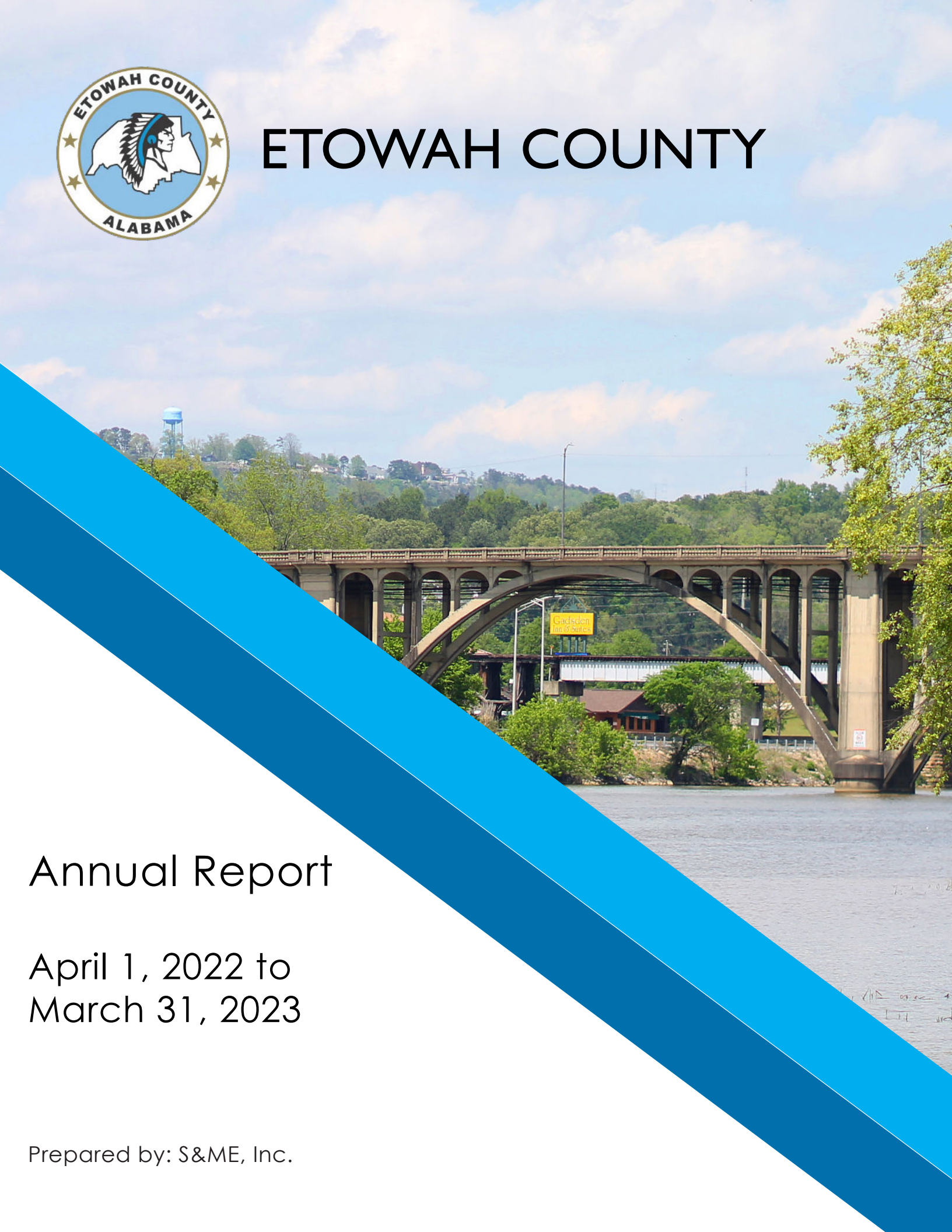
ETOWAH COUNTY



Annual Report

April 1, 2022 to
March 31, 2023

Prepared by: S&ME, Inc.

May 24, 2023

Etowah County Commission
800 Forrest Avenue
Gadsden, Alabama 35901

Attention: Mr. Craig Inzer, Jr., Commission President

Reference: **Annual Report: April 1, 2022 to March 31, 2023**
Etowah County MS4
Etowah County, Alabama
S&ME Project No. 215660G
NPDES Permit No. ALR040009

Dear Mr. Inzer:

S&ME has prepared the attached Annual Report for the Etowah County Phase II Small Municipal Separate Storm Sewer System in accordance with S&ME Proposal No. 22820253, dated October 25, 2022 and approved on November 1, 2022. The Annual Report covers the April 1, 2022 to March 31, 2023 reporting period.

S&ME appreciates the opportunity to provide our services to Etowah County. Should you have questions concerning this report, or if additional information is required, please contact the undersigned.

Sincerely,

S&ME, Inc.

Sarah L. Yeldell, P.E.
Project Manager

Deborah J. Jones, P.E.
Senior Engineer

Table of Contents

List of Tables

Appendices

1.0 Introduction

S&ME, Inc. has prepared this Annual Report for the Etowah County, Alabama Urbanized Area Phase II Small Municipal Separate Storm Sewer System in accordance with S&ME Proposal No. 22820253, dated October 25, 2022 and approved on November 1, 2022.

The Annual Report is required by Part VI of the Alabama Department of Environmental Management (ADEM) National Pollutant Discharge Elimination System (NPDES) General Permit ALR040000 for discharges from regulated small municipal separate storm sewer systems (MS4).

1.1 Permit History

The Storm Water Phase II Final Rule issued by the United States Environmental Protection Agency (USEPA) in 1999 requires nationwide coverage of all operators of small MS4s located within the boundaries of an "urbanized area" as defined by the latest decennial Census. Based on the results of the 2010 census, the Bureau of the Census designated the *Gadsden, Alabama Urbanized Area* to include the City of Attalla, the City of Gadsden, the City of Glencoe, the City of Hokes Bluff, City of Rainbow City, the City of Southside, and portions of unincorporated Etowah County. A map outlining the approximate boundary of the 2010 *Gadsden, Alabama Urbanized Area* is included in **Appendix A** as **Figure 1**. Revised urbanized area boundaries based on the 2020 Census were not available as of April 1, 2022.

The City of Attalla, the City of Gadsden, the City of Glencoe, the City of Hokes Bluff, City of Rainbow City, the City of Southside, and Etowah County initially applied for and received a NPDES MS4 Phase II General Permit from ADEM in 2003, with the seven entities as co-permittees under authorization number ALR040009. The five-year permit expired on March 9, 2008. A Notice of Intent for renewal of the permit was submitted 180 days prior to expiration and permit coverage was administratively continued until the re-issuance of the MS4 Phase II General Permit with an effective date of February 1, 2011.

The 2011 permit expired on February 1, 2016. A Notice of Intent for renewal of the permit was submitted by each entity 180 days prior to expiration; therefore, the permit coverage was extended until the re-issuance of the MS4 Phase II General Permit in September. To assist in compliance tracking, the Gadsden-Etowah MS4 entities were each issued a separate permit, although the entities agreed to continue under a joint SWMPP and monitoring plan. The Etowah County MS4 was authorized to discharge under authorization number ALR040009 with an effective date of October 1, 2016.

The 2016 permit expired on September 30, 2021. A Notice of Intent for renewal of the permit was submitted 180 days prior to expiration, and the MS4 Phase II General Permit was re-issued with an effective date of October 1, 2021. The current permit will expire on September 30, 2026. Under the new permitting system, Etowah County was required to prepare a separate SWMPP detailing the individual actions taken by the County to comply with the 2021 permit, as well as the joint activities shared with the remaining Gadsden-Etowah MS4 entities.

A copy of the NPDES General Permit is included in the 2022 SWMPP.

1.2 Storm Sewer System

A Municipal Separate Storm Sewer System (MS4) is defined by 40 CFR Part 122.26(b)(8) to be a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is:

(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 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 waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Not a combined sewer; and,

(iv) Not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

1.3 Etowah County MS4 Area

The Etowah County Municipal Separate Storm Sewer System (Etowah County MS4) is defined as the unincorporated area within both the county and the urbanized area boundary. As defined by the 2010 Census, the *Gadsden, Alabama Urbanized Area* encompasses approximately 74.8 square miles. The Etowah County MS4 comprises approximately 12.7 square miles (17%) of the 2010 *Gadsden, Alabama Urbanized Area*. A map depicting the Etowah County MS4 limits is located in **Appendix A** as **Figure 2**.

1.3.1 *Hydrologic Units in the Urbanized Area*

Neely Henry Lake (Coosa River) is the primary receiving water for the Etowah County MS4. Hydrologic Hierarchy, Watersheds, and Subwatersheds are provided in the tables below.

Table 1-1 Hydrologic Hierarchy

Type	Code	Name
REGION	03	South Atlantic-Gulf
SUBREGION	03-15	Alabama River Basin
BASIN	0315-01	Coosa-Tallapoosa: Above the confluence of and including the Coosa and Tallapoosa River Basins
SUBBASIN	031501-06	Middle Coosa

Table 1-2 Watersheds in the MS4 Area

Watershed	10 Digit HUC
Big Wills Creek	03150106-01
Black Creek-Coosa River	03150106-02
Big Canoe Creek- Coosa River	03150106-03

Table 1-3 Subwatersheds in the Etowah County MS4 Area

Subwatershed	12 Digit HUC	Total Area (Acres)	Area within Etowah County MS4 (Acres)
Big Cove Creek	03150106-02-03	18,082	178
Black Creek	03150106-01-07	40,879	554
Coosa River-H. Neely Henry Lake	03150106-03-09	46,439	4,084
Horton Creek	03150106-01-08	16,902	1,823
Little Wills Creek	03150106-01-06	18,151	279
Lower Big Canoe Creek	03150106-03-06	33,306	52
Thorton Lakes-Dry Creek	03150106-02-02	9,777	24
Turkey Town Creek	03150106-02-04	57,474	1,126

A map showing the HUC12 subwatersheds in relation to the Etowah County MS4 boundary is included in the 2022 SWMPP.

1.4 Responsible Party

The **Etowah County Engineering Department** is responsible for the coordination and implementation of the Storm Water Management Program Plan. Coordination between County departments is established in each section of the SWMPP.

The **Storm Water Steering** Committee is responsible for the implementation of the monitoring plan.

1.5 Annual Report Components

Part VI of the NPDES General Permit requires that the Etowah County MS4 prepare and submit annual reports to the ADEM each year by May 31. The Annual Report must cover the year prior to the submittal date (April 1 through March 31) and is required to include the following:

1. Contacts and responsible parties who had input to and are responsible for the preparation of the annual report

2. Overall evaluation of the SWMPP-developments and progress on 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 considering water quality/watershed improvements
    e. Measurable goals that were not performed and reasons why the goals were not accomplished
    f. Evaluation of the monitoring data

3. A narrative report of all minimum storm water control measures referenced in the permit to include the following:
    a. Minimum control measures completed and in progress
    b. Assessment of the controls
    c. Discussion of proposed BMP revisions or any identified measurable 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 during the reporting period including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the Maximum Extent Practical (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 for which a TMDL has been established or approved by EPA

8. All monitoring results collected during the reporting period

In 2021, S&ME was retained by Etowah County to revise and update the SWMPP to meet the requirements of the reissued 2021 MS4 permit. The updated SWMPP was submitted to ADEM on April 1, 2022. This Annual Report covers activities performed under the new SWMPP, dated April, 2022.

2.0 Contacts List

Reference Part VI.B.1

Part VI.B.1 of the NPDES Permit requires that the Etowah County provide a list of contacts and responsible parties involved in the preparation of the Annual Report. The following personnel were directly responsible for the preparation of the 2022-2023 Annual Report:

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Questions concerning the 2022-2023 Annual Report should be directed to the **Engineering Department**.

3.0 Evaluation of Water Quality Concerns

Reference Part VI.B.7

Section 303(d) of the Clean Water Act (CWA), as amended by the Water Quality Act of 1987, and EPA's Water Quality Planning and Management Regulations (40CFR130) require states to identify waterbodies not in compliance with the water quality standards applicable to their designated use classifications. The identified waters are prioritized based on severity of the pollution. Section 303(d) then requires that total maximum daily loads (TMDLs) be determined for all pollutants causing violation of applicable water quality standards in each identified segment. The TMDL process establishes the allowable loading of pollutants, or other quantifiable parameters for a waterbody, based on the relationship between pollution sources and in-stream water quality conditions.

A map showing the impaired waterbodies and watersheds in relation to the Etowah County MS4 is provided in **Appendix A** as **Figure 3**.

3.1.1 *Impaired Waterbodies Within the MS4*

Three impaired waterbodies are located within the Etowah County MS4 boundary.

Table 3-1 Impaired Waterbodies within the MS4

Waterbody	Impaired Segment	Type	Causes	Use
Black Creek (Neely Henry Lake)	AL03150106-0107-111	303(d)	Nutrients	F&W
Big Wills Creek (Neely Henry Lake)	AL03150106-0108-111	303(d)	Nutrients	F&W
Big Wills Creek	AL03150106-0108-102	303(d)	Pathogens (E. coli)	F&W
Coosa River (Neely Henry Lake)	AL03150106-0309-102	TMDL	Nutrients Organic enrichment (DO)	F&W

3.1.2 *Impaired Watersheds Intersecting the MS4*

In addition to the impaired waterbodies, the Etowah County MS4 encompasses portions of watersheds for the following impaired waterbodies:

Table 3-2 Portions of Impaired Watersheds within the MS4

Watershed	Impaired Segment	Type	Causes	Use
Black Creek (Neely Henry Lake)	AL03150106-0107-111	303(d)	Nutrients	F&W
Big Wills Creek (Neely Henry Lake)	AL03150106-0108-111	303(d)	Nutrients	F&W
Big Wills Creek	AL03150106-0108-102	303(d)	Pathogens (E. coli)	F&W

Watershed	Impaired Segment	Type	Causes	Use
Coosa River (Neely Henry Lake)	AL03150106-0204-102	TMDL	Nutrients pH Organic Enrichment (CBOD, NBOD) Priority Organics (PCBs)	PWS F&W
Coosa River (Neely Henry Lake)	AL03150106-0309-102	TMDL	Nutrients pH Organic Enrichment (CBOD, NBOD)	F&W

3.1.3 *Neely Henry Lake TMDL*

In 2008, the EPA approved TMDLs for Neely Henry Lake related to Nutrients (Total Phosphorous), pH, and Organic Enrichment/Dissolved Oxygen. The Etowah County MS4 directly and indirectly discharges to Neely Henry Lake; therefore, **the Etowah County MS4 is required to achieve a 30% reduction in Total Phosphorus discharge loading**.

Sources of nutrient and organic enrichment from non-point sources within the Coosa River watershed include:

- Runoff from pastures
- Runoff from animal operations
- Direct discharge to streams due to cattle
- Improper land application of animal waste
- Failing septic systems
- Urban runoff

Point source contributors of storm water pollution within the Coosa River watershed include:

- Discharge from wastewater treatment plants
- Discharge from industrial operations

Part IV.D of the NPDES General Permit requires that the County implement Best Management Practices (BMPs) and control measures specifically targeted to achieve the waste load allocations prescribed in the TMDL. The County must also implement a monitoring program to document that the waste load allocations prescribed in the TMDL are being achieved.

4.0 Overall Program Evaluation

Reference Part VI.B.2

4.1 Major Accomplishments

During the 2022-2023 reporting period, the County completed 68 out of 71 planned strategies and 12 additional strategies. The number of completed activities (80) demonstrates the County's commitment to implement the SWMPP and Phase II Permit by going beyond the strategies they committed to in the 2022 SWMPP.

1. Decrease in scrap tire dumping

During the 2022-2023 reporting period, no scrap tires were collected during litter removal activities. In previous years, scrap tires have been an on-going problem within the MS4. For example, during the 2019-2020 reporting period, the County assisted in cleaning up 12 illegal scrap tire dump sites. The decrease in scrap tire dumping indicates that the County's efforts to prevent illegal dumping and educate the public on proper disposal are succeeding.

2. Promoted public education

The County partnered with several groups to promote public education. The County partnered with Etowah County NRCS to distribute flyers and brochures related to storm water and soil preservation. Numerous events were held through Keep Etowah Beautiful. Over 2,000 students and 178 teachers and adult volunteers participated in the *Clean Campus Certification & Program* and the *Etowah County Water Festival*. Seven hundred and sixty-seven volunteers participated in the Great American Cleanup and Renew our Rivers.

3. Performed outfall inspections

Etowah County continued to perform outfall inspections as required by the MS4 permit. During the 2022-2023 reporting period, seven of the 47 known outfalls were inspected, all of which were located in Priority Areas. No dry weather flows were observed at the outfalls.

4.2 Overall Programs Strengths and Weaknesses

The County continues to evaluate the processes and procedures in which it accomplishes the objectives of the SWMPP. Their strengths and weaknesses remain very similar as past years.

The biggest strength is Keep Etowah County Beautiful (KEB). The County created KEB to plan, coordinate, document, and complete public educational and involvement activities to create a love for the county and to increase participation in cleanup activities. KEB is a significant strength of the Public Education and Involvement Control Measure. KEB not only contributes to the County's success, but also contributes to the success of the Cities within the County.

In Etowah County, Home Rule is limited by the State constitution. Counties have no general grant of power in the State Constitution and must go to the Alabama Legislature for authority to engage in any activity not currently authorized by the State Constitution. Authority may be granted through constitutional amendments or by an act of the legislature known as "local legislation." Etowah County currently does not have the authority to enact an illicit discharge ordinance and would require action from the Alabama Legislature to gain that ability. This is a weakness to the program that is unavoidable at this time.

Another weakness of the program is the small number of staff that can be dedicated exclusively to the performance of the duties required by the Phase II Permit. The County currently employs two individuals who are the primary executives of the storm water program. The County has an Engineering Department to assist with the storm water program responsibilities but does not currently have the ability to expand the Engineering Department for the storm water program; therefore, this weakness is expected to remain for several years.

4.3 Future Direction of the Program

During the upcoming reporting period, the County will work to adapt their program to meet the requirements of the reissued Phase II general permit and the revised SWMPP.

Etowah County is committed to educating citizens on the SWMPP Program and how their actions can impact storm water and the Coosa River.

4.4 Overall Effectiveness of the SWMPP

Etowah County is proud of their efforts to achieve the objectives of the SWMPP. Based on this evaluation, the 2022 SWMPP appears to have been effective in meeting the objectives and requirements of the 2021 Phase II Permit.

4.5 Measurable Goals Not Performed

The County did not participate in meetings, seminars or other events held by the Alabama Stormwater Association during the 2022-2023 reporting period due to personnel constraints. The County plans to participate in Alabama Stormwater Association events during the 2023-2024 reporting period.

The County did not develop a written Standard Operating Procedure (SOP) for herbicide application, although the County does require that all personnel handling or applying herbicides are certified by the State of Alabama. The County will develop and implement a written herbicide SOP by March 31, 2024.

The County did not develop a written SOP for the fueling of County vehicles. The County will develop and implement a written fueling SOP by March 31, 2024.

5.0 Storm Water Monitoring Data Evaluation

Reference Part VI.B.5 and 8

5.1 Rationale Statement

As discussed in Section 3.0, the Etowah County MS4 currently discharges to an impaired waterbody for which a TMDL has been approved. Part V.A of the 2021 MS4 Permit requires that the SWMPP include a monitoring plan to assess the effectiveness of the BMPs in achieving the waste load reductions/allocations outlined in the TMDL.

The intent of the monitoring program is to evaluate the effectiveness of the County's BMPs in achieving the required phosphorous reduction as established in the TMDL and to generally evaluate overall water quality. Where deviations are documented and/or expected, the collected monitoring data will be used to determine the extent and cause of the pollutant of concern.

The 2022 *Gadsden-Etowah Wet Weather Monitoring Plan* is included as Appendix C of the SWMPP dated April 1, 2022. The plan details monitoring parameters, monitoring locations, field documentation, and sampling procedures.

5.2 Monitoring Events

Beginning in January 2013, S&ME was retained by the Gadsden-Etowah Storm Water Steering Committee to collect the required quarterly surface water samples and provide analyses of the sampling events.

Table 5-1 Monitoring Events to Date

MS4 Reporting Period	Monitoring Event	Date(s) Monitoring Conducted
April 1, 2012 – March 31, 2013	2013 Q1	March 12 & 13, 2013
April 1, 2013 – March 31, 2014	2013 Q2	May 8 & 20, 2013
	2013 Q3	September 23, 2013
	2013 Q4	December 10, 2013
	2014 Q1	February 6, 2014
April 1, 2014 – March 31, 2015	2014 Q2	June 26, 2014
	2014 Q3	September 30, 2014
	2014 Q4	November 19, 2014
	2015 Q1	March 23, 2015
April 1, 2015 – March 31, 2016	2015 Q2	April 22, 2015
	2015 Q3	September 30, 2015
	2015 Q4	November 19, 2015
	2016 Q1	March 15, 2016

MS4 Reporting Period	Monitoring Event	Date(s) Monitoring Conducted
April 1, 2016 – March 31, 2017	2016 Q2	June 29, 2016
	2016 Q3	August 9, 2016
	2016 Q4	December 7, 2016
	2017 Q1	March 2, 2017
April 1, 2017 – March 31, 2018	2017 Q2	June 21, 29, 30 and July 5, 2017
	2017 Q3	August 16-17, 2017
	2017 Q4	October 25-26, 2017
	2018 Q1	March 27-28, 2018
April 1, 2018 – March 31, 2019	2018 Q2	June 26 and 29, 2018
	2018 Q3	August 1-2, 2018
	2018 Q4	December 10-11, 2018
	2019 Q1	April 15 and 17, 2019
April 1, 2019 – March 31, 2020	2019 Q2	June 11-12, 2019
	2019 Q3	August 27-28, 2019
	2019 Q4	October 29-30, 2019
	2020 Q1	March 30-31, 2020
April 1, 2020 – March 31, 2021	2020 Q2	June 10, 2020
	2020 Q3	September 21, 2020
	2020 Q4	December 17, 2020
	2021 Q1	March 18, 2021
April 1, 2021 – March 31, 2022	2021 Q2	May 5, 2021
	2021 Q3	September 2, 2021
	2021 Q4	November 23, 2021
	2022 Q1	January 10-11, 2022
April 1, 2022 – March 31, 2023	2022 Q2	April 7, 2022
	2022 Q3	August 2-3, 2022
	2022 Q4	November 16, 2022
	2023 Q1	February 13-14, 2023

A monitoring report was issued to the members of the Steering Committee following each monitoring event. Copies of the reports for the monitoring events conducted during the April 1, 2022 to March 31, 2023 reporting period are provided in **Appendix C**.

5.3 Addition and Removal of Monitoring Points

Following evaluation of the monitoring program in April 2022, monitoring points SME 2 and SME 8 were removed from the monitoring program and monitoring points SME 9 and SME 10 were added. The changes to the monitoring program were implemented beginning with the 2022 second quarter sampling event. The monitoring locations are identified on Figure 2 in **Appendix A**.

5.3.1 *Unnamed Tributary from Hokes Bluff*

Monitoring point HB 3 was sited in 2012 to assess discharges from Hokes Bluff to the Coosa River; however, the watershed for the monitoring point also captures approximately 1.3 square miles of land outside the urbanized area. Monitoring point SME 8 was added in December 2020 to monitor runoff from a portion of Hokes Bluff for comparison with the values obtained at HB 3; however, upon further evaluation of the watershed, SME 8 was determined to not be a representative background sample for HB 3. **Monitoring point SME 8 was removed from the monitoring program in April 2022.**

Monitoring point SME 9 was established on the blue-line stream that flows from Hokes Bluff to HB 3. The drainage area for SME 9 encompasses approximately 0.21 square miles of the HB 3 drainage area and includes residential, commercial, and light industrial land uses, as well as Hokes Bluff Elementary School. **Monitoring point SME 9 was added to the monitoring program in April 2022.**

5.3.2 *Big Cove Creek*

Monitoring point GD 5 was sited in 2012 to monitor discharges from Big Cove Creek into the Coosa River, but the drainage area for GD 5 includes 21.2 square miles of land outside the urbanized area. To assess storm water discharges from the Hokes Bluff MS4, monitoring point SME 10 was sited where an unnamed tributary to Big Cove Creek leaves the east portion of the Hokes Bluff MS4. The drainage area for SME 10 encompasses approximately 0.57 square miles of the GD 5 drainage area and includes residential and commercial land uses. **Monitoring point SME 10 was added to the monitoring program in April 2022.**

5.3.3 *Monitoring Point SME 2*

In keeping with the recommendation made in the previous Annual Report, the Gadsden-Etowah MS4 has discontinued monitoring at SME 2. The SME 2 watershed is only 1.05 square miles and has very similar land use characteristics to the much larger GD 7 watershed. Past monitoring results at points GD 7 and SME 2 indicate similar results at both locations, suggesting that SME 2 is redundant. Monitoring point SME 2 was last sampled on January 10, 2022. **Monitoring point SME 2 was removed from the monitoring program in April 2022.**

5.4 Statistical Analysis

A total of 41 quarterly monitoring events have been conducted since the Monitoring Program was first implemented in March of 2013. Charts 1 through 9 in **Appendix B** summarize the analytical data collected during these monitoring events.

Statistical analysis was performed on the cumulative monitoring data to evaluate trends and to determine whether there has been a statistically significant increase (SSI) of concentrations between specific monitoring points.

For the current statistical analysis, S&ME performed the statistical evaluation using the ChemStat Version 6.2 software produced by Starpoint Software. The appropriate statistical procedure used in this evaluation was determined by the characteristics of the data set. The approach used to determine the appropriate statistical evaluation and the results of the statistical evaluation are summarized in the following paragraphs.

Specific monitoring points were chosen for comparison based on their location within the MS4 area respective to other monitoring point locations and trend of collected data. Detailed results are given in **Appendix B**.

5.4.1 *Approach to Statistical Analysis*

Essentially, there are two sets of data to be compared during this statistical evaluation. Sen's non-parametric estimator of slope is a method of estimating the slope (change in concentration over time) of the data. Because this method is non-parametric, it is suitable for high percentage of non-detects and is not significantly affected by outliers. The result indicates whether there is an upward, downward, or no trend in the concentration data.

The Wilcoxon rank-sum test evaluates potential differences in the medians of two populations. The Wilcoxon rank-sum test can be used to compare a single data group against another data group. In this evaluation, we compared the specific monitoring points to determine if a statistically significant difference is present in a monitoring point using a statistical significance value (alpha) of 0.01. If a statistically significant difference was observed, we then compared the median values of each point to evaluate whether a point had a statistically significant increase (SSI) over the background point.

The following laboratory parameters were evaluated in the statistical analysis:

- Total Suspended Solids (TSS)
- Total Phosphorous
- Orthophosphate
- Nitrate-Nitrite
- Total Kjeldahl Nitrogen (TKN)

5.4.2 *Change in Concentration Over Time*

Table 5-2 below lists the points and parameters for which a trend was indicated by the Sen's Slope Analysis. The remaining assessed parameters have no trend in the slope.

Table 5-2 Summary of Results of Slope Analysis

Point Analyzed	Parameter	Trend
AT 5	Nitrate-Nitrite	Downward

Point Analyzed	Parameter	Trend
AT 5	Ortho-phosphate	Downward

5.4.3 *Statistically Significant Increases*

Table 5-3 below reports the statistical evaluation for statistically significant increases (SSIs) for a summary of parameters and monitoring point comparisons.

Table 5-3 Summary of Results of SSIs

Upstream Monitoring Point	Downstream Monitoring Point	Point Analyzed	Analyzed Point SSI Identified	Parameters w/ SSI
SME 4	SME 6	SME 6	No	-
SME 4	SME 5	SME 5	No	-
SME 5	SME 6	SME 6	No	-
SME 7	AT 5	AT 5	No	-
AT 5	SME 1	SME 1	No	-
RC 2	SME 1	RC 2	No	-
GD 8	SME 1	GD 8	No	-
SME 1	SME 4	SME 1	Yes	Ortho-phosphate, Total Phosphorus
SME 7	SME 4	SME 7	Yes	Nitrate-Nitrite, Ortho-phosphate, Total Phosphorus
SME 4	RC 2	RC 2	No	-
SME 4	GD 8	GD 8	No	-
SME 10	GD 5	SME 10	Yes	TKN
SME 4	SME 10	SME 10	No	-
SME 4	CO 15	CO 15	Yes	TKN
SME 4	GD 12	GD 12	Yes	TKN
SME 4	SS 5	SS 5	Yes	TKN
SME 4	SS 13	SS 13	Yes	TKN
SME 4	SS 14	SS 14	Yes	TKN, Ortho-phosphate, Total Phosphorus

5.5 Evaluation of Monitoring Results

The results of the slope analysis indicate that, although fluctuations occur from one monitoring event to another, pollutant concentrations in the MS4 waterbodies have remained generally consistent over the past 10 years. The exception is Big Wills Creek where downward trends were observed for nitrate-nitrite and ortho-phosphate.

5.5.1 *Monitoring Points SME 4, SME 5, and SME 6*

Monitoring points SME 4, 5, and 6 were sited to assess water quality in the Coosa River where it enters the urbanized area, in the central portion of the urbanized area, and where it leaves the urbanized area, respectively. The points were first sampled in December 2020, and a total of ten monitoring events have been completed since, with the exception of SME 4 which was not sampled in September 2021.

Over the past ten monitoring events, turbidity increased between monitoring points SME 4 and SME 6 six times and decreased three times, with one event not sampled. Total nitrogen increased in four of the nine monitoring events and TSS increased in seven of the nine events. Ortho-phosphate was detected in one event at monitoring points SME 4 and SME 5 and was not detected at SME 6. Total phosphorous was not detected in the ten events.

As shown in Table 5-3, no SSIs were observed when the downstream Coosa River points were compared to the upstream river points. **These results indicate that no statistically significant increase in pollutants is occurring in the Coosa River due to runoff from the Gadsden-Etowah MS4.**

The Gadsden-Etowah MS4 will continue to monitor points SME 4, SME 5, and SME 6 during the April 1, 2023 to March 31, 2024 reporting period.

5.5.2 *Monitoring Points AT 5 and SME 7*

Monitoring point SME 7 is located in Big Wills Creek, upstream of monitoring point AT 5. Monitoring point AT 5 is located in Big Wills Creek, downstream of its confluence with Little Wills Creek. Monitoring point SME 7 was first sampled in December 2020, and a total of ten monitoring events have been completed.

Nitrate-nitrite decreased between SME 7 and AT 5 in nine out of the last ten monitoring events, ortho-phosphate decreased seven out of the last ten monitoring events, and total phosphorus has decreased between the two points in the last ten events.

As shown in Table 5-3, no SSIs were observed when AT 5 was compared to SME 7 upstream, indicating that a reduction in pollutant concentrations is occurring as Big Wills Creek passes through the Attalla, Etowah County, and Gadsden MS4s, possibly due to dilution as other waterbodies and runoff enter Big Wills Creek. The pollutants in Big Wills Creek are generally from outside of the MS4, and the urbanized area is not contributing additional pollution to the waterbody.

An SSI was noted when SME 7 was compared to the Coosa River (SME 4), indicating that the pollutant concentrations in Big Wills Creek are higher than the concentrations in the Coosa; however, as previously discussed, no SSIs were observed when the downstream Coosa River points were compared to the upstream river

points. These results indicate that although Big Wills Creek is a source of pollutants to the Coosa River, the flow is not sufficient to cause an observable impact on the Coosa River.

The Gadsden-Etowah MS4 will continue to monitor points SME 7 and AT 5 during the April 1, 2023 to March 31, 2024 reporting period.

5.5.3 *Monitoring Point SME 1*

Monitoring point SME 1 was sited to observe water quality at the location where the combined flow from Big Wills Creek, Black Creek, and Horton Creek enters the Coosa River. Monitoring point AT 5 is located in Big Wills Creek, monitoring point GD 8 is located in Black Creek, and monitoring point RC 2 is located in Horton Creek. The monitoring points were first sampled in March 2013, and a total of 41 monitoring events have been completed.

Generally, nitrogen and phosphorous results at AT 5 are higher than those recorded at SME 1, whereas nitrogen and phosphorous values at RC 2 and GD 8 are lower than those recorded at SME 1. As shown in Table 5-3, no SSIs were observed when SME 1 was compared to upstream points AT 5, GD 8, or RC 2. A reduction in pollutant concentrations is occurring before the combined flow from AT 5, GD 8, and RC 2 discharges to the Coosa River.

These results indicate that the Big Wills Creek watershed is the primary source of nitrogen and phosphorous approaching SME 1. A portion of the observed reduction between AT 5 and SME 1 may come from dilution as other waterbodies and runoff join Big Wills Creek. This further indicates that the urbanized area is not contributing additional pollution to the waterbody.

The Gadsden-Etowah MS4 will continue to monitor points AT 5, GD 8, RC 2, and SME 1 during the April 1, 2023 to March 31, 2024 reporting period.

5.5.4 *Monitoring Point SS 14*

Monitoring point SS 14 was sited to observe water quality in an unnamed tributary to the Coosa River in Southside. The drainage area for SS 14 includes portions of the Southside and Etowah County MS4s, as well as areas outside of the Gadsden-Etowah MS4. Land uses in the SS 14 drainage area include residential, commercial, recreational, and agricultural. As shown in Charts 6 and 7, ortho-phosphate and total phosphorous concentrations at SS 14 are consistently higher than other locations within the MS4.

The monitoring results for ortho-phosphate and total phosphorous at SS 14 indicate that concentrations in the unnamed tributary are higher than those observed in the Coosa River; however, there is no clear increase in the levels of phosphorus and ortho-phosphate in the receiving water between SME 5 (Coosa River upstream of SS 14) and SME 6 (Coosa River downstream of SS 14). This seems to indicate that although levels of certain pollutants are elevated at SS 14, the flow from the unnamed tributary is not sufficient to cause an observable impact on the Coosa River.

The Gadsden-Etowah MS4 will continue to monitor points SS 14, SME 5, and SME 6 during the April 1, 2023 to March 31, 2024 monitoring period.

5.5.5 *Monitoring Point SME 9*

Monitoring point SME 9 was established on the blue-line stream that flows from Hokes Bluff to HB 3. The drainage area for SME 9 encompasses approximately 0.21 square miles of the HB 3 drainage area and includes residential, commercial, and light industrial land uses, as well as Hokes Bluff Elementary School. Monitoring point SME 9 was added to the monitoring program in April 2022, and a total of four monitoring events have been completed since.

Over the past four monitoring events, ortho-phosphates and nitrates were not detected. Total phosphorous was detectable during one of the four monitoring events. Turbidity increased between SME 9 and HB 3 during all four monitoring events. As shown in Table 5-3, no SSIs were observed when HB 3 was compared to SME 9.

The Gadsden-Etowah MS4 will continue to monitor points SME 9 during the April 1, 2023 to March 31, 2024 reporting period.

5.5.6 *Monitoring Point SME 10*

To assess storm water discharges from the Hokes Bluff MS4, monitoring point SME 10 was sited where an unnamed tributary to Big Cove Creek leaves the east portion of the Hokes Bluff MS4. The drainage area for SME 10 encompasses approximately 0.57 square miles of the GD 5 drainage area and includes residential and commercial land uses. Monitoring point SME 10 was added to the monitoring program in April 2022, and a total of four monitoring events have been completed since.

Over the past four monitoring events, ortho-phosphates were not detected. Total nitrate was detected in one of the four monitoring events. TSS increased between SME 10 and GD 5, while turbidity increased twice and decreased twice during the four monitoring events. As shown in Table 5-3, an SSI was noted when SME 10 was compared to GD 5downstream, indicating that the pollutant concentrations leaving the Hokes Bluff MS4 are higher than the concentrations entering the Coosa at GD 5 due to dilution in Big Cove Creek.

The Gadsden-Etowah MS4 will continue to monitor points SME 10 during the April 1, 2023 to March 31, 2024 reporting period.

5.6 Summary of Recommendations

The entities that comprise the Gadsden-Etowah MS4 took a watershed approach regarding their Storm Water Monitoring Plan. This approach has allowed them to see how the overall watershed is responding to the established BMPs and to generally evaluate water quality across the MS4.

A revised *Wet-Weather Monitoring Program* went into effect April 2022. The Gadsden-Etowah MS4 entities plan to continue the watershed approach and do not propose any changes at this time to the Storm Water Monitoring Plan.

6.0 Narrative Report of Minimum Storm Water Control Measures

Reference Part VI.B.3 and 4

6.1 Public Education and Public Involvement on Storm Water Impacts

6.1.1 *Implementation Status*

During the April 1, 2022 to March 31, 2023 reporting period, Etowah County completed fifteen (15) of the sixteen (16) Public Education and Public Involvement strategies identified in the previous Annual Report and the 2022 SWMPP. The County did not complete one (1) strategy:

- *Alabama Stormwater Association Participation* due to personnel constraints (Strategy 9).

The County also completed nine (9) strategies beyond those proposed in the previous Annual Report and the 2022 SWMPP. These strategies included:

- Partnering with Clean Campus Certification and Program (Strategy 17)
- Partnering with The Great American Cleanup (Strategy 18)
- Sponsoring a Drug Collection Day (Strategy 19)
- Partnering with Cawaco RC&D and USFWS to restore aquatic habitat for the endangered trispot darter (Strategy 20)
- Enforcing a Litter Ordinance (Strategy 21)
- Providing dead animal removal from roadside (Strategy 22)
- Providing a recycling program for aluminum cans and scrap metal (Strategy 23)
- Cleared drainage structures of trees and brush (Strategy 24)
- Worked to reduce runoff by monitoring areas of erosion and providing solutions (Strategy 25)

A table identifying each Public Education and Public Involvement strategy planned for the 2022-2023 reporting period, a description of actions taken by Etowah County, and a description of activities planned for the next reporting period is provided in **Appendix D**. Supporting documentation is also included in **Appendix D.**

6.1.2 *Proposed Activities for the April 1, 2023 to March 31, 2024 Reporting Period*

The County will implement the strategies listed in the 2022 SWMPP and in the tables in **Appendix D** as part of their Public Education and Public Involvement Program during the 2023-2024 reporting period. The County will evaluate the success of the program to aid in preparing the required Annual Report based on the evaluation criteria established for each strategy.

6.1.3 *Assessment of Controls*

The strategies enacted during the reporting period appear to be effective in meeting the objectives of the Public Education and Public Involvement Control Measure as outlined in the 2021 permit. The strategies are adequate to

educate the community about the impacts of storm water runoff, identify steps the community can take to help reduce pollutants, and provide opportunities for public involvement.

6.1.4 *Proposed Changes*

Etowah County requests no changes to the Public Education and Public Involvement strategies identified in the 2022 SWMPP.

6.1.5 *Responsible Parties*

The **Engineering Department** is responsible for overseeing, developing, and coordinating the Public Education and Public Involvement efforts. The Engineering Department is also responsible for providing content for the Storm Water Webpage and performing plat review regarding drainage and flood control.

6.2 Illicit Discharge Detection and Elimination

6.2.1 *Implementation Status*

During the April 1, 2022 to March 31, 2023 reporting period, Etowah County completed seventeen (17) of the seventeen (17) Illicit Discharge Detection and Elimination strategies identified in the previous Annual Report and the 2022 SWMPP.

A table identifying each Illicit Discharge Detection and Elimination strategy planned for the 2022-2023 reporting period, a description of actions taken by Etowah County, and a description of activities planned for the next reporting period is provided in **Appendix E**. Supporting documentation is also included in **Appendix E**.

6.2.2 *Proposed Activities for the April 1, 2023 to March 31, 2024 Reporting Period*

The County will implement the strategies listed in the 2022 SWMPP and in the tables in **Appendix E** as part of their Illicit Discharge Detection and Elimination Program during the 2023-2024 reporting period. The County will evaluate the success of the program to aid in preparing the required Annual Report based on the evaluation criteria established for each strategy.

6.2.3 *Assessment of Control*

The strategies enacted during the reporting period appear to be effective in meeting the objectives of the Illicit Discharge Detection and Elimination Control Measure as outlined in the 2021 permit. The strategies are adequate to prevent or correct illicit discharges to the Gadsden-Etowah MS4.

6.2.4 *Proposed Changes*

Etowah County requests no changes to the Illicit Discharge Detection and Elimination strategies identified in the 2022 SWMPP.

6.2.5 *Responsible Party*

The **Engineering Department** is responsible for overseeing, developing, and coordinating the IDDE program in the Etowah County regulated MS4 area.

6.3 Construction Site Storm Water Runoff

6.3.1 *Implementation Status*

During the April 1, 2022 to March 31, 2023 reporting period, Etowah County completed eleven (11) of the eleven (11) Construction Site Storm Water Runoff strategies identified in the previous Annual Report and the 2022 SWMPP.

A table identifying each Construction Site Storm Water Runoff strategy planned for the 2023-2024 reporting period, a description of actions taken by Etowah County, and a description of activities planned for the next reporting period is provided in **Appendix F**. Supporting documentation is also included in **Appendix F**.

6.3.2 *Proposed Activities for the April 1, 2023 to March 31, 2024 Reporting Period*

The County will implement the strategies listed in the 2022 SWMPP and in the tables in **Appendix F** as part of their Construction Site Storm Water Runoff Control Measure during the 2023-2024 reporting period. The County will evaluate the success of the program to aid in preparing the required Annual Report based on the evaluation criteria established for each strategy.

6.3.3 *Assessment of Controls*

The strategies enacted during the reporting period appear to be effective in meeting the objectives of the Construction Site Storm Water Runoff Control Measure as outlined in the 2021 permit. The strategies are adequate to monitor and control pollutants associated with land disturbing activities.

6.3.4 *Proposed Changes*

Etowah County requests no changes to the Construction Site Storm Water Runoff strategies identified in the 2022 SWMPP.

6.3.5 *Responsible Party*

The **Engineering Department** is responsible for implementing the Construction Site Storm Water Runoff Control Program.

6.4 Post-Construction Storm Water Management in New Development and Redevelopment

6.4.1 *Implementation Status*

During the April 1, 2022 to March 31, 2023 reporting period, Etowah County completed twelve (12) of the twelve (12) Post-Construction Storm Water Management strategies identified in the previous Annual Report and the 2022 SWMPP.

A table identifying each Post-Construction Storm Water Management strategy planned for the 2022-2023 reporting period, a description of actions taken by Etowah County, and a description of activities planned for the next reporting period is provided in **Appendix G**. Supporting documentation is also included in **Appendix G**.

6.4.2 *Proposed Activities for the April 1, 2023 to March 31, 2024 Reporting Period*

The County will implement the strategies listed in the 2022 SWMPP and in the tables in **Appendix G** as part of their Post-construction Storm Water Management Control Measure during the 2023-2024 reporting period. The County will evaluate the success of the program to aid in preparing the required Annual Report based on the evaluation criteria established for each strategy.

6.4.3 *Assessment of Control*

The strategies enacted during the reporting period appear to be effective in meeting the objectives of the Post-construction Storm Water Management Control Measure as outlined in the 2021 permit. The strategies are adequate to address post-construction storm water runoff from new development and re-development.

6.4.4 *Proposed Changes*

Etowah County requests no changes to the Pollution Prevention and Good Housekeeping for Municipal Operations strategies identified in the 2022 SWMPP.

6.4.5 *Responsible Party*

The **Engineering Department** is responsible for establishing design criteria for subdivision storm drainage systems, evaluating the Subdivision Regulations, reviewing submitted subdivision plats, and performing inspections of County-owned post-construction BMPs.

6.5 Pollution Prevention and Good Housekeeping for County Operations

6.5.1 *Implementation Status*

During the April 1, 2022 to March 31, 2023 reporting period, Etowah County completed thirteen (13) of the fifteen (15) Pollution Prevention and Good Housekeeping for County Operations strategies identified in the previous Annual Report and the 2022 SWMPP. The County did not complete two (2) strategies:

- Develop a written fueling SOP (Strategy 11)
- Develop a written Herbicide SOP (Strategy 12)

Etowah County also completed three (3) strategies beyond those proposed in the previous Annual Report and the 2022 SWMPP. These strategies include:

- Providing oil waste recycling for county vehicles and equipment (Strategy 16)
- Providing a vehicle maintenance program for routine inspections of municipal vehicles and equipment (Strategy 17)
- Partnering with Universal Environmental Services to test and properly dispose of waste bituminous material from pothole patching trucks (Strategy 18)

A table identifying each Pollution Prevention and Good Housekeeping for County Operations strategy planned for the 2022-2023 reporting period, a description of actions taken by Etowah County, and a description of activities planned for the next reporting period is provided in **Appendix H**. Supporting documentation is also included in **Appendix H**.

6.5.2 *Proposed Activities for the April 1, 2023 to March 31, 2024 Reporting Period*

The County will implement the activities listed in the 2022 SWMPP and in the tables in **Appendix H** as part of their Pollution Prevention and Good Housekeeping for Municipal Operations Control Measure during the 2023-2024 reporting period. The County will evaluate the success of the program to aid in preparing the required Annual Report based on the evaluation criteria established for each strategy.

6.5.3 *Assessment of Control*

The strategies enacted during the reporting period appear to be effective in meeting the objectives of the Pollution Prevention and Good Housekeeping for County Operations Control Measure as outlined in the 2021 permit. The strategies are adequate to address storm water pollution prevention from county operations.

6.5.4 *Proposed Changes*

Etowah County requests no changes to the Pollution Prevention and Good Housekeeping for County Operations strategies identified in the 2022 SWMPP.

6.5.5 *Responsible Party*

The **Engineering Department** will be responsible for conducting the County facility evaluations and maintaining records of the facility inspections. The Engineering Department is also responsible for coordinating the annual reviews of the SOPs, performing roadway maintenance, and coordinating litter reduction efforts.

7.0 Notice of Reliance

Reference Part VI.B.6

7.1 Steering Committee

The Gadsden-Etowah Steering Committee was first established in 2011 following re-issuance of the joint permit. The intent of the steering committee was to provide for coordination between the co-permittees. When the joint permit was superseded by the separate permits in 2016, the committee continued to work together to produce and implement a joint SWMPP and monitoring program.

The Steering Committee will continue under the 2021 permit. Despite the preparation of individual SWMPPs for each entity, the Gadsden-Etowah MS4 entities remaining committed to partnership and joint implementation of the monitoring program.

Each of the seven entities provide at least one member to the Gadsden-Etowah Storm Water Steering Committee. Each entity is responsible for providing the required annual updates and monitoring data to the Steering Committee.

Table 7-1 MS4 Storm Water Steering Committee

Entity	Contact	Phone Number	Email
City of Gadsden	Heath Williamson	256-549-4520	hwilliamson@cityofgadsden.com
City of Gadsden	Keener Morrow	256-549-4524	kmorrow@cityofgadsden.com
City of Attalla	Jason Nicholson	256-441-9200	jnicholson@attallacity.org
City of Rainbow City	Joel Garmon	256-413-1230	jgarmon@rbcalabama.com
City of Southside	Judd Rich	256-442-9775 Ext. 103	juddrich@cityofsouthside.com
City of Glencoe	Todd Means	256-492-1424	toddmeans@cityofglencoe.org
City of Hokes Bluff	Lisa Lowman	256-492-2414	hbcity@cityofhokesbluff.net
Etowah County	Robert Nail	256-549-5358	rnail@etowahcounty.org

7.2 Monitoring Program

The monitoring program initially developed in 2011 to evaluate compliance with the Neely Henry Lake TMDL consist of quarterly wet-weather monitoring in several water bodies across the Gadsden-Etowah MS4. The City of Attalla, the City of Gadsden, the City of Glencoe, the City of Hokes Bluff, City of Rainbow City, the City of Southside, and Etowah County entered into a Cooperative Agreement on March 24, 2015 to jointly ensure the quarterly monitoring was performed.

The submission of individual SWMPPs and Annual Reports for each entity will require modification of the 2015 monitoring agreement. In the previous Annual Report, the Gadsden-Etowah Steering Committee planned to establish a revised cooperative agreement for the quarterly monitoring by March 31, 2023. Due to changes in city administrations, the revised agreement has not been completed. The Gadsden-Etowah Steering Committee will establish a revised cooperative agreement for the quarterly monitoring by March 31, 2024.

8.0 Agency Certification

Reference Parts VI.A.2 and VII.G

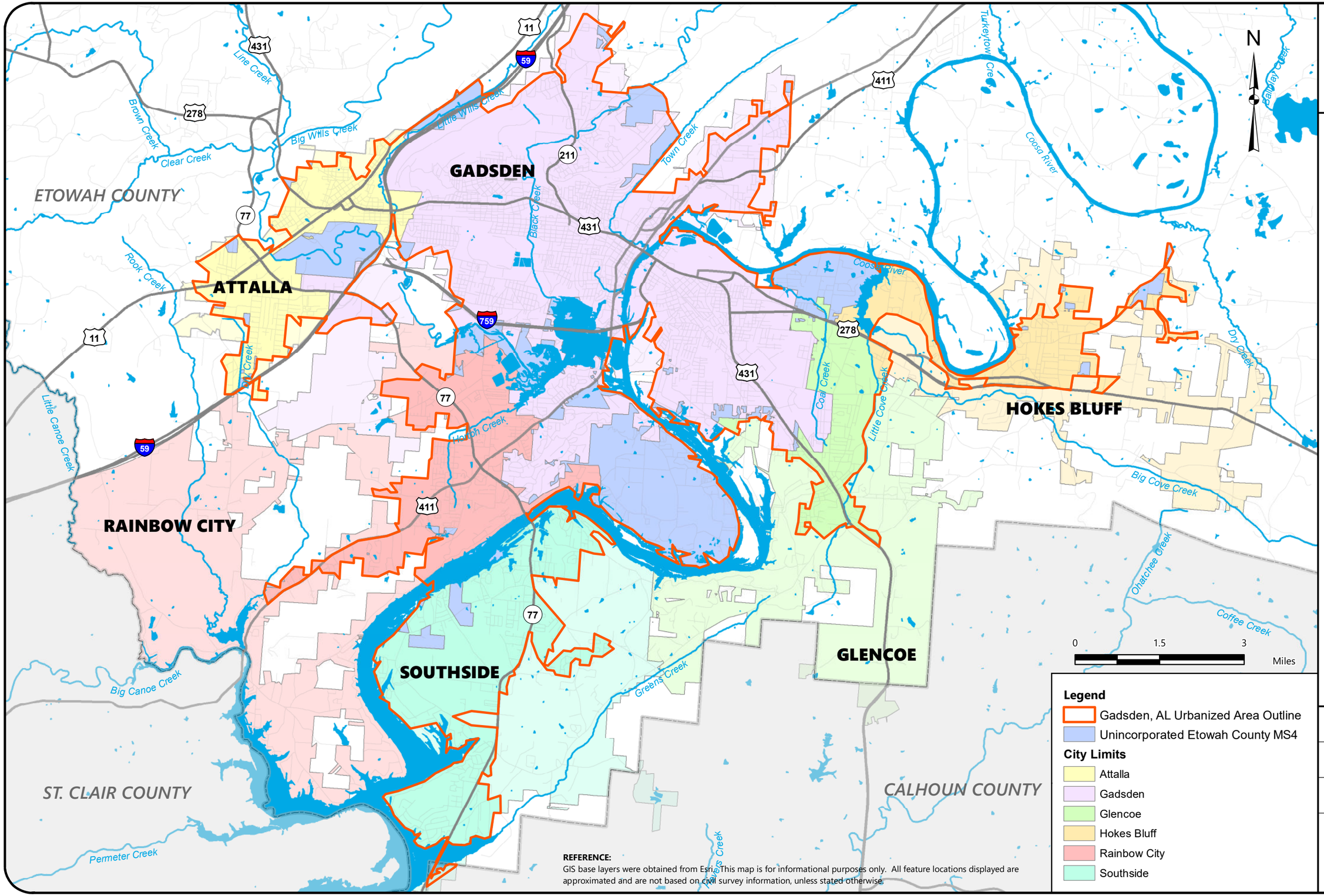
I certify under penalty of law that this document and all attachments pertaining to Etowah County were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, 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 or imprisonment for knowing violations.

Shane Ellison, Chief Administrative Officer
Etowah County, Alabama

5-25-23
Date

Appendices

Appendix A – Figures



REFERENCE:
GIS base layers were obtained from Esri. This map is for informational purposes only. All feature locations displayed are approximated and are not based on civil survey information, unless stated otherwise.

GADSDEN, AL URBANIZED AREA

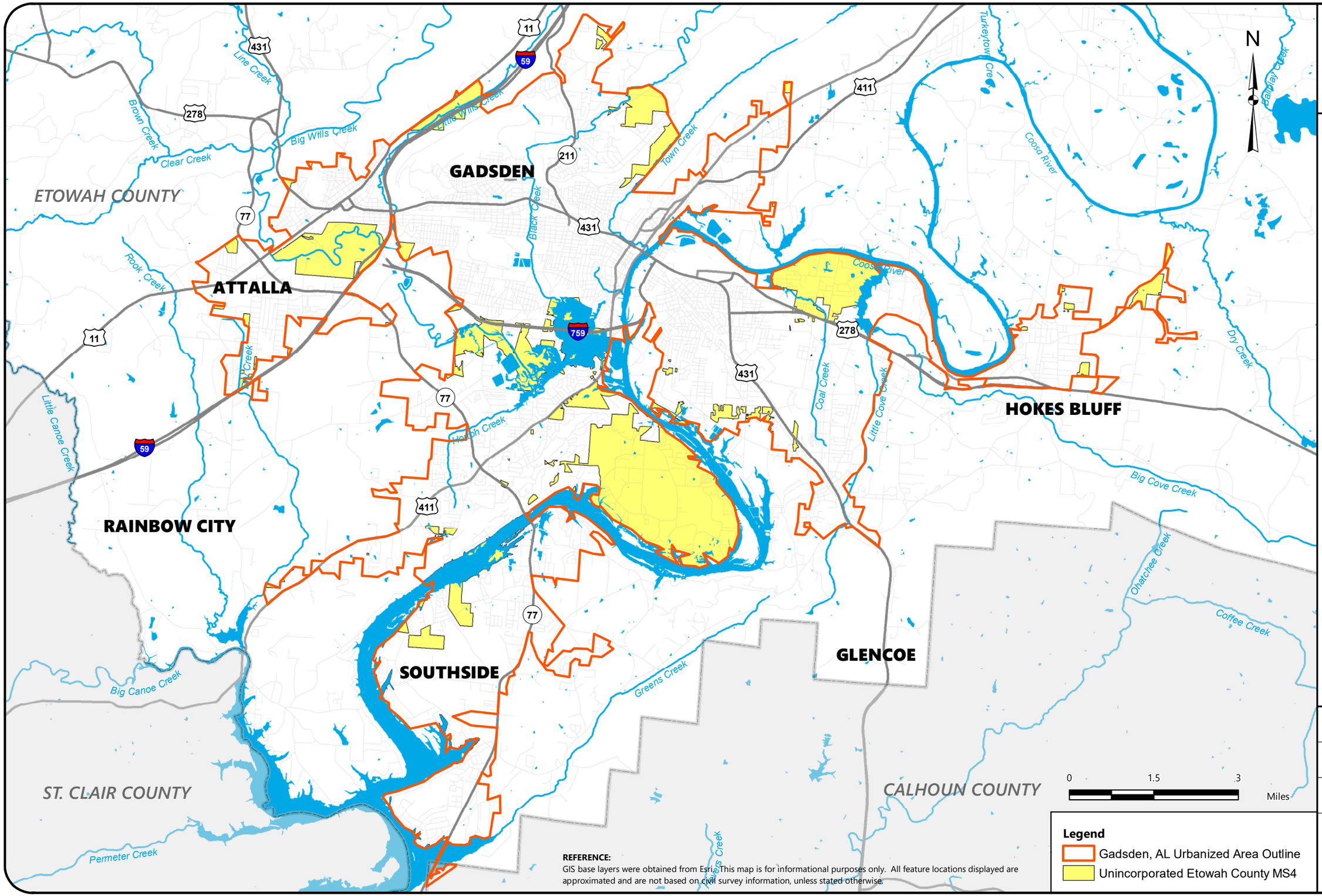
GADSDEN ALABAMA URBANIZED AREA
PHASE II SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM
NPDES GENERAL PERMIT ALR040009

SCALE:
1:100,000

DATE:
02/18/2022

PROJECT NUMBER
215660

FIGURE NO.
1



ETOWAH COUNTY MS4 BOUNDARIES

ETOWAH COUNTY MS4
PHASE II SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM
NPDES GENERAL PERMIT ALR040009

SCALE:
1:100,000

DATE:
03/24/2022

PROJECT NUMBER
215660G

FIGURE NO.
2

IMPAIRED WATERBODIES

ETOWAH COUNTY MS4
PHASE II SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM
NPDES GENERAL PERMIT ALR040009

ETOWAH COUNTY
ST. CLAIR COUNTY
CALHOUN COUNTY

Line Creek
Brown Creek
Clear Creek
Big Wills Creek
Little Wills Creek
Black Creek
Town Creek
Turkeytown Creek
Coosa River
Calloway Creek
Rock Creek
Dry Creek
Little Canoe Creek
Big Canoe Creek
Perimeter Creek
Coal Creek
Little Cove Creek
Big Cove Creek
Ohatchee Creek
Coffee Creek
Greens Creek
Davis Creek

N

0 1.5 3 Miles

Legend

- 2020 Approved TMDL
- 2020 303(d)
- Unincorporated Etowah County MS4
- Gadsden, AL Urbanized Area Outline

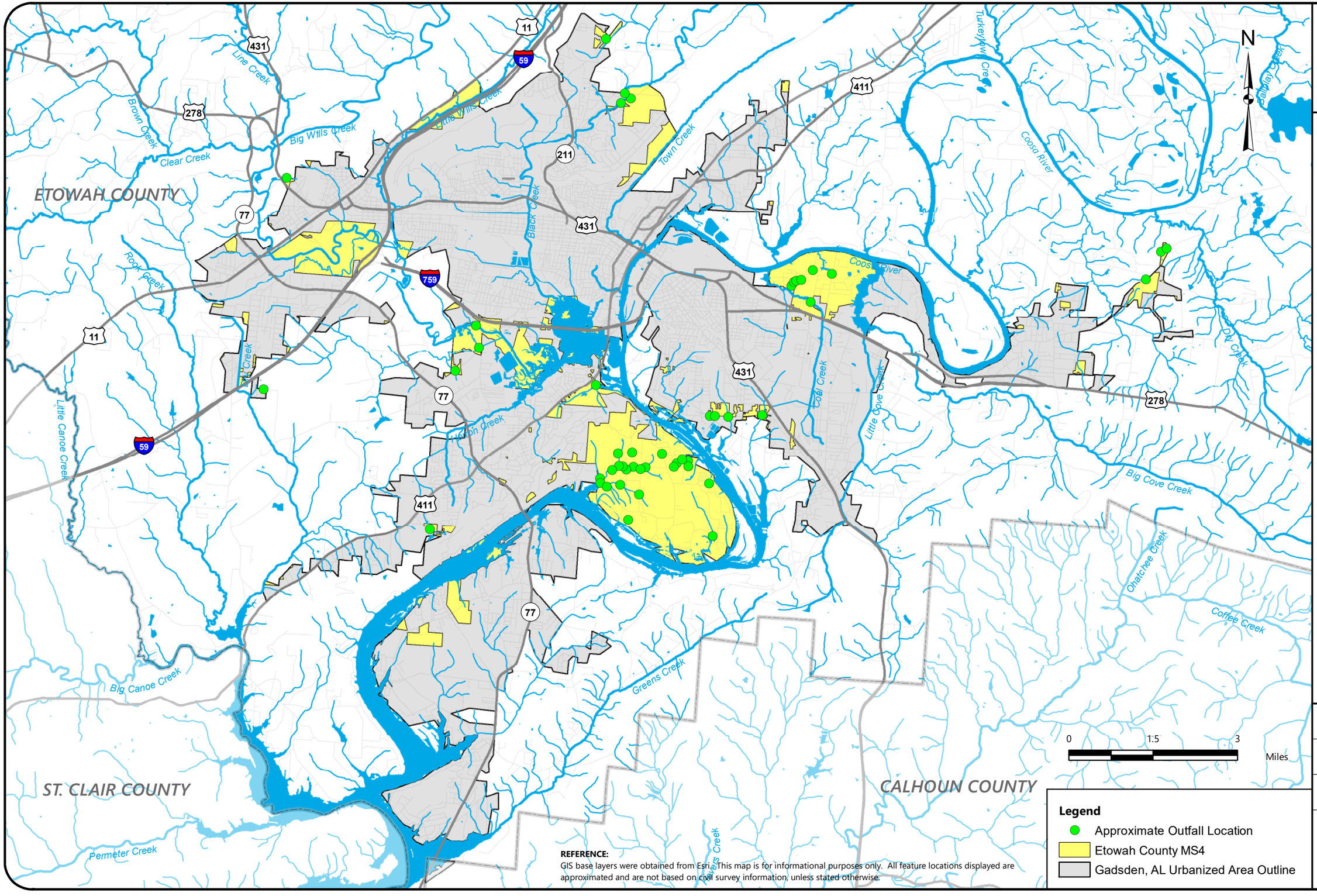
REFERENCE:
GIS base layers were obtained from Esri. This map is for informational purposes only. All feature locations displayed are approximated and are not based on civil survey information, unless stated otherwise.

SCALE: 1:100,000

DATE: 03/25/2022

PROJECT NUMBER 215660G

FIGURE NO. 3



REFERENCE:
GIS base layers were obtained from Esri. This map is for informational purposes only. All feature locations displayed are approximated and are not based on civil survey information, unless stated otherwise.

Legend
- Approximate Outfall Location
- Etowah County MS4
- Gadsden, AL Urbanized Area Outline

ETOWAH COUNTY MS4 OUTFALLS

ETOWAH COUNTY MS4
PHASE II SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM
NPDES GENERAL PERMIT ALR040009

SCALE: 1:100,000
DATE: 03/31/2022
PROJECT NUMBER 215660G
FIGURE NO. 4

Appendix B – Charts and Statistics

CHART 1 - TURBIDITY ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009

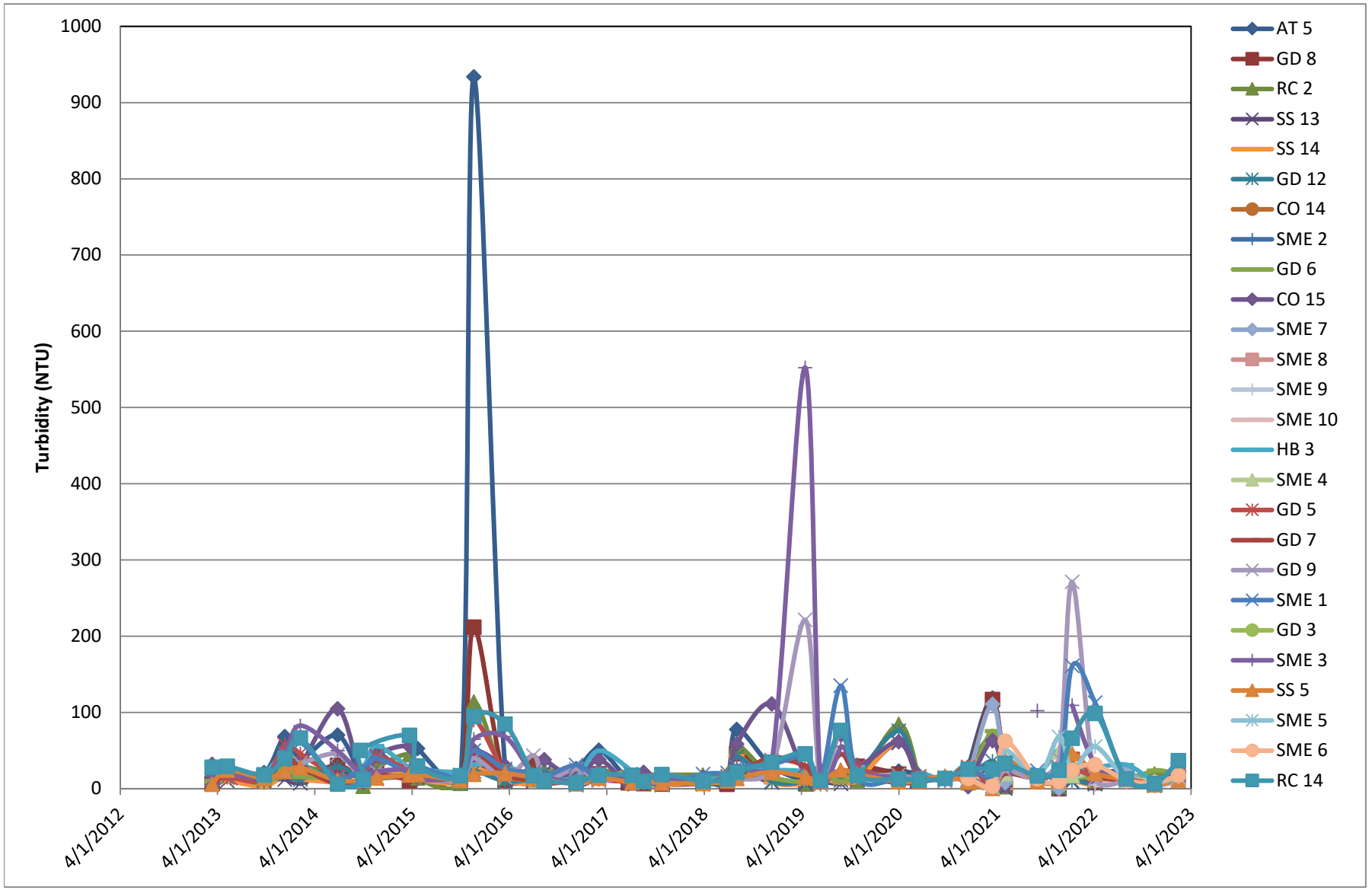


CHART 2 - pH ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009

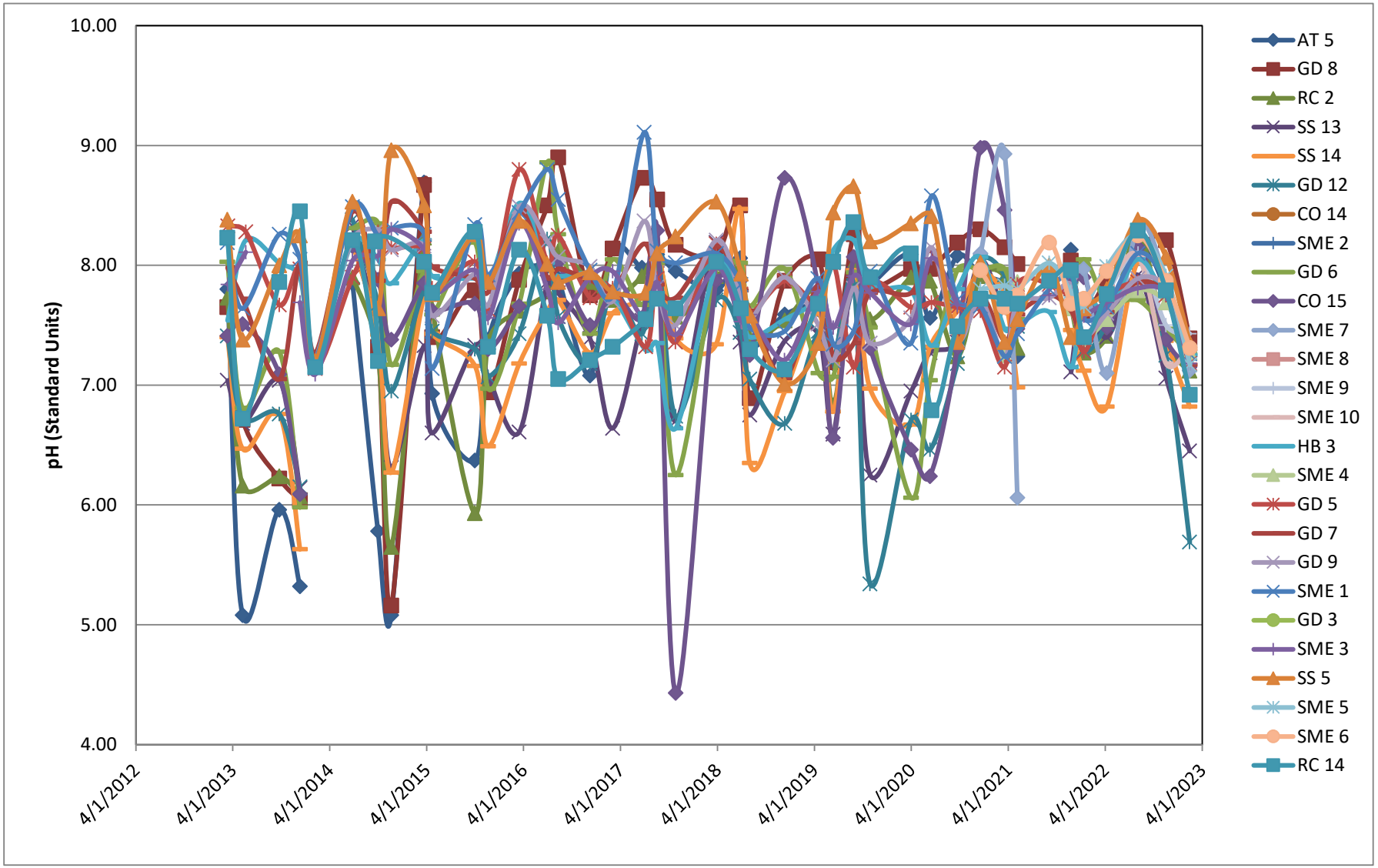


CHART 3 - DISSOLVED OXYGEN ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009

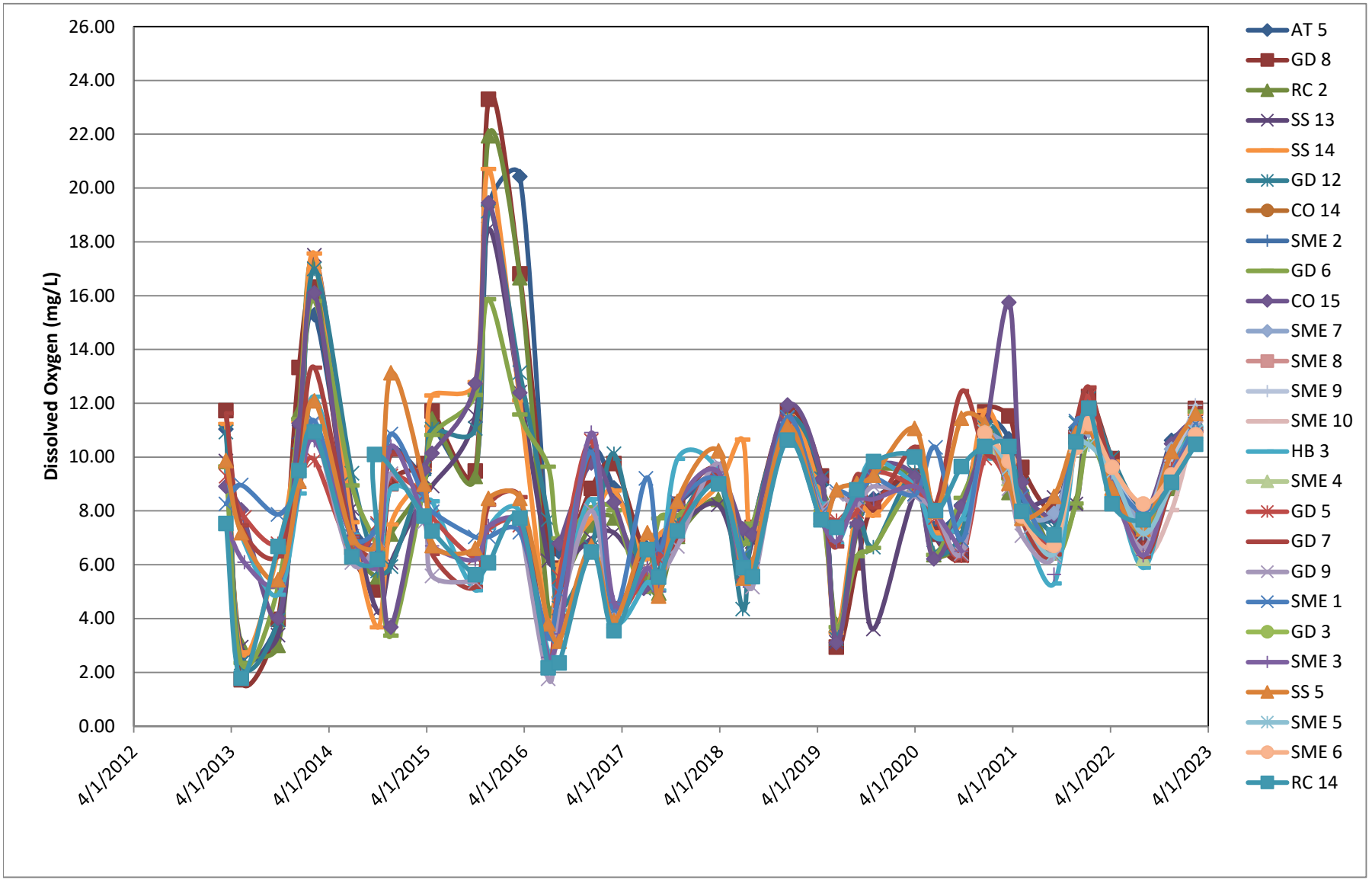


CHART 4 - TEMPERATURE ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009

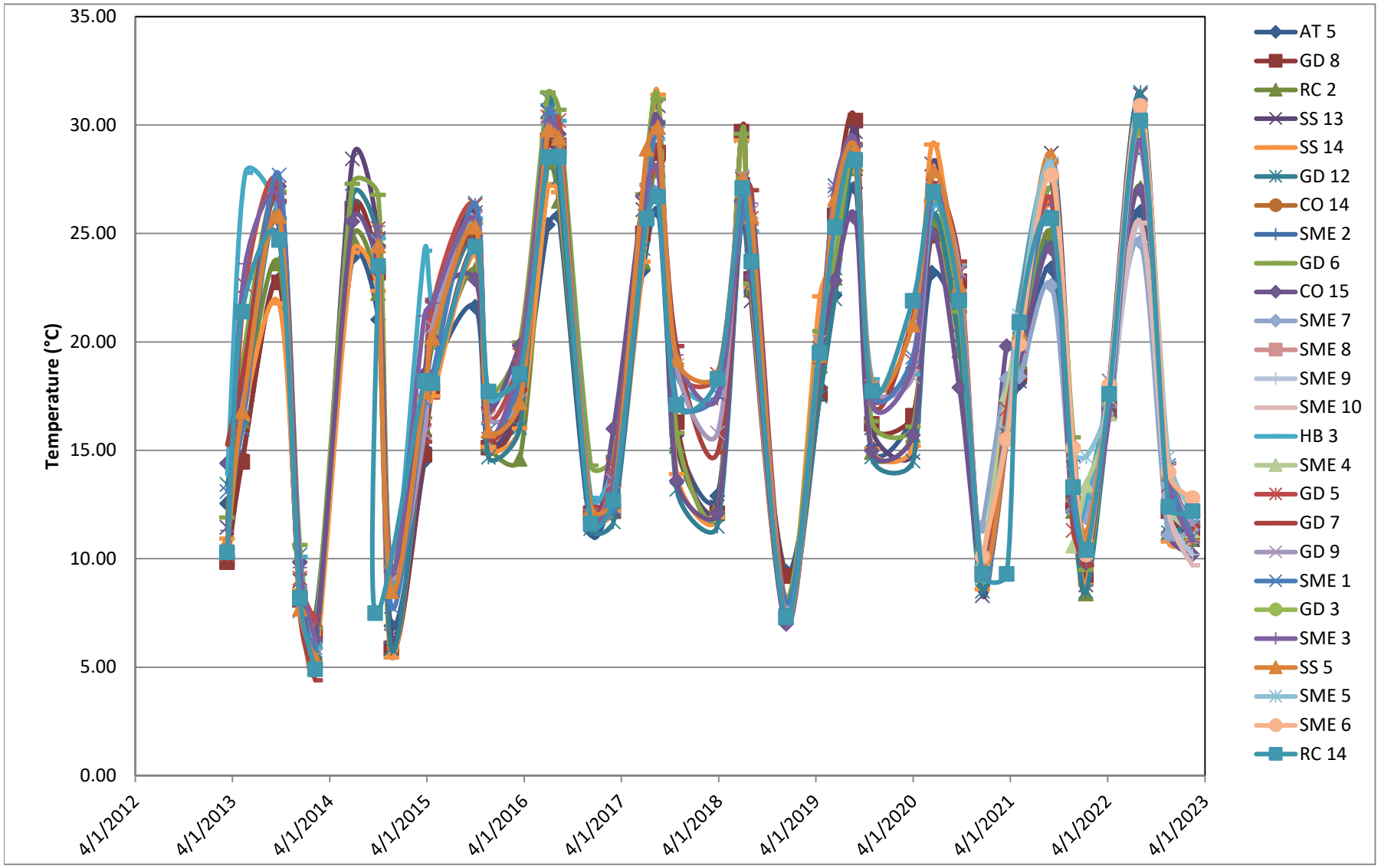


CHART 5 - NITRATE-NITRITE ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009

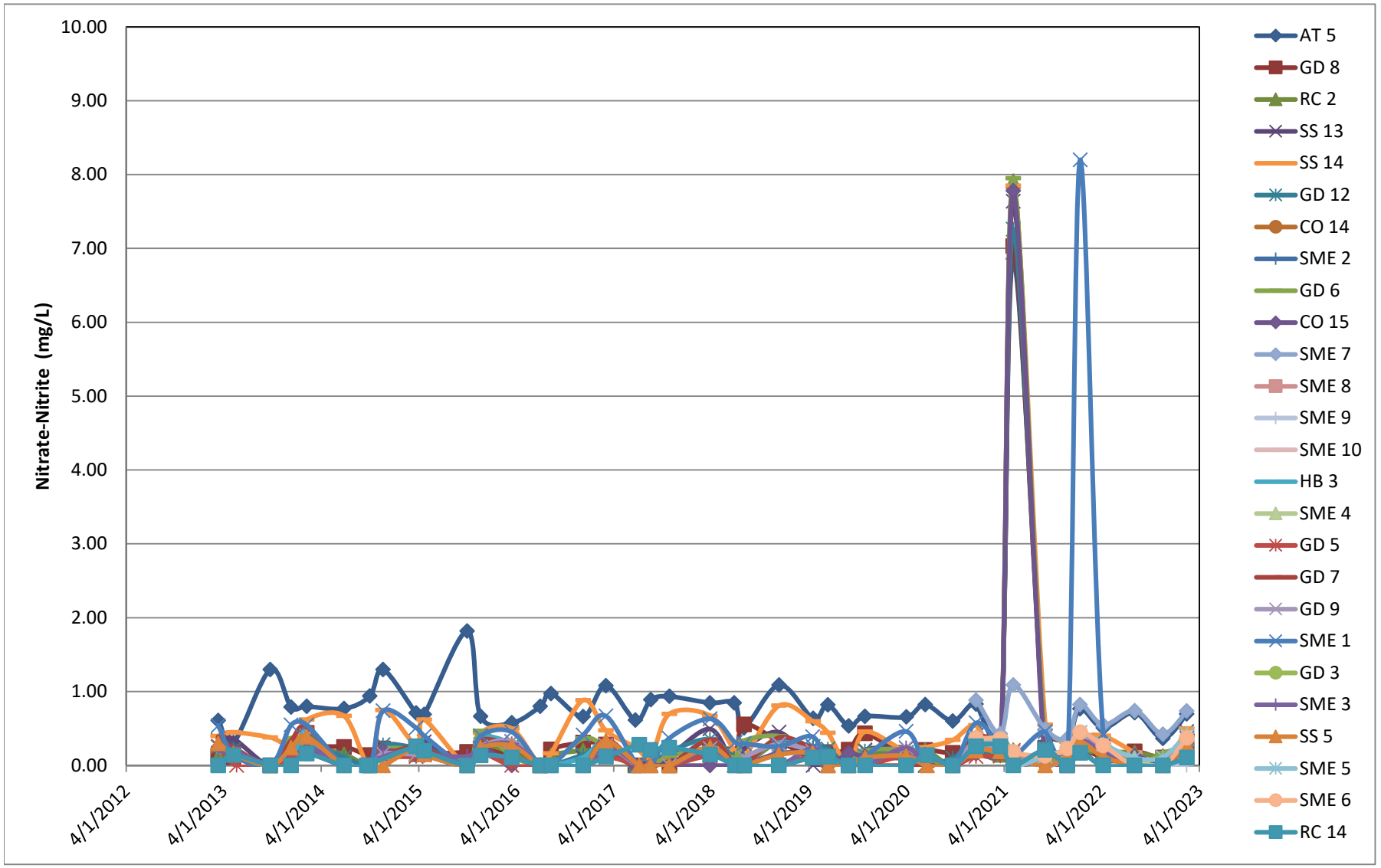


CHART 6 - ORTHOPHOSPHATE ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009

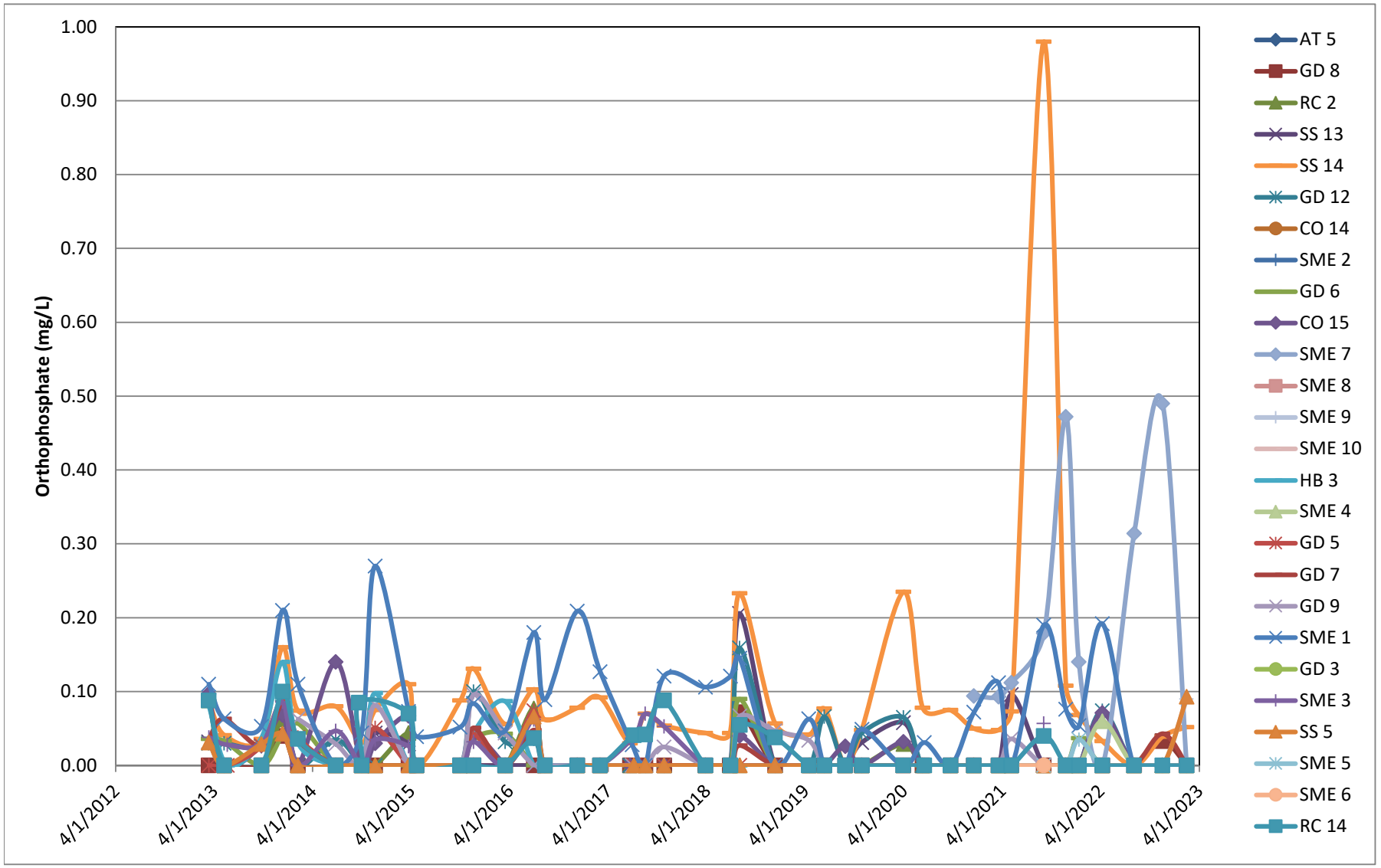


CHART 7 - TOTAL PHOSPHOROUS ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009

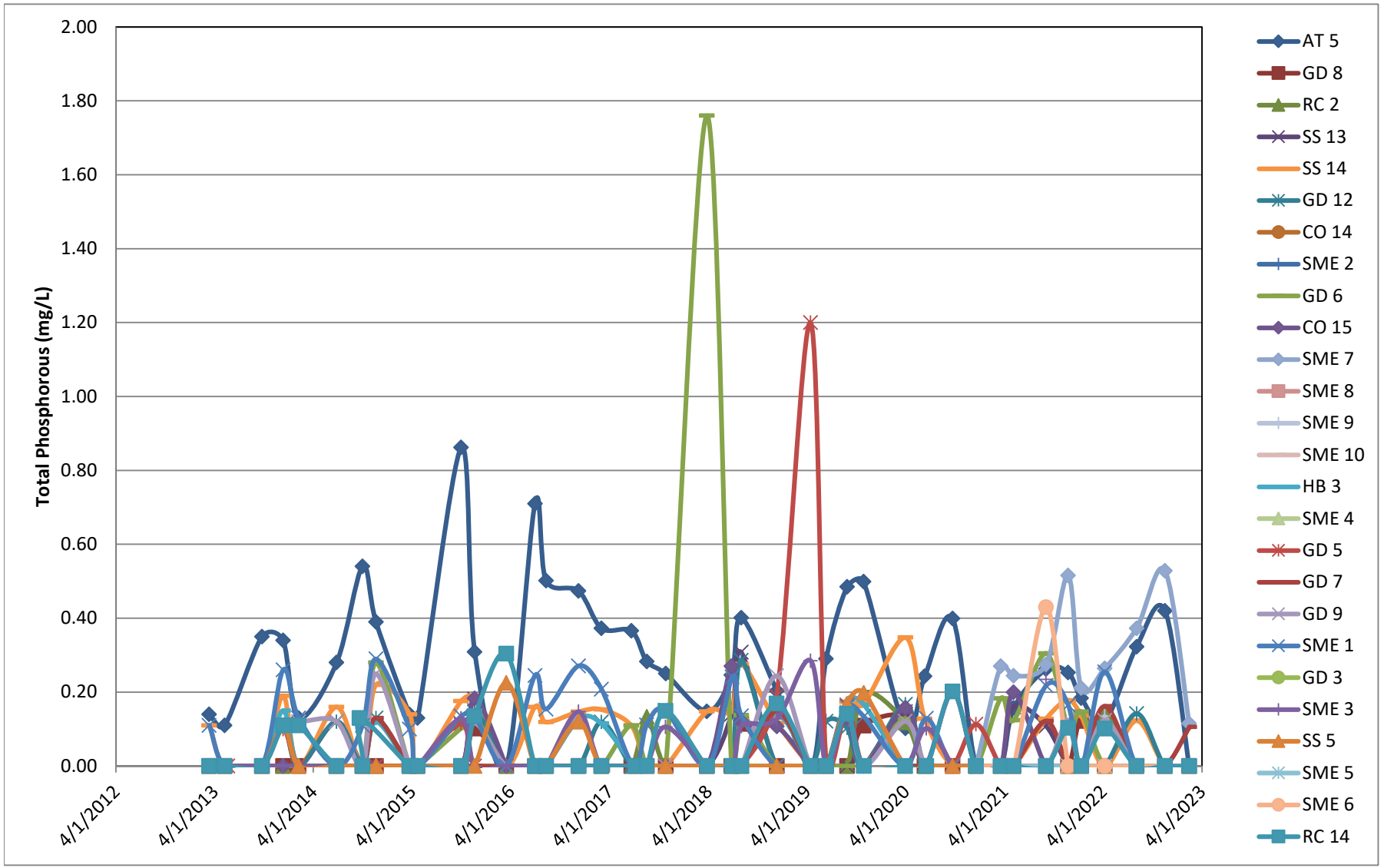


CHART 8 - TOTAL KJELDAHL NITROGEN ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009

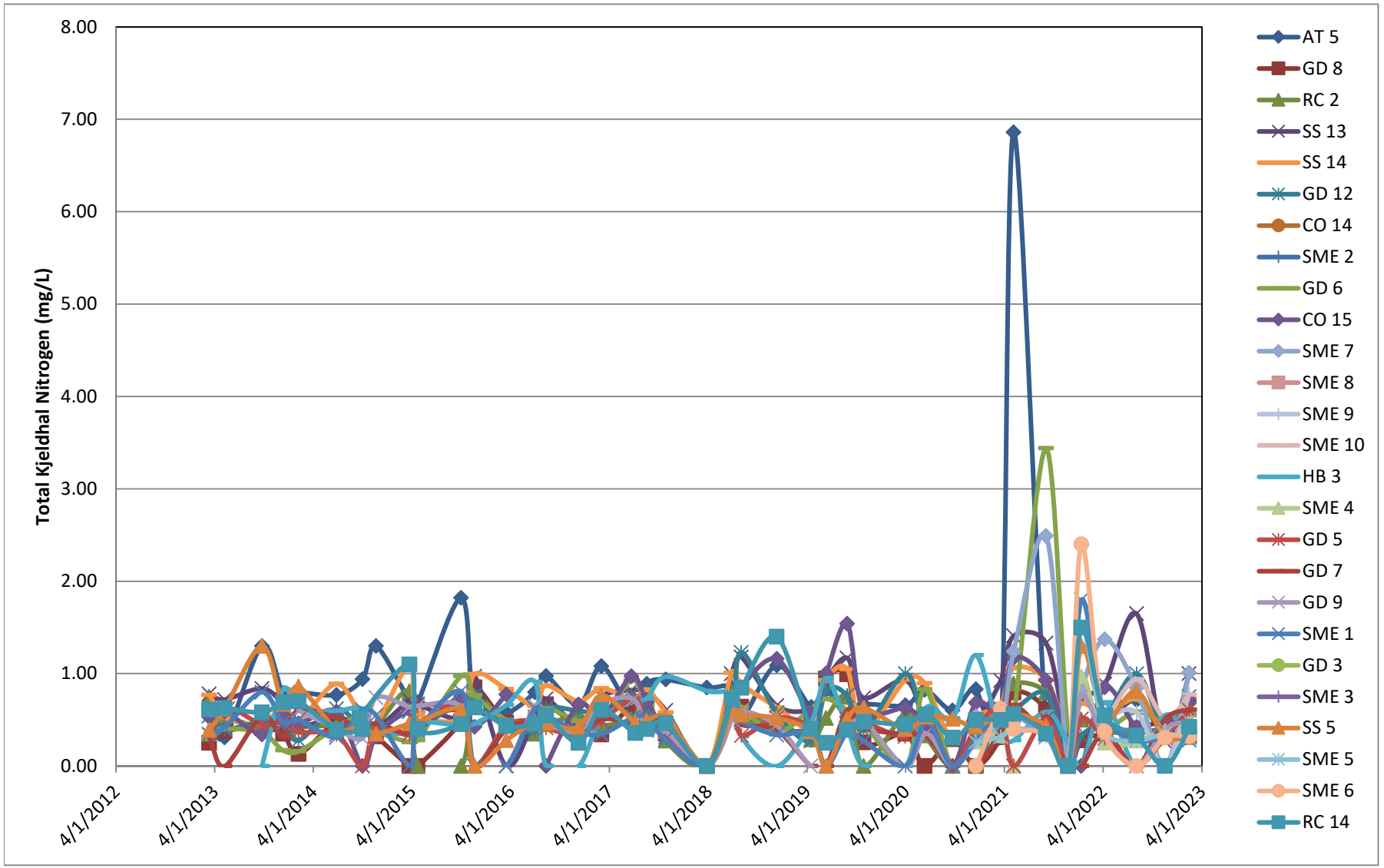
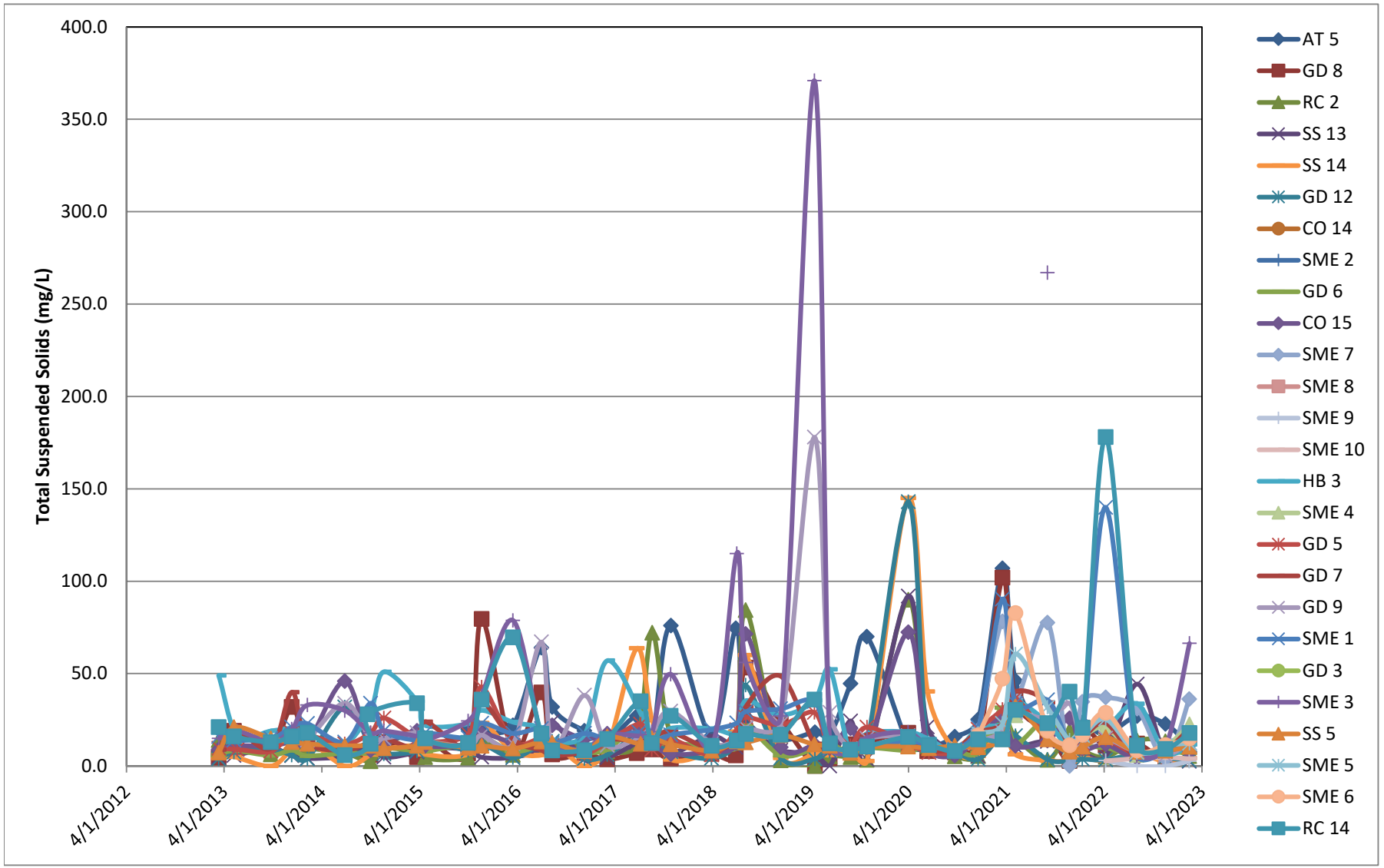


CHART 9 - TOTAL SUSPENDED SOLIDS ANALYTICAL DATA

GADSDEN-ETOWAH MS4 MONITORING
NPDES PERMIT NO. ALR040009



Supporting documentation is available upon request.

Etowah County Engineering Department
256-549-5358

Appendix C – Monitoring Reports

WET-WEATHER MONITORING LOCATIONS

GADSDEN ALABAMA URBANIZED AREA
PHASE II SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM
NPDES GENERAL PERMIT ALR040009

GADSDEN
ATTALLA
RAINBOW CITY
SOUTHSIDE
GLENCOE
HOKES BLUFF
ETOWAH COUNTY
CALHOUN COUNTY
ST. CLAIR COUNTY

SME 7
AT 5
GD 6
GD 7
GD 8
SME 1
GD 9
RC 2
GD 12
SME 5
SS 5
RC 14
SS 13
SS 14
SME 6
GD 5
SME 3
HB 3
SME 4
SME 9
SME 10
CO 15

Line Creek
Brown Creek
Clear Creek
Big Wills Creek
Little Wills Creek
Black Creek
Town Creek
Turkeytown Creek
Coosa River
Cedar Bay Creek
Rook Creek
Dry Creek
Coal Creek
Little Cove Creek
Big Cove Creek
Ohatchee Creek
Coffee Creek
Little Canoe Creek
Big Canoe Creek
Horton Creek
Greens Creek
Perimeter Creek

N

Legend

- Monitoring Point
- Gadsden, AL Urbanized Area Outline
- Unincorporated Etowah County MS4

City Limits

- Attalla
- Gadsden
- Glencoe
- Hokes Bluff
- Rainbow City
- Southside

REFERENCE:
GIS base layers were obtained from Esri. This map is for informational purposes only. All feature locations displayed are approximated and are not based on civil survey information, unless stated otherwise.

SCALE: 1:100,000
DATE: 03/23/2022
PROJECT NUMBER: 22820261
FIGURE NO.: 3

TABLE B.3 - HISTORICAL ANALYTICAL DATA - AT 5

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
AT 5	3/12/2013	15	7.80	11.04	12.55	0.61	0.150	0.14	0.37	20.0
AT 5	5/8/2013	25	5.08	2.59	14.69	0.31	0.099	0.11	0.56	19.0
AT 5	9/23/2013	21	5.96	3.95	22.88	1.30	0.400	0.35	0.37	22.0
AT 5	12/10/2013	68	5.32	11.43	8.21	0.79	0.290	0.34	0.97	64.0
AT 5	2/6/2014	40	4.06	15.29	7.28	0.80	0.130	0.13	0.35	32.0
AT 5	6/26/2014	70	7.85	7.61	23.89	0.77	0.340	0.28	0.38	19.0
AT 5	9/30/2014	15	5.78	6.63	21.03	0.94	0.490	0.54	<0.25	14.0
AT 5	11/19/2014	47	5.08	10.23	6.91	1.30	0.410	0.39	0.50	27.0
AT 5	3/23/2015	17	8.69	9.39	14.5	0.71	0.130	0.14	0.27	15.0
AT 5	4/22/2015	53	6.93	11.13	18.4	0.69	0.110	0.13	<0.25	76.0
AT 5	9/30/2015	15	6.37	9.45	21.63	1.82	0.664	0.86	<0.25	16.4
AT 5	11/19/2015	934	7.38	19.33	14.98	0.67	0.261	0.31	1.47	74.6
AT 5	3/15/2016	30.2	7.93	20.43	16.86	0.578	0.068	<0.100	0.772	26.7
AT 5	6/29/2016	18.1	7.99	6.57	25.4	0.800	0.598	0.71	<0.250	14.5
AT 5	8/9/2016	17.1	7.89	6.47	25.8	0.975	0.482	0.502	0.268	18.3
AT 5	12/7/2016	26.5	7.08	10.19	11.3	0.663	0.450	0.474	<0.250	16.9
AT 5	3/2/2017	50.8	8.14	8.86	13.4	1.08	0.267	0.373	0.529	44.6
AT 5	6/21/2017	11.7	7.98	6.74	23.3	0.616	0.226	0.366	0.544	70.0
AT 5	8/17/2017	9.5	8.09	6.77	26.0	0.890	0.258	0.283	0.690	12.0
AT 5	10/26/2017	9.8	7.95	8.25	15.7	0.936	0.226	0.250	<0.250	9.4
AT 5	3/27/2018	14.5	7.79	9.03	12.9	0.849	0.162	0.148	<0.250	15.9
AT 5	6/26/2018	16.4	8.06	6.89	25.5	0.849	0.230	0.246	0.411	25.2
AT 5	8/1/2018	77.9	7.33	7.16	22.3	0.510	0.285	0.401	0.680	107.0
AT 5	12/11/2018	29.2	7.59	10.73	9.4	1.09	0.066	0.204	0.579	46.2

TABLE B.3 - HISTORICAL ANALYTICAL DATA - AT 5

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
AT 5	4/17/2019	12.2	7.63	8.99	17.9	0.638	0.061	<0.100	<0.250	14.4
AT 5	6/11/2019	24.6	7.18	3.48	22.2	0.822	0.206	0.290	0.486	15.9
AT 5	8/28/2019	20.7	7.84	7.42	27.1	0.534	0.404	0.485	1.070	23.5
AT 5	10/28/2019	22.5	7.84	8.45	15.1	0.665	0.523	0.499	<0.250	17.0
AT 5	3/31/2020	23.1	8.09	9.07	16.6	0.657	0.0320	0.102	<0.250	27.1
AT 5	6/10/2020	19.4	7.56	7.35	23.2	0.825	0.248	0.243	<0.250	22.8
AT 5	9/21/2020	NS	8.08	8.21	20.6	0.603	0.491	0.399	<0.250	11.3
AT 5	12/17/2020	28.7	7.91	11.21	9.6	0.831	0.087	<0.100	<0.250	18.6
AT 5	3/18/2021	119.0	7.82	10.68	17.2	0.310	0.050	<0.100	<0.250	55.6
AT 5	5/5/2021	6.5	7.24	8.45	18.1	6.86	0.121	0.157	1.37	43.7
AT 5	9/2/2021	*	*	7.75	23.4	0.482	0.131	0.262	0.969	67.4
AT 5	11/23/2021	<1.0	8.13	11.09	12.9	0.343	<0.0300	0.253	<0.250	2.6
AT 5	1/10/2022	20.8	7.39	11.46	10.0	0.769	0.126	0.184	0.279	29.7
AT 5	4/7/2022	21.9	7.53	9.30	16.6	0.509	0.101	0.121	0.380	33.8
AT 5	8/3/2022	21.7	8.17	7.50	26.0	0.715	0.271	0.323	0.702	30.8
AT 5	11/16/2022	6.4	7.80	10.62	11.1	0.366	0.448	0.420	<0.250	7.3
AT 5	2/13/2023	32.6	7.29	11.01	11.5	0.699	0.0810	<0.100	0.301	38.0

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.4 - HISTORICAL ANALYTICAL DATA - GD 8

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 8	3/12/2013	6.6	7.65	11.73	9.85	0.13	<0.025	<0.100	0.25	4.5
GD 8	5/8/2013	18.7	6.71	1.72	14.47	0.11	<0.025	<0.100	0.38	19.0
GD 8	9/23/2013	17.8	6.22	3.98	22.74	<0.100	<0.025	<0.100	0.41	9.6
GD 8	12/10/2013	30.7	6.04	13.33	8.10	0.28	0.040	<0.100	0.35	32.0
GD 8	2/6/2014	15.5	3.87	16.32	6.48	0.25	<0.025	<0.100	0.13	13.0
GD 8	6/26/2014	30.8	8.19	6.64	26.15	0.25	<0.025	<0.100	0.48	7.3
GD 8	9/30/2014	11.9	7.32	5.06	23.19	0.14	<0.025	<0.100	0.42	6.0
GD 8	11/19/2014	25.3	5.16	9.01	5.87	0.23	<0.025	<0.100	0.32	13.0
GD 8	3/23/2015	10.6	8.67	9.76	14.8	0.22	<0.025	<0.100	<0.25	4.8
GD 8	4/22/2015	20.2	7.40	11.71	17.70	0.16	<0.025	<0.100	<0.25	15.0
GD 8	9/30/2015	9.0	7.79	9.48	24.33	0.184	<0.025	<0.100	0.483	6.8
GD 8	11/19/2015	212	6.94	23.30	15.13	0.233	<0.025	0.101	0.852	79.6
GD 8	3/15/2016	11.4	7.88	16.81	16.98	0.131	<0.025	<0.100	0.470	8.3
GD 8	6/29/2016	32.5	8.50	6.60	29.3	<0.100	<0.025	<0.100	0.450	39.8
GD 8	8/9/2016	12.7	8.90	5.87	28.9	0.217	<0.025	<0.100	0.668	6.3
GD 8	12/7/2016	10.1	7.75	8.84	12.1	0.308	<0.025	<0.100	0.409	7.0
GD 8	3/2/2017	19.7	8.14	9.76	12.2	0.284	<0.025	<0.100	0.342	3.6
GD 8	6/21/2017	7.9	8.73	6.50	25.0	<0.100	<0.025	<0.100	0.642	7.0
GD 8	8/17/2017	6.8	8.55	6.30	28.7	0.132	<0.025	<0.100	0.541	8.9
GD 8	10/26/2017	6.1	8.17	8.25	16.3	<0.100	<0.025	<0.100	0.347	4.0
GD 8	3/27/2018	8.9	8.09	9.52	12.1	0.215	<0.025	<0.100	<0.25	6.5
GD 8	6/26/2018	5.8	8.50	5.74	29.7	0.150	<0.025	<0.100	0.670	5.8
GD 8	8/1/2018	45.8	6.89	7.39	22.9	0.556	0.072	0.114	0.641	53.2
GD 8	12/11/2018	16.0	7.87	11.71	9.2	0.326	<0.025	<0.100	0.406	24.4

TABLE B.4 - HISTORICAL ANALYTICAL DATA - GD 8

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 8	4/17/2019	6.7	8.05	9.30	17.6	0.115	<0.025	<0.100	0.437	<5.00
GD 8	6/11/2019	9.4	7.19	2.94	25.8	0.181	<0.025	<0.100	0.948	4.1
GD 8	8/28/2019	14.2	8.26	6.07	30.2	0.212	<0.025	<0.100	0.992	11.8
GD 8	10/28/2019	29.6	7.83	8.22	16.2	0.435	<0.025	0.109	0.255	12.9
GD 8	3/31/2020	19.3	7.97	9.30	16.6	0.133	<0.025	0.132	0.348	18.0
GD 8	6/10/2020	10.8	7.97	7.13	24.9	0.211	<0.030	<0.100	<0.25	8.0
GD 8	9/21/2020	NS	8.19	6.36	22.8	0.171	<0.030	<0.100	0.290	7.4
GD 8	12/17/2020	17.5	8.30	11.68	9.4	0.273	<0.030	<0.100	<0.25	11.5
GD 8	3/18/2021	117.0	8.15	11.53	16.5	0.178	<0.030	<0.100	0.312	102.0
GD 8	5/5/2021	3.7	8.01	9.62	18.5	7.03	<0.030	<0.100	0.796	35.7
GD 8	9/2/2021	*	*	8.04	24.5	0.241	<0.030	<0.100	0.611	18.3
GD 8	11/23/2021	<1.0	8.04	10.73	12.5	<0.100	<0.0300	<0.100	<0.250	2.7
GD 8	1/10/2022	18.9	7.60	12.25	9.2	0.222	<0.0300	0.122	0.277	20.8
GD 8	4/7/2022	8.2	7.87	9.94	16.8	0.120	<0.0300	<0.100	0.349	10.9
GD 8	8/3/2022	14.4	8.14	6.97	29.0	0.189	<0.0300	<0.100	0.406	12.1
GD 8	11/16/2022	5.2	8.21	9.74	12.2	0.107	0.0330	<0.100	0.472	4.2
GD 8	2/13/2023	15.0	7.39	11.81	11.1	0.237	<0.0300	<0.100	0.316	16.5

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.5 - HISTORICAL ANALYTICAL DATA - RC 2

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
RC 2	3/12/2013	29.1	7.73	9.83	10.53	0.12	0.088	<0.100	0.75	14.0
RC 2	5/8/2013	18.9	6.16	3.06	16.36	0.19	<0.025	<0.100	0.55	12.0
RC 2	9/23/2013	11.4	6.24	3.00	23.61	<0.100	<0.025	<0.100	0.43	6.3
RC 2	12/10/2013	33.6	6.07	11.71	8.38	0.11	0.062	<0.100	0.54	10.0
RC 2	2/6/2014	30.4	3.89	17.28	5.62	0.26	<0.025	<0.100	0.43	9.6
RC 2	6/26/2014	17.6	7.90	6.81	24.81	0.15	<0.025	<0.100	0.44	7.2
RC 2	9/30/2014	3.4	7.27	5.55	22.25	<0.100	<0.025	<0.100	0.40	2.5
RC 2	11/19/2014	27.4	5.65	7.14	5.72	0.17	<0.025	<0.100	0.43	11.0
RC 2	3/23/2015	45.0	8.23	9.07	16.00	0.15	0.044	<0.100	0.81	18.0
RC 2	4/22/2015	14.1	7.64	11.42	18.40	0.26	<0.025	<0.100	<0.25	4.8
RC 2	9/30/2015	7.1	5.93	9.28	23.33	<0.100	<0.025	<0.100	<0.25	4.6
RC 2	11/19/2015	114.0	7.36	21.94	15.29	0.271	<0.025	0.133	0.75	14.4
RC 2	3/15/2016	14.5	7.62	16.67	14.61	0.181	<0.025	<0.100	0.43	6.0
RC 2	6/29/2016	12.1	7.78	4.31	28.30	<0.100	0.077	<0.100	0.35	10.9
RC 2	8/9/2016	24.5	8.12	5.05	26.50	0.140	<0.025	<0.100	0.45	9.9
RC 2	12/7/2016	17.2	7.86	7.47	12.0	0.200	<0.025	<0.100	0.53	11.9
RC 2	3/2/2017	25.3	7.71	7.74	13.10	0.166	<0.025	<0.100	0.45	8.0
RC 2	6/21/2017	14.2	7.91	5.61	23.7	<0.100	<0.025	<0.100	0.51	12.3
RC 2	8/17/2017	18.2	8.08	4.94	27.90	<0.100	<0.025	0.133	0.72	72.2
RC 2	10/26/2017	18.1	7.57	7.05	15.2	<0.100	<0.025	<0.100	0.27	17.5
RC 2	3/27/2018	18.2	7.91	8.43	12.4	0.146	<0.025	<0.100	<0.25	12.5
RC 2	6/26/2018	18.8	7.94	6.19	26.5	0.101	<0.025	<0.100	0.802	13.0
RC 2	8/1/2018	56.8	7.40	7.10	22.4	<0.100	<0.025	<0.100	0.506	84.4
RC 2	12/11/2018	16.0	7.54	11.41	7.7	0.316	<0.025	<0.100	0.479	3.1

TABLE B.5 - HISTORICAL ANALYTICAL DATA - RC 2

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
RC 2	4/17/2019	7.0	7.77	8.67	18.9	0.165	<0.025	<0.100	0.288	<5.00
RC 2	6/11/2019	14.3	6.83	3.78	23.0	<0.100	<0.025	<0.100	0.520	5.2
RC 2	8/28/2019	14.4	8.01	7.30	28.0	<0.100	<0.025	<0.100	0.748	4.8
RC 2	10/28/2019	11.4	7.55	9.42	14.9	0.132	<0.025	0.197	<0.250	3.4
RC 2	3/31/2020	84.5	7.90	9.10	15.7	0.190	0.0290	0.118	0.574	90.0
RC 2	6/10/2020	20.5	7.87	6.37	25.6	0.210	<0.030	<0.100	0.330	10.8
RC 2	9/21/2020	NS	7.24	7.03	19.6	<0.100	<0.030	<0.100	<0.250	5.2
RC 2	12/17/2020	28.1	7.91	11.23	8.9	0.218	<0.030	<0.100	0.396	5.4
RC 2	3/18/2021	67.5	7.90	8.68	16.7	0.145	<0.030	<0.100	0.611	26.8
RC 2	5/5/2021	2.8	7.31	8.95	19.1	7.91	<0.030	<0.100	0.892	15.6
RC 2	9/2/2021	*	*	6.52	25.0	0.122	<0.030	<0.100	0.802	3.4
RC 2	11/23/2021	3.5	7.66	8.33	12.2	0.124	<0.0300	<0.100	0.340	19.2
RC 2	1/10/2022	32.1	7.27	11.50	8.4	0.185	<0.0300	<0.100	0.501	9.0
RC 2	4/7/2022	10.96	7.41	9.02	17.5	0.186	<0.0300	0.144	0.386	5.0
RC 2	8/3/2022	15.1	8.26	7.41	27.1	0.175	<0.0300	<0.100	0.352	13.8
RC 2	11/16/2022	19.4	7.35	8.84	11.2	0.126	<0.0300	<0.100	0.434	13.4
RC 2	2/13/2023	20.0	7.12	11.58	10.9	0.273	<0.0300	<0.100	0.636	5.30

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.6 - HISTORICAL ANALYTICAL DATA - SS 13

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SS 13	3/12/2013	8	7.04	9.85	11.45	0.34	0.032	<0.10	0.78	4.7
SS 13	5/8/2013	10	6.68	2.94	18.75	0.36	<0.050	<0.10	0.72	5.7
SS 13	9/23/2013	12	7.04	3.38	25.31	<0.10	0.028	<0.10	0.84	9.6
SS 13	12/10/2013	12.2	6.14	10.93	8.99	0.33	0.077	0.12	0.67	5.6
SS 13	2/6/2014	7.2	4.26	17.50	5.14	0.42	<0.025	<0.100	0.44	4.1
SS 13	6/26/2014	23.2	8.33	8.09	28.44	<0.100	<0.025	0.12	0.52	5.4
SS 13	9/30/2014	12.4	7.41	4.26	24.77	<0.100	<0.025	<0.100	0.44	12.0
SS 13	11/19/2014	13.4	6.31	6.08	6.44	0.22	0.044	<0.100	0.40	4.8
SS 13	3/23/2015	15.9	7.33	8.57	15.4	0.22	0.029	<0.100	0.71	7.6
SS 13	4/22/2015	15.3	6.60	8.93	20.8	0.32	<0.025	<0.100	0.67	10.0
SS 13	9/30/2015	9.5	7.33	11.54	25.95	<0.100	<0.025	<0.100	0.52	9.0
SS 13	11/19/2015	35.8	7.07	18.48	15.31	0.242	<0.025	0.181	0.97	4.8
SS 13	3/15/2016	9.1	6.61	12.42	17.37	0.323	<0.025	<0.100	<0.25	4.7
SS 13	6/29/2016	9.7	7.86	6.15	30.6	<0.100	<0.025	<0.100	0.53	9.8
SS 13	8/9/2016	20.3	7.77	5.92	29.1	<0.100	<0.025	<0.100	0.73	24.0
SS 13	12/7/2016	4.8	7.39	6.97	12.5	0.108	<0.025	<0.100	0.45	3.6
SS 13	3/2/2017	12.0	6.64	7.19	13.4	0.249	<0.025	<0.100	0.75	4.6
SS 13	6/21/2017	8.7	7.54	5.82	26.1	<0.100	<0.025	<0.100	0.82	12.8
SS 13	8/17/2017	9.3	7.93	6.54	30.9	<0.100	<0.025	<0.100	0.81	18.6
SS 13	10/26/2017	5.2	6.70	7.41	15.4	0.122	<0.025	<0.100	0.60	7.2
SS 13	3/27/2018	6.4	8.19	8.23	12.4	0.495	<0.025	<0.100	<0.25	16.2
SS 13	6/26/2018	6.8	7.36	5.67	29.5	<0.100	<0.025	0.140	0.998	10.2
SS 13	8/1/2018	24.2	6.75	6.86	21.9	0.226	0.206	0.308	1.180	20.2
SS 13	12/11/2018	8.2	7.37	10.79	7.4	0.451	<0.025	<0.100	0.655	8.6

TABLE B.6 - HISTORICAL ANALYTICAL DATA - SS 13

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SS 13	4/17/2019	6.4	7.42	9.23	19.1	<0.100	<0.025	<0.100	0.624	6.8
SS 13	6/11/2019	8.9	6.59	3.12	23.4	<0.100	<0.025	<0.100	0.929	<6.25
SS 13	8/28/2019	6.7	7.93	7.33	29.7	<0.100	<0.025	<0.100	1.170	24.4
SS 13	10/28/2019	12.3	6.25	3.61	16.0	0.211	0.031	<0.100	0.739	3.7
SS 13	3/31/2020	60.4	6.95	8.64	14.9	0.233	0.0580	0.147	0.928	92.0
SS 13	6/10/2020	10.1	7.27	7.08	28.2	<0.100	<0.030	<0.100	0.492	21.2
SS 13	9/21/2020	NS	7.36	6.58	21.9	<0.100	<0.030	0.200	<0.250	7.8
SS 13	12/17/2020	12.3	8.04	10.83	8.3	0.405	<0.030	<0.100	0.432	5.3
SS 13	3/18/2021	26.8	7.61	9.23	16.9	0.163	<0.030	<0.100	0.926	16.5
SS 13	5/5/2021	0.5	7.77	8.13	18.2	7.64	0.0960	0.160	1.41	10.5
SS 13	9/2/2021	*	*	8.50	28.7	0.189	<0.030	0.108	1.33	13.4
SS 13	11/23/2021	<1.0	7.11	8.26	14.8	0.16	<0.0300	<0.100	0.331	5.30
SS 13	1/10/2022	9.1	7.71	11.23	8.8	0.295	<0.0300	<0.100	0.725	7.0
SS 13	4/7/2022	6.68	7.40	8.72	18.2	0.304	<0.0300	<0.100	0.886	5.3
SS 13	8/3/2022	14.2	7.92	7.03	31.4	<0.100	<0.0300	<0.100	1.65	44.4
SS 13	11/16/2022	4.4	7.06	9.81	13.1	<0.100	<0.0300	<0.100	0.26	5.5
SS 13	2/13/2023	10.6	6.45	11.05	10.9	0.459	<0.0300	<0.100	1.00	2.50

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.7 - HISTORICAL ANALYTICAL DATA - SS 14

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SS 14	3/12/2013	9.7	7.40	11.23	10.93	0.40	0.087	0.11	0.77	4.7
SS 14	5/8/2013	10.3	6.47	2.75	16.42	0.45	0.041	<0.100	0.53	5.0
SS 14	9/23/2013	3.1	6.76	6.49	21.77	0.38	0.036	<0.100	0.45	<2.5
SS 14	12/10/2013	17.6	5.63	11.33	8.56	0.28	0.160	0.19	0.66	9.2
SS 14	2/6/2014	12.4	4.19	17.56	5.16	0.62	0.074	<0.100	0.50	14.0
SS 14	6/26/2014	7.9	8.18	7.58	24.14	0.67	0.080	0.16	0.89	<2.5
SS 14	9/30/2014	7.9	7.42	3.67	22.35	<0.100	0.031	<0.100	0.52	6.1
SS 14	11/19/2014	16.0	6.27	7.50	5.48	0.75	0.075	0.22	0.46	9.2
SS 14	3/23/2015	21.3	7.75	9.53	16.5	0.27	0.110	0.14	1.10	11.0
SS 14	4/22/2015	12.3	7.43	12.29	17.5	0.620	<0.025	<0.100	0.58	6.3
SS 14	9/30/2015	7.3	7.16	12.79	24.02	<0.10	0.088	0.176	0.514	6.6
SS 14	11/19/2015	27.0	6.49	20.71	15.16	0.442	0.131	0.183	0.996	23.3
SS 14	3/15/2016	11.3	7.18	12.11	16.01	0.50	0.056	<0.100	0.834	8.1
SS 14	6/29/2016	6.0	7.62	3.61	27.2	<0.100	0.103	0.160	0.650	6.0
SS 14	8/9/2016	22.3	7.71	5.99	26.9	0.164	0.062	0.119	0.871	12.7
SS 14	12/7/2016	7.6	7.27	7.72	11.9	0.885	0.078	0.147	0.705	<2.5
SS 14	3/2/2017	12.6	7.60	8.76	12.2	0.475	0.092	0.153	0.842	9.2
SS 14	6/21/2017	21.5	7.74	6.24	23.7	0.249	0.030	0.109	0.725	63.7
SS 14	8/17/2017	6.0	8.12	7.11	31.4	0.118	0.070	<0.100	0.827	24.8
SS 14	10/26/2017	4.3	7.39	7.66	13.9	0.699	0.054	<0.100	0.582	3.6
SS 14	3/27/2018	8.8	7.34	8.96	11.9	0.673	0.044	0.148	<0.25	8.2
SS 14	6/26/2018	7.7	8.47	10.65	29.3	0.206	0.044	0.148	1.010	18.7
SS 14	8/1/2018	42.9	6.35	7.04	22.5	0.109	0.233	0.276	0.885	60.0
SS 14	12/11/2018	8.4	6.95	11.53	7.4	0.812	0.057	0.117	0.635	4.3

TABLE B.7 - HISTORICAL ANALYTICAL DATA - SS 14

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SS 14	4/17/2019	6.6	7.60	8.28	22.1	0.598	0.042	<0.100	0.414	6.7
SS 14	6/11/2019	12.6	6.78	3.47	23.8	0.444	0.077	<0.100	0.928	5.9
SS 14	8/28/2019	8.1	7.96	8.18	27.9	<0.100	<0.025	0.174	1.050	8.5
SS 14	10/28/2019	10.9	6.97	7.83	15.1	0.458	0.048	0.167	0.381	2.7
SS 14	3/31/2020	62.4	6.67	9.31	15.2	0.190	0.235	0.348	0.934	145
SS 14	6/10/2020	17.0	7.32	7.20	29.1	0.246	0.078	0.128	0.897	40.4
SS 14	9/21/2020	NS	7.62	7.59	20.7	0.345	0.075	<0.100	0.281	8.4
SS 14	12/17/2020	11.4	7.94	11.72	8.6	0.546	0.050	<0.100	0.540	5.4
SS 14	3/18/2021	31.4	7.73	9.77	16.8	0.189	0.048	<0.100	0.670	19.8
SS 14	5/5/2021	1.2	6.98	8.62	19.4	7.85	0.073	<0.100	1.06	6.27
SS 14	9/2/2021	*	*	7.80	26.3	0.552	0.980	0.128	0.935	3.0
SS 14	11/23/2021	<1.0	7.46	10.28	12.7	0.315	0.108	0.178	0.370	2.6
SS 14	1/10/2022	9.8	7.12	11.84	8.8	0.385	0.068	0.136	0.674	4.4
SS 14	4/7/2022	4.4	6.82	9.83	17.8	0.402	0.033	<0.100	0.566	2.9
SS 14	8/3/2022	10.0	8.03	7.77	30.2	0.176	<0.0300	0.123	0.723	6.50
SS 14	11/16/2022	4.3	7.37	9.76	10.8	<0.100	0.0390	<0.100	0.406	2.50
SS 14	2/13/2023	12.0	6.82	11.64	10.8	0.501	0.0520	<0.100	0.749	4.30

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.8 - HISTORICAL ANALYTICAL DATA - GD 12

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 12	3/12/2013	8.5	7.41	10.93	13.43	0.25	0.030	<0.100	0.54	3.9
GD 12	5/8/2013	15.0	6.73	2.35	16.53	0.21	0.030	<0.100	0.40	7.5
GD 12	9/23/2013	9.8	6.76	3.94	26.07	<0.10	0.026	<0.100	0.48	9.0
GD 12	12/10/2013	18.8	6.15	10.09	10.18	0.22	0.079	0.11	0.45	5.9
GD 12	2/6/2014	12.3	4.17	16.99	5.76	0.31	<0.025	<0.100	0.28	3.9
GD 12	6/26/2014	28.5	8.38	9.40	26.72	0.11	0.035	0.12	0.62	32.0
GD 12	9/30/2014	10.6	7.68	5.77	24.68	<0.100	<0.025	<0.100	0.39	11.0
GD 12	11/19/2014	14.7	6.95	5.93	5.85	0.28	<0.025	0.13	0.39	6.6
GD 12	3/23/2015	17.6	7.80	9.56	16.80	0.24	<0.025	<0.100	0.59	8.1
GD 12	4/22/2015	17.3	7.45	11.04	19.80	0.25	<0.025	<0.100	0.43	14.0
GD 12	9/30/2015	7.4	7.30	11.07	24.67	<0.100	<0.025	<0.100	0.695	8.5
GD 12	11/19/2015	22.9	7.07	19.14	14.68	0.281	0.100	0.15	0.769	12.0
GD 12	3/15/2016	9.8	7.43	13.14	16.05	0.254	0.032	<0.100	0.434	4.6
GD 12	6/29/2016	12.9	8.22	7.68	31.20	<0.100	0.036	<0.100	0.380	12.0
GD 12	8/9/2016	22.1	7.57	4.39	27.60	<0.100	<0.025	<0.100	0.629	13.3
GD 12	12/7/2016	10.3	7.18	6.65	11.4	0.142	<0.025	<0.100	0.599	4.0
GD 12	3/2/2017	15.4	7.79	10.12	11.70	0.223	<0.025	0.12	0.583	6.1
GD 12	6/21/2017	16.1	7.43	5.12	24.3	<0.100	<0.025	<0.100	0.770	16.8
GD 12	8/17/2017	6.3	8.13	5.80	29.90	<0.100	<0.025	<0.100	0.583	13.3
GD 12	10/26/2017	9.8	6.74	7.53	13.2	0.19	<0.025	<0.100	0.312	7.8
GD 12	3/27/2018	6.3	7.71	9.24	11.5	0.356	<0.025	<0.100	<0.25	4.2
GD 12	6/26/2018	9.9	7.44	4.35	26.1	0.102	<0.025	<0.100	0.528	13.2
GD 12	8/1/2018	42.3	7.05	7.33	22.7	0.108	0.159	0.286	1.230	43.8
GD 12	12/11/2018	9.5	6.68	11.46	7.8	0.313	<0.025	<0.100	0.574	4.3

TABLE B.8 - HISTORICAL ANALYTICAL DATA - GD 12

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 12	4/17/2019	9.1	7.45	9.20	17.5	0.257	<0.025	<0.100	0.272	4.0
GD 12	6/11/2019	19.0	7.20	3.25	22.0	0.223	0.066	0.121	0.820	8.2
GD 12	8/28/2019	11.0	7.83	7.61	28.2	<0.100	<0.025	0.103	0.764	9.4
GD 12	10/28/2019	18.9	5.34	6.65	14.7	0.197	0.044	<0.100	0.387	12.3
GD 12	3/31/2020	76.3	6.71	9.44	14.5	0.177	0.0650	0.167	1.00	143
GD 12	6/10/2020	12.3	6.46	6.44	25.8	<0.100	<0.030	<0.100	0.438	11.4
GD 12	9/21/2020	NS	7.18	7.15	19.9	0.103	<0.030	<0.100	<0.250	7.6
GD 12	12/17/2020	13.1	8.03	11.10	8.5	0.268	<0.030	<0.100	<0.250	3.7
GD 12	3/18/2021	36.2	7.92	10.04	17.1	0.163	<0.030	<0.100	0.621	17.6
GD 12	5/5/2021	4.1	7.49	8.97	18.9	7.26	<0.030	<0.100	0.610	16.4
GD 12	9/2/2021	*	*	7.34	24.4	0.245	<0.030	<0.100	0.779	3.5
GD 12	11/23/2021	<1.0	7.80	11.27	12.5	<0.100	<0.0300	<0.100	<0.250	2.8
GD 12	1/10/2022	10.7	7.29	12.18	8.5	0.230	<0.0300	<0.100	0.325	3.7
GD 12	4/7/2022	6.19	7.51	9.97	17.0	0.177	0.0740	<0.100	0.522	3.4
GD 12	8/3/2022	11.8	8.09	8.02	31.5	<0.100	<0.0300	0.142	0.999	6.40
GD 12	11/16/2022	3.9	7.25	9.67	11.2	<0.100	<0.0300	<0.100	0.407	4.50
GD 12	2/16/2023	10.0	5.69	11.45	12.2	0.277	<0.0300	<0.100	0.750	2.90

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.9 - HISTORICAL ANALYTICAL DATA - CO 14

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
CO 14	3/12/2013	8.2	6.88	9.65	12.92	0.32	<0.025	<0.100	0.42	3.5
CO 14	5/8/2013	13.0	6.61	3.02	16.37	0.34	<0.12	<0.100	0.74	6.7
CO 14	9/23/2013	15.0	6.70	3.78	22.58	<0.100	0.036	<0.100	0.30	9.6
CO 14	12/10/2013	14.4	5.82	11.15	9.37	0.11	0.027	<0.100	0.55	9.7
CO 14	2/6/2014	13.7	4.02	16.69	5.08	0.58	<0.025	<0.100	0.41	9.1
CO 14	6/26/2014	19.7	8.25	8.19	22.33	0.34	<0.025	<0.100	0.86	9.0
CO 14	9/30/2014	***	***	***	***	***	***	***	***	***
CO 14	11/19/2014	9.84	6.70	3.86	7.90	<0.100	<0.025	<0.100	0.26	2.8
CO 14	3/23/2015	18.9	6.85	8.78	17.20	0.25	<0.025	<0.100	0.67	10.0
CO 14	4/22/2015	13.8	6.23	11.19	18.00	0.49	<0.025	<0.100	0.60	8.6
CO 14	9/30/2015	***	***	***	***	***	***	***	***	***
CO 14	11/19/2015	24.30	6.64	16.06	15.25	<0.100	<0.025	<0.100	1.27	5.9
CO 14	3/15/2016	15.80	6.33	13.05	16.42	0.468	<0.025	<0.100	0.713	9.7
CO 14	6/29/2016	***	***	***	***	***	***	***	***	***
CO 14	8/9/2016	***	***	***	***	***	***	***	***	***
CO 14	12/7/2016	***	***	***	***	***	***	***	***	***
CO 14	3/2/2017	19	6.34	8.58	13.60	0.106	<0.025	<0.100	0.601	5.2
CO 14	6/21/2017	9.0	6.57	6.49	22.9	<0.100	<0.025	<0.100	0.758	19.0
CO 14	8/17/2017	13.8	7.83	6.22	28.0	<0.100	<0.025	<0.100	0.851	50.6
CO 14	10/26/2017	8.1	6.43	8.40	14.2	<0.100	<0.025	<0.100	0.440	4.7
CO 14	3/27/2018	8.2	7.63	9.45	11.4	0.601	<0.025	<0.100	<0.25	9.5
CO 14	6/26/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS
CO 14	8/1/2018	40.2	6.99	7.42	22.1	<0.100	<0.025	<0.100	0.764	28.3
CO 14	12/11/2018	7.6	7.38	10.74	7.7	0.184	<0.025	<0.100	0.567	4.9

TABLE B.9 - HISTORICAL ANALYTICAL DATA - CO 14

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
CO 14	4/17/2019	9.3	7.91	8.99	19.0	0.460	<0.025	<0.100	2.96	9.4
CO 14	6/11/2019	17.5	7.07	3.56	22.4	<0.100	<0.025	0.14	0.773	5.6
CO 14	8/28/2019	***	***	***	***	***	***	***	***	***
CO 14	10/28/2019	***	***	***	***	***	***	***	***	***
CO 14	3/31/2020	77.6	7.84	9.07	15.0	0.402	<0.025	<0.100	0.532	106
CO 14	6/10/2020	13.8	7.64	7.20	24.4	0.244	<0.030	<0.100	0.482	5.6
CO 14	9/21/2020	***	***	***	***	***	***	***	***	***
CO 14	Removed from Monitoring Program September 2020									

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

*** - outfall was dry

TABLE B.10 - HISTORICAL ANALYTICAL DATA - SME 2

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 2	3/12/2013	6.0	7.12	9.28	14.17	0.28	0.032	<0.100	0.47	8.1
SME 2	5/8/2013	26.2	7.67	6.46	21.40	0.24	0.042	<0.100	0.92	21.0
SME 2	9/23/2013	7.3	6.92	5.51	26.24	<0.100	0.039	<0.100	0.34	7.1
SME 2	12/10/2013	11.8	5.71	11.05	11.01	0.31	0.100	0.15	0.42	7.0
SME 2	2/6/2014	19.9	4.21	14.38	6.13	0.39	0.053	<0.100	0.59	14.0
SME 2	6/26/2014	14.8	8.16	7.22	26.98	0.11	<0.025	<0.100	0.38	8.7
SME 2	9/30/2014	6.0	7.97	5.33	26.53	<0.100	<0.025	<0.100	0.52	7.4
SME 2	11/19/2014	9.5	7.06	3.53	10.20	0.14	0.039	0.16	<0.25	6.8
SME 2	3/23/2015	11.1	7.96	9.34	17.60	0.24	<0.025	<0.100	0.45	10.0
SME 2	4/22/2015	8.8	7.93	11.46	24.50	0.13	<0.025	<0.100	0.48	9.1
SME 2	9/30/2015	7.4	7.62	12.67	25.91	0.10	<0.025	0.101	0.497	8.7
SME 2	11/19/2015	22.0	6.55	14.30	19.12	0.22	0.062	0.219	1.21	82.3
SME 2	3/15/2016	8.2	7.86	13.43	20.73	<0.100	<0.025	<0.100	0.486	6.3
SME 2	6/29/2016	7.6	8.23	7.24	30.4	0.19	<0.025	<0.100	0.290	8.0
SME 2	8/9/2016	10.3	8.01	6.58	30.6	<0.100	<0.025	<0.100	0.585	8.2
SME 2	12/7/2016	6.0	7.52	6.86	12.7	<0.100	<0.025	0.101	0.469	5.8
SME 2	3/2/2017	11.8	8.03	8.55	15.2	0.267	<0.025	<0.100	0.720	11.4
SME 2	6/21/2017	5.2	7.18	4.64	26.6	<0.100	<0.025	<0.100	0.886	11.4
SME 2	8/17/2017	6.5	7.76	6.43	30.6	<0.100	<0.025	<0.100	0.729	15.3
SME 2	10/26/2017	5.2	7.03	6.87	17.6	<0.100	<0.025	<0.100	0.382	8.5
SME 2	3/27/2018	11.1	7.44	8.64	12.9	0.161	<0.025	<0.100	<0.25	17.5
SME 2	6/26/2018	10.8	7.97	6.43	29.6	0.111	<0.025	<0.100	0.731	9.9
SME 2	8/1/2018	29.6	7.39	6.46	23.4	0.371	0.099	0.128	0.423	24.8
SME 2	12/11/2018	9.7	7.82	9.99	7.9	0.212	<0.025	0.166	0.368	5.1

TABLE B.10 - HISTORICAL ANALYTICAL DATA - SME 2

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 2	4/17/2019	5.0	7.82	7.80	20.5	0.105	<0.025	<0.100	0.783	6.0
SME 2	6/11/2019	12.3	6.68	3.43	24.4	<0.100	<0.025	<0.100	0.676	9.2
SME 2	8/28/2019	6.6	7.83	6.26	29.2	<0.100	<0.025	<0.100	0.452	5.9
SME 2	10/28/2019	24.9	7.64	7.42	16.8	<0.100	<0.025	0.107	0.341	18.2
SME 2	3/31/2020	9.5	7.02	7.31	18.2	<0.100	<0.025	<0.100	0.521	10.2
SME 2	6/10/2020	10.4	7.81	6.40	27.0	0.117	<0.030	<0.100	0.367	8.0
SME 2	9/21/2020	NS	7.84	8.02	23.6	<0.100	<0.030	<0.100	<0.250	11.0
SME 2	12/17/2020	13.3	8.04	9.04	9.2	0.272	0.041	<0.100	0.342	6.7
SME 2	3/18/2021	27.3	8.20	12.80	18.4	0.193	0.033	<0.100	0.528	13.8
SME 2	5/5/2021	0.0	7.29	6.72	21.2	0.560	0.039	<0.100	0.768	6.80
SME 2	9/2/2021	*	*	6.31	27.5	0.134	<0.030	<0.100	0.562	11.8
SME 2	11/23/2021	<1.0	7.98	10.03	14.6	0.170	<0.0300	<0.100	<0.250	9.2
SME 2	1/10/2022	14.5	7.84	11.04	8.8	0.338	<0.0300	0.117	0.672	16.1
SME 2	Removed form Monitoring Program April 2022									

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.11 - HISTORICAL ANALYTICAL DATA - GD 6

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 6	3/12/2013	10.3	8.03	9.65	11.90	0.21	0.036	<0.100	0.29	5.8
GD 6	5/8/2013	18.5	6.81	2.35	19.02	0.23	0.033	<0.100	0.40	8.3
GD 6	9/23/2013	6.0	7.28	5.17	26.93	<0.100	<0.025	<0.100	0.36	5.8
GD 6	12/10/2013	26.4	5.98	11.41	10.64	0.37	0.041	<0.100	0.17	8.6
GD 6	2/6/2014	15.5	4.34	15.80	6.85	0.26	0.057	<0.100	0.16	5.5
GD 6	6/26/2014	14.4	8.31	8.95	27.29	<0.100	<0.025	<0.100	0.42	7.0
GD 6	9/30/2014	7.1	8.35	6.53	26.78	<0.100	<0.025	<0.100	0.55	7.0
GD 6	11/19/2014	13.4	7.17	3.36	9.67	0.22	<0.025	0.28	0.38	9.8
GD 6	3/23/2015	16.5	7.95	8.95	18.40	0.22	<0.025	<0.100	0.26	8.2
GD 6	4/22/2015	14.9	7.59	10.82	19.80	0.22	<0.025	<0.100	0.28	8.0
GD 6	9/30/2015	14.1	8.19	12.31	25.47	<0.100	<0.025	0.103	0.974	12.4
GD 6	11/19/2015	42.5	6.97	15.87	17.75	0.468	0.037	0.131	0.768	16.0
GD 6	3/15/2016	16.1	7.68	11.58	19.98	0.124	0.043	<0.100	0.500	7.9
GD 6	6/29/2016	10.4	8.86	9.64	31.50	<0.100	<0.025	<0.100	0.400	11.2
GD 6	8/9/2016	10.4	8.26	6.98	30.70	<0.100	<0.025	<0.100	0.621	10.3
GD 6	12/7/2016	11.5	7.43	8.13	14.3	0.365	<0.025	<0.100	0.485	7.5
GD 6	3/2/2017	14.3	8.05	8.02	14.70	0.250	<0.025	<0.100	0.509	9.0
GD 6	6/21/2017	7.7	7.67	4.99	26.8	<0.100	<0.025	0.11	0.926	21.0
GD 6	8/17/2017	7.0	8.02	7.72	31.2	<0.100	<0.025	<0.100	0.677	13.2
GD 6	10/26/2017	8.3	6.25	7.84	15.8	0.126	<0.025	<0.100	0.385	12.0
GD 6	3/27/2018	10.1	7.97	9.00	12.1	0.233	<0.025	1.76	<0.25	10.9
GD 6	6/26/2018	8.0	8.02	6.78	29.6	0.108	<0.025	<0.100	0.782	9.6
GD 6	8/1/2018	25.4	7.66	7.52	22.7	0.335	0.090	0.138	0.636	21.9
GD 6	12/11/2018	13.8	7.97	10.92	8.2	0.397	<0.025	<0.100	0.362	5.8

TABLE B.11 - HISTORICAL ANALYTICAL DATA - GD 6

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 6	4/17/2019	9.0	7.10	8.00	20.5	0.198	<0.025	<0.100	0.624	9.6
GD 6	6/11/2019	17.9	7.07	3.68	23.8	<0.100	<0.025	<0.100	0.728	12.4
GD 6	8/28/2019	9.1	7.94	6.32	28.5	<0.100	<0.025	<0.100	0.607	6.5
GD 6	10/28/2019	18.4	7.48	6.63	16.4	0.198	<0.025	<0.100	0.467	9.9
GD 6	3/31/2020	16.0	6.06	8.86	16.1	0.212	<0.025	0.127	<0.250	8.40
GD 6	6/10/2020	7.4	7.04	6.36	26.5	0.127	<0.030	<0.100	0.832	10.4
GD 6	9/21/2020	NS	7.96	8.48	21.4	<0.100	<0.030	<0.100	<0.250	8.60
GD 6	12/17/2020	0.5	7.96	10.08	9.0	0.309	<0.030	<0.100	0.377	7.40
GD 6	3/18/2021	75.6	7.97	9.21	17.0	0.241	<0.030	0.183	0.364	31.6
GD 6	5/5/2021	5.7	7.55	8.62	19.2	7.95	<0.030	0.124	0.542	12.3
GD 6	9/2/2021	*	*	6.24	27.1	0.139	<0.030	0.305	3.44	25.4
GD 6	11/23/2021	<1.0	7.61	8.28	15.6	0.132	<0.0300	0.102	0.350	8.50
GD 6	1/10/2022	14.2	8.05	10.58	9.5	0.238	0.037	0.147	0.850	10.20
GD 6	4/7/2022	13.63	7.70	8.85	17.2	0.160	<0.0300	<0.100	0.433	9.90
GD 6	8/3/2022	10.1	7.71	7.21	29.7	<0.100	<0.0300	<0.100	0.588	5.30
GD 6	11/16/2022	23.9	7.47	9.78	12.2	0.166	<0.0300	<0.100	0.476	7.50
GD 6	2/13/2023	18.3	7.26	11.69	12.4	0.265	<0.0300	<0.100	0.559	7.10

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.12 - HISTORICAL ANALYTICAL DATA - CO 15

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
CO 15	3/12/2013	32	7.41	8.91	14.40	<0.10	0.097	<0.100	0.53	9.0
CO 15	5/8/2013	27	7.51	8.04	18.10	0.10	<0.12	<0.100	0.59	11.0
CO 15	9/23/2013	13	7.09	4.01	27.18	<0.10	0.027	<0.100	0.34	11.0
CO 15	12/10/2013	42	6.09	11.25	9.83	0.18	0.068	<0.100	0.56	13.0
CO 15	2/6/2014	32	4.22	16.10	6.28	0.21	<0.025	<0.100	0.46	12.0
CO 15	6/26/2014	105	8.16	7.00	25.55	<0.100	0.140	<0.100	0.59	46.0
CO 15	9/30/2014	8	7.88	6.67	23.28	<0.100	<0.025	<0.100	<0.25	8.6
CO 15	11/19/2014	44	7.38	3.68	9.43	0.20	0.030	<0.100	0.32	12.0
CO 15	3/23/2015	56	7.85	9.53	18.50	0.14	0.067	<0.100	0.61	19.0
CO 15	4/22/2015	26	7.62	10.14	21.90	0.14	<0.025	<0.100	0.40	11.0
CO 15	9/30/2015	15	7.68	12.73	22.88	<0.100	<0.025	<0.100	0.75	11.8
CO 15	11/19/2015	50	7.30	19.45	16.98	0.24	0.042	0.183	0.42	17.5
CO 15	3/15/2016	29	7.66	12.39	19.83	<0.100	<0.025	<0.100	0.78	12.4
CO 15	6/29/2016	***	***	***	***	***	***	***	***	***
CO 15	8/9/2016	38	8.03	6.78	29.6	<0.100	<0.025	<0.100	<0.25	22.0
CO 15	12/7/2016	13.6	7.50	9.78	12.1	<0.100	<0.025	<0.100	0.67	14.8
CO 15	3/2/2017	38.2	7.77	8.32	16.0	0.15	<0.025	<0.100	0.52	17.4
CO 15	6/21/2017	6.4	7.56	5.12	26.7	<0.100	<0.025	<0.100	0.97	18.3
CO 15	8/17/2017	21.7	8.29	6.47	30.1	<0.100	<0.025	<0.100	0.69	12.4
CO 15	10/26/2017	10.8	4.43	8.24	13.6	<0.100	<0.025	<0.100	0.39	6.4
CO 15	3/27/2018	14.5	7.87	9.33	12.1	<0.100	<0.025	<0.100	<0.25	8.0
CO 15	6/26/2018	13.8	7.87	7.33	26.5	<0.100	<0.025	0.270	0.573	12.4
CO 15	8/1/2018	58.8	7.25	7.12	23.0	<0.100	0.040	0.122	0.852	71.5
CO 15	12/11/2018	111.3	8.73	11.94	7.0	0.168	<0.025	0.107	1.16	10.1

TABLE B.12 - HISTORICAL ANALYTICAL DATA - CO 15

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
CO 15	4/17/2019	17.0	7.80	9.17	19.1	0.144	<0.025	<0.100	0.574	11.5
CO 15	6/11/2019	21.9	6.56	3.10	22.8	<0.100	<0.025	<0.100	1.00	9.8
CO 15	8/28/2019	70.8	8.07	7.52	25.7	0.166	0.026	0.130	1.54	20.4
CO 15	10/28/2019	30.7	7.31	9.63	15.0	0.120	<0.025	<0.100	0.61	10.2
CO 15	3/31/2020	61.8	6.46	9.25	15.7	0.102	0.0320	0.158	0.625	72.4
CO 15	6/10/2020	18.7	6.24	6.22	25.0	0.148	<0.030	<0.100	0.456	10.4
CO 15	9/21/2020	NS	7.31	8.18	17.9	<0.100	<0.030	<0.100	<0.250	5.6
CO 15	12/17/2020	2.8	8.98	10.87	10.0	0.161	<0.030	<0.100	0.685	15.6
CO 15	3/18/2021	63.1	8.46	15.75	19.8	0.193	<0.030	<0.100	0.554	26.0
CO 15	5/5/2021	3.8	7.47	9.06	19.3	7.78	<0.030	0.200	1.17	10.9
CO 15	9/2/2021	*	*	7.81	24.3	<0.100	<0.030	<0.100	0.926	13.8
CO 15	11/23/2021	2.0	7.87	10.67	15.2	<0.100	<0.030	<0.100	0.270	25.9
CO 15	1/10/2022	24.3	7.90	11.64	9.8	0.196	<0.0300	<0.100	<2.50	9.6
CO 15	4/7/2022	16.5	7.48	9.75	17.3	<0.100	0.0710	<0.100	0.853	11.7
CO 15	8/3/2022	12.8	8.15	7.92	27.0	0.131	<0.0300	<0.100	0.424	4.20
CO 15	11/16/2022	9.5	7.38	10.50	11.2	<0.100	<0.0300	<0.100	0.424	10.7
CO 15	2/13/2023	21.8	7.15	11.46	10.2	0.242	<0.0300	<0.100	0.717	7.50

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

*** - outfall was dry

* - meter malfunctioned in field

TABLE B.13 - HISTORICAL ANALYTICAL DATA - SME 7

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 7	12/17/2020	16.8	8.10	11.01	11.5	0.884	0.094	<0.100	0.541	19.4
SME 7	3/18/2021	111.0	8.93	10.25	18.3	0.429	0.093	0.270	0.407	78.2
SME 7	5/5/2021	8.2	6.06	8.01	18.4	1.090	0.112	0.244	1.240	36.4
SME 7	9/2/2021	*	*	7.91	22.6	0.491	0.179	0.275	2.490	77.6
SME 7	11/23/2021	<1.0	7.78	10.45	12.2	0.367	0.472	0.516	<0.250	<2.50
SME 7	1/10/2022	19.2	7.97	10.98	11.9	0.823	0.140	0.211	0.805	34.7
SME 7	4/7/2022	*	7.10	9.27	18.0	0.549	<0.0300	0.264	1.37	37.2
SME 7	8/3/2022	24.8	8.32	7.69	24.6	0.742	0.314	0.373	0.844	31.0
SME 7	11/16/2022	4.9	7.87	10.30	11.1	0.424	0.490	0.528	<0.250	3.80
SME 7	2/13/2023	34.3	7.12	11.11	11.4	0.737	<0.0300	0.115	1.01	36.2

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.14 - HISTORICAL ANALYTICAL DATA - SME 8

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 8	12/17/2020	0.30	7.72	11.22	9.10	0.312	<0.030	<0.100	<0.25	25.9
SME 8	3/18/2021	48.8	8.17	9.47	18.0	0.183	<0.030	<0.100	0.460	17.7
SME 8	5/5/2021	3.3	7.11	9.39	18.5	0.597	<0.030	0.118	0.366	60.3
SME 8	9/2/2021	*	*	7.87	25.9	0.150	<0.030	<0.100	0.269	39.2
SME 8	1/10/2022	9.5	7.42	11.82	9.2	0.328	<0.0300	<0.100	0.832	33.5
SME 8	Removed from Monitoring Program April 2022									

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.15 - HISTORICAL ANALYTICAL DATA - SME 9

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 9	4/7/2022	5.17	7.78	9.32	17.0	<0.100	<0.0300	0.135	0.529	2.90
SME 9	8/3/2022	9.20	8.10	7.97	25.4	<0.100	<0.0300	<0.100	0.582	<2.50
SME 9	11/16/2022	2.90	7.50	9.86	12.2	<0.100	<0.0300	<0.100	<0.250	<2.50
SME 9	2/13/2023	10.3	7.43	11.93	10.2	<0.100	0.0900	<0.100	0.783	2.60

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.16 - HISTORICAL ANALYTICAL DATA - SME 10

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 10	4/7/2022	4.94	7.82	9.16	18.0	<0.100	<0.0300	<0.100	0.477	2.80
SME 10	8/3/2022	10.3	8.08	6.35	25.5	<0.100	<0.0300	<0.100	0.940	4.10
SME 10	11/16/2022	9.80	7.18	8.03	12.2	<0.100	<0.0300	<0.100	0.516	4.60
SME 10	2/13/2023	19.1	7.32	11.34	9.7	0.185	<0.0300	<0.100	0.773	4.00

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

* - meter malfunctioned in field

TABLE B.17 - HISTORICAL ANALYTICAL DATA - HB 3

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
HB 3	3/12/2013	33.3	7.54	9.48	13.90	0.19	0.081	<0.100	0.83	49.0
HB 3	5/20/2013	14.5	8.21	6.82	27.80	0.17	<0.025	<0.100	0.60	17.0
HB 3	9/23/2013	21.3	8.02	4.89	25.70	<0.100	0.037	<0.100	0.60	19.0
HB 3	12/10/2013	48.4	7.90	8.65	10.10	<0.100	0.140	0.15	0.62	20.0
HB 3	2/6/2014	32.0	7.22	12.24	5.90	0.48	0.030	<0.100	0.37	13.0
HB 3	6/26/2014	12.0	8.20	7.12	NS	<0.100	<0.025	<0.100	0.37	12.0
HB 3	9/30/2014	29.5	8.05	6.01	24.78	<0.100	<0.025	<0.100	0.48	30.0
HB 3	11/19/2014	56.1	7.85	8.83	8.80	0.11	0.098	0.12	0.44	51.0
HB 3	3/23/2015	27.0	8.21	8.40	24.20	0.26	<0.025	<0.100	0.46	35.0
HB 3	4/22/2015	25.0	7.91	8.36	21.90	0.20	<0.025	<0.100	0.66	22.0
HB 3	9/30/2015	22.0	7.89	5.05	25.70	<0.100	<0.025	<0.100	0.91	23.0
HB 3	11/19/2015	32.0	7.83	7.37	17.40	0.377	0.045	<0.100	<0.25	30.2
HB 3	3/15/2016	28.8	8.52	7.97	19.10	0.295	0.087	<0.100	<0.25	23.8
HB 3	6/29/2016	17.3	8.02	2.77	30.61	<0.100	<0.025	<0.100	0.51	20.9
HB 3	8/9/2016	11.3	7.91	4.31	30.19	<0.100	<0.025	<0.100	0.703	14.3
HB 3	12/7/2016	16.0	7.93	8.44	12.81	0.111	<0.025	0.126	0.730	17.0
HB 3	3/2/2017	50.0	7.75	3.90	14.33	0.334	<0.025	0.115	0.969	57.1
HB 3	7/5/2017	23.1	7.29	5.36	27.00	<0.100	<0.025	<0.100	0.812	28.5
HB 3	8/16/2017	13.7	7.35	5.04	27.00	<0.100	<0.025	<0.100	0.763	12.7
HB 3	10/25/2017	11.7	6.64	9.93	18.5	<0.100	<0.025	<0.100	0.322	20.4
HB 3	3/28/2018	13.2	7.99	9.47	17.6	0.359	<0.025	<0.100	<0.25	20.2
HB 3	6/29/2018	14.6	7.67	5.55	26.0	<0.100	<0.025	<0.100	0.464	18.2
HB 3	8/2/2018	28.3	7.40	5.64	25.1	<0.100	<0.025	<0.100	0.952	35.3
HB 3	12/10/2018	24.8	7.55	10.98	7.9	0.363	<0.025	0.141	0.426	27.6

TABLE B.17 - HISTORICAL ANALYTICAL DATA - HB 3

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
HB 3	4/15/2019	22.4	7.73	8.27	19.6	0.233	<0.025	<0.100	<0.250	35.5
HB 3	6/12/2019	12.4	8.13	6.77	26.6	0.129	<0.025	<0.100	<0.250	52.3
HB 3	8/27/2019	78.1	8.21	8.75	29.1	<0.100	<0.025	0.179	0.634	7.30
HB 3	10/29/2019	28.2	7.82	9.88	18.3	<0.100	<0.025	0.166	0.517	17.6
HB 3	3/30/2020	8.9	7.79	8.91	18.5	0.234	<0.025	<0.100	1.20	18.4
HB 3	6/16/2020	20.4	7.33	7.01	26.3	<0.100	<0.030	<0.100	0.30	14.6
HB 3	9/21/2020	12.1	7.80	7.69	23.5	<0.100	<0.030	<0.100	0.28	8.30
HB 3	12/17/2020	31.16	8.07	9.94	9.1	0.195	<0.030	<0.100	0.588	20.4
HB 3	3/18/2021	1.80	7.47	9.62	16.0	0.369	<0.030	<0.100	0.252	23.0
HB 3	5/5/2021	28.31	7.50	7.71	22.0	0.207	<0.030	<0.100	<0.250	35.1
HB 3	9/2/2021	19.2	7.61	5.30	27.4	<0.100	<0.030	<0.100	0.689	23.6
HB 3	11/23/2021	51.55	7.15	10.59	11.2	0.137	<0.0300	<0.100	<0.250	10.5
HB 3	1/11/2022	26.9	7.75	11.26	12.8	0.200	<0.0300	<0.10	0.550	23.6
HB 3	4/7/2022	27.8	7.61	9.40	18.1	0.268	<0.0300	<0.100	0.329	21.0
HB 3	8/2/2022	31.2	8.05	5.89	28.9	<0.100	<0.0300	<0.100	0.273	33.7
HB 3	11/16/2022	10.73	7.71	9.53	12.9	<0.100	<0.0300	<0.100	0.604	7.40
HB 3	2/14/2023	15.0	7.25	11.10	11.7	0.414	<0.0300	<0.100	0.471	11.6

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.18 - HISTORICAL ANALYTICAL DATA - SME 4

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 4	12/17/2020	17.70	7.69	10.82	9.80	0.387	<0.03	<0.10	0.263	17.8
SME 4	3/18/2021	2.20	7.25	9.20	17.60	0.319	<0.030	<0.100	0.331	21.6
SME 4	5/5/2021	20.02	7.86	7.81	21.0	0.213	<0.030	<0.100	<0.250	27.5
SME 4	11/23/2021	48.51	7.64	10.41	10.6	0.164	<0.0300	<0.100	<0.250	9.2
SME 4	1/11/2022	17.30	7.39	11.35	13.40	0.44	<0.0300	<0.10	0.97	15.6
SME 4	4/7/2022	21.6	7.55	9.30	16.7	0.273	0.060	<0.100	0.254	20.9
SME 4	8/2/2022	14.0	7.79	6.24	29.1	0.102	<0.0300	<0.100	0.274	6.00
SME 4	11/16/2022	9.91	7.69	9.45	12.5	<0.100	<0.0300	<0.100	0.382	10.5
SME 4	2/14/2023	15.8	7.27	10.99	11.3	0.416	<0.0300	<0.100	0.484	22.5

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.19 - HISTORICAL ANALYTICAL DATA - GD 5

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 5	3/13/2013	11.6	8.33	9.29	10.20	0.26	<0.025	<0.10	0.34	9.6
GD 5	5/20/2013	14.0	8.28	7.76	22.60	<0.100	<0.025	<0.10	0.62	9.0
GD 5	9/23/2013	11.5	7.67	6.78	27.10	<0.100	0.027	<0.10	0.45	8.0
GD 5	12/10/2013	57.9	7.97	9.10	9.10	0.10	0.088	0.10	0.47	18.0
GD 5	2/6/2014	45.9	7.14	9.88	7.20	0.17	0.038	<0.100	0.37	17.0
GD 5	6/26/2014	17.0	7.90	6.54	NS	<0.100	<0.025	<0.100	0.34	12.0
GD 5	9/30/2014	22.5	8.28	7.53	25.22	<0.100	<0.025	<0.100	<0.25	18.0
GD 5	11/19/2014	42.9	8.15	9.30	9.40	0.11	0.051	<0.100	0.43	26.0
GD 5	3/23/2015	24.0	8.14	8.58	15.90	0.12	<0.025	<0.100	0.34	15.0
GD 5	4/22/2015	25.0	7.81	7.78	21.70	0.14	<0.025	<0.100	0.65	13.0
GD 5	9/30/2015	18.0	8.03	6.27	26.30	<0.100	<0.025	0.115	0.557	17.3
GD 5	11/19/2015	90.0	7.63	7.34	16.60	0.168	0.042	<0.100	<0.250	42.8
GD 5	3/15/2016	23.7	8.80	7.47	19.40	<0.100	<0.025	<0.100	0.435	13.2
GD 5	6/29/2016	21.0	8.02	2.27	30.37	<0.100	0.074	<0.100	0.490	15.0
GD 5	8/9/2016	11.8	8.25	5.55	30.20	<0.100	<0.025	<0.100	0.412	11.0
GD 5	12/7/2016	10.0	7.73	10.61	11.96	<0.100	<0.025	<0.100	0.337	6.8
GD 5	3/2/2017	12.3	7.81	4.49	14.26	0.118	<0.025	<0.100	0.491	13.0
GD 5	7/5/2017	15.0	7.32	5.83	26.9	<0.100	<0.025	<0.100	0.730	22.7
GD 5	8/16/2017	8.0	7.89	6.22	28.0	<0.100	<0.025	<0.100	0.404	9.0
GD 5	10/25/2017	9.2	7.36	7.35	18.7	<0.100	<0.025	<0.100	0.347	14.6
GD 5	3/28/2018	6.1	8.18	9.47	18.5	0.127	<0.025	<0.100	<0.250	6.06
GD 5	6/29/2018	16.3	7.76	5.66	27.5	<0.100	<0.025	<0.100	0.689	19.60
GD 5	8/2/2018	18.4	7.59	6.02	25.7	<0.100	<0.025	<0.100	0.332	26.40
GD 5	12/10/2018	37.7	7.87	11.30	7.3	<0.100	<0.025	0.190	0.523	22.3

TABLE B.19 - HISTORICAL ANALYTICAL DATA - GD 5

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 5	4/15/2019	29.7	7.69	8.02	19.3	0.128	<0.025	1.20	0.411	29.0
GD 5	6/12/2019	6.0	8.02	7.64	27.2	<0.100	<0.025	<0.100	<0.250	9.3
GD 5	8/27/2019	75.2	7.15	7.98	28.7	<0.100	<0.025	0.165	0.506	10.9
GD 5	10/29/2019	29.0	7.85	9.42	17.8	<0.100	<0.025	<0.100	0.477	21.0
GD 5	3/30/2020	14.5	7.65	8.86	19.1	0.130	<0.025	<0.100	0.320	12.1
GD 5	6/16/2020	16.4	7.69	7.75	27.2	<0.100	<0.030	<0.100	0.561	7.4
GD 5	9/21/2020	10.8	7.65	6.33	23.2	<0.100	<0.030	<0.100	<0.250	7.9
GD 5	12/17/2020	28.7	7.62	9.96	9.7	0.122	<0.030	0.113	0.422	19.8
GD 5	3/18/2021	3.4	7.15	8.98	16.9	0.127	<0.030	<0.100	0.600	30.6
GD 5	5/5/2021	36.10	7.84	7.74	19.8	0.204	<0.030	<0.100	<0.250	36.8
GD 5	9/2/2021	10.28	7.84	6.90	26.5	<0.100	<0.030	<0.100	0.510	16.1
GD 5	11/23/2021	27.7	7.70	10.54	11.3	<0.100	<0.0300	<0.100	<0.250	8.8
GD 5	1/11/2022	26.8	7.28	12.25	10.1	0.300	<0.0300	<0.10	0.510	12.1
GD 5	4/7/2022	16.4	7.72	9.32	17.2	0.157	<0.0300	<0.100	0.300	14.4
GD 5	8/2/2022	13.0	7.86	6.60	29.1	<0.100	<0.0300	<0.100	<0.250	6.40
GD 5	11/16/2022	6.95	7.75	9.56	13.4	<0.100	<0.0300	<0.100	0.312	8.67
GD 5	2/14/2023	18.8	7.18	10.85	11.4	0.255	<0.0300	<0.100	0.606	11.5

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.20 - HISTORICAL ANALYTICAL DATA - GD 7

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 7	3/12/2013	9.7	7.98	11.63	15.27	0.39	0.037	<0.100	0.31	8.8
GD 7	5/8/2013	26.1	7.72	7.46	18.40	0.24	0.063	<0.100	<0.56	20.0
GD 7	9/23/2013	10.9	7.05	6.31	26.50	<0.100	0.026	<0.100	0.54	9.6
GD 7	12/10/2013	41.9	8.02	9.68	7.50	0.34	0.084	0.11	0.32	40.0
GD 7	2/6/2014	28.0	7.27	13.32	4.40	0.52	0.034	<0.100	0.61	13.0
GD 7	6/26/2014	6.2	8.45	7.04	NS	<0.100	<0.025	<0.100	0.52	8.7
GD 7	9/30/2014	11.9	7.87	6.32	24.39	<0.100	<0.025	<0.100	0.41	13.0
GD 7	11/19/2014	19.6	8.53	10.10	9.60	0.14	<0.025	0.13	0.46	15.0
GD 7	3/23/2015	13.0	8.28	8.87	15.40	0.27	<0.025	<0.100	0.35	10.0
GD 7	4/22/2015	28.0	7.99	6.40	20.20	0.24	<0.025	<0.100	0.47	24.0
GD 7	9/30/2015	8.3	7.89	5.18	24.90	<0.100	<0.025	<0.100	0.59	9.1
GD 7	11/19/2015	45.0	7.78	8.23	15.60	0.344	0.051	<0.100	<0.250	34.3
GD 7	3/15/2016	17.2	8.46	8.51	17.80	0.261	<0.025	<0.100	0.397	13.9
GD 7	6/29/2016	10.7	7.90	2.22	30.32	<0.100	0.048	<0.100	0.490	8.6
GD 7	8/9/2016	6.5	7.97	4.08	29.31	<0.100	<0.025	<0.100	0.471	5.7
GD 7	12/7/2016	9.5	7.88	10.14	12.39	<0.100	<0.025	<0.100	0.355	7.8
GD 7	3/2/2017	10.8	7.80	4.57	13.35	0.36	<0.025	<0.100	0.514	14.4
GD 7	6/29/2017	9.4	8.18	6.59	26.4	<0.100	<0.025	<0.100	0.440	13.4
GD 7	8/16/2017	8.5	7.84	5.66	29.0	<0.100	<0.025	<0.100	0.358	15.3
GD 7	10/25/2017	9.9	7.73	6.93	19.8	<0.10	<0.025	<0.100	0.416	18.4
GD 7	3/28/2018	7.6	8.16	9.33	14.9	0.350	<0.025	<0.100	<0.250	9.19
GD 7	6/29/2018	14.2	7.79	5.56	27.5	<0.100	<0.025	<0.100	0.625	14.60
GD 7	8/2/2018	18.5	7.62	5.51	27.0	<0.100	0.027	<0.100	0.450	32.10
GD 7	12/10/2018	40.8	7.06	11.05	8.0	0.378	<0.025	0.149	0.390	48.7

TABLE B.20 - HISTORICAL ANALYTICAL DATA - GD 7

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 7	4/15/2019	30.1	7.83	7.85	19.2	0.230	<0.025	<0.100	<0.250	12.0
GD 7	6/12/2019	7.4	7.24	6.68	27.2	0.132	<0.025	<0.100	<0.250	9.3
GD 7	8/27/2019	45.3	7.35	9.35	29.1	<0.100	<0.025	0.156	0.604	6.3
GD 7	10/29/2019	17.6	7.77	8.14	17.2	<0.100	<0.025	<0.100	0.414	17.0
GD 7	3/30/2020	7.8	7.77	10.38	21.1	<0.100	<0.025	<0.100	0.343	12.8
GD 7	6/16/2020	9.1	8.12	8.25	27.3	<0.100	<0.030	<0.100	0.322	8.3
GD 7	9/21/2020	13.6	7.42	12.45	23.7	<0.100	<0.030	<0.100	<0.250	9.60
GD 7	12/17/2020	14.4	7.75	10.21	9.5	0.373	<0.030	<0.100	<0.250	18.20
GD 7	3/18/2021	1.2	7.37	9.75	15.4	0.312	<0.030	<0.100	0.387	23.00
GD 7	5/5/2021	19.74	7.59	7.64	21.4	<0.100	<0.030	<0.100	0.661	40.3
GD 7	9/2/2021	13.57	7.75	6.38	27.6	0.107	<0.030	0.122	0.324	34.40
GD 7	11/23/2021	25.2	7.62	11.21	11.7	0.197	<0.0300	<0.100	<0.250	11.10
GD 7	1/11/2022	46.0	7.38	12.59	9.7	0.410	<0.0300	<0.10	<0.50	15.20
GD 7	4/7/2022	17.4	7.61	9.33	17.2	0.280	<0.0300	0.162	0.361	23.4
GD 7	8/2/2022	10.2	7.86	6.29	29.3	<0.100	<0.0300	<0.100	<0.250	4.30
GD 7	11/16/2022	5.25	7.75	9.00	14.4	<0.100	0.0430	<0.100	0.509	8.53
GD 7	2/14/2023	23.4	7.17	10.96	11.5	0.399	<0.0300	0.106	0.610	20.3

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.21 - HISTORICAL ANALYTICAL DATA - GD 9

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 9	2/6/2014	33.6	7.20	11.27	5.50	0.40	0.063	0.12	0.60	14.0
GD 9	6/26/2014	45.0	8.22	6.08	NS	<0.100	0.029	0.12	0.41	34.0
GD 9	9/30/2014	12.4	8.30	6.93	24.61	<0.100	<0.025	<0.100	0.30	15.0
GD 9	11/19/2014	22.8	8.13	9.38	9.30	0.16	0.082	0.25	0.74	15.0
GD 9	3/23/2015	25.0	8.16	7.58	15.80	0.15	<0.025	<0.100	0.64	18.0
GD 9	4/22/2015	18.0	7.58	5.58	20.70	0.15	<0.025	<0.100	0.65	14.0
GD 9	9/30/2015	9.6	7.93	5.37	25.70	<0.100	<0.025	<0.100	0.64	10.8
GD 9	11/19/2015	40.0	7.67	NS	16.50	0.254	0.096	0.116	<0.250	16.7
GD 9	3/15/2016	14.8	8.49	7.66	17.30	0.33	0.044	<0.100	<0.250	12.1
GD 9	6/29/2016	43.7	8.20	1.76	29.77	<0.100	<0.025	<0.100	0.65	67.2
GD 9	8/9/2016	11.0	8.07	4.14	29.00	<0.100	<0.025	<0.100	0.468	9.4
GD 9	12/7/2016	26.0	7.99	8.01	11.99	<0.100	<0.025	0.13	0.378	38.3
GD 9	3/2/2017	10.7	7.70	4.26	13.60	0.269	<0.025	<0.100	0.673	11.2
GD 9	6/29/2017	15.8	8.37	5.85	26.4	<0.100	<0.025	<0.100	0.722	15.7
GD 9	8/16/2017	11.3	7.82	5.52	29.60	<0.100	<0.025	<0.100	0.384	18.2
GD 9	10/25/2017	18.9	7.50	6.68	18.9	<0.100	0.025	<0.100	0.375	29.7
GD 9	3/28/2018	10.2	8.21	9.75	15.8	0.230	<0.025	<0.100	<0.250	12.4
GD 9	6/29/2018	11.0	7.73	5.45	27.6	<0.100	<0.025	<0.100	0.507	13.9
GD 9	8/2/2018	13.0	7.55	5.17	26.0	0.110	0.067	<0.100	0.600	20.8
GD 9	12/10/2018	26.4	7.90	11.05	7.9	0.292	0.047	0.244	0.442	22.8
GD 9	4/15/2019	221.5	7.51	8.09	20.0	0.194	0.034	<0.100	<0.250	178
GD 9	6/12/2019	7.3	7.21	8.61	27.0	0.116	<0.025	<0.100	<0.250	29.0
GD 9	8/27/2019	76.5	7.81	8.22	28.8	<0.100	<0.025	0.146	0.385	9.3
GD 9	10/29/2019	22.3	7.35	8.91	17.9	<0.100	<0.025	<0.100	0.491	15.0

TABLE B.21 - HISTORICAL ANALYTICAL DATA - GD 9

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 9	3/30/2020	18.3	7.56	8.54	18.4	0.243	<0.025	0.121	<0.250	16.4
GD 9	6/16/2020	11.4	8.15	7.94	27.1	<0.100	<0.030	<0.100	0.352	11.5
GD 9	9/21/2020	11.6	7.38	6.41	23.3	<0.100	<0.030	<0.100	<0.250	9.0
GD 9	12/17/2020	12.33	7.71	10.62	9.7	0.336	<0.030	<0.100	0.261	13.1
GD 9	3/18/2021	1.70	7.24	8.83	15.5	0.189	<0.030	<0.100	0.576	18.6
GD 9	5/5/2021	23.76	7.68	7.08	21.0	0.176	0.036	<0.100	0.564	29.0
GD 9	9/2/2021	13.46	7.73	6.29	27.9	<0.100	<0.030	<0.100	0.311	25.8
GD 9	11/23/2021	39.41	7.84	10.71	13.9	0.113	<0.0300	0.124	<0.250	33.9
GD 9	1/11/2022	271.50	7.42	11.43	10.4	0.360	<0.030	<0.10	0.760	13.3
GD 9	4/7/2022	14.0	7.60	8.79	18.2	0.236	<0.0300	0.124	0.306	15.1
GD 9	8/2/2022	10.4	7.89	6.62	29.1	<0.100	<0.0300	<0.100	<0.250	7.40
GD 9	11/16/2022	4.52	7.81	9.41	14.1	<0.100	<0.0300	<0.100	0.399	5.70
GD 9	2/14/2023	16.1	7.17	11.09	11.6	0.362	<0.0300	<0.100	0.484	12.6

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.22 - HISTORICAL ANALYTICAL DATA - SME 1

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 1	3/12/2013	13.1	8.19	8.26	13.10	0.54	0.110	0.11	0.34	16.0
SME 1	5/8/2013	24.0	7.64	8.96	16.00	0.15	0.063	<0.100	0.42	14.0
SME 1	9/23/2013	14.2	8.26	7.87	27.70	<0.100	0.053	<0.100	0.80	15.0
SME 1	12/10/2013	46.3	8.05	9.15	7.60	0.55	0.210	0.26	0.47	21.0
SME 1	2/6/2014	61.0	7.22	11.34	5.90	0.55	0.110	0.13	0.50	23.0
SME 1	6/26/2014	14.0	8.49	7.05	NS	<0.100	<0.025	<0.100	0.31	13.0
SME 1	9/30/2014	27.6	8.25	7.46	24.67	<0.100	0.044	0.11	0.61	34.0
SME 1	11/19/2014	40.1	8.31	10.86	7.80	0.74	0.270	0.29	0.55	19.0
SME 1	3/23/2015	21.0	8.26	8.52	17.30	0.51	0.073	0.10	<0.250	14.0
SME 1	4/22/2015	29.0	7.14	7.97	18.50	0.40	0.039	<0.100	0.38	18.0
SME 1	9/30/2015	15.0	8.34	7.03	26.40	<0.100	0.052	0.135	0.807	15.3
SME 1	11/19/2015	50.0	7.92	7.04	15.90	0.401	0.084	0.134	<0.250	23.2
SME 1	3/15/2016	26.2	8.44	7.21	18.30	0.454	0.047	<0.100	<0.250	17.7
SME 1	6/29/2016	21.2	8.80	3.29	30.67	<0.100	0.180	0.245	0.620	20.3
SME 1	8/9/2016	15.3	8.55	4.98	28.87	<0.100	0.089	0.154	0.547	12.6
SME 1	12/7/2016	31.0	7.96	10.20	11.98	0.413	0.209	0.271	0.378	17.7
SME 1	3/2/2017	14.0	7.75	4.31	12.34	0.671	0.127	0.208	0.345	15.0
SME 1	6/29/2017	19.2	9.11	9.21	25.8	<0.100	0.028	0.000	0.530	18.3
SME 1	8/16/2017	10.6	8.12	6.58	29.7	<0.100	<0.025	0.111	0.520	12.7
SME 1	10/25/2017	5.4	8.02	8.32	17.3	0.368	0.121	0.151	0.288	16.9
SME 1	3/28/2018	19.3	8.10	9.18	17.6	0.633	0.106	0.000	<0.250	19.8
SME 1	6/29/2018	20.7	7.84	6.37	26.2	0.312	0.121	0.241	0.670	23.3
SME 1	8/2/2018	28.5	7.48	5.82	23.9	0.296	0.145	0.136	0.495	29.5
SME 1	12/10/2018	32.0	7.45	11.48	8.0	0.259	<0.025	<0.100	0.336	31.0

TABLE B.22 - HISTORICAL ANALYTICAL DATA - SME 1

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 1	4/15/2019	42.2	7.89	7.89	19.7	0.390	0.063	<0.100	0.360	35.0
SME 1	6/12/2019	12.2	7.34	8.73	27.2	<0.100	<0.025	<0.100	<0.250	9.7
SME 1	8/27/2019	135.2	7.45	8.51	28.8	<0.100	<0.025	0.161	0.356	7.1
SME 1	10/29/2019	14.5	7.95	9.21	17.6	0.129	0.049	0.134	0.272	11.0
SME 1	3/30/2020	13.3	7.35	8.61	19.3	0.462	<0.025	<0.100	<0.250	13.3
SME 1	6/16/2020	11.6	8.58	10.36	27.0	<0.100	0.031	0.129	0.485	11.4
SME 1	9/21/2020	13.8	7.71	6.92	22.2	<0.100	<0.030	<0.100	<0.250	9.0
SME 1	12/17/2020	23.19	7.66	10.68	9.2	0.577	0.072	<0.100	0.300	20.9
SME 1	3/18/2021	14.10	7.24	9.54	15.7	0.263	0.112	<0.100	0.580	90.4
SME 1	5/5/2021	28.83	7.43	8.53	20.1	0.122	<0.030	<0.100	0.402	34.0
SME 1	9/2/2021	23.89	7.80	6.93	25.8	0.458	0.190	0.218	0.353	35.8
SME 1	11/23/2021	18.42	7.91	11.34	12.4	<0.100	0.076	0.165	<0.250	12.7
SME 1	1/11/2022	161.2	7.55	11.29	10.2	8.200	0.054	<0.10	1.800	17.0
SME 1	4/7/2022	112.9	7.65	9.26	17.2	0.431	0.192	0.255	0.544	140
SME 1	8/2/2022	12.0	8.10	7.98	29.2	<0.100	<0.0300	<0.100	0.281	6.30
SME 1	11/16/2022	5.78	7.86	9.45	14.3	<0.100	<0.0300	<0.100	0.306	7.90
SME 1	2/14/2023	15.5	7.26	11.23	11.0	0.372	<0.0300	<0.100	0.281	11.3

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.23 - HISTORICAL ANALYTICAL DATA - GD 3

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 3	3/13/2013	11.6	8.00	9.28	10.70	0.29	0.028	<0.100	0.44	11.0
GD 3	5/20/2013	11.7	8.09	7.01	23.40	0.15	0.026	<0.100	0.63	13.0
GD 3	9/23/2013	12.4	7.80	6.50	26.40	<0.100	0.025	<0.100	0.58	10.0
GD 3	12/10/2013	45.7	7.85	9.23	9.30	0.21	0.085	0.14	0.64	23.0
GD 3	2/6/2014	90.2	7.13	10.58	6.10	0.21	<0.025	0.12	0.68	27.0
GD 3	6/26/2014	15.0	8.13	8.00	NS	0.12	<0.025	<0.100	0.40	14.0
GD 3	9/30/2014	19.5	8.11	6.69	25.06	<0.100	<0.025	<0.100	0.32	19.0
GD 3	11/19/2014	18.1	8.36	10.88	9.3	<0.100	<0.025	<0.100	0.26	15.0
GD 3	3/23/2015	13.0	8.32	7.84	16.5	0.22	<0.025	<0.100	0.34	10.0
GD 3	4/22/2015	26.0	7.86	6.74	20.6	0.18	0.079	<0.100	0.36	21.0
GD 3	9/30/2015	10.0	7.94	4.91	24.9	0.103	<0.025	0.126	0.74	11.5
GD 3	11/19/2015	40.0	7.61	7.74	16.0	0.250	<0.025	0.101	<0.250	22.0
GD 3	3/15/2016	25.5	8.04	8.62	18.7	0.420	0.071	<0.100	<0.250	11.7
GD 3	6/29/2016	6.0	7.84	2.78	29.94	<0.100	0.088	<0.100	<0.250	10.7
GD 3	8/9/2016	8.3	7.98	5.09	30.01	<0.100	<0.025	<0.100	0.393	10.0
GD 3	12/7/2016	5.9	7.91	10.55	12.0	<0.100	<0.025	<0.100	0.356	8.1
GD 3	3/2/2017	14.0	8.21	5.01	14.35	0.237	<0.025	0.135	0.649	15.6
GD 3	7/5/2017	11.2	7.48	6.23	27.3	<0.100	<0.025	<0.100	0.560	14.4
GD 3	8/16/2017	7.4	8.01	6.24	28.8	<0.100	<0.025	<0.100	0.387	8.5
GD 3	10/25/2017	8.9	7.54	7.25	19.1	<0.100	<0.025	<0.100	0.390	13.6
GD 3	3/28/2018	9.1	8.06	9.34	16.6	0.241	<0.025	<0.100	<0.250	10.8
GD 3	6/29/2018	12.9	7.68	5.63	27.3	<0.100	<0.025	<0.100	0.511	12.7
GD 3	8/2/2018	13.4	7.69	5.72	26.6	<0.100	<0.025	<0.100	0.569	20.8
GD 3	12/10/2018	41.4	7.40	11.09	6.8	<0.100	<0.025	0.128	0.519	31.3

TABLE B.23 - HISTORICAL ANALYTICAL DATA - GD 3

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
GD 3	4/15/2019	15.3	7.71	8.02	19.9	0.233	<0.025	<0.100	<0.250	14.7
GD 3	6/12/2019	9.6	7.24	8.31	27.3	<0.100	<0.025	<0.100	<0.250	13.0
GD 3	8/27/2019	202.8	7.18	8.33	28.8	<0.100	<0.025	0.159	0.434	6.5
GD 3	10/29/2019	26.2	7.84	9.63	17.2	<0.100	<0.025	<0.100	0.453	13.0
GD 3	3/30/2020	17.4	7.58	8.83	18.8	0.216	<0.025	<0.100	0.281	18.0
GD 3	6/16/2020	11.6	8.03	8.20	27.5	<0.100	<0.030	<0.100	0.363	9.5
GD 3	9/21/2020	13.5	7.51	6.73	23.4	<0.100	<0.030	0.106	<0.250	9.8
	Removed from Monitoring Program September 2020									

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.24 - HISTORICAL ANALYTICAL DATA - SME 3

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 3	3/13/2013	17.1	7.84	7.44	11.30	0.20	0.038	<0.100	0.69	15.0
SME 3	5/20/2013	18.5	8.11	6.09	23.60	0.17	0.028	<0.100	0.69	19.0
SME 3	9/23/2013	15.3	*	5.32	26.50	<0.100	0.029	<0.100	0.53	13.0
SME 3	12/10/2013	48.3	7.69	8.85	9.60	<0.100	0.086	<0.100	0.62	20.0
SME 3	2/6/2014	82.7	7.09	10.62	6.30	0.25	<0.025	<0.100	0.69	33.0
SME 3	6/26/2014	50.0	8.04	7.03	NS	<0.100	0.047	<0.100	0.53	30.0
SME 3	9/30/2014	17.3	8.08	5.98	25.33	<0.100	<0.025	<0.100	0.66	18.0
SME 3	11/19/2014	22.4	8.30	10.40	9.30	0.12	0.035	<0.100	<0.250	19.0
SME 3	3/23/2015	25.0	8.13	7.72	21.20	0.24	0.026	<0.100	0.46	16.0
SME 3	4/22/2015	12.0	7.76	6.70	21.80	0.15	<0.025	<0.100	0.45	14.0
SME 3	9/30/2015	18.0	7.96	6.19	25.60	0.125	<0.025	0.129	0.42	24.4
SME 3	11/19/2015	65.0	7.56	7.44	15.80	0.253	0.032	<0.100	<0.250	37.8
SME 3	3/15/2016	68.4	8.35	7.51	19.20	0.295	<0.025	<0.100	<0.250	78.8
SME 3	6/29/2016	17.7	7.80	2.56	30.16	<0.100	0.062	<0.100	0.37	15.3
SME 3	8/9/2016	14.8	7.52	3.43	29.53	<0.100	<0.025	<0.100	0.564	10.8
SME 3	12/7/2016	8.5	7.90	10.91	11.85	<0.100	<0.025	0.147	1.780	9.4
SME 3	3/2/2017	14.6	7.95	4.60	13.64	0.272	<0.025	<0.100	0.733	17.0
SME 3	7/5/2017	12.5	7.54	5.88	27.3	<0.100	0.039	<0.100	0.628	16.3
SME 3	8/16/2017	11.5	7.86	5.00	28.1	<0.100	0.07	<0.100	0.446	18.5
SME 3	10/25/2017	15.3	7.42	8.23	19.4	<0.100	0.053	0.106	0.376	49.7
SME 3	3/28/2018	8.9	7.98	9.44	17.4	0.220	<0.025	<0.100	<0.250	11.2
SME 3	6/29/2018	15.8	7.53	5.39	26.9	<0.100	<0.025	<0.100	0.800	115.0
SME 3	8/2/2018	30.0	7.59	5.66	26.4	<0.100	<0.025	0.108	0.981	56.0
SME 3	12/10/2018	33.1	7.21	10.68	7.0	<0.100	<0.025	0.127	0.433	27.1

TABLE B.24 - HISTORICAL ANALYTICAL DATA - SME 3

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 3	4/15/2019	552.6	7.78	7.65	19.7	0.234	<0.025	0.285	0.271	371
SME 3	6/12/2019	7.8	7.48	6.87	27.1	<0.100	<0.025	<0.100	<0.250	10.7
SME 3	8/27/2019	55.3	7.91	8.41	29.2	<0.100	<0.025	0.149	0.389	7.0
SME 3	10/29/2019	22.4	7.77	8.44	17.2	<0.100	<0.025	<0.100	0.390	15.4
SME 3	3/30/2020	14.4	7.51	8.91	18.8	0.239	<0.025	<0.100	0.657	18.2
SME 3	6/16/2020	9.2	8.06	7.95	27.1	<0.100	<0.030	0.102	0.466	10.1
SME 3	9/21/2020	15.3	7.67	6.50	23.0	<0.100	<0.030	<0.100	0.660	10.7
SME 3	9/2/2021	102.33	7.75	5.64	26.3	<0.100	0.057	0.234	1.24	267
SME 3	1/11/2022	109.4	7.58	11.17	9.9	0.390	<0.0300	<0.10	0.520	15.4
SME 3	4/7/2022	32.3	7.69	8.99	16.6	0.181	<0.0300	<0.100	0.406	27.0
SME 3	8/2/2022	11.0	7.81	6.35	29.2	<0.100	<0.0300	<0.100	<0.250	5.60
SME 3	11/16/2022	7.3	7.76	9.28	13.6	<0.100	<0.0300	<0.100	0.294	10.3
SME 3	2/14/2023	33.2	7.18	10.81	10.8	0.325	<0.0300	<0.100	0.351	66.4

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.25 - HISTORICAL ANALYTICAL DATA - SS 5

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SS 5	3/12/2013	5.98	8.38	9.87	10.80	0.30	0.031	<0.100	0.39	7.2
SS 5	5/8/2013	24.4	7.38	7.19	16.80	0.16	<0.12	<0.100	0.62	21.0
SS 5	9/23/2013	13.8	8.00	5.44	25.80	<0.100	0.029	<0.100	1.30	15.0
SS 5	12/10/2013	22.8	8.25	9.10	7.70	0.24	0.043	0.11	0.67	13.0
SS 5	2/6/2014	27.5	7.20	12.09	5.40	0.39	<0.025	<0.100	0.86	12.0
SS 5	6/26/2014	11.0	8.53	7.01	NS	<0.100	<0.025	<0.100	0.40	11.0
SS 5	9/30/2014	11.2	7.64	6.82	24.44	<0.100	<0.025	<0.100	0.45	11.0
SS 5	11/19/2014	14.1	8.96	13.13	8.50	<0.100	<0.025	<0.100	0.35	9.6
SS 5	3/23/2015	18.0	8.50	8.99	17.70	0.26	<0.025	<0.100	0.46	11.0
SS 5	4/22/2015	19.0	7.76	6.71	20.20	0.15	<0.025	<0.100	0.47	13.0
SS 5	9/30/2015	11.0	8.26	6.61	25.30	<0.100	<0.025	<0.100	0.606	9.9
SS 5	11/19/2015	19.0	7.86	8.47	15.90	0.239	<0.025	<0.100	<0.250	11.0
SS 5	3/15/2016	20.0	8.37	8.47	17.20	0.264	<0.025	0.225	0.279	9.5
SS 5	6/29/2016	14.7	8.01	3.81	29.77	<0.100	0.066	<0.100	0.480	13.2
SS 5	8/9/2016	11.6	7.86	3.16	29.40	<0.100	<0.025	<0.100	0.464	12.6
SS 5	12/7/2016	6.6	7.94	6.70	12.30	<0.100	<0.025	0.12	0.420	8.0
SS 5	3/2/2017	14.0	7.78	3.92	12.77	0.334	<0.025	<0.100	0.766	16.0
SS 5	7/5/2017	8.4	7.77	7.19	28.90	<0.100	<0.025	<0.100	0.474	12.0
SS 5	8/16/2017	10.2	8.10	4.83	29.90	<0.100	<0.025	<0.100	0.493	15.1
SS 5	10/25/2017	7.5	8.24	8.36	19.2	<0.100	<0.025	<0.100	0.531	11.8
SS 5	3/28/2018	7.0	8.53	10.23	18.5	0.248	<0.025	<0.100	<0.250	8.33
SS 5	6/29/2018	10.4	7.93	5.50	27.5	<0.100	<0.025	<0.100	0.605	13.3
SS 5	8/2/2018	13.5	7.58	6.04	25.8	<0.100	<0.025	<0.100	0.554	12.8
SS 5	12/10/2018	21.9	7.01	11.15	7.3	0.146	<0.025	<0.100	0.522	16.7

TABLE B.25 - HISTORICAL ANALYTICAL DATA - SS 5

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SS 5	4/15/2019	15.5	7.35	7.77	19.4	0.168	<0.025	<0.100	0.374	11.7
SS 5	6/12/2019	10.0	8.44	8.78	26.6	<0.100	<0.025	<0.100	<0.250	11.0
SS 5	8/27/2019	24.5	8.66	9.02	28.9	<0.100	<0.025	0.168	0.508	7.1
SS 5	10/29/2019	18.7	8.20	9.33	18.1	0.105	<0.025	0.198	0.631	10.4
SS 5	3/30/2020	9.2	8.35	11.07	20.8	0.127	<0.025	<0.100	0.399	10.6
SS 5	6/16/2020	10.5	8.41	7.99	27.9	<0.100	<0.030	<0.100	0.534	9.7
SS 5	9/21/2020	16.5	7.36	11.45	22.6	<0.100	<0.030	<0.100	0.512	11.0
SS 5	12/17/2020	8.64	8.02	11.24	9.6	0.200	<0.030	<0.100	0.428	10.1
SS 5	3/18/2021	0.60	7.36	9.03	15.7	0.191	<0.030	<0.100	0.570	14.6
SS 5	5/5/2021	38.40	7.55	7.72	20.5	0.108	<0.030	<0.100	0.576	32.2
SS 5	9/2/2021	9.62	8.00	8.54	28.6	<0.100	<0.030	<0.100	0.431	14.4
SS 5	11/23/2021	10.84	7.40	10.89	13.7	0.126	<0.0300	<0.100	<0.250	7.7
SS 5	1/11/2022	46.0	7.64	11.13	11.1	0.320	<0.0300	<0.10	1.300	10.4
SS 5	4/7/2022	20.7	7.80	8.85	17.9	0.122	<0.0300	<0.100	0.516	15.6
SS 5	8/2/2022	11.9	8.38	7.32	30.6	<0.100	<0.0300	<0.100	0.812	7.80
SS 5	11/16/2022	5.32	8.07	10.21	14.0	<0.100	<0.0300	<0.100	0.314	8.30
SS 5	2/14/2023	11.2	7.35	11.62	12.7	0.284	0.0930	<0.100	0.344	10.4

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.26 - HISTORICAL ANALYTICAL DATA - SME 5

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 5	12/17/2020	15.24	7.80	10.94	10.00	0.371	<0.030	<0.100	0.258	17.7
SME 5	3/18/2021	1.70	7.83	9.59	15.90	0.316	<0.030	<0.100	0.317	23.0
SME 5	5/5/2021	50.11	7.80	7.96	21.2	<0.100	<0.030	<0.100	0.410	60.6
SME 5	9/2/2021	15.15	8.02	6.42	28.2	0.128	<0.030	<0.100	0.325	31.8
SME 5	11/23/2021	68.29	7.78	10.42	14.9	0.231	<0.0300	<0.100	<0.250	14.0
SME 5	1/11/2022	24.90	7.66	10.46	14.7	0.450	0.035	<0.10	1.50	16.6
SME 5	4/7/2022	55.4	7.99	9.43	17.4	0.290	<0.0300	<0.100	0.385	25.4
SME 5	8/2/2022	12.0	8.26	7.16	30.4	0.102	<0.0300	<0.100	0.277	7.30
SME 5	11/16/2022	7.26	7.91	9.00	14.7	0.113	<0.0300	<0.100	0.347	11.1
SME 5	2/14/2023	15.1	7.17	10.93	12.2	0.425	<0.0300	<0.100	0.302	12.3

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.27 - HISTORICAL ANALYTICAL DATA - SME 6

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
SME 6	12/17/2020	13.6	7.96	10.89	10.1	0.368	<0.03	<0.10	<0.25	16.7
SME 6	3/18/2021	3.3	7.65	9.84	15.5	0.358	<0.030	<0.100	0.618	47.2
SME 6	5/5/2021	62.3	7.75	7.80	19.9	0.183	<0.030	<0.100	0.403	82.8
SME 6	9/2/2021	13.3	8.19	6.72	27.7	0.131	<0.030	0.430	0.353	19.0
SME 6	11/23/2021	9.8	7.68	10.35	15.1	0.231	<0.0300	<0.100	<0.250	11.2
SME 6	1/11/2022	24.4	7.72	11.24	10.2	0.450	<0.0300	<0.10	2.40	16.9
SME 6	4/7/2022	31.4	7.95	9.63	18.0	0.270	<0.0300	<0.100	0.373	28.8
SME 6	8/2/2022	11.1	8.25	8.26	30.9	<0.100	<0.0300	<0.100	<0.250	8.40
SME 6	11/16/2022	8.0	7.87	9.34	14.0	<0.100	<0.0300	<0.100	0.308	11.3
SME 6	2/14/2023	17.7	7.31	10.83	12.8	0.374	<0.0300	<0.100	0.319	14.9

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

TABLE B.28 - HISTORICAL ANALYTICAL DATA - RC 14

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
RC 14	3/12/2013	28.3	8.23	7.53	10.3	<0.100	0.088	<0.100	0.61	21.0
RC 14	5/8/2013	29.5	6.72	1.78	21.4	0.14	<0.12	<0.100	0.63	16.0
RC 14	9/23/2013	18.4	7.86	6.68	24.7	<0.100	<0.025	<0.100	0.58	13.0
RC 14	12/10/2013	40.0	8.45	9.50	8.2	<0.100	0.100	0.11	0.69	16.0
RC 14	2/6/2014	66.6	7.15	10.94	4.9	0.16	0.036	0.11	0.70	18.0
RC 14	6/26/2014	6.2	8.21	6.30	NS	<0.100	<0.025	<0.100	0.39	5.9
RC 14	9/30/2014	12.4	7.20	6.20	23.5	<0.100	<0.025	<0.100	0.40	12.0
RC 14	9/19/2014	50.3	8.20	10.10	7.5	<0.100	0.085	0.13	0.52	28.0
RC 14	3/23/2015	70.0	8.03	7.80	18.2	0.26	0.070	<0.100	1.10	34.0
RC 14	4/22/2015	30.0	7.77	7.25	18.1	0.20	<0.025	<0.100	0.40	15.0
RC 14	9/30/2015	17.0	8.28	5.63	24.4	<0.100	<0.025	<0.100	0.454	12.6
RC 14	11/19/2015	95.0	7.32	6.07	17.71	0.137	<0.025	0.135	0.633	36.0
RC 14	3/15/2016	85.0	8.13	7.73	18.5	0.106	<0.025	0.304	0.434	69.6
RC 14	6/29/2016	17.2	7.58	2.17	28.53	<0.100	0.037	<0.100	0.460	17.5
RC 14	8/9/2016	10.4	7.05	2.35	28.53	<0.100	<0.025	<0.100	0.547	8.5
RC 14	12/7/2016	7.9	7.21	6.47	11.62	<0.100	<0.025	<0.100	0.252	8.6
RC 14	3/2/2017	18.0	7.32	3.55	12.69	0.12	<0.025	<0.100	0.608	14.6
RC 14	7/5/2017	17.7	7.55	6.56	25.7	0.279	0.041	<0.100	0.357	35.0
RC 14	8/16/2017	9.8	7.72	5.54	26.7	0.21	0.042	<0.100	0.400	12.4
RC 14	10/25/2017	18.7	7.64	7.26	17.1	0.24	0.088	0.149	0.465	27.2
RC 14	3/28/2018	9.9	8.03	9.00	18.3	0.148	<0.025	<0.100	<0.25	10.9
RC 14	6/29/2018	12.9	7.64	5.89	27.1	<0.100	<0.025	<0.100	0.722	13.8
RC 14	8/2/2018	21.7	7.30	5.56	23.7	<0.100	0.055	<0.100	0.848	17.3
RC 14	12/10/2018	35.1	7.13	10.63	7.3	<0.100	0.038	0.169	1.400	16.9

TABLE B.28 - HISTORICAL ANALYTICAL DATA - RC 14

GADSDEN-ETOWAH MS4 MONITORING

		FIELD PARAMETERS				LABORATORY ANALYSIS				
MONITORING POINT ID	DATE	TURBIDITY (NTU)	pH	DO (mg/L)	TEMP (°C)	NITRATE-NITRITE (mg/L)	ORTHO-PHOSPHATE (mg/L)	TOTAL P (mg/L)	TKN (mg/L)	TSS (mg/L)
RC 14	4/15/2019	45.8	7.68	7.67	19.5	0.108	<0.025	<0.100	0.403	36.0
RC 14	6/12/2019	11.0	8.03	7.39	25.3	0.120	<0.025	<0.100	0.250	12.3
RC 14	8/27/2019	76.4	8.36	8.78	28.4	<0.100	<0.025	0.141	0.391	8.8
RC 14	10/29/2019	17.4	7.90	9.83	17.7	<0.100	<0.025	<0.100	0.478	10.6
RC 14	3/30/2020	12.9	8.10	10.01	21.9	<0.100	<0.025	<0.100	0.451	15.7
RC 14	6/16/2020	11.5	6.79	8.01	26.9	0.141	<0.030	<0.100	0.560	11.4
RC 14	9/21/2020	13.7	7.49	9.65	21.9	<0.100	<0.030	0.202	0.307	8.2
RC 14	12/17/2020	25.8	7.72	10.40	9.3	0.261	<0.030	<0.100	0.497	14.4
RC 14	3/18/2021	25.8	7.72	10.40	9.3	0.261	<0.030	<0.100	0.497	14.4
RC 14	5/5/2021	33.45	7.68	7.99	20.9	<0.100	<0.030	<0.100	0.566	30.4
RC 14	9/2/2021	16.75	7.87	7.11	25.7	0.210	0.040	<0.100	0.350	23.2
RC 14	11/23/2021	24.6	7.96	10.57	13.3	<0.100	<0.0300	0.103	<0.250	40.2
RC 14	1/11/2022	66.4	7.40	11.82	10.4	0.170	<0.0300	<0.10	1.500	20.6
RC 14	4/7/2022	99.0	7.76	8.27	17.6	<0.100	<0.0300	0.101	0.548	178
RC 14	8/2/2022	12.9	8.29	7.67	30.2	<0.100	<0.0300	<0.100	0.332	11.1
RC 14	11/16/2022	6.84	7.79	9.06	12.4	<0.100	<0.0300	<0.100	<0.250	9.20
RC 14	2/14/2023	36.9	6.92	10.48	12.2	0.107	<0.0300	<0.100	0.423	17.9

NTU - Nephelometric Turbidity Units

mg/L - milligrams per liter

NS - Not Sampled

Full supporting documentation is available upon request.

Etowah County Engineering Department
256-549-5358

Appendix D – Public Education and Involvement

ETOWAH COUNTY
CONTROL MEASURE 1 - PUBLIC EDUCATION AND OUTREACH
See Section 5.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
1	**Maintain the Storm Water Webpage:** Maintain the webpage and provide additional educational materials each reporting period.	The County maintained information on Storm Water Management on the web page. The 2021-2022 Annual Report was added to the webpage. 82 page views (65 unique) were recorded for the webpage.	The County will maintain the webpage as well as adding additional information such as the 2022-2023 Annual Report, articles, pictures, and links to the National Resources Conservation Service (NRCS) and the Alabama Cooperative Extension Service (ACES) web pages.	The Storm Water webpage and web site recorded hit information are attached. (See Document 1-1)	The number of webpage hits decreased during the 2022-2023 reporting period. 111 hits were recorded during the previous year. http://etowahcounty.org/engineering/storm-water/	NO
2	**Distribute Storm Water Educational Material:** Prepare storm water education material to increase awareness on storm water topics. Distribute education material upon request.	Inquiries are directed to the National Resources Conservation Service (NRCS) and/or the Alabama Cooperative Extension Office (ACES). The NRCS and ACES (now located in the Etowah County Courthouse) provides educational materials related to storm water and agricultural topics.	The County will continue to partner with and utilize the resources of the NRCS and ACES.	Copies of educational materials are attached. (See Document 1-2)		NO
3	**Distribute Storm Water Educational Material on Agricultural Best Practices:** Prepare storm water education material to increase awareness on storm water topics. Distribute education material upon request.	Inquiries are directed to the National Resources Conservation Service (NRCS) and/or the Alabama Cooperative Extension Office (ACES). The NRCS and ACES (Now located in the Etowah County Courthouse) to provide educational materials related to storm water and agricultural topics.	The County will continue to partner with and utilize the resources of the NRCS and ACES.	Copies of educational materials are attached. (See Document 1-3)		NO
4	**Provide Information on Construction Site Storm Water Impacts:** Provide information on how construction site runoff can impact storm water quality to individuals requesting plan review and building/development permits.	0 permits were issued.	The County will continue to have this information available to provide to developers.	Copies of educational materials are attached with the subdivision regulations. (See Document 1-4)		NO
5	**Provide Information on Low Impact/Green Development:** Provide information on green development to individuals requesting plan review and building/development permits.	0 permits were issued.	The County will continue to have this information available to provide to developers.	Copies of educational materials are attached with the subdivision regulations. (See Document 1-5)		NO
6	**Annual Report and SWMPP Availability:** Provide the SWMPP and the current Annual Report on the Storm Water Management webpage.	The 2021-2022 Annual Report and the 2022 SWMPP were added to the Storm Water web page. 82 pageviews and 65 unique pageviews were recorded for the storm water web page.	The County will provide the current Annual Report and SWMPP for public viewing on the County's website.	Screenshots of the links for the 2021-2022 Annual Report and the 2022 SWMPP on the Storm Water page are attached. (See Document 1-6)	The number of webpage hits decreased during the 2022-2023 reporting period. 111 hits were recorded during the previous year. http://etowahcounty.org/engineering/storm-water/	NO

ETOWAH COUNTY
CONTROL MEASURE 1 - PUBLIC EDUCATION AND OUTREACH
See Section 5.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
7	**Seek Public Input:** Announce publication of the SWMPP and/or each year's Annual Report at the following County Commission Meeting. Encourage stakeholders to provide comments or questions regarding the implementation of the SWMPP.	The 2021-2022 Annual Report and the 2022 SWMPP were added to the County's website. 0 comments were received. 0 questions were received.	The County will continue to provide the Annual Report to the public by posting it on the County's website after each reporting period. Publication of the Annual Report will be announced at the following County Commission meeting.	Screenshots of the links for the 2021-2022 Annual Report and the 2022 SWMPP on the Storm Water page are attached. (See Document 1-6)		NO
8	**Gadsden-Etowah MS4 Steering Committee Meetings:** Coordinate and/or participate in meetings of the Gadsden-Etowah Storm Water Steering Committee.	Robert Nail and Mel Smith attended the meeting held on July 20, 2022.	The County will continue to participate in meetings of the Gadsden-Etowah Storm Water Steering Committee.	The attendance record for the meeting is attached. (See Document 1-7)		NO
9	**Alabama Stormwater Association Participation:** County personnel will participate in meetings, seminars, or other events held by the Alabama Stormwater Association.	Etowah County was unable to participate in Alabama Stormwater Association events during this cycle due to personnel constraints.	Etowah County Engineering Department personnel will continue to participate in programs offered by the Alabama Stormwater Association.			NO
10	**Promote and participate in the Etowah County Water Festival:** Promote and participate in the annual *Etowah County Water Festival*.	The *Etowah County Water Festival* was held **February 24, 2023**. Four County employees volunteered at the festival. The event was advertised on the Gadsden State Community College Calendar.	The County will participate in and promote the 2024 *Etowah County Water Festival*.	The water festival agenda and volunteer packet are attached. Participation totals are listed on the Keep Etowah Beautiful Community Programs for 2022-2023 Summary Page. (See Documents 1-8 and 1-10)	Adult Volunteers: 55 High School and College Presenters: 148 4th Grade Teachers: 58 4th Grade Students: 1092	NO
11	**Public Reporting and Tracking System:** Promote the reporting number and form for reporting non-compliant construction sites, illicit discharges, impaired waterways, and violations of ordinances related to storm water pollution. Evaluate the efficacy of the program.	2 number of complaints received. 2 number of complaints addressed. 2 number of complaints resolved.	The County will continue to promote the reporting form to the public and evaluate its efficacy.	A copy of the complaint form is attached. (See Document 1-9)	https://etowahcounty.org/report-storm-water-issues/	NO
12	**Promote and Participate in Anti-Litter/Cleanup Events:** Partner with Keep Etowah Beautiful, Clean Water Partnership of Alabama, and/or Alabama Power to support, sponsor, and/or promote anti-litter and cleanup events.	Etowah County provided support for Renew Our Rivers and the Water Festival. Keep Etowah Beautiful also participated in the Great American Cleanup and the Clean Campus Certification and Program.	The County will continue partnership efforts and participation in community events.	The Keep Etowah Beautiful Community Programs Summary is attached. (See Document 1-10)	**Renew our Rivers:** September 25 - October 1, 2022 272 Volunteers 1.58 tons of litter collected **Great American Cleanup:** 495 volunteers 6.83 tons of litter collected	NO
13	**Adopt-A-Mile Program support:** Maintain Adopt-a-Mile signs and provide trash bags to supporters.	1.0 miles adopted. 0 streams adopted.	Etowah County will continue to encourage the Adopt-A-Mile program and assist with individuals and/or groups with participation.	Adoption form is included with ALPALS information. (See Document 1-11)		NO

ETOWAH COUNTY
CONTROL MEASURE 1 - PUBLIC EDUCATION AND OUTREACH
See Section 5.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
14	**Disposal Days:** Provide quarterly free disposal days.	Disposal days were held on May 7, 2022, August 6, 2022, November 5, 2022 and February 4, 2023. Disposal days were advertised via Public Notice and additional coverage by The Gadsden Times	The County will continue to support this effort in order to reduce illegal dumping of materials.	Public Notices and Gadsden Times articles are attached. (See Document 1-12)		NO
15	**No Dumping Signs:** Maintain and add "No dumping" signs as necessary.	11 No Dumping signs were signs added.	The County will continue to place or maintain these signs in problem areas.	Photos of signs are attached along with documentation of illegal dumping. (See Document 1-13)	The County maintains "No Dumping $500 fine" signs and some of these No Dumping areas are under video surveillance. These are put out in the County through Keep Etowah Beautiful as part of the effort to eliminate/reduce unauthorized disposal of waste.	NO
16	**Program Evaluation:** Utilize collected information to evaluate the effectiveness of the Public Education and Involvement Program.	The program was evaluated and no changes were currently deemed necessary.	The County will continue to assess Public Education and Involvement.			NO
17	**Additional Strategy:** Partnerships in Educational and Public Involvement Events: Clean Campus Certification and Program	1125 K-12 students 65 teachers Promoted by Etowah County's funding of Keep Etowah Beautiful.	The County will continue support of Keep Etowah Beautiful efforts and participation in the Clean Campus Certification and Program.	Participation totals are listed on the Keep Etowah Beautiful Community Programs for 2022-2023 Summary Page. A description of the program is also attached. (See Documents 1-10 and 1-14)		
18	**Additional Strategy:** Partnerships in Educational and Public Involvement Events: The Great American Cleanup	June 20th - June 24th, 2022 495 Volunteers, 6.83 tons of trash collected. Promoted by Etowah County's funding of Keep Etowah Beautiful.	The County will continue support of Keep Etowah Beautiful efforts and participation in the Great American Cleanup.	Participation totals are listed on the Keep Etowah Beautiful Community Programs for 2022-2023 Summary Page. A news release for the program is also attached. (See Documents 1-10 and 1-15)		
19	**Additional Strategy:** Drug Collection Day	The County sponsored a Drug Collection Day at the Etowah County Courthouse on April 30, 2022 and November 22, 2022. The events on local television, radio, print media and County bulletin boards. The Etowah County Sheriff's Department also installed a Drug Take Back box to allow drop off at any time.	Etowah County and the Sheriff's Department will continue these programs.	Countywide email, flyer, and news story are attached. (See document 1-16)		
20	**Additional Strategy:** Preservation of Endangered Trispot Darter	Partnered with Cawaco RC&D (CAWACO) and the U.S. Fish and Wildlife Service (USFWS) to improve/restore aquatic habitat conditions for the endangered Trispot darter on unnamed tributary to Ballplay Creek at Jones Chapel Road. Easements and design work are ongoing for upcoming project to ensure the darter can access it's habitat on both sides of Jones Chapel Road.	The County plans to continue to assist CAWACO and the USFWS to improve/restore aquatic habitat conditions for the endangered Trispot darter.	Documentation of partnership with CAWACO and the USFWS, information and photos are attached. (See Document 1-17)		

ETOWAH COUNTY
CONTROL MEASURE 1 - PUBLIC EDUCATION AND OUTREACH
See Section 5.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
21	**Additional Strategy:** Litter Ordinance - The Sheriff's office enforces the State littering code	Due to changes at the Sheriff's Department, enforcements are no longer logged separately from other investigations.	The Sheriff's office will enforce the State littering code.	The Littering Code can be viewed at the following link: http://alisondb.legislature.state.al.us/alison/codeofalabama/1975/coatoc.htm The web page for the Environmental/Agriculture Unit of the Etowah County Sheriff's Department is attached.		
22	**Additional Strategy:** Dead Animal Removal	The County removed dead animals from the roadside.		Documentation of dead animal disposal is attached. (See Document 1-18)		
23	**Additional Strategy:** Recycling Program - Manage a recycling program for aluminum cans, scrap metal, and used oil	4.5 tons of scrap metal collected at Etowah County's Gadsden shop	Etowah County will continue to collect and recycle scrap metals and used oil	Photos of collection areas and invoices attached. (See Documents 1-19 and 1-20)	The County recycles aluminum cans in the break room at the maintenance shop. The County recycles metal from County projects.	
24	**Additional Strategy:** Clearing of drainage structures	The County cleared and removed trees and brush from drainage ways/rights-of-way as needed.		Report of hours and dates for brush removal is attached. (See Document 1-18)		
25	**Additional Strategy:** Highway Erosion Control	Etowah County worked to reduce runoff within our right-of way and monitor our areas for erosion. The County utilized riprap in areas resistant to permanent vegetation.		Erosion Control report with dates, materials, and hours is attached (See Document 1-18)	The County will continue to use riprap and grassing as erosion countermeasures when applicable.	

Supporting documentation is available upon request.

Etowah County Engineering Department
256-549-5358

Appendix E - Illicit Discharge Detection and Elimination

ETOWAH COUNTY
CONTROL MEASURE 2 - ILLICIT DISCHARGE DETECTION AND ELIMINATION
See Section 6.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
1	**IDDE Regulatory Mechanism:** Evaluate the possibility of developing an IDDE ordinance.	Etowah County currently does not have the authority to enact an illicit discharge ordinance, and would require action from the Alabama Legislature to gain that ability	The County will evaluate the potential for an Ordinance annually.		In Etowah County, Home Rule is limited by the State constitution. Counties have no general grant of power in the State Constitution and must go to the Alabama Legislature for authority to engage in any activity not currently authorized by the State Constitution. Authority may be granted through constitutional amendments or by an act of the legislature known as "local legislation." Etowah County currently does not have the authority to enact an illicit discharge ordinance, and would require action from the Alabama Legislature to gain that authority.	NO
2	**MS4 Map:** Maintain and update the MS4 Map showing known outfalls from the Etowah County MS4.	0 civil plans provided to County 0 verified new outfalls	The existing storm water system map will be updated as features are identified.	The updated Storm Water System Map is attached. (See Document 2-1)		NO
3	**Identify Priority Areas:** Identify which drainage basins are considered Priority Areas for each reporting period.	. 2 Priority Areas were identified, Whorton Bend and Tillison Bend	The County will continue to evaluate the development of areas within the MS4.	Maps of the priority areas are attached. (See Document 2-2)	The County will designate Priority Areas within the Etowah County MS4 based on population density.	NO
4	**Outfall Reconnaissance Inventory for New MS4 Areas:** Implement a stream-walking program designed to identify outfalls to the MS4 within the newly-added MS4 areas if Urbanized Area Boundary changes.	0 new outfalls identified		Outfall table, ORI forms, and stormwater map are attached. (See Document 2-3)		NO
5	**Outfall Reconnaissance Inventory for Previously Unidentified Outfalls:** Identify, inspect, and screen previously unknown outfalls at time of discovery. Add the outfalls to the MS4 outfall inventory and map.	0 new outfalls identified	Probable outfalls identified will be added to the storm water system map and verified as identified.	Outfall table, ORI forms, and stormwater map are attached. (See Document 2-3)		NO
6	**Verification of Potential Outfalls Identified During Final Plat Approval:** Verify outfalls identified prior to acceptance of the major subdivision infrastructure for County maintenance.	0 new outfalls identified	The County will verify probable outfalls identified during review of the as-built drawings or from the final inspection.			NO
7	**Outfall Reconnaissance Inventory (ORI) During Dry Weather:** Conduct dry weather ORI inspections on a minimum of 15% of known outfalls during each reporting period.	7 outfalls inspected 0 new outfalls identified	The County will conduct dry weather monitoring on a minimum of 15% of the known outfalls.	Outfall table, ORI forms, and stormwater map are attached. (See Document 2-4)		NO

ETOWAH COUNTY
CONTROL MEASURE 2 - ILLICIT DISCHARGE DETECTION AND ELIMINATION
See Section 6.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
8	**Suspect Discharge Screening:** Screen dry-weather flows that are observed at an outfall during inspection.	0 dry weather flows 0 suspect discharges determined	The County will continue to follow the established procedures for the identification of illicit discharges and reporting illicit discharges.		No dry weather flow observed.	NO
9	**Suspect Discharge Sampling:** Sample dry weather flows that have a severity index of 3 on one or more indicators in Section 4 of the ORI Field Sheet.	0 dry weather flows 0 suspect discharges determined 0 samples collected 0 confirmed illicit discharges	The County will continue to follow the established procedures for the identification of illicit discharges and reporting illicit discharges.		No analysis required.	NO
10	**Outfall Ranking:** Analyze data from the outfall inspections to designate outfalls as having obvious, suspect, possible, or unlikely discharge potential.	0 obvious illicit discharges 0 suspect illicit discharges	The County will designate inspected outfalls as having obvious, suspect, possible, or unlikely discharge potential based on data from each ORI Field Sheet.	An updated outfall table, ORI forms, and stormwater map are attached. (See Document 2-4)		NO
11	**Illicit Discharge Investigation:** Perform illicit discharge investigations to determine the source of a discharge problem and the responsible party.	0 illicit discharge investigations 0 illicit discharges confirmed 0 illicit discharges eliminated	Where illicit discharges are identified, the County will conduct an illicit discharge investigation to determine the source.		No analysis required.	NO
12	**Corrective Action Record Keeping:** Create a case log detailing pertinent information when a suspect illicit discharge or illicit connection is identified.	0 illicit discharges confirmed 0 illicit discharges eliminated 0 illicit discharge corrective action pending	When a suspect illicit discharge or illicit connection is identified, a case log will be created to track information related to the incident or report.	Corrective action case log is attached. (See Document 2-5)		NO
13	**Illicit Discharge Elimination:** Report identified illicit discharges to the appropriate County department or agency for corrective action.	0 illicit discharges referred to other agencies. 0 illicit discharges eliminated	Illicit discharges will be reported to ADEM, the Alabama Department of Public Health,	Corrective action case log is attached. (See Document 2-5)		NO
14	**Public Reporting and Tracking System:** Promote the reporting number and form for reporting non-compliant construction sites, illicit discharges, impaired waterways, and violations of ordinances related to storm water pollution. Evaluate the efficacy of the program.	2 complaints received 2 complaints addressed 2 complaints resolved	The County will publicize the reporting number on the County's website and track received complaints and the County's responses to the received complaints. The County will evaluate the current public reporting and tracking methods.	A copy of the complaint form is attached. (See Document 2-6)	https://etowahcounty.org/report-storm-water-issues/	NO
15	**Annual County Employee Training:** Train County Employees in the identification of illicit discharges annually.	S&ME addressed illicit discharge identification in the Annual Training conducted on **March 15, 2023**. 33 County employees attended the training.	The County will train personnel on the identification of illicit discharges and procedures for reporting illicit discharges within the County organization.	Attendance records and training materials are attached. (See Document 2-7)		NO

ETOWAH COUNTY
CONTROL MEASURE 2 - ILLICIT DISCHARGE DETECTION AND ELIMINATION
See Section 6.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
16	**Notify ADEM of Illicit Discharges from an Adjacent MS4:** Notify the appropriate MS4 and the ADEM Water Division within 48 hours of observation of a suspect illicit discharge from an adjacent MS4.	0 suspect illicit discharges reported to other agencies	The County will continue to notify ADEM Water Division of observation of any suspect discharge from an adjacent MS4.		No illicit discharges in adjacent MS4 permit areas were observed or reported.	NO
17	**Notify ADEM of Unpermitted Industrial Sites:** Report unpermitted facilities that require an NPDES permit to the Industrial Section of ADEM.	0 unpermitted facilities were reported to the ADEM during the reporting period	Unpermitted facilities will be reported to the Industrial Permits Section of ADEM.		Etowah County continues to rely on ADEM for NPDES permitting enforcement	NO

OUTFALL INVENTORY TABLE

TYPE	LOCATION	OUTFALL ID	LATITUDE	LONGITUDE	ACCESS
Rainfall	Rainbow_City_AL	KALRAINB7	33.922	-86.099	Land
Rainfall	Gadsden Municipal Airport	KGAD	33.973	-86.088	Land
Rainfall	Noccalula_Falls	KALGADSD3	34.056	-85.994	Land
Rainfall	Hokes Bluff_AL	KALHOKES2	33.993	-85.806	Land
Monitoring	Big Wills Creek	AT 5	34.006446	-86.069061	Land
Monitoring	Black Creek	GD_8	33.999535	-86.024463	Land
Monitoring	Horton Creek	RC_2	33.967683	-86.039476	Land
Monitoring	Neely Henry_Lake	SS_13	33.891352	-86.049229	Land
Monitoring	U.T._to_Neely Henry Lake	SS 14	33.885921	-86.030683	Land
Monitoring	U.T._to_Neely Henry Lake	GD_12	33.952567	-86.003495	Land
Monitoring	U.T._to_Neely Henry_Lake	CO_14	33.940904	-85.967704	Land
Monitoring	U.T._to_Coosa_River	SME 2	34.002461	-86.001571	Land
Monitoring	Storm Sewer Outfall_Coosa	GD_7	34.008361	-85.999777	Boat
Monitoring	Town_Creek	GD_6	34.01535	-85.995617	Land
Monitoring	U.T._to_Neely Henry Lake	CO_15	33.97228	-85.965354	Land
Monitoring	Rock Creek/Dry_Creek/Coosa	RC 14	33.905786	-86.111656	Boat
Monitoring	U.T._to_Coosa_River	SS_5	33.941329	-86.021569	Boat
Monitoring	Big Wills Crek/Black_Creek	SME_1	33.990184	-86.004048	Boat
Monitoring	Cove_Creek	GD_5	34.014324	-85.924013	Boat
Monitoring	U.T._to_Neely Henry_Lake	GD_3	34.01238	-85.953651	Boat
Monitoring	Coal Creek	SME_3	34.009698	-85.95623	Boat
Monitoring	U.T._to_Neely Henry_Lake	HB_3	34.002129	-85.882808	Boat
Pos Out_FL	Green_Leaf_Road	ECO_1	34.00685	-85.948693	Land
Pos Out FL	Burger_Circle_1	ECO_2	34.007804	-85.947988	Land
Pos Out FL	Burger Circle_2	ECO 3	34.008225	-85.947277	Land
Pos Out FL	Meadowlark Place	ECO 4	34.008547	-85.94576	Land
Pos Out FL	Robert_Lee_Road	ECO 5	34.011229	-85.942422	Land
Pos Out FL	Lonz Road	ECO_6	34.010724	-85.93638	Land
Pos Out FL	McCluney_St_&_Mimosa_St	ECO_7	34.003013	-85.942328	Land
Pos Out FL	Centre Road	ECO 48	34.014913	-85.839036	Land
Pos Out FL	Day Circle_1	ECO_8	34.022324	-85.83502	Land
Pos Out FL	Day Circle_2	ECO_9	34.023231	-85.833318	Land
Pos Out FL	Lay_Springs Road_1	ECO 10	34.052228	-86.002485	Land
Pos Out FL	Lay Springs Road_2	ECO_11	34.050849	-86.005427	Land
Pos Out FL	Delmont Drive@Black Creek	ECO 12	34.053495	-86.004431	Land
Pos Out FL	Fairview Road	ECO 13	34.067154	-86.01146	Land
Pos Out FL	Morgan Drive_Northwest	ECO_14	34.025493	-86.10732	Land
Pos Out FL	Pine View Circle	ECO_15	33.970462	-86.109709	Land
Pos Out FL	Township Road	ECO_16	33.937567	-86.055204	Land
Pos Out FL	Sutton Bridge_Rd@Big Will	ECO_17	33.990894	-86.045406	Land
Pos Out FL	Sutton_Bridge RD_2	ECO_18	33.985223	-86.044002	Land
Pos Out FL	Steele Station RD	ECO_19	33.978874	-86.050866	Land
Pos Out FL	Whorton_Bend_RD_1	ECO_20	33.977681	-86.007028	Land
Pos Out FL	Whorton_Bend_RD_2	ECO_21	33.961145	-85.985072	Land
Pos Out FL	Pine_Haven_Road_1	ECO_22	33.957385	-85.989847	Land
Pos Out FL	Pine_Haven_Road_2	ECO_24	33.957286	-85.993604	Land
Pos Out FL	Richard Road	ECO_25	33.956505	-85.995781	Land

Pos Out FL	Pine_Haven_Road_3	ECO 26	33.957294	-85.99696	Land
Pos Out FL	Pine_Haven_Road_4	ECO_27	33.957317	-85.99813	Land
Pos Out FL	Cherokee Road	ECO 28	33.956127	-86.000088	Land
Pos Out FL	Garmon_Road_1	ECO_29	33.961028	-85.994342	Land
Pos Out FL	Garmon Road_2	ECO_30	33.960485	-85.998639	Land
Pos Out FL	Garmon_Road_3	ECO_31	33.953754	-86.003692	Land
Pos Out FL	Whorton_Bend_Road_3	ECO_32	33.952565	-86.003479	Land
Pos Out FL	Whorton_Bend_Road_4	ECO_33	33.951737	-86.001405	Land
Pos Out FL	Heron Drive_NW	ECO_34	33.9435	-85.994128	Land
Pos Out FL	Lakeshore_Drive	ECO_35	33.94089	-85.967656	Land
Pos Out FL	Clokey Drive	ECO_36	33.954425	-85.969839	Land
Pos Out FL	Beech Ridge Road	ECO_38	33.959115	-85.980312	Land
Pos Out FL	Cross Creek Lane	ECO_39	33.958153	-85.981076	Land
Pos Out FL	River Ridge_Road_2	ECO_40	33.959924	-85.976839	Land
Pos Out FL	River_Ridge Road_1	ECO_37	33.958435	-85.976669	Land
Pos Out FL	River Ridge_Road_3	ECO_41	33.9602	-85.978686	Land
Pos Out FL	Oakland_Drive 1	ECO_23	33.956893	-85.991416	Land
Pos Out FL	Oakland Drive_2	ECO_42	33.950314	-85.991278	Land
Pos Out FL	Chrislyn Drive	ECO_43	33.952385	-85.997343	Land
Pos Out FL	College Parkway_1	ECO_44	33.971805	-85.971048	Land
Pos Out FL	College Parkway_2	ECO_45	33.971852	-85.969514	Land
Pos Out FL	College Parkway_3	ECO_46	33.971904	-85.965338	Land
Pos Out FL	College Parkway_4	ECO_47	33.972949	-85.954938	Land

MS4 STORM WATER OUTFALL MONITORING 2022 - 2023 INSPECTION LOG

ID	LOCATION	BASIN	DATE OF INSPECTION	ILLICIT DISCHARGE	FLOW (Y/N)
ECO_21	WHORTON BEND ROAD 2	WHORTON BEND	6/24/2022	UNLIKELY	N
ECO_37	RIVER RIDGE ROAD 1	WHORTON BEND	6/24/2022	UNLIKELY	N
ECO_38	BEECH RIDGE ROAD	WHORTON BEND	6/24/2022	UNLIKELY	N
ECO_39	CROSS CREEK LANE	WHORTON BEND	6/24/2022	UNLIKELY	N
ECO_40	RIVER RIDGE ROAD 2	WHORTON BEND	6/24/2022	UNLIKELY	N
ECO_41	RIVER RIDGE ROAD 3	WHORTON BEND	6/24/2022	UNLIKELY	N
ECO_42	OAKLAND DRIVE	WHORTON BEND	6/24/2022	UNLIKELY	N

Full supporting documentation is available upon request.

Etowah County Engineering Department
256-549-5358

Appendix F – Construction Site Storm Water Runoff

ETOWAH COUNTY
CONTROL MEASURE 3 - CONSTRUCTION SITE STORM WATER RUNOFF
See Section 7.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
1	**Erosion and Sediment Control Regulations:** County's Subdivision Regulations, Article V, Section 5-4-4 (Road Construction Requirements) regulates storm water management within the County Evaluate the effectiveness of the Regulations each reporting period	The County evaluated the Subdivision Regulations on their effectiveness in addressing erosion and sediment control, and no changes were deemed necessary.	The County will evaluate the Subdivision Regulations annually.	The County's Subdivision Regulations can be viewed at the link below: http://etowahcounty.org/department/engineering/ Subdivision Regulations are attached. (See Document 3-1)		NO
2	**BMP Training Program:** Conduct annual training for County personnel tasked with plan review. Certify County personnel tasked with conducting BMP Inspections.	33 employees attended annual illicit discharge identification training 1 received QCI training Adam Hall QCI #T6251	Refresher trainings will be completed.	Training records and emails are attached. (See Document 2-7 & 3-2)		NO
3	**Require Plat Submittal:** Require submission of a Proposed Plat Application Assembly to the County Engineer for major subdivisions.	0 plats reviewed 0 plats approved 0 plats rejected	The County will continue to require submission of a Proposed Plat Application Assembly for major subdivisions.		No Proposed Plat Application Assemblies were submitted.	NO
4	**Sediment and Erosion Control Plan Review Procedures:** Sediment and erosion control measures certified by a Qualified Credentialed Professional will be deemed adequate.	0 plats reviewed 0 plats approved 0 plats rejected	Sediment and erosion control measures certified by a Qualified Credentialed Professional as defined in the Alabama Construction General Permit will be deemed adequate and will not be reviewed by County personnel.		No Proposed Plat Application Assemblies were submitted.	NO
5	**Maintain Inventory of Qualifying Construction Sites:** Maintain a list of active qualifying construction sites within the MS4 boundary.	0 active qualifying construction sites	The County will continue to maintain a list of active qualifying construction sites within the MS4 boundary.			NO
6	**Inspection of Qualifying Non-Priority Sites:** Inspect qualifying construction sites using the BMP Inspection Form every three months until permit termination.	0 inspections completed 0 non-compliant construction site 0 enforcement actions 0 non-compliant sites reported to ADEM 0 repeat offenders	The County will continue to inspect qualifying construction sites.	Example inspection forms are attached. (See Document 3-3)	The County does not currently have authority over construction activities beyond the initial infrastructure, nor does the County have the authority to regulate private developments such as commercial sites, individual home sites, or private subdivisions.	NO
7	**Inspection of Priority Construction Sites:** If a site is a Priority Site inspect the site once a month using the BMP Inspection Form until permit termination.	0 priority construction sites located within the MS4	Should a Priority watershed be designated, the County will identify and inspect qualifying Priority construction sites for which they have inspection authority.	Example inspection forms are attached. (See Document 3-3)	The Etowah County MS4 does not currently incorporate any waterbodies or watersheds that are impaired for siltation or turbidity.	NO

ETOWAH COUNTY
CONTROL MEASURE 3 - CONSTRUCTION SITE STORM WATER RUNOFF
See Section 7.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
8	**Re-inspection of Sites:** Re-inspect sites where deficiencies are noted and cannot be corrected during inspection. Use the BMP Inspection Form to complete re-inspections.	0 re-inspections completed 0 non-compliant construction site 0 enforcement actions 0 non-compliant sites reported to ADEM 0 repeat offenders	The County will continue to re-inspect sites with noted deficiencies.	Example inspection forms are attached. (See Document 3-3)		NO
9	**Public Reporting and Tracking System:** Promote the reporting number and form for reporting non-compliant construction sites, illicit discharges, impaired waterways, and violations of ordinances related to storm water pollution. Evaluate the efficacy of the program.	2 number of complaints received 2 number of complaints addressed 2 number of complaints resolved	The County will continue to promote the reporting form to the public and evaluate its efficacy.	A copy of the complaint form is attached. (See Document 1-9)	https://etowahcounty.org/report-storm-water-issues/	NO
10	**Notify ADEM of Unpermitted Sites:** Notify ADEM of any construction site that is not permitted under to Alabama Construction General Permit.	3 unpermitted facilities reported to ADEM	The County will notify ADEM of any qualifying construction site that is not permitted under the Alabama Construction General Permit.	(See Document 3-4)	The County does not currently have authority over construction activities beyond the initial infrastructure, nor does the County have the authority to regulate private developments such as commercial sites, individual home sites, or private subdivisions.	NO
11	**Notify ADEM of Non-Compliant Sites:** Notify ADEM of non-compliant sites where the County's enforcement actions did not result in compliance.	0 non-compliant sites reported to ADEM	Non-compliant construction sites will be reported to ADEM.		No communication records were generated.	NO

Supporting documentation is available upon request.

Etowah County Engineering Department
256-549-5358

Appendix G – Post-Construction Storm Water Management

ETOWAH COUNTY
CONTROL MEASURE 4 - POST-CONSTRUCTION STORM WATER MANAGEMENT
See Section 8.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
1	**Post-Construction Storm water Management Ordinance:** County's Subdivision Regulations, Article V, Section 5-4-4 (Road Construction Requirements) regulates post-construction storm water management within the County. Evaluate the effectiveness of the Regulations each reporting period	The County evaluated the Subdivision Regulations on their effectiveness in reducing runoff from new development or redevelopment, and no changes were deemed necessary.	The County will evaluate the Subdivision Regulations annually.	The County's Subdivision Regulations can be viewed at the link below: http://etowahcounty.org/department/engineering/ Subdivision Regulations are attached. (See Document 3-1)		NO
2	**Encourage Low-Impact Development/Green Infrastructure Practices:** Provide information on green development to individuals requesting plan review and building/development permits.	0 plans reviewed. 0 people received education materials.	The County will continue to provide information on green development to individuals requesting plan review.	Copies of educational materials are attached with the Subdivision Regulations. (See Document 3-1)		NO
3	**Require Plat Submittal:** Require submission of a Proposed Plat Application Assembly to the County Engineer for major subdivisions.	0 plats reviewed 0 plats approved 0 plats rejected	The County will continue to require submission of a Proposed Plat Application Assembly for major subdivisions.		No Proposed Plat Application Assemblies were submitted.	NO
4	**Plan Review Procedures:** Review Proposed Plat Application Assemblies for major subdivisions within 30 days of submittal.	0 plats were reviewed 0 additional metrics were deemed necessary	The County will continue to review submitted Proposed Plat Application Assemblies.		No Proposed Plat Application Assemblies were submitted.	NO
5	**Require As-Built Certification:** Require as-built plans following completion of infrastructure construction for a major subdivision or following approval of the proposed plat for a minor subdivision or large acreage tract.	0 as-built plans were reviewed	The County will continue to require submittal of as-built plans following completion of infrastructure construction for a major subdivision or following approval of the proposed plat for a minor subdivision or large acreage tract.		No plans were provided.	NO
6	**Post-Installation Inspections:** Poorly-functioning post-construction controls that result in illicit discharges will be reported to ADEM.	0 illicit discharges reported to ADEM.	The County will continue to report poorly-functioning post-construction controls that result in illicit discharges to ADEM.		The County does not currently have authority to inspect post-construction controls located on private property.	NO
7	**Require long-term maintenance on storm water controls:** Post-construction controls must be located on private property and the parcel of land must be retained by the developer of HOA.	0 plats were reviewed	The County will continue to require long-term maintenance on storm water controls.		No communication records were generated.	NO

ETOWAH COUNTY
CONTROL MEASURE 4 - POST-CONSTRUCTION STORM WATER MANAGEMENT
See Section 8.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
8	**Inventory of Post-Construction Structural Controls:** Compile an inventory of post-construction structural controls located within the Etowah County MS4. Update the inventory annually.	0 new structural BMPs added 0 total structural BMPs	The County will continue to keep inventory of post-construction structural controls within the Etowah County MS4.	The Etowah County Subdivision Regulations require that post-construction structural controls be maintained by the developer (See Document 3-1)		NO
9	**Annual Inspection of County-owned Post-Construction Storm Water Controls:** Inspect post-construction BMPs within the MS4 a minimum of once per year.	There were no post-construction County-owned storm water controls. 0 inspections performed	The County will continue to inspect County-owned or managed post-construction BMPs within the Etowah County MS4 at a minimum of once per year.	An example inspection report is attached. (See Document 4-1)		NO
10	**Annual Inspection of Privately-owned Post-Construction Storm Water Controls:** Poorly-functioning post-construction controls that result in illicit discharges will be reported to ADEM.	0 illicit discharges reported to ADEM.	The County will continue to report poorly-functioning post-construction controls that result in illicit discharges to ADEM.		The County does not currently have authority to inspect post-construction controls located on private property.	NO
11	**Corrective Actions for County-Owned Post-Construction Controls:** Perform maintenance or repairs if an inspection identifies a maintenance issue.	0 corrective actions taken	The County will continue to perform maintenance on identified issues.	An example inspection report is attached. (See Document 4-1)		NO
12	**Procedures to Address Non-Compliant Post-Construction BMPs:** Poorly-functioning post-construction controls that result in illicit discharges will be reported to ADEM.	0 illicit discharges reported to ADEM.	The County will continue to report poorly-functioning post-construction controls that result in illicit discharges to ADEM.		The County does not currently have authority to inspect post-construction controls located on private property.	NO

ETOWAH COUNTY DEVELOPMENT POST-CONSTRUCTION BMP INSPECTION FORM

NAME OF DEVELOPMENT _____ **INSPECTOR** _____

TYPE OF DEVELOPMENT _____ **SIGNATURE** _____

LOCATION _____ **OWNER NAME** _____

SIZE (IN AC) _____ **OWNER ADDRESS** _____

INSPECTION DATE/TIME _____ **OWNER PHONE** _____

WEATHER _____ **OWNER EMAIL** _____

OWNER FAX _____

IS THERE A MAINTENANCE AGREEMENT FOR LONG-TERM BMP'S? _____

ARE BMPS WORKING PROPERLY? _____

ARE BMPS BEING PROPERLY MAINTAINED AT THE TIME OF INSPECTION? _____

ARE ADDITIONAL BMPS NEEDED? _____

HAVE PHOTOGRAPHS OF ALL CRITICAL STORM WATER BMP COMPONENTS BEEN TAKEN AS PART OF THIS INSPECTION? _____

HAVE ALL PREVIOUS ISSUES BEEN ADDRESSED AND CORRECTED? _____

ADDITIONAL COMMENTS: _____

BMP	CONDITION: SATISFACTORY, NEEDS IMPROVEMENT, TURBID DISCHARGE, SEDIMENT LOSS	REMARKS

Appendix H – Pollution Prevention for Municipal Operations

ETOWAH COUNTY

CONTROL MEASURE 5 - POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

See Section 9.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
1	**County Facilities Inventory:** Maintain an inventory of all county facilities, including facilities that have the potential to discharge pollutants. Update the inventory annually.	3 County facilities 1 facility with pollution potential	The County will continue to maintain the inventory listing all County facilities, including County facilities that have the potential to discharge pollutants via storm water runoff.	A list of County facilities and addresses is attached. (See Document 5-1)	Note: All road department employees have now been relocated to the County's Gadsden facility. Employees are no longer working out of the Attalla shop, which is included as one of the three facilities in the SWMPP.	NO
2	**Promote and Participate in Anti-Litter/Cleanup Events:** Partner with Keep Etowah Beautiful, Clean Water Partnership of Alabama, and/or Alabama Power to support, sponsor, and/or promote anti-litter and cleanup events.	The County participated and/or contributed to the following events that were held: Renew Our Rivers, the Water Festival, the Great American Cleanup, and the Clean Campus Certification and Program.	The County will continue support of Keep Etowah Beautiful efforts and participation in these events.	The Keep Etowah Beautiful Community Programs Summary as well as documentation for Renew Our Rivers, the Water Festival, the Great American Cleanup, and the Clean Campus Certification and Program is attached. (See Document 1-10)		NO
3	**Adopt-A-Mile Program support:** Maintain Adopt-a-Mile signs and provide trash bags to supporters.	1 mile adopted 0 streams adopted	Etowah County will continue to encourage the Adopt-A-Mile program and assist with individuals and/or groups with participation.	Adoption form is included with ALPALS information. (See Document 1-11)		NO
4	**Disposal Days:** Provide quarterly free disposal days.	Disposal days were held on May 7, 2022, August 6, 2022, November 5, 2022 and February 4, 2023. Disposal days were advertised via Public Notice and additional coverage by The Gadsden Times	The County will continue to support this effort in order to reduce illegal dumping of materials.	Public Notices and Gadsden Times articles are attached. (See Document 1-12)		NO
5	**No Dumping Signs:** Maintain and add "No Dumping" signs as necessary.	11 "No Dumping" signs were signs added.	The County will continue to place or maintain "No Dumping" signs in problem areas.	Photos of signs are attached along with documentation of illegal dumping. (See Document 1-13)	The County maintains "No Dumping $500 fine" signs and some of these No Dumping areas are under video surveillance. These are put out in the County through Keep Etowah Beautiful as part of the effort to eliminate/reduce unauthorized disposal of waste.	NO
6	**Scrap Tire Collection:** Collected tires from other activities will disposed of properly.	No scrap tires were collected or disposed of during the 2022-2023 cycle.	Etowah County will continue to assist Keep Etowah Beautiful cleanup events with proper tire disposal.			NO
7	**Inmate Cleanup Crews:** Inmate crews will be used to remove litter among roadways when possible.	Days - 214 Miles - 279.30 Tons - 67.87 tons of litter collected Recyclable Litter - 38.00 tons	The Etowah County Sheriff's Department will continue this program.	The Keep Etowah Beautiful Community Programs Summary is attached. (See Document 1-10)		NO
8	**Evaluate Effectiveness of Litter Reduction Program:** Evaluate the litter reduction program.	The County has evaluated the program and determined that no changes are necessary.	The County will track the metrics identified in the 2022 SWMPP and evalute the effectiveness of the program each reporting period.		The existing litter reduction programs are reducing litter on roadsides and in the Coosa River. More outreach and education is needed for commercial industries.	NO
9	**Vehicle and Equipment Maintenance SOP:** Evaluate the SOP for vehicle and equipment maintenance by March 31 each year.	The County evaluated the SOP and determined it to be compliant at this time.	The County will evaluate the Vehicle and Equipment Maintenance SOP by March 31, 2024.	The county facility inventory and quarterly inspection/SOP checklists are attached. (See Document 5-2)		NO

ETOWAH COUNTY

CONTROL MEASURE 5 - POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

See Section 9.0 of the 2022 SWMPP

STRATEGY NO.	STRATEGIES	2022-2023 IMPLEMENTATION STATUS	2023-2024 PROPOSED EFFORTS	SUPPORTING DOCUMENTATION	COMMENTS	PROPOSED CHANGES
10	**Equipment and Vehicle Washing SOP:** Develop an equipment and vehicle washing SOP by March 31, 2023. Evaluate the SOP by March 31 each year.	1 designated washing area maintained. The County developed and implemented the required SOP during the 2022-2023 reporting period.	The County will evaluate the Equipment and Vehicle Washing SOP by March 31, 2024.	The county facility inventory, photos and quarterly inspection/SOP checklists are attached. (See Document 5-2)		NO
11	**County Vehicle Fueling SOP:** Develop a county vehicle fueling SOP by March 31, 2023. Evaluate the SOP by March 31 each year.	The County did not develop a written fueling SOP during the reporting period.	The County will develop an SOP for the fueling of County vehicles by March 31, 2024.		The County does not operate a fueling area. Fueling of county vehicles is done at local service stations.	NO
12	**Herbicide SOP:** Develop a herbicide SOP by March 31, 2023. Evaluate the SOP by March 31 each year.	The County did not develop a written herbicide SOP during the reporting period. The County requires that all personnel handling or applying herbicides are certified by the State of Alabama and that all materials are handled and applied according to state and manufacturer requirements.	The County will develop the herbicide SOP by March 31, 2024. The County will continue to recertify County employees as required Should other pesticide applications be needed, the County will review applicator certifications and licensing during the bid process.	Copies of herbicide certifications are attached. (See Document 5-3)	The County requires that all personnel handling or applying herbicides are certified by the State of Alabama and that all materials are handled and applied according to state and manufacturer requirements	NO
13	**Quarterly Inspection of County Facilities:** Inspect county facilities that have the potential to discharge pollutants once per quarter.	1 facility with potential to dicharge 4 inspections performed 0 deficiencies noted	Inspect each facility for housekeeping on a quarterly basis.	The county facility inventory and quarterly inspection/SOP checklists are attached. (See Document 5-4)		NO
14	**Corrective Actions at County Facilities:** Address noted deficiencies from quarterly inspections within 72 hours of the inspection.	0 deficiencies noted 0 deficiencies corrected 0 deficiencies re-inspected	The county will address any deficiencies from quarterly inspections within 72 hours of the inspection.	The county facility inventory and quarterly inspection/SOP checklists are attached. (See Document 5-5)		NO
15	**Annual Employee Training:** Conduct annual training for County personnel.	S&ME addressed good housekeeping and best practices at County facilities in the Annual Training conducted on **March 15, 2023**. 33 County employees attended the training.	The County will train personnel on good housekeeping and best practices at County facilities.	Attendance records and training materials are attached. (See Document 2-7)		NO
16	**Additional Strategy:** Oil Waste Recycling - The Etowah County Shop collects used oil and filters from County vehicles and equipment.	Waste oil and filters have been collected but not enough to be picked up by the collection company during the 2022-2023 cycle.	Etowah County will continue to collect and recycle waste oil and filters.	Photos of the collected oil filters and used oil tank are attached. (See Document 1-19)	The County collects used oil and filters at the Maintenance Shop.	
17	**Additional Strategy:** Vehicle Maintenance Program: Conduct routine inspections of municipal vehicles and equipment	Daily inspections were performed on vehicles before they were driven. 9 vehicle or equipment leaks identified and corrected during the reporting period	The County will conduct routine inspections.	Work orders for the identified leaks are attached. (See Document 5-2)		
18	**Additional Strategy:** Waste Petroleum Disposal	The County contracted Universal Environmental Services to test and properly dispose of waste bituminous material from pothole patching trucks.		Copies of the UES quote and County purchase order are attached. (See Document 1-21)		

ETOWAH COUNTY FACILITIES

ETOWAH COUNTY COURTHOUSE
800 FORREST AVENUE
GADSDEN, AL 35901

GADSDEN SHOP
402 TUSCALOOSA AVENUE
GADSDEN, AL 35901

ATTALLA LOCATION
1950 US HIGHWAY 431 NORTH
ATTALLA, AL 35954

Full supporting documentation is available upon request.

Etowah County Engineering Department
256-549-5358