A training program for MS4 site inspection staff in the identification of appropriate construction BMPs (example: QCI training in accordance with ADEM Admin Code. R. 335-6-12 or the Alabama Construction Site General Permit). Applicable MS4 site inspection staff shall be trained at least once per year;
 - iv. Within 365 days of the effective date of the permit, develop and implement a construction site inspection form to include at least the items listed in Parts III.B.3.d.i.
 - v. Within 365 days of the effective date of the permit, maintain an inventory of qualifying construction sites containing relevant contact information for each construction site (i.e., tracking number and construction site contact name, address, phone number, etc.), the size of the construction site, whether the construction site has submitted for permit coverage under ADEM's Construction General Permit ALR100000, and the date the MS4 Permittee approved the site construction plan. The MS4 Permittee must make the inventory available upon the Department's request.
 - vi. Procedures for the inspection of qualifying construction sites to verify the use of appropriate erosion and sediment control practices that are consistent with the Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas published by the Alabama Soil and Water Conservation Committee (hereinafter the "Alabama Handbook"). The frequency and prioritization of inspection activities shall be documented in the SWMPP. Inspection of construction sites to verify use and proper maintenance of appropriate BMPs shall be performed in accordance with the frequency specified in the table below:

Site	Inspection Frequency
Priority Construction Sites (defined in Part VII.W.)	At a minimum, inspections must occur monthly.
Other sites determined by the Permittee or Permitting Authority to be a significant threat to water quality.*	
All qualifying construction sites not meeting the criteria specified above.	At a minimum, inspections must occur every three months.

*In evaluating the threat to water quality, the following factors must be considered, if applicable:

- Soil erosion potential;
- Site slope;
- Project size and type;
- Sensitivity of receiving waterbodies including 303d or TMDL status;
- Proximity to receiving waterbodies;
- Non-storm water discharges;
- Past record of non-compliance by the operators of the construction site; and
- Other factors deemed relevant to the MS4.

- vii. For sites determined to have ineffective BMPs, a follow-up inspection shall be conducted and appropriately documented as outlined in Part III.B.3.d.i.
 - viii. 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 notification must provide, at a minimum, the specific location of the construction project, the name and contact information from the owner or operator, and a summary of the site deficiencies; and
 - ix. A mechanism for the public to report complaints regarding discharges from qualifying construction sites.
- b. ADEM implements a State-wide NPDES construction storm water regulatory program. As provided by 40 CFR Part 122.35(b), the Permittee may rely on ADEM for the setting of standards for appropriate erosion controls and sediment controls for qualifying construction sites and for enforcement of such controls, and must document this in its SWMPP. If the Permittee elects not to rely on ADEM's program, then the Permittee must include the following, at a minimum, in its SWMPP:
- i. Requirements for construction site operators to implement appropriate erosion and sediment control BMPs consistent with the Alabama Handbook for Erosion Control, Sediment Control, And Stormwater Management on Construction Sites and Urban Areas published by the Alabama Soil and Water Conservation Committee (hereinafter the "Alabama Handbook");
 - ii. Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
 - iii. Development and implementation of an enforcement strategy that includes escalating enforcement remedies to respond to issues of non-compliance;
 - iv. An enforcement tracking system designed to record instances of non-compliance and the MS4's responding actions. The enforcement case documentation should include:
 - (1) Name of owner/operator
 - (2) Location of construction project or industrial facility
 - (3) Description of violations
 - (4) Required schedule for returning to compliance
 - (5) Description of enforcement response used, including escalated responses if repeat violation occur or violations are not resolved in a timely manner;
 - (6) Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violation, etc.);
 - (7) Any referrals to different departments or agencies; and
 - (8) Date violation was resolved
 - v. The Permittee must keep records of all inspections (i.e. inspection reports) and employee training required by Part III.B.3.a.
- c. The Permittee shall include within the SWMPP the following information:
- i. Procedures for site plan reviews as required by Part III.B.3.a.i;
 - ii. A copy or link of the ordinance or other regulatory mechanism required by Part III.B.3.a.ii.;
 - iii. Plans for the training of MS4 site inspection staff as required by Part III.B.3.a.iii; and
 - iv. A copy of the construction site inspection form meeting the requirements of Part III.B.3.a.iv.

- d. The Permittee shall maintain the following information and make it available upon request:
 - i. Documentation of all inspections conducted of qualifying construction sites as required by Part III.B.3.a.vi. The inspection documentation shall include, at a minimum, the following:
 - (1) Facility type;
 - (2) Inspection date;
 - (3) Name and signature of inspector;
 - (4) Location of construction project;
 - (5) Owner/operator information (name, address, phone number, email);
 - (6) Description of the storm water BMP condition that may include, but not limited to, the quality of vegetation and soils, inlet and outlet channels and structures, embankments, slopes and safety benches, spillways, weirs, and other control structures; and sediment and debris accumulation in storage and forebay areas as well as in and around inlet and outlet structures; and
 - (7) Photographic documentation of any issues and/or concerns.
 - ii. Documentation of referrals of noncompliant construction sites and/or enforcement actions taken at construction sites to include, at a minimum, the following:
 - (1) Name of owner/operator
 - (2) Location of construction project;
 - (3) Description of violation;
 - (4) Required schedule for returning to compliance;
 - (5) Description of enforcement response used, including escalated responses if repeat violations occur; and
 - (6) Accompanying documentation of enforcement responses (e.g. notices of non-compliance, notices of violations, etc.).
 - iii. Records of public complaints including:
 - (1) Date, time and description of the complaint;
 - (2) Location of subject construction sites; and
 - (3) Identification of any actions taken (e.g. inspections, enforcement, corrections). Identifying information must be sufficient to cross-reference inspection and enforcement records.
- e. The Permittee shall report each year in the annual report the following information:
 - i. A description of any completed or planned revisions to the ordinance or regulatory mechanism required by Part III.B.3.a.ii. and the most recent copy, or a link to the ordinance; and
 - ii. List of all active construction sites within the MS4 to include the following summary:
 - (1) Number of construction site inspections;
 - (2) Number of non-compliant construction site referrals and/or enforcement actions and description of violations;
 - (3) Number of construction site runoff complaints received; and
 - (4) Number of MS4 staff/inspectors trained. Include copies of certifications or attendance records for those MS4 staff/inspectors.

4. Post-Construction Storm Water Management in New Development and Redevelopment

- a. Post-construction storm water management refers to the activities that take place after construction occurs, and includes structural and non-structural controls including low-impact development and green infrastructure practices to obtain permanent storm water management over the life of the property's use. These post construction controls should be considered during the initial site development planning phase.
- i. The Permittee must develop/revise, implement, and enforce a program to address storm water runoff from qualifying new development and redevelopment projects, to the maximum extent practicable. This program shall ensure that controls are in place to prevent or minimize water quality impacts. Specifically, the Permittee shall:
 - (1) 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; and
 - (2) 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 noncompliant projects into compliance.
- ii. The Permittee must develop and implement strategies which may include a combination of structural and/or non-structural BMPs designed to ensure, to the maximum extent practicable, that the post construction runoff mimics pre-construction hydrology. A design rainfall event with an intensity up to that of a 2yr-24hr storm event shall be the basis for the design and implementation of post- construction BMPs.
- iii. Encourage and educate landowners and developers to incorporate the use of low impact development (LID)/green infrastructure where feasible. Information on low impact development (LID)/green infrastructure is available on the following websites: <http://www.adem.alabama.gov/programs/water/waterforms/LIDHandbook.pdf>; <http://epa.gov/nps/lid>. The Permittee shall include a narrative description in the SWMPP as to the means that will be taken to implement the requirement to encourage landowners and developers to incorporate the use of low impact development (LID)/green infrastructure;
- iv. 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 ordinance or other regulatory mechanism shall be reviewed annually and updated as necessary;
- v. The Permittee must require adequate long-term operation and maintenance of BMPs. One or more of the following as applicable:
 - (1) The developer's signed statement accepting responsibility for maintenance until the maintenance responsibility is legally transferred to another party; and/or
 - (2) Written conditions in the sales or lease agreement that require the recipient to assume responsibility for maintenance; and/or
 - (3) Written conditions in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to a home owner's association, or other appropriate group, for maintenance of structural and treatment control management practices; and/or
 - (4) Any other legally enforceable agreement that assigns permanent responsibility for maintenance of structural or treatment control management practices.
- vi. The Permittee shall perform or require the performance of post-construction inspections, at a minimum of once per year, to confirm that post-construction BMP's are functioning as designed. The Permittee shall include an inspection schedule, to include inspection frequency, within the SWMPP. The Permittee shall document or require documentation of the post-construction inspection. Such documentation shall include, at a minimum:

- (1) Facility type
 - (2) Inspection date
 - (3) Name and signature of inspector
 - (4) Site location
 - (5) Owner information (name, address, phone number, fax, and email)
 - (6) Description of the storm water BMP condition that may include the quality of: vegetation and soils, inlet and outlet channels and structures, embankments, slopes, and safety benches; spillways, weirs, and other control structures; and sediment and debris accumulation in storage and forebay areas as well as in and around inlet and outlet structures;
 - (7) Photographic documentation of all critical storm water BMP components;
 - (8) Specific maintenance items or violations that need to be corrected by the owner/operator of the storm water control or BMP; and
 - (9) Maintenance agreements for long-term BMP operation and maintenance.
- vii. The Permittee shall maintain or require the developer/owner/operator to keep records of post-construction inspections, maintenance activities and make them available to the Department upon request and require corrective actions to poorly functioning or inadequately maintained post-construction BMP's.
- b. The Permittee shall report each year in the annual report the following information:
- i. Copies of, or link to, the ordinance or other regulatory mechanism required by Part III.B.4.a.iv.;
 - ii. A list of the post-construction structural controls installed and inspected during the permit year. The list shall include which post-construction structural controls installed are considered low impact development (LID)/green infrastructure, if applicable;
 - iii. Updated inventory of post-construction structural controls including those owned by the Permittee;
 - iv. Number of inspections performed on post-construction structural controls; and,
 - v. Summary of enforcement actions, if applicable.

5. Pollution Prevention/Good Housekeeping for Municipal Operations

- a. The Permittee shall develop, implement, and maintain a program that will prevent or reduce the discharge of pollutants in storm water run-off from municipal operations to the maximum extent practicable. The program elements shall include, at a minimum, the following:
- i. An inventory (to include name and location) of all municipal facilities. Evaluate and determine which municipal facilities have the potential to discharge pollutants via storm water runoff;
 - ii. Strategies for the implementation of BMPs to reduce litter, floatables and debris from entering the MS4 and evaluate those BMPs annually to determine their effectiveness. If a BMP is determined to be ineffective or infeasible, then an alternate BMP must be implemented. The Permittee shall also develop a plan to remove litter, floatable and debris material from the MS4, including proper disposal of waste removed from the system;
 - iii. Standard Operating Procedures (SOPs) detailing good housekeeping practices to be employed at municipal facilities (that have the potential to discharge pollutants via stormwater runoff) and during municipal operations that may include, but not limited to, the following:
 - (1) Equipment washing;
 - (2) Street sweeping;

- (3) Maintenance of municipal roads including public streets, roads, and highways, including but not limited to unpaved roads, owned, operated, or under the responsibility of the Permittee;
 - (4) Storage, use, and disposal of chemicals, Pesticide, Herbicide and Fertilizers (PHFs) and waste materials;
 - (5) Vegetation control, cutting, removal, and disposal of the cuttings;
 - (6) Vehicle fleets/equipment maintenance and repair;
 - (7) External Building maintenance; and
 - (8) Materials storage facilities and storage yards.
- iv. A program for inspecting municipal facilities for good housekeeping practices, including BMPs. The program shall include checklists and procedures for correcting noted deficiencies;
- v. A training program for municipal facility staff in good housekeeping practices as outlined in the SOP developed pursuant to Part III.B.5.a.iii; and
- b. The Permittee shall include within the SWMPP the following information:
 - i. The inventory of municipal facilities required by Part III.B.5.a.i;
 - ii. Evaluate and include a discussion of how effectiveness is measured for Part III.B.5.a.ii;
 - iii. Schedule for developing the SOP of good housekeeping practices required by Part III.B.5.a.iii;
 - iv. An inspection plan and schedule to include inspection frequency, checklists, and any other materials needed to comply with Part III.B.5.a.iv; and
 - v. A description of the training program and training schedule to include training frequency required by Part III.B.5.a.v.
- c. The Permittee shall report each year in the annual report the following information:
 - i. Any updates to the municipal facility inventory;
 - ii. An estimated amount of floatable material collected from the MS4 as required by Part III.B.5.a.ii;
 - iii. Any updates to the inspection plan
 - iv. The number of inspections conducted; and
 - v. Any updates to the SOP of good housekeeping practices.
- d. The Permittee shall maintain the following information and make it available upon request:
 - i. Records of inspections and corrective actions, if any; and
 - ii. Training records including the dates of each training activities and names of personnel in attendance.

PART IV: SPECIAL CONDITIONS

A. RESPONSIBILITIES OF THE PERMITTEE

1. 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 non-compliance if the entity fails to implement the permit requirements.
2. If the Permittee is relying on the Department for the enforcement of erosion and sediment controls on qualifying construction sites and has included that information in the SWMPP as required by Part III.B.3.b., the Permittee is not responsible for implementing the requirements of Part III.B.3.b of this permit as long as the Department receives notification of non-compliant qualifying constructions sites from the Permittee as required by Part III.B.3.a.viii.

B. SWMPP PLAN REVIEW AND MODIFICATION

1. The Permittee shall submit a SWMPP and/or revised SWMPP to the Department as required by Part II.A of the permit. The Permittee shall implement plans to seek and consider public input in the development, revision and implementation of this SWMPP, as required by Part III.B.1.b.i. Thereafter, the Permittee shall perform an annual review of the current SWMPP and must revise the SWMPP, as necessary, to maintain compliance with the permit. Any revisions to the SWMPP shall be submitted to the Department at the time a revision is made for the Department review and the Permittee's website shall be updated with the revised version of the SWMPP. Revisions made to the SWMPP may include, but are not limited to, the replacement of ineffective or infeasible BMPs or the addition of components, controls and requirements; and
2. The Permittee shall implement the SWMPP on all new areas added to their municipal separate storm sewer system (or for which they become responsible for implementation of storm water quality controls) as soon as practicable, but not later than one (1) year from addition of the new areas. Implementation of the program in any new area shall consider the plans of the SWMPP of the previous MS4 ownership, if any.

C. DISCHARGE COMPLIANCE WITH WATER QUALITY STANDARDS

This general permit requires, at a minimum, that the Permittee develop, implement and enforce a Storm Water Management Program designed to reduce the discharge of pollutants to the maximum extent practicable. Full implementation of BMPs, using all known, available, and reasonable methods of prevention, control and treatment to prevent and control storm water pollution from entering waters of the State of Alabama is considered an acceptable effort to reduce pollutants from the municipal storm drain system to be the maximum extent practicable.

D. IMPAIRED WATERS AND TOTAL MAXIMUM DAILY LOADS (TMDLs)

1. The Permittee must determine whether the discharge from any part of the MS4 contributes directly or indirectly to a waterbody that is included on the latest §303(d) list or designated by the Department as impaired;
2. If the Permittee's MS4 discharges to a waterbody included on the latest §303(d) or designated by the Department as impaired, it must demonstrate the discharges, as controlled by the Permittee, do not cause or contribute to the impairment. The SWMPP must detail the BMPs that are being utilized to control discharges of pollutants associated with the impairment. If existing BMPs are not sufficient to achieve this demonstration, the Permittee must, within six (6) months following the publication of the latest final §303(d) list, Department designation, or the effective date of this permit, submit a revised SWMPP detailing new or modified BMPs. The SWMPP must be revised as directed by the Department and the new or modified BMPs must be implemented within one year from the publication of the latest final §303(d) list or Department designation.
3. Permittees discharging from MS4s into waters with EPA-Approved TMDLs and/or EPA-Established TMDLs
 - a. The Permittee must determine whether its MS4 discharges to a waterbody for which a TMDL has been established or approved by EPA. If an MS4 discharges into a water body with an EPA approved or established TMDL, then the SWMPP must include BMPs targeted to meet the assumptions and

requirements of the TMDL. If additional BMPs will be necessary to meet the requirements of the TMDL, the SWMPP must include a schedule for installation and/or implementation of such BMPs. A monitoring component to assess the effectiveness of the BMPs in achieving the TMDL requirements must also be included in the SWMPP. Monitoring can entail a number of activities including, but not limited to: outfall monitoring, in-stream monitoring, and/or modeling. Monitoring data, along with an analysis of this data, shall be included in the Annual Report.

- b. If, during this permit cycle, a TMDL is approved by EPA or a TMDL is established by EPA for any waterbody into which an MS4 discharges, the Permittee must review the applicable TMDL to see if it includes requirements for control of storm water discharges from the MS4.
- i. If it is found that the Permittee must implement specific allocations of the TMDL, it must assess whether the assumptions and requirements of the TMDL are being met through implementation of existing BMPs or if additional BMPs are necessary. The SWMPP must include BMPs targeted to meet the assumptions and requirements of the TMDL. If existing BMPs are not sufficient, the Permittee must, within six (6) months following the approval or establishment of the TMDL by EPA, submit a revised SWMPP detailing new or modified BMPs to be utilized along with a schedule of installation and/or implementation of such BMPs. Any new or modified BMPs must be implemented within one year, unless an alternate date is approved by the Department, from the establishment or approval of the TMDL by EPA. A monitoring component to assess the effectiveness of the BMPs in achieving the TMDL requirements must also be included in the SWMPP. Monitoring can entail a number of activities including, but not limited to: outfall monitoring, in-stream monitoring, and/or modeling. Monitoring data, along with an analysis of this data, shall be included in the Annual Report.

E. REQUIRING AN INDIVIDUAL PERMIT

The Department may require any person authorized by this permit to apply for and/or obtain an individual NPDES permit. When the Department requires application for an individual NPDES permit, the Department will notify the Permittee in writing that a permit application is required. This notification shall include a brief statement of the reasons for this decision, an application form and a statement setting a deadline for the Permittee to file the application.

PART V: MONITORING AND REPORTING

A. MONITORING REQUIREMENTS

1. If there are no 303(d) listed or TMDL waters located within the Permittee's MS4 area, no monitoring shall be required. The SWMPP shall include a determination stating if monitoring is required.
2. If a waterbody within the MS4 jurisdiction is listed on the latest final §303(d) list, or otherwise designated impaired by the Department, or for which a TMDL is approved or established by EPA, during this permit cycle, then the Permittee must implement a monitoring program, within 6 months, to include monitoring that addresses the impairment or TMDL. A monitoring plan shall be included with the SWMPP and any revisions to the monitoring program shall be documented in the SWMPP and Annual Report.
3. Proposed monitoring locations, and monitoring frequency shall be described in the monitoring plan with actual locations described in the annual report;
4. The Permittee must include in the monitoring program any parameters attributed with the latest final §303(d) list or otherwise designated by the Department as impaired or are included in an EPA-approved or EPA-established TMDL.
5. Analysis and collection of samples shall be done in accordance with the methods specified at 40 CFR Part 136. Where an approved 40 CFR Part 136 does not exist, then a Department approved alternative method may be used.
6. If the Permittee is unable to collect samples due to adverse conditions, the Permittee must submit a description of why samples could not be collected, including available documentation of the event. An adverse climatic condition which may prohibit the collection of samples includes weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

B. REPORTING OF MONITORING RESULTS

Monitoring results must be reported with the subsequent Annual Report and shall include the following monitoring information:

1. The date, latitude/longitude of location, and time of sampling;
2. The name(s) of the individual(s) who performed the sampling;
3. The date(s) analysis were performed;
4. The name(s) of individuals who performed the analysis;
5. The analytical techniques or methods used; and
6. The results of such analysis.

PART VI: ANNUAL REPORTING REQUIREMENTS

A. ANNUAL REPORT SUBMITTAL

1. The Permittee shall submit to the Department an annual report and all other information and documents via the AEPACS system no later than May 31st of each year. The AEPACS system can be accessed at the following link: <https://adem.alabama.gov/AEPACS>. The annual report shall cover the previous April 1 to March 31. If an entity comes under coverage for the first time after the issuance of this permit, then the first annual report should cover the time coverage begins until March 31st of subsequent year.
2. The Permittee shall sign and certify the annual report in accordance with Part VII.G. If the Responsible Official has designated a duly authorized representative in accordance with Part VII.G. to sign the annual report, then include a copy of the written designation with the annual report.

B. ANNUAL REPORT CONTENTS

The annual report shall include the following information, at a minimum, and in addition to those requirements referenced in Part III-V:

1. A list of contacts and responsible parties (e.g.: agency, name, phone number, address, & email address) who had input to and are responsible for the preparation of the annual report;
2. Overall evaluation of the SWMP developments and progress for the following:
 - a. Major accomplishments;
 - b. Overall program strengths/weaknesses;
 - c. Future direction of the program;
 - d. Overall determination of the effectiveness of the SWMPP taking into account water quality/watershed improvements;
 - e. Measureable goals that were not performed and reasons why the goals were not accomplished; and
 - f. If monitoring is required, evaluation of the monitoring data.
3. Narrative report of all minimum storm water control measures referenced in Part III.B of this permit. The activities shall be discussed as follows:
 - a. Minimum control measures completed and in progress;
 - b. Assessment of the controls; and
 - c. Discussion of proposed BMP revisions or any identified measureable goals that apply to the minimum storm water control measures.
4. Summary table of the storm water controls that are planned/scheduled for the next reporting cycle;
5. Results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.
6. Notice of reliance on another entity to satisfy some of your permit obligations;
7. Results of the evaluation to determine whether discharges from any part of the MS4 contributes directly or indirectly to a waterbody that is included on the latest §303(d) list (or designated by the Department as impaired) or for which a TMDL has been established or approved by EPA; and
8. If monitoring is required, all monitoring results collected during the previous year in accordance with Part V, if applicable. The monitoring results shall be submitted in a format acceptable to the Department.

PART VII: STANDARD AND GENERAL PERMIT CONDITIONS

A. DUTY TO COMPLY

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of CWA and is ground for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

B. CONTINUATION OF THE EXPIRED GENERAL PERMIT

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the ADEM Code r. 335-6-6 and remain in force and effect if the Permittee re-applies for coverage as required under Part II of this Permit. Any Permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:

1. Reissuance or replacement of this permit, at which time you must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or
2. Issuance of an individual permit for your discharges; or
3. A formal permit decision by the Department not to reissue this general permit, at which time you must seek coverage under an alternative general permit or an individual permit.

C. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense for you in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. DUTY TO MITIGATE

You must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. DUTY TO PROVIDE INFORMATION

The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, suspending, or terminating the permit or to determine compliance with the permit. The Permittee shall also furnish to the Director upon request, copies of records required to be kept by the permit.

F. OTHER INFORMATION

If you become aware that you have failed to submit any relevant facts in your Notice of Intent or submitted incorrect information in the Notice of Intent or in any other report to the Department, you must promptly submit such facts or information.

G. SIGNATORY REQUIREMENTS

All Notices of Intent, reports, certifications, or information submitted to the Department, or that this permit requires be maintained by you shall be signed and certified as follows:

1. Notice of Intent.

All Notices of Intent shall be signed by a responsible official as set forth in ADEM Admin. Code r. 335-6-6-.09.

2. Reports and other information.

All reports required by the permit and other information requested by the Department or authorized representative of the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. Signed authorization. The authorization is made in writing by a person described above and submitted to the Department.
- b. Authorization with specified responsibility. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility for environmental matters for the regulated entity.

3. Changes to authorization.

If an authorization is no longer accurate because a different operator has the responsibility for the overall operation of the MS4, a new authorization satisfying the requirement of Part VII.G.2.b. above must be submitted to the Department prior to or together with any reports or information, and to be signed by an authorized representative.

4. Certification.

Any person signing documents under Part VII.G.1-2. above shall make the following 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 gathered and evaluated 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 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."

H. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, nor it does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of federal, State or local laws or regulations.

I. PROPER OPERATION AND MAINTENANCE

You must at all time properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by you to achieve compliance with the conditions of this permit and with the conditions of your SWMPP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by you only when the operation is necessary to achieve compliance with the conditions of the permit.

J. INSPECTION AND ENTRY

You must allow the Department or an authorized representative upon the presentation of credentials and other documents as may be required by law, to do any of the following:

1. Enter your premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment) practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

K. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause. Your filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

L. PERMIT TRANSFERS

This permit is not transferable to any person except after notice to the Department. The Department may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Act.

M. ANTICIPATED NONCOMPLIANCE

You must give advance notice to the Department of any planned changes in the permitted small MS4 or activity which may result in noncompliance with this permit.

N. COMPLIANCE WITH STATUTES AND RULES

1. The permit is issued under ADEM Admin. Code r. 335-6-6. All provisions of this chapter that are applicable to this permit are hereby made a part of this permit.
2. This permit does not authorize the noncompliance with or violation of any laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws.

O. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall be affected thereby.

P. BYPASS PROHIBITION

Bypass (see 40 CFR 122.41(m)) is prohibited and enforcement action may be taken against a regulated entity for a bypass; unless:

1. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during the normal periods of equipment downtime. This condition is not satisfied if the regulated entity should, in the exercise of reasonable engineering judgment, have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
3. The Permittee submits a written request for authorization to bypass to the Director at least ten (10) days prior to the anticipated bypass (if possible), the Permittee is granted such authorization, and the Permittee complies with any conditions imposed by the Director to minimize any adverse impact on human health or the environment resulting from the bypass.

The Permittee has the burden of establishing that each of the conditions of Part VII.P. have been met to qualify for an exception to the general prohibition against bypassing and an exemption, where applicable, from the discharge specified in this permit.

Q. UPSET CONDITIONS

An upset (see 40 CFR 122.41(n)) constitutes an affirmative defense to an action brought for noncompliance with technology-based permit limitations if a regulated entity shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

1. An upset occurred and the Permittee can identify the specific cause(s) of the upset;
2. The Permittee's facility was being properly operated at the time of the upset; and

3. The Permittee promptly took all reasonable steps to minimize any adverse impact on human health or the environment resulting from the upset.

The Permittee has the burden of establishing that each of the conditions of Part VII.Q. of this permit have been met to qualify for an exemption from the discharge specified in this permit.

R. PROCEDURES FOR MODIFICATION OR REVOCATION

Permit modification or revocation will be conducted according to ADEM Admin. Code r. 335-6-6-.17.

S. RE-OPENER CLAUSE

If there is evidence indicating potential or realized impacts on water quality due to storm water discharge covered by this permit, the regulated entity may be required to obtain an individual permit or an alternative general permit or the permit may be modified to include different limitations and/or requirements.

T. RETENTION OF RECORDS

1. The Permittee shall retain the storm water quality management program developed in accordance with Part III-V of this permit until at least five years after coverage under this permit terminates.
2. The Permittee shall retain records of all monitoring information including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of reports required by this permit, and records of all data used to complete the application of this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended at the request of the Director at any time.

U. MONITORING METHODS

1. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

V. ADDITIONAL MONITORING BY THE PERMITTEE

If the Permittee monitors more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the monitoring report. Such increased monitoring frequency shall also be indicated on the monitoring report.

W. DEFINITIONS

1. Alabama Handbook means the latest edition of the Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas, Alabama Soil and Water Conservation Committee (ASWCC) published at the time permit is effective.
2. AWPCA means Code of Alabama 1975, Title 22, the Alabama Water Pollution Control Act, as amended.
3. Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
4. Control Measure as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the State.
5. CWA or The Act means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et. seq.

6. Department means the Alabama Department of Environmental Management or an authorized representative.
7. Discharge, when used without a qualifier, refers to “discharge of a pollutant” as defined as ADEM Admin. Code r. 335-6-6-.02(m).
8. Green Infrastructure refers to systems and practices that use or mimic natural processes to infiltrate, evapotranspire (the return of water to the atmosphere either through evaporation or by plants), or reuse storm water or runoff on the site where it is generated.
9. Hydrology refers to the physical characteristics of storm water discharge, including the magnitude, duration, frequency, and timing of discharge.
10. Illicit Connection means any man-made conveyance connecting an illicit discharge directly to municipal separate storm sewer.
11. Illicit Discharge is defined at 40 CFR Part 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.
12. Indian Country, as defined in 18 USC 1151, means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.
13. Infiltration means 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.
14. Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.
15. Large municipal separate storm sewer system means all municipal separate storm sewers that are either:
 - a. Located in an incorporated place (city) with a population of 250,000 or more as determined by the latest decennial census; or
 - b. Located in counties (these counties are listed in Appendix H of 40 CFR Part 122, except municipal storm sewers that are located in the incorporated places, townships or towns within such counties; or
 - c. Owned or operated by a municipality other than those described in Part VII.W.15.a. or b. and that are designated by the Director as part of the large or medium municipal separate storm sewer system; or
 - d. The Director may designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in Part VII.W.15.a., b. or c.).
16. Low Impact Development (LID) is an approach to land development (or re-development) that works with nature to manage storm water as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat storm water as a resource rather than a waste product.
17. Medium municipal separate storm sewer system means all municipal separate storm sewers that are either:
 - a. Located in an incorporated place (city) with a population of 100,000 or more but less than 250,000 as determined by the latest decennial census; or

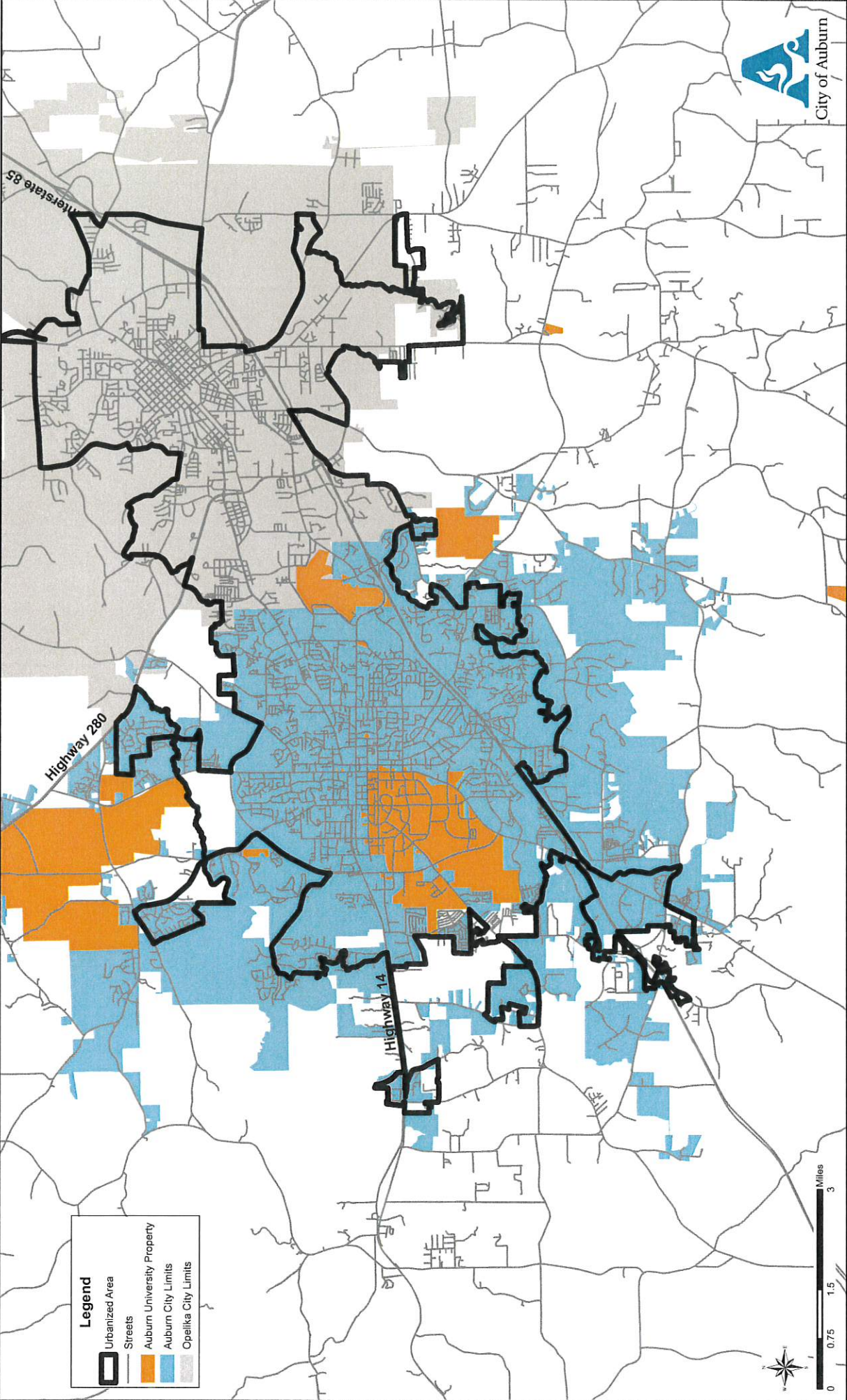
- b. Located in counties (these counties are listed in Appendix I of 40 CFR Part 122, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or
 - c. Owned or operated by a municipality other than those described in Parts VII.W.17.a. and b. and that are designated by the Director as part of the large or medium municipal separate storm sewer system; or
 - d. The Director may designate as a medium municipal separate storm sewer system, municipal storm sewers located within the boundaries of a region defined by a stormwater management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems as described in Parts VII.W.17.a., b. or c.
18. MEP is an acronym for “Maximum Extent Practicable,” the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by CWA Section 402(p). A discussion of MEP as it applies to small MS4s is found at 40 CFR Part 122.34.
19. MS4 is an acronym for “Municipal Separate Storm Sewer System” and is used to refer to either a large, medium, or small municipal separate storm sewer system. The term is used to refer to either the system operated by a single entity or a group of systems within an area that are operated by multiple entities.
20. Municipal Separate Storm System is defined at 40 CFR Part 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined in ADEM Admin. Code r. 335-6-6-.02(nn).
21. NOI is an acronym for “Notice of Intent” to be covered by this permit and is the mechanism used to “register” for coverage under a general permit.
22. Permittee means each individual co-applicant for an NPDES permit who is only responsible for permit conditions relating to the discharge that they own or operate.
23. Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.
24. Priority construction site means any qualifying construction site in an area where the MS4 discharges to a waterbody which is listed on the most recently approved 303(d) list of impaired waters for turbidity, siltation, or sedimentation, any waterbody for which a TMDL has been finalized or approved by EPA for turbidity, siltation, or sedimentation, and any waterbody assigned specific water quality criteria, such as Outstanding Alabama Water use classification, in accordance with ADEM Admin. Code r. 335-6-10-.09 and any waterbody assigned a special designation in accordance with ADEM Admin. Code r. 335-6-10-.10.
25. Qualifying Construction Site means any construction activity that results in a total land disturbance of one or more acres and activities that disturb less than one acre but are part of a larger common plan of development or sale that would disturb one or more acres. Qualifying construction sites do not include land disturbance conducted by entities under the jurisdiction and supervision of the Alabama Public Service Commission.
26. Qualifying New Development and Redevelopment means any site that results from the disturbance of one acre or more of land or the disturbance of less than one acre of land if part of a larger common plan of development or sale that is greater than one acre. Qualifying new development and redevelopment does

not include land disturbances conducted by entities under the jurisdiction and supervision of the Alabama Public Service Commission.

27. Small municipal separate storm sewer system is defined at 40 CFR Part 122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to water of the United States, but is not defined as "large" or "medium" municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.
28. Storm water is defined at 40 CFR Part 122.26(b) (13) and means storm water runoff, snow melt runoff, and surface runoff and drainage.
29. Storm Water Management Program (SWMP) refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system.
30. SWMP is an acronym for "Storm Water Management Program."
31. Total Maximum Daily Load (TMDL) means the calculated maximum permissible pollutant loading to a waterbody at which water quality standards can be maintained. The sum of wasteload allocations (WLAs) and load allocations (LAs) for any given pollutant.
32. You and Your as used in this permit is intended to refer to the Permittee, the operator, or the discharger as the context indicates and that party's responsibilities (e.g., the city, the country, the flood control district, the U.S. Air Force, etc.).

APPENDIX B

URBANIZED AREA MAP



APPENDIX C

NEWSPAPER PUBLICATIONS – 2021-2022

Auburn Villager Newspaper		
Title	Publication Date	Hyperlink
Buc-ee's eyeing Auburn location at Exit 50 off I-85	May 11, 2021	https://www.auburnvillager.com/news/buc-ees-eyeing-auburn-location-at-exit-50-off-i-85/article_97914b66-b27b-11eb-88ea-f3cbc02bd02d.html
Building up students through construction	May 13, 2021	https://www.auburnvillager.com/news/building-up-students-through-construction/article_82119ecc-b3f6-11eb-8b33-074c915c3da0.html
Council clears path for Buc-ee's in Auburn	May 19, 2021	https://www.auburnvillager.com/news/council-clears-path-for-buc-ee-s-in-auburn/article_7e77da9a-b8bc-11eb-a5f3-ef916edeba95.html
EAMC opening Auburn Medical Pavilion	June 9, 2021	https://www.auburnvillager.com/news/eamc-opening-auburn-medical-pavilion/article_4483d328-c93a-11eb-9241-27c96883a303.html
Neighborhood Conference registration open	July 8, 2021	https://www.auburnvillager.com/news/neighborhood-conference-registration-open/article_16044e04-df49-11eb-8379-c702626a6b69.html
Company to build \$120M data center in Auburn	August 5, 2021	https://www.auburnvillager.com/news/company-to-build-120m-data-center-in-auburn/article_100b14e2-f600-11eb-9aaa-ab67153df043.html
Council reviews Mid-Biennium Budget for FY21-22	August 12, 2021	https://www.auburnvillager.com/news/council-reviews-mid-biennium-budget-for-fy21-22/article_782e7aae-fb7e-11eb-9b4c-37ccd1db54ad.html
Construction of downtown Auburn Bank building progressing	September 30, 2021	https://www.auburnvillager.com/news/construction-of-downtown-auburnbank-building-progressing/article_43c5b32c-21fd-11ec-ab69-07ca17ffabcb.html
Buc-ee's breaks ground on Auburn location	November 4, 2021	https://www.auburnvillager.com/news/buc-ees-breaks-ground-on-auburn-location/article_78527f14-3d80-11ec-b2e9-f38d7373e40f.html
DDRC reviews Heart of Auburn project	November 4, 2021	https://www.auburnvillager.com/news/ddrc-reviews-heart-of-auburn-project/article_297746f8-3d81-11ec-b943-bb3cdad87964.html

Auburn City Council approves Old Samford Development	February 2, 2022	https://www.auburnvillager.com/news/auburn-city-council-approves-old-samford-development/article_addba36c-843f-11ec-b800-23742999abf4.html
Hotel in the works for Auburn Bank property downtown	February 23, 2022	https://www.auburnvillager.com/news/hotel-in-the-works-for-auburnbank-property-downtown/article_0b1b0566-94be-11ec-ae7c-9b917da8d7fe.html
Auburn City Council changes meeting times, Oks \$1.15M contribution to Indian Pines	March 2, 2022	https://www.auburnvillager.com/news/auburn-city-council-changes-meeting-time-oks-1-15m-contribution-to-indian-pines/article_f0741604-9a43-11ec-97bd-176a346fa309.html
Trash Amnesty month underway	March 17, 2022	https://www.auburnvillager.com/news/trash-amnesty-month-underway/article_d8cdc930-a08f-11ec-8fb8-8f65a2282d4e.html
Opelika Auburn News (OANOW)		
Watch Now: Auburn man makes business out of local trash can stench	June 10, 2021	https://oanow.com/news/local/watch-now-auburn-man-makes-business-out-of-local-trash-can-stench/article_2684d362-c8b4-11eb-8214-4b5948545d71.html
The Plainsman		
Lee County residents call for roadside cleanup	April 10, 2021	https://www.theplainsman.com/article/2021/04/lee-county-residents-call-for-roadside-cleanup
The University celebrates Earth Day with an extravaganza	April 18, 2021	https://www.theplainsman.com/article/2021/04/the-university-celebrates-earth-day-with-an-extravaganza
How to be more eco-friendly this fall	August 20, 2021	https://www.theplainsman.com/article/2021/08/how-to-be-more-eco-friendly-this-fall
Auburn should embrace urbanism	August 25, 2021	https://www.theplainsman.com/article/2021/08/letter-to-the-editor-auburn-should-embrace-urbanism
Council adopts amendments to US	September 8, 2021	https://www.theplainsman.com/article/2021/09/council-adopts-amendments-to-u-s-280-focus-area-study-plan

280 Focus Area Study Plan		
Council discusses annual municipal court report	November 3, 2021	https://www.theplainsman.com/article/2021/11/council-discusses-annual-municipal-report
Auburn football fans 'get caught recycling'	November 9, 2021	https://www.theplainsman.com/article/2021/11/auburn-football-fans-get-caught-recycling
Kreher Preserve provides the community with a chance to connect with nature	February 9, 2022	https://www.theplainsman.com/article/2022/02/kreher-preserve-provides-the-community-with-a-chance-to-connect-with-nature
Forget Trash cans, try food composting instead	March 24, 2022	https://www.theplainsman.com/article/2022/03/forget-trash-cans-try-food-composting-instead
Where your waste goes as an Auburn resident	March 24, 2022	https://www.theplainsman.com/article/2022/03/where-your-waste-goes-as-an-auburn-resident
Best in the state: How Auburn leads Alabama in recycling	March 27, 2022	https://www.theplainsman.com/article/2022/03/best-in-the-state-how-auburn-leads-alabama-in-recycling

APPENDIX D

2021-2022 STORMWATER QUALITY MONITORING REPORT



City of Auburn

City of Auburn, Alabama Phase II MS4

Annual Surface Water Quality Monitoring Report Monitoring Period: April 1, 2021 – March 31, 2022

Permit # ALR040003
Effective: October 1, 2021
Expiration: September 30, 2026

Table of Contents

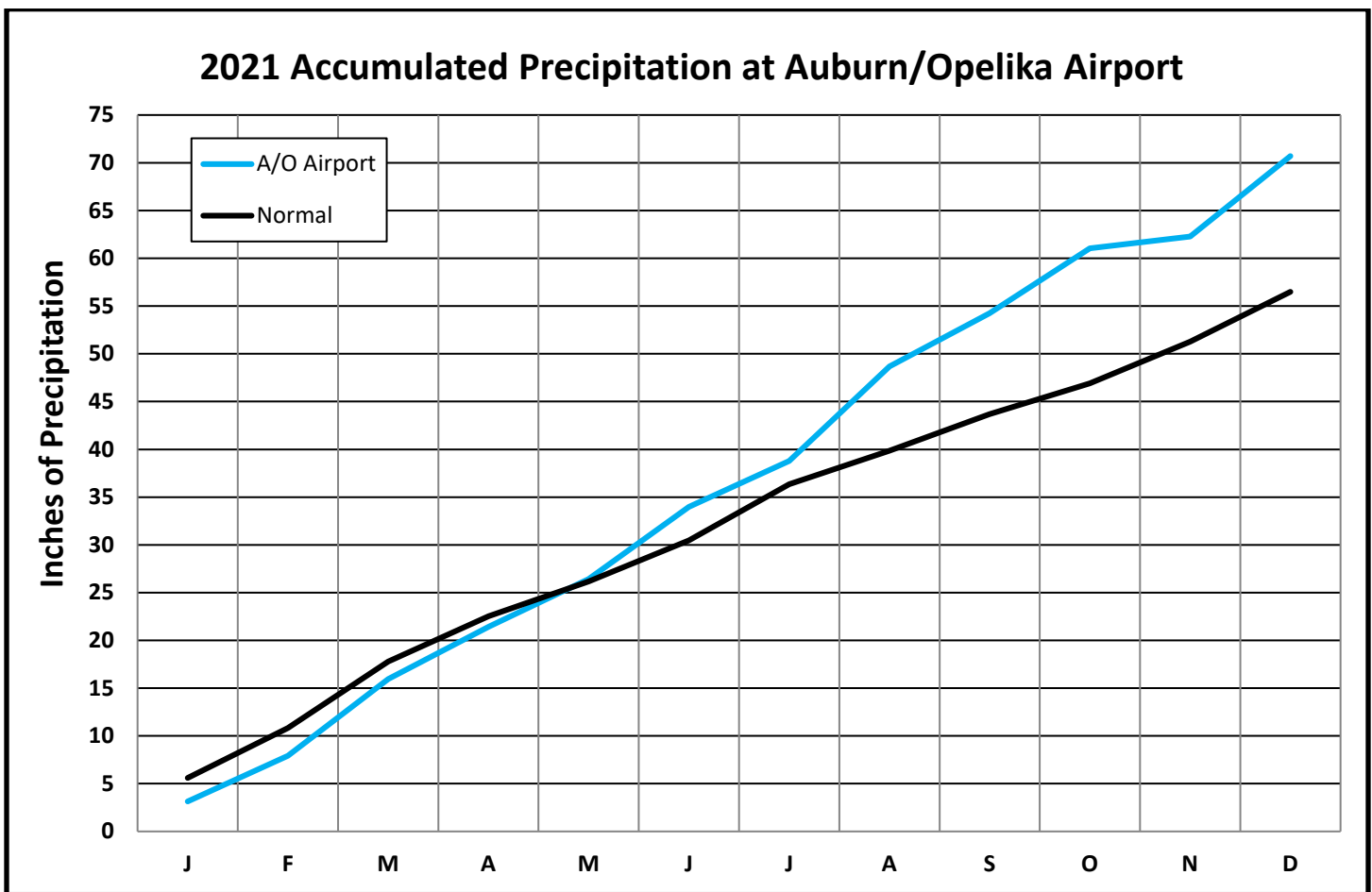
1.0 Introduction	1
1.1 Precipitation Data 2021	1
2.0 Monitoring Required Under ADEM Phase II NPDES General Permit ALR040003	2
2.1 Background	2
2.2 Compliance Requirements	2
2.3 Water Sampling Methods	3
2.4 Saugahatchee Creek Total Phosphorus Compliance Monitoring	3
2.5 Saugahatchee Creek E. coli Compliance Monitoring	6
2.6 E. coli Monitoring Results	7
2.7 Parkerson's Mill Creek Compliance Monitoring	13
2.8 E. coli Monitoring Results	14
2.9 Moore's Mill Creek Compliance Monitoring	20
3.0 Water Quality at Short-term Monitoring Sites	39
3.1 Purpose	39
3.2 Monitoring Data	39
4.0 Lake Ogletree Source Water Monitoring Program	40
4.1 Purpose	40
4.2 Methods	40
4.3 Monitoring Stations and Data	41
5.0 WPCF Dissolved Oxygen Monitoring	44
5.1 Purpose	44
5.2 Methods	44
5.3 Monitoring Stations and Data	45
6.0 Outfall Screening	47
6.1 Purpose	47
6.2 Monitoring Data	47

1.0 Introduction

The City of Auburn has been voluntarily collecting water quality data on its local water resources since the 1970's. Although initial efforts were primarily concentrated on source water quality monitoring in the Lake Ogletree watershed of Chewacla Creek, the City's water quality monitoring has expanded to include a wide variety of monitoring programs that are used to guide efforts of assessment, protection, and restoration of our local water resources. These programs include monitoring for physical, chemical, and biological indicators of water quality, with all monitoring efforts managed and operated in-house. This report presents the results of water quality monitoring and analyses conducted for the period of April 1, 2021, to March 31, 2022. Comments by staff in the City's Water Resource Management Department (WRM) are also included in the water quality results.

1.1 Precipitation Data 2021

The City of Auburn experienced another exceptionally wet year in 2021. According to the rain gauge at the Auburn/Opelika Airport, 70.70 inches of precipitation fell during 2021. This was the 6th highest amount recorded since 1976. Winter and spring were slightly below normal, but rainfall increased from June through the end of the year. A wetter than average August, September, and October allowed the local water table to remain high for the rest of the year. The year ended 14.21 inches above normal.



Accumulated Precipitation at Auburn/Opelika Airport

2.0 Monitoring Required Under ADEM Phase II NPDES General Permit ALR040003

2.1 Background

The City of Auburn has three (3) streams within its jurisdiction that fail to meet the state's minimum water quality standards for their designated uses. Two streams have a finalized Total Maximum Daily Load (TMDL), and two streams are included on the 2020 final 303(d) list. A TMDL was approved for the Saugahatchee Creek watershed in 2008, with the pollutants of concern being total phosphorus (TP) and organic enrichment/dissolved oxygen (OE/DO). In 2020, Saugahatchee Creek was listed on the 303(d) list for pathogens. A TMDL was finalized for Parkerson's Mill Creek in 2011 for pathogens, with E. coli as the indicator bacteria. Moore's Mill Creek was included on the 303(d) list of impaired streams in 2000 for siltation, but there is currently no TMDL for Moore's Mill Creek. The monitoring results included in this report were collected from April 1, 2021 to March 31, 2022 in compliance with the Phase II NPDES General Permit ALR040003 as outlined in the City of Auburn's Stormwater Quality Monitoring Plan.

2.2 Compliance Requirements

According to ADEM Phase II NPDES General Permit ALR040003, if a waterbody within the MS4 jurisdiction is listed on the latest final 303(d) list, or otherwise designated impaired by ADEM, or for which a TMDL is approved or established by EPA, the MS4 permittee shall comply with the following:

1. Include a statement in the SWMPP stating if monitoring is required.
2. Implement a monitoring program within 6 months of permit coverage that addresses the impairment or TMDL. Include the monitoring plan in the SWMPP, and document the revisions to the monitoring plan in the SWMPP and SWMPP Annual Report.
3. Describe proposed monitoring locations and proposed monitoring frequency in the monitoring plan, with actual locations described in the SWMPP Annual Report.
4. Include in the monitoring program any parameters attributed with the latest final 303(d) list, or otherwise designated by ADEM as impaired, or are included in an EPA-approved or EPA-established TMDL.
5. Perform analysis and collection of samples in accordance with the methods specified at 40 CFR Part 136. If an approved 40 CFR Part 136 method does not exist, then an ADEM approved method may be used.
6. If samples cannot be collected due to adverse conditions, permittee must submit a description of why samples could not be collected, including available documentation of the event (e.g. weather conditions that create dangerous conditions for personnel, or impracticable conditions such as drought or ice).
7. Monitoring results must be reported with the subsequent SWMPP Annual Report and shall include the following:
 - a. The date, latitude/longitude of location, and time of sampling
 - b. The name(s) of the individual(s) who performed the sampling

- c. The date(s) analysis was performed
- d. The name(s) of the individual(s) who performed the analysis
- e. The analytical techniques or methods used
- f. The results of such analysis

The pages that follow include the sampling and reporting requirements outlined above for Saugahatchee Creek, Parkerson's Mill Creek, and Moore's Mill Creek.

2.3 Water Sampling Methods

The City of Auburn believes that quality control and quality assurance are critical to a successful environmental monitoring program. In order to develop a dependable and credible database of water quality measurements, WRM staff employ a stringent field and laboratory protocol. WRM staff are required to wear nitrile gloves when handling sample bottles, cleaning sample bottles, plating bacterial samples, handling bacterial plates and growth media, calibrating instruments, and collecting water samples. Before going to a sample site, water sample collection bottles are placed in clean, sealable plastic bags. They are carried to the sample site in a cooler, and after the water samples are collected the bottles are immediately placed back into the bag and into the cooler to be chilled at 4 degrees Celsius. WRM staff calibrate all water quality instruments prior to field use every three days. Calibration standards are never used outside the expiration date. A detailed calibration log is filled out each time an instrument is calibrated. Sampling devices are cleaned using Liquinox™ phosphate-free detergent, followed by a tap water rinse, and then a final rinse with deionized water. At all sample sites, WRM staff utilize field sheets to document site characteristics and observations such as stream color, geomorphic setting (riffle, pool, etc.), and weather conditions. The field sheets are also used to document water quality data measured in-situ at each site. These in-situ data are collected using a YSI ProPlus instrument and include temperature (F), pH, specific conductance ($\mu\text{S}/\text{cm}$), and dissolved oxygen (mg/L). Water samples are analyzed for turbidity in the field using a LaMotte 2020we portable turbidimeter. Streamflow is determined using the mid-section method, where the channel is divided into segments along a cross-section and width, depth, and velocity are recorded at each segment. Velocity is measured at the center of each segment using either a Sontek Flowtracker 2 acoustic doppler velocimeter or a Price Pygmy Meter. The sum of flows of all the segments along a cross-section equals the total streamflow.

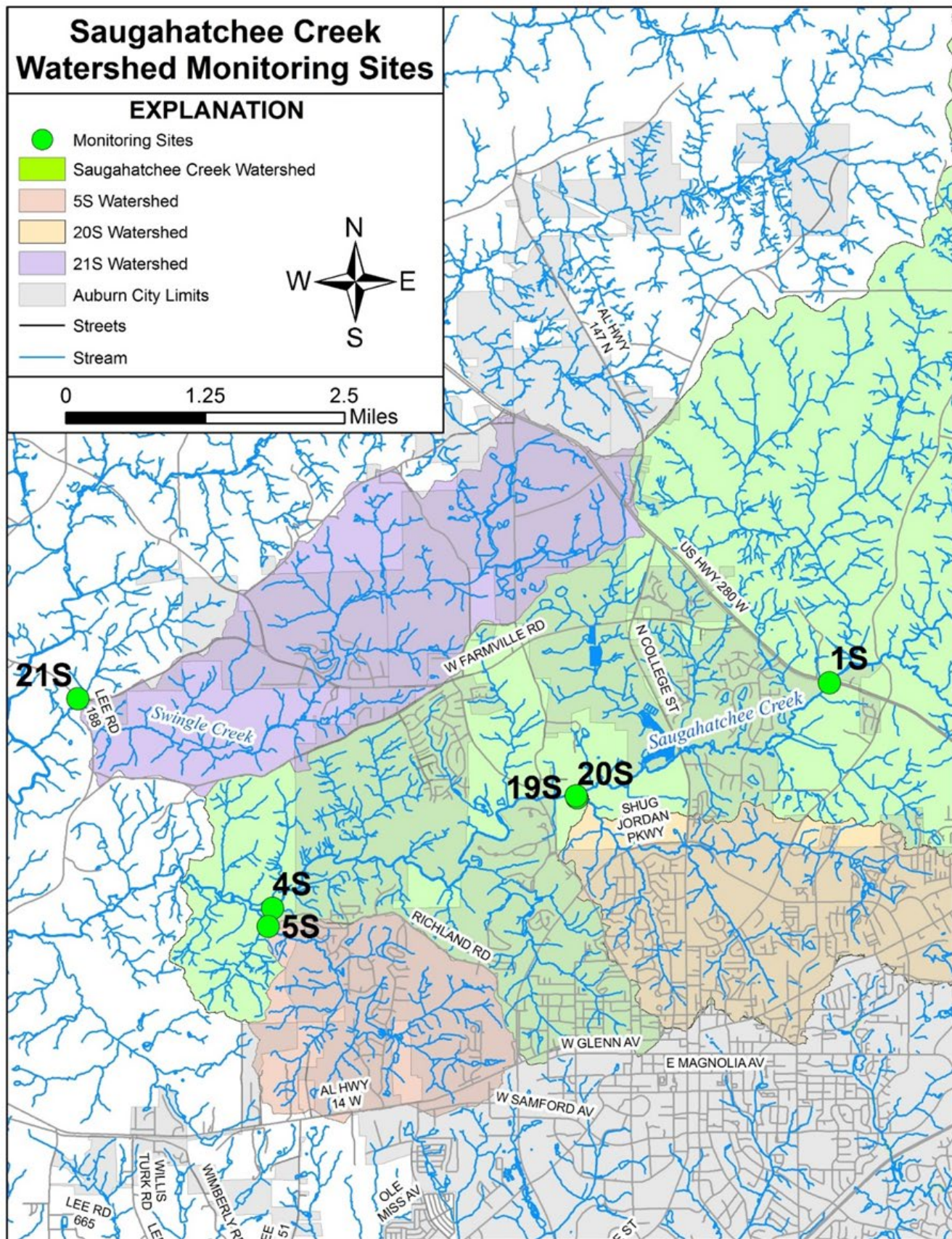
2.4 Saugahatchee Creek Total Phosphorus Compliance Monitoring

The Saugahatchee Creek Embayment on Yates Reservoir was originally placed on the ADEM 303(d) list of impaired waterbodies in 1996 for OE/DO and nutrients. It remained on the State's 303(d) list after each consecutive two-year water quality assessment until 2008, at which time the Saugahatchee Creek Embayment (Yates Reservoir) TMDL was finalized. Additionally, Pepperell Branch, a tributary of Saugahatchee Creek which originates in Opelika, also remained on the State's 303(d) list for nutrient impairment until 2008. The impairment of Pepperell Branch was also addressed in the Saugahatchee Creek Embayment TMDL. In order to address water quality concerns within the Saugahatchee Creek Embayment, ADEM and the EPA jointly developed a "watershed based" TMDL, which would in turn address nutrient loading from both the main stem of Saugahatchee Creek and Pepperell Branch. The final Saugahatchee Creek Watershed TMDL was issued in April of 2008, identifying TP as the primary pollutant of concern (expressed as chlorophyll-a to satisfy numeric

target criteria for assessing eutrophication in lakes). The Saugahatchee Creek Embayment TMDL establishes the TP limits in stormwater runoff of equal to or less than 0.1 mg/L (see Table 5-2 of the Saugahatchee Creek Embayment TMDL).

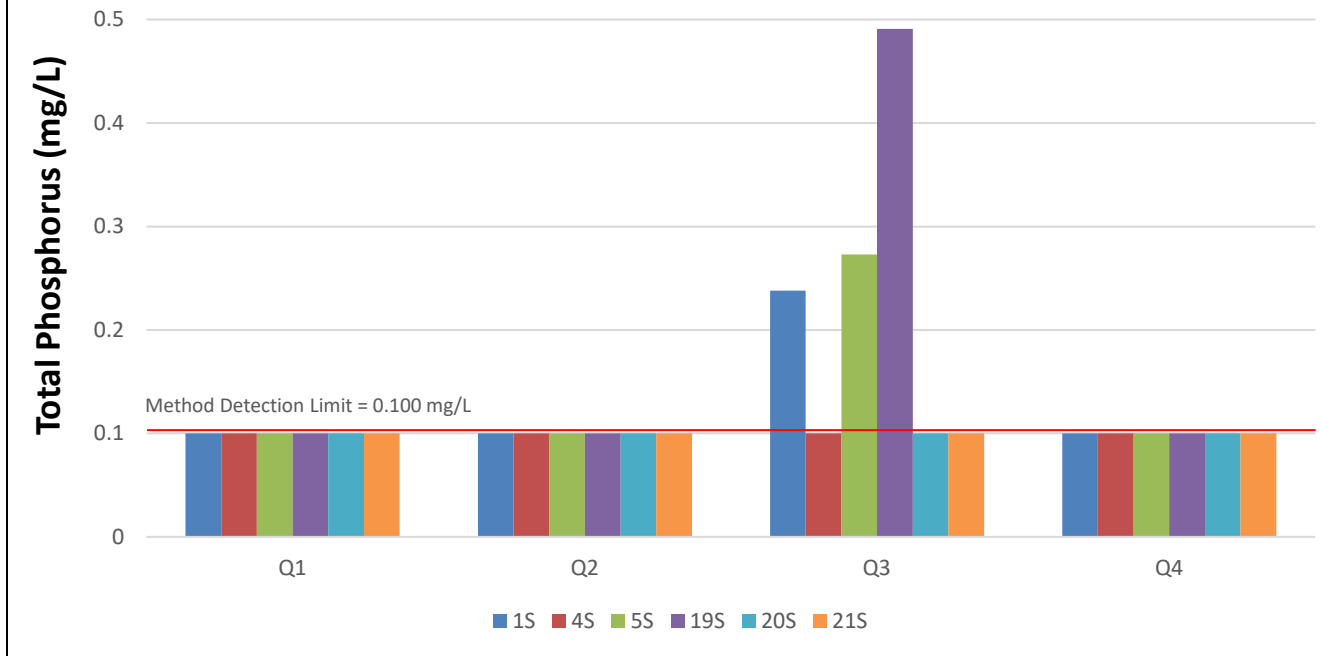
Monitoring TP at strategic locations along the main stem of Saugahatchee Creek and on tributaries within the Saugahatchee Creek watershed that drain portions of the City's MS4 provides data to evaluate the success of efforts to reduce TP in stormwater and meet TMDL concentrations. The City conducted quarterly sampling for TP, water temperature, pH, dissolved oxygen, specific conductance, and turbidity at three locations along the main stem of Saugahatchee Creek, and also at three tributaries within the Saugahatchee Creek watershed during this reporting period. Streamflow in cubic feet per second (cfs) and million gallons per day (MGD) was determined at each sample site. Streamflow at sites 1S, 4S, and 19S was recorded by the City's streamgauge located at site 4S on Saugahatchee Creek at the City's Northside Water Pollution Control Facility (WPCF). City staff measured streamflow in-situ at sites 5S, 20S, and 21S when flow conditions permitted.

Of the 24 samples collected for TP during this reporting period, only 3 of the samples had concentrations above the laboratory method detection limit of 0.100 mg/L. The highest TP concentration was 0.491 mg/L. These results suggest that the City's post-development water quality requirements are reducing the TP pollutant load in Saugahatchee Creek to very low numbers. The City requires new developments and re-developments within the Saugahatchee Creek watershed to remove 50% of the TP from stormwater runoff leaving the site. Examples of bmp's that developers typically utilize to meet these requirements are wet detention ponds, bioretention cells, and proprietary water quality grit traps. The tables and chart included in this report show results from TP monitoring conducted during the reporting period 4/1/2021 to 3/31/2022.



Saugahatchee Creek Watershed Total Phosphorus Monitoring Sites

Saugahatchee Creek Watershed Results of Total Phosphorus Monitoring 4/1/2021 - 3/31/2022



2.5 Saugahatchee Creek E. coli Compliance Monitoring

In 2018, Saugahatchee Creek was placed on the ADEM 303(d) list for pathogen impairment. The impaired reach is 33.42 mi. long, and includes waters from Saugahatchee Lake Dam to the confluence with Sycamore Creek in Tallapoosa County. ADEM considered collection system failure and pasture grazing as potential sources of the impairment. According to the 2018 303(d) list Fact Sheet <http://www.adem.state.al.us/programs/water/wquality/2018AL303dFactSheet.pdf>, ADEM collected samples at stations SOGL-1 and SOGL-11 to determine the basis for adding Saugahatchee Creek to the 303(d) list. Because of the impairment, the City monitored E. coli concentrations in Saugahatchee Creek through intensive E. coli sampling at seven (7) sites within the watershed in 2021.

The goal of annual monitoring of E. coli at strategic locations along the main stem of Saugahatchee Creek and on tributaries within the Saugahatchee Creek watershed that drain portions of the City's MS4 is to provide further insight into the high E. coli concentrations that were observed by ADEM and eventually led to the 2018 303(d) listing. In 2021, single samples were collected for E. coli once per month for April, May, July, September, October, and November. Weekly samples were collected at those sites during June and August. The 5-week geometric mean concentrations provided in the following charts were calculated based on the results of the weekly sampling.

In 2021, streamflow was determined from the USGS streamgage 02418230 for site SOGL-1, and streamflow at sites SOGL-11 and SOGL-22 was determined from the City's streamgage located at the Northside

WPCF. The City made a reasonable effort to measure streamflow (recorded in cfs and MGD) in-situ at sites SOGUTL-1, SOGUTL-4, SOGUTL-5, and SOGUTL-6 when flow conditions permitted. Water temperature, pH, dissolved oxygen, specific conductance, and turbidity were also measured in-situ at each site.

2.6 E. coli Monitoring Results

The June geomean data showed six (6) of seven (7) sites above the state water quality criteria for Saugahatchee Creek's designated use of Fish and Wildlife (126 MPN). Single sample maximum concentrations were the greatest on June 8th, however the area experienced a storm event that dropped 2.36 inches of rain within the previous 72 hours which may have contributed to the high numbers. There was much rain during the 5-week geomean period, with 4 out of 5 weeks experiencing at least 0.68 inches of 72-hour antecedent precipitation. SOGUTL-6 had the lowest geomean concentration (6 MPN), and SOGL-22 had a geomean concentration of 152 MPN, which is just above the Fish & Wildlife criteria.

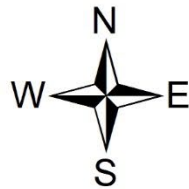
For the August geomean, again only SOGUTL-6 (11 MPN) was below state water quality criteria. The highest E. coli concentrations in August were at sites on the main stem of Saugahatchee Creek. August was a rainy month, with 16 days of rain and 9.90 in. of precipitation (6.28 in. above normal). The high E. coli concentrations are likely the result of higher than normal rainfall and increased runoff. As a whole, E. coli concentrations in 2021 were slightly lower than in 2020 in the Saugahatchee Creek watershed.

City staff have conducted intensive sampling for E. coli in the Saugahatchee watershed for three consecutive years. The City removed SOGUTL-3 from the sampling schedule in 2021. According to the monitoring data collected from 2019 - 2020, the tributary on which SOGUTL-3 is located is not a significant contributor of E. coli to Saugahatchee Creek. In lieu of SOGUTL-3, sites SOGUTL-5 and SOGUTL-6 were added to the sampling schedule in 2021. SOGUTL-5 is located on a major tributary to Saugahatchee Creek that drains several residential subdivisions. SOGUTL-6 is located on another tributary to Saugahatchee and drains the northwest part of Auburn. The City also removed site SOGL-20 from the sampling schedule in 2021. SOGL-20 is located near the beginning of the City's MS4 jurisdiction, but there are some areas upstream of the sampling site that are also within the City's MS4. SOGL-20 does not provide true "baseline conditions" as Saugahatchee Creek enters the MS4 jurisdiction. In order to have a more representative baseline of E. coli concentrations as Saugahatchee Creek enters our jurisdiction, the City sampled instead at site SOGL-22 located at HWY 280 during 2021.

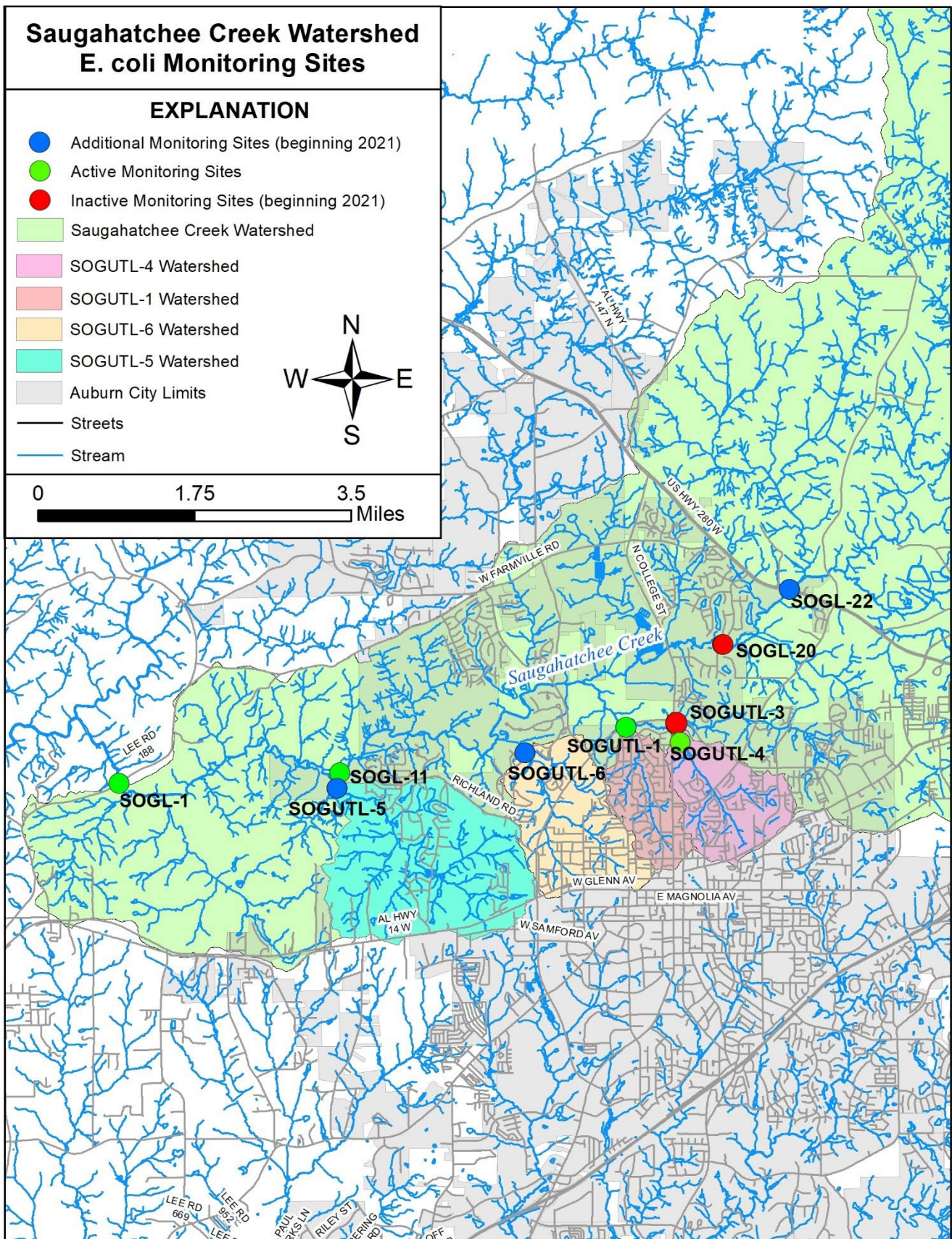
Saugahatchee Creek Watershed E. coli Monitoring Sites

EXPLANATION

- Additional Monitoring Sites (beginning 2021)
- Active Monitoring Sites
- Inactive Monitoring Sites (beginning 2021)
- Saugahatchee Creek Watershed
- SOGUTL-4 Watershed
- SOGUTL-1 Watershed
- SOGUTL-6 Watershed
- SOGUTL-5 Watershed
- Auburn City Limits
- Streets
- Stream

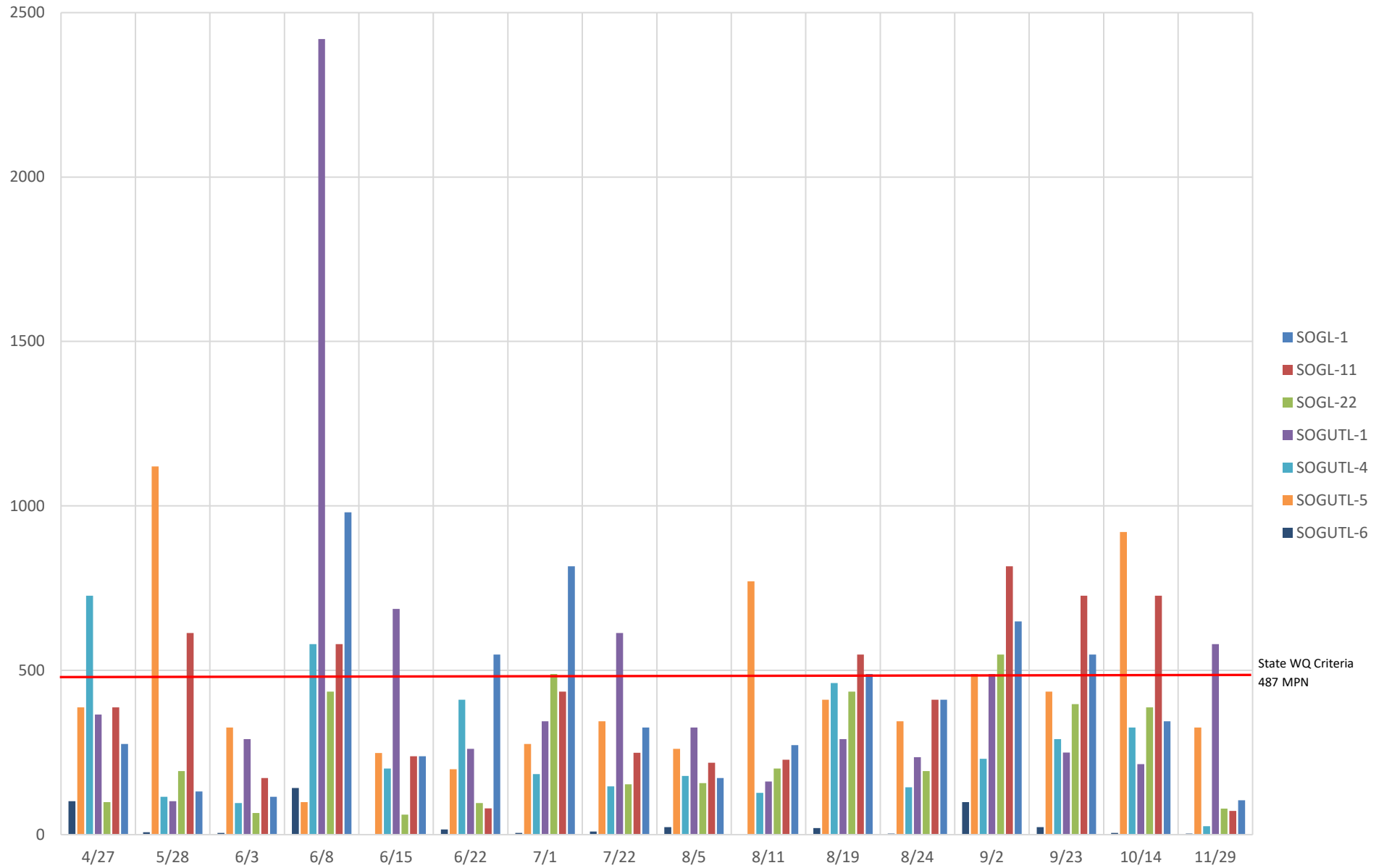


0 1.75 3.5
Miles

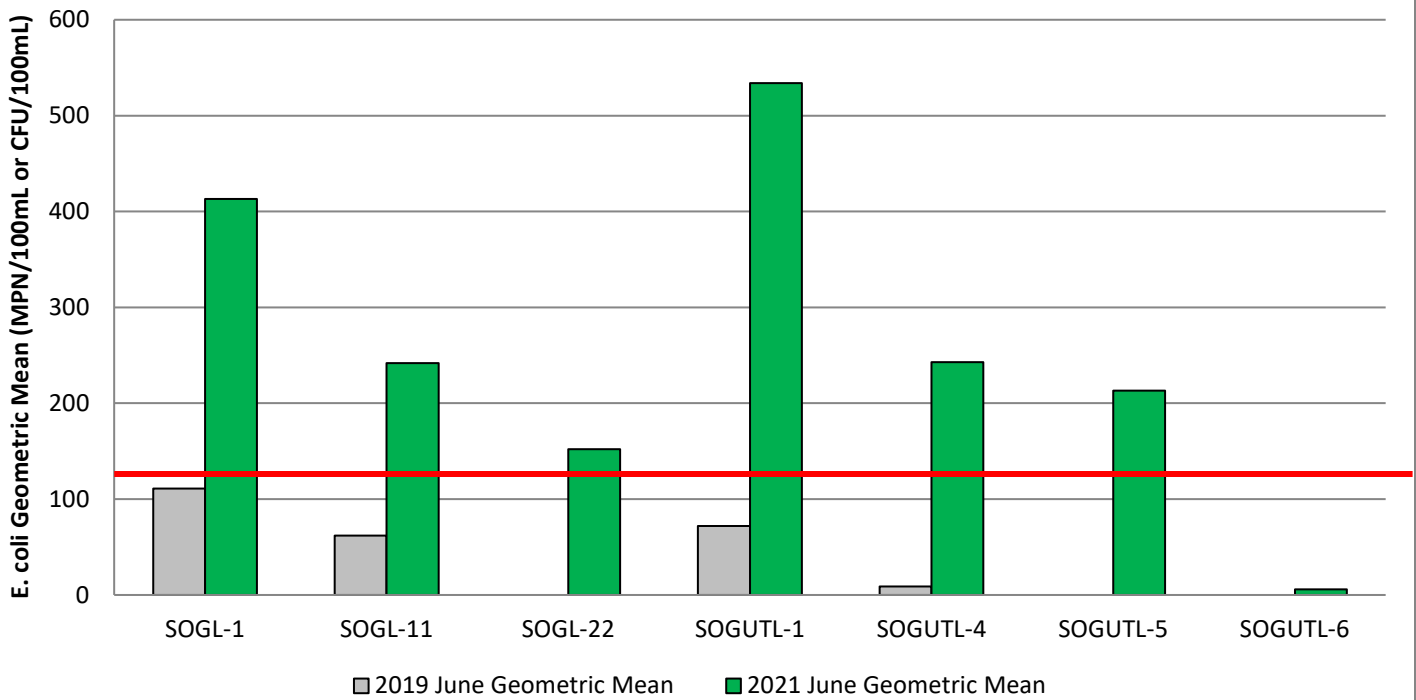


Saugahatchee Creek Watershed E. coli Monitoring Sites

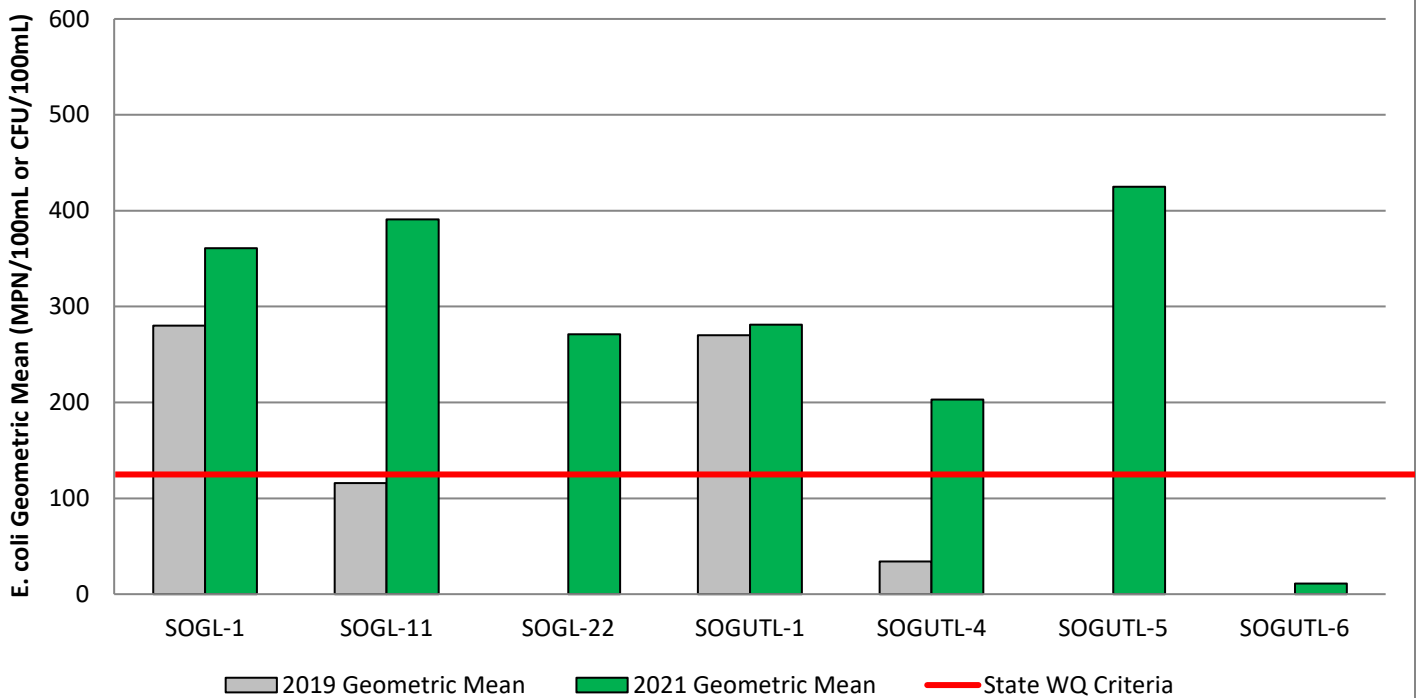
Saugahatchee Creek E. coli Single Sample Results for 2021



Saugahatchee Creek E. coli Geomean Results for June 2021



Saugahatchee Creek E. coli Geomean Results for August 2021



Saugahatchee Creek Watershed Monitoring Data

Site Number	Pollutant of Concern	Site Location	Site Coordinates
1S	Total Phosphorus	Saugahatchee Creek at US HWY 280	32.657413 N, 85.459656 W
19S	Total Phosphorus	Saugahatchee Creek 0.35 mi upstream of N. Donahue Dr.	32.642777 N, 85.498761 W
4S	Total Phosphorus	Saugahatchee Creek at Northside WPCF	32.628185 N, 85.545705 W
5S	Total Phosphorus	Unnamed Tributary to Saugahatchee Creek	32.625847 N, 85.546404 W
20S	Total Phosphorus	Unnamed Tributary to Saugahatchee Creek	32.642492 N, 85.498606 W
21S	Total Phosphorus	Swingle Creek above Lee Rd. 188	32.655618 N, 85.575517 W
SOGL-1	E. coli	Saugahatchee Creek at Lee Rd. 188	32.626569 N, 85.588019 W
SOGL-11	E. coli	Saugahatchee Creek at Northside WPCF	32.628185 N, 85.545705 W
SOGL-22	E. coli	Saugahatchee Creek at HWY 280	32.657756 N, 85.459302 W
SOGUTL-1	E. coli	Unnamed Tributary to Saugahatchee Creek	32.653379 N, 85.490675 W
SOGUTL-4	E. coli	Unnamed Tributary to Saugahatchee Creek	32.635890 N, 85.481219 W
SOGUTL-5	E. coli	Unnamed Tributary to Saugahatchee Creek	32.625511 N, 85.545895 W
SOGUTL-6	E. coli	Unnamed Tributary to Saugahatchee Creek	32.631421 N, 85.510145 W

Water Quality Parameter	Analytical Method
Temperature (F)	YSI 5560
pH (Standard Units)	YSI 1001
Dissolved Oxygen (mg/L)	YSI 2003
Specific Conductance (µS/cm)	YSI 5560
Turbidity (NTU)	SM 2130 B
Total Phosphorus (mg/L)	EPA 365.4
E. coli (MPN)	IDEXX

Saugahatchee Creek Watershed Total Phosphorus Sampling Results												
Site Number	Sample Date	Sample Time	Sample Collected By & In-situ Parameters Analyzed By	Total Phosphorus (mg/L)	Temperature (F)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	Turbidity (NTU)	Streamflow (cfs)	Streamflow (MGD)	Total Phosphorus Sample Analyzed By & Date
1S	3/22/2022	14:30	D. Kimbrow	0	63.8	7.43	10.02	82.2	11.19	95.4	61.7	BG (ERA) 3/29/2022
20S	3/22/2022	10:15	D. Kimbrow	0	57.1	7.13	9.58	103.3	8.53	6.7	4.3	BG (ERA) 3/29/2022
19S	3/22/2022	10:35	D. Kimbrow	0	57.5	7.17	9.62	82.6	12.18	97.4	63.0	BG (ERA) 3/29/2022
5S	3/22/2022	12:45	D. Kimbrow	0	62.7	7.00	9.31	66.5	21.1	5.4	3.5	BG (ERA) 3/29/2022
4S	3/22/2022	13:05	D. Kimbrow	0	60.7	6.97	9.91	85.4	15	96.4	62.3	BG (ERA) 3/29/2022
21S	3/22/2022	13:40	D. Kimbrow	0	61.2	7.19	10.15	53.6	11.59	12.6	8.1	BG (ERA) 3/29/2022
21S	12/22/2021	9:25	D. Kimbrow	0	45.2	7.54	11.82	58.8	19.6	15.2	9.8	TE (ERA) 12/29/2021
1S	12/22/2021	9:05	D. Kimbrow	0.238	48.1	7.60	10.70	90	16.7	93.5	60.5	TE (ERA) 12/29/2021
20S	12/20/2021	10:35	D. Kimbrow	0	52.0	7.17	10.35	94.1	17.8	6.8	4.4	TE (ERA) 12/29/2021
4S	12/20/2021	13:30	D. Kimbrow	0	52.5	7.22	10.23	90.2	28.6	93.5	60.5	TE (ERA) 12/29/2021
19S	12/20/2021	11:20	D. Kimbrow	0.491	52.2	7.19	10.02	91.2	18.2	93.5	60.5	TE (ERA) 12/29/2021
5S	12/20/2021	13:10	D. Kimbrow	0.273	54.2	7.20	10.23	64.8	50.8	NA	NA	TE (ERA) 12/29/2021
21S	9/16/2021	9:35	D. Kimbrow	0	70.4	6.89	8.18	58.4	15.4	16.1	10.4	TE (ERA) 9/26/2021
4S	9/16/2021	13:35	D. Kimbrow	0	72.3	7.08	7.45	92.4	26.9	79.8	51.6	TE (ERA) 9/26/2021
1S	9/16/2021	14:45	D. Kimbrow	0	73.4	7.51	7.98	103	12	79.8	51.6	TE (ERA) 9/26/2021
20S	9/16/2021	10:35	D. Kimbrow	0	71.7	7.20	7.59	82.4	17.7	18.0	11.6	TE (ERA) 9/26/2021
19S	9/16/2021	11:00	D. Kimbrow	0	71.7	7.14	6.67	92.3	15.6	79.8	51.6	TE (ERA) 9/26/2021
5S	9/16/2021	14:00	D. Kimbrow	0	74.0	6.86	7.11	71	49.9	6.2	4.0	TE (ERA) 9/26/2021
4S	6/18/2021	13:05	D. Kimbrow	0	73.8	7.24	7.96	107.8	10.83	27.2	17.6	TE (ERA) 6/25/2021
5S	6/18/2021	12:40	D. Kimbrow	0	70.0	7.01	7.80	82.6	7.65	1.4	0.9	TE (ERA) 6/25/2021
19S	6/18/2021	10:55	D. Kimbrow	0	70.4	7.22	7.75	101.4	7.86	26.3	17.0	TE (ERA) 6/25/2021
20S	6/18/2021	10:30	D. Kimbrow	0	69.2	7.28	7.53	121.5	6.75	2.4	1.6	TE (ERA) 6/25/2021
21S	6/18/2021	9:40	D. Kimbrow	0	68.9	7.05	8.62	62.9	11.7	3.7	2.4	TE (ERA) 6/25/2021
1S	6/18/2021	9:10	D. Kimbrow	0	69.6	7.35	8.94	100.7	6.2	26.7	17.3	TE (ERA) 6/25/2021

**Saugahatchee Creek Watershed
E. coli Sampling Results**

Site Number	Sample Date	Sample Time	Sample Collected By & In-situ Parameters Analyzed By	E. coli (MPN)	Temperature (F)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (uS/cm)	Turbidity (NTU)	Streamflow (cfs)	Streamflow (MGD)	E. coli Sample Analyzed By & Date
SOGUTL-5	11/29/2021	11:00	D. Kimbrow	325.5	46.5	6.58	11.21	81	4.14	1.49	0.96	DK 11/30/2021
SOGL-11	11/29/2021	11:25	D. Kimbrow	72.3	47.7	6.85	11.46	113.7	5.91	33.53	21.67	DK 11/30/2021
SOGUTL-4	11/29/2021	13:40	D. Kimbrow	25.6	48.5	6.88	11.34	136.5	3.08	0.80	0.52	DK 11/30/2021
SOGL-1	11/29/2021	10:00	D. Kimbrow	104.6	44.8	6.70	12.00	101.8	4.28	68.90	44.53	DK 11/30/2021
SOGUTL-6	11/29/2021	10:20	D. Kimbrow	3.1	52.7	7.34	10.73	128.2	3.81	1.14	0.74	DK 11/30/2021
SOGUTL-1	11/29/2021	13:15	D. Kimbrow	579.4	47.4	6.63	11.55	112.7	2.56	0.34	0.22	DK 11/30/2021
SOGL-22	11/29/2021	14:10	D. Kimbrow	78.9	51.5	7.02	11.74	107.4	4.05	33.53	21.67	DK 11/30/2021
SOGL-1	10/14/2021	9:15	D. Kimbrow	344.8	66.3	7.01	7.84	97.8	15.5	76.60	49.51	DK 10/15/2021
SOGUTL-6	10/14/2021	9:45	D. Kimbrow	5.2	72.9	6.96	5.80	98.6	13.7	NA	NA	DK 10/15/2021
SOGUTL-5	10/14/2021	10:15	D. Kimbrow	920.8	66.7	6.60	7.65	83.4	9.31	2.76	1.78	DK 10/15/2021
SOGUTL-4	10/14/2021	11:25	D. Kimbrow	325.5	66.5	7.01	8.23	149.8	5.24	1.03	0.67	DK 10/15/2021
SOGL-22	10/14/2021	11:55	D. Kimbrow	387.3	69.0	7.17	8.67	103.1	15.5	55.28	35.73	DK 10/15/2021
SOGL-11	10/14/2021	10:45	D. Kimbrow	727	67.3	6.85	8.01	107	16.3	55.28	35.73	DK 10/15/2021
SOGUTL-1	10/14/2021	11:05	D. Kimbrow	214.2	67.3	6.79	8.09	124.8	5.42	0.64	0.41	DK 10/15/2021
SOGL-1	9/23/2021	9:30	D. Kimbrow	547.5	66.6	7.13	7.61	92.9	21	67.40	43.56	MS 9/24/2021
SOGUTL-5	9/23/2021	10:40	D. Kimbrow	435.2	65.3	6.72	8.05	87.4	15.4	1.94	1.26	MS 9/24/2021
SOGUTL-1	9/23/2021	14:50	D. Kimbrow	249.9	64.9	6.75	8.09	122.6	3.88	0.61	0.40	MS 9/24/2021
SOGUTL-4	9/23/2021	15:10	D. Kimbrow	290.9	66.0	7.05	8.53	141.3	3.4	1.05	0.68	MS 9/24/2021
SOGL-22	9/23/2021	15:50	D. Kimbrow	396.8	72.6	7.23	8.22	103	9.2	55.28	35.73	MS 9/24/2021
SOGUTL-6	9/23/2021	10:00	D. Kimbrow	22.6	75.2	6.86	3.75	114.7	6.71	1.34	0.87	MS 9/24/2021
SOGL-11	9/23/2021	11:05	D. Kimbrow	727	67.4	6.98	8.20	98.8	17.8	55.28	35.73	MS 9/24/2021
SOGL-1	9/2/2021	15:10	D. Kimbrow	648.8	79.4	7.05	7.33	99.3	21.2	63.10	40.78	DK 9/3/2021
SOGUTL-5	9/2/2021	12:35	D. Kimbrow	488.4	78.4	6.76	7.11	72.6	21.8	4.88	3.15	DK 9/3/2021
SOGL-11	9/2/2021	13:00	D. Kimbrow	816.4	78.5	7.13	7.07	107.2	17.9	43.27	27.97	DK 9/3/2021
SOGUTL-6	9/2/2021	13:20	D. Kimbrow	98.7	88.0	7.19	5.73	104.3	15.6	1.52	0.98	DK 9/3/2021
SOGUTL-1	9/2/2021	13:50	D. Kimbrow	488.4	75.1	6.93	7.13	134.9	18	0.60	0.39	DK 9/3/2021
SOGUTL-4	9/2/2021	14:10	D. Kimbrow	231	75.8	7.18	7.68	130.5	4.93	1.59	1.03	DK 9/3/2021
SOGL-22	9/2/2021	14:35	D. Kimbrow	547.5	80.0	7.12	7.08	116.3	8.73	43.27	27.97	DK 9/3/2021
SOGUTL-6	8/24/2021	9:30	D. Kimbrow	3	86.8	7.69	6.69	127.3	3.44	NA	NA	DK 8/25/2021
SOGUTL-1	8/24/2021	13:05	D. Kimbrow	235.9	78.7	6.92	6.38	123.1	3.84	NA	NA	DK 8/25/2021
SOGL-1	8/24/2021	9:05	D. Kimbrow	410.6	77.4	7.30	6.96	108.3	11.8	40.50	26.18	DK 8/25/2021
SOGUTL-5	8/24/2021	10:00	D. Kimbrow	344.8	77.1	7.01	6.92	82.2	22.3	1.89	1.22	DK 8/25/2021
SOGUTL-4	8/24/2021	13:20	D. Kimbrow	143.9	77.7	7.38	7.30	146.1	NA	0.37	0.24	DK 8/25/2021
SOGL-22	8/24/2021	13:50	D. Kimbrow	193.5	82.8	7.48	7.09	121.5	NA	23.33	15.08	DK 8/25/2021
SOGL-11	8/24/2021	14:15	D. Kimbrow	410.6	84.2	7.21	6.52	119.9	7.78	23.33	15.08	DK 8/25/2021
SOGUTL-5	8/19/2021	10:45	D. Kimbrow	410.6	79.3	6.87	6.74	72.4	50.8	2.80	1.81	DK 8/20/2021
SOGL-11	8/19/2021	-	D. Kimbrow	547.5	78.1	7.15	7.16	105.6	19.4	31.73	20.51	DK 8/20/2021
SOGUTL-1	8/19/2021	13:10	D. Kimbrow	290.9	75.7	6.73	6.94	112.6	18.6	NA	NA	DK 8/20/2021
SOGL-22	8/19/2021	13:55	D. Kimbrow	435.2	81.0	7.01	7.25	111.4	10.13	31.73	20.51	DK 8/20/2021
SOGL-1	8/19/2021	9:25	D. Kimbrow	488.4	77.1	7.24	6.97	95.9	23.2	49.80	32.19	DK 8/20/2021
SOGUTL-4	8/19/2021	13:25	D. Kimbrow	461.1	76.8	7.37	7.29	126.5	2.72	1.00	0.64	DK 8/20/2021
SOGUTL-6	8/19/2021	14:20	D. Kimbrow	20.1	87.4	7.89	7.70	NA	1420	NA	NA	DK 8/20/2021
SOGUTL-6	8/11/2021	9:50	D. Kimbrow	1	86.3	7.22	6.25	135.3	3.22	NA	NA	DK 8/12/2021
SOGUTL-5	8/11/2021	10:15	D. Kimbrow	770.1	73.3	6.77	6.78	116.9	5.96	0.22	0.14	DK 8/12/2021
SOGL-11	8/11/2021	10:45	D. Kimbrow	228.2	76.8	7.10	7.44	115.6	12.2	27.62	17.85	DK 8/12/2021
SOGUTL-1	8/11/2021	11:05	D. Kimbrow	161.6	75.5	6.85	7.63	129.2	3.08	NA	NA	DK 8/12/2021
SOGL-1	8/11/2021	9:20	D. Kimbrow	272.3	75.0	7.15	7.39	110	13.2	43.90	28.37	DK 8/12/2021
SOGUTL-4	8/11/2021	12:25	D. Kimbrow	127.4	74.8	7.14	7.62	147.3	2.23	0.61	0.40	DK 8/12/2021
SOGL-22	8/11/2021	12:50	D. Kimbrow	201.4	80.0	6.93	7.35	107.3	8.51	27.62	17.85	DK 8/12/2021
SOGL-11	8/5/2021	13:00	R. McCurry	218.7	80.7	7.06	7.90	107.6	6.86	26.74	17.28	RM 8/6/2021
SOGUTL-5	8/5/2021	13:30	R. McCurry	261.3	75.3	6.45	7.85	80.5	10.53	NA	NA	MS 8/6/2021
SOGL-22	8/5/2021	15:20	R. McCurry	156.5	80.8	6.55	8.41	113.6	5.26	26.74	17.28	MS 8/6/2021
SOGUTL-4	8/5/2021	15:50	R. McCurry	178.5	76.3	6.61	7.49	130.8	2.39	NA	NA	MS 8/6/2021
SOGUTL-1	8/5/2021	16:20	R. McCurry	325.5	75.8	6.24	7.66	111.6	3.36	NA	NA	MS 8/6/2021
SOGUTL-6	8/5/2021	17:10	R. McCurry	23.1	86.6	6.76	5.19	127.6	2.94	NA	NA	MS 8/6/2021
SOGL-1	8/5/2021	17:55	R. McCurry	172.3	81.5	6.50	7.55	103.4	7.64	40.50	26.18	MS 8/6/2021
SOGUTL-6	7/22/2021	9:30	D. Kimbrow	9.8	84.1	7.11	7.70	122.8	6.64	1.83	1.18	DK 7/23/2021
SOGUTL-5	7/22/2021	10:00	D. Kimbrow	344.8	77.3	6.20	7.50	77.4	6.3	2.18	1.41	DK 7/23/2021
SOGUTL-1	7/22/2021	10:50	D. Kimbrow	613.1	75.2	6.23	8.10	121.5	7.51	0.55	0.36	DK 7/23/2021
SOGL-11	7/22/2021	10:25	D. Kimbrow	248.9	77.0	6.57	7.96	106.6	15.5	37.57	24.28	DK 7/23/2021
SOGL-1	7/22/2021	15:20	D. Kimbrow	325.5	81.0	6.76	7.19	101.6	13.5	57.90	37.42	DK 7/23/2021
SOGUTL-4	7/22/2021	11:10	D. Kimbrow	146.7	74.8	6.52	8.11	143.1	3.07	1.15	0.74	DK 7/23/2021
SOGL-22	7/22/2021	11:50	D. Kimbrow	152.9	77.5	6.37	8.36	110.3	9.72	37.57	24.28	DK 7/23/2021
SOGL-1	7/1/2021	9:05	D. Kimbrow	816.4	72.7	7.36	7.50	118.8	22.1	81.50	52.68	DK 7/2/2021
SOGUTL-6	7/1/2021	9:35	D. Kimbrow	5.2	82.3	7.86	7.64	125.7	4.01	1.27	0.82	DK 7/2/2021
SOGUTL-5	7/1/2021	10:30	D. Kimbrow	275.5	74.4	7.05	6.86	76.1	7.11	2.00	1.29	DK 7/2/2021
SOGL-11	7/1/2021	10:55	D. Kimbrow	435.2	74.2	7.29	7.37	116.5	20.4	37.06	23.95	DK 7/2/2021
SOGUTL-1	7/1/2021	12:30	D. Kimbrow	344.8	72.4	6.90	7.73	118.6	8.36	0.41	0.26	DK 7/2/2021

Site Number	Sample Date	Sample Time	Sample Collected By & In-situ Parameters Analyzed By	E. coli (MPN)	Temperature (F)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (uS/cm)	Turbidity (NTU)	Streamflow (cfs)	Streamflow (MGD)	E. coli Sample Analyzed By & Date
SOGUTL-4	7/1/2021	12:55	D. Kimbrow	184.2	72.1	7.32	7.75	146	3.22	0.77	0.50	DK 7/2/2021
SOGL-22	7/1/2021	13:30	D. Kimbrow	488.4	75.8	7.53	7.74	106.8	2.96	36.56	23.63	DK 7/2/2021
SOGL-1	6/22/2021	9:35	D. Kimbrow	547.5	72.0	7.28	7.30	85.7	25.6	86.60	55.97	DK 6/23/2021
SOGUTL-6	6/22/2021	10:00	D. Kimbrow	16	78.5	7.27	5.97	122.5	6.63	1.53	0.99	DK 6/23/2021
SOGUTL-5	6/22/2021	10:45	D. Kimbrow	198.9	73.8	7.00	7.00	72.8	21	3.96	2.56	DK 6/23/2021
SOGL-11	6/22/2021	11:15	D. Kimbrow	79.8	72.1	7.27	7.56	95.4	17.5	47.07	30.42	DK 6/23/2021
SOGUTL-1	6/22/2021	12:50	D. Kimbrow	261.3	70.6	6.90	7.54	116.8	15.2	0.64	0.42	DK 6/23/2021
SOGUTL-4	6/22/2021	13:45	D. Kimbrow	410.6	71.5	7.18	7.92	130.4	4.1	1.63	1.05	DK 6/23/2021
SOGL-22	6/22/2021	14:15	D. Kimbrow	95.9	73.7	7.55	8.30	101.3	9.77	47.63	30.78	DK 6/23/2021
SOGL-1	6/15/2021	9:50	D. Kimbrow	238.2	71.5	7.18	7.72	69.8	22.6	101.00	65.28	DK 6/16/2021
SOGUTL-6	6/15/2021	10:15	D. Kimbrow	0	83.7	7.75	7.90	118.8	4.57	0.66	0.43	DK 6/16/2021
SOGUTL-5	6/15/2021	10:50	D. Kimbrow	248.1	73.6	6.85	7.45	72.4	9.28	1.94	1.25	DK 6/16/2021
SOGL-11	6/15/2021	11:20	D. Kimbrow	238.2	73.2	7.10	8.05	70.4	16.4	69.31	44.80	DK 6/16/2021
SOGUTL-1	6/15/2021	13:00	D. Kimbrow	201.4	73.2	7.23	7.76	130.5	4.17	0.83	0.54	DK 6/16/2021
SOGUTL-1	6/15/2021	12:40	D. Kimbrow	686.7	73.8	6.80	7.33	103.2	6.42	0.54	0.35	DK 6/16/2021
SOGL-22	6/15/2021	13:30	D. Kimbrow	60.9	74.6	7.24	8.34	71.2	9.63	71.92	46.48	DK 6/16/2021
SOGUTL-6	6/8/2021	9:35	D. Kimbrow	142.1	80.8	7.67	7.50	127	6.02	2.67	1.72	DK 6/9/2021
SOGUTL-5	6/8/2021	10:10	D. Kimbrow	98.7	75.1	7.06	7.34	70.5	16.1	2.95	1.90	DK 6/9/2021
SOGUTL-1	6/8/2021	11:00	D. Kimbrow	2419.6	72.6	6.73	5.73	98.7	33	0.68	0.44	DK 6/9/2021
SOGUTL-4	6/8/2021	12:50	D. Kimbrow	579.4	73.7	7.06	7.50	105.2	8.17	2.22	1.44	DK 6/9/2021
SOGL-22	6/8/2021	13:30	D. Kimbrow	435.2	75.2	7.51	8.51	104.3	8.99	37.57	24.28	DK 6/9/2021
SOGL-1	6/8/2021	9:00	D. Kimbrow	980.4	72.9	7.25	7.60	94.1	30.6	79.80	51.58	DK 6/9/2021
SOGL-11	6/8/2021	10:40	D. Kimbrow	579.4	73.7	7.23	7.66	99	18.6	37.06	23.95	DK 6/9/2021
SOGL-11	6/3/2021	10:50	D. Kimbrow	172.5	72.1	7.30	8.53	128.6	9.22	22.10	14.28	DK 6/4/2021
SOGL-22	6/3/2021	13:50	D. Kimbrow	65.7	71.4	7.58	8.70	115.8	5.89	26.30	17.00	DK 6/4/2021
SOGL-1	6/3/2021	9:35	D. Kimbrow	115.3	70.6	7.33	7.85	130.5	8.11	54.90	35.48	DK 6/4/2021
SOGUTL-6	6/3/2021	10:05	D. Kimbrow	5.2	81.0	8.24	8.90	135.7	3.19	NA	NA	DK 6/4/2021
SOGUTL-5	6/3/2021	10:25	D. Kimbrow	325.5	69.7	7.07	7.79	79.3	8.69	1.11	0.72	DK 6/4/2021
SOGUTL-1	6/3/2021	13:05	D. Kimbrow	290.9	69.9	6.92	8.09	101.7	4.96	0.66	0.43	DK 6/4/2021
SOGUTL-4	6/3/2021	13:25	D. Kimbrow	96	70.5	7.29	7.78	128	3.56	0.59	0.38	DK 6/4/2021
SOGL-22	5/28/2021	9:35	D. Kimbrow	193.5	69.8	7.43	8.78	138.1	7.47	29.41	19.01	DK 5/30/2021
SOGUTL-4	5/28/2021	9:15	D. Kimbrow	115.3	70.4	7.28	8.29	177.5	3.61	1.22	0.79	DK 5/30/2021
SOGUTL-1	5/28/2021	9:00	D. Kimbrow	101.9	69.3	6.91	8.33	103.7	4.99	NA	NA	DK 5/30/2021
SOGL-11	5/28/2021	8:40	D. Kimbrow	613.1	71.0	7.26	8.00	130.4	13.8	30.79	19.90	DK 5/30/2021
SOGUTL-5	5/28/2021	8:15	D. Kimbrow	1119.9	71.7	7.02	7.95	73.4	14.2	1.71	1.11	DK 5/30/2021
SOGUTL-6	5/28/2021	7:30	D. Kimbrow	7.5	81.3	7.86	7.90	126.4	4.21	0.39	0.25	DK 5/30/2021
SOGL-1	5/28/2021	7:10	D. Kimbrow	131.4	70.5	7.27	8.21	121.9	12.2	64.50	41.69	DK 5/30/2021
SOGL-22	4/27/2021	14:30	D. Kimbrow	98.7	68.5	7.24	9.33	80.7	10.58	68.70	44.40	DK 4/28/2021
SOGUTL-1	4/27/2021	13:15	D. Kimbrow	365.4	65.1	6.76	8.87	130.7	5.88	1.21	0.78	DK 4/28/2021
SOGUTL-4	4/27/2021	13:55	D. Kimbrow	727	66.3	6.34	9.13	130.8	3.91	1.95	1.26	DK 4/28/2021
SOGL-11	4/27/2021	11:20	D. Kimbrow	387.3	65.8	7.05	8.82	83.6	15.8	68.70	44.40	DK 4/28/2021
SOGUTL-5	4/27/2021	11:00	D. Kimbrow	387.3	66.3	6.83	8.51	62.3	22.4	6.95	4.49	DK 4/28/2021
SOGUTL-6	4/27/2021	10:20	D. Kimbrow	101.7	71.4	7.06	7.68	108.6	31.8	2.23	1.44	DK 4/28/2021
SOGL-1	4/27/2021	9:55	D. Kimbrow	275.5	63.5	6.98	8.79	76.4	19.3	111.00	71.74	DK 4/28/2021

2.7 Parkerson's Mill Creek Compliance Monitoring

Parkerson's Mill Creek was placed on the ADEM 303(d) list of impaired waterbodies for pathogens in 2008. The impaired reach is 6.85 mi. long and includes all waters from its source (near the intersection of N. College St. and Glenn Ave. in downtown Auburn) to its confluence with Chewacla Creek. Potential sources of pathogens were listed as sanitary sewer overflows and urban runoff. In 2010, ADEM collected samples at stations PM3, PKML-1, PKML-5, and PKML-2 to determine the basis for the TMDL. The final Parkerson's Mill Creek TMDL was issued in September 2011, identifying E. coli as the pollutant of concern. The Parkerson's Mill Creek TMDL established the E. coli limits in stormwater at 3.42E+09 colonies/day, also expressed as a 61% reduction in non-point sources. This TMDL was established using the geometric mean criterion of 126 cfu/100mL or MPN.

Because of the impairment and subsequent TMDL, the City has been monitoring E. coli concentrations in Parkerson's Mill Creek through intensive E. coli sampling at the same four (4) monitoring sites used by ADEM

since 2015. The City added two (2) sites (PKML-6 and PKML-7) to the sampling schedule in 2021 in an effort to further refine the possible sources of high E. coli concentrations in the watershed.

Site PKML-6 is located at W. Longleaf Dr. on an unnamed tributary to Parkerson's Mill Creek that drains an area where many mobile home parks are located. Some of these communities are on private sewer systems, and the infrastructure includes septic lagoons and lift stations that have a history of failure. This tributary enters the main stem of Parkerson's Mill Creek between sites PKML-2 and PKML-5.

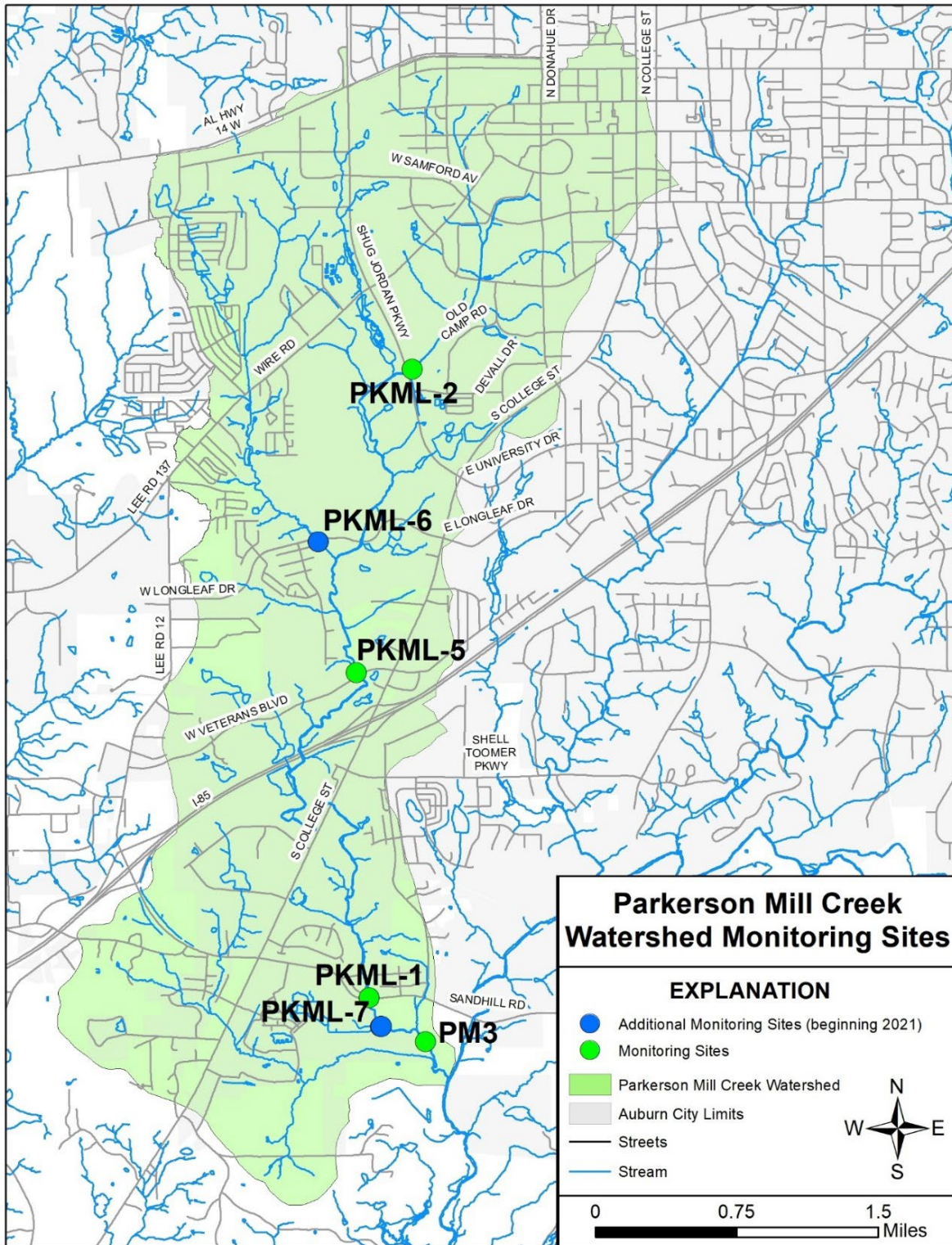
Site PKML-7 is located on a small unnamed tributary that drains the H.C. Morgan Water Pollution Control Facility. This tributary enters Parkerson's Mill Creek between sites PKML-1 and PM3. Sampling at this location will determine if the runoff from the WPCF is contributing to the rise in concentrations between PKML-1 and PM3.

Single samples are collected for E. coli once per month for April, May, July, September, October, and November. Weekly samples are collected at those sites during June and August. The 5-week geometric mean E. coli concentrations are calculated based on the results of the weekly sampling. The City also makes a reasonable effort to measure streamflow in-situ (recorded in cfs and MGD) at each sample site after water samples are collected when flow conditions permit. Water temperature, pH, dissolved oxygen, specific conductance, and turbidity are also measured in-situ at each site.

2.8 E. coli Monitoring Results

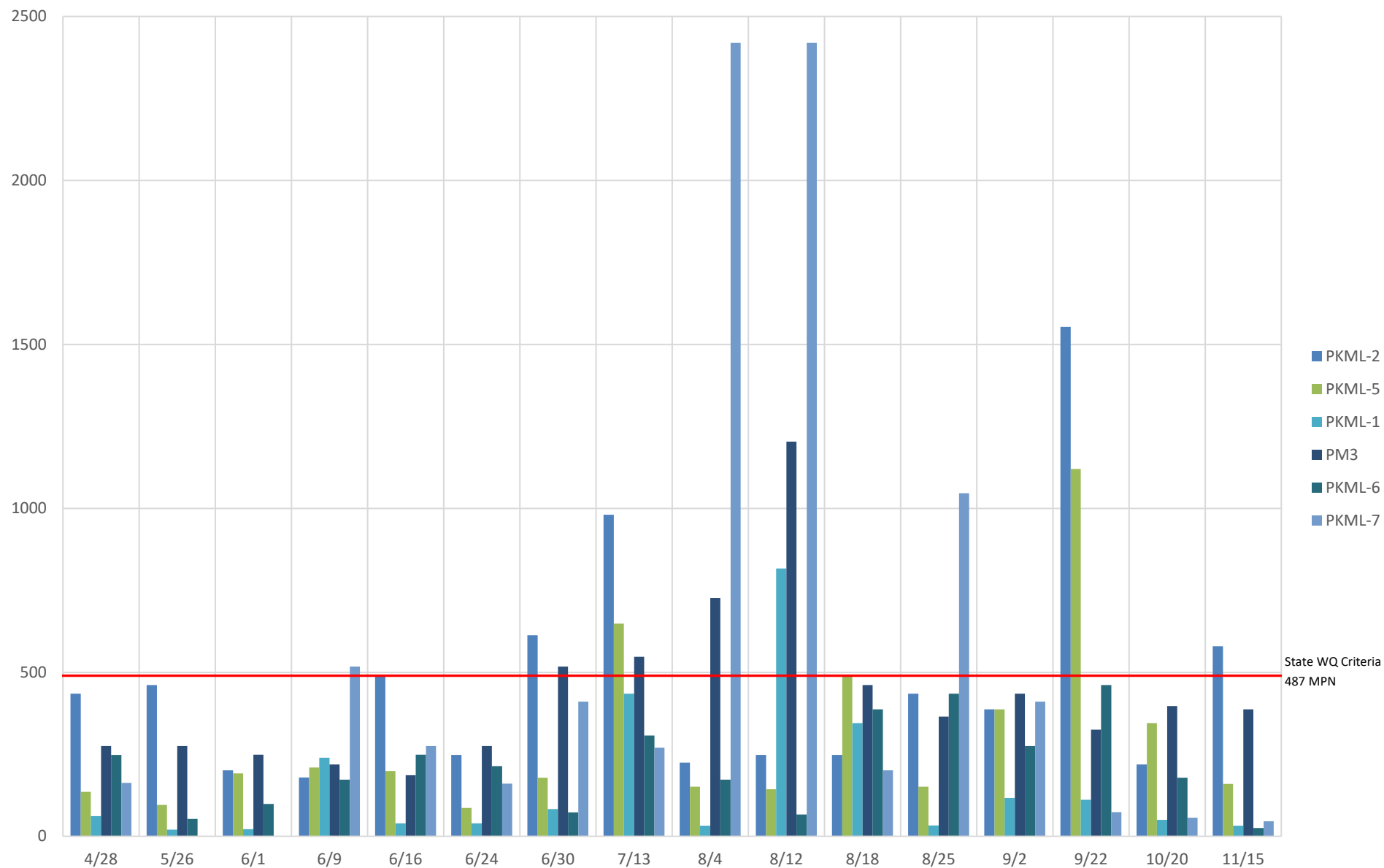
In general, over the last decade E. coli concentrations in Parkerson's Mill Creek are higher in the upper reaches near sample sites PKML-2 and PKML-5. E. coli concentrations are lower near sample site PKML-1, and then increase again at site PM3 as the creek nears its confluence with Chewacla Creek. This trend has generally been predictable going back to the ADEM study in 2010. In 2021, the June geomean data showed five sites above state water quality criteria for Parkerson's Mill Creek's designated use of Fish and Wildlife (126 MPN). In June, PKML-1 was the only site with concentrations below the state geomean water quality criteria. It is worth noting that PKML-6 was above the geomean criteria by only 20 MPN in June, with its highest single sample result being a modest 248.9 MPN. Data results from August showed an increase in E. coli concentrations across all sites in the watershed. August was a rainy month, with 16 days of rain and 9.90 in. of precipitation (6.28 in. above normal). The high E. coli concentrations are likely the result of higher than normal rainfall and increased runoff. Site PKML-7 had particularly high E. coli values, with three (3) single samples having E. coli greater than 1000 MPN.

City staff have conducted intensive sampling for E. coli in the Parkerson's Mill Creek watershed for 5 consecutive years. E. coli concentrations were the lowest in 2019, when all 4 sites were below the geomean criteria for the June samples, and 2 out of the 4 sites in August were below the geomean criteria. E. coli concentrations were less in 2021 than 2020, but still well above the above state water quality criteria for Parkerson's Mill Creek's designated use of Fish and Wildlife. 2021 was another particularly wet year, with an annual rainfall of 70.7 inches measured at the Opelika-Auburn Airport, so it is plausible that E. coli concentrations were higher due to increased stormwater runoff. There was one SSO that occurred in the watershed in 2021, but it happened outside of the monitoring period on January 13th.

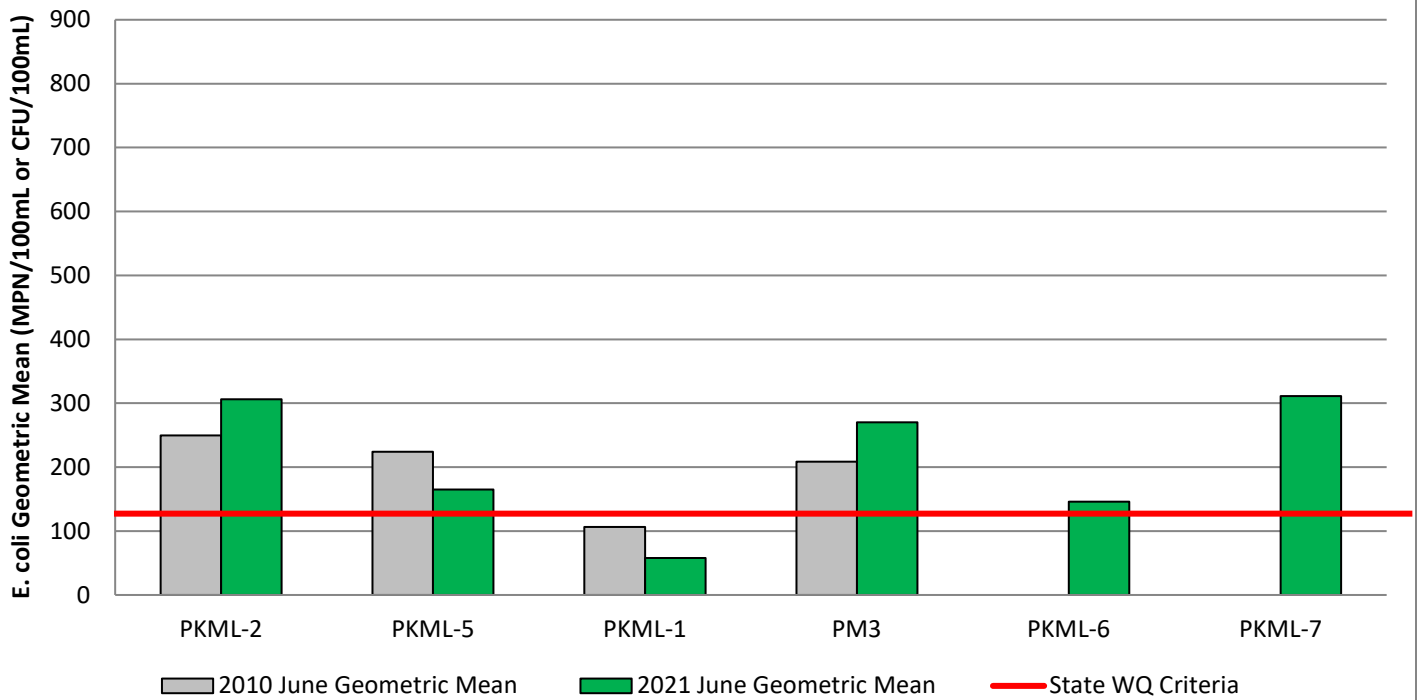


Parkerson's Mill Creek Watershed Monitoring Sites

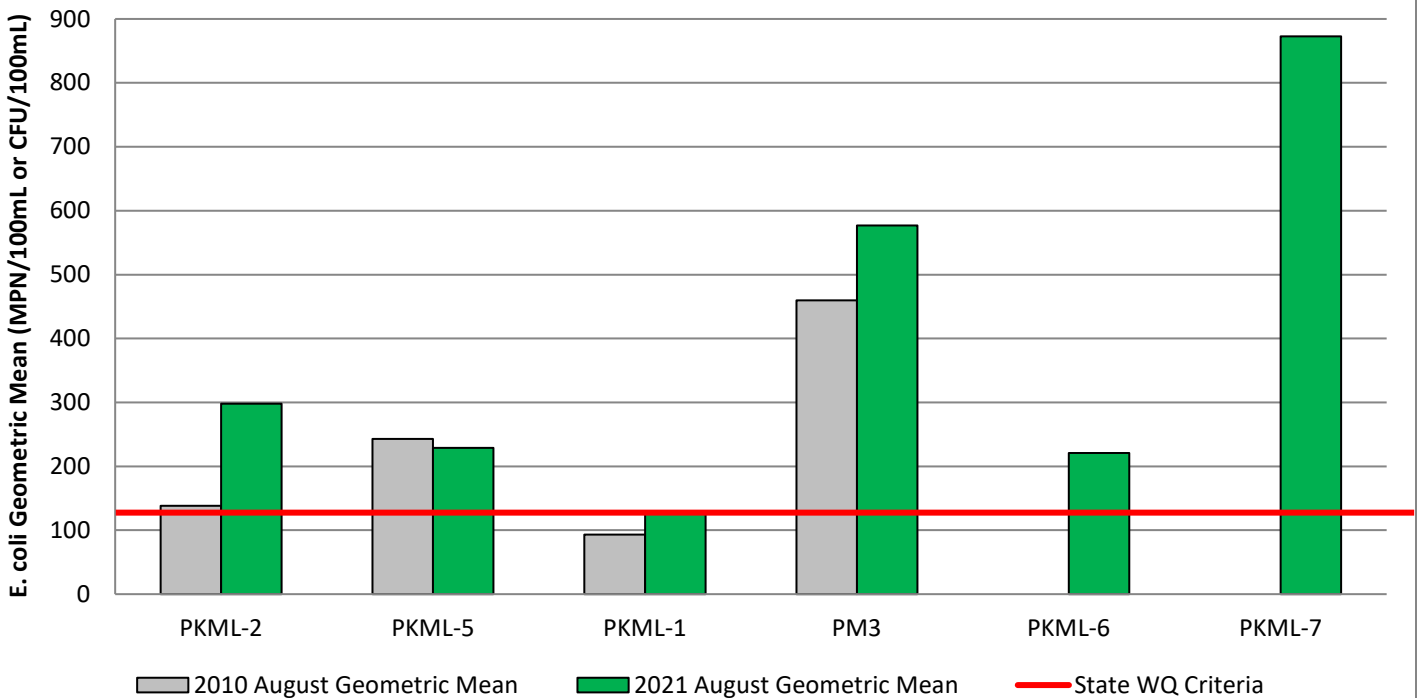
Parkerson's Mill Creek E. coli Single Sample Results for 2021



Parkerson's Mill Creek E. coli Geomean Results for June 2021



Parkerson's Mill Creek E. coli Geomean Results for August 2021



Parkersons Mill Creek Watershed Monitoring Data

Site Number	Site Location	Site Coordinates
PKML-1	Parkersons Mill Creek at Sand Hill Rd	32.53744 N, 85.50601 W
PKML-2	Parkersons Mill Creek at Shug Jordan Pkwy	32.58551 N, 85.50249 W
PKML-5	Parkersons Mill Creek at W. Veterans Blvd	32.56243 N, 85.50716 W
PKML-6	Unnamed Tributary to Parkerson's Mill Creek	32.57266 N, 85.51073 W
PKML-7	Unnamed Tributary to Parkerson's Mill Creek	32.53539 N, 85.50560 W
PM-3	Parkersons Mill Creek below HC Morgan WPCF	32.53427 N, 85.50156 W

Water Quality Parameter	Analytical Method
Temperature (F)	YSI 5560
pH (Standard Units)	YSI 1001
Dissolved Oxygen (mg/L)	YSI 2003
Specific Conductance (µS/cm)	YSI 5560
Turbidity (NTU)	SM 2130 B
E. coli (MPN)	IDEXX

Parkerson's Mill Creek Watershed E. coli Sampling Results												
Site Number	Sample Date	Sample Time	Sample Collected By & In-situ Parameters Analyzed By	E. coli (MPN)	Temperature (F)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (uS/cm)	Turbidity (NTU)	Streamflow (cfs)	Streamflow (MGD)	E. coli Sample Analyzed By & Date
PKML-7	11/15/2021	9:10	D. Kimbrow	46.2	44.9	7.65	12.22	80.3	2.17	NA	NA	DK 11/16/2021
PKML-1	11/15/2021	9:40	D. Kimbrow	32.3	48.1	7.99	11.94	156.7	1.66	2.62	1.69	DK 11/16/2021
PM3	11/15/2021	11:00	D. Kimbrow	387.3	65.0	7.59	8.27	316	2.24	14.3322	9.26	DK 11/16/2021
PKML-5	11/15/2021	13:15	D. Kimbrow	159.7	51.7	7.66	11.56	175.8	1.29	1.7556	1.13	DK 11/16/2021
PKML-6	11/15/2021	13:45	D. Kimbrow	25	52.0	7.39	10.40	111.5	1.92	0.5323	0.34	DK 11/16/2021
PKML-2	11/15/2021	14:10	D. Kimbrow	579.4	52.2	8.13	10.95	299	1.06	0.5956	0.38	DK 11/16/2021
PM3	10/20/2021	12:50	D. Kimbrow	396.8	71.9	7.17	7.97	319.3	2.51	14.4295	9.33	DK 10/21/2021
PKML-7	10/20/2021	13:20	D. Kimbrow	56.3	69.2	7.32	8.68	89.8	5.37	NA	NA	DK 10/21/2021
PKML-1	10/20/2021	13:30	D. Kimbrow	50.4	64.5	7.89	9.68	190.3	1.86	3.1	2.00	DK 10/21/2021
PKML-5	10/20/2021	13:55	D. Kimbrow	344.8	63.0	7.45	9.77	292.9	1.29	2.5386	1.64	DK 10/21/2021
PKML-2	10/20/2021	15:00	D. Kimbrow	218.7	63.1	7.62	9.28	320.1	1.23	0.6646	0.43	DK 10/21/2021
PKML-6	10/20/2021	14:35	D. Kimbrow	178.5	61.8	7.04	9.15	161.5	1.41	0.6775	0.44	DK 10/21/2021
PKML-1	9/22/2021	11:25	D. Kimbrow	111.2	74.2	7.79	7.72	167.9	2.39	5.99	3.87	DK 9/23/2021
PM3	9/22/2021	10:25	D. Kimbrow	325.5	76.1	7.24	7.02	284.5	5.28	16.2076	10.48	DK 9/23/2021
PKML-7	9/22/2021	11:10	D. Kimbrow	73.8	75.3	7.29	7.61	88.4	6.76	NA	NA	DK 9/23/2021
PKML-5	9/22/2021	12:05	D. Kimbrow	1119.9	73.2	7.43	7.60	173.3	2.28	3.623	2.34	DK 9/23/2021
PKML-6	9/22/2021	12:45	D. Kimbrow	461.1	72.2	7.04	7.29	147.3	3.43	1.1232	0.73	DK 9/23/2021
PKML-2	9/22/2021	13:15	D. Kimbrow	1553.1	72.9	7.71	8.00	315.4	4.25	5.3085	3.43	DK 9/23/2021
PM3	9/2/2021	8:35	D. Kimbrow	435.2	76.9	7.28	6.85	223.7	3.65	18.9959	12.28	DK 9/3/2021
PKML-5	9/2/2021	9:50	D. Kimbrow	387.3	75.4	7.42	7.55	145.4	5.27	5.2654	3.40	DK 9/3/2021
PKML-6	9/2/2021	10:30	D. Kimbrow	275.5	74.9	7.01	7.31	123	4.2	1.3801	0.89	DK 9/3/2021
PKML-7	9/2/2021	9:15	D. Kimbrow	410.6	77.7	6.85	6.26	75.6	8.34	NA	NA	DK 9/3/2021
PKML-1	9/2/2021	9:35	D. Kimbrow	116.9	75.3	7.64	7.76	137	3.81	8.52	5.51	DK 9/3/2021
PKML-2	9/2/2021	11:00	D. Kimbrow	387.3	74.9	7.65	7.50	261.7	5.42	1.543	1.00	DK 9/3/2021
PM3	8/25/2021	11:25	D. Kimbrow	365.4	81.5	7.41	6.83	312.4	2.32	14.1794	9.16	DK 8/26/2021
PKML-7	8/25/2021	12:05	D. Kimbrow	1046.2	87.0	7.02	4.47	96.4	13.5	NA	NA	DK 8/26/2021
PKML-5	8/25/2021	13:50	D. Kimbrow	151.5	81.7	7.67	7.08	176.7	1.64	1.6676	1.08	DK 8/26/2021
PKML-1	8/25/2021	12:20	D. Kimbrow	33.1	82.1	8.03	7.16	165.7	2.35	3.35	2.17	DK 8/26/2021
PKML-6	8/25/2021	14:25	D. Kimbrow	435.2	77.9	7.24	6.97	136.3	2.95	0.416	0.27	DK 8/26/2021
PKML-2	8/25/2021	14:50	D. Kimbrow	435.2	79.6	7.96	7.55	319.6	1.6	NA	NA	DK 8/26/2021
PM3	8/18/2021	8:50	D. Kimbrow	461.1	77.6	7.38	7.08	197.6	7.51	20.7225	13.39	DK 8/19/2021
PKML-7	8/18/2021	9:25	D. Kimbrow	201.4	77.1	6.95	6.29	72.3	11.01	NA	NA	DK 8/19/2021
PKML-1	8/18/2021	9:45	D. Kimbrow	344.8	77.3	7.63	7.74	117.5	9.82	9.73	6.29	DK 8/19/2021
PKML-5	8/18/2021	10:05	D. Kimbrow	488.4	77.9	7.43	7.27	114.2	6.11	5.8682	3.79	DK 8/19/2021
PKML-6	8/18/2021	10:40	D. Kimbrow	387.3	77.7	7.14	7.20	104.5	6.76	1.6956	1.10	DK 8/19/2021
PKML-2	8/18/2021	11:10	D. Kimbrow	248.1	77.1	7.70	7.24	234	9.23	1.6544	1.07	DK 8/19/2021
PKML-7	8/12/2021	11:05	D. Kimbrow	2419.6	77.3	7.12	6.55	118.4	702	NA	NA	DK 8/13/2021
PKML-2	8/12/2021	15:15	D. Kimbrow	248.1	78.5	7.75	6.92	312.3	3.41	0.551	0.36	DK 8/13/2021

**Parkerson's Mill Creek Watershed
E. coli Sampling Results**

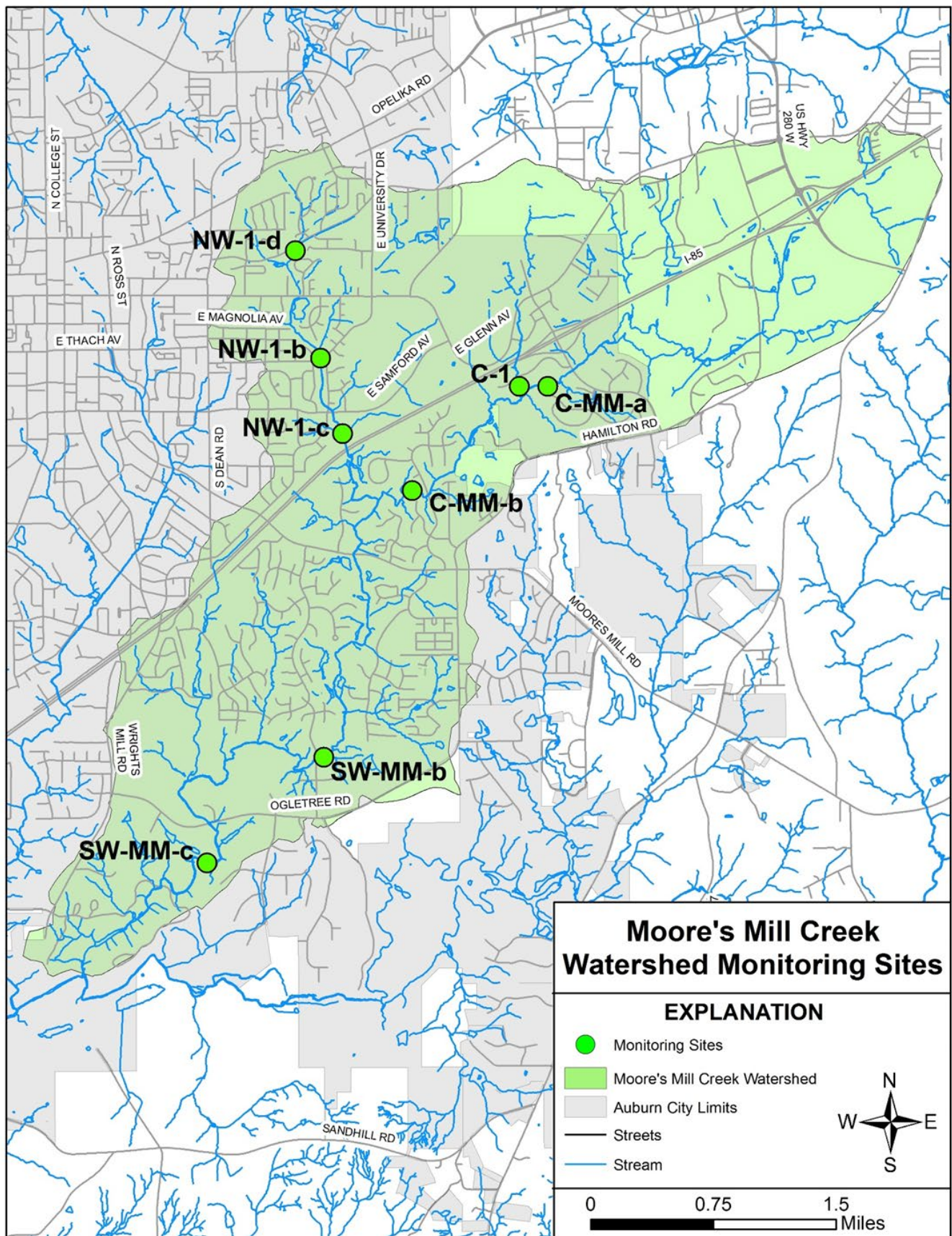
Site Number	Sample Date	Sample Time	Sample Collected By & In-situ Parameters Analyzed By	E. coli (MPN)	Temperature (F)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (uS/cm)	Turbidity (NTU)	Streamflow (cfs)	Streamflow (MGD)	E. coli Sample Analyzed By & Date
PM3	8/12/2021	10:35	D. Kimbrow	1203.3	78.8	7.35	6.91	312.5	3.87	12.6157	8.15	DK 8/13/2021
PKML-1	8/12/2021	11:45	D. Kimbrow	816.4	78.3	7.44	7.75	141.5	7.68	3.1	2.00	DK 8/13/2021
PKML-5	8/12/2021	14:10	D. Kimbrow	143.9	79.5	7.44	7.34	148.5	1.68	1.2749	0.82	DK 8/13/2021
PKML-6	8/12/2021	14:40	D. Kimbrow	66.3	76.3	7.32	7.25	145.1	2.23	0.4251	0.27	DK 8/13/2021
PM3	8/4/2021	10:30	R. McCurry	727	78.4	7.00	7.02	299.2	4.31	NA	NA	RM 8/5/2021
PKML-6	8/4/2021	12:15	R. McCurry	172.5	74.5	6.75	7.18	123.4	1.59	NA	NA	RM 8/5/2021
PKML-5	8/4/2021	13:10	R. McCurry	151.5	78.1	6.73	8.15	127.4	2.8	NA	NA	RM 8/5/2021
PKML-7	8/4/2021	15:15	R. McCurry	2419.6	76.3	NA	2.60	126.4	44	NA	NA	RM 8/5/2021
PKML-1	8/4/2021	15:45	R. McCurry	32.2	81.9	7.34	7.52	142.4	2.87	NA	NA	RM 8/5/2021
PKML-2	8/4/2021	16:25	R. McCurry	224.7	77.2	6.55	8.70	269.4	1.35	NA	NA	RM 8/5/2021
PKML-6	7/13/2021	11:30	D. Kimbrow	307.6	73.8	6.58	7.78	110.6	9.55	1.3574	0.88	DK 7/14/2021
PKML-2	7/13/2021	12:00	D. Kimbrow	980.4	74.7	7.37	8.45	226.2	9.08	1.2243	0.79	DK 7/14/2021
PM3	7/13/2021	9:10	D. Kimbrow	547.5	75.4	7.04	7.67	237.7	10.52	17.3135	11.19	DK 7/14/2021
PKML-7	7/13/2021	10:00	D. Kimbrow	270	74.1	6.52	6.59	97	51.1	NA	NA	DK 7/14/2021
PKML-1	7/13/2021	10:20	D. Kimbrow	435.2	74.9	7.34	8.34	115	16.3	2.9	1.87	DK 7/14/2021
PKML-5	7/13/2021	10:40	D. Kimbrow	648.8	75.1	7.15	8.27	122.3	10.72	5.2289	3.38	DK 7/1/2021
PM3	6/30/2021	10:10	D. Kimbrow	517.2	75.1	7.41	7.34	293.9	4.93	12.8028	8.27	DK 7/1/2021
PKML-7	6/30/2021	11:05	D. Kimbrow	410.6	75.5	7.27	6.55	101.3	75.6	NA	NA	DK 7/1/2021
PKML-1	6/30/2021	11:20	D. Kimbrow	83.3	75.6	8.03	8.33	151.8	3.49	1.1	0.71	DK 7/1/2021
PKML-5	6/30/2021	11:40	D. Kimbrow	178.5	74.4	7.57	8.04	132.9	2.81	2.8346	1.83	DK 7/1/2021
PKML-6	6/30/2021	12:15	D. Kimbrow	72.7	72.3	7.23	7.87	133.2	2.8	0.4349	0.28	DK 7/1/2021
PKML-2	6/30/2021	14:10	D. Kimbrow	613.1	74.4	7.95	8.20	297.7	2.89	1.7078	1.10	DK 7/1/2021
PM3	6/24/2021	8:45	D. Kimbrow	275.5	73.5	7.49	7.38	283.1	2.21	11.8523	7.66	DK 6/25/2021
PKML-7	6/24/2021	9:25	D. Kimbrow	160.7	73.2	7.34	6.90	97.5	29.5	NA	NA	DK 6/25/2021
PKML-1	6/24/2021	9:45	D. Kimbrow	39.3	73.3	7.95	8.30	169.1	3.4	1.4	0.90	DK 6/25/2021
PKML-5	6/24/2021	10:10	D. Kimbrow	86.5	72.1	7.68	8.19	176.5	1.8	2.795	1.81	DK 6/25/2021
PKML-6	6/24/2021	10:50	D. Kimbrow	214.3	70.6	7.32	8.86	133.5	3.68	0.6994	0.45	DK 6/25/2021
PKML-2	6/24/2021	13:50	D. Kimbrow	248.1	72.7	7.99	8.61	306.4	1.44	0.8387	0.54	DK 6/25/2021
PM3	6/16/2021	9:25	D. Kimbrow	186	73.0	7.46	7.03	267.4	2.32	16.5401	10.69	DK 6/17/2021
PKML-1	6/16/2021	10:35	D. Kimbrow	39.9	73.1	7.98	8.3	176.5	2.57	1.8	1.16	DK 6/17/2021
PKML-5	6/16/2021	12:30	D. Kimbrow	198.9	74.4	7.55	8.07	140.8	2.17	1.6166	1.04	DK 6/17/2021
PKML-6	6/16/2021	13:05	D. Kimbrow	248.9	71.1	7.29	7.83	121.4	3.34	0.4729	0.31	DK 6/17/2021
PKML-2	6/16/2021	13:35	D. Kimbrow	488.4	73.8	7.91	8.23	272.6	1.54	0.594	0.38	DK 6/17/2021
PKML-5	6/16/2021	10:20	D. Kimbrow	275.5	73.1	7.26	7.06	85.3	34.3	NA	NA	DK 6/17/2021
PM3	6/9/2021	9:20	D. Kimbrow	218.7	74.4	7.42	7.32	130.2	6.89	13.2838	8.59	DK 6/10/2021
PKML-7	6/9/2021	10:05	D. Kimbrow	517.2	74.6	7.14	7.42	81.9	40.7	NA	NA	DK 6/10/2021
PKML-1	6/9/2021	10:25	D. Kimbrow	240	75.1	7.87	8.17	123.7	6.18	2.9	1.87	DK 6/10/2021
PKML-5	6/9/2021	10:45	D. Kimbrow	209.8	74.3	7.49	7.83	130.9	4.38	3.5898	2.32	DK 6/10/2021
PKML-6	6/9/2021	11:30	D. Kimbrow	172.5	72.7	7.22	8.07	110.9	7.52	1.0394	0.67	DK 6/10/2021
PKML-2	6/9/2021	12:00	D. Kimbrow	179.3	74.8	7.66	7.78	113.4	4.08	0.8904	0.58	DK 6/10/2021
PKML-1	6/1/2021	8:10	D. Kimbrow	21.6	69.1	7.94	8.85	140.2	1.71	1.6	1.03	DK 6/2/2021
PKML-7	6/1/2021	7:50	D. Kimbrow	NA	NA	NA	NA	NA	NA	NA	NA	DK 6/2/2021
PKML-5	6/1/2021	8:25	D. Kimbrow	191.8	67.3	7.61	8.35	125.4	1.48	1.5393	0.99	DK 6/2/2021
PKML-6	6/1/2021	10:30	D. Kimbrow	99	67.4	7.37	9.37	167.3	2.16	0.2926	0.19	DK 6/2/2021
PKML-2	6/1/2021	11:05	D. Kimbrow	201.4	69.3	8.05	8.92	153.9	1.99	0.6995	0.45	DK 6/2/2021
PM3	6/1/2021	7:25	D. Kimbrow	248.9	70.9	7.48	7.37	152.4	2.21	7.0831	4.58	DK 6/2/2021
PM3	5/26/2021	9:05	D. Kimbrow	275.5	72.6	7.46	7.97	302.2	2.14	11.7295	7.58	DK 5/27/2021
PKML-1	5/26/2021	10:30	D. Kimbrow	20.1	73.6	7.97	8.65	105.4	1.91	2.1	1.36	DK 5/27/2021
PKML-5	5/26/2021	10:50	D. Kimbrow	95.9	71.6	7.64	9.09	207.6	1.47	2.1724	1.40	DK 5/27/2021
PKML-6	5/26/2021	11:30	D. Kimbrow	52.9	70.3	7.29	9.22	132.5	2.4	0.3913	0.25	DK 5/27/2021
PKML-2	5/26/2021	11:55	D. Kimbrow	461.1	72.5	8.03	9.72	336.1	NA	NA	NA	DK 5/27/2021
PKML-7	5/26/2021	NA	D. Kimbrow	NA	NA	NA	NA	NA	NA	NA	NA	DK 5/27/2021
PKML-2	4/28/2021	13:55	D. Kimbrow	435.2	68.6	7.61	9.33	269.3	3.14	1.4442	0.93	DK 4/29/2021
PKML-6	4/28/2021	13:25	D. Kimbrow	248.1	68.0	7.16	8.68	135.8	5.15	1.4845	0.96	DK 4/29/2021
PM3	4/28/2021	10:20	D. Kimbrow	275.5	69.3	7.21	8.48	239.6	4.48	20.0459	12.96	DK 4/29/2021
PKML-7	4/28/2021	10:50	D. Kimbrow	163.1	70.8	7.14	8.16	78.7	47.9	NA	NA	DK 4/29/2021
PKML-5	4/28/2021	12:50	D. Kimbrow	135.4	69.6	7.39	9.28	163.5	3.95	4.6295	2.99	DK 4/29/2021
PKML-1	4/28/2021	11:10	D. Kimbrow	61.3	68.5	7.70	9.19	156.5	3.39	4.1	2.65	DK 4/29/2021

2.9 Moore's Mill Creek Compliance Monitoring

Moore's Mill Creek was placed on the draft 303(d) list for siltation in 1998, and has been on the final 303(d) list since 2000. The impaired reach is 10.51 mi. and includes all waters from its source to the confluence with Chewacla Creek at Chewacla State Park. Habitat degradation due to sedimentation/siltation is the impairment in Moore's Mill Creek. Potential sources of the impairment are listed as land development and urban runoff/storm sewers. The Moore's Mill Creek Watershed Management Plan was completed in 2008. This plan outlined several objectives aimed to reduce sedimentation and mitigate habitat degradation. Included in the plan were geomorphic surveys and Bank Erosion Hazard Index (BEHI) assessments of stream reaches on both the main stem and tributaries throughout the watershed. Findings from these geomorphic surveys and BEHI assessments identified in-stream sediment loading from streambank erosion as a significant contributor to the impairment. The watershed management plan recommended continued monitoring of these sites to evaluate the success of future efforts aimed to reduce bank erosion.

The City monitored streambank erosion at eight (8) reaches in the Moore's Mill Creek watershed with annual stream geomorphic surveys conducted in March, 2021. These annual surveys measured geomorphic parameters that are used as indicators of stability of a stream reach. A stream condition rapid assessment was performed at each of the 8 reaches. The stream condition rapid assessment was developed with a grant from EPA (EPA Region IV Wetlands Program Development Grant CD00D01412, "Eco-Morphological Mitigation Design and Assessment Tools for the Alabama and Tennessee Appalachian Plateau"), and rates stream condition and function based on eco-geomorphic indicators. Quarterly samples of total suspended solids (TSS), water temperature, pH, dissolved oxygen, specific conductance, and turbidity are measured in-situ at each site. The cross-sections at each stream reach site in the Moore's Mill Creek watershed are shown in the following charts. Each cross-section chart compares this year's survey to the previous year. Erosion occurred where the 2021 cross-section line is below or outside of the 2020 cross-section line. Deposition occurred where the 2021 line is above or inside of the 2020 cross-section line.

Data from the geomorphic surveys conducted in March 2021 show that most sites were relatively stable from 2020 to 2021. Similar to last year, the most notable exception is site NW-1-c. There was much deposition in the upstream cross-section at this site, and the downstream cross-section exhibited significant erosion on the left bank and about 1 ft. of deposition in the channel bed of the downstream cross-section. There have been numerous development projects in the watershed upstream of NW-1-c over the last several years. The increased urban development combined with the rise in duration and intensity of local rain events is likely a contributor to the severe deposition and bank erosion at this site. Although several of the other sites exhibited moderate to high geometric BEHI indices, most of the sites had stable streambanks during this reporting period.



Moore's Mill Creek Watershed Monitoring Sites

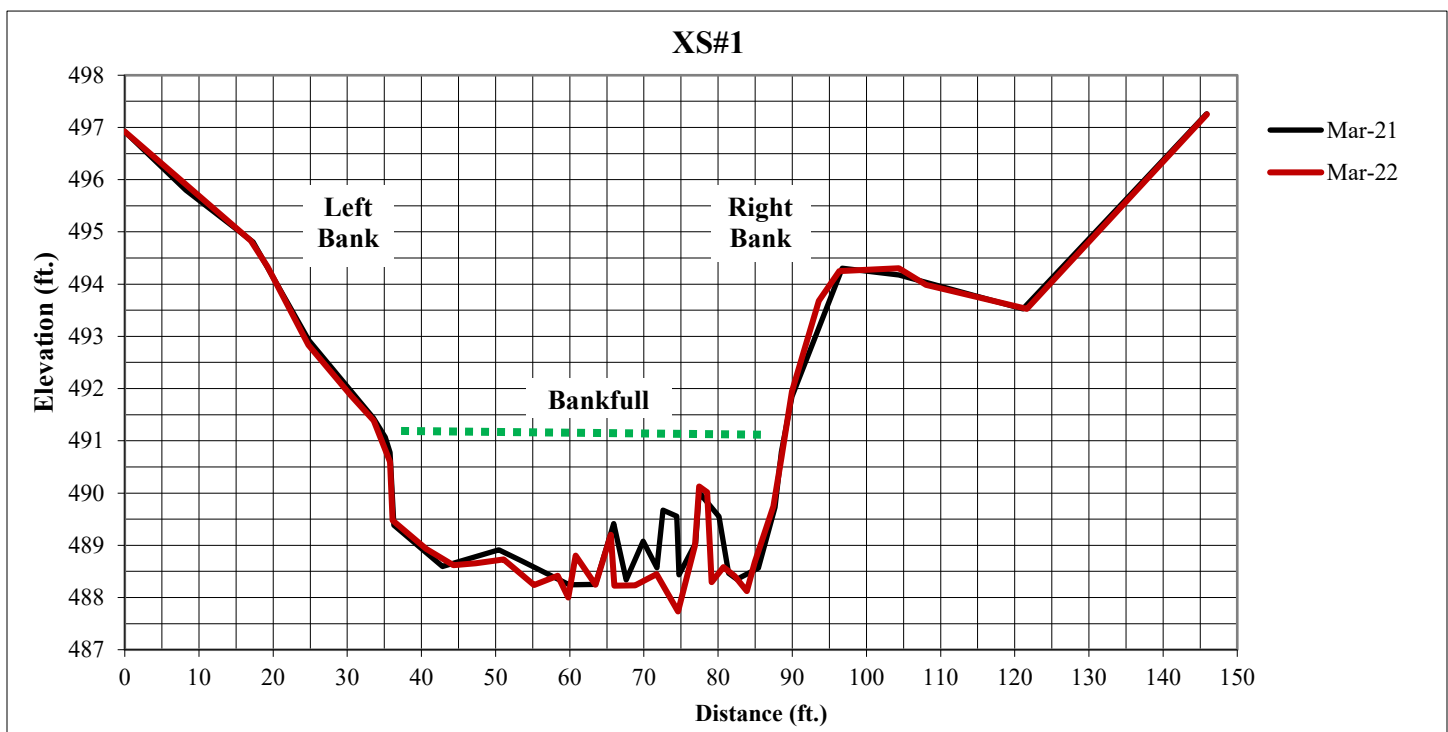
Moore's Mill Creek Watershed Monitoring Data

Site Number	Reach Length	Upstream Coordinates	Downstream Coordinates
C-1	550 ft.	32.601404 N, 85.432698 W	32.600192 N, 85.432044 W
C-MM-a	950 ft.	32.600874 N, 85.428538 W	32.600530 N, 85.431463 W
C-MM-b	1100 ft.	32.591034 N, 85.442119 W	32.590912 N, 85.444596 W
NW-1-b	600 ft.	32.603946 N, 85.453310 W	32.602333 N, 85.453047 W
NW-1-c	850 ft.	32.597506 N, 85.451326 W	32.595712 N, 85.450483 W
NW-1-d	950 ft.	32.613527 N, 85.455178 W	32.611580 N, 85.456570 W
SW-MM-b	650 ft.	32.568631 N, 85.451830 W	32.567873 N, 85.453612 W
SW-MM-c	1350 ft.	32.559094 N, 85.463712 W	32.558760 N, 85.466685 W

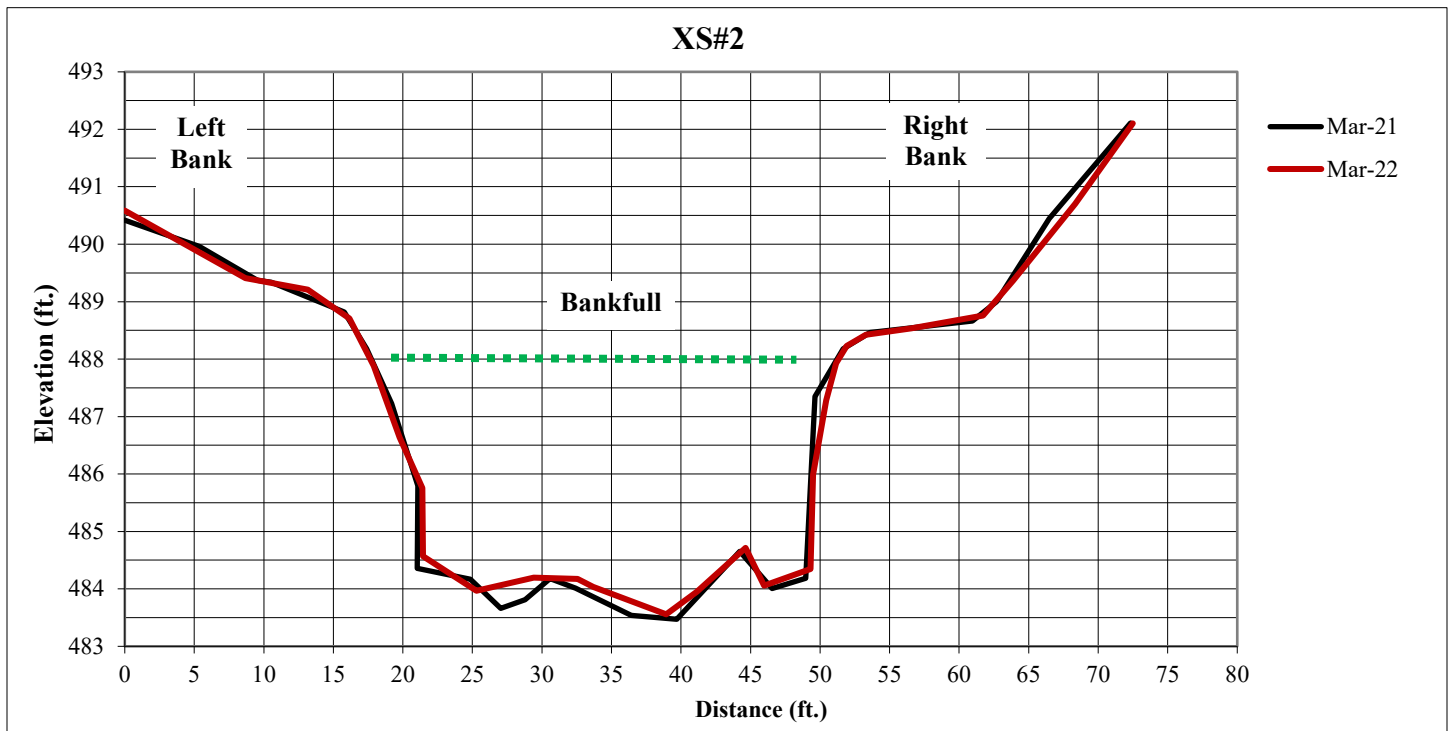
Moore's Mill Creek Watershed Total Suspended Solids Sampling Results										
Site Number	Sample Date	Sample Time	Sample Collected By & In-situ Parameters Analyzed By	Total Suspended Solids (mg/L)	Temperature (F)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (uS/cm)	Turbidity (NTU)	Total Suspended Solids Sample Analyzed By & Date
NW-1-d	3/16/2022	9:15	D. Kimbrow	5.32	58.3	7.07	NA	165.9	17.7	DS (ERA) 3/18/2022
NW-1-b	3/16/2022	10:25	D. Kimbrow	7.55	58.6	7.41	10.45	105.9	17.1	DS (ERA) 3/18/2022
NW-1-c	3/16/2022	10:40	D. Kimbrow	7.23	58.3	7.36	10.10	98.4	15.7	DS (ERA) 3/18/2022
C-1	3/16/2022	11:00	D. Kimbrow	7.87	57.8	7.27	10.11	97.6	15.8	DS (ERA) 3/18/2022
C-MM-a	3/16/2022	11:10	D. Kimbrow	17.7	57.8	7.35	10.15	84.1	20.0	DS (ERA) 3/18/2022
SW-MM-b	3/16/2022	12:35	D. Kimbrow	14.8	60.2	7.3	10.30	91.4	17.6	DS (ERA) 3/18/2022
C-MM-b	3/16/2022	12:50	D. Kimbrow	17.5	59.6	7.42	10.23	85.7	18.7	DS (ERA) 3/18/2022
SW-MM-c	3/16/2022	14:00	D. Kimbrow	24.4	59.2	7.51	10.10	87.4	23.1	DS (ERA) 3/18/2022
SW-MM-c	12/7/2021	13:45	D. Kimbrow	5.44	55.3	7.76	10.57	97.4	11.2	BG (ERA) 12/9/2021
SW-MM-b	12/7/2021	11:40	D. Kimbrow	5.93	55.0	7.51	9.85	90.8	11.7	BG (ERA) 12/9/2021
C-MM-b	12/7/2021	11:25	D. Kimbrow	9.41	54.6	7.52	10.14	97.5	12.2	BG (ERA) 12/9/2021
C-MM-a	12/7/2021	11:10	D. Kimbrow	12.2	54.8	7.45	9.76	97.8	15.4	BG (ERA) 12/9/2021
C-1	12/7/2021	10:55	D. Kimbrow	3.88	54.1	7.36	9.92	106.1	8.77	BG (ERA) 12/9/2021
NW-1-c	12/7/2021	10:35	D. Kimbrow	6.88	53.6	7.4	9.08	105.6	17.5	BG (ERA) 12/9/2021
NW-1-b	12/7/2021	10:25	D. Kimbrow	8.3	53.7	7.54	10.44	111.1	20.4	BG (ERA) 12/9/2021
NW-1-d	12/7/2021	10:10	D. Kimbrow	6.34	54.9	7.37	9.25	191.8	7.31	BG (ERA) 12/9/2021
C-1	9/21/2021	11:50	D. Kimbrow	36.3	75.1	6.67	7.77	48.9	30.0	BG (ERA) 9/22/2021
C-MM-a	9/21/2021	12:00	D. Kimbrow	29.7	77.1	7.04	7.02	70.6	27.5	BG (ERA) 9/22/2021
C-MM-b	9/21/2021	12:20	D. Rogers D. Kimbrow	62.1	75.6	6.93	7.71	56.8	44.2	BG (ERA) 9/22/2021
SW-MM-b	9/21/2021	12:35	D. Rogers D. Kimbrow	133	75.2	7.15	7.25	81.1	74.1	BG (ERA) 9/22/2021
NW-1-c	9/21/2021	13:05	D. Rogers D. Kimbrow	26.1	75.8	7.09	7.62	82.4	29.5	BG (ERA) 9/22/2021
NW-1-b	9/21/2021	13:20	D. Rogers D. Kimbrow	27.1	76.7	7.3	7.44	86.5	28.6	BG (ERA) 9/22/2021
NW-1-d	9/21/2021	13:30	D. Rogers D. Kimbrow	75.5	73.9	7	6.84	150.0	128	BG (ERA) 9/22/2021
SW-MM-c	9/21/2021	14:05	D. Rogers D. Kimbrow	94.8	76.4	7.43	7.68	98.3	56.3	BG (ERA) 9/22/2021
NW-1-d	6/28/2021	10:40	D. Kimbrow	2.6	70.7	7.24	7.60	183.0	4.53	DS (ERA) 6/28/2021
NW-1-b	6/28/2021	10:50	D. Kimbrow	<2.63	74.3	7.63	8.17	129.8	3.63	DS (ERA) 6/28/2021
NW-1-c	6/28/2021	11:30	D. Kimbrow	4.47	74.2	7.29	7.48	127.0	9.61	DS (ERA) 6/28/2021
C-1	6/28/2021	11:55	D. Kimbrow	<2.63	70.7	7.46	8.06	134.6	2.87	DS (ERA) 6/28/2021
C-MM-a	6/28/2021	12:00	D. Kimbrow	5.16	77.8	7.11	5.40	96.0	6.07	DS (ERA) 6/28/2021
C-MM-b	6/28/2021	13:40	D. Kimbrow	2.66	75.6	7.41	7.61	102.3	4.71	DS (ERA) 6/28/2021
SW-MM-b	6/28/2021	13:55	D. Kimbrow	2.95	78.8	7.3	7.32	112.3	7.44	DS (ERA) 6/28/2021
SW-MM-c	6/28/2021	14:15	D. Kimbrow	7.77	78.0	8.07	8.40	95.4	14.5	DS (ERA) 6/28/2021

Site	Stream Condition and Function	Score (0 – 2)*
SW-MM-c	Upstream watershed impacts from stormwater, wastewater, or sediment	1
	Local stream reach impacts from ditches, pipes, livestock, utilities, or roads	2
	Channel dimension related to bankfull cross-section measurements	2
	Channel pattern related to planform measurements	2
	Channel bed profile related to longitudinal profile measurements	2
	Streambank stability and protection from erosion	2
	Floodplain connection for bankfull flood access	1
	Floodplain morphology to dissipate flood energy and minimize erosion	2
	Riparian vegetation to provide shade, nutrient uptake, and food sources	2
	Habitats including diverse bedform, large woody debris, leaf packs, root hairs	2
	Water quality and stream bed sediments	2
	Presence of desirable fish and macroinvertebrates expected for watershed	1
*Score indicates natural function and health: 2 = Good; 1 = Fair; 0 = Poor		
TOTAL		21

Site	Cross-Section	Geomorphic Parameter	Value	Units
SW-MM-c	1	Bankfull Area	102	ft. ²
		Bankfull Width	53	ft.
		Bankfull Depth	1.9	ft.
		Maximum Bankfull Depth	2.87	ft.
		Low Bank Height	6.52	ft.
		Width of the Flood-prone Area	140	ft.
		Width to Depth Ratio	27.2	n/a
		Bank Height Ratio	2.3	n/a
		Entrenchment Ratio	2.7	n/a
		Right Bank BEHI	Very High	n/a
		Left Bank BEHI	High	n/a

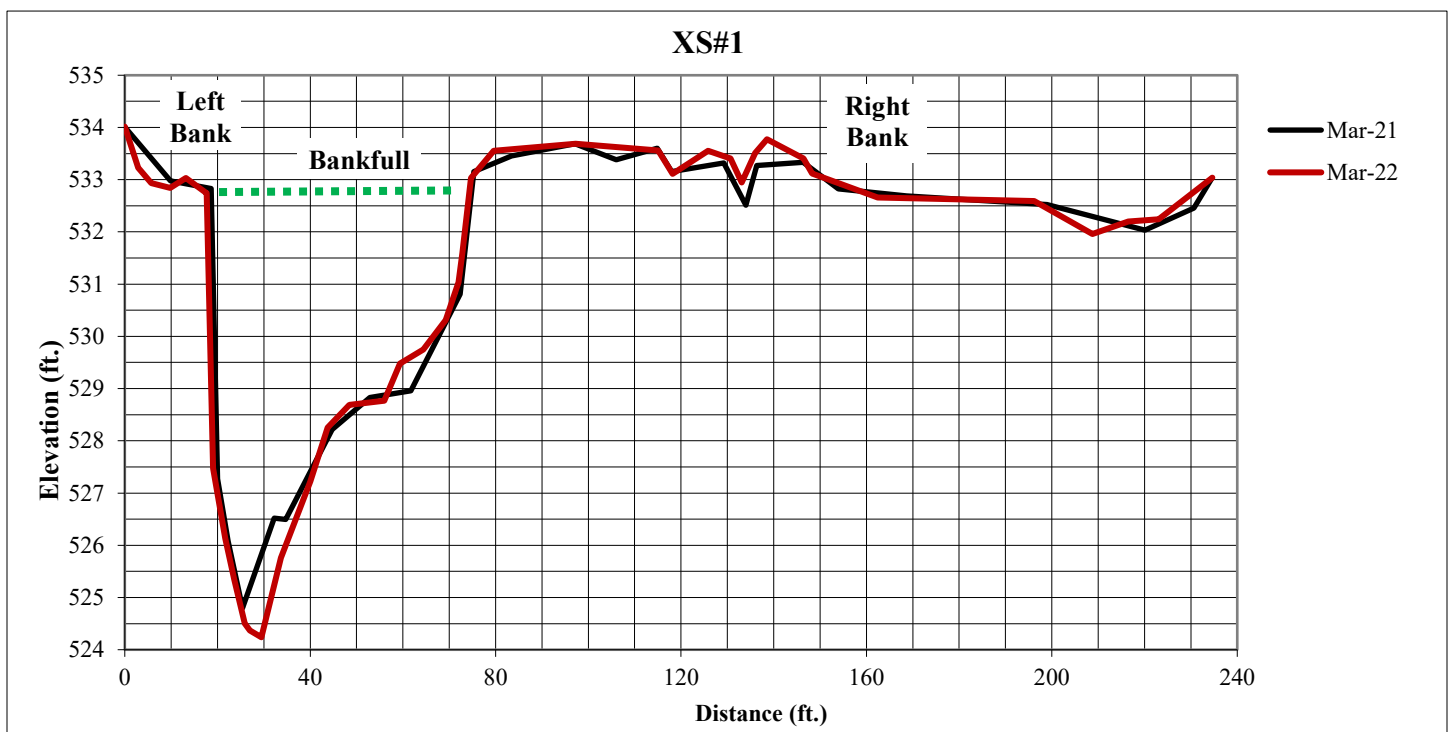


Site	Cross-Section	Geomorphic Parameter	Value	Units
SW-MM-c	2	Bankfull Area	125	ft. ²
		Bankfull Width	36	ft.
		Bankfull Depth	3.5	ft.
		Maximum Bankfull Depth	4.67	ft.
		Low Bank Height	4.87	ft.
		Width of the Flood-prone Area	220	ft.
		Width to Depth Ratio	10.3	n/a
		Bank Height Ratio	1.0	n/a
		Entrenchment Ratio	6.2	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Low	n/a

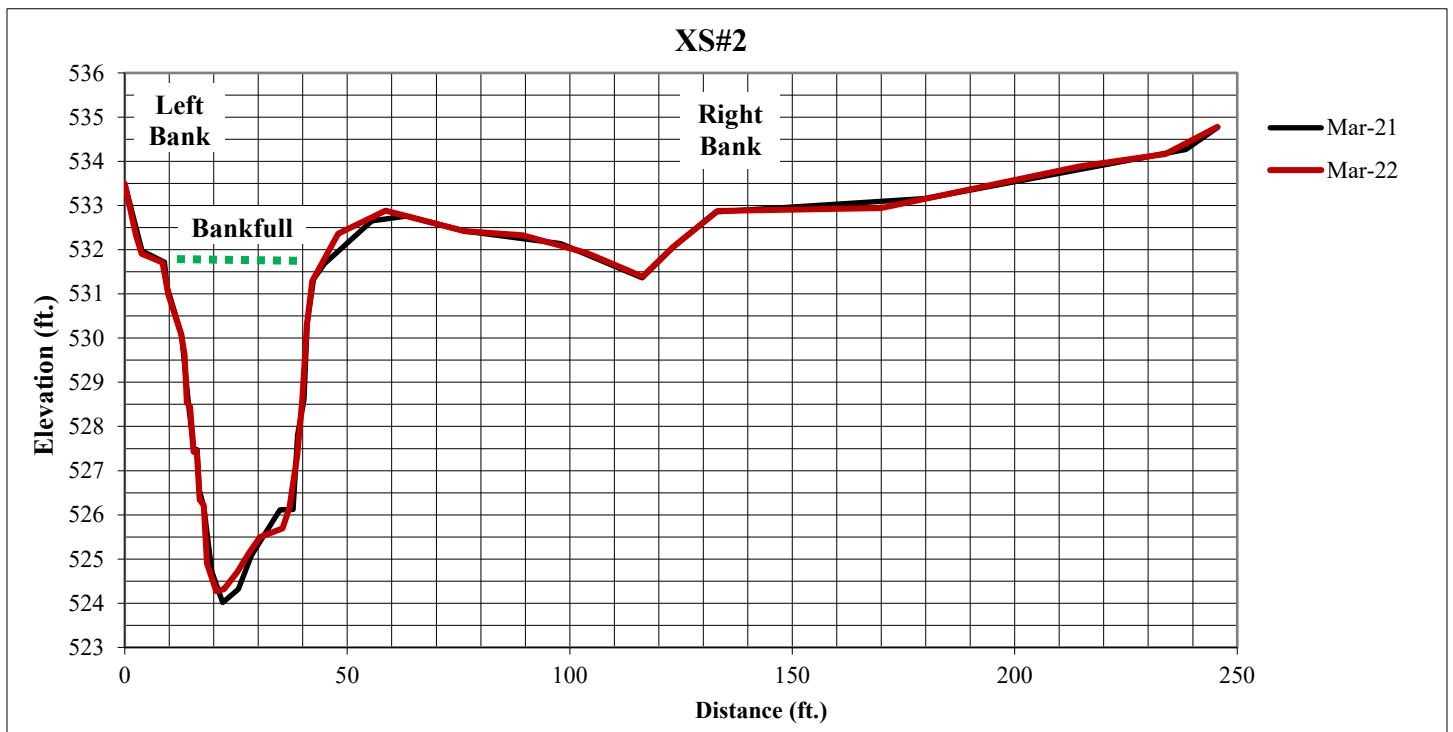


Site	Stream Condition and Function	Score (0 – 2)*
SW-MM-b	Upstream watershed impacts from stormwater, wastewater, or sediment	1
	Local stream reach impacts from ditches, pipes, livestock, utilities, or roads	2
	Channel dimension related to bankfull cross-section measurements	1
	Channel pattern related to planform measurements	2
	Channel bed profile related to longitudinal profile measurements	1
	Streambank stability and protection from erosion	1
	Floodplain connection for bankfull flood access	2
	Floodplain morphology to dissipate flood energy and minimize erosion	1
	Riparian vegetation to provide shade, nutrient uptake, and food sources	2
	Habitats including diverse bedform, large woody debris, leaf packs, root hairs	1
	Water quality and stream bed sediments	1
	Presence of desirable fish and macroinvertebrates expected for watershed	1
*Score indicates natural function and health: 2 = Good; 1 = Fair; 0 = Poor		
TOTAL		16

Site	Cross-Section	Geomorphic Parameter	Value	Units
SW-MM-b	1	Bankfull Area	261	ft. ²
		Bankfull Width	57	ft.
		Bankfull Depth	4.6	ft.
		Maximum Bankfull Depth	8.5	ft.
		Low Bank Height	9.32	ft.
		Width of the Flood-prone Area	450	ft.
		Width to Depth Ratio	12.5	n/a
		Bank Height Ratio	1.1	n/a
		Entrenchment Ratio	7.9	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Moderate	n/a

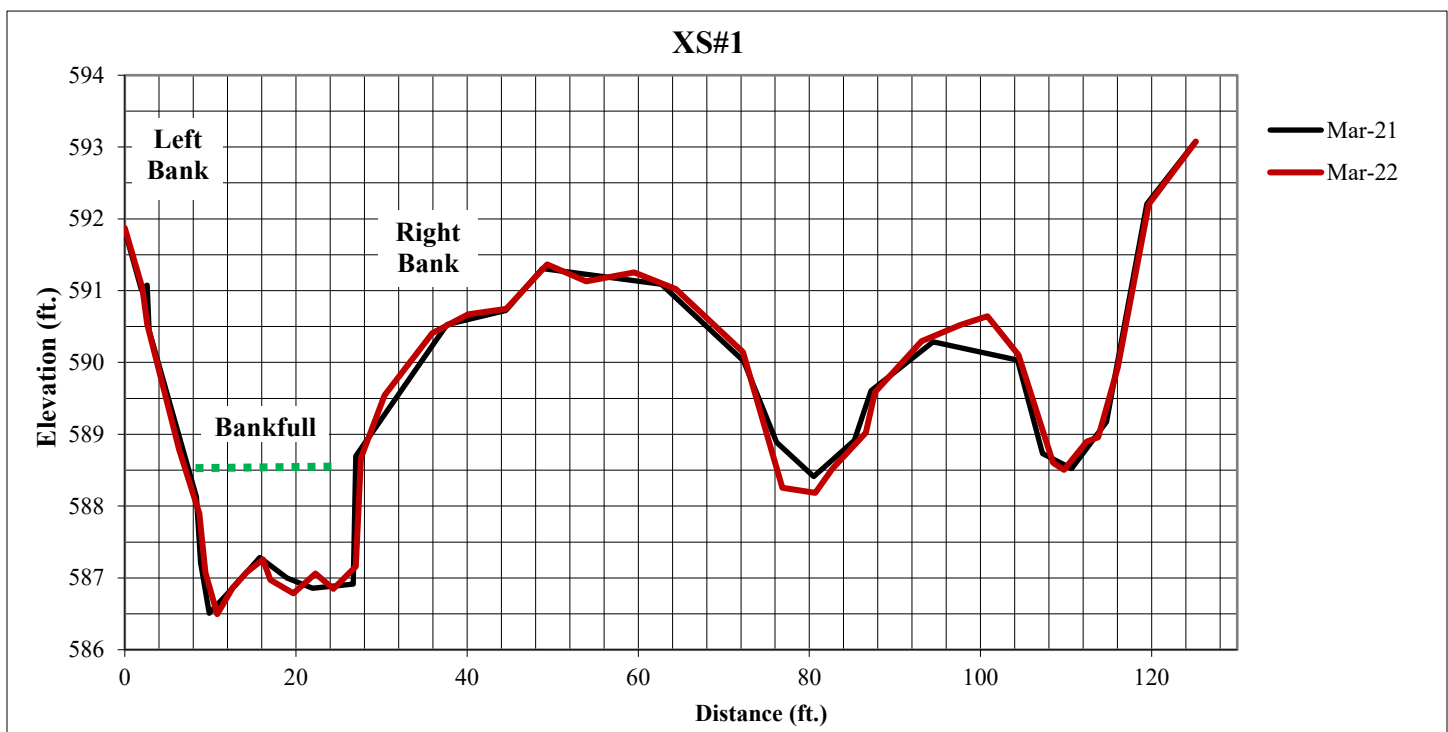


Site	Cross-Section	Geomorphic Parameter	Value	Units
SW-MM-b	2	Bankfull Area	165	ft. ²
		Bankfull Width	34	ft.
		Bankfull Depth	4.9	ft.
		Maximum Bankfull Depth	7.4	ft.
		Low Bank Height	8.61	ft.
		Width of the Flood-prone Area	425	ft.
		Width to Depth Ratio	6.8	n/a
		Bank Height Ratio	1.2	n/a
		Entrenchment Ratio	12.6	n/a
		Right Bank BEHI	Moderate	n/a
		Left Bank BEHI	Moderate	n/a

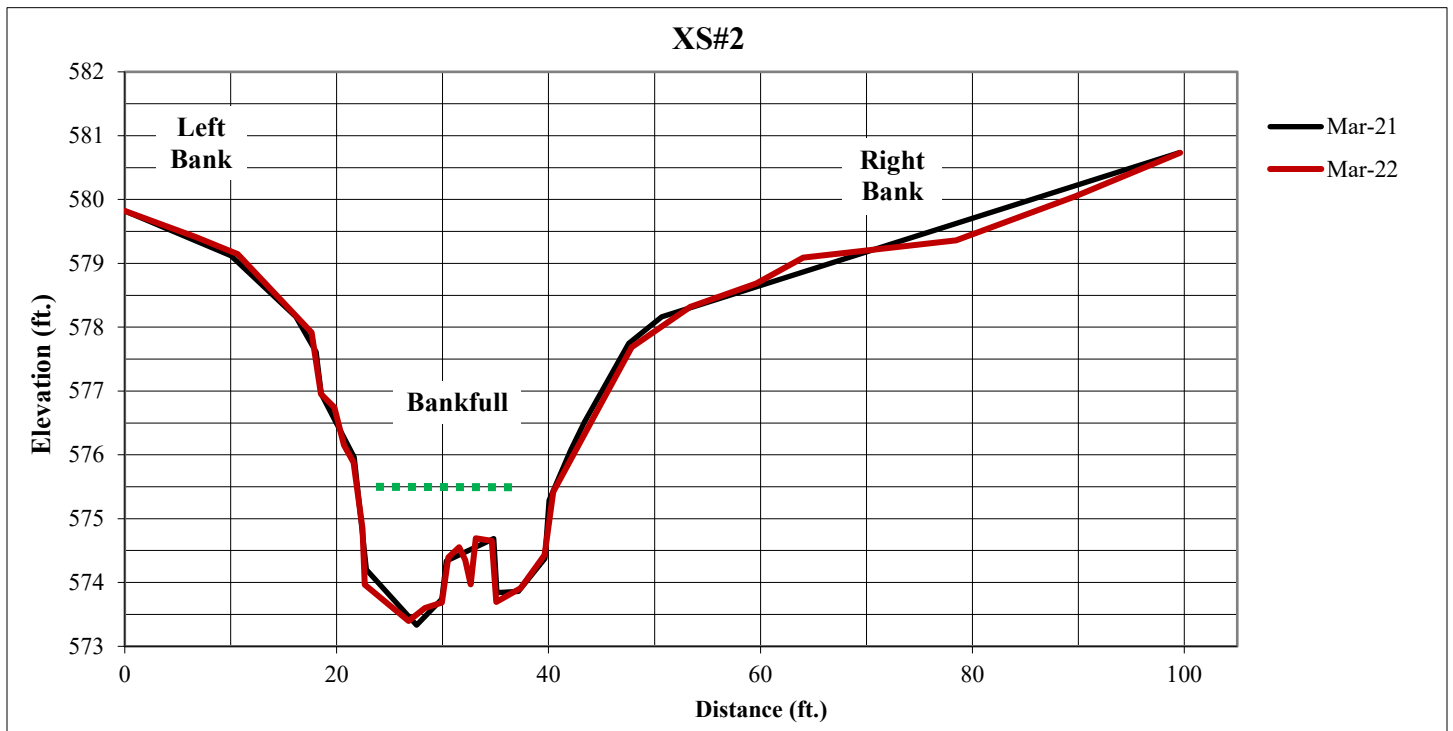


Site	Stream Condition and Function	Score (0 – 2)*
C-MM-b	Upstream watershed impacts from stormwater, wastewater, or sediment	1
	Local stream reach impacts from ditches, pipes, livestock, utilities, or roads	2
	Channel dimension related to bankfull cross-section measurements	1
	Channel pattern related to planform measurements	1
	Channel bed profile related to longitudinal profile measurements	2
	Streambank stability and protection from erosion	2
	Floodplain connection for bankfull flood access	1
	Floodplain morphology to dissipate flood energy and minimize erosion	2
	Riparian vegetation to provide shade, nutrient uptake, and food sources	1
	Habitats including diverse bedform, large woody debris, leaf packs, root hairs	2
	Water quality and stream bed sediments	2
	Presence of desirable fish and macroinvertebrates expected for watershed	1
*Score indicates natural function and health: 2 = Good; 1 = Fair; 0 = Poor		
TOTAL		18

Site	Cross-Section	Geomorphic Parameter	Value	Units
C-MM-b	1	Bankfull Area	33	ft. ²
		Bankfull Width	21	ft.
		Bankfull Depth	1.6	ft.
		Maximum Bankfull Depth	2.2	ft.
		Low Bank Height	4.87	ft.
		Width of the Flood-prone Area	135	ft.
		Width to Depth Ratio	13.7	n/a
		Bank Height Ratio	2.2	n/a
		Entrenchment Ratio	6.4	n/a
		Right Bank BEHI	Moderate	n/a
		Left Bank BEHI	Low	n/a

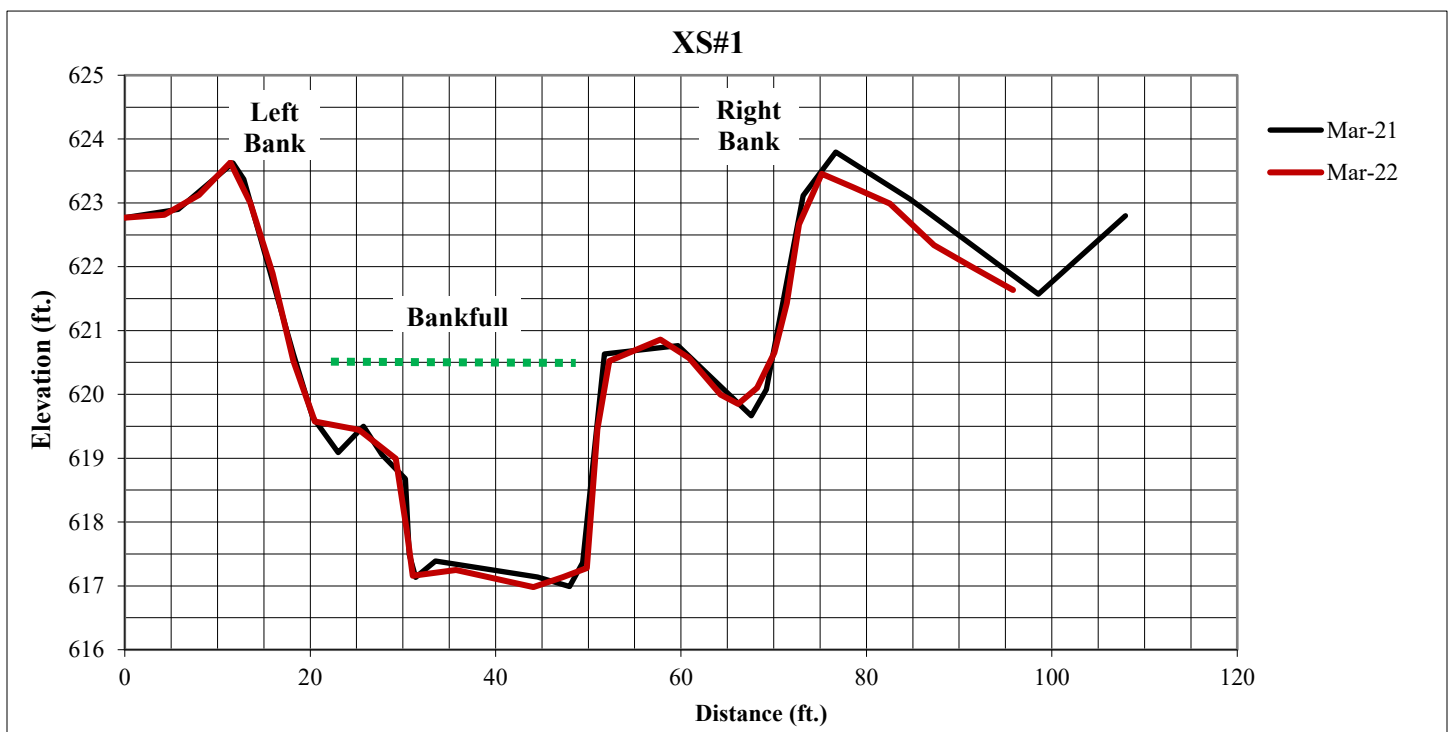


Site	Cross-Section	Geomorphic Parameter	Value	Units
C-MM-b	2	Bankfull Area	26	ft. ²
		Bankfull Width	25	ft.
		Bankfull Depth	1	ft.
		Maximum Bankfull Depth	2.0	ft.
		Low Bank Height	5.69	ft.
		Width of the Flood-prone Area	315	ft.
		Width to Depth Ratio	25.2	n/a
		Bank Height Ratio	2.8	n/a
		Entrenchment Ratio	12.4	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Low	n/a

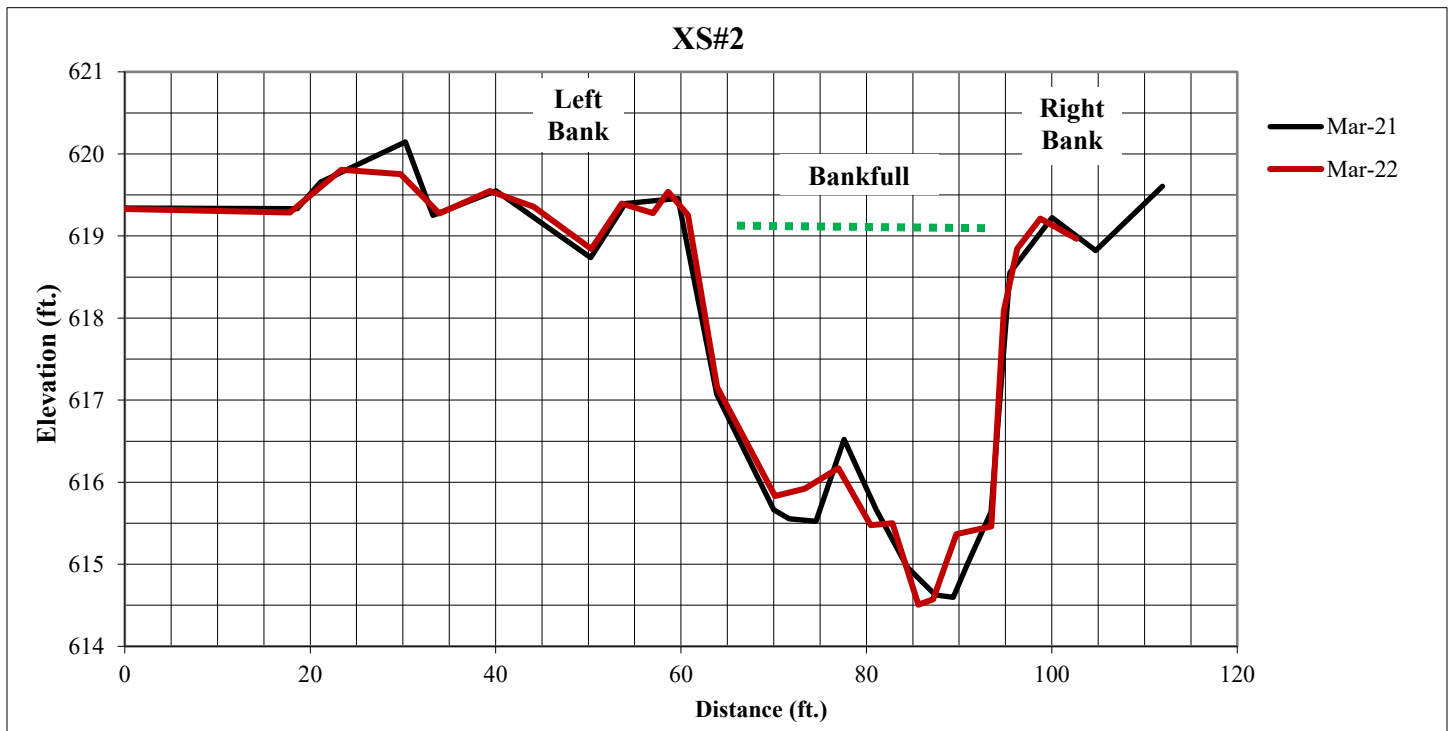


Site	Stream Condition and Function	Score (0 – 2)*
C-MM-a	Upstream watershed impacts from stormwater, wastewater, or sediment	1
	Local stream reach impacts from ditches, pipes, livestock, utilities, or roads	2
	Channel dimension related to bankfull cross-section measurements	1
	Channel pattern related to planform measurements	1
	Channel bed profile related to longitudinal profile measurements	1
	Streambank stability and protection from erosion	2
	Floodplain connection for bankfull flood access	1
	Floodplain morphology to dissipate flood energy and minimize erosion	1
	Riparian vegetation to provide shade, nutrient uptake, and food sources	2
	Habitats including diverse bedform, large woody debris, leaf packs, root hairs	2
	Water quality and stream bed sediments	1
	Presence of desirable fish and macroinvertebrates expected for watershed	1
*Score indicates natural function and health: 2 = Good; 1 = Fair; 0 = Poor		
TOTAL		16

Site	Cross-Section	Geomorphic Parameter	Value	Units
C-MM-a	1	Bankfull Area	86	ft. ²
		Bankfull Width	41	ft.
		Bankfull Depth	2.1	ft.
		Maximum Bankfull Depth	3.5	ft.
		Low Bank Height	6.48	ft.
		Width of the Flood-prone Area	365	ft.
		Width to Depth Ratio	19.5	n/a
		Bank Height Ratio	1.8	n/a
		Entrenchment Ratio	8.9	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Low	n/a

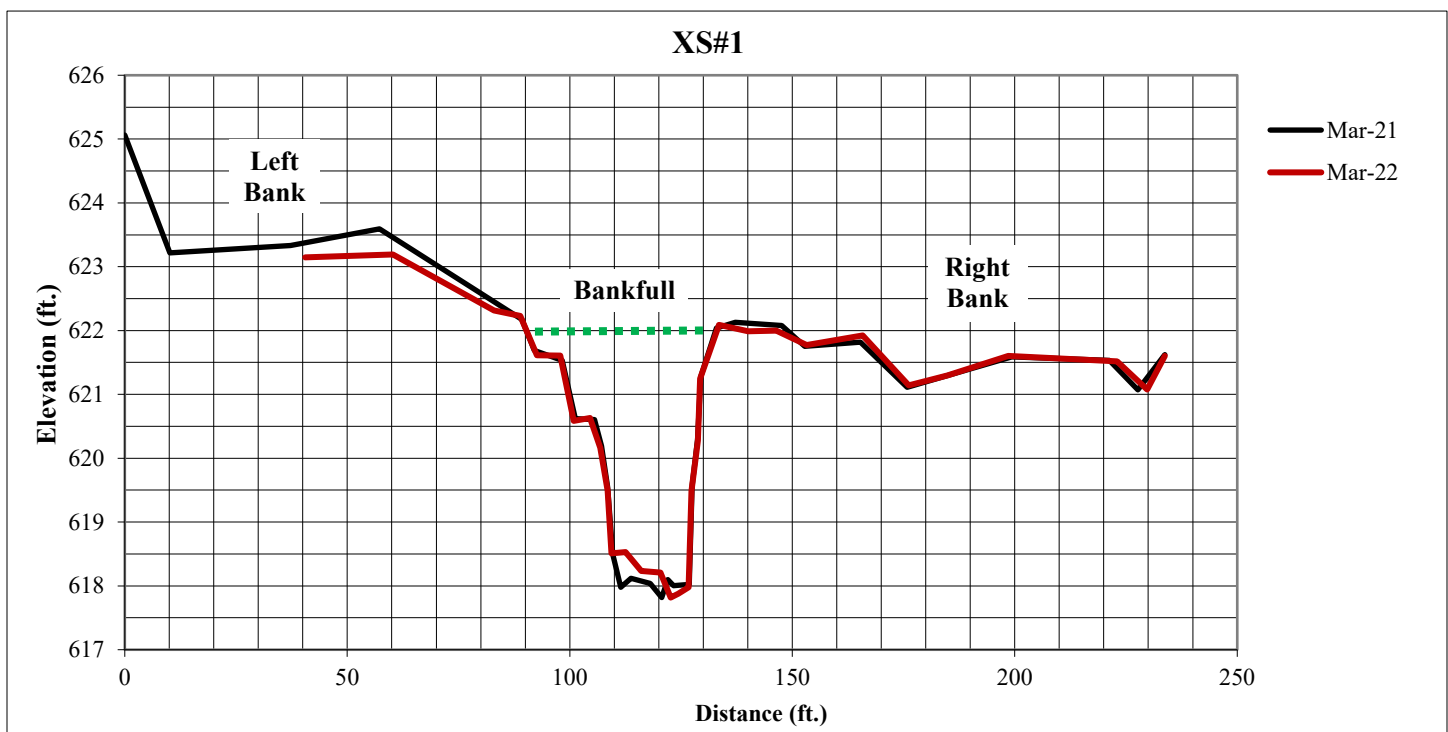


Site	Cross-Section	Geomorphic Parameter	Value	Units
C-MM-a	2	Bankfull Area	106	ft. ²
		Bankfull Width	38	ft.
		Bankfull Depth	2.8	ft.
		Maximum Bankfull Depth	4.7	ft.
		Low Bank Height	4.7	ft.
		Width of the Flood-prone Area	320	ft.
		Width to Depth Ratio	13.6	n/a
		Bank Height Ratio	1.0	n/a
		Entrenchment Ratio	8.4	n/a
		Right Bank BEHI	Moderate	n/a
		Left Bank BEHI	Low	n/a

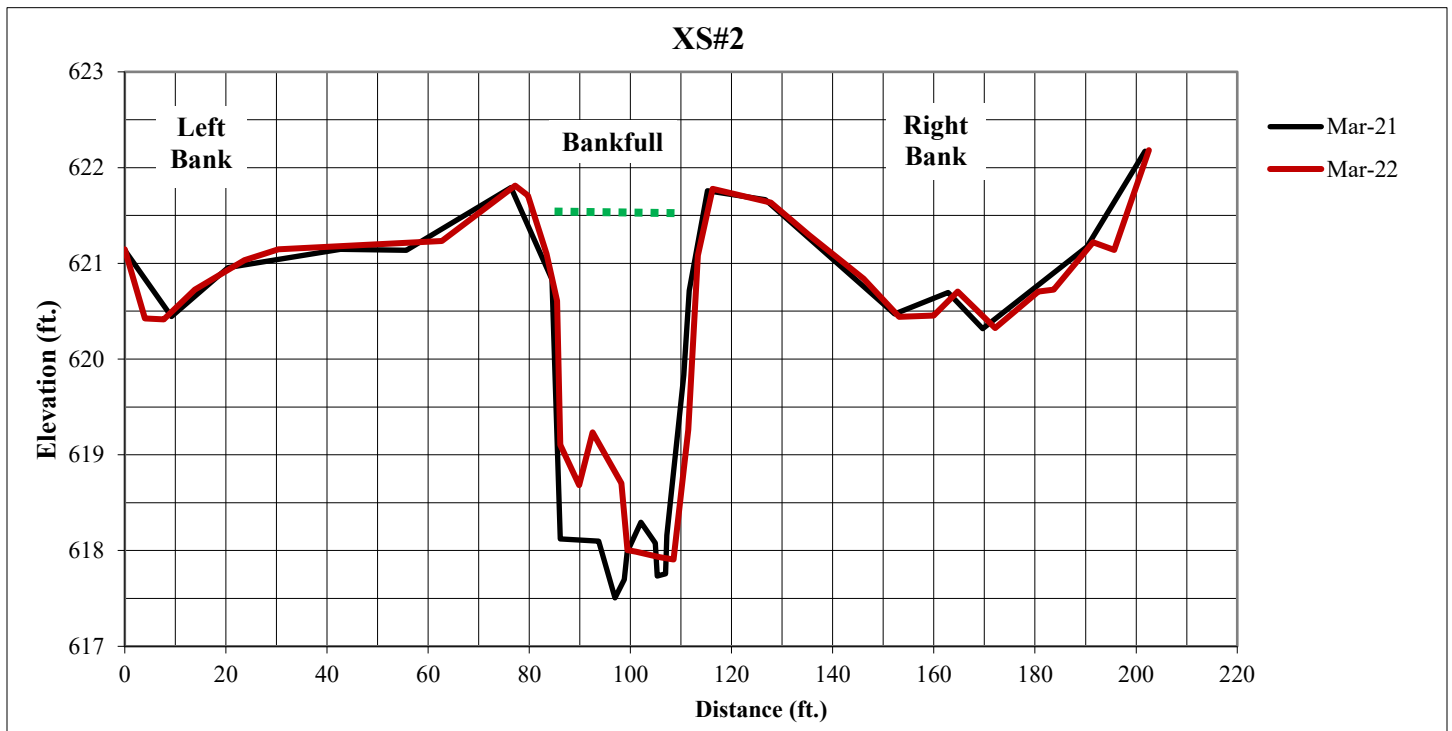


Site	Stream Condition and Function	Score (0 – 2)*
C-1	Upstream watershed impacts from stormwater, wastewater, or sediment	1
	Local stream reach impacts from ditches, pipes, livestock, utilities, or roads	1
	Channel dimension related to bankfull cross-section measurements	2
	Channel pattern related to planform measurements	1
	Channel bed profile related to longitudinal profile measurements	2
	Streambank stability and protection from erosion	1
	Floodplain connection for bankfull flood access	1
	Floodplain morphology to dissipate flood energy and minimize erosion	1
	Riparian vegetation to provide shade, nutrient uptake, and food sources	2
	Habitats including diverse bedform, large woody debris, leaf packs, root hairs	2
	Water quality and stream bed sediments	2
	Presence of desirable fish and macroinvertebrates expected for watershed	1
*Score indicates natural function and health: 2 = Good; 1 = Fair; 0 = Poor		
TOTAL		17

Site	Cross-Section	Geomorphic Parameter	Value	Units
C-1	1	Bankfull Area	96	ft. ²
		Bankfull Width	41	ft.
		Bankfull Depth	2.3	ft.
		Maximum Bankfull Depth	4.3	ft.
		Low Bank Height	4.27	ft.
		Width of the Flood-prone Area	180	ft.
		Width to Depth Ratio	17.5	n/a
		Bank Height Ratio	1.0	n/a
		Entrenchment Ratio	4.4	n/a
		Right Bank BEHI	Moderate	n/a
		Left Bank BEHI	Low	n/a



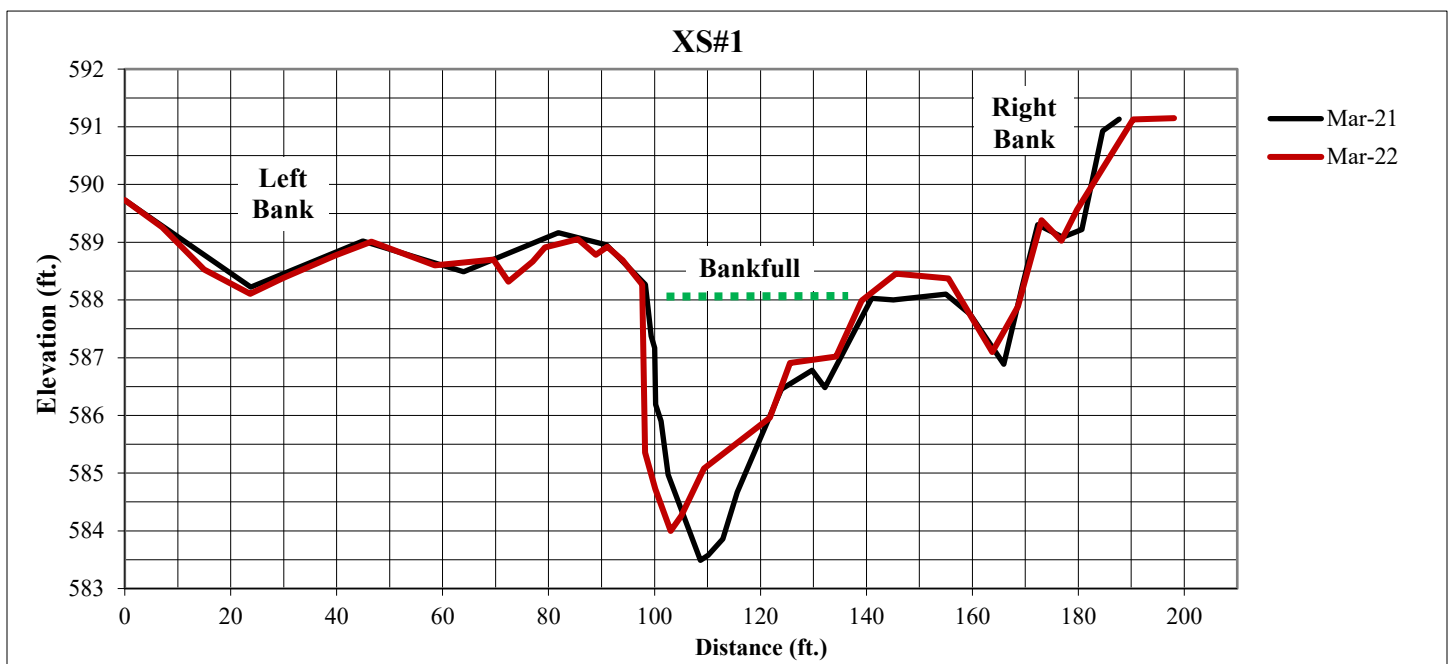
Site	Cross-Section	Geomorphic Parameter	Value	Units
C-1	2	Bankfull Area	93	ft. ²
		Bankfull Width	39	ft.
		Bankfull Depth	2.4	ft.
		Maximum Bankfull Depth	3.9	ft.
		Low Bank Height	3.91	ft.
		Width of the Flood-prone Area	232	ft.
		Width to Depth Ratio	16.4	n/a
		Bank Height Ratio	1.0	n/a
		Entrenchment Ratio	5.9	n/a
		Right Bank BEHI	High	n/a
		Left Bank BEHI	Moderate	n/a



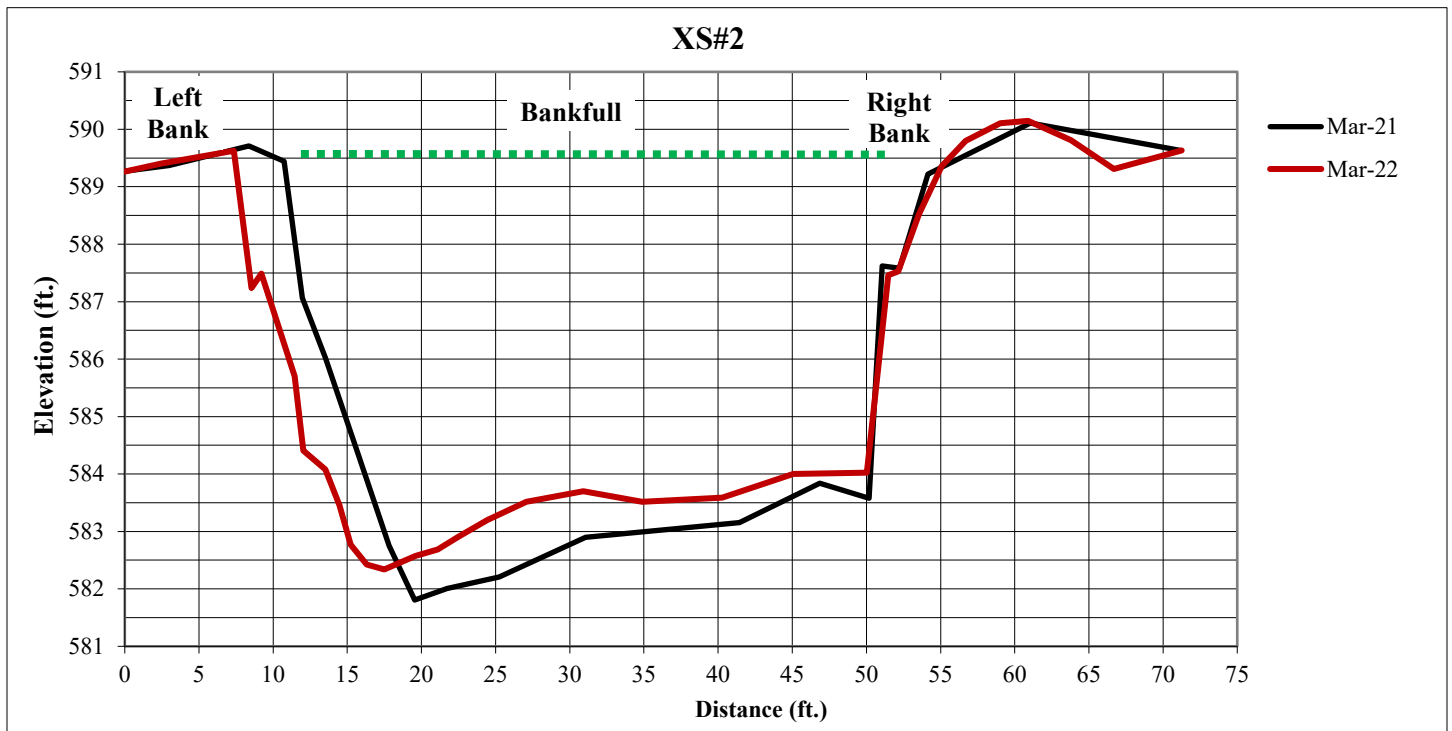
Site	Stream Condition and Function	Score (0 – 2)*
NW-1-c	Upstream watershed impacts from stormwater, wastewater, or sediment	1
	Local stream reach impacts from ditches, pipes, livestock, utilities, or roads	0
	Channel dimension related to bankfull cross-section measurements	0
	Channel pattern related to planform measurements	1
	Channel bed profile related to longitudinal profile measurements	1
	Streambank stability and protection from erosion	0
	Floodplain connection for bankfull flood access	1
	Floodplain morphology to dissipate flood energy and minimize erosion	1
	Riparian vegetation to provide shade, nutrient uptake, and food sources	1
	Habitats including diverse bedform, large woody debris, leaf packs, root hairs	0
	Water quality and stream bed sediments	1
	Presence of desirable fish and macroinvertebrates expected for watershed	1
	TOTAL	8

*Score indicates natural function and health: 2 = Good; 1 = Fair; 0 = Poor

Site	Cross-Section	Geomorphic Parameter	Value	Units
NW-1-c	1	Bankfull Area	110	ft. ²
		Bankfull Width	48	ft.
		Bankfull Depth	2.3	ft.
		Maximum Bankfull Depth	4.3	ft.
		Low Bank Height	5.06	ft.
		Width of the Flood-prone Area	570	ft.
		Width to Depth Ratio	20.9	n/a
		Bank Height Ratio	1.2	n/a
		Entrenchment Ratio	11.9	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Moderate	n/a



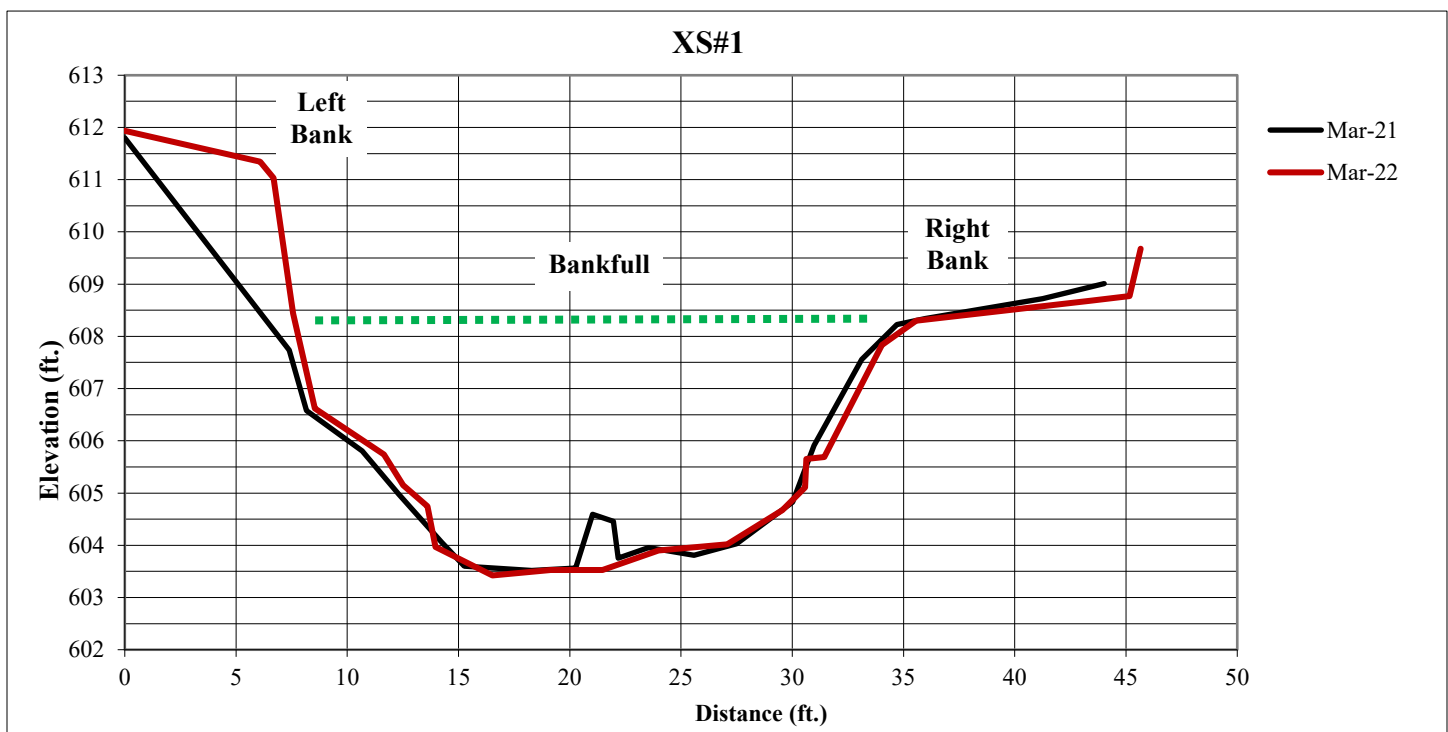
Site	Cross-Section	Geomorphic Parameter	Value	Units
NW-1-c	2	Bankfull Area	259	ft. ²
		Bankfull Width	49	ft.
		Bankfull Depth	5.3	ft.
		Maximum Bankfull Depth	7.3	ft.
		Low Bank Height	7.29	ft.
		Width of the Flood-prone Area	479	ft.
		Width to Depth Ratio	9.4	n/a
		Bank Height Ratio	1	n/a
		Entrenchment Ratio	9.7	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Low	n/a



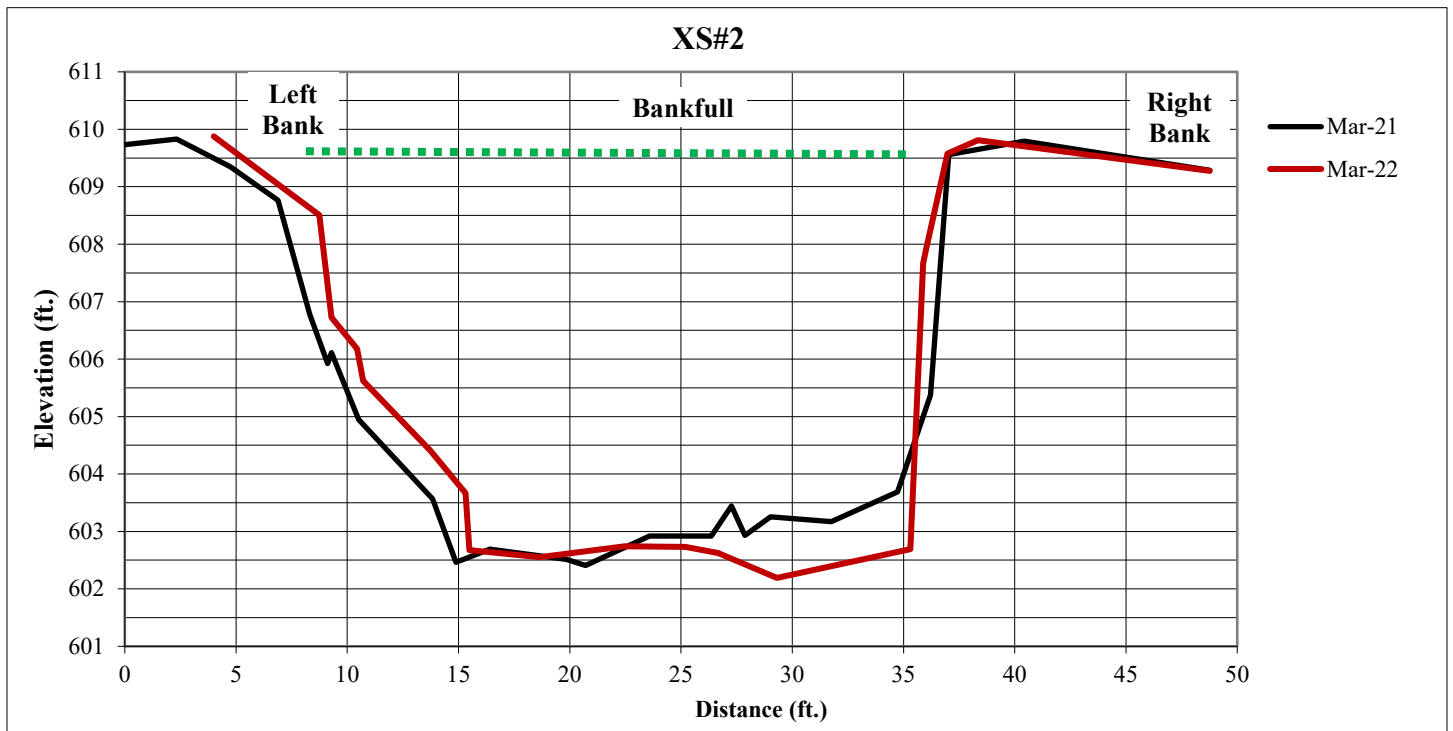
Site	Stream Condition and Function	Score (0 – 2)*
NW-1-b	Upstream watershed impacts from stormwater, wastewater, or sediment	0
	Local stream reach impacts from ditches, pipes, livestock, utilities, or roads	0
	Channel dimension related to bankfull cross-section measurements	0
	Channel pattern related to planform measurements	1
	Channel bed profile related to longitudinal profile measurements	1
	Streambank stability and protection from erosion	0
	Floodplain connection for bankfull flood access	0
	Floodplain morphology to dissipate flood energy and minimize erosion	0
	Riparian vegetation to provide shade, nutrient uptake, and food sources	1
	Habitats including diverse bedform, large woody debris, leaf packs, root hairs	1
	Water quality and stream bed sediments	1
	Presence of desirable fish and macroinvertebrates expected for watershed	1
	TOTAL	6

*Score indicates natural function and health: 2 = Good; 1 = Fair; 0 = Poor

Site	Cross-Section	Geomorphic Parameter	Value	Units
NW-1-b	1	Bankfull Area	84	ft. ²
		Bankfull Width	25	ft.
		Bankfull Depth	3.3	ft.
		Maximum Bankfull Depth	4.4	ft.
		Low Bank Height	8.5	ft.
		Width of the Flood-prone Area	192	ft.
		Width to Depth Ratio	7.7	n/a
		Bank Height Ratio	1.9	n/a
		Entrenchment Ratio	7.5	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Moderate	n/a

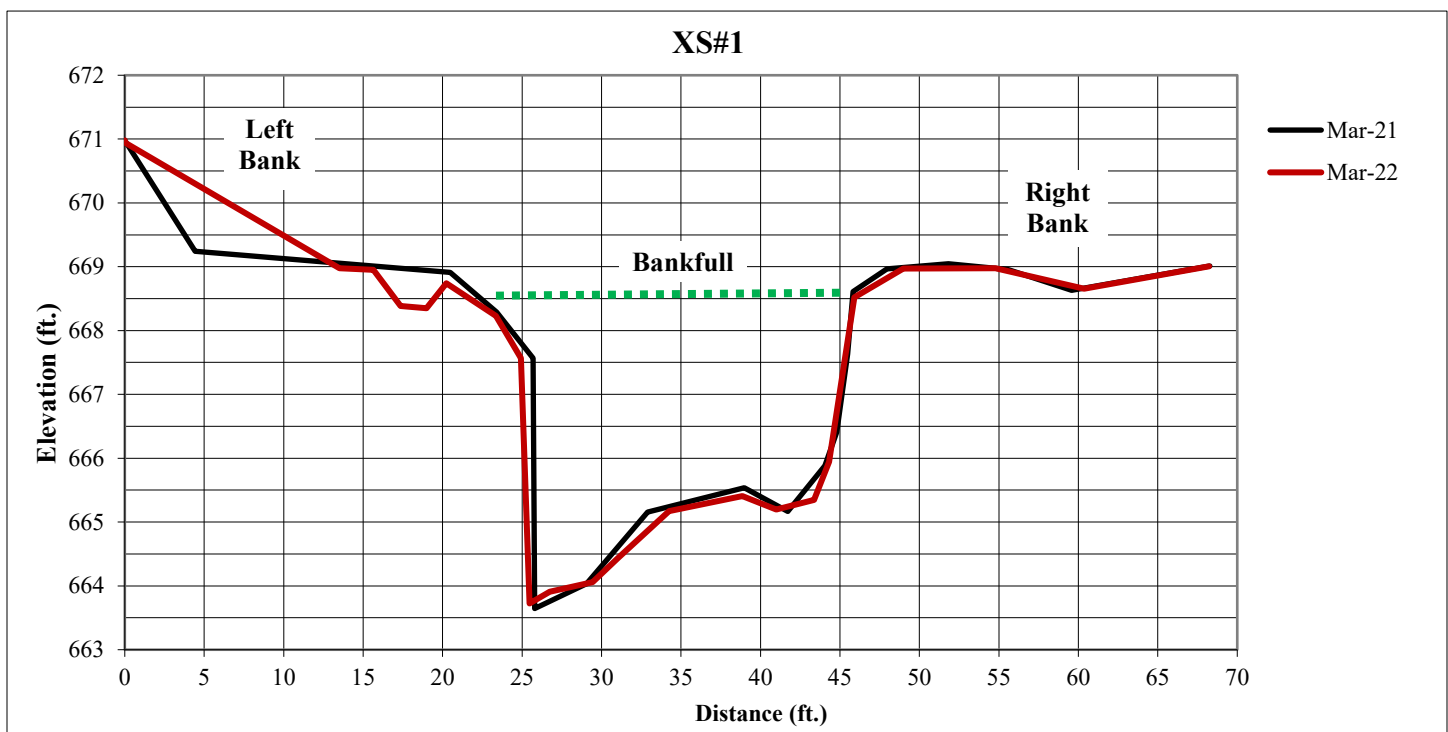


Site	Cross-Section	Geomorphic Parameter	Value	Units
NW-1-b	2	Bankfull Area	177	ft. ²
		Bankfull Width	33	ft.
		Bankfull Depth	5.4	ft.
		Maximum Bankfull Depth	7.4	ft.
		Low Bank Height	7.62	ft.
		Width of the Flood-prone Area	215	ft.
		Width to Depth Ratio	6.1	n/a
		Bank Height Ratio	1.0	n/a
		Entrenchment Ratio	6.5	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Low	n/a



Site	Stream Condition and Function	Score (0 – 2)*
NW-1-d	Upstream watershed impacts from stormwater, wastewater, or sediment	1
	Local stream reach impacts from ditches, pipes, livestock, utilities, or roads	0
	Channel dimension related to bankfull cross-section measurements	1
	Channel pattern related to planform measurements	1
	Channel bed profile related to longitudinal profile measurements	2
	Streambank stability and protection from erosion	0
	Floodplain connection for bankfull flood access	0
	Floodplain morphology to dissipate flood energy and minimize erosion	0
	Riparian vegetation to provide shade, nutrient uptake, and food sources	2
	Habitats including diverse bedform, large woody debris, leaf packs, root hairs	1
	Water quality and stream bed sediments	1
	Presence of desirable fish and macroinvertebrates expected for watershed	0
*Score indicates natural function and health: 2 = Good; 1 = Fair; 0 = Poor		
TOTAL		9

Site	Cross-Section	Geomorphic Parameter	Value	Units
NW-1-d	1	Bankfull Area	77	ft. ²
		Bankfull Width	26	ft.
		Bankfull Depth	3	ft.
		Maximum Bankfull Depth	4.8	ft.
		Low Bank Height	3.8	ft.
		Width of the Flood-prone Area	140	ft.
		Width to Depth Ratio	8.5	n/a
		Bank Height Ratio	1.1	n/a
		Entrenchment Ratio	5.5	n/a
		Right Bank BEHI	Low	n/a
		Left Bank BEHI	Moderate	n/a



Site	Cross-Section	Geomorphic Parameter	Value	Units
NW-1-d	2	Bankfull Area	41	ft. ²
		Bankfull Width	19	ft.
		Bankfull Depth	2.1	ft.
		Maximum Bankfull Depth	4.1	ft.
		Low Bank Height	4.14	ft.
		Width of the Flood-prone Area	100	ft.
		Width to Depth Ratio	9.2	n/a
		Bank Height Ratio	1.31	n/a
		Entrenchment Ratio	5.1	n/a
		Right Bank BEHI	Moderate	n/a
		Left Bank BEHI	Low	n/a



3.0 Water Quality at Short-term Monitoring Sites

3.1 Purpose

In 2016, the City updated the Stormwater Quality Monitoring Plan to reflect changes in the ADEM Phase II NPDES General Permit ALR040003. Water quality monitoring at these short-term sites was not included in the City's Water Quality Monitoring Plan, and is not required under the Phase II NPDES General Permit ALR040003. Currently, the City conducts monitoring at various sites within the MS4 jurisdiction if there are suspected illicit discharges or other water quality concerns in the area. The table below shows the monitoring data from these short-term monitoring sites. The location of each sample site is included within the site name (e.g. SAUG326173854965 is within the Saugahatchee watershed and located at 32.6173 N, 85.4965 S).

3.2 Monitoring Data

Site Number	Sample Date	Water Temp. (F)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (uS/cm)	Turbidity (NTU)	Ammonia (mg/L)	Nitrate (mg/L)	Surfactants (mg/L)	E. coli (MPN or cfu/100mL)
CHOC325959855300	11/30/2021	52.1	6.48	5.95	155.5	-	-	-	-	862
SAUG326338854898	11/23/2021	50.2	6.62	9.85	110.4	-	-	-	-	-
SAUG326327854461	10/19/2021	-	-	-	-	-	-	-	-	155.3
SAUG326302854522	9/27/2021	73.7	6.38	6.46	110.7	-	-	-	-	686.7
SAUG326327854461	9/27/2021	69.7	6.76	9.05	173.8	-	-	-	-	298.7
SAUG326282854899	7/14/2021	72.4	6.20	6.44	125	-	-	-	-	2419.6
SAUG326262854906	7/14/2021	72.8	5.85	6.59	136.7	-	-	-	-	1046.2
SAUG326275854904	7/14/2021	71.6	5.99	6.30	125.2	-	-	-	-	2419.6
SAUG326273854904	7/14/2021	71.3	5.56	5.75	127	-	-	-	-	2419.6
SAUG326338854898	7/6/2021	70.3	6.98	6.93	115.9	-	-	-	-	235.9
SAUG326304854890	7/6/2021	70.0	7.09	7.71	112.8	-	-	-	-	1046.2
SAUG326229854890	7/6/2021	69.6	6.97	7.05	113.5	-	-	-	-	1732.9
SAUG326257854866	7/6/2021	69.4	6.73	7.93	118.1	-	-	-	-	387.3
SAUG326286854895	7/6/2021	70.8	7.10	7.96	123	-	-	-	-	1299.7
SAUG326294854899	7/6/2021	72.4	7.05	-	80.7	-	-	-	-	119.8
SAUG326232854862	7/6/2021	69.2	6.43	6.68	125.7	-	-	-	-	290.9
SAUG326195854853	7/6/2021	72.0	7.10	7.57	149.6	-	-	-	-	461.1
TOWN326085854785	1/26/2022	-	-	-	-	-	-	-	-	7701
TOWN326078854774	1/26/2022	-	-	-	-	-	-	-	-	3255
TOWN326076854771	1/26/2022	-	-	-	-	-	-	-	-	4106
TOWN326061854759	1/26/2022	-	-	-	-	-	-	-	-	387.3
TOWN326076854768	1/26/2022	-	-	-	-	-	-	-	-	4106
TOWN326083854780	12/2/2021	-	-	-	-	-	-	-	-	6049
TOWN326081854780	12/2/2021	-	-	-	-	-	-	-	-	2419.6
TOWN326088854781	12/2/2021	-	-	-	-	-	-	-	-	6049
TOWN326085854785	10/19/2021	-	-	-	-	-	-	-	-	240
TOWN326076854771	10/19/2021	-	-	-	-	-	-	-	-	3654
TOWN326076854768	10/19/2021	-	-	-	-	-	-	-	-	2419.6
TOWN326085854785	9/30/2021	-	-	-	-	-	-	-	-	248.9
TOWN326076854768	9/30/2021	-	-	-	-	-	-	-	-	4839.2
TOWN326083854780	9/29/2021	-	-	-	-	-	-	-	-	1479.5

TOWN326076854768	9/29/2021	73.2	6.99	5.27	369.7	-	-	-	-	2419.6
TOWN326085854785	9/29/2021	74.3	7.17	4.78	372.3	-	0	-	-	770.1
TOWN326094854766	9/27/2021	70.6	6.64	6.48	171.2	-	-	-	-	118.7
TOWN326094854766	9/27/2021	71.8	7.19	7.05	275	-	-	-	-	82
TOWN326076854768	9/27/2021	72.6	6.94	-	-	-	-	-	-	2419.6
TOWN326041854751	9/27/2021	70.8	7.57	8.23	212.6	-	-	-	-	1983.6
TOWN326061854759	9/27/2021	70.8	7.57	8.23	212.6	-	-	-	-	1986.3
TOWN325938854686	9/27/2021	70.2	7.00	8.87	132.1	-	-	-	-	365.4
TOWN326075854763	6/2/2021	-	-	-	-	-	-	-	-	1119.6
TOWN326067854756	6/2/2021	-	-	-	-	-	-	-	-	980.4
TOWN326066854756	6/2/2021	-	-	-	-	-	-	-	-	1986.3
TOWN326094854766	6/2/2021	-	-	-	-	-	-	-	-	1299.7
TOWN325938854686	5/24/2021	70.3	7.28	9.25	126.2	-	-	-	-	2419.6
TOWN326041854751	5/24/2021	70.1	6.92	9.00	185.5	-	-	-	-	727
TOWN326061854759	5/24/2021	71.3	7.81	8.27	207	-	-	-	-	-
TOWN326067854756	5/24/2021	-	-	-	-	-	-	-	-	290.9
TOWN326066854756	5/24/2021	-	-	-	-	-	-	-	-	2419.6
TOWN325975854712	5/20/2021	70.7	7.26	8.80	135.7	-	-	-	-	727
TOWN326041854751	5/20/2021	72.2	6.94	8.39	169	-	-	-	-	980.4
TOWN325938854686	5/20/2021	72.3	7.37	9.17	125.9	-	-	-	-	2419.6

4.0 Lake Ogletree Source Water Monitoring Program

4.1 Purpose

Lake Ogletree, located southeast of Auburn, is the City of Auburn’s primary drinking water source. At full pool its surface area is approximately 300 acres with a capacity of approximately 1.6 billion gallons of water. Chewacla Creek is the primary stream that feeds Lake Ogletree, which has a 33 square mile watershed. Although composed of mostly forested and agricultural lands, the Lake Ogletree watershed also includes industrial, commercial/retail, and residential land-uses which are all predicted to increase as the population of Lee County increases. Although a recently updated Source Water Assessment Program determined Lake Ogletree to be at low to moderate risk from stormwater-driven pollutants, it is imperative that water quality monitoring be performed to identify potential threats to water quality and to protect the health of Chewacla Creek and the surrounding watershed. Therefore, the Water Works Board of the City of Auburn (AWWB) is committed to performing monitoring and analysis of a wide range of physical, chemical, and mineral water quality parameters both in Lake Ogletree and its contributing watershed.

4.2 Methods

AWWB conducts water quality sampling and analysis at 14 locations throughout the Lake Ogletree Watershed. Water quality assessment includes sampling at locations along the main stem of Chewacla Creek (“C-Sites”), its smaller tributaries (“T-Sites”), and Lake Ogletree (“L-Sites”). Parameters monitored once every two months at these locations include E. coli, orthophosphate, total phosphorus, nitrate-nitrite, Kjeldahl-N, pH, temperature, turbidity, specific conductance, and dissolved oxygen. A QA/QC field blank for orthophosphate, total phosphorus, nitrate-nitrite, and kjeldahl-N is collected at a single randomly-selected site during each

sampling round. Bi-weekly monitoring is also conducted at select sites for temperature, pH, specific conductance, dissolved oxygen, and turbidity. The following are the parameters which are included in this program and the method of analysis.

- Temperature – YSI 5560
- Specific Conductance – YSI 5560
- Dissolved Oxygen – YSI 2003 polarographic
- pH – YSI 1001
- Turbidity – LaMotte 2020WE turbidimeter
- Nitrate + Nitrite – EPA 353.2
- Total Kjeldahl Nitrogen – EPA 351.2
- Orthophosphate – SM 4500 PE-1999
- Total Phosphorus – EPA 365.4
- E. coli - SM 9223B-2004

4.3 Monitoring Stations and Data

T11 – Station T11 is located on lower Robinson Creek at Moore’s Mill Road (CR 146). Latitude 32, 33, 48.221 N; Longitude 85, 23, 23.423 W

T12N – Station T12N is located upper Robinson Creek, just upstream of Highway 51 and downstream from an Opelika sanitary sewer lift station. Latitude 32, 37, 1.72 N; Longitude 85, 22, 9.316 W

T19 – Station T19 is located on an unnamed tributary upstream of Emerald Lake. Latitude 32, 35, 36.364 N; Longitude 85, 20, 37.00 W

T22 – Station T22 is located on upper Robinson Creek, just downstream of Highway 51 and downstream from three Opelika sanitary sewer lift stations. Latitude 32, 36, 2.361 N; Longitude 85, 22, 45.426 W

T32 – Station T32 is located near the mouth of Nash Creek just before the confluence with Chewacla Creek. Latitude 32, 33, 18.484 N; Longitude 85, 25, 30.655 W

T34 – Station T34 is located on Chewacla Creek, upstream of Station C8. Latitude 32, 34, 32.672 N; Longitude 85, 21, 49.692 W

C1 – Station C1 is located at the forebay of Lake Ogletree, immediately downstream of the Society Hill Road bridge crossing. Latitude 32, 33, 20.161 N; Longitude 85, 25, 36.026 W

C2 – Station C2 is located at the bridge crossing of CR 027 with Chewacla Creek. Latitude 32, 33, 21.387 N; Longitude 85, 24, 46.384 W

C5 – Station C5 is located at the bridge crossing of Lee Road. 112 with Chewacla Creek. Latitude 32, 33, 6.291 N; Longitude 85, 23, 41.151 W

C7 – Station C7 is located at the bridge crossing of Highway 51 (Marvyn Parkway) with Chewacla Creek. Latitude 32, 33, 41.868 N; Longitude 85, 22, 20.559 W

C8 – Station C8 is located upstream of the bridge crossing of CR 146 (Moore’s Mill Road) with Chewacla Creek. Latitude 32, 34, 5.715 N; Longitude 85, 21, 42.033 W

L1 – Station L1 is located in Lake Ogletree, immediately northeast of the Lake Ogletree spillway. Latitude 32, 32, 50.846 N; Longitude 85, 26, 52.83 W

L2 – Station L2 is located in Lake Ogletree near the water intake pump house. Latitude 32, 33, 5.626 N; Longitude 85, 26, 45.038 W

L5 – Station L5 is located along the northwest finger of Lake Ogletree, near the confluence with the East Lake/Green Chapel tributary. Latitude 32, 33, 37.961 N; Longitude 85, 25, 38.369 W

Site Number	Sample Date	Water Temp. (F)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (uS/cm)	Turbidity (NTU)	Nitrate + Nitrite (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Orthophosphate (mg/L)	Total Phosphorus (mg/L)	E. coli (MPN)
C1	12/28/2021	58.4	7.46	10.45	66.8	7.76	0.113	0	0	0	201
C2	12/28/2021	59.9	7.19	10.03	68.3	7.06	0.128	0	0	0	169
C5	12/28/2021	58.9	7.33	10.77	71.2	7.57	0.114	0	0	0	161
C8	12/28/2021	58.7	7.16	10.24	78.2	7.05	0.112	0	0	0	528
L1	12/28/2021	56.7	7.59	11.68	60.5	5.00	0	0	0	0	10
L2	12/28/2021	56.3	7.61	11.51	60.5	4.72	0	0	0	0	0
L5	12/28/2021	58.3	7.49	11.24	64.5	6.28	0	0	0	0.301	63
T11	12/28/2021	60.6	7.29	10.34	73.8	7.94	0	0	0	0	183
T12N	12/28/2021	61.4	7.24	9.85	149.6	2.6	0.21	0	0	0	241
T19	12/28/2021	60.7	7.35	9.60	122.7	8.34	0.135	0	0	0	41
T32	12/28/2021	59.0	7.48	10.67	64.7	7.24	0	0	0	0	121
T34	12/28/2021	57.5	7.09	9.70	75.8	5.45	0	0	0	0	63
L2	12/6/2021	57.4	7.77	10.90	60.0	4.48	-	-	-	-	-
L2	11/22/2021	58.8	7.22	9.59	60.1	4.59	-	-	-	-	-
L2	11/8/2021	62.9	7.21	9.00	59.9	2.56	-	-	-	-	-
C1	10/21/2021	70.0	7.55	9.48	63.4	4.03	0	0	0	0	10
C2	10/21/2021	61.5	6.74	8.66	74.2	4.83	0.184	0	0	0	218
C5	10/21/2021	60.9	6.96	9.14	76.5	5.10	0.201	0	0	0	187
C8	10/21/2021	63.6	6.87	8.08	76.2	5.09	0.139	0	0	0	308
L1	10/21/2021	70.7	7.07	6.73	58.3	6.22	0	0	0	0	0
L2	10/21/2021	70.3	6.93	6.23	58.6	5.32	0	0	0	0	0
L5	10/21/2021	70.6	8.32	9.93	63.5	4.49	0	0	0	0	0
T11	10/21/2021	61.5	6.95	9.23	93.7	4.78	0.215	0	0	0	272
T12N	10/21/2021	62.4	7.11	8.64	157.6	1.94	0.239	0	0	0	275
T19	10/21/2021	62.7	6.85	7.91	122.4	8.66	0.199	0	0.0891	0	259
T32	10/21/2021	69.6	7.42	9.42	64.0	3.52	0	0	0	0	20
T34	10/21/2021	63.9	6.72	7.43	73.2	4.78	0	0	0	0	41
L2	9/13/2021	81.4	7.13	7.14	66.1	3.14	-	-	-	-	-
L2	9/1/2021	83.7	7.35	6.20	65.1	4.18	-	-	-	-	-
C1	8/26/2021	83.3	7.88	7.45	64.7	9.00	0	0.578	0	0	121
C2	8/26/2021	78.5	6.67	8.01	63.0	18.7	0.139	0	0	0	1236

C5	8/26/2021	77.2	6.88	7.15	70.9	27.4	0.184	0	0	0	2809
C7	8/26/2021	76.3	6.90	6.72	73.4	7.62	0.163	0	0	0	529
C8	8/26/2021	80.2	7.09	6.65	80.0	4.57	0	0.457	0	0	474
L1	8/26/2021	86.3	9.08	7.60	67.7	3.66	0	0	0	0	20
L2	8/26/2021	86.2	9.08	7.52	67.4	4.23	0	0	0	0	0
L5	8/26/2021	83.8	7.31	6.54	67.3	8.92	0	0	0	0	145
T11	8/26/2021	76.8	7.08	7.37	70.9	31.5	0.151	0	0	0	4884
T12N	8/26/2021	73.2	7.26	7.83	175.6	7.92	0.147	0	0	0	1850
T19	8/26/2021	75.5	6.72	6.32	125.3	7.73	0.178	0	0	0	393
T32	8/26/2021	74.2	7.24	8.02	62.8	54.3	0.144	0	0	0	3076
T34	8/26/2021	81.1	6.94	6.30	79.0	3.99	0	0	0	0	173
L2	8/10/2021	87.8	-	-	75.5	-	-	-	-	-	-
L2	7/12/2021	84.8	8.57	7.96	65.0	4.07	-	-	-	-	-
C1	6/17/2021	81.5	9.10	9.00	59.4	5.70	0	0	0.0334	0	20
C2	6/17/2021	71.8	7.02	8.15	70.0	6.86	0.221	0	0.0237	0	529
C5	6/17/2021	68.8	7.40	8.65	68.6	7.46	0.213	0	0.0777	0	216
C7	6/17/2021	69.4	7.10	7.31	64.1	15.2	0.214	0	0.0692	0	441
C8	6/17/2021	72.9	7.23	7.66	67.9	6.82	0.136	0	0.068	0	203
L1	6/17/2021	83.0	9.56	9.74	61.8	4.89	0	0	0.0225	0	0
L2	6/17/2021	82.7	9.61	10.09	62.3	4.99	0	0	0.0189	0.277	0
L5	6/17/2021	82.7	9.06	9.02	59.5	4.47	0	0	0.0177	0	10
T11	6/17/2021	69.6	7.24	8.56	67.1	7.20	0.17	0	0.0686	0	228
T12N	6/17/2021	66.8	7.37	8.43	137.3	2.88	0.276	0	0.0643	0	96
T19	6/17/2021	70.6	6.88	6.40	99.8	8.76	0.24	0	0.0413	0	206
T32	6/17/2021	81.0	9.09	8.77	59.2	4.79	0	0	0.0213	0	31
T34	6/17/2021	73.9	7.10	6.93	63.9	4.92	0.106	0	0.0359	0.341	134
L2	6/14/2021	87.2	8.78	9.63	69.2	4.37	-	-	-	-	-
L2	6/2/2021	79.7	9.44	9.40	65.4	4.21	-	-	-	-	-
L2	5/17/2021	75.9	8.50	10.38	58.0	3.08	-	-	-	-	-
L2	5/5/2021	74.6	-	9.26	58.0	5.48	-	-	-	-	-
C1	4/22/2021	67.4	6.67	9.32	59.2	4.55	0	1.06	0.0416	0	20
C2	4/22/2021	58.5	6.63	10.21	63.2	6.03	0.124	0	0.083	0	235
C5	4/22/2021	56.1	7.46	10.6	62.1	7.00	0.127	0	0.0573	0	110
C7	4/22/2021	55.8	6.84	9.36	63.2	7.50	0.181	0	0.0357	0	285
C8	4/22/2021	59.6	7.03	9.87	70.4	5.01	0.106	0	0.0486	0	259
L1	4/22/2021	67.7	7.98	9.74	58.4	3.35	0	0	0.0241	0	0
L2	4/22/2021	67.3	7.70	9.73	58.3	2.40	0	0	0.027	0	0
L5	4/22/2021	67.6	7.52	9.57	61.6	3.40	0	0	0.0258	0	0
T11	4/22/2021	55.6	7.15	10.95	62.1	5.59	0.0869	0	0.0416	0	75
T12N	4/22/2021	55.0	7.04	10.34	138.0	2.62	0.27	0	0.0573	0	120
T19	4/22/2021	55.6	7.01	9.84	104.8	9.75	0.237	0	0.0556	0	399
T32	4/22/2021	65.9	6.99	9.37	59.3	4.55	0	0	0.0305	0	0
T34	4/22/2021	60.4	6.24	9.15	68.7	4.70	0.0851	0	0.02	0	121
L2	4/21/2021	69.6	8.34	9.96	58.5	1.87	-	-	-	-	-
L2	4/7/2021	67.1	6.84	10.10	57.2	3.44	-	-	-	-	-
L2	3/16/2021	65.9	7.71	10.24	57.0	-	-	-	-	-	-

L2	3/3/2021	58.3	7.82	11.23	54.9	-	-	-	-	-	-
C1	2/22/2021	53.1	7.17	10.91	51.9	-	0.121	0	0.0142	0.139	243
C2	2/22/2021	56.9	7.18	10.48	53.4	-	0.0997	0	0.0182	0	253
C5	2/22/2021	54.7	7.03	10.87	55.2	-	0.113	0	0.0159	0	144
C7	2/22/2021	54.1	7.00	10.36	57.4	-	0.167	0	0.0188	0.139	465
C8	2/22/2021	55.4	7.04	10.73	61.7	-	0.134	0	0.0165	0.106	359
L1	2/22/2021	52.0	7.29	11.28	55.3	-	0.0395	0	0.0142	0.117	98
L2	2/22/2021	52.0	7.30	10.87	55.0	-	0.045	0	0.0217	0	110
L5	2/22/2021	53.0	7.29	11.24	55.8	-	0.111	0	0.0142	0.301	160
T11	2/22/2021	55.7	7.23	10.44	53.1	-	0.0591	0	0.0177	0	341
T12N	2/22/2021	57.6	7.09	10.54	120.3	-	0.239	0	0.0095	0.118	301
T19	2/22/2021	56.5	7.25	10.17	105.6	-	0.241	0	0.0387	0.12	987
T32	2/22/2021	53.7	7.13	10.76	49.9	-	0.124	0	0.0165	0.115	452
T34	2/22/2021	55.1	7.06	10.54	61.0	-	0.112	0	0.0194	0.153	243
L2	2/16/2021	51.4	7.65	10.72	57.3	-	-	-	-	-	-
L2	2/2/2021	50.5	7.25	10.76	56.8	-	-	-	-	-	-
L2	1/20/2021	49.8	7.57	12.10	56.2	-	-	-	-	-	-
L2	1/5/2021	53.7	7.09	11.67	54.6	6.13	-	-	-	-	-

5.0 WPCF Dissolved Oxygen Monitoring

5.1 Purpose

Staff have been collecting in-stream dissolved oxygen data upstream and downstream of both WPCF's effluent discharge points since August of 2006. This monitoring provides valuable data assuring that the effluent discharged from Auburn's WPCF is not having a negative impact on dissolved oxygen content of Parkerson's Mill Creek during the critical summer months. Monitoring at the Northside WPCF was discontinued in 2013 due to closure of the plant, however data collection resumed in 2015. Monitoring is performed on a frequent basis (almost daily) using a YSI (Clark Cell) and/or Hach (LDO) dissolved oxygen probe at points both upstream and downstream of each effluent discharge location.

5.2 Methods

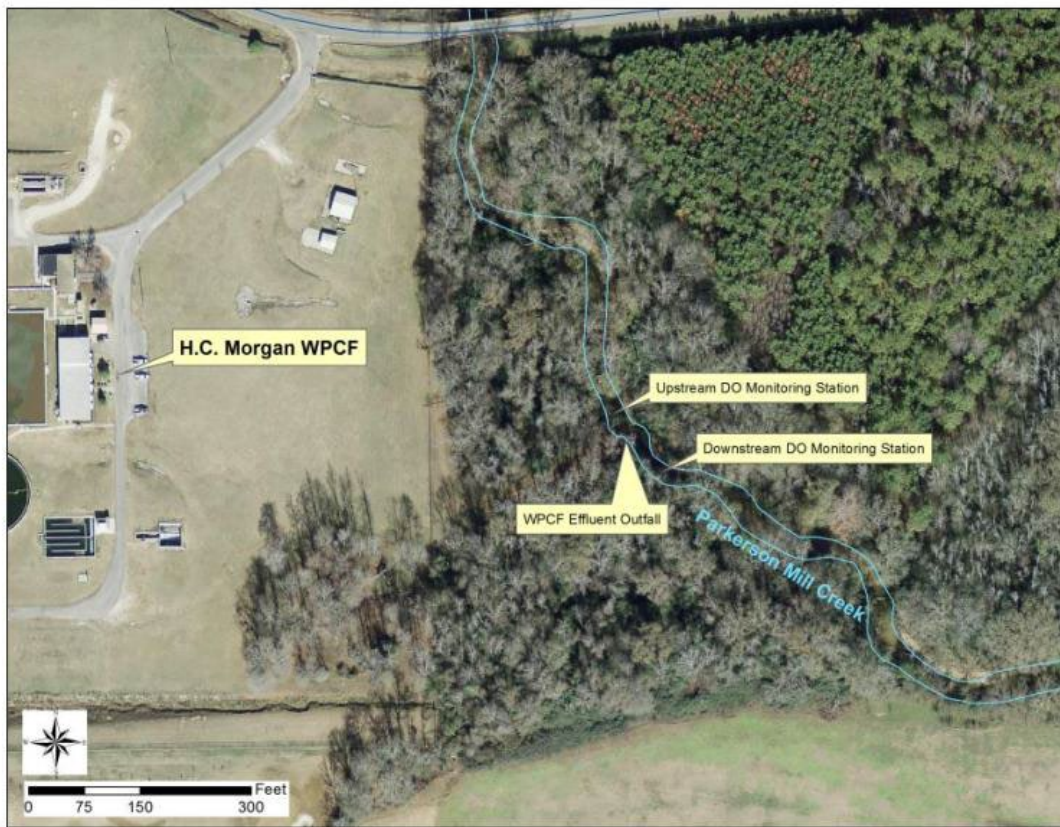
As noted above, dissolved oxygen measurements are taken with a YSI (Clark Cell) and/or HACH (Luminescent Dissolved Oxygen) probe.

- Dissolved Oxygen – The amount of oxygen in the water column from both atmospheric deposition and photosynthesis by aquatic plants and algae.

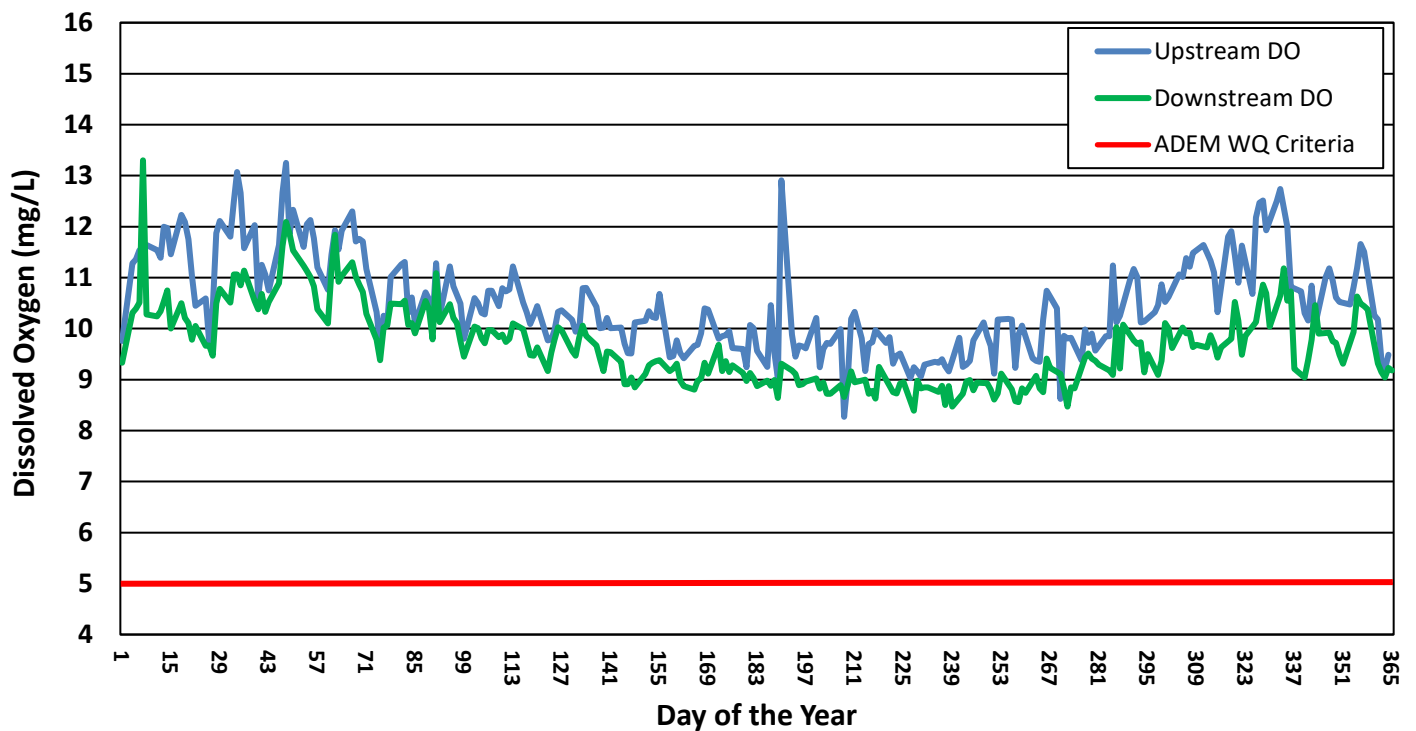
5.3 Monitoring Stations and Data

H.C. Morgan WPCF Upstream Latitude 32, 32, 9.890 N; Longitude 85, 30, 20.443 W

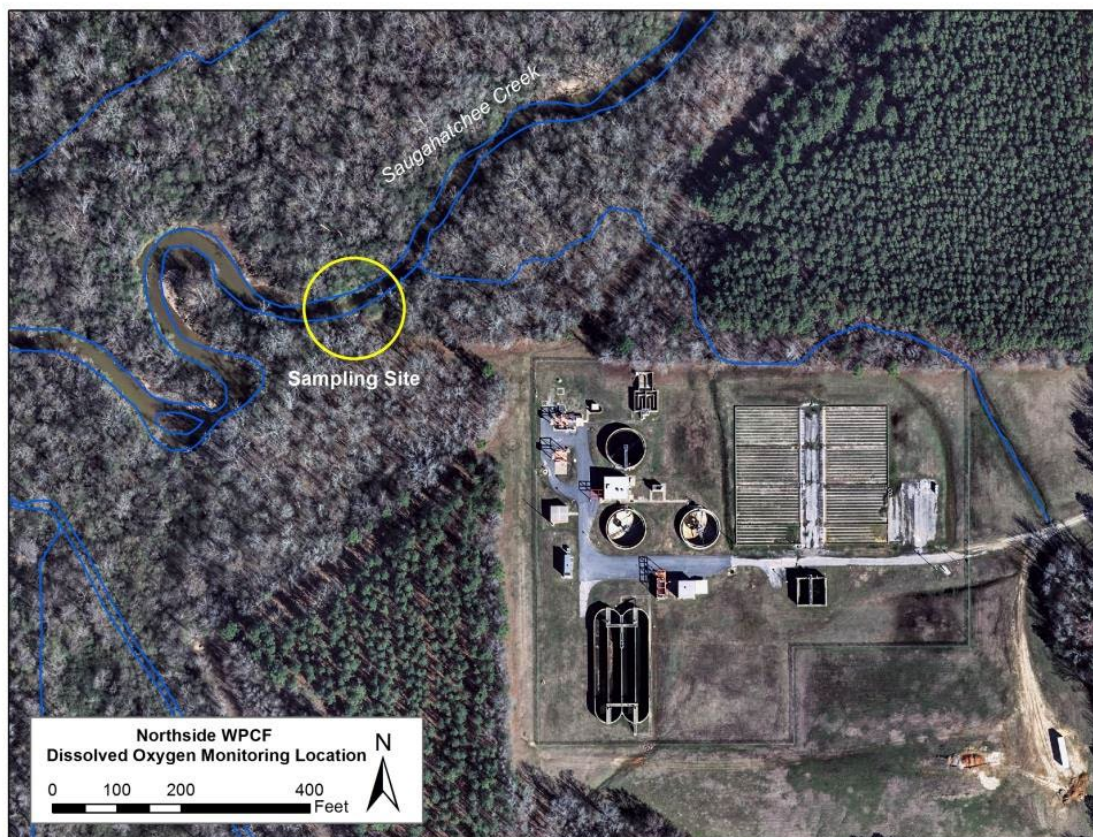
H.C. Morgan WPCF Downstream Latitude 32, 33, 9.077 N; Longitude 85, 30, 19.699 W



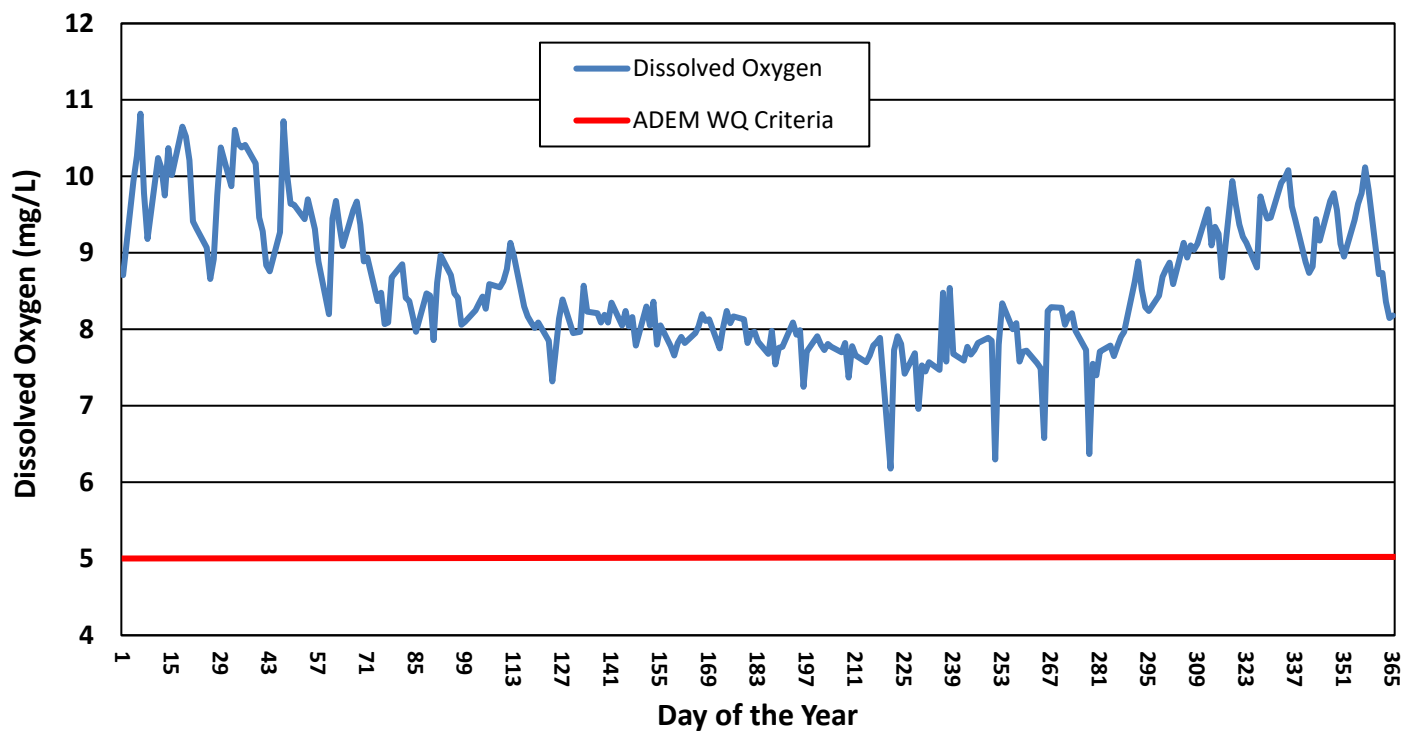
H.C. Morgan WPCF Dissolved Oxygen Data



Northside WPCF Latitude 32, 37, 41.32 N; Longitude 85, 32, 44.75 W



Northside WPCF Dissolved Oxygen Data



6.0 Outfall Screening

6.1 Purpose

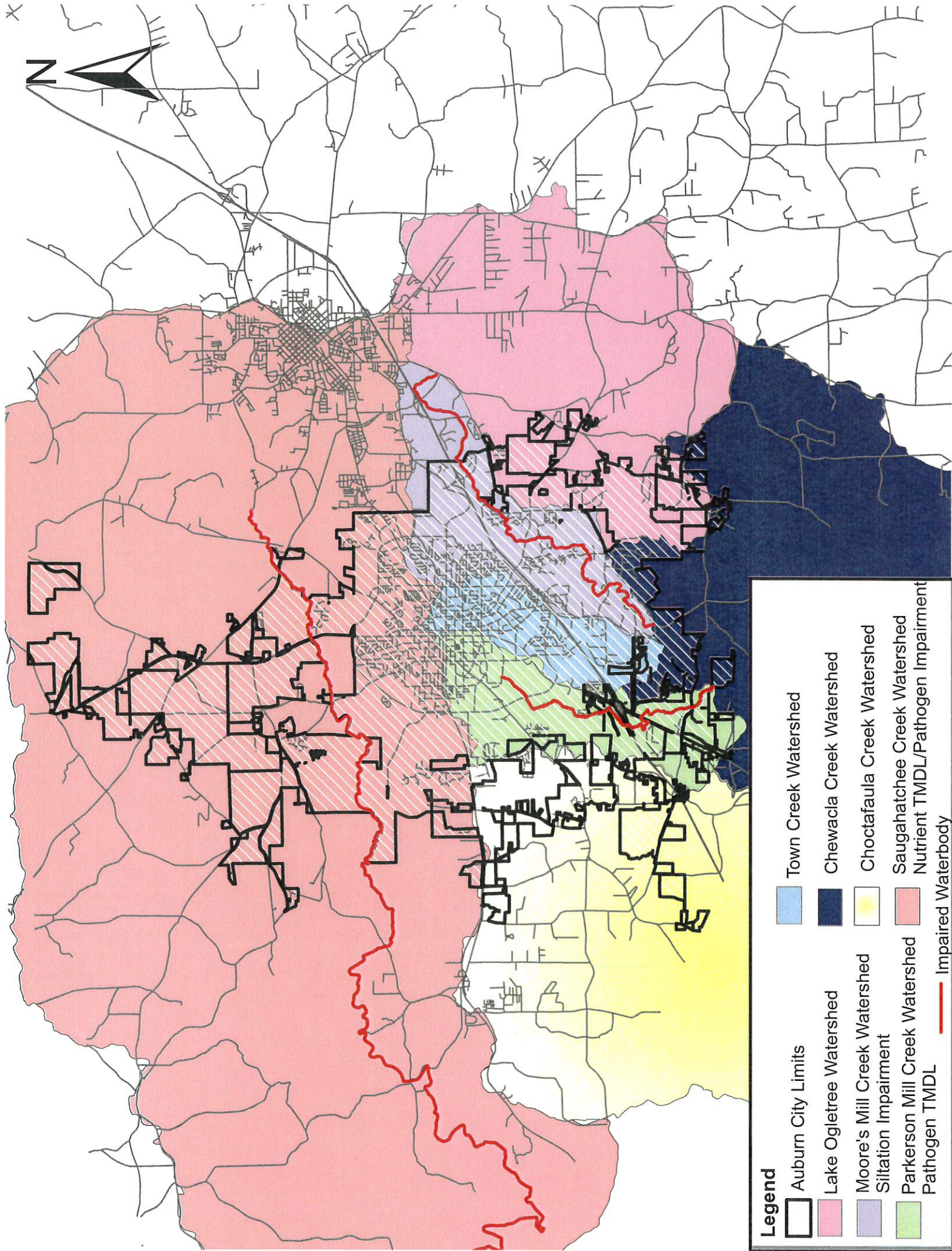
According to the ADEM Phase II NPDES General Permit ALR040003, the permittee shall implement an ongoing program to detect and eliminate illicit discharges to the MS4 to the maximum extent practicable. The permit requires a dry weather screening program to detect and address non-stormwater discharges to the MS4. The table that follows includes the water quality monitoring data that were collected at stormwater outfalls from April 1, 2021 to March 31, 2022.

6.2 Monitoring Data











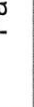
Site	Sample Date	Surfactants (mg/L)	Ammonia (mg/L)	Potassium (mg/L)	Ammonia & Potassium Ratio	Fluoride (mg/L)	E-Coli (MPN)
P14	10/26/2021	-	-	-	-	-	1986.3
P135	10/26/2021	-	-	-	-	-	1.0
P66	11/2/2021	-	-	-	-	-	2419.6
P139	11/3/2021	-	-	-	-	-	123.6
P107	11/4/2021	-	-	-	-	-	45.2
P108	11/4/2021	-	-	-	-	-	4.1
T143	11/16/2021	-	-	-	-	-	77.6
CT17	11/18/2021	-	-	-	-	-	3.1
CT30	11/18/2021	-	-	-	-	-	73.3
P174	11/18/2021	-	-	-	-	-	980.4
P145	11/29/2021	-	-	-	-	-	165.8

APPENDIX E

HYDROLOGY AND WATERSHEDS WITH APPROVED TMDLs MAP



Legend

- | | | | |
|---|--------------------------------|---|-----------------------------------|
|  | Auburn City Limits |  | Town Creek Watershed |
|  | Lake Ogletree Watershed |  | Chewacla Creek Watershed |
|  | Moore's Mill Creek Watershed |  | Choctafaula Creek Watershed |
|  | Siltation Impairment |  | Saugahatchee Creek Watershed |
|  | Parkerson Mill Creek Watershed |  | Nutrient TMDL/Pathogen Impairment |
|  | Pathogen TMDL | | Impaired Waterbody |

APPENDIX F

MUNICIPAL FACILITIES

City Properties/Facilities	
280 Rest Stop	Lake Wilmore
Ambulance Properties	Lee County Humane Society
Auburn Public Library	Lynn St. Property
Baptist Hill Cemetery	Lynn St. Property
Bowden Park	Mall Parkway Parking Lot
Boy Scout Hut Property	Martin Luther King Park
Boykin Community Center	Memorial Cemetery
Camellia Dr @ Wrights Mill Rd Property	Moore's Mill @ Society Hill Property
Choctawhatchee Lift Station	Moore's Mill Park
City Hall	N Gay St. Parking Lot
City Meeting Room	N Ross @ Opelika Rd Property
Dean Road Rec Center	Northside WPCF
Dekalb St. Regional DP	Parking Deck
Doug Watson Municipal Complex	Pine Hill Cemetery
Duck Samford Park	Public Safety Training Facility
Dumas Drive Property	Public Works
E Glenn Municipal Parking Lot	S Brookwood Dr Property
Environmental Services	S Donahue @ EUD Property
Felton Little Park	Sam Harris Park
Fire Station 2 & Fields	School Bus Depot
Fire Station 3	Soccer Complex
Fire Station 4	Softball Complex
Firing Range	Summertrees Properties
Fleet Services	Tacoma Dr Regional DP
Forestdale @ Moore's Mill Property	Tennis Center
Frank Brown Rec Center	Town Creek Cemetery
Graham McTeer Park	Town Creek Drive Trailhead
HC Morgan WPCF	Town Creek Park and Greenway
Hickory Dickory Park	Veterans Memorial Property
Human Resources	Westview Properties
Indian Pines Golf Course	White St Regional DP
Keisel Park	

APPENDIX G

MONITORING PLAN



City of Auburn

City of Auburn, Alabama Phase II MS4 Stormwater Quality Monitoring Plan

Permit # ALR040003
Effective: October 1, 2016
Expiration: September 30, 2021
Updated: May 31, 2021

Table of Contents

1.0 Introduction 3

 1.1 Watersheds and Impairments..... 3

 1.2 Permit Requirements 3

2.0 Monitoring 4

 2.1 Saugahatchee Creek..... 4

 Table 1. Saugahatchee Creek Monitoring Site Locations..... 6

 Table 2. Saugahatchee Creek Water Quality Parameters and Analytical Methods..... 6

 2.2 Parkerson’s Mill Creek 9

 Table 3. Parkerson’s Mill Creek Monitoring Site Locations 9

 Table 4. Parkerson’s Mill Creek Water Quality Parameters and Analytical Methods 10

 2.3 Moore’s Mill Creek..... 11

 Table 5. Moore’s Mill Creek Monitoring Site Locations..... 13

 Table 6. Moore’s Mill Creek Water Quality Parameters and Analytical Methods..... 13

 Table 7. Moore’s Mill Creek Geomorphic Parameters 13

Appendix A. Water Quality Instrument Calibration Sheet..... 14

Appendix B. Water Sample Collection Field Sheet 15

Appendix C. Stream Condition Rapid Assessment Sheet from EPA Region IV Wetlands Program Development Grant
CD00D01412, "Eco-Morphological Mitigation Design and Assessment Tools for the Alabama and Tennessee Appalachian
Plateau” 16

1.0 Introduction

This document is the City of Auburn's Stormwater Monitoring Plan as required by the Alabama Department of Environmental Management (ADEM) Municipal Separate Storm Sewer System (MS4) Phase II NPDES General Permit No. ALR040003. The purpose of this monitoring plan is to provide environmental data that will be used to evaluate the conditions in each impaired stream within the City's MS4. These monitoring data will help determine the success of efforts to reduce pollutant loads within these waterbodies. This plan will be reviewed annually, and any revisions to the plan will be documented in the Stormwater Management Program Plan (SWMPP) Annual Report.

1.1 Watersheds and Impairments

The City of Auburn has three (3) streams within its jurisdiction that fail to meet the state's minimum water quality standards for their designated uses. Two streams have a finalized Total Maximum Daily Load (TMDL), and two streams are included on the 2018 final 303(d) list. A TMDL was approved for the Saugahatchee Creek watershed in 2008, with the pollutants of concern being total phosphorus (TP) and organic enrichment/dissolved oxygen (OE/DO). Saugahatchee Creek was listed on the 2018 303(d) list for pathogens, and E. coli monitoring for this impairment will begin during the next reporting period (4/1/2019 – 3/31/2020). A TMDL was finalized for Parkerson's Mill Creek in 2011 for pathogens, with E. coli as the indicator bacteria. Moore's Mill Creek was included on the 303(d) list of impaired streams in 2000 for siltation, and there is currently no TMDL for Moore's Mill Creek. This Stormwater Quality Monitoring Plan will address the TMDL pollutants of concern and 303(d) impairment for each of these streams.

1.2 Permit Requirements

According to Part V of the MS4 Phase II General Permit ALR040003 if there are no 303(d) listed or TMDL waters located in the permittee's MS4 area, no monitoring shall be required. However, if a waterbody within the MS4 jurisdiction is listed on the latest final 303(d) list, or otherwise designated impaired by ADEM, or for which a TMDL is approved or established by EPA, the MS4 permittee shall comply with the following:

1. Include a statement in the SWMPP stating if monitoring is required.
2. Implement a monitoring program within 6 months of permit coverage that addresses the impairment or TMDL. Include the monitoring plan in the SWMPP, and document the revisions to the monitoring plan in the SWMPP and SWMPP Annual Report.
3. Describe proposed monitoring locations and proposed monitoring frequency in the monitoring plan, with actual locations described in the SWMPP Annual Report.
4. Include in the monitoring program any parameters attributed with the latest final 303(d) list, or otherwise designated by ADEM as impaired, or are included in an EPA-approved or EPA-established TMDL.
5. Perform analysis and collection of samples in accordance with the methods specified at 40 CFR Part 136. If an approved 40 CFR Part 136 does not exist, then an ADEM approved method may be used.
6. If samples cannot be collected due to adverse conditions, permittee must submit a description of why samples could not be collected, including available documentation of the event (e.g. weather conditions that create dangerous conditions for personnel, or impracticable conditions such as drought or ice).
7. Monitoring results must be reported with the subsequent SWMPP Annual Report and shall include the following:
 - a. The date, latitude/longitude of location, and time of sampling
 - b. The name(s) of the individual(s) who performed the sampling
 - c. The date(s) analysis was performed
 - d. The name(s) of the individual(s) who performed the analysis
 - e. The analytical techniques or methods used
 - f. The results of such analysis

2.0 Monitoring

The City of Auburn believes that quality control and quality assurance are critical to a successful environmental monitoring program. In order to develop a dependable and credible database of water quality measurements for each sampling site in the City's MS4 area, the Water Resource Management (WRM) staff employ a stringent field and laboratory protocol. WRM staff are required to wear nitrile gloves when handling sample bottles, cleaning sample bottles, plating bacterial samples, handling bacterial plates and growth media, calibrating instruments, and collecting water samples. Before going to a sample site, water sample collection bottles are placed in clean, sealable plastic bags. They are carried to the sample site in a cooler, and after the samples are collected the bottles are immediately placed back into the bag and into the cooler to be chilled at 4 degrees Celsius. WRM staff calibrate all water quality instruments prior to field use. Calibration standards are never used outside the expiration date. A detailed calibration log is filled out each time an instrument is calibrated (Appendix A). Where applicable, instruments, sampling devices, and sample vials are cleaned using Liquinox™ phosphate-free detergent, followed by a tap water rinse, and then a final rinse with deionized water. At all sample sites, WRM staff utilize field sheets to document site characteristics and observations such as stream color, geomorphic setting (riffle, pool, etc.), and weather conditions (Appendix B). The field sheets are also used to document water quality data measured in-situ at each site. These in-situ data include temperature, pH, specific conductance ($\mu\text{S}/\text{cm}$), dissolved oxygen (mg/L), and dissolved oxygen (% saturation), and are collected using a YSI ProPlus instrument. Water samples are analyzed for turbidity in the field using a LaMotte 2020we portable turbidimeter. Streamflow is determined using the mid-section method, where the channel is divided into segments along a cross-section, and width, depth, and velocity are recorded at each segment. Velocity is measured at the center of each segment using a Price Pygmy Meter or a Sontek Flowtracker2 acoustic doppler velocimeter. The sum of flows of all the segments along a cross-section equals the total streamflow.

2.1 Saugahatchee Creek

The Saugahatchee Creek Embayment on Yates Reservoir was originally placed on the ADEM 303(d) list of impaired waterbodies in 1996 for OE/DO and nutrients. It remained on the State's 303(d) list after each consecutive two-year water quality assessment until 2008, at which time the Saugahatchee Creek Embayment (Yates Reservoir) TMDL was finalized. Additionally, Pepperell Branch, an unnamed tributary of Saugahatchee Creek which originates in Opelika, also remained on the State's 303(d) list for nutrient impairment until 2008. The impairment of Pepperell Branch was also addressed in the Saugahatchee Creek Embayment TMDL. At no time has the main stem of Saugahatchee Creek been added to the State's 303(d) list. In order to address water quality concerns within the Saugahatchee Creek Embayment, ADEM and the EPA jointly developed a "watershed based" TMDL, which would in turn address nutrient loading from both the main stem of Saugahatchee Creek and Pepperell Branch. The final Saugahatchee Creek Watershed TMDL was issued in April of 2008, identifying TP as the primary pollutant of concern (expressed as chlorophyll-a to satisfy numeric target criteria for assessing eutrophication in lakes). The Saugahatchee Creek Embayment TMDL establishes the TP limits in stormwater runoff of equal to or less than 0.1 mg/L (see Table 5-2 of the Saugahatchee Creek Embayment TMDL).

Monitoring TP at strategic locations along the main stem of Saugahatchee Creek and on tributaries within the Saugahatchee Creek watershed that drain portions of the City's MS4 will provide sufficient data to evaluate the success of efforts to reduce TP in stormwater and meet TMDL concentrations. The City shall make all reasonable efforts to conduct quarterly sampling for TP, water temperature, pH, dissolved oxygen, specific conductance, and turbidity at three locations along the main stem of Saugahatchee Creek, and also at three tributaries within the Saugahatchee Creek watershed (Figure 1.). Streamflow in cubic feet per second (cfs) and million gallons per day (MGD) will also be recorded at each sample site when water samples are collected. Streamflow at sites 1S, 4S, and 19S will be determined by the City's streamgage located at site 4S on Saugahatchee Creek at the City's Northside Water Pollution Control Facility (WPCF). The City will make a reasonable effort to measure streamflow in-situ at sites 5S, 20S, and 21S after water samples are collected when flow conditions permit. Additionally, the City will continue to reasonably support and participate in studies of water

quality in the embayment. Sample sites for monitoring TP in the Saugahatchee Creek watershed are shown in Table 1. The sample parameters and corresponding analytical techniques are shown in Table 2.

In 2018, Saugahatchee Creek was placed on the ADEM 303(d) list for pathogen impairment. The impaired reach is 33.42 mi., and includes waters from Saugahatchee Lake Dam to the confluence with Sycamore Creek in Tallapoosa County. ADEM considered collection system failure and pasture grazing as potential sources of the impairment. According to the 2018 303(d) list Fact Sheet <http://www.adem.state.al.us/programs/water/wquality/2018AL303dFactSheet.pdf>, ADEM collected samples at station SOGL-1 and SOGL-11 to determine the basis for adding Saugahatchee Creek to the 303(d) list.

City staff have conducted intensive sampling for E. coli in the Saugahatchee watershed at six (6) sites (Table 1.) for two consecutive years. The 5-week geomean concentrations for site SOGUTL-3 have been below state water quality criteria 3 out of the 4 geomean periods, and the highest geomean concentration was 201 MPN (August 2020). Due to the relatively low concentrations at this sampling site, the City plans to remove SOGUTL-3 from the sampling schedule in 2021. According to the monitoring data, the tributary on which SOGUTL-3 is located is not a significant contributor of E. coli to Saugahatchee Creek. In lieu of SOGUTL-3, site SOGUTL-5 and SOGUTL-6 will be added to the sampling schedule in 2021. SOGUTL-5 is located on a major tributary to Saugahatchee Creek that drains several residential subdivisions. SOGUTL-6 is located on another tributary to Saugahatchee and drains the northwest part of Auburn. The City also plans to remove site SOGL-20 from the sampling schedule in 2021. SOGL-20 is located near the beginning of the City's MS4 jurisdiction, but there are some areas upstream of the sampling site that are also within the City's MS4, thus SOGL-20 does not provide true "baseline conditions" as Saugahatchee Creek enters the MS4 jurisdiction. In order to have a more representative baseline of E. coli concentrations as Saugahatchee Creek enters our jurisdiction, the City will be sampling instead at site SOGL-22 located at HWY 280.

The City shall make all reasonable efforts to monitor E. coli concentrations in Saugahatchee Creek through annual intensive E. coli sampling at seven (7) sites within the Saugahatchee Creek watershed (Figure 2.). Monitoring E. coli at strategic locations along the main stem of Saugahatchee Creek and on tributaries within the Saugahatchee Creek watershed that drain portions of the City's MS4 will provide further insight into the high E. coli concentrations that were observed by ADEM and eventually led to the 2018 303(d) listing. Single samples will be collected for E. coli once per month for April, May, July, September, October, and November. Weekly samples will be collected at those sites during June and August. The 5-week geometric mean concentrations will be calculated based on the results of the weekly sampling. Streamflow will be determined from the USGS streamgage 02418230 for site SOGL-1, and streamflow at sites SOGL-11 and SOGL-22 will be determined from the City's streamgage located at the Northside WPCF. The City will make a reasonable effort to measure streamflow (recorded in cfs and MGD) in-situ at sites SOGUTL-1, SOGUTL-4, SOGUTL-5, and SOGUTL-6 after water samples are collected when flow conditions permit. Water temperature, pH, dissolved oxygen, specific conductance, and turbidity will also be measured in-situ at each site. Sample sites for monitoring E. coli are shown in Table 1., and the sample parameters and corresponding analytical techniques are shown in Table 2.

Table 1. Saugahatchee Creek Monitoring Site Locations

Site Number	Pollutant of Concern	Site Location	Site Coordinates
1S	Total Phosphorus	Saugahatchee Creek at US HWY 280	32.65741 N, 85.45965 W
19S	Total Phosphorus	Saugahatchee Creek 0.35 mi upstream of N. Donahue Dr.	32.64277 N, 85.49876 W
4S	Total Phosphorus	Saugahatchee Creek at Northside WPCF	32.62818 N, 85.54570 W
5S	Total Phosphorus	Unnamed Tributary to Saugahatchee Creek	32.62584 N, 85.54640 W
20S	Total Phosphorus	Unnamed Tributary to Saugahatchee Creek	32.64249 N, 85.49860 W
21S	Total Phosphorus	Swingle Creek above Lee Rd. 188	32.65561 N, 85.57551 W
SOG1-1	E. coli	Saugahatchee Creek at Lee Rd. 188	32.62656 N, 85.58801 W
SOG1-11	E. coli	Saugahatchee Creek at Northside WPCF	32.62818 N, 85.54570 W
SOG1-22	E. coli	Saugahatchee Creek at US HWY 280	32.64875 N, 85.47216 W
SOGUTL-1	E. coli	Unnamed Trib to Saugahatchee Creek at Hickory Dickory Park	32.63537 N, 85.49067 W
SOGUTL-4	E. coli	Unnamed Trib to Saugahatchee Creek at N College St.	32.63589 N, 85.48121 W
SOGUTL-5	E. coli	Unnamed Trib to Saugahatchee Creek near Northside WPCF	32.62551 N, 85.54589 W
SOGUTL-6	E. coli	Unnamed Trib to Saugahatchee Creek at Yarbrough Farms Blvd.	32.63142 N, 85.51014 W

Table 2. Saugahatchee Creek Water Quality Parameters and Analytical Methods

Water Quality Parameter	Analytical Method
Total Phosphorus	EPA 365.4
E. coli	IDEXX System (Colilert) <i>or</i> Alabama Water Watch (Coliscan Easygel)
Water Temperature	YSI model 5560
pH	YSI model 1001
Dissolved Oxygen	YSI model 2003 polarographic
Specific Conductance	YSI model 5560
Turbidity	Standard Methods 2130 B

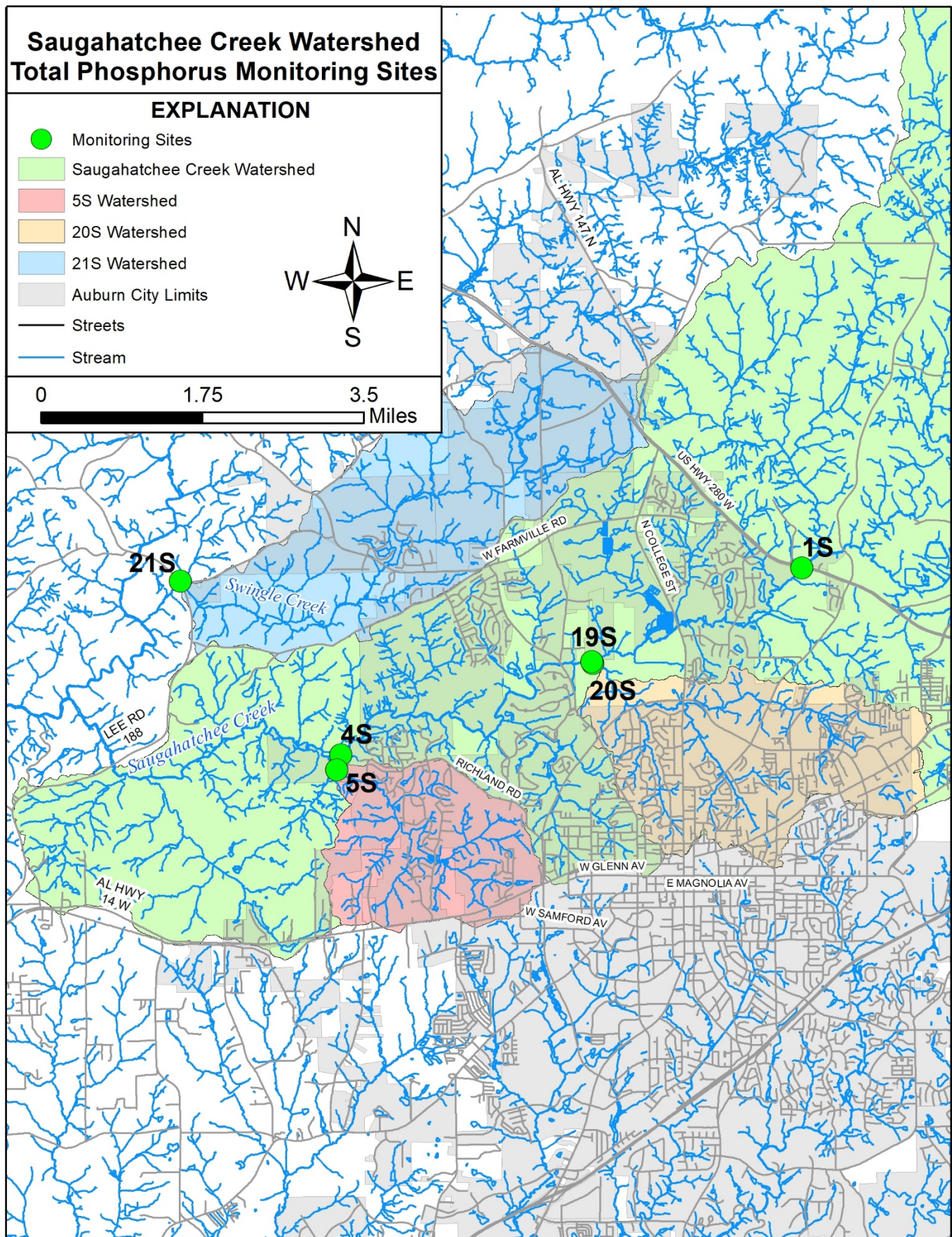


Figure 1. Saugahatchee Creek Watershed Total Phosphorus Monitoring Sites

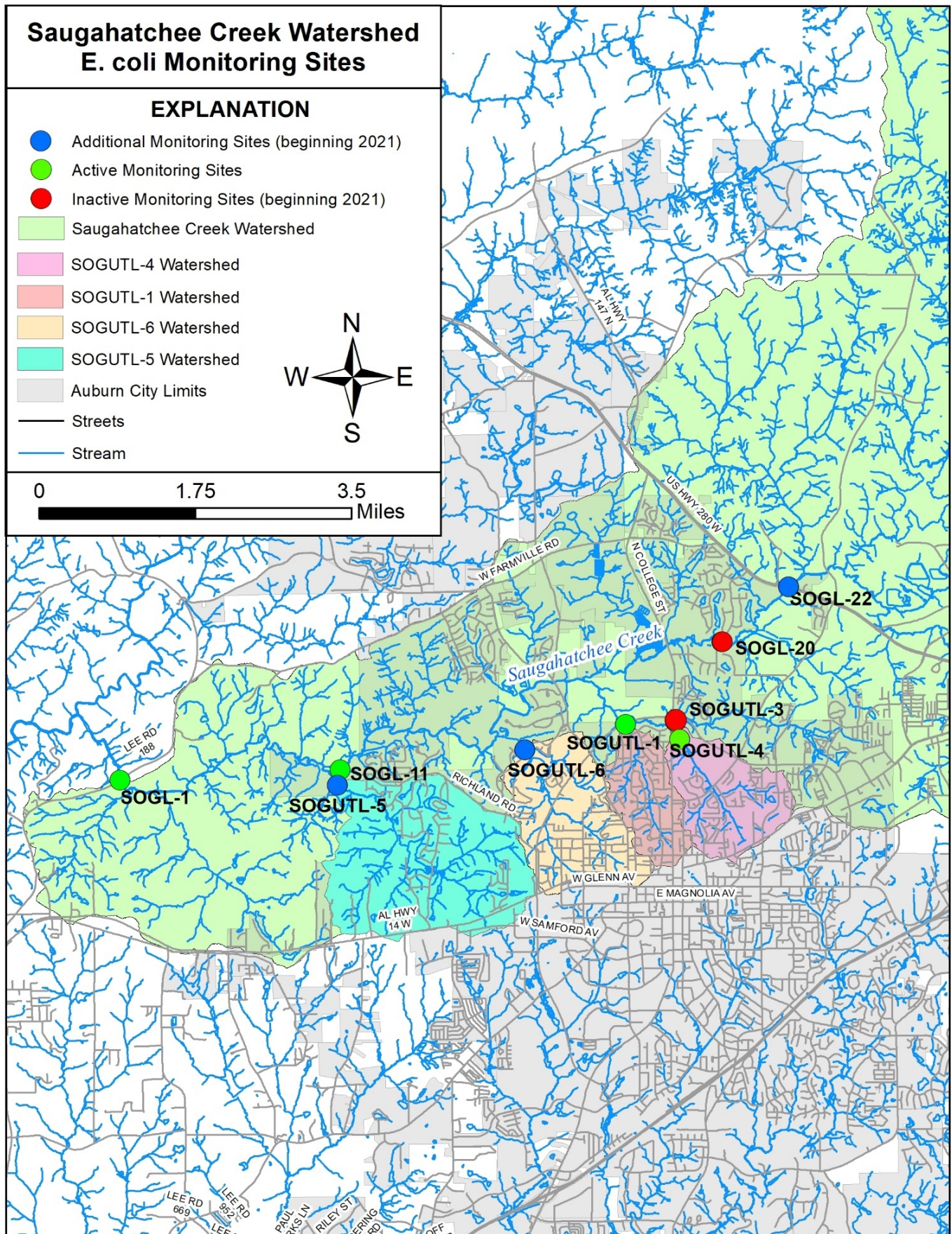


Figure 2. Saugahatchee Creek Watershed E. coli Monitoring Sites

2.2 Parkerson's Mill Creek

Parkerson's Mill Creek was placed on the ADEM 303(d) list of impaired waterbodies for pathogens in 2008. The impaired reach is 6.85 mi. and includes all waters from its source (near the intersection of N. College St. and Glenn Ave. in downtown Auburn) to its confluence with Chewacla Creek. Potential sources of the impairment were listed as sanitary sewer overflows and urban runoff. The final Parkerson's Mill Creek TMDL was issued in September 2011, identifying E. coli as the pollutant of concern. The Parkerson's Mill Creek TMDL establishes the E. coli limits in stormwater at 3.42E+09 colonies/day, also expressed as a 61% reduction in non-point sources. This TMDL was established using the geometric mean criterion of 126 CFU/100mL.

The City shall make all reasonable efforts to monitor E. coli concentrations in Parkerson's Mill Creek through annual intensive E. coli sampling. The intensive E. coli sampling will provide sufficient data to evaluate the success of efforts to reduce pathogens in stormwater and meet TMDL concentrations. The City plans to add two (2) sites to the sampling schedule in 2021 in an effort to further refine the possible sources of high E. coli concentrations in the watershed. Site PKML-6 is located at W. Longleaf Dr. on an unnamed tributary to Parkerson's Mill Creek that drains an area where many mobile home parks are located. Some of these communities are on private sewer systems, and the infrastructure includes septic lagoons and lift stations that have a history of failure. This tributary enters the main stem of Parkerson's Mill Creek between sites PKML-2 and PKML-5. Site PKML-7 is located on a small unnamed tributary that drains the H.C. Morgan Water Pollution Control Facility. This tributary enters Parkerson's Mill Creek between sites PKML-1 and PM3. Sampling at this location will determine if the runoff from the WPCF is contributing to the rise in concentrations between PKML-1 and PM3.

The intensive sampling will be conducted in the same manner as the study performed by ADEM in 2010 at six (6) sites (Figure 3.). Single samples will be collected for E. coli once per month for April, May, July, September, October, and November. Weekly samples will be collected at those sites during June and August. The 5-week geometric mean concentrations will be calculated based on the results of the weekly sampling. Streamflow at site PKML-1 will be determined by the City's streamgage located at site PKML-1 on Parkerson's Mill Creek just downstream of the Sandhill Rd. bridge near the H.C. Morgan WPCF. The City will make a reasonable effort to measure streamflow (recorded in cfs and MGD) in-situ at sites PM3, PKML-7, PKML-6, PKML-5, and PKML-2 after water samples are collected when flow conditions permit. Water temperature, pH, dissolved oxygen, specific conductance, and turbidity will be measured in-situ at each site. Additionally, the City will continue to reasonably support and participate in studies of water quality in the Parkerson's Mill Creek watershed. Monitoring sites in the Parkerson's Mill Creek watershed are shown in Table 3. The sample parameters and corresponding analytical techniques are shown in Table 4.

Table 3. Parkerson's Mill Creek Monitoring Site Locations

Site Number	Site Location	Site Coordinates
PKML-1	Parkerson's Mill Creek at Sand Hill Rd	32.53744 N, 85.50601 W
PKML-2	Parkerson's Mill Creek at Shug Jordan Pkwy	32.58551 N, 85.50249 W
PKML-6	Unnamed Trib to Parkerson's Mill Creek at W. Longleaf Dr.	32.57265 N, 85.51073 W
PKML-5	Parkerson's Mill Creek at W. Veterans Blvd	32.56243 N, 85.50716 W
PKML-7	Unnamed Trib to Parkerson's Mill Creek near H.C. Morgan WPCF	32.53538 N, 85.50560 W
PM-3	Parkerson's Mill Creek below HC Morgan WPCF	32.53427 N, 85.50156 W

Table 4. Parkerson's Mill Creek Water Quality Parameters and Analytical Methods

Water Quality Parameter	Analytical Method
E. coli	IDEXX System (Colilert) or Alabama Water Watch (Coliscan Easygel)
Water Temperature	YSI model 5560
pH	YSI model 1001
Dissolved Oxygen	YSI model 2003 polarographic
Specific Conductance	YSI model 5560
Turbidity	Standard Methods 2130 B

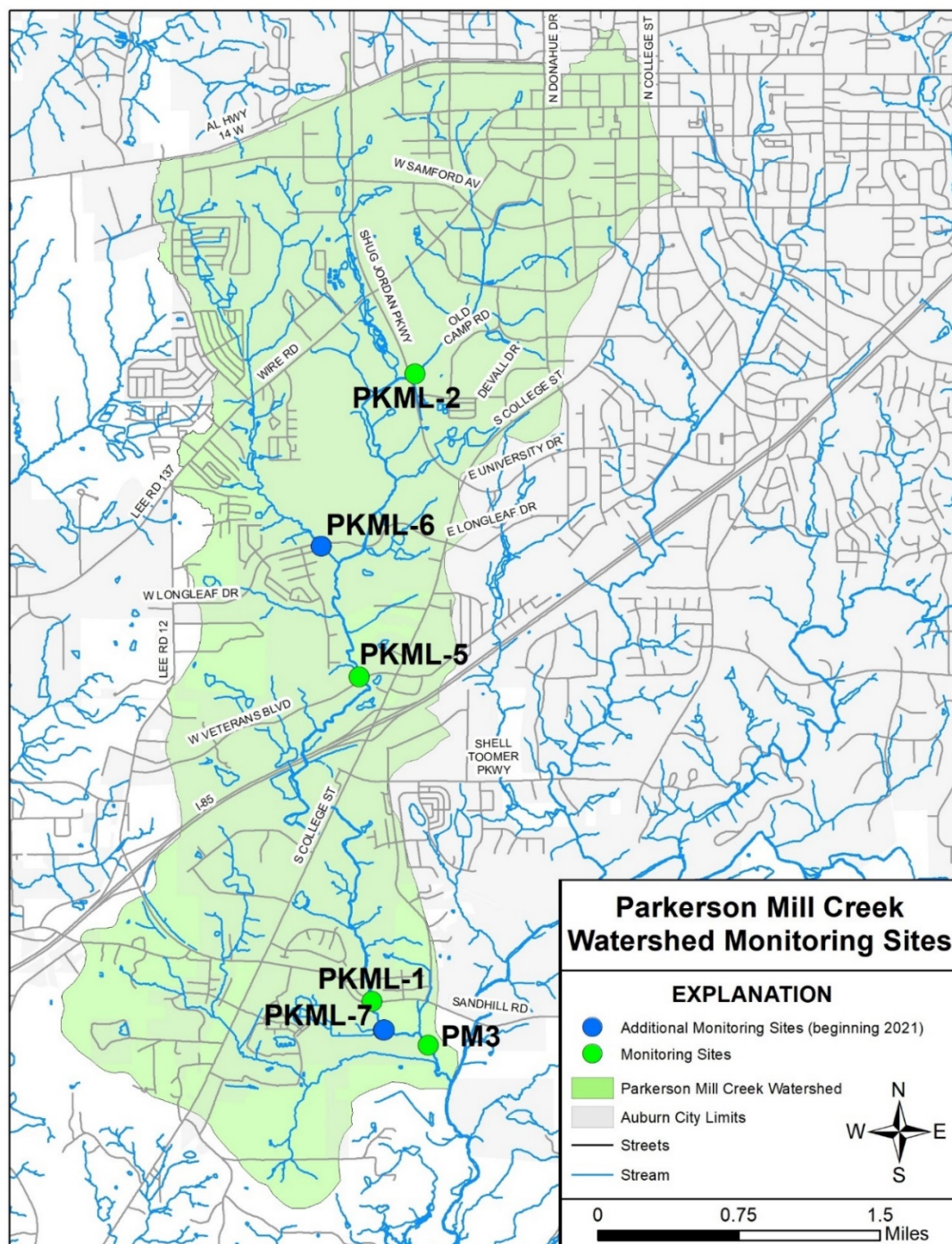


Figure 3. Parkerson's Mill Creek Watershed Monitoring Sites

2.3 Moore's Mill Creek

Moore's Mill Creek was placed on the draft 303(d) list for siltation in 1998, and has been on the final 303(d) list since 2000. The impaired reach is 10.51 mi. and includes all waters from its source to its confluence with Chewacla Creek. Habitat degradation due to sedimentation/siltation is the impairment in Moore's Mill Creek. Potential sources of the impairment are listed as land development and urban runoff/storm sewers. The Moore's Mill Creek Watershed Management Plan was completed in 2008. This plan outlined several objectives aimed to reduce sedimentation and mitigate habitat degradation. Included in the plan were geomorphic surveys and Bank Erosion Hazard Index (BEHI) assessments of stream reaches on both the main stem and tributaries throughout the watershed. Findings from these geomorphic surveys and BEHI assessments identified in-stream sediment loading from streambank erosion as a significant contributor to the impairment. The watershed management plan recommended continued monitoring of these sites to evaluate the success of future efforts aimed to reduce bank erosion.

The City shall make reasonable efforts to monitor streambank erosion at eight (8) reaches (Figure 3.) in the Moore's Mill Creek watershed with annual stream geomorphic surveys. These annual surveys will measure geomorphic parameters that are used as indicators of stability of a stream reach (Table 7.). A stream condition rapid assessment will also be performed annually at each of the 8 reaches. The stream condition rapid assessment (Appendix B) was developed with a grant from EPA (EPA Region IV Wetlands Program Development Grant CD00D01412, "Eco-Morphological Mitigation Design and Assessment Tools for the Alabama and Tennessee Appalachian Plateau"), and rates stream condition and function based on eco-geomorphic indicators. In addition, quarterly samples of turbidity, water temperature, pH, dissolved oxygen, specific conductance, and turbidity will be measured in-situ at each site. Additionally, the City will continue to reasonably support and participate in studies of water quality in the Moore's Mill Creek watershed. Proposed sample reaches for monitoring in the Moore's Mill Creek watershed are shown in Table 5. The water quality sampling parameters and corresponding analytical techniques are shown in Table 6, and geomorphic parameters are found in Table 7.

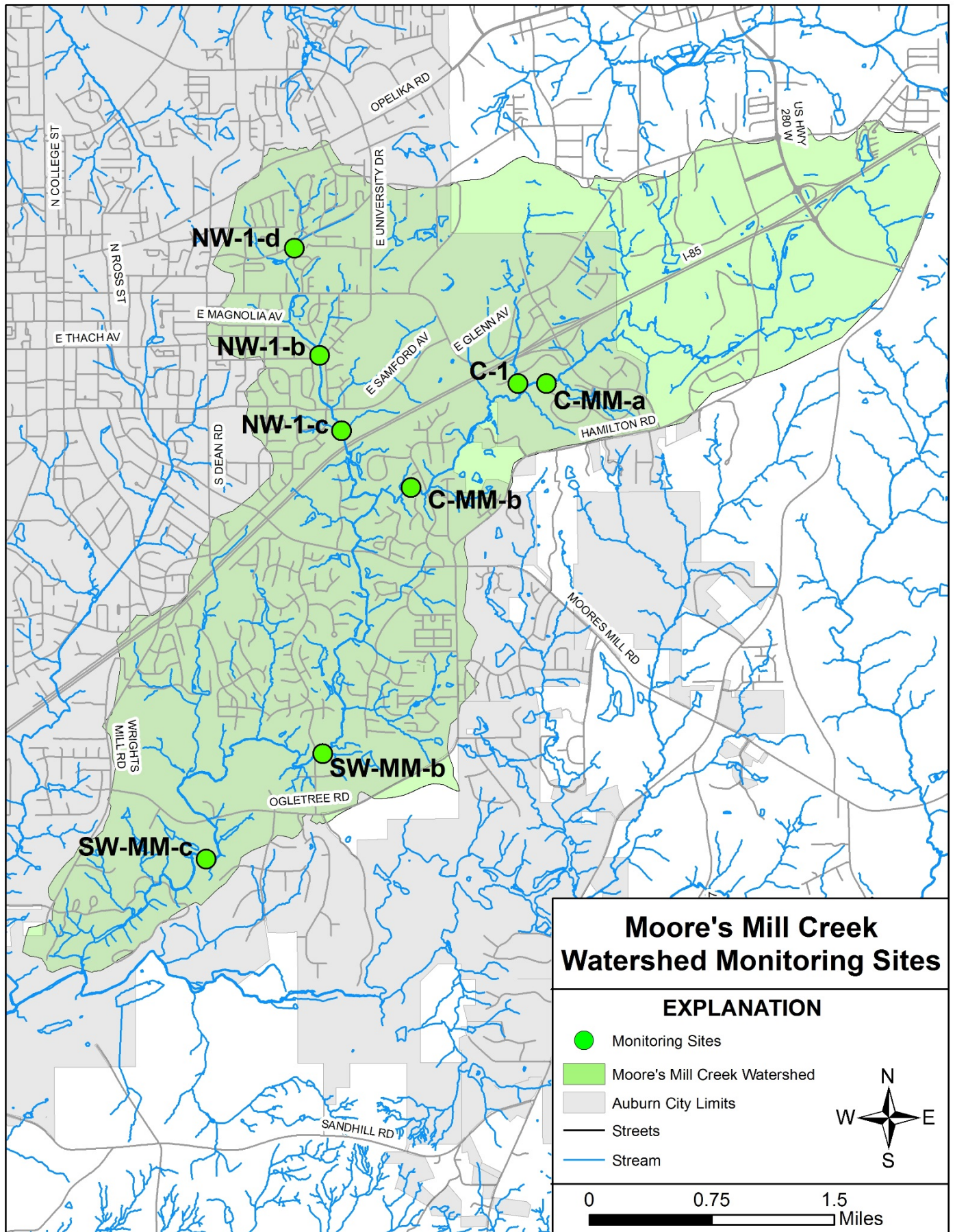


Figure 4. Moore's Mill Creek Watershed Monitoring Sites

Table 5. Moore's Mill Creek Monitoring Site Locations

Site Number	Reach Length	Upstream Coordinates	Downstream Coordinates
NW-1-b	600 ft.	32.603946 N, 85.453310 W	32.602333 N, 85.453047 W
NW-1-d	950 ft.	32.613527 N, 85.455178 W	32.611580 N, 85.456570 W
C-1	550 ft.	32.601404 N, 85.432698 W	32.600192 N, 85.432044 W
C-MM-a	950 ft.	32.600874 N, 85.428538 W	32.600530 N, 85.431463 W
NW-1-c	850 ft.	32.597506 N, 85.451326 W	32.595712 N, 85.450483 W
C-MM-b	1100 ft.	32.591034 N, 85.442119 W	32.590912 N, 85.444596 W
SW-MM-b	650 ft.	32.568631 N, 85.451830 W	32.567873 N, 85.453612 W
SW-MM-c	1350 ft.	32.559094 N, 85.463712 W	32.558760 N, 85.466685 W

Table 6. Moore's Mill Creek Water Quality Parameters and Analytical Methods

Water Quality Parameter	Analytical Method
Total Suspended Solids	Standard Methods 2540D Mod-1997
Water Temperature	YSI model 5560
pH	YSI model 1001
Dissolved Oxygen	YSI model 2003 polarographic
Specific Conductance	YSI model 5560
Turbidity	Standard Methods 2130 B

Table 7. Moore's Mill Creek Geomorphic Parameters

Geomorphic Parameter	Abbreviation
Geometric Bank Erosion Hazard Index	BEHI
Bankfull Area	A_{bkf}
Bankfull Width	W_{bkf}
Bankfull Depth	d_{bkf}
Maximum Bankfull Depth	d_{mbkf}
Low Bank Height	LBH
Width of the Flood-prone Area	W_{fpa}
Width to Depth Ratio	W/d
Bank Height Ratio	BHR
Entrenchment Ratio	ER

Appendix A. Water Quality Instrument Calibration Sheet

CITY OF AUBURN TURBIDITY METER CALIBRATION LOG					
Turbidimeter Model _____			Date _____		
Calibrated by _____		Calibration Location _____		Time _____ CST CDT	
<u>STANDARD</u>			<u>READING</u>		
CITY OF AUBURN WQ METER CALIBRATION LOG					
WQ Meter Model _____			Date _____		
Calibrated by _____		Calibration Location _____		Time _____ CST CDT	
pH					
pH Buffer	Buffer Temp (°C)	pH from table	pH before adj.	pH after adj.	mV
pH 7					
pH 4					
Specific Conductance					
Std Value (µS/cm)	Std Temp		SC before adj.	SC after adj.	
Dissolved Oxygen					
Temp (°C)	Barometric Pressure (mm Hg)	Reading from DO table	DO after adjustment		
Start Time	Calibration Time				

Appendix B. Water Sample Collection Field Sheet

CITY OF AUBURN WATER SAMPLE COLLECTION FIELD NOTES			
Site No. _____		Site Location _____	
Date _____		Mean Sample Time _____	
Sampled by _____		CST CDT	
FIELD MEASUREMENTS			
WQ Meter: ProPlus A ProPlus B		Turbidity #1 _____ NTU	
Temp. Air _____ °F C°		Dissolved Oxygen _____ mg/L	
Temp. Water _____ °F C°		Dissolved Oxygen _____ % Sat.	
pH _____ Units		Sp. Conductance _____ µS/cm	
		Mean _____ NTU	
SAMPLING DATA			
Location: Wading _____ ft upstream downstream of bridge Boat Bank Bridge			
Sampling site: pool riffle open channel pipe/culvert pour-over spillway lake spigot basin			
Sampling method: hand pump Kemmerer grab composite			
Stream bottom: bedrock boulder cobble gravel sand silt/mud concrete other _____			
Stream/Lake color: clear brown green gray orange other _____			
Comments:			
WEATHER CONDITIONS			
Temp: cold cool warm hot Wind: calm light breeze windy Sky: clear partly cloudy cloudy			
Precipitation: none lightrain rain snow			
48 hr Recent Precipitation: Yes No			
SAMPLE CONSTITUENTS			
Lab: _____ No. of Containers _____ Constituents:		Lab: _____ No. of Containers _____ Constituents:	
Lab: _____ No. of Containers _____ Constituents:		Lab: _____ No. of Containers _____ Constituents:	

Appendix C. Stream Condition Rapid Assessment Sheet from EPA Region IV Wetlands Program Development Grant CD00D01412, "Eco-Morphological Mitigation Design and Assessment Tools for the Alabama and Tennessee Appalachian Plateau"

Stream Condition Rapid Assessment

Stream name & location:	Assessed by:
Ecoregion:	Site visit date:
Watershed drainage area (sq mi):	Substrate (sand, gravel, cobble, bedrock):
Stream slope (ft/ft):	Stream reach length (ft):
Bankfull riffle area (sq ft):	Width/depth ratio (WDR):
Entrenchment ratio (ER):	Bank height ratio (BHR):
Sinuosity (K):	Streambank stability (BEHI):

Stream Condition and Function: Score from 0 to 2 indicating natural stream integrity and health:

2 = Good; 1 = Fair; 0 = Poor

1. Upstream watershed impacts from stormwater, wastewater, or sediment _____

<u>Good:</u> no impacts from upstream sources	<u>Fair:</u> some minor impacts from upstream sources	<u>Poor:</u> major impacts from upstream sources
---	---	--

2. Local stream reach impacts from ditches, pipes, livestock, utilities, or roads _____

<u>Good:</u> no impacts from local sources	<u>Fair:</u> some minor impacts from local sources	<u>Poor:</u> major impacts from local sources
--	--	---

3. Channel dimension related to bankfull cross-section measurements _____

<u>Good:</u> natural equilibrium width, depth, and area dimensions expected for the watershed	<u>Fair:</u> some disequilibrium indicated by unnatural dimensions	<u>Poor:</u> major disequilibrium indicated by incision, widening, high variability, or channelized system
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4. Channel pattern related to planform measurements _____

<u>Good:</u> natural equilibrium meander pattern with sinuosity expected for the watershed	<u>Fair:</u> some disequilibrium indicated by unnatural pattern features	<u>Poor:</u> major disequilibrium indicated by tight bends, cutoffs, rapid down-valley meander migration, or straightening
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5. Channel bed profile related to longitudinal profile measurements _____

<u>Good:</u> natural equilibrium riffles, pools, steps, glides, and runs with bedform expected for the watershed	<u>Fair:</u> some disequilibrium indicated by unnatural or missing bedform features	<u>Poor:</u> major disequilibrium indicated by head cutting, plane bed, aggradation, or riffle migration into pools
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6. Streambank stability and protection from erosion _____

<u>Good:</u> low erodibility resulting from covered soil, low banks, deep roots, low stress	<u>Fair:</u> moderate erodibility resulting from some bare soil or erodible bank conditions	<u>Poor:</u> high erodibility resulting from bare soil, eroding bends, steep banks, high banks, lack of roots, high stress
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7. Floodplain connection for bankfull flood access _____

<u>Good:</u> regular floodplain access with BHR < 1.2	<u>Fair:</u> some incision with BHR = 1.2–1.9	<u>Poor:</u> severely incised channel with BHR > 2
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8. Floodplain morphology to dissipate flood energy and minimize erosion _____

<u>Good:</u> low entrenchment with ER > 5 and no contractions	<u>Fair:</u> moderate entrenchment with ER = 1.5–5 and/or minor contractions	<u>Poor:</u> severe entrenchment with ER < 1.5 and/or major contractions
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9. Riparian vegetation to provide shade, nutrient uptake, and food sources _____

<u>Good:</u> healthy native plants growing in more than 90% of 50-ft buffer on both sides	<u>Fair:</u> healthy native plants growing in half to 90% of 50-ft buffer on both sides	<u>Poor:</u> healthy native plants growing in less than half of 50-ft buffer on both sides
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10. Habitats including diverse bedform, large woody debris, leaf packs, root hairs _____

<u>Good:</u> healthy aquatic micro-and macro-habitat features expected for watershed	<u>Fair:</u> lacking up to half of expected aquatic habitat features	<u>Poor:</u> lacking more than half of expected aquatic habitat features
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11. Water quality and stream bed sediments _____

<u>Good:</u> clear water with natural sediments expected for watershed	<u>Fair:</u> some turbidity and/or embeddedness affecting habitat conditions	<u>Poor:</u> excessive turbidity and/or embeddedness strongly affecting habitat conditions
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12. Presence of desirable fish and macroinvertebrates expected for watershed _____

<u>Good:</u> healthy communities including intolerant taxa	<u>Fair:</u> missing some intolerant taxa	<u>Poor:</u> lacking expected communities and/or dominated by tolerant taxa
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Notes: _____

Total Score: _____

APPENDIX H

OUTFALL SCREENINGS 2021-2022

Search...

SMITH, MARLA S

Inbox **Recent** **Service Requests** **Work Orders** **Inspections** **Permits** **GIS Search** **Reports** **Crews Manager**

Project Manager **Table Editor**

Drag a column header and drop it here to group by that column

<input type="checkbox"/>	InspectionId	Inspection Type	Date Inspected	Inspected By	Status	Submit To	Finish Date	Work Order Id	Request Id	District	Entity Type	Entity Uid	Entity SI
<input type="checkbox"/>	90330	SW Outfall Inspection	10/20/2021 02:00	ROGERS, DUSTIN M	CLOSED	KIMBROW, DUSTIN R	10/20/2021 02:03				OUTFALLS	P125	7277
<input type="checkbox"/>	90331	SW Outfall Inspection	10/20/2021 02:10	ROGERS, DUSTIN M	CLOSED	KIMBROW, DUSTIN R	10/20/2021 02:15				OUTFALLS	P126	7278
<input type="checkbox"/>	90332	SW Outfall Inspection	10/20/2021 02:21	ROGERS, DUSTIN M	CLOSED	KIMBROW, DUSTIN R	10/20/2021 02:24				OUTFALLS	P138	7290
<input type="checkbox"/>	90546	SW Outfall Inspection	10/26/2021 10:26	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	10/26/2021 10:34				OUTFALLS	P137	7289
<input type="checkbox"/>	90547	SW Outfall Inspection	10/26/2021 10:41	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	10/26/2021 10:42				OUTFALLS	P134	7286
<input type="checkbox"/>	90548	SW Outfall Inspection	10/26/2021 10:45	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	10/26/2021 10:57				OUTFALLS	P135	7287
<input type="checkbox"/>	90722	SW Outfall Inspection	10/26/2021 12:02	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 12:10				OUTFALLS	P1	458
<input type="checkbox"/>	90753	SW Outfall Inspection	11/1/2021 02:38	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 02:39				OUTFALLS	T100	21670
<input type="checkbox"/>	90754	SW Outfall Inspection	11/1/2021 02:43	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 02:43				OUTFALLS	T99	21669
<input type="checkbox"/>	90755	SW Outfall Inspection	11/1/2021 02:50	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 02:50				OUTFALLS	T98	21668
<input type="checkbox"/>	90756	SW Outfall Inspection	11/1/2021 02:55	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 02:55				OUTFALLS	T102	21672
<input type="checkbox"/>	90757	SW Outfall Inspection	11/1/2021 02:56	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 02:56				OUTFALLS	T101	21671
<input type="checkbox"/>	90758	SW Outfall Inspection	11/1/2021 03:02	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 03:03				OUTFALLS	T139	22879
<input type="checkbox"/>	90759	SW Outfall Inspection	11/1/2021 03:09	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 03:10				OUTFALLS	T140	23262
<input type="checkbox"/>	90764	SW Outfall Inspection	10/26/2021 12:20	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 12:28				OUTFALLS	P186	48223
<input type="checkbox"/>	90765	SW Outfall Inspection	11/1/2021 03:18	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 03:18				OUTFALLS	T138	22878
<input type="checkbox"/>	90766	SW Outfall Inspection	11/1/2021 03:20	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 03:20				OUTFALLS	T137	22877
<input type="checkbox"/>	90767	SW Outfall Inspection	10/26/2021 02:05	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 02:10				OUTFALLS	P14	471
<input type="checkbox"/>	90768	SW Outfall Inspection	11/1/2021 03:22	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 03:22				OUTFALLS	T136	22876
<input type="checkbox"/>	90769	SW Outfall Inspection	11/1/2021 03:25	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 03:25				OUTFALLS	T133	22873
<input type="checkbox"/>	90770	SW Outfall Inspection	11/1/2021 03:26	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 03:27				OUTFALLS	T134	22874
<input type="checkbox"/>	90771	SW Outfall Inspection	10/26/2021 02:15	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 02:20				OUTFALLS	P15	2058
<input type="checkbox"/>	90772	SW Outfall Inspection	11/1/2021 03:29	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/1/2021 03:29				OUTFALLS	T135	22875
<input type="checkbox"/>	90773	SW Outfall Inspection	10/26/2021 03:08	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 03:15				OUTFALLS	P12	469
<input type="checkbox"/>	90774	SW Outfall Inspection	10/26/2021 03:19	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 03:25				OUTFALLS	P11	468
<input type="checkbox"/>	90775	SW Outfall Inspection	10/26/2021 03:35	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 03:36				OUTFALLS	P10	467
<input type="checkbox"/>	90776	SW Outfall Inspection	10/26/2021 03:44	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 03:54				OUTFALLS	P9	466
<input type="checkbox"/>	90777	SW Outfall Inspection	10/26/2021 03:53	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 03:54				OUTFALLS	P2	459
<input type="checkbox"/>	90780	SW Outfall Inspection	10/26/2021 03:54	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	10/26/2021 03:58				OUTFALLS	P4	461
<input type="checkbox"/>	90781	SW Outfall Inspection	10/26/2021 03:58	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/1/2021 04:03				OUTFALLS	P3	460
<input type="checkbox"/>	90793	SW Outfall Inspection	11/2/2021 09:24	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 09:24				OUTFALLS	T132	22872
<input type="checkbox"/>	90794	SW Outfall Inspection	11/2/2021 09:25	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 09:25				OUTFALLS	T131	22871
<input type="checkbox"/>	90797	SW Outfall Inspection	11/2/2021 09:38	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 09:38				OUTFALLS	T128	22868
<input type="checkbox"/>	90798	SW Outfall Inspection	11/2/2021 09:41	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 09:41				OUTFALLS	T127	22867
<input type="checkbox"/>	90799	SW Outfall Inspection	11/2/2021 09:46	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 09:47				OUTFALLS	T130	22870
<input type="checkbox"/>	90800	SW Outfall Inspection	11/2/2021 09:49	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 09:49				OUTFALLS	T129	22869
<input type="checkbox"/>	90801	SW Outfall Inspection	11/2/2021 10:02	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 10:03				OUTFALLS	T281	29267
<input type="checkbox"/>	90803	SW Outfall Inspection	11/2/2021 10:10	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 10:11				OUTFALLS	T117	22472
<input type="checkbox"/>	90804	SW Outfall Inspection	11/2/2021 10:37	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 10:37				OUTFALLS	T311	49066
<input type="checkbox"/>	90805	SW Outfall Inspection	11/2/2021 10:57	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 10:58				OUTFALLS	T97	21667
<input type="checkbox"/>	90806	SW Outfall Inspection	11/2/2021 11:01	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 11:01				OUTFALLS	T96	21666
<input type="checkbox"/>	90807	SW Outfall Inspection	11/2/2021 11:11	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 11:12				OUTFALLS	T94	21664
<input type="checkbox"/>	90808	SW Outfall Inspection	11/2/2021 11:13	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 11:14				OUTFALLS	T95	21665
<input type="checkbox"/>	90809	SW Outfall Inspection	11/2/2021 11:20	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 11:20				OUTFALLS	T93	21663
<input type="checkbox"/>	90816	SW Outfall Inspection	11/2/2021 01:31	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 01:32				OUTFALLS	T297	29682

<input type="checkbox"/>	InspectionId	Inspection Type	Date Inspected	Inspected By	Status	Submit To	Finish Date	Work Order Id	Request Id	District	Entity Type	Entity Uid	Entity Si
<input type="checkbox"/>	90817	SW Outfall Inspection	11/2/2021 01:41	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 01:41				OUTFALLS	T116	22471
<input type="checkbox"/>	90818	SW Outfall Inspection	11/2/2021 01:54	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 01:55				OUTFALLS	T122	22863
<input type="checkbox"/>	90819	SW Outfall Inspection	11/2/2021 02:17	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:18				OUTFALLS	T120	22475
<input type="checkbox"/>	90820	SW Outfall Inspection	11/2/2021 02:24	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:24				OUTFALLS	T121	22862
<input type="checkbox"/>	90821	SW Outfall Inspection	11/2/2021 02:27	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:28				OUTFALLS	T119	22474
<input type="checkbox"/>	90822	SW Outfall Inspection	11/2/2021 02:35	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:36				OUTFALLS	T108	22463
<input type="checkbox"/>	90823	SW Outfall Inspection	11/2/2021 02:37	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:38				OUTFALLS	T107	22462
<input type="checkbox"/>	90824	SW Outfall Inspection	11/2/2021 02:42	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:42				OUTFALLS	T118	22473
<input type="checkbox"/>	90825	SW Outfall Inspection	11/2/2021 02:48	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:49				OUTFALLS	T152	23668
<input type="checkbox"/>	90826	SW Outfall Inspection	11/2/2021 02:50	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:50				OUTFALLS	T106	21676
<input type="checkbox"/>	90827	SW Outfall Inspection	11/2/2021 02:51	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:52				OUTFALLS	T105	21675
<input type="checkbox"/>	90828	SW Outfall Inspection	11/2/2021 02:53	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 02:54				OUTFALLS	T104	21674
<input type="checkbox"/>	90829	SW Outfall Inspection	11/2/2021 03:03	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 03:03				OUTFALLS	T150	23666
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<input type="checkbox"/>	90831	SW Outfall Inspection	11/2/2021 03:30	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 03:31				OUTFALLS	T312	49067
<input type="checkbox"/>	90832	SW Outfall Inspection	11/2/2021 03:31	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/2/2021 03:32				OUTFALLS	T313	49068
<input type="checkbox"/>	90850	SW Outfall Inspection	11/2/2021 11:10	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 11:12				OUTFALLS	P5	462
<input type="checkbox"/>	90851	SW Outfall Inspection	11/2/2021 11:15	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 11:20				OUTFALLS	P6	463
<input type="checkbox"/>	90852	SW Outfall Inspection	11/2/2021 11:22	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 11:30				OUTFALLS	P16	2458
<input type="checkbox"/>	90853	SW Outfall Inspection	11/3/2021 10:05	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:09				OUTFALLS	CT35	48664
<input type="checkbox"/>	90854	SW Outfall Inspection	11/3/2021 10:05	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:11				OUTFALLS	CT34	48663
<input type="checkbox"/>	90855	SW Outfall Inspection	11/3/2021 10:12	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:16				OUTFALLS	CT33	48662
<input type="checkbox"/>	90856	SW Outfall Inspection	11/3/2021 10:13	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:18				OUTFALLS	CT32	48661
<input type="checkbox"/>	90857	SW Outfall Inspection	11/3/2021 10:20	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:24				OUTFALLS	P122	7274
<input type="checkbox"/>	90858	SW Outfall Inspection	11/2/2021 11:34	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 11:55				OUTFALLS	P17	2459
<input type="checkbox"/>	90859	SW Outfall Inspection	11/2/2021 12:05	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 12:06				OUTFALLS	P91	6058
<input type="checkbox"/>	90860	SW Outfall Inspection	11/3/2021 10:25	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:34				OUTFALLS	P121	7273
<input type="checkbox"/>	90861	SW Outfall Inspection	11/2/2021 12:07	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 12:15				OUTFALLS	P92	6059
<input type="checkbox"/>	90862	SW Outfall Inspection	11/3/2021 10:35	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:40				OUTFALLS	P120	7272
<input type="checkbox"/>	90863	SW Outfall Inspection	11/3/2021 10:40	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:45				OUTFALLS	P119	7271
<input type="checkbox"/>	90864	SW Outfall Inspection	11/3/2021 10:52	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 10:53				OUTFALLS	P118	7270
<input type="checkbox"/>	90865	SW Outfall Inspection	11/2/2021 12:25	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 12:26				OUTFALLS	P73	5259
<input type="checkbox"/>	90866	SW Outfall Inspection	11/3/2021 11:04	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 11:05				OUTFALLS	P123	7275
<input type="checkbox"/>	90867	SW Outfall Inspection	11/2/2021 12:30	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 12:32				OUTFALLS	P74	5260
<input type="checkbox"/>	90868	SW Outfall Inspection	11/3/2021 11:07	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/3/2021 11:08				OUTFALLS	T112	22467
<input type="checkbox"/>	90869	SW Outfall Inspection	11/3/2021 11:05	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 11:11				OUTFALLS	P124	7276
<input type="checkbox"/>	90870	SW Outfall Inspection	11/3/2021 11:14	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/3/2021 11:14				OUTFALLS	T113	22468
<input type="checkbox"/>	90872	SW Outfall Inspection	11/2/2021 12:35	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 12:38				OUTFALLS	P71	4860
<input type="checkbox"/>	90873	SW Outfall Inspection	11/3/2021 11:22	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/3/2021 11:22				OUTFALLS	T114	22469
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<input type="checkbox"/>	90875	SW Outfall Inspection	11/2/2021 12:40	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 12:44				OUTFALLS	P75	5261
<input type="checkbox"/>	90876	SW Outfall Inspection	11/2/2021 12:53	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 01:05				OUTFALLS	P76	5262
<input type="checkbox"/>	90877	SW Outfall Inspection	11/3/2021 11:30	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 11:36				OUTFALLS	P192	48626
<input type="checkbox"/>	90878	SW Outfall Inspection	11/3/2021 11:38	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/3/2021 11:38				OUTFALLS	T73	20864
<input type="checkbox"/>	90879	SW Outfall Inspection	11/3/2021 11:41	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/3/2021 11:41				OUTFALLS	T71	20862
<input type="checkbox"/>	90880	SW Outfall Inspection	11/3/2021 11:44	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/3/2021 11:45				OUTFALLS	T72	20863
<input type="checkbox"/>	90881	SW Outfall Inspection	11/3/2021 11:45	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 11:48				OUTFALLS	P136	7288
<input type="checkbox"/>	90882	SW Outfall Inspection	11/2/2021 01:08	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 01:18				OUTFALLS	P70	4859
<input type="checkbox"/>	90883	SW Outfall Inspection	11/3/2021 11:50	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 11:52				OUTFALLS	P133	7285
<input type="checkbox"/>	90884	SW Outfall Inspection	11/3/2021 11:55	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 11:58				OUTFALLS	P132	7284
<input type="checkbox"/>	90885	SW Outfall Inspection	11/3/2021 11:55	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 12:00				OUTFALLS	P131	7283
<input type="checkbox"/>	90886	SW Outfall Inspection	11/2/2021 01:20	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 01:25				OUTFALLS	P69	4858

<input type="checkbox"/>	InspectionId	Inspection Type	Date Inspected	Inspected By	Status	Submit To	Finish Date	Work Order Id	Request Id	District	Entity Type	Entity Uid	Entity Si
<input type="checkbox"/>	90887	SW Outfall Inspection	11/3/2021 12:01	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/3/2021 12:01				OUTFALLS	T78	20869
<input type="checkbox"/>	90888	SW Outfall Inspection	11/2/2021 01:33	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 01:33				OUTFALLS	P68	4461
<input type="checkbox"/>	90889	SW Outfall Inspection	11/2/2021 01:34	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 01:35				OUTFALLS	P67	4459
<input type="checkbox"/>	90890	SW Outfall Inspection	11/2/2021 01:35	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 01:38				OUTFALLS	P66	4460
<input type="checkbox"/>	90892	SW Outfall Inspection	11/2/2021 03:00	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 03:06				OUTFALLS	P60	4058
<input type="checkbox"/>	90893	SW Outfall Inspection	11/2/2021 03:17	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 03:20				OUTFALLS	P65	4458
<input type="checkbox"/>	90894	SW Outfall Inspection	11/2/2021 03:17	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 03:17				OUTFALLS	P64	4062
<input type="checkbox"/>	90895	SW Outfall Inspection	11/2/2021 03:18	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 03:20				OUTFALLS	P63	4061
<input type="checkbox"/>	90896	SW Outfall Inspection	11/2/2021 03:20	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 03:23				OUTFALLS	P65	4458
<input type="checkbox"/>	90897	SW Outfall Inspection	11/2/2021 03:35	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 03:45				OUTFALLS	P61	4059
<input type="checkbox"/>	90898	SW Outfall Inspection	11/2/2021 03:36	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/2/2021 03:50				OUTFALLS	P62	4060
<input type="checkbox"/>	90899	SW Outfall Inspection	11/3/2021 01:23	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 01:25				OUTFALLS	P129	7281
<input type="checkbox"/>	90900	SW Outfall Inspection	11/3/2021 01:28	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 01:29				OUTFALLS	P128	7280
<input type="checkbox"/>	90901	SW Outfall Inspection	11/3/2021 01:46	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 01:46				OUTFALLS	P139	7291
<input type="checkbox"/>	90902	SW Outfall Inspection	11/3/2021 01:50	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 01:57				OUTFALLS	P140	7292
<input type="checkbox"/>	90903	SW Outfall Inspection	11/3/2021 02:03	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 02:07				OUTFALLS	P127	7279
<input type="checkbox"/>	90904	SW Outfall Inspection	11/3/2021 02:10	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 02:14				OUTFALLS	P111	7263
<input type="checkbox"/>	90905	SW Outfall Inspection	11/3/2021 02:16	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 02:18				OUTFALLS	CT36	48665
<input type="checkbox"/>	90906	SW Outfall Inspection	11/3/2021 02:24	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 02:27				OUTFALLS	P152	7671
<input type="checkbox"/>	90907	SW Outfall Inspection	11/3/2021 02:30	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 02:31				OUTFALLS	P153	7672
<input type="checkbox"/>	90908	SW Outfall Inspection	11/3/2021 02:35	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 02:36				OUTFALLS	P154	7673
<input type="checkbox"/>	90909	SW Outfall Inspection	11/3/2021 02:52	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/3/2021 02:53				OUTFALLS	P156	7675
<input type="checkbox"/>	90916	SW Outfall Inspection	11/3/2021 02:40	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 02:43				OUTFALLS	P94	6061
<input type="checkbox"/>	90917	SW Outfall Inspection	11/3/2021 02:50	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 03:05				OUTFALLS	P93	6060
<input type="checkbox"/>	90918	SW Outfall Inspection	11/3/2021 03:14	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 03:18				OUTFALLS	P86	5272
<input type="checkbox"/>	90919	SW Outfall Inspection	11/3/2021 03:18	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 03:25				OUTFALLS	P90	5661
<input type="checkbox"/>	90920	SW Outfall Inspection	11/3/2021 03:26	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 03:29				OUTFALLS	P87	5658
<input type="checkbox"/>	90921	SW Outfall Inspection	11/3/2021 03:29	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 03:30				OUTFALLS	P88	5659
<input type="checkbox"/>	90922	SW Outfall Inspection	11/3/2021 03:30	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 03:40				OUTFALLS	P89	5660
<input type="checkbox"/>	90944	SW Outfall Inspection	11/4/2021 08:39	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 08:40				OUTFALLS	P107	6869
<input type="checkbox"/>	90945	SW Outfall Inspection	11/4/2021 08:40	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 08:51				OUTFALLS	P108	6870
<input type="checkbox"/>	90947	SW Outfall Inspection	11/3/2021 03:48	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 03:50				OUTFALLS	P85	5271
<input type="checkbox"/>	90948	SW Outfall Inspection	11/3/2021 03:50	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 03:55				OUTFALLS	P84	5270
<input type="checkbox"/>	90949	SW Outfall Inspection	11/3/2021 04:05	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 04:05				OUTFALLS	P144	7663
<input type="checkbox"/>	90950	SW Outfall Inspection	11/3/2021 04:06	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/3/2021 04:10				OUTFALLS	P143	7662
<input type="checkbox"/>	90951	SW Outfall Inspection	11/3/2021 04:12	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 04:15				OUTFALLS	P142	7661
<input type="checkbox"/>	90960	SW Outfall Inspection	11/4/2021 11:16	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 11:16				OUTFALLS	P98	6461
<input type="checkbox"/>	90961	SW Outfall Inspection	11/4/2021 11:24	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 11:25				OUTFALLS	P99	6861
<input type="checkbox"/>	90963	SW Outfall Inspection	11/4/2021 11:40	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 11:40				OUTFALLS	P100	6862
<input type="checkbox"/>	90966	SW Outfall Inspection	11/4/2021 11:46	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 11:47				OUTFALLS	P101	6863
<input type="checkbox"/>	90967	SW Outfall Inspection	11/4/2021 11:55	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 11:56				OUTFALLS	P102	6864
<input type="checkbox"/>	90968	SW Outfall Inspection	11/4/2021 12:10	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 12:10				OUTFALLS	P148	7667
<input type="checkbox"/>	90969	SW Outfall Inspection	11/4/2021 12:11	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 12:12				OUTFALLS	P147	7666
<input type="checkbox"/>	90970	SW Outfall Inspection	11/4/2021 12:18	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 12:19				OUTFALLS	P104	6866
<input type="checkbox"/>	90971	SW Outfall Inspection	11/4/2021 12:23	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 12:23				OUTFALLS	P105	6867
<input type="checkbox"/>	90972	SW Outfall Inspection	11/4/2021 12:28	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 12:29				OUTFALLS	P149	7668
<input type="checkbox"/>	90973	SW Outfall Inspection	11/4/2021 12:32	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 12:33				OUTFALLS	P150	7669
<input type="checkbox"/>	90974	SW Outfall Inspection	11/4/2021 12:35	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 12:37				OUTFALLS	P151	7670
<input type="checkbox"/>	90975	SW Outfall Inspection	11/4/2021 12:39	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/4/2021 12:39				OUTFALLS	P103	6865
<input type="checkbox"/>	90976	SW Outfall Inspection	11/4/2021 12:00	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 12:10				OUTFALLS	CT25	48638
<input type="checkbox"/>	90977	SW Outfall Inspection	11/4/2021 12:15	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 12:35				OUTFALLS	CT26	48639
<input type="checkbox"/>	90978	SW Outfall Inspection	11/4/2021 01:52	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 01:52				OUTFALLS	T125	22866

<input type="checkbox"/>	InspectionId	Inspection Type	Date Inspected	Inspected By	Status	Submit To	Finish Date	Work Order Id	Request Id	District	Entity Type	Entity Uid	Entity Si
<input type="checkbox"/>	90979	SW Outfall Inspection	11/4/2021 01:56	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 01:57				OUTFALLS	T124	22865
<input type="checkbox"/>	90980	SW Outfall Inspection	11/4/2021 02:07	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:07				OUTFALLS	T111	22466
<input type="checkbox"/>	90981	SW Outfall Inspection	11/4/2021 02:17	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:17				OUTFALLS	T123	22864
<input type="checkbox"/>	90982	SW Outfall Inspection	11/4/2021 02:22	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:23				OUTFALLS	T87	20878
<input type="checkbox"/>	90983	SW Outfall Inspection	11/4/2021 02:24	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:24				OUTFALLS	T86	20877
<input type="checkbox"/>	90984	SW Outfall Inspection	11/4/2021 02:28	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:28				OUTFALLS	T81	20872
<input type="checkbox"/>	90985	SW Outfall Inspection	11/4/2021 02:29	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:30				OUTFALLS	T80	20871
<input type="checkbox"/>	90986	SW Outfall Inspection	11/4/2021 02:33	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:33				OUTFALLS	T79	20870
<input type="checkbox"/>	90987	SW Outfall Inspection	11/4/2021 02:40	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:41				OUTFALLS	T85	20876
<input type="checkbox"/>	90988	SW Outfall Inspection	11/4/2021 02:47	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:47				OUTFALLS	T91	20882
<input type="checkbox"/>	90989	SW Outfall Inspection	11/4/2021 02:53	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 02:53				OUTFALLS	T88	20879
<input type="checkbox"/>	90990	SW Outfall Inspection	11/4/2021 03:04	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 03:06				OUTFALLS	T154	23670
<input type="checkbox"/>	90991	SW Outfall Inspection	11/4/2021 03:11	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 03:12				OUTFALLS	T155	23671
<input type="checkbox"/>	90992	SW Outfall Inspection	11/4/2021 03:18	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 03:19				OUTFALLS	T157	23673
<input type="checkbox"/>	90993	SW Outfall Inspection	11/4/2021 03:26	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/4/2021 03:27				OUTFALLS	T156	23672
<input type="checkbox"/>	90994	SW Outfall Inspection	11/4/2021 12:32	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 12:37				OUTFALLS	CT28	48641
<input type="checkbox"/>	90995	SW Outfall Inspection	11/4/2021 12:41	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 12:45				OUTFALLS	CT27	48640
<input type="checkbox"/>	90996	SW Outfall Inspection	11/4/2021 12:49	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 12:55				OUTFALLS	CT23	48636
<input type="checkbox"/>	90997	SW Outfall Inspection	11/4/2021 02:10	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 02:20				OUTFALLS	P186	48222
<input type="checkbox"/>	90998	SW Outfall Inspection	11/4/2021 04:45	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 04:50				OUTFALLS	P78	5264
<input type="checkbox"/>	90999	SW Outfall Inspection	11/4/2021 04:54	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 05:00				OUTFALLS	P79	5265
<input type="checkbox"/>	91000	SW Outfall Inspection	11/4/2021 05:10	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 05:15				OUTFALLS	P189	48217
<input type="checkbox"/>	91001	SW Outfall Inspection	11/4/2021 05:20	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 05:25				OUTFALLS	P72	5258
<input type="checkbox"/>	91002	SW Outfall Inspection	11/4/2021 05:30	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 05:32				OUTFALLS	P7	464
<input type="checkbox"/>	91003	SW Outfall Inspection	11/4/2021 05:33	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/4/2021 05:40				OUTFALLS	P8	465
<input type="checkbox"/>	91073	SW Outfall Inspection	11/5/2021 10:20	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 10:21				OUTFALLS	P194	48635
<input type="checkbox"/>	91074	SW Outfall Inspection	11/5/2021 10:30	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 10:30				OUTFALLS	P193	48628
<input type="checkbox"/>	91075	SW Outfall Inspection	11/5/2021 10:32	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 10:35				OUTFALLS	CW45	48629
<input type="checkbox"/>	91076	SW Outfall Inspection	11/5/2021 10:41	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 10:42				OUTFALLS	CW44	48627
<input type="checkbox"/>	91077	SW Outfall Inspection	11/5/2021 10:46	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 10:48				OUTFALLS	CW46	48634
<input type="checkbox"/>	91078	SW Outfall Inspection	11/5/2021 10:59	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 11:00				OUTFALLS	P113	7265
<input type="checkbox"/>	91080	SW Outfall Inspection	11/5/2021 11:02	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 11:04				OUTFALLS	P112	7264
<input type="checkbox"/>	91082	SW Outfall Inspection	11/5/2021 11:18	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 11:19				OUTFALLS	P110	7262
<input type="checkbox"/>	91099	SW Outfall Inspection	11/5/2021 12:44	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 12:46				OUTFALLS	P96	6063
<input type="checkbox"/>	91100	SW Outfall Inspection	11/5/2021 12:48	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 12:48				OUTFALLS	P95	6062
<input type="checkbox"/>	91101	SW Outfall Inspection	11/5/2021 12:57	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 12:59				OUTFALLS	P114	7266
<input type="checkbox"/>	91102	SW Outfall Inspection	11/5/2021 01:02	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 01:05				OUTFALLS	P115	7267
<input type="checkbox"/>	91103	SW Outfall Inspection	11/5/2021 01:06	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 01:09				OUTFALLS	P116	7268
<input type="checkbox"/>	91104	SW Outfall Inspection	11/5/2021 01:11	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 01:12				OUTFALLS	P117	7269
<input type="checkbox"/>	91107	SW Outfall Inspection	11/5/2021 01:30	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 01:30				OUTFALLS	P130	7282
<input type="checkbox"/>	91110	SW Outfall Inspection	11/5/2021 01:37	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 01:40				OUTFALLS	P109	7261
<input type="checkbox"/>	91112	SW Outfall Inspection	11/5/2021 01:44	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 01:54				OUTFALLS	P97	6064
<input type="checkbox"/>	91113	SW Outfall Inspection	11/5/2021 02:03	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 02:04				OUTFALLS	P157	7676
<input type="checkbox"/>	91115	SW Outfall Inspection	11/5/2021 02:44	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 02:44				OUTFALLS	P146	7665
<input type="checkbox"/>	91116	SW Outfall Inspection	11/5/2021 02:54	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 02:56				OUTFALLS	P158	8061
<input type="checkbox"/>	91117	SW Outfall Inspection	11/5/2021 03:03	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 03:04				OUTFALLS	P159	8062
<input type="checkbox"/>	91118	SW Outfall Inspection	11/5/2021 03:06	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 03:07				OUTFALLS	P160	8063
<input type="checkbox"/>	91119	SW Outfall Inspection	11/5/2021 10:18	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 10:21				OUTFALLS	P47	3258
<input type="checkbox"/>	91120	SW Outfall Inspection	11/5/2021 10:27	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 10:32				OUTFALLS	P48	3259
<input type="checkbox"/>	91121	SW Outfall Inspection	11/5/2021 10:37	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 10:50				OUTFALLS	P49	3260
<input type="checkbox"/>	91122	SW Outfall Inspection	11/5/2021 11:04	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 11:12				OUTFALLS	P50	3261
<input type="checkbox"/>	91123	SW Outfall Inspection	11/5/2021 12:00	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:02				OUTFALLS	P56	3662

<input type="checkbox"/>	InspectionId	Inspection Type	Date Inspected	Inspected By	Status	Submit To	Finish Date	Work Order Id	Request Id	District	Entity Type	Entity Uid	Entity Si
<input type="checkbox"/>	91124	SW Outfall Inspection	11/5/2021 12:02	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:05				OUTFALLS	P57	3663
<input type="checkbox"/>	91125	SW Outfall Inspection	11/5/2021 12:15	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:15				OUTFALLS	P36	2869
<input type="checkbox"/>	91126	SW Outfall Inspection	11/5/2021 12:15	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:18				OUTFALLS	P35	2868
<input type="checkbox"/>	91127	SW Outfall Inspection	11/5/2021 12:19	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:27				OUTFALLS	P37	2870
<input type="checkbox"/>	91128	SW Outfall Inspection	11/5/2021 12:34	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:37				OUTFALLS	P38	2871
<input type="checkbox"/>	91129	SW Outfall Inspection	11/5/2021 12:39	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:24				OUTFALLS	P34	2867
<input type="checkbox"/>	91130	SW Outfall Inspection	11/5/2021 12:40	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:45				OUTFALLS	P33	2866
<input type="checkbox"/>	91131	SW Outfall Inspection	11/5/2021 12:46	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 12:47				OUTFALLS	P32	2865
<input type="checkbox"/>	91132	SW Outfall Inspection	11/5/2021 01:05	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 01:07				OUTFALLS	P39	2872
<input type="checkbox"/>	91133	SW Outfall Inspection	11/5/2021 01:08	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 01:15				OUTFALLS	P40	2873
<input type="checkbox"/>	91134	SW Outfall Inspection	11/5/2021 01:15	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 01:20				OUTFALLS	P41	2874
<input type="checkbox"/>	91196	SW Outfall Inspection	11/5/2021 12:35	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 01:45				OUTFALLS	P23	2473
<input type="checkbox"/>	91199	SW Outfall Inspection	11/5/2021 01:50	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 01:55				OUTFALLS	P24	2474
<input type="checkbox"/>	91210	SW Outfall Inspection	11/5/2021 02:30	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 02:40				OUTFALLS	P25	2858
<input type="checkbox"/>	91211	SW Outfall Inspection	11/5/2021 02:40	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 02:42				OUTFALLS	P26	2859
<input type="checkbox"/>	91212	SW Outfall Inspection	11/5/2021 02:50	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 03:00				OUTFALLS	P27	2860
<input type="checkbox"/>	91217	SW Outfall Inspection	11/5/2021 03:00	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 03:02				OUTFALLS	P28	2861
<input type="checkbox"/>	91218	SW Outfall Inspection	11/5/2021 03:02	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 03:03				OUTFALLS	P29	2862
<input type="checkbox"/>	91219	SW Outfall Inspection	11/5/2021 03:14	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 03:20				OUTFALLS	P30	2863
<input type="checkbox"/>	91221	SW Outfall Inspection	11/5/2021 03:24	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/5/2021 03:30				OUTFALLS	P59	3665
<input type="checkbox"/>	91285	SW Outfall Inspection	11/8/2021 12:05	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/8/2021 12:15				OUTFALLS	P83	5269
<input type="checkbox"/>	91289	SW Outfall Inspection	11/8/2021 12:23	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/8/2021 12:30				OUTFALLS	P82	5268
<input type="checkbox"/>	91299	SW Outfall Inspection	11/11/2021 07:13	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:13				OUTFALLS	P184	48173
<input type="checkbox"/>	91300	SW Outfall Inspection	11/11/2021 07:18	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:21				OUTFALLS	P182	48172
<input type="checkbox"/>	91301	SW Outfall Inspection	11/11/2021 07:30	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:31				OUTFALLS	P179	48170
<input type="checkbox"/>	91302	SW Outfall Inspection	11/11/2021 07:32	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:32				OUTFALLS	P180	48171
<input type="checkbox"/>	91303	SW Outfall Inspection	11/11/2021 07:39	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:39				OUTFALLS	P176	48174
<input type="checkbox"/>	91304	SW Outfall Inspection	11/11/2021 07:40	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:40				OUTFALLS	P177	48175
<input type="checkbox"/>	91305	SW Outfall Inspection	11/11/2021 07:41	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:41				OUTFALLS	P178	48176
<input type="checkbox"/>	91306	SW Outfall Inspection	11/11/2021 07:53	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:54				OUTFALLS	P175	48177
<input type="checkbox"/>	91307	SW Outfall Inspection	11/11/2021 07:58	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 07:59				OUTFALLS	P174	48178
<input type="checkbox"/>	91308	SW Outfall Inspection	11/11/2021 08:03	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 08:04				OUTFALLS	P173	48179
<input type="checkbox"/>	91309	SW Outfall Inspection	11/11/2021 08:18	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 08:18				OUTFALLS	P172	48180
<input type="checkbox"/>	91310	SW Outfall Inspection	11/11/2021 08:26	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 08:26				OUTFALLS	CT29	48658
<input type="checkbox"/>	91311	SW Outfall Inspection	11/11/2021 08:30	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 08:32				OUTFALLS	CT30	48659
<input type="checkbox"/>	91316	SW Outfall Inspection	11/11/2021 08:37	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 08:38				OUTFALLS	CT31	48660
<input type="checkbox"/>	91320	SW Outfall Inspection	11/11/2021 08:50	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 08:50				OUTFALLS	CT18	48198
<input type="checkbox"/>	91321	SW Outfall Inspection	11/11/2021 08:51	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 08:54				OUTFALLS	CT19	48199
<input type="checkbox"/>	91322	SW Outfall Inspection	11/11/2021 09:00	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:00				OUTFALLS	CT17	48197
<input type="checkbox"/>	91323	SW Outfall Inspection	11/11/2021 09:06	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:06				OUTFALLS	CT14	48194
<input type="checkbox"/>	91324	SW Outfall Inspection	11/11/2021 09:07	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:08				OUTFALLS	CT15	48195
<input type="checkbox"/>	91326	SW Outfall Inspection	11/11/2021 09:08	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:08				OUTFALLS	CT13	48193
<input type="checkbox"/>	91328	SW Outfall Inspection	11/11/2021 09:10	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:12				OUTFALLS	CT16	48196
<input type="checkbox"/>	91333	SW Outfall Inspection	11/11/2021 09:21	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:21				OUTFALLS	CT8	48188
<input type="checkbox"/>	91334	SW Outfall Inspection	11/11/2021 09:22	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:22				OUTFALLS	CT9	48189
<input type="checkbox"/>	91335	SW Outfall Inspection	11/11/2021 09:36	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:37				OUTFALLS	CT12	48192
<input type="checkbox"/>	91336	SW Outfall Inspection	11/11/2021 09:39	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:39				OUTFALLS	CT11	48191
<input type="checkbox"/>	91337	SW Outfall Inspection	11/11/2021 09:41	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:47				OUTFALLS	CT10	48190
<input type="checkbox"/>	91338	SW Outfall Inspection	11/11/2021 09:48	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:48				OUTFALLS	CT22	48203
<input type="checkbox"/>	91340	SW Outfall Inspection	11/11/2021 09:56	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 09:56				OUTFALLS	CT5	48185
<input type="checkbox"/>	91341	SW Outfall Inspection	11/11/2021 10:02	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 10:02				OUTFALLS	CT6	48186
<input type="checkbox"/>	91342	SW Outfall Inspection	11/11/2021 10:03	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 10:03				OUTFALLS	CT7	48187

<input type="checkbox"/>	InspectionId	Inspection Type	Date Inspected	Inspected By	Status	Submit To	Finish Date	Work Order Id	Request Id	District	Entity Type	Entity Uid	Entity Si
<input type="checkbox"/>	91343	SW Outfall Inspection	11/11/2021 10:07	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 10:07				OUTFALLS	CT4	48184
<input type="checkbox"/>	91344	SW Outfall Inspection	11/11/2021 10:17	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 10:18				OUTFALLS	CT1	48181
<input type="checkbox"/>	91345	SW Outfall Inspection	11/11/2021 10:19	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 10:19				OUTFALLS	CT2	48182
<input type="checkbox"/>	91346	SW Outfall Inspection	11/11/2021 10:26	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 10:26				OUTFALLS	CT20	47772
<input type="checkbox"/>	91347	SW Outfall Inspection	11/11/2021 10:27	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 10:27				OUTFALLS	CT21	47773
<input type="checkbox"/>	91348	SW Outfall Inspection	11/11/2021 10:34	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/11/2021 10:34				OUTFALLS	CT3	48183
<input type="checkbox"/>	91353	SW Outfall Inspection	11/8/2021 12:35	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/8/2021 12:39				OUTFALLS	P81	5267
<input type="checkbox"/>	91354	SW Outfall Inspection	11/8/2021 12:40	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/8/2021 12:45				OUTFALLS	P80	5266
<input type="checkbox"/>	91540	SW Outfall Inspection	11/15/2021 11:30	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/15/2021 11:45				OUTFALLS	P31	2864
<input type="checkbox"/>	91547	SW Outfall Inspection	11/16/2021 11:13	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 11:13				OUTFALLS	T141	22880
<input type="checkbox"/>	91548	SW Outfall Inspection	11/18/2021 09:26	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/18/2021 09:32				OUTFALLS	CT17	48197
<input type="checkbox"/>	91549	SW Outfall Inspection	11/5/2021 02:35	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/16/2021 02:40				OUTFALLS	P196	49467
<input type="checkbox"/>	91550	SW Outfall Inspection	11/16/2021 11:19	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 11:21				OUTFALLS	T142	22881
<input type="checkbox"/>	91551	SW Outfall Inspection	11/5/2021 02:40	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/5/2021 02:40				OUTFALLS	P197	49468
<input type="checkbox"/>	91552	SW Outfall Inspection	11/18/2021 09:44	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/18/2021 09:44				OUTFALLS	CT30	48659
<input type="checkbox"/>	91553	SW Outfall Inspection	11/18/2021 09:48	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/18/2021 10:06				OUTFALLS	P174	48178
<input type="checkbox"/>	91554	SW Outfall Inspection	11/16/2021 11:31	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 11:31				OUTFALLS	T143	22882
<input type="checkbox"/>	91556	SW Outfall Inspection	11/16/2021 11:47	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 11:48				OUTFALLS	T145	22884
<input type="checkbox"/>	91557	SW Outfall Inspection	11/16/2021 11:52	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 11:51				OUTFALLS	T144	22883
<input type="checkbox"/>	91558	SW Outfall Inspection	11/15/2021 12:14	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/15/2021 12:15				OUTFALLS	P164	8067
<input type="checkbox"/>	91561	SW Outfall Inspection	11/16/2021 12:20	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/15/2021 12:20				OUTFALLS	P165	8068
<input type="checkbox"/>	91562	SW Outfall Inspection	11/16/2021 12:01	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 12:02				OUTFALLS	T149	23665
<input type="checkbox"/>	91563	SW Outfall Inspection	11/16/2021 12:07	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 12:07				OUTFALLS	T174	24068
<input type="checkbox"/>	91564	SW Outfall Inspection	11/16/2021 12:14	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 12:14				OUTFALLS	T148	23664
<input type="checkbox"/>	91565	SW Outfall Inspection	11/15/2021 12:50	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/15/2021 12:55				OUTFALLS	P163	8066
<input type="checkbox"/>	91566	SW Outfall Inspection	11/16/2021 12:19	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/16/2021 12:20				OUTFALLS	P106	6868
<input type="checkbox"/>	91567	SW Outfall Inspection	11/16/2021 12:20	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 12:20				OUTFALLS	T153	23669
<input type="checkbox"/>	91568	SW Outfall Inspection	11/16/2021 12:24	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/16/2021 12:29				OUTFALLS	P191	48219
<input type="checkbox"/>	91569	SW Outfall Inspection	11/15/2021 01:20	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/15/2021 01:23				OUTFALLS	P162	8065
<input type="checkbox"/>	91570	SW Outfall Inspection	11/16/2021 12:31	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 12:31				OUTFALLS	T175	24069
<input type="checkbox"/>	91571	SW Outfall Inspection	11/16/2021 12:32	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 12:33				OUTFALLS	T176	24070
<input type="checkbox"/>	91572	SW Outfall Inspection	11/15/2021 01:23	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/15/2021 01:27				OUTFALLS	P161	8064
<input type="checkbox"/>	91573	SW Outfall Inspection	11/16/2021 12:56	ROGERS, DUSTIN M	CLOSED	SMITH, MARLA S	11/16/2021 12:57				OUTFALLS	P141	7293
<input type="checkbox"/>	91581	SW Outfall Inspection	11/16/2021 02:03	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:04				OUTFALLS	T173	24067
<input type="checkbox"/>	91582	SW Outfall Inspection	11/16/2021 02:09	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:10				OUTFALLS	T172	24066
<input type="checkbox"/>	91583	SW Outfall Inspection	11/16/2021 02:14	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:15				OUTFALLS	T169	24063
<input type="checkbox"/>	91584	SW Outfall Inspection	11/16/2021 02:18	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:19				OUTFALLS	T171	24065
<input type="checkbox"/>	91585	SW Outfall Inspection	11/16/2021 02:23	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:23				OUTFALLS	T168	24062
<input type="checkbox"/>	91586	SW Outfall Inspection	11/16/2021 02:30	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:30				OUTFALLS	T164	23680
<input type="checkbox"/>	91587	SW Outfall Inspection	11/16/2021 02:37	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:38				OUTFALLS	T165	23681
<input type="checkbox"/>	91588	SW Outfall Inspection	11/16/2021 02:39	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:39				OUTFALLS	T166	23682
<input type="checkbox"/>	91590	SW Outfall Inspection	11/16/2021 02:41	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:41				OUTFALLS	T167	23683
<input type="checkbox"/>	91591	SW Outfall Inspection	11/16/2021 02:50	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 02:50				OUTFALLS	T159	23675
<input type="checkbox"/>	91592	SW Outfall Inspection	11/16/2021 03:13	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 03:13				OUTFALLS	T115	22470
<input type="checkbox"/>	91593	SW Outfall Inspection	11/16/2021 03:27	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 03:28				OUTFALLS	T307	46973
<input type="checkbox"/>	91594	SW Outfall Inspection	11/16/2021 03:30	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 03:30				OUTFALLS	T306	46974
<input type="checkbox"/>	91595	SW Outfall Inspection	11/16/2021 03:40	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	11/16/2021 03:41				OUTFALLS	T295	29680
<input type="checkbox"/>	91596	SW Outfall Inspection	11/15/2021 01:45	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/16/2021 01:46				OUTFALLS	P21	2463
<input type="checkbox"/>	91597	SW Outfall Inspection	11/16/2021 02:00	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/16/2021 02:05				OUTFALLS	P22	2464
<input type="checkbox"/>	91598	SW Outfall Inspection	11/16/2021 02:20	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/16/2021 02:30				OUTFALLS	P58	3664
<input type="checkbox"/>	91648	SW Outfall Inspection	11/17/2021 02:15	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/17/2021 02:15				OUTFALLS	P188	48221
<input type="checkbox"/>	91649	SW Outfall Inspection	11/17/2021 02:23	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/17/2021 02:32				OUTFALLS	P77	5263

<input type="checkbox"/>	InspectionId	Inspection Type	Date Inspected	Inspected By	Status	Submit To	Finish Date	Work Order Id	Request Id	District	Entity Type	Entity Uid	Entity Si
<input type="checkbox"/>	91651	SW Outfall Inspection	11/17/2021 03:10	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/17/2021 03:20				OUTFALLS	CT24	48637
<input type="checkbox"/>	91656	SW Outfall Inspection	11/18/2021 12:35	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/18/2021 12:45				OUTFALLS	P13	470
<input type="checkbox"/>	92295	SW Outfall Inspection	11/29/2021 02:45	BARBER, ANDREW B	CLOSED	SMITH, MARLA S	11/29/2021 02:55				OUTFALLS	P145	7664
<input type="checkbox"/>	92317	SW Outfall Inspection	11/29/2021 04:03	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/29/2021 04:04				OUTFALLS	P55	3660
<input type="checkbox"/>	92335	SW Outfall Inspection	11/29/2021 03:58	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/29/2021 03:59				OUTFALLS	P52	3658
<input type="checkbox"/>	92336	SW Outfall Inspection	11/29/2021 03:59	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	11/29/2021 03:59				OUTFALLS	P51 b	3263
<input type="checkbox"/>	93022	SW Outfall Inspection	12/14/2021 03:40	MCCURRY JR, RONALD G	CLOSED	SMITH, MARLA S	12/14/2021 03:55				OUTFALLS	P187	48216
<input type="checkbox"/>	103064	SW Outfall Inspection	03/28/2022 03:09	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	03/28/2022 03:09				OUTFALLS	T161	23677
<input type="checkbox"/>	103065	SW Outfall Inspection	03/28/2022 03:19	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	03/28/2022 03:19				OUTFALLS	T158	23674
<input type="checkbox"/>	103066	SW Outfall Inspection	03/28/2022 03:23	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	03/28/2022 03:23				OUTFALLS	T160	23676
<input type="checkbox"/>	103067	SW Outfall Inspection	03/28/2022 03:26	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	03/28/2022 03:27				OUTFALLS	T179	24073
<input type="checkbox"/>	103068	SW Outfall Inspection	03/28/2022 03:34	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	03/28/2022 03:34				OUTFALLS	T177	24071
<input type="checkbox"/>	103069	SW Outfall Inspection	03/28/2022 03:37	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	03/28/2022 03:37				OUTFALLS	T163	23679
<input type="checkbox"/>	103070	SW Outfall Inspection	03/28/2022 03:41	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	03/28/2022 03:42				OUTFALLS	T162	23678
<input type="checkbox"/>	103072	SW Outfall Inspection	03/28/2022 03:54	KIMBROW, DUSTIN R	CLOSED	SMITH, MARLA S	03/28/2022 03:55				OUTFALLS	T104	21674