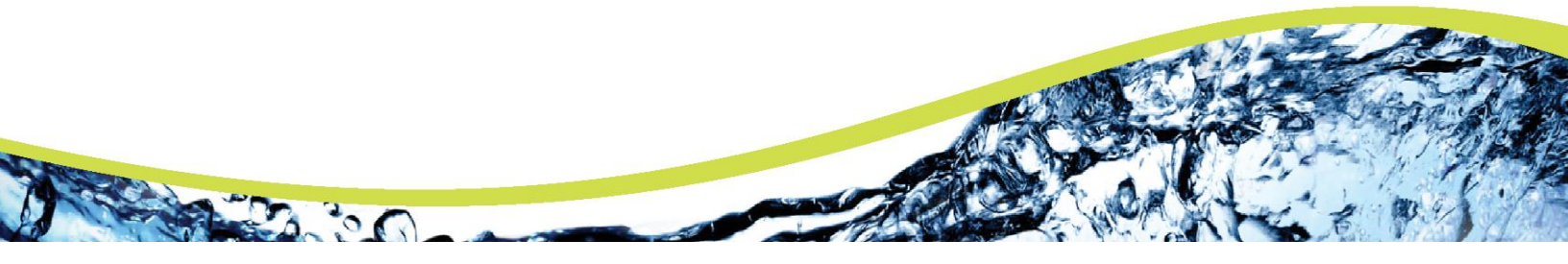


# Clean Water 2020 Program

## CONSENT DECREE QUARTERLY REPORT

April 1, 2021 – June 30, 2021



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## Section 1 Introduction

### 1.1 Summary of Reporting Requirements

On May 21, 2014, the City of Columbia (City) entered into a Consent Decree (CD) with the United States Environmental Protection Agency (EPA), the United States Department of Justice (DOJ) and the South Carolina Department of Health and Environmental Control (SCDHEC). To fulfill the reporting requirements as defined in Section IX.39.a of the CD, the City has prepared this *Quarterly Report* that includes the following information (as excerpted from the CD):

1. A description of all projects and activities conducted during the most recently completed calendar quarter to comply with the requirements of this Consent Decree, in Gantt chart or similar format. This description shall include completion percentages of early action capital improvement projects under Paragraph 10, continuing sewer assessments under the CSAP, and the subsequent remedial actions under the IR Report;
2. The date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise resolve the cause of all SSOs for the most recently completed quarter in a tabulated electronic format;
3. The anticipated projects and activities that will be performed in the next quarter to comply with the requirements of this Consent Decree, in Gantt chart or similar format;
4. Any additional information that demonstrates that Columbia is implementing the remedial measures required in this Consent Decree; and
5. The results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the Consent Decree.

### 1.2 Report Organization

This Quarterly Report is organized as follows:

#### **Section 1 – Introduction**

This section includes a summary of the reporting requirements and describes the report organization.

#### **Section 2 – Schedule of Projects and Activities**

This section addresses the requirements of Sections IX.39.a.(i) and IX.39.a.(iii) of the Consent Decree. The section includes the projects and activities conducted during the most recently completed calendar quarter to comply with the requirements of the CD as well as the anticipated projects and activities that will be performed in the next quarter to comply with the requirements of the CD. A Gantt chart schedule

of these activities is provided and includes completion percentages of continuing sewer assessments under the CSAP and the subsequent remedial actions under the IR Report, as applicable.

**Section 3 – Additional Information Demonstrating Implementation of Consent Decree Requirements**

This section addresses the requirements of Section IX.39.a.(iv) of the Consent Decree and includes additional information that demonstrates that Columbia is implementing the remedial measures required in the CD. Information supplemental to that which is provided in Section 2 is provided in this section.

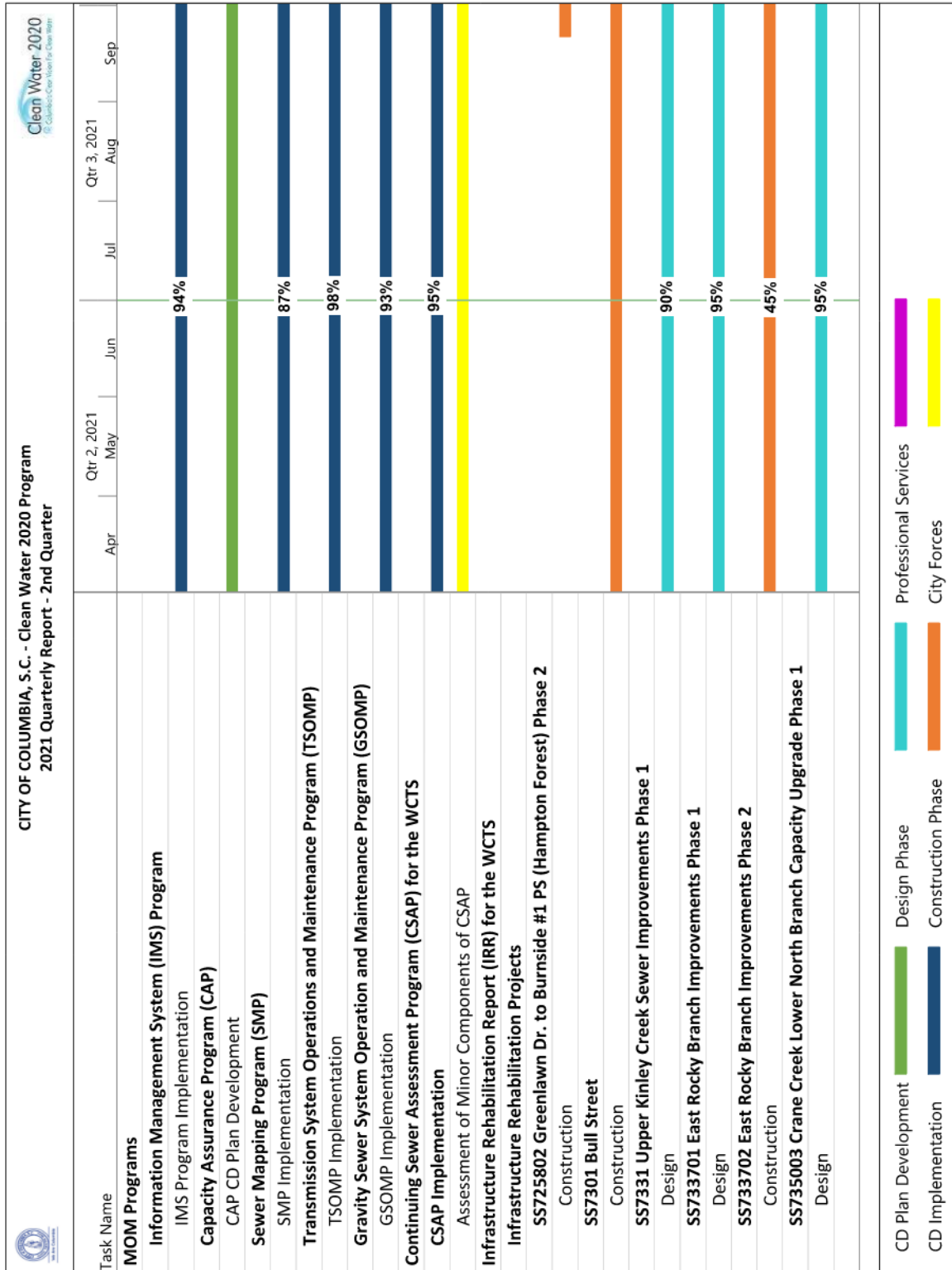
**Section 4 – Quarterly SSO Report**

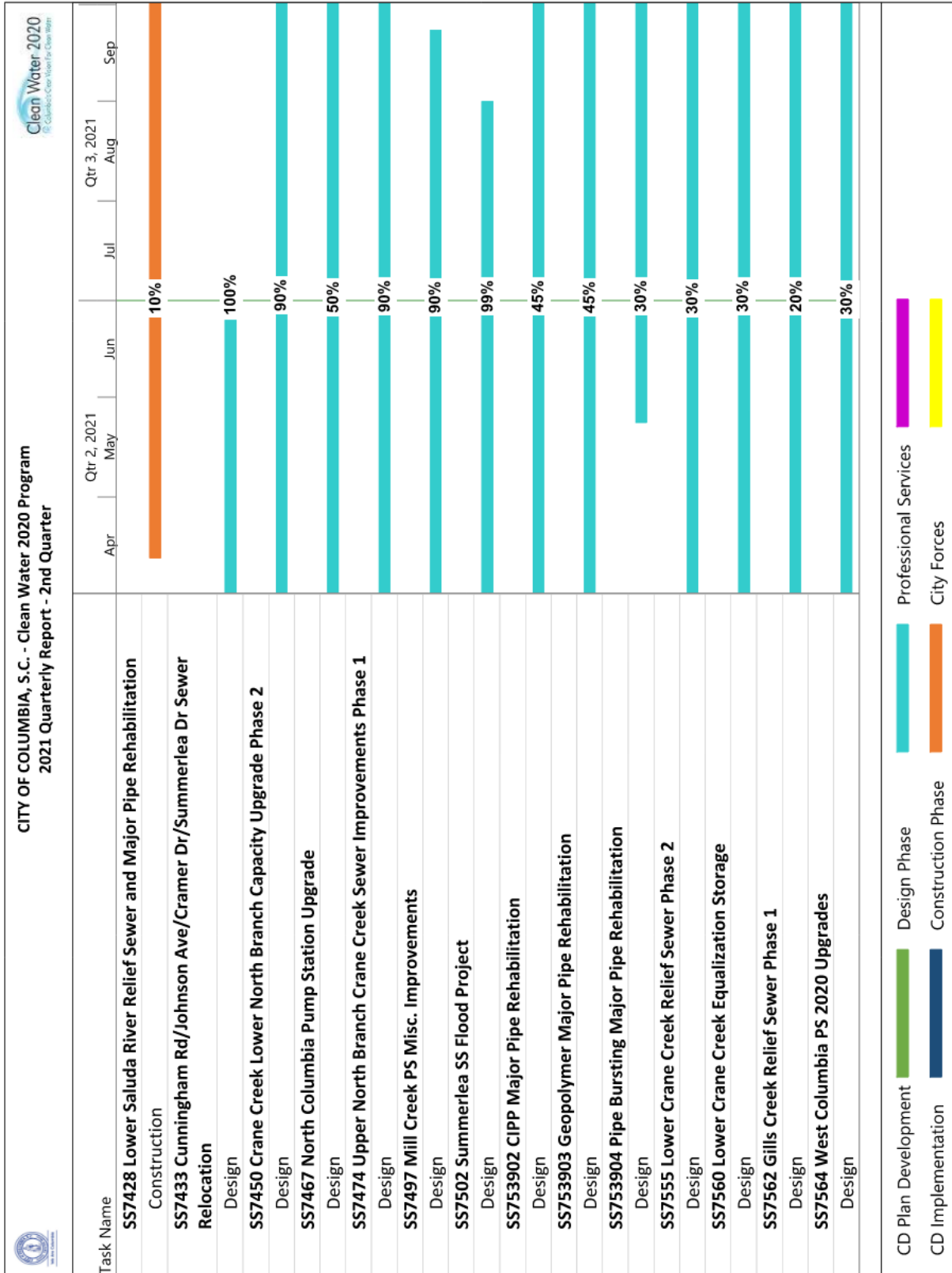
This section addresses the requirements of Section IX.39.a.(ii) of the Consent Decree and provides a tabular listing of sanitary sewer overflows (SSOs). The table includes the date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise resolve the cause of all SSOs that occurred during the most recently completed calendar quarter.

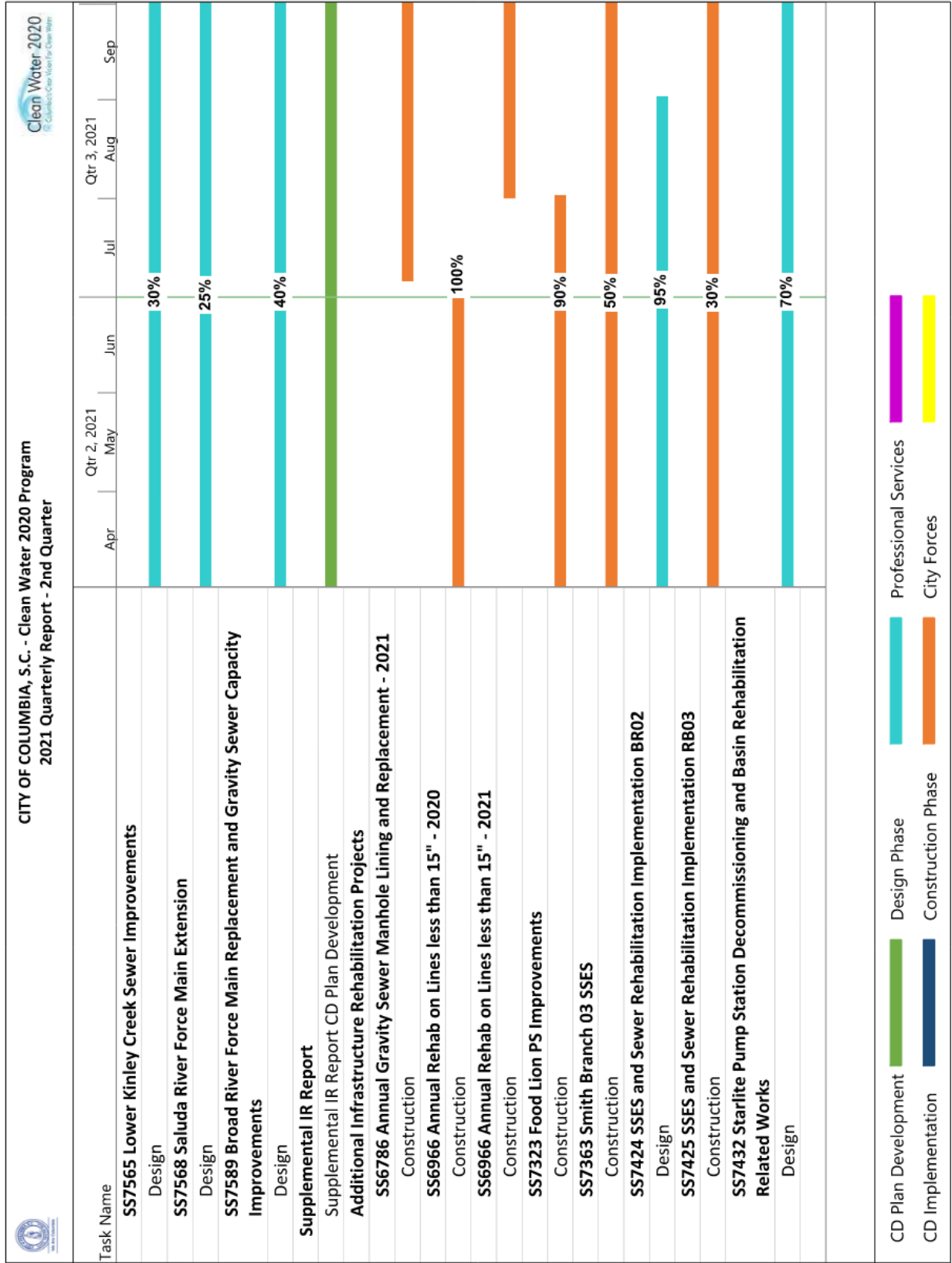
**Section 5 – SEP Water Quality Monitoring Results**

This section addresses the requirements of Section IX.39.a.(v) of the Consent Decree and provides the results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the CD.

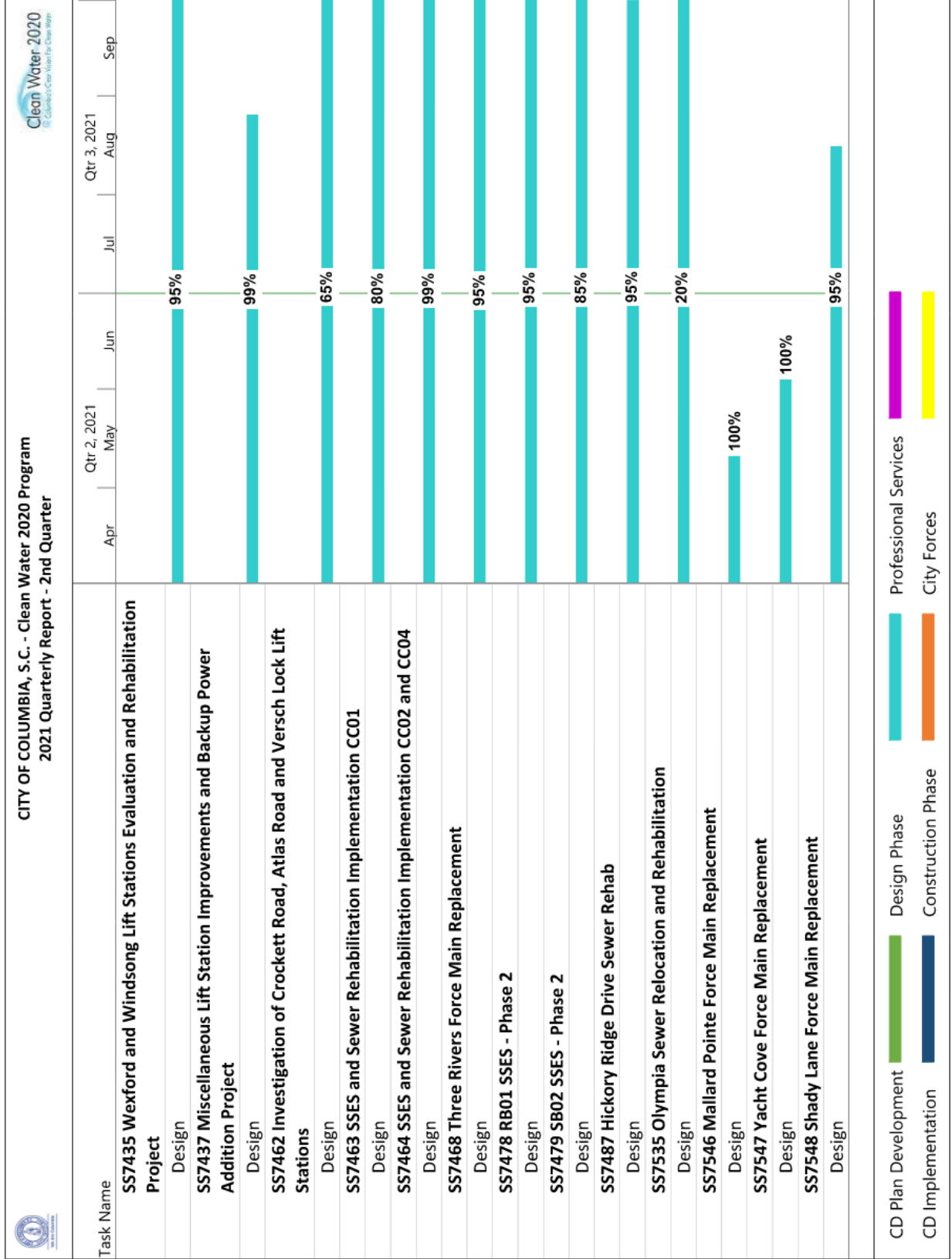
## Section 2 Schedule of Projects and Activities











CITY OF COLUMBIA, S.C. - Clean Water 2020 Program 2021 Quarterly Report - 2nd Quarter		Clean Water 2020 City of Columbia, South Carolina				
Task Name	Apr	May	Jun	Jul	Aug	Sep
<b>S57549 Woodlands Force Main Replacement</b> Design			90%			
<b>S57554 Harbison #4 Pump Station Improvements and Force Main Replacement</b> Design			30%			
<b>S57583 SR02 Engineer Led Find and Fix Rehabilitation</b> Design			60%			

CD Plan Development	Design Phase	Professional Services
CD Implementation	Construction Phase	City Forces

## Section 3 Additional Information Demonstrating Implementation of Consent Decree Requirements

In accordance with Section IX.39.a.(iv) of the CD, the following section provides additional information that demonstrates that the City is implementing the remedial measures required in the CD.

### 3.1 MOM Programs

In accordance with Section V.12 of the CD, the City is developing and implementing specific Management, Operations, and Maintenance (MOM) programs. The Program elements addressed in this section provide information regarding activities involving the Metro WWTP as well as the City's Wastewater Collection and Transmission System (WCTS).

#### 3.1.1 Information Management System (IMS) Program

The IMS Program was submitted to EPA and SCDHEC on January 4, 2016. The City received final approval of the IMS Program from EPA and SCDHEC on May 23, 2016.

The activities completed or in progress during the current reporting period are as follows:

- Sewer Mapping Program – 87% Complete

#### 3.1.2 Sewer Mapping Program

In accordance with the requirements of the CD, the City was to develop and submit a Sewer Mapping Program (SMP) to EPA and SCDHEC within 60 days of the date of entry of the CD. The City received final approval of the SMP from EPA and SCDHEC on December 9, 2014.

Projects and significant activities completed during the current reporting period:

- The City continues to complete the electronic mapping of each Sewer Basin in accordance with the approved SMP implementation plan. Progress for each WCTS Minor Gravity Mapping basin is as follows:
  - West Columbia Basin – 100% complete (Mapping complete as of June 9, 2020)
  - Smith Branch Basin – 100% complete (Mapping complete as of June 9, 2021)
  - Saluda River Basin – 100% complete (Mapping complete as of June 9, 2021)
  - Rocky Branch Basin – 100% complete (Mapping complete as of June 9, 2021)
  - Mill Creek Basin – 28% complete
  - Gills Creek Basin – 70% complete
  - Crane Creek Basin – 77% complete
  - Broad River Basin – 47% complete

### 3.1.3 Transmission System Operations and Maintenance Program (TSOMP)

The TSOMP was submitted to EPA and SCDHEC on May 18, 2015. The City received final approval of the TSOMP from EPA and SCDHEC on September 2, 2016.

The activities completed or in progress during the current reporting period are as follows:

- Force Main and Easement Maintenance (Easement survey and marking and initial clearing to the surveyed limits, where practical) – 95% Complete

### 3.1.4 Gravity Sewer System Operation and Maintenance Program (GSOMP)

The GSOMP was submitted to EPA and SCDHEC on November 20, 2015. The City received final approval of the GSOMP from EPA and SCDHEC on May 23, 2016. The GSOMP was revised and resubmitted to EPA and SCDHEC on May 8, 2019.

The activities completed or in progress during the current reporting period are as follows:

- Gravity Sewer Easement survey and marking and initial clearing to survey the limits, where practical – 80% Complete

## 3.2 Continuing Sewer Assessment Program (CSAP) for the WCTS

The CSAP was submitted to EPA and SCDHEC on June 9, 2015. The City received final approval of the CSAP from EPA and SCDHEC on May 23, 2016. The CSAP was revised and resubmitted to EPA and SCDHEC on October 3, 2018. The City received approval of the revised CSAP from EPA and SCDHEC on February 6, 2019.

The activities under the Minor Components of the CSAP completed or in progress during the current reporting period are as follows:

- Minor Gravity Sewer and Manholes Condition Assessment – 85% Complete
- Minor Pump Stations Condition Assessment – 85% Complete
- Minor Force Mains Field Assessment – 85% Complete

## 3.3 Infrastructure Rehabilitation Report (IRR) for the WCTS

In accordance with Section V.16 of the CD, the City shall submit an Infrastructure Rehabilitation Report (IRR) summarizing the results of the CSAP of the major components of the WCTS and a description of

proposed rehabilitation projects. The IRR was submitted to EPA and SCDHEC on November 22, 2019. The City is awaiting EPA and SCDHEC review and approval of the IRR.

As rehabilitation projects are identified through the assessments described in Section 3.2 and in the normal course of operations and maintenance, the City is proceeding with design and construction of those projects. Completion percentages of projects currently in progress are as follows:

- SS725802 Greenlawn Dr. to Burnside #1 PS (Hampton Forest) Phase 2 – Construction 0% Complete
- SS7301 Bull Street – Construction in Progress; a completion percentage cannot be provided due to a varying scope of work and timeline for this project.
- SS7331 Upper Kinley Creek Sewer Improvements Phase 1 – Design 90% Complete
- SS733701 East Rocky Branch Improvements Phase 1 – Design 95% Complete
- SS733702 East Rocky Branch Improvements Phase 2 – Construction 45% Complete
- SS735003 Crane Creek Lower North Branch Capacity Upgrade Phase 1 – Design 95% Complete
- SS7428 Lower Saluda River Relief Sewer and Major Pipe Rehabilitation – Construction 10% Complete
- SS7433 Cunningham Rd/Johnson Ave/Cramer Dr/Summerlea Dr Sewer Relocation – Design 100% Complete
- SS7450 Crane Creek Lower North Branch Capacity Upgrade Phase 2 – Design 90% Complete
- SS7467 North Columbia Pump Station Upgrade – Design 50% Complete
- SS7474 Upper North Branch Crane Creek Sewer Improvements Phase 1 – Design 90% Complete
- SS7497 Mill Creek Pump Station Miscellaneous Improvements – 90% Design Complete
- SS7502 Summerlea SS Flood Project – 99% Design Complete
- SS753902 CIPP Major Pipe Rehabilitation – 45% Design Complete
- SS753903 Geopolymer Major Pipe Rehabilitation – 45% Design Complete
- SS753904 Pipe Bursting Major Pipe Rehabilitation – 30% Design Complete
- SS7555 Lower Crane Creek Relief Sewer Phase 2 – Design 30% Complete
- SS7560 Lower Crane Creek Equalization Storage – 30% Design Complete
- SS7562 Gills Creek Relief Sewer Phase 1 – 20% Design Complete
- SS7564 West Columbia Pump Station Improvements – 30% Design Complete
- SS7565 Lower Kinley Creek Sewer Improvements – 30% Design Complete
- SS7568 Saluda River Force Main Extension – 25% Design Complete
- SS7589 Broad River Force Main Replacement and Gravity Sewer Capacity Improvements – Design 40% Complete

In accordance with Section V.16.c of the CD, the City shall submit a Supplemental Infrastructure Rehabilitation Report (SIRR) which shall update all portions of the IRR to reflect additional information developed by the City through completion of the CSAP of the minor components of the WCTS. The SIRR is to be submitted within six months after the City has assessed the remainder of the entire WCTS pursuant to the CSAP. As rehabilitation projects are identified through the assessments described in Section 3.2

and in the normal course of operations and maintenance, the City is proceeding with design and construction of those projects. Completion percentages of projects currently in progress are as follows:

- SS6786 Annual Gravity Sewer Manhole Lining and Replacement – 2021 Construction 0% Complete
- SS6966 Annual Rehab on Lines less than 15” – 2020 Construction 100% Complete, 2021 Construction 0% Complete
- SS7323 Food Lion PS Improvements – Construction 90% Complete
- SS7363 Smith Branch 03 SSES – Construction 50% Complete
- SS7424 SSES and Sewer Rehabilitation Implementation BR02 – Design 95% Complete
- SS7425 SSES and Sewer Rehabilitation Implementation RB03 – Construction 30% Complete
- SS7432 Starlite PS Decommissioning and Basin Rehabilitation Related Works – Design 70% Complete
- SS7435 Wexford and Windsong Lift Stations Evaluation and Rehabilitation Project – Design 95% Complete
- SS7437 Miscellaneous Lift Station Improvements and Backup Power Addition Project – Design 99% Complete
- SS7462 Investigation of Crockett Road, Atlas Road and Versch Lock Lift Stations – Design 65% Complete
- SS7463 SSES and Sewer Rehabilitation Implementation CC01 – Design 80% Complete
- SS7464 SSES and Sewer Rehabilitation Implementation CC02 and CC04 – Design 99% Complete
- SS7468 Three Rivers Force Main Replacement – Design 95% Complete
- SS7478 Rocky Branch 01 SSES Phase 2 – Design 95% Complete
- SS7479 Smith Branch 02 SSES Phase 2 – Design 85% Complete
- SS7487 Hickory Ridge Drive Sewer Rehab – Design 95% Complete
- SS7535 Olympia Sanitary Sewer Relocation and Rehabilitation – 20% Design Complete
- SS7546 Mallard Pointe Force Main Replacement – 100% Design Complete
- SS7547 Yacht Cove Force Main Replacement – 100% Design Complete
- SS7548 Shady Lane Force Main Replacement – 95% Design Complete
- SS7549 Woodlands Force Main Replacement – 90% Design Complete
- SS7554 Harbison #4 Pump Station Improvements and Force Main Replacement – Design 30% Complete
- SS7583 Saluda River 02 Engineer Led Find and Fix Rehabilitation – Design 60% Complete

### 3.4 Sewer System Hydraulic Model

The Hydraulic Model Report was submitted to EPA and SCDHEC on August 21, 2020. The City is awaiting EPA and SCDHEC review and approval of the Hydraulic Model Report.

## Section 4 Quarterly SSO Report

In accordance with Section IX.39.a.(ii) of the CD, the City is to provide a list of all SSOs that occurred during the reporting period in a tabular format along with information on the date, time, location, source, duration, estimated volume, receiving water, cause, and actions taken to resolve the SSO.

**Table 1 – SSO Report, 2nd Quarter 2021**

City of Columbia, SC Quarterly SSO Listing 2nd Quarter 2021									
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
4/5/2021	18:00	130 Cardiff St, Columbia, SC 29209	Cleanout	4/5/2021	16:30	4		Roots	Removed Stoppage To Resume Normal Flow. Root Cut Service Line.
4/7/2021	10:15	1400 Saint Andrews Rd, Columbia, SC 29210	Manhole	TBD		1509	Storm Drain	Collapsed Line	Removed Blockage To Resume Normal Flow. Main Line Repair, Possible Manhole Install.
4/8/2021	14:15	102 Rocky Point Dr, Columbia, SC 29212	Forcemain	4/8/2021	15:00	719		3rd Party Responsibility	Turned Off Pumps. Repaired 2.5" Cap To Forcemain Access Point.
4/13/2021	09:10	1202 Bailey St, Columbia, SC 29203	Manhole	4/13/2021	09:50	800		Grease	Removed Blockage To Resume Normal Flow. Washed Main Line 450 Feet To Remove Blockage.
4/13/2021	18:05	854 Galway Ln, Columbia, SC 29209	Manhole	TBD		60	Unnamed Creek	Roots	Removed Stoppage To Resume Normal Flow. Main Line Root Cut Is Being Scheduled.
4/14/2021	11:00	417A Briercliff Dr, Columbia, SC 29203	Other	4/14/2021	14:30	20	Unnamed Creek	Equipment Failure	Closed Bypass Valve On The Force Main To Stop The SSO. Replaced Damage Section Of Hose On The Bypass Pump.
4/15/2021	19:00	604 Crane Church Rd, Columbia, SC 29203	Other	4/20/2021	7:24	84		Collapsed Line	Emergency Service Line Repair.
4/17/2021	10:26	112 Crosscreek Dr, Columbia, SC 29212	Manhole	TBD		715	Storm Drain	Debris	Removed Stoppage To Resume Normal Flow. Manhole Clean/Rehab Is Being Scheduled.
4/20/2021	20:00	120 Styron Ct, Columbia, SC 29203	Manhole	5/14/2021	12:00	51		Collapsed Line	Removed Stoppage To Resume Normal Flow. Main Line Repair.
4/22/2021	08:00	4040 Rosewood Dr, Columbia, SC 29205	Manhole	4/22/2021	08:30	1000	Storm Drain	Debris	Removed Stoppage To Resume Normal Flow. Main Line Wash.
4/24/2021	13:00	521 Calvary Dr, Columbia, SC 29203	Manhole	4/24/2021	13:30	1189		Debris	Removed Stoppage To Resume Normal Flow. Main Line Wash.
4/25/2021	13:56	2846 Stepp Dr, Columbia, SC 29204	Cleanout	4/25/2021	15:00	39	Storm Drain	Roots	Removed Stoppage To Resume Normal Flow. Root Cut Service Line.
4/26/2021	13:04	1401 Saint Andrews Rd, Columbia, SC 29210	Manhole	4/26/2021	14:00	600	Stormwater Ditch	Debris	Removed Stoppage To Resume Normal Flow. Washed Main Line And Removed Debris.
4/26/2021	18:10	1722 Oriole Rd, Columbia, SC 29204	Cleanout	4/28/2021	12:00	6		Collapsed Line	Emergency Service Line Repair.
4/30/2021	14:50	417A Briercliff Dr, Columbia, SC 29203	Other	4/30/2021	15:30	70	Unnamed Creek	Equipment Failure	Closed Bypass Valve On The Force Main To Stop The SSO. Replaced Damage Section Of The Hose On The Bypass Pump.
4/30/2021	16:00	304 Mcrae Dt, Columbia, SC 29203	Cleanout	N/A		659	Storm Drain	3rd Party Responsibility	Evidence Only.
5/1/2021	11:40	1422 Beaver Dam Rd, Columbia, SC 29212	Manhole	TBD		500	Kinley Creek	Roots	Removed Stoppage To Resume Normal Flow. Main Line Repair Is Being Scheduled.
5/6/2021	12:20	102 Rocky Point Dr, Columbia, SC 29212	Other	5/6/2021	12:30	30		Equipment Failure	Turned RPZ Valve Off. RPZ Valve Will Remain Closed Until It Can Be Tested.
5/10/2021	16:45	6111 Kemberly St, Columbia, SC 29209	Cleanout	TBD		13		Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair Is Being Scheduled.
5/11/2021	11:30	110 Deerwood St, Columbia, SC 29205	Manhole	5/11/2021	12:00	57	Trib To Gills Creek	Debris	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Settled Debris.
5/12/2021	12:03	1412 Haviland Cir, Columbia, SC 29210	Cleanout	5/13/2021	10:00	20		Roots	Removed Blockage To Resume Normal Flow. Service Line Root Cut.
5/12/2021	08:05	100 Emerald Lake Rd, Columbia, SC 29209	Manhole	5/13/2021	12:00	150	Storm Drain	Grease	Removed Stoppage To Resume Normal Flow. Washed Main Line To Remove Grease.
5/17/2021	12:40	3638 Falling Springs Rd, Columbia, SC 29203	Manhole	TBD		300	Storm Drain	Roots	Removed Stoppage To Resume Normal Flow. Main Line Root Cut Is Being Scheduled.
5/18/2021	11:30	102 Rocky Point Dr, Columbia, SC 29212	Forcemain	5/18/2021	15:00	36	Stormwater Ditch	Force Main	Turned Off The Pumps At The Lift Station To Stop Overflow. Forcemain Repair.
5/18/2021	10:00	9 Downing St, Columbia, SC 29209	Manhole	5/18/2021	12:21	48		Grease	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Grease.
5/26/2021	20:09	7625 Garners Ferry Rd, Columbia, SC 29209	Manhole	5/26/2021	22:30	6335	Reeder Point Branch	Collapsed Line	Removed Stoppage To Resume Normal Flow. Washed Main Line.
5/28/2021	08:30	1113 Recreation Dr, Columbia, SC 29201	Manhole	5/28/2021	09:48	77	Trib To Smith Branch	Debris	Removed Blockage To Resume Normal Flow. Washed Main Line 100 Feet To Remove Blockage.

City of Columbia, SC Quarterly SSO Listing 2nd Quarter 2021									
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
6/3/2021	14:00	1520 Tanglewood Rd, Columbia, SC 29205	Other	6/14/2021	12:00	62		Grease	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Grease Deposits.
6/3/2021	20:40	190 Holstein Ln, Columbia, SC 29209	Manhole	6/25/2021	12:00	108	Storm Drain	Debris	Removed Blockage To Resume Normal Flow. Main Line Wash.
6/3/2021	15:58	1621 Stevenson Ave, Columbia, SC 29203	Cleanout	N/A		7623	Storm Drain	Wet Weather	Wet Weather; Observation Only.
6/3/2021	19:12	1200 Simmon Tree Ln, Columbia, SC 29201	Other	TBD		19014	Storm Drain	Treatment Plant	Opened Second Screen & Grit Channels. Repairs To Be Completed To Allow Auto Control To Be Reinstated.
6/6/2021	09:14	200 Finsbury Rd, Columbia, SC 29212	Cleanout	6/6/2021	09:45	54		Collapsed Line	Removed Stoppage To Resume Normal Flow. Service Line Repair.
6/11/2021	13:30	1800 Killian Lakes Dr, Columbia, SC 29203	Manhole	6/11/2021	13:30	36660	Crane Creek	Debris	Removed Stoppage To Resume Normal Flow. Washed Main Line To Remove Debris.
6/15/2021	17:30	74 Ridge Lake Dr, Columbia, SC 29209	Manhole	TBD		3012	Ulmers Pond	Roots	Removed Blockage To Resume Normal Flow. Main Line Repair Is Being Scheduled.
6/14/2021	13:00	414 Toal St, Columbia, SC 29203	Cleanout	7/2/2021	12:00	4		Roots	Removed Blockage To Resume Normal Flow. Service Line Will Be Lined To Prevent Root Intrusion.
6/18/2021	19:50	782 Marsh Wren Trl, Blythewood, SC 29016	Cleanout	6/23/2021	12:00	451	Drainage Ditch	Collapsed Line	Set Up Bypass Pump To Stop Overflow. Main Line Repair.
6/21/2021	15:46	1529 S Beltline Blvd, Columbia, SC 29205	Manhole	6/21/2021	16:00	34		Roots	Removed Blockage To Resume Normal Flow. Main Line CIPP Point Repair.
6/21/2021	08:15	101 Glossop Cir, Columbia, SC 29212	Manhole	6/21/2021	09:00	100		Roots	Removed Blockage To Resume Normal Flow. CIPP Point Repair.
6/22/2021	17:05	657 Glenthorne Rd, Columbia, SC 29203	Other	7/2/2021	12:00	629	Storm Drain	Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair.

As noted in Section IV.8.a of the CD, a Building Backup is defined as a release of wastewater into a building or onto private property that is caused by blockages, flow conditions, or other malfunctions in the WCTS.

Separate from the SSO listing provided in Table 1 above, the following table identifies building backups within the City’s system for the current reporting period.

**Table 2 – Building Backup Report, 2nd Quarter 2021**

City of Columbia, SC Quarterly Building Backup Listing 2nd Quarter 2021									
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
4/28/2021	10:00	3509 Lee Hills Dr, Columbia, SC 29209	City	4/28/2021	10:30	5		Roots	Removed Stoppage To Resume Normal Flow. Root Cut Service Line.
5/13/2021	18:00	747 Saluda Ave, Columbia, SC 29205	City	5/14/2021	15:00	203		Collapsed Line	Emergency Service Line Repair.
5/17/2021	19:00	224 Tartan Rd, Columbia, SC 29212	City	TBD		27		Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair Is Being Scheduled.



## Section 5 SEP Water Quality Monitoring Results

In accordance with Section IX.39.a.(v) of the CD, the following section provides a summary of the results of water quality monitoring conducted during the previous calendar quarter as part of the Supplemental Environmental Project (SEP) described in Appendix I of the CD.

### 5.1 Sampling Conducted and Results

As a part of the SEP requirements established in Section VIII and Appendix I of the CD, the City is to conduct water quality monitoring at three locations to assist in evaluation of the environmental benefits of the SEP in improving water quality in Smith Branch and Gills Creek. The City is to implement a program for ambient monitoring of dissolved oxygen (DO), total suspended solids (TSS), temperature, and E. coli at the following monitoring sites:

- Gills Creek at Garner's Ferry Road
- Smith Branch at North Main Street
- Gills Creek at Bluff Road

In accordance with the requirements of the CD, the City was to submit a Quality Assurance Project Plan (QAPP) to SCDHEC within 60 days of the date of entry of the CD. The City originally submitted the QAPP to SCDHEC on July 18, 2014 in advance of the deliverable deadline. The City subsequently received comments from SCDHEC and resubmitted the QAPP to SCDHEC on January 13, 2015. The City received final approval of the QAPP from EPA and SCDHEC on January 15, 2016. The QAPP was revised and resubmitted to SCDHEC on May 31, 2017 and on December 19, 2018 to reflect changes in City personnel. The revised QAPP was approved on January 9, 2019. The QAPP was subsequently revised and resubmitted to SCDHEC on January 22, 2019 to reflect a change in the testing laboratory. Following comments from SCDHEC and additional resubmittals, the City received approval of the revised QAPP from EPA and SCDHEC on April 2, 2019.

The City monitored quarterly for the first three years under the CD (through January 15, 2019) and will monitor monthly (or every other month at the Gills Creek at Bluff Road site) from years four through six under the CD.

Water quality monitoring for 2021 Q2 was completed on May 4, 2021, June 2, 2021, and June 30, 2021. Monitoring results are provided below for the following samples:

- C-001: Gills Creek at Garner's Ferry Road
- B-280: Smith Branch at North Main Street
- C-017: Gills Creek at Bluff Road

City of Columbia Quality Assurance Project Plan (QAPP) Data


Verification and Validation Form

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

**Laboratory Report Date:** 5/4/2021

The undersigned verifies the data in the above referenced report, per the QAPP requirements.



Project Verifier/QA Manager

5/13/2021

Date

Miranda S. Staples

Printed Name

The undersigned validates the data in the above referenced report, per the QAPP requirements.

AJ Jessee

Project Manager/Project Validator

5-13-2021

Date



Printed Name



## Laboratory Report

<b>Client</b>	Woolpert Inc. - City of Columbia Michael Long 2000 Center Point Road Ste 2200 Columbia, SC 29210	<b>Project:</b>	Water Quality Testing
		<b>Work Order:</b>	1041164
		<b>Received:</b>	04/22/2021 14:10

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on April 22, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNi standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Lauren Hollister, your Project Manager, at [lhollister@rcenviro.com](mailto:lhollister@rcenviro.com), (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

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Lauren Hollister  
Project Manager



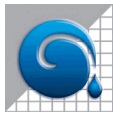
*South Carolina Greenville Laboratory Identification 23105  
 South Carolina Columbia Laboratory Identification 40572  
 North Carolina Laboratory Certification Number 27  
 North Carolina Drinking Water Lab Number 45710  
 NELAP Utah Certificate Number SC000042014-1  
 Georgia Drinking Water Lab ID 880*

# Certificate of Analysis

**Client** Woolpert Inc. - City of Columbia  
 Michael Long  
 2000 Center Point Road Ste 2200  
 Columbia, SC 29210

**Project:** Water Quality Testing  
**Work Order:** 1041164  
**Received:** 04/22/2021 14:10

Sample Number	Sample Description	Matrix	Sampled	Type
1041164-01	DHEC B-280 Smith Branch @ N. Main St	Wastewater	04/22/21 11:50	Grab
1041164-02	DHEC B-280 Smith Branch @ N. Main St	Wastewater	04/22/21 11:51	Grab
1041164-03	DHEC B-280 Smith Branch @ N. Main St	Wastewater	04/22/21 11:52	Grab
1041164-04	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	04/22/21 12:53	Grab
1041164-05	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	04/22/21 12:54	Grab
1041164-06	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	04/22/21 12:55	Grab
1041164-07	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	04/22/21 12:25	Grab
1041164-08	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	04/22/21 12:26	Grab
1041164-09	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	04/22/21 12:27	Grab



Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

Project: Water Quality Testing  
Work Order: 1041164  
Reported: 05/04/21 08:50

**Sample Data**

**Sample Number** 1041164-01  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 04/22/21 11:50

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	9.1	0.1	mg/L	1.00	04/22/21 11:54	SM 4500 OG-2011		MBW	B1D1056	RC-C
Grab	Complete				04/22/21 11:50	Grab		MBW	B1D1056	RC-C
Temperature	21.4	0.0	°C	1.00	04/22/21 11:54	SM 2550B-2010		MBW	B1D1056	RC-C

**Sample Number** 1041164-02  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 04/22/21 11:51

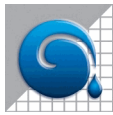
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	1.9	1.0	mg/L	1.00	04/27/21 08:50	SM 2540D-2011		SMN	B1D1182	RC-C

**Sample Number** 1041164-03  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 04/22/21 11:52

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	312	20	MPN/100 mL	20.0	04/22/21 15:23	SM 9223B-2004		MBW	B1D1156	RC-C

**Sample Number** 1041164-04  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 04/22/21 12:53

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	8.2	0.1	mg/L	1.00	04/22/21 13:00	SM 4500 OG-2011		MBW	B1D1056	RC-C
Temperature	23.8	0.0	°C	1.00	04/22/21 13:00	SM 2550B-2010		MBW	B1D1056	RC-C



Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

Project: Water Quality Testing  
Work Order: 1041164  
Reported: 05/04/21 08:50

**Sample Number** 1041164-05  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 04/22/21 12:54

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	5.1	1.0	mg/L	1.00	04/27/21 08:50	SM 2540D-2011		SMN	B1D1182	RC-C

**Sample Number** 1041164-06  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 04/22/21 12:55

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	194	20	MPN/100 mL	20.0	04/22/21 15:23	SM 9223B-2004		MBW	B1D1156	RC-C

**Sample Number** 1041164-07  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 04/22/21 12:25

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	8.8	0.1	mg/L	1.00	04/22/21 12:30	SM 4500 OG-2011		MBW	B1D1056	RC-C
Temperature	22.8	0.0	°C	1.00	04/22/21 12:30	SM 2550B-2010		MBW	B1D1056	RC-C

**Sample Number** 1041164-08  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 04/22/21 12:26

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	27.8	2.0	mg/L	2.00	04/27/21 08:50	SM 2540D-2011		SMN	B1D1182	RC-C

**Sample Number** 1041164-09  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 04/22/21 12:27

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	20	20	MPN/100 mL	20.0	04/22/21 15:23	SM 9223B-2004		MBW	B1D1156	RC-C



Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

Project: Water Quality Testing  
Work Order: 1041164  
Reported: 05/04/21 08:50

### Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporting limit  
NR Not reported

#### Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105  
RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572

Mailing PO Box 5655 Shipping 426 Fairforest Way 215B Stoneridge Drive  
 Address: Greenville, SC 29607 Address: Greenville, SC 29210 Columbia, SC 29210  
 Phone (864) 232-1556 Fax (864) 232-6140 Phone (803) 509-8999

Client Name Woolpert - City of Columbia  
 Address 2000 Center Point Road Suite 2200  
Columbia, SC 29210  
 Report To: Michael Long  
 Email Address Michael.long@woolpert.com  
 Telephone # 803-214-5936  
 PO # \_\_\_\_\_ Project # Water Quality Testing

# CHAIN OF CUSTODY RECORD

WORK ORDER

104164

R & C WORK ORDER	YR	DATE	TIME	SAMPLE DESCRIPTION	Total Number of Containers	Parameter(s) ↓	N	N	Filtered (Yes/No)	Cooled (Yes/No)	Container Type (Plastic/Glass)	Container Volume (mL)	Sample Type (Grab/Composite)	Sample Source (WW, GW, DW, SW, S, Other)	Preservation Code(s)	COMMENTS
-02	4-22	1151		DHEC B-280 (Smith Branch @ N. Main St)	1	TSS	Y	N							A - None E - HCl F - HNO <sub>3</sub> C - H <sub>2</sub> SO <sub>4</sub> D - NaOH	D.O. - 9.08 mg/L
-07	4-22	1152		DHEC B-280 (Smith Branch @ N. Main St)	1	F. Coll	Y	N							B - HNO <sub>3</sub> F - Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> G - Boric Acid H - Ascorbic Acid I - Zn Acetate J - H <sub>3</sub> PO <sub>4</sub> K - NaH <sub>2</sub> PO <sub>4</sub> L - NH <sub>4</sub> Cl	Temp - 21.4 °C Collected @ 1150 Analyzed @ 1154
																Weather - 55° F / Sunny
<p>RELINQUISHED BY: 1. <u>Mandi D. [Signature]</u> DATE/TIME: <u>4-22-21 1410</u> RECEIVED BY: 2. <u>[Signature]</u></p> <p>RELINQUISHED BY: 3. _____ DATE/TIME: _____ RECEIVED BY: 4. _____</p> <p>RELINQUISHED BY: 5. _____ DATE/TIME: _____ RECEIVED BY: 6. _____</p> <p>RELINQUISHED BY: 7. _____ DATE/TIME: _____ RECEIVED BY: 8. _____</p>																
<p>Composite Start Date/Time: _____ DATE/TIME: <u>4.22.21 1410</u></p> <p>Composite End Date/Time: _____ DATE/TIME: _____</p> <p>Time or Flow (Circle one) Initials: _____</p> <p>Temperature of blank or representative sample _____ °C</p> <p>At time of collection _____ °C</p> <p>At time of lab receipt <u>0.7</u> °C</p>																





**CHAIN OF CUSTODY RECORD**

**WORK ORDER**

1091164

Mailing Address: PO Box 5655  
Greenville, SC 29606  
Phone (864) 232-1556

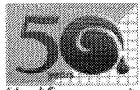
Shipping Address: 426 Fairforest Way  
Greenville, SC 29607  
Phone (864) 232-6140

215B Stoneridge Drive  
Columbia, SC 29210  
Phone (803) 509-8999

**Client Name** Woolpert - City of Columbia  
**Address** 2000 Center Point Road Suite 2200  
Columbia, SC 29210  
**Report To:** Michael Long  
**Email Address** Michael.long@woolpert.com  
**Telephone #** 803-214-5936

**PO #** \_\_\_\_\_ **Project #** Water Quality Testing

R & C WORK ORDER	YR	DATE	TIME	SAMPLE DESCRIPTION	Total Number of Containers	Parameter(s) ↓	N	N	Filtered (Yes/No)	Cooled (Yes/No)	Container Type (Plastic/Glass)	Container Volume (mL)	Sample Type (Grab/Composite)	Sample Source (WW, GW, DW, SW, S, Other)	Preservation Code(s)	COMMENTS
-08	4-22	1226		DHEC C-001 (Gills Creek @ Garners Ferry Rd)	1	TSS									A - None E - HCl I - Zn Acetate B - HNO <sub>3</sub> F - Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> J - H <sub>3</sub> PO <sub>4</sub> C - H <sub>2</sub> SO <sub>4</sub> G - Boric Acid K - NaH <sub>2</sub> PO <sub>4</sub> D - NaOH H - Ascorbic Acid L - NH <sub>4</sub> Cl	-07 D.O. - 8.78 mg/L
-09	4-22	1224		DHEC C-001 (Gills Creek @ Garners Ferry Rd)	1	F. Coli										Temp - 22.8 °C Collected @ 1225 Analyzed @ 1230 Weather - 57° F / Sunny
<p><b>RELINQUISHED BY:</b> 1. <u>Kindi B. White</u> DATE/TIME: <u>4-22-21 1410</u> RECEIVED BY: <u>2. [Signature]</u> 3. _____ DATE/TIME: _____ RECEIVED BY: 4. _____ RELINQUISHED BY: _____ DATE/TIME: _____ RECEIVED BY: 6. _____ RELINQUISHED BY: _____ DATE/TIME: _____ RECEIVED BY: 8. _____</p>																
<p><b>COMPOSITE INFORMATION:</b> Composite Start Date/Time: _____ DATE/TIME: <u>4.22.21 14.0</u> Composite End Date/Time: _____ DATE/TIME: _____ Time or Flow (Circle one) Initials: _____ DATE/TIME: _____ Temperature of blank or representative sample At time of collection _____ °C At time of lab receipt <u>0.7</u> °C</p>																



**Sample Receipt Verification**

Client: Woolpert - Cola Date Received: 11.22.21 Work Order: 1071167

Carrier Name: Client FedEx UPS US Mail Courier Field Services Other: \_\_\_\_\_  
Tracking Number: \_\_\_\_\_

Carrier Name: Client FedEx UPS US Mail Courier Field Services Other: \_\_\_\_\_  
Tracking Number: N/A

Receipt Criteria	Y e s	No	N A	Comments
Shipping container / cooler intact?	✓			Damaged Leaking Other:
Custody seals intact?			✓	
COC included with samples?	✓			
COC signed when relinquished and received?	✓			
Sample bottles intact?	✓			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	✓			
Date / time on COC agree with label on bottle(s)?	✓			
Number of bottles on COC agrees with number of bottles received?	✓			
Samples received within holding time?	✓			
Sample volume sufficient for analysis?	✓			
VOA vials free of headspace (<6mm bubble)?			✓	
Samples requiring pH preservation at proper pH? <small>Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&amp;G and VOA analysis – preservation checked at bench.</small>			✓	
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? <small>Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.</small>	✓			
Samples cooled when received in <b>Columbia</b> ?	Temp at time of receipt <u>0.7</u> °C Temp measured with IR SN: 36301069WS	✓		<u>Ice</u> Cold Packs Dry Ice None
Samples cooled when received in <b>Greenville</b> ?	Temp at time of receipt <u>N/A</u> °C Temp measured with IR SN: 97050067			Ice Cold Packs Dry Ice None

If in-house preservation used – record Lot #

HCL		H <sub>3</sub> PO <sub>4</sub>	
H <sub>2</sub> SO <sub>4</sub>		NaOH	
HNO <sub>3</sub>		Other	

Comments:

Were non-conformance issues noted at initial sample receipt? Yes or No  
Non-Conformance issue other than noted above:

Note: Samples received initially in Columbia Facility. Sample preservation checks performed at Columbia Facility.  
Revised March 2019 Completed by: SMP

City of Columbia Quality Assurance Project Plan (QAPP) Data


Verification and Validation Form

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

**Laboratory Report Date:** 6/2/21

The undersigned verifies the data in the above referenced report, per the QAPP requirements.



Project Verifier/QA Manager

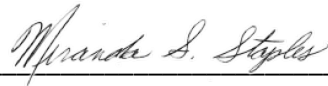
6/7/2021

Date

AJ Jessee

Printed Name

The undersigned validates the data in the above referenced report, per the QAPP requirements.



Project Manager/Project Validator

6/7/2021

Date

Miranda S. Staples

Printed Name



**Rogers & Callcott**  
ENVIRONMENTAL



*Laboratory Services*

## Laboratory Report

<b>Client</b>	Woolpert Inc. - City of Columbia Michael Long 2000 Center Point Road Ste 2200 Columbia, SC 29210	<b>Project:</b>	Water Quality Testing
		<b>Work Order:</b>	1051099
		<b>Received:</b>	05/20/2021 13:05

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on May 20, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNi standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Lauren Hollister, your Project Manager, at [lhollister@rcenviro.com](mailto:lhollister@rcenviro.com), (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

---

Lauren Hollister  
Project Manager



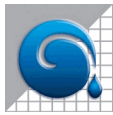
*South Carolina Greenville Laboratory Identification 23105  
 South Carolina Columbia Laboratory Identification 40572  
 North Carolina Laboratory Certification Number 27  
 North Carolina Drinking Water Lab Number 45710  
 NELAP Utah Certificate Number SC000042014-1  
 Georgia Drinking Water Lab ID 880*

# Certificate of Analysis

**Client** Woolpert Inc. - City of Columbia  
 Michael Long  
 2000 Center Point Road Ste 2200  
 Columbia, SC 29210

**Project:** Water Quality Testing  
**Work Order:** 1051099  
**Received:** 05/20/2021 13:05

Sample Number	Sample Description	Matrix	Sampled	Type
1051099-01	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	05/20/21 11:50	Grab
1051099-02	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	05/20/21 11:51	Grab
1051099-03	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	05/20/21 11:52	Grab
1051099-04	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	05/20/21 12:16	Grab
1051099-05	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	05/20/21 12:17	Grab
1051099-06	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	05/20/21 12:18	Grab
1051099-07	DHEC B-280 Smith Branch @ N. Main St	Wastewater	05/20/21 12:50	Grab
1051099-08	DHEC B-280 Smith Branch @ N. Main St	Wastewater	05/20/21 12:51	Grab
1051099-09	DHEC B-280 Smith Branch @ N. Main St	Wastewater	05/20/21 12:52	Grab



Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

Project: Water Quality Testing  
Work Order: 1051099  
Reported: 06/02/21 10:58

**Sample Data**

**Sample Number** 1051099-01  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 05/20/21 11:50

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	6.7	0.1	mg/L	1.00	05/20/21 11:57	SM 4500 OG-2011		MBW	B1E0997	RC-C
Grab	Complete				05/20/21 11:50	Grab		MBW	B1E0997	RC-C
Temperature	26.2	0.0	°C	1.00	05/20/21 11:57	SM 2550B-2010		MBW	B1E0997	RC-C

**Sample Number** 1051099-02  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 05/20/21 11:51

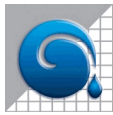
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	4.2	1.0	mg/L	1.00	05/21/21 10:15	SM 2540D-2011		SMN	B1E1025	RC-C

**Sample Number** 1051099-03  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 05/20/21 11:52

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	20	20	MPN/100 mL	20.0	05/20/21 14:55	SM 9223B-2004		MBW	B1E1087	RC-C

**Sample Number** 1051099-04  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 05/20/21 12:16

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	7.6	0.1	mg/L	1.00	05/20/21 12:22	SM 4500 OG-2011		MBW	B1E0997	RC-C
Temperature	31.3	0.0	°C	1.00	05/20/21 12:22	SM 2550B-2010		MBW	B1E0997	RC-C



Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

Project: Water Quality Testing  
Work Order: 1051099  
Reported: 06/02/21 10:58

**Sample Number** 1051099-05  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 05/20/21 12:17

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	16.7	2.2	mg/L	2.22	05/21/21 10:15	SM 2540D-2011		SMN	B1E1025	RC-C

**Sample Number** 1051099-06  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 05/20/21 12:18

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	218	20	MPN/100 mL	20.0	05/20/21 14:55	SM 9223B-2004		MBW	B1E1087	RC-C

**Sample Number** 1051099-07  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 05/20/21 12:50

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	8.4	0.1	mg/L	1.00	05/20/21 12:54	SM 4500 OG-2011		MBW	B1E0997	RC-C
Temperature	34.2	0.0	°C	1.00	05/20/21 12:54	SM 2550B-2010		MBW	B1E0997	RC-C

**Sample Number** 1051099-08  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 05/20/21 12:51

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	3.8	1.0	mg/L	1.00	05/21/21 10:15	SM 2540D-2011		SMN	B1E1025	RC-C

**Sample Number** 1051099-09  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 05/20/21 12:52

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	342	20	MPN/100 mL	20.0	05/20/21 14:55	SM 9223B-2004		MBW	B1E1087	RC-C





Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

Project: Water Quality Testing  
Work Order: 1051099  
Reported: 06/02/21 10:58

### Data Qualifiers and Definitions

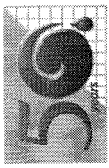
ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

#### Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105

RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572



# Rogers & Callcott

ENVIRONMENTAL  
Half a century of commitment and quality

Mailing PO Box 5655  
Address: Greenville, SC 29606  
Phone (864) 232-1556

Shipping 426 Fairforest Way  
Address: Greenville, SC 29607  
Phone (864) 232-6140

215B Stoneridge Drive  
Columbia, SC 29210  
Phone (803) 509-8999

**Client Name** Woolpert - City of Columbia  
**Address** 2000 Center Point Road Suite 2200  
Columbia, SC 29210

**Report To:** Michael Long  
**Email Address** Michael.long@woolpert.com  
**Telephone #** 803-214-5936

**PO #** \_\_\_\_\_ **Project #** Water Quality Testing

## CHAIN OF CUSTODY RECORD

WORK ORDER 1051099

R & C WORK ORDER	YR DATE	TIME	SAMPLE DESCRIPTION	Total Number of Containers	Parameter(s) ↑						Filtered (Yes/No)	Cooled (Yes/No)	Container Type (Plastic/Glass)	Container Volume (mL)	Sample Type (Grab/Composite)	Sample Source (WW, GW, DW, SW, S, Other)	Preservation Code(s)	COMMENTS
<u>102</u>	<u>5-20</u>	<u>1151</u>	DHEC C-017 (Gills Creek @ Bluff Road)	1	TSS						N	Y	P	0.5G	G	ww	A - None E - HCl F - Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> G - Boric Acid H - Ascorbic Acid	<u>-01</u>
<u>103</u>	<u>5-20</u>	<u>1152</u>	DHEC C-017 (Gills Creek @ Bluff Road)	1	F. Coli						N	Y	P	1.20	G	ww	I - Zn Acetate J - H <sub>3</sub> PO <sub>4</sub> K - NaH <sub>2</sub> PO <sub>4</sub> L - NH <sub>4</sub> Cl	D.O. - <u>6.73</u> mg/L Temp - <u>26.2</u> °C Collected @ <u>1150</u> Analyzed @ <u>1157</u>
																		Weather - <u>81°F / Sunny</u>

SAMPLER - RELINQUISHED BY: Mindi B. Wolf

1. RELINQUISHED BY: \_\_\_\_\_ DATE/TIME: 5-20-11 1305

RECEIVED BY: [Signature]

2. DATE/TIME: \_\_\_\_\_

3. RELINQUISHED BY: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_

4. RECEIVED BY: \_\_\_\_\_

5. DATE/TIME: \_\_\_\_\_

5. RELINQUISHED BY: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_

6. RECEIVED BY: \_\_\_\_\_

6. DATE/TIME: \_\_\_\_\_

7. RELINQUISHED BY: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_

8. RECEIVED BY: \_\_\_\_\_

8. DATE/TIME: \_\_\_\_\_

DATE/TIME: 5/21/13 05

Composite Start Date/Time: \_\_\_\_\_

DATE/TIME: \_\_\_\_\_

Composite End Date/Time: \_\_\_\_\_

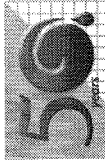
DATE/TIME: \_\_\_\_\_

Time or Flow (Circle one) Initials: \_\_\_\_\_

Temperature of blank or representative sample

At time of collection \_\_\_\_\_ °C

At time of lab receipt 0.4 °C



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Mailing Address: PO Box 5655  
Greenville, SC 29606  
Phone (864) 232-1556

Shipping Address: 426 Fairforest Way  
Greenville, SC 29607  
Phone (864) 232-6140

215B Stoneridge Drive  
Columbia, SC 29210  
Phone (803) 509-8999

Client Name Woolpert - City of Columbia  
Address 2000 Center Point Road Suite 2200  
Columbia, SC 29210  
Report To: Michael Long  
Email Address Michael.long@woolpert.com  
Telephone # 803-214-5936  
PO # \_\_\_\_\_ Project # Water Quality Testing

R & C WORK ORDER	YR DATE	TIME	SAMPLE DESCRIPTION
<u>-05</u>	<u>5-20</u>	<u>1217</u>	DHEC C-001 (Gills Creek @ Garners Ferry Rd)
<u>-06</u>	<u>5-20</u>	<u>1218</u>	DHEC C-001 (Gills Creek @ Garners Ferry Rd)

SAMPLER - RELINQUISHED BY: 1. <u>N. Indi B. Wright</u>	DATE/TIME: <u>5-20-21 1305</u>	RECEIVED BY: 2. <u>[Signature]</u>
RELINQUISHED BY: 3. _____	DATE/TIME: 	RECEIVED BY: 4. _____
RELINQUISHED BY: 5. _____	DATE/TIME: 	RECEIVED BY: 6. _____
RELINQUISHED BY: 7. _____	DATE/TIME: 	RECEIVED BY: 8. _____

# CHAIN OF CUSTODY RECORD

WORK ORDER

1051099

Parameter(s) ↓	Total Number of Containers	N	N	Filtered (Yes/No)
TSS	1	F. Coli	1	D.O. - <u>7.62</u> mg/L
				Temp - <u>31.3</u> °C
				Collected @ <u>1216</u>
				Analyzed @ <u>1222</u>
				Weather - <u>81°F / Sunny</u>

DATE/TIME: <u>5/20/21 1305</u>	Composite Start Date/Time: _____
DATE/TIME:	Composite End Date/Time: _____
DATE/TIME:	Time or Flow (Circle one) Initials: _____
DATE/TIME:	Temperature of blank or representative sample
DATE/TIME:	At time of collection _____ °C
DATE/TIME:	At time of lab receipt <u>0.4</u> °C





**Sample Receipt Verification**

Client: Woolpert-Cold Date Received: 5/20/21 Work Order: 1051099

Carrier Name: (to Columbia) Client FedEx UPS US Mail Courier Field Services Other: \_\_\_\_\_  
Tracking Number: \_\_\_\_\_

Carrier Name: (to Greenville) Client FedEx UPS US Mail Courier NA Field Services Other: \_\_\_\_\_  
Tracking Number: \_\_\_\_\_

Receipt Criteria	Yes	No	NA	Comments
Shipping container / cooler intact?	X			Damaged Leaking Other:
Custody seals intact?			X	
COC included with samples?	X			
COC signed when relinquished and received?	X			
Sample bottles intact?	X			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	X			
Date / time on COC agree with label on bottle(s)?	X			
Number of bottles on COC agrees with number of bottles received?	X			
Samples received within holding time?	X			
Sample volume sufficient for analysis?	X			
VOA vials free of headspace (<6mm bubble)?			X	
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.			X	
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.	X			
Samples cooled when received in <b>Columbia</b> ?	Temp at time of receipt <u>0.4</u> °C Temp measured with IR SN: 36301069WS	X		<u>Ice</u> Cold Packs Dry Ice None
Samples cooled when received in <b>Greenville</b> ?	Temp at time of receipt <u>NA</u> °C Temp measured with IR SN: 97050067			Ice Cold Packs Dry Ice None

If in-house preservation used – record Lot #			
HCL		H <sub>3</sub> PO <sub>4</sub>	
H <sub>2</sub> SO <sub>4</sub>		NaOH	
HNO <sub>3</sub>		Other	

Comments: \_\_\_\_\_

Were non-conformance issues noted at initial sample receipt? Yes or No  
Non-Conformance issue other than noted above: \_\_\_\_\_

Completed by: ABS

City of Columbia Quality Assurance Project Plan (QAPP) Data

Verification and Validation Form

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

Laboratory Report Date: 6/30/21

The undersigned verifies the data in the above referenced report, per the QAPP requirements.

Miranda S. Staples  
Project Verifier/QA Manager

7/13/2021  
Date

Miranda S. Staples  
Printed Name

The undersigned validates the data in the above referenced report, per the QAPP requirements.

AJ Jesse  
Project Manager/Project Validator

7/13/21  
Date

AJ Jesse  
Printed Name



## Laboratory Report

**Client** Woolpert Inc. - City of Columbia  
Michael Long  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

**Project:** Water Quality Testing  
**Work Order:** 1061062  
**Received:** 06/22/2021 13:57

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on June 22, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Bailey Branham, your Project Manager, at [bbranham@rcenviro.com](mailto:bbranham@rcenviro.com), (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

---

Bailey Branham  
Project Manager



# Certificate of Analysis

*South Carolina Greenville Laboratory Identification 23105  
 South Carolina Columbia Laboratory Identification 40572  
 North Carolina Laboratory Certification Number 27  
 North Carolina Drinking Water Lab Number 45710  
 NELAP Utah Certificate Number SC000042014-1  
 Georgia Drinking Water Lab ID 880*

**Client** Woolpert Inc. - City of Columbia  
 Michael Long  
 2000 Center Point Road Ste 2200  
 Columbia, SC 29210

**Project:** Water Quality Testing  
**Work Order:** 1061062  
**Received:** 06/22/2021 13:57

Sample Number	Sample Description	Matrix	Sampled	Type
1061062-01	DHEC B-280 Smith Branch @ N. Main St	Wastewater	06/22/21 10:05	Grab
1061062-02	DHEC B-280 Smith Branch @ N. Main St	Wastewater	06/22/21 10:00	Grab
1061062-03	DHEC B-280 Smith Branch @ N. Main St	Wastewater	06/22/21 10:03	Grab
1061062-04	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	06/22/21 11:41	Grab
1061062-05	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	06/22/21 11:35	Grab
1061062-06	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	06/22/21 11:38	Grab
1061062-07	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	06/22/21 12:21	Grab
1061062-08	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	06/22/21 12:15	Grab
1061062-09	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	06/22/21 12:18	Grab





Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

Project: Water Quality Testing  
Work Order: 1061062  
Reported: 06/30/21 10:34

**Sample Data**

**Sample Number** 1061062-01  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 06/22/21 10:05

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	6.8	0.1	mg/L	1.00	06/22/21 10:05	SM 4500 OG-2011		CDT	B1F1017	RC-C
Grab	Complete				06/22/21 10:05	Grab		CDT	B1F1017	RC-C
Temperature	24.0	0.0	°C	1.00	06/22/21 10:05	SM 2550B-2010		CDT	B1F1017	RC-C

**Sample Number** 1061062-02  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 06/22/21 10:00

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	7.1	1.0	mg/L	1.00	06/24/21 15:10	SM 2540D-2011		SMN	B1F1124	RC-C

**Sample Number** 1061062-03  
**Sample Description** DHEC B-280 Smith Branch @ N. Main St collected on 06/22/21 10:03

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	550	20	MPN/100 mL	20.0	06/22/21 16:32	SM 9223B-2004		BNE	B1F1142	RC-C

**Sample Number** 1061062-04  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 06/22/21 11:41

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	7.2	0.1	mg/L	1.00	06/22/21 11:41	SM 4500 OG-2011		CDT	B1F1017	RC-C
Temperature	25.7	0.0	°C	1.00	06/22/21 11:41	SM 2550B-2010		CDT	B1F1017	RC-C



Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

Project: Water Quality Testing  
Work Order: 1061062  
Reported: 06/30/21 10:34

**Sample Number** 1061062-05  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 06/22/21 11:35

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	55.2	4.0	mg/L	4.00	06/24/21 15:10	SM 2540D-2011		SMN	B1F1124	RC-C

**Sample Number** 1061062-06  
**Sample Description** DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 06/22/21 11:38

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	2290	20	MPN/100 mL	20.0	06/22/21 16:32	SM 9223B-2004		BNE	B1F1142	RC-C

**Sample Number** 1061062-07  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 06/22/21 12:21

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Field Parameters</b>										
Dissolved Oxygen	6.0	0.1	mg/L	1.00	06/22/21 12:21	SM 4500 OG-2011		CDT	B1F1017	RC-C
Temperature	25.4	0.0	°C	1.00	06/22/21 12:21	SM 2550B-2010		CDT	B1F1017	RC-C

**Sample Number** 1061062-08  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 06/22/21 12:15

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>General Chemistry Parameters</b>										
Total Suspended Solids	14.0	2.5	mg/L	2.50	06/24/21 15:10	SM 2540D-2011		SMN	B1F1124	RC-C

**Sample Number** 1061062-09  
**Sample Description** DHEC C-017 Gills Creek @ Bluff Road collected on 06/22/21 12:18

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
<b>Microbiological Parameters</b>										
E. Coli	370	20	MPN/100 mL	20.0	06/22/21 16:32	SM 9223B-2004		BNE	B1F1142	RC-C



Woolpert Inc. - City of Columbia  
2000 Center Point Road Ste 2200  
Columbia, SC 29210

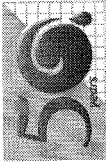
Project: Water Quality Testing  
Work Order: 1061062  
Reported: 06/30/21 10:34

### Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporting limit  
NR Not reported

#### Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105  
RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572



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Mailing Address: PO Box 5655 Greenville, SC 29606 Phone (864) 232-1556  
Shipping Address: 426 Fairforest Way Greenville, SC 29607 Phone (803) 509-8999

Client Name: Woolpert - City of Columbia  
Address: 2000 Center Point Road Suite 2200 Columbia, SC 29210  
Report To: Michael Long  
Email Address: Michael.long@woolpert.com  
Telephone # 803-214-5936

PO # \_\_\_\_\_ Project # Water Quality Testing

**CHAIN OF CUSTODY RECORD**

WORK ORDER

1061002

Parameter(s) ↑	Total Number of Containers	N	Y	N	Y	Filtered (Yes/No)	Cooled (Yes/No)	Container Type (Plastic/Glass)	Container Volume (mL)	Sample Type (Grab/Composite)	Sample Source (WW, GW, DW, SW, S, Other)	Preservation Code(s)	COMMENTS
TSS	1	A									ww	A - None E - HCl I - Zn Acetate B - HNO <sub>3</sub> F - Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> J - H <sub>3</sub> PO <sub>4</sub> C - H <sub>2</sub> SO <sub>4</sub> G - Boric Acid K - NaH <sub>2</sub> PO <sub>4</sub> D - NaOH H - Ascorbic Acid L - NH <sub>4</sub> Cl	-01
	1												D.O. - 6.84 mg/L
	1												Temp - 24.0 °C
													Collected @ 1005 6/22/21
													Analyzed @ 1005 6/22/21
													Weather - 75° light drizzle

SAMPLER - RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. <u>[Signature]</u>	6/22/21 1357	<u>[Signature]</u>	6/22/21 1357
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
3. _____	_____	4. _____	_____
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
5. _____	_____	6. _____	_____
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
7. _____	_____	8. _____	_____

DATE/TIME: \_\_\_\_\_ composite Start Date/Time: \_\_\_\_\_  
 DATE/TIME: \_\_\_\_\_ Composite End Date/Time: \_\_\_\_\_  
 DATE/TIME: \_\_\_\_\_ Time or Flow (Circle one) Initials: \_\_\_\_\_  
 Temperature of blank or representative sample \_\_\_\_\_ °C  
 At time of collection \_\_\_\_\_ °C  
 At time of lab receipt 1.3 °C



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Shipping Address: 426 Fairforest Way Greenville, SC 29607  
Phone (803) 509-8999

Client Name: Woolpert - City of Columbia  
Address: 2000 Center Point Road Suite 2200 Columbia, SC 29210  
Report To: Michael Long  
Email Address: Michael.Long@woolpert.com  
Telephone # 803-214-5936

Project # Water Quality Testing

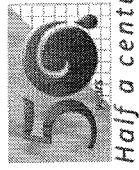
**CHAIN OF CUSTODY RECORD**

WORK ORDER

1061002

R & C WORK ORDER	YR DATE	TIME	SAMPLE DESCRIPTION	Total Number of Containers	Parameter(s) ↑	N	Y	N	Y	Filtered (Yes/No)	Cooled (Yes/No)	Container Type (Plastic/Glass)	Container Volume (mL)	Sample Type (Grab/Composite)	Sample Source (WW, GW, DW, SW, S, Other)	Preservation Code(s)	COMMENTS								
<u>-05</u>	<u>6/22</u>	<u>1135</u>	DHEC C-001 (Gills Creek @ Garners Ferry Rd)	1	TSS																				
<u>-06</u>	<u>6/22</u>	<u>1138</u>	DHEC C-001 (Gills Creek @ Garners Ferry Rd)	1	E. Coli																				

SAMPLER - RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
1. <u>[Signature]</u>	<u>6/22/21 1357</u>	2. <u>[Signature]</u>	<u>6/22/21 1357</u>	Composite Start Date/Time:		
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	Composite End Date/Time:		
3.		4.		Time or Flow (Circle one)		Initials:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	Temperature of blank or representative sample		
5.		6.		At time of collection		°C
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	At time of lab receipt	<u>1.3</u>	°C
7.		8.				



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Shipping Address: 426 Fairforest Way, Greenville, SC 29607, Phone (864) 232-6140  
215B Stoneridge Drive, Columbia, SC 29210, Phone (803) 509-8999

**Client Name:** Woolpert - City of Columbia  
**Address:** 2000 Center Point Road Suite 2200, Columbia, SC 29210  
**Report To:** Michael Long  
**Email Address:** Michael.long@woolpert.com  
**Telephone #:** 803-214-5936  
**PO #:** \_\_\_\_\_ **Project #:** Water Quality Testing

**CHAIN OF CUSTODY RECORD**

WORK ORDER 1061062

R & C WORK ORDER	YR DATE	TIME	SAMPLE DESCRIPTION	Total Number of Containers	Parameter(s) ↑	N	N	Filtered (Yes/No)	Cooled (Yes/No)	Container Type (Plastic/Glass)	Container Volume (mL)	Sample Type (Grab/Composite)	Sample Source (WW, GW, DW, SW, S, Other)	Preservation Code(s)	COMMENTS
-08	6/22	1215	DHEC C-017 (Gills Creek @ Bluff Road)	1	TSS	Y	N							A - None E - HCl F - HNO <sub>3</sub> G - H <sub>2</sub> SO <sub>4</sub> H - NaOH	-07
-09	6/22	1218	DHEC C-017 (Gills Creek @ Bluff Road)	1	E. Coli	Y	N							I - Zn Acetate J - H <sub>3</sub> PO <sub>4</sub> K - NaH <sub>2</sub> PO <sub>4</sub> L - NH <sub>4</sub> Cl	D.O.- 6.61 mg/L Temp- 25.4 °C Collected @ 6/22/21 1221 Analyzed @ 6/24/21 1224
															Weather- 75° Raining

SAMPLER	RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
1.	<i>[Signature]</i>	6/22/21 1357	2. <i>[Signature]</i>	6/22/21 1557			
3.			4.				
5.			6.				
8.			7.				

Temperature of blank or representative sample  
At time of collection \_\_\_\_\_ °C  
At time of lab receipt 1.3 °C

Form Revised March, 2019 Page \_\_\_\_\_ of \_\_\_\_\_

possible Hazards associated with samples:  Non-Hazard  Flammable  Skin Irritant  Poison  Unknown  Other \_\_\_\_\_



**Columbia Sample Receipt Verification**

Client: Wood/Perf Date Received: 6/22/21 Work Order: 1061002

Carrier Name: (to Columbia)	Client	FedEx	UPS	US Mail	Courier	<u>Field Services</u>	Other: _____
Tracking Number: _____							

Carrier Name: (to Greenville)	Client	FedEx	UPS	US Mail	Courier	Field Services	Other: _____
----------------------------------	--------	-------	-----	---------	---------	----------------	--------------

Receipt Criteria	Y e s	No	N A	Comments
Shipping container / cooler intact?	X			Damaged Leaking Other:
Custody seals intact?			X	
COC included with samples?	X			
COC signed when relinquished and received?	X			
Sample bottles intact?	X			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	X			
Date / time on COC agree with label on bottle(s)?	X			
Number of bottles on COC agrees with number of bottles received?	X			
Samples received within holding time?	X			
Sample volume sufficient for analysis?	X			
VOA vials free of headspace (<6mm bubble)?			X	
Samples requiring pH preservation at proper pH? <small>Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&amp;G and VOA analysis – preservation checked at bench.</small>			X	
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? <small>Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.</small>	X			
Samples cooled when received in <b>Columbia ?</b>	X			<u>Ice</u> Cold Packs Dry Ice None
				Temp at time of receipt <u>13</u> °C
				Temp measured with IR SN: 36301069WS

If in-house preservation used – record Lot #			
HCL		H <sub>3</sub> PO <sub>4</sub>	
H <sub>2</sub> SO <sub>4</sub>		NaOH	
HNO <sub>3</sub>		Other	

Comments:

Were non-conformance issues noted at initial sample receipt? Yes or No

Non-Conformance issue other than noted above: