Clean Water 2020 Program

CONSENT DECREE QUARTERLY REPORT

April 1, 2021 – June 30, 2021



3:00

Table of Contents

Section 1	Int	roduction	3
1.1	Sumr	mary of Reporting Requirements	3
1.2	Repo	rt Organization	3
Section 2	2 Scł	hedule of Projects and Activities	5
Section 3	B Ad	ditional Information Demonstrating Implementation of Consent Decree Requiren	nents.10
3.1	MON	1 Programs	10
3.1.	1	Information Management System (IMS) Program	10
3.1.	2 9	Sewer Mapping Program	10
3.1.	3 .	Transmission System Operations and Maintenance Program (TSOMP)	11
3.1.	4 (Gravity Sewer System Operation and Maintenance Program (GSOMP)	11
3.2	Conti	inuing Sewer Assessment Program (CSAP) for the WCTS	11
3.3	Infras	structure Rehabilitation Report (IRR) for the WCTS	11
3.4	Sewe	er System Hydraulic Model	13
Section 4	l Qu	arterly SSO Report	14
Section 5	5 SEI	P Water Quality Monitoring Results	16
5.1	Samp	oling Conducted and Results	16

List of Tables

Table 1 – SSO Report, 2nd Quarter 2021	14
Table 2 – Building Backup Report, 2nd Quarter 2021	15

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):

- 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;
- 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.

2021 Quarterly Report - 2nd Quarter		Clean Water 2020 Cuescica Visor is Con War
Task Name And	Qtr 2, 2021	Qtr 3, 2021 Iul Auro Sen
grams	Án the second seco	505
Information Management System (IMS) Program		
IMS Program Implementation	94%	6
Capacity Assurance Program (CAP)		
CAP CD Plan Development		
Sewer Mapping Program (SMP)		
SMP Implementation	87%	9
Transmission System Operations and Maintenance Program (TSOMP)		
TSOMP Implementation	98%	%
Gravity Sewer System Operation and Maintenance Program (GSOMP)		
GSOMP Implementation	93%	%
Continuing Sewer Assessment Program (CSAP) for the WCTS		
CSAP Implementation	95%	66
Assessment of Minor Components of CSAP		
Infrastructure Rehabilitation Report (IRR) for the WCTS		
Infrastructure Rehabilitation Projects		
SS725802 Greenlawn Dr. to Burnside #1 PS (Hampton Forest) Phase 2		
Construction		
SS7301 Bull Street		
Construction		
SS7331 Upper Kinley Creek Sewer Improvements Phase 1		
Design	%06	9
SS733701 East Rocky Branch Improvements Phase 1		
Design	95%	9
SS733702 East Rocky Branch Improvements Phase 2		
Construction	45%	9
SS735003 Crane Creek Lower North Branch Capacity Upgrade Phase 1		
Design	95% 	9
CD Plan Development	Professional Services	

Sec Cab ا ب اہ م tр +1 • Λ 2 .

Consent Decree Quarterly Report 2021 Q2



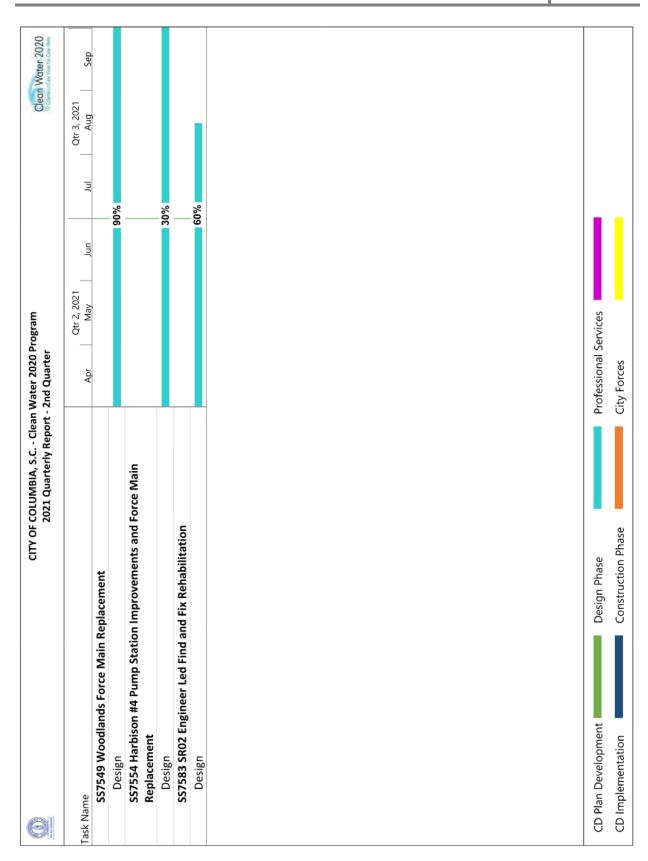
Consent Decree Quarterly Report 2021 Q2

6

inley Creek Sewer Im tiver Force Main Exte eport Report CD Plan Deve structure Rehabilitat al Gravity Sewer Mar al Rehab on Lines les on al Rehab on Lines les on Branch 03 SSES on Branch 03 SSES on tion PS Improvement on Branch 03 SSES on tion PS Improvement on tion PS Improvement on tion PS Improvement on tion PS Improvement on tion PS Improvement on tion Station Decc	CITY OF COLUMBIA, S.C Clean Water 2020 Program 2021 Quarterly Report - 2nd Quarter		Clean Water 2020 Connector View for Convert
ey Creek Sewer Improvements er Force Main Extension ort ort port CD Plan Development ucture Rehabilitation Projects Travity Sewer Capacity appr CD Plan Development tucture Rehabilitation Projects Travity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lin	Task Name	Qtr 2, 2021 May Jun Jul	_
er Force Main Extension er Force Main Replacement and Gravity Sewer Capacity aport CD Plan Development aport CD Plan Development Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 Rehab on Lines less than 15" - 2021 Rehab on Lines less than 15" - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less tha	SS7565 Lower Kinley Creek Sewer Improvements		
er Force Main Extension er Force Main Replacement and Gravity Sewer Capacity ort eport CD Plan Development ucture Rehabilitation Projects Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less	Design	30%	
r Force Main Replacement and Gravity Sewer Capacity ort eport CD Plan Development ucture Rehabilitation Projects Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 anch 03 SSES a Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation BR03 Pump Station Decommissioning and Basin Rehabilitation Design Phase Construction Phase Construction Phase	SS7568 Saluda River Force Main Extension		
rr Force Main Replacement and Gravity Sewer Capacity ort eport CD Plan Development uctorr CD Plan Development activity Sewer Manhole Lining and Replacement - 2021 Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 arech 03 SSES arech 03 SSES a	Design	25%	
ort eport CD Plan Development ucture Rehabilitation Projects Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 an PS Improvements an PS Improvements an PS Improvements BR02 J Sewer Rehabilitation Implementation BR02 J Sewer Rehabilitation Implementation RB03 D Sign Phase Design Phase Construction Phase Construction Phase City Forces	SS7589 Broad River Force Main Replacement and Gravity Sewer Capacity		
ort eport CD Plan Development ucture Rehabilitation Projects Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 an PS Improvements in PS Improvements in PS Improvements anch 03 SSES f Sewer Rehabilitation Implementation BR02 f Sewer Rehabilitation Implementation RB03 f Sewer Rehabilitation RB03 f Sewer Rehabilitat	Improvements		
ort Eport CD Plan Development ucture Rehabilitation Projects Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 an PS Improvements anch 03 SSES aranch 03 SSE	Design	40%	
eport CD Plan Development ucture Rehabilitation Projects Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 an PS Improvements in PS Improvements arch 03 SSES Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation BR03 Pump Station Decommissioning and Basin Rehabilitation Design Phase Construction Phase Construction Phase Construction Phase Construction Phase	Supplemental IR Report		
ucture Rehabilitation Projects Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 an PS Improvements In PS Improvements Improvements In PS Improvemen	Supplemental IR Report CD Plan Development		
Gravity Sewer Manhole Lining and Replacement - 2021 Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 anch 03 SSES anch 03 SSES Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Design Phase Construction Phase Construction Phase Construction Phase Construction Phase	Additional Infrastructure Rehabilitation Projects		
Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 an PS Improvements anch 03 SSES anch 03 SSES d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation RB03 d Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Design Phase Construction Phase Construction Phase Construction Phase	SS6786 Annual Gravity Sewer Manhole Lining and Replacement - 2021		
Rehab on Lines less than 15" - 2020 Rehab on Lines less than 15" - 2021 anch 03 SSES anch 03 SSES d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation R03 Pump Station Decommissioning and Basin Rehabilitation Pump Station Decommissioning and Basin Rehabilitation Construction Phase Construction Phase Construction Phase	Construction		
Rehab on Lines less than 15" - 2021 In PS Improvements ranch 03 SSES d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation RB03 d Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Design Phase Construction Phase Construction Phase City Forces	SS6966 Annual Rehab on Lines less than 15" - 2020		
Rehab on Lines less than 15" - 2021 In PS Improvements ranch 03 SSES d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Pump Station Decommissioning and Basin Rehabilitation Construction Phase Professional Services Construction Phase City Forces	Construction	100%	
In PS Improvements anch 03 SSES anch 03 SSES anch 03 SSES Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Pump Station Decommissioning and Basin Rehabilitation Construction Phase City Forces C	SS6966 Annual Rehab on Lines less than 15" - 2021		
In PS Improvements anch 03 SSES anch 03 SSES anch 03 SSES anch 03 SSEs arch 03 SSEs arch 03 SSEs arch 03 SSEs arch 05 SSEs	Construction		
anch 03 SSES 4 Sewer Rehabilitation Implementation BR02 4 Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Pump Station Decommissioning and Basin Rehabilitation Construction Phase Construction Phase Construction Phase City Forces	SS7323 Food Lion PS Improvements		
anch 03 SSES 4 Sewer Rehabilitation Implementation BR02 5 Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Pump Station Decommissioning and Basin Rehabilitation Pump Station Decommissioning and Basin Rehabilitation Construction Phase City Forces City Forces	Construction	60%	
d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Design Phase Professional Services City Forces City Forces	SS7363 Smith Branch 03 SSES		
d Sewer Rehabilitation Implementation BR02 d Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Pump Station Decommissioning and Basin Rehabilitation Pump Station Decommissioning and Basin Rehabilitation Construction Phase City Forces City Forces	Construction	50%	
A Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Design Phase Construction Phase Construction Phase City Forces Construction Phase City Forces City Force Ci	SS7424 SSES and Sewer Rehabilitation Implementation BR02		
J Sewer Rehabilitation Implementation RB03 Pump Station Decommissioning and Basin Rehabilitation Design Phase Construction Phase Construction Phase City Forces	Design	95%	
Pump Station Decommissioning and Basin Rehabilitation Design Phase Construction Phase Construction Phase City Forces City Forces C	SS7425 SSES and Sewer Rehabilitation Implementation RB03		
Pump Station Decommissioning and Basin Rehabilitation Professional Services Construction Phase Construction Phase City Forces City F	Construction	30%	
Design Phase Professional Services Construction Phase City Forces	SS7432 Starlite Pump Station Decommissioning and Basin Rehabilitation		
Design Phase Professional Services Construction Phase City Forces	Decim	10%	
Design Phase Construction Phase			
Design Phase Construction Phase			
Construction Phase	Design Phase	fessional Services	
	CD Implementation Construction Phase Ci	r Forces	

Consent Decree Quarterly Report 2021 Q2

Task Name	Anr Mav Iun Iun Aur
Wexford and Windsong Lift Stations Evaluation and Rehabilitation	
Project	
Design	95%
SS7437 Miscellaneous Lift Station Improvements and Backup Power Addition Project	
Design	66
SS7462 Investigation of Crockett Road, Atlas Road and Versch Lock Lift	
Stations	
Design	65%
SS7463 SSES and Sewer Rehabilitation Implementation CC01	
Design	80%
SS7464 SSES and Sewer Rehabilitation Implementation CC02 and CC04	
Design	99%
SS7468 Three Rivers Force Main Replacement	
Design	95%
SS7478 RB01 SSES - Phase 2	
Design	95%
SS7479 SB02 SSES - Phase 2	
Design	85%
SS7487 Hickory Ridge Drive Sewer Rehab	
Design	95%
SS7535 Olympia Sewer Relocation and Rehabilitation	
Design	20%
SS7546 Mallard Pointe Force Main Replacement	
Design	100%
SS7547 Yacht Cove Force Main Replacement	
Design	100%
SS7548 Shady Lane Force Main Replacement	
Design	95%
CD Plan Development Profess Profess	Professional Services



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.

					City of Co	lumbia, SC			
						SSO Listing			
				Data of		rter 2021	Burnhalan		
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	т	BD	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	т	TBD		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	т	BD	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	т	BD	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	т	BD	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	Т	BD	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.

Table 1 – SSO Report, 2nd Quarter 2021

					City of Co	lumbia, SC				
					Quarterly	SSO Listing				
					2nd Qua	rter 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	TE	BD	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	6/6/2021 09:45			Collapsed Line	Removed Stoppage To Resume Normal Flo 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.

	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	твр		27		Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair Is Being Scheduled.			

Table 2 – Building Backup Report, 2nd Quarter 2021

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.

Mirande S. Steples

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

5-13-2021

Date

Project Manager/Project Validator

_____ - Jessee

Printed Name





Laboratory Services

Laboratory Report

Client

Woolpert Inc. - City of Columbia Michael Long 2000 Center Point Road Ste 2200 Columbia, SC 29210 Project: Work Order: Received: Water Quality Testing 1041164 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, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

Lauren Hollister

Lauren Hollister Project Manager

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

This report may not be reproduced, except in full, without written permission from Rogers & Callcott, Inc.



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	Project:	Water Quality Testing
	Michael Long	Work Order:	1041164
	2000 Center Point Road Ste 2200	Received:	04/22/2021 14:10
	Columbia, SC 29210		

Sample Number	Sample Description	Matrix	Sampled	Туре
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

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com



Woolpert Inc City of Columbia	Project:	Water Quality Testing
2000 Center Point Road Ste 2200	Work Order:	1041164
Columbia, SC 29210	Reported:	05/04/21 08:50

Sample Data

Sample Number Sample Description	1041164-01 DHEC B-280 \$	Smith Branc	ch @ N. Mair	n St collected	1 on 04/2.	2/21 11:50					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
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 Sample Description	1041164-02 DHEC B-280 \$	Smith Branc	ch @ N. Mair	n St collected	1 on 04/2.	2/21 11:51					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Pa	rameters										
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 Sample Description	1041164-03 DHEC B-280 \$	Smith Branc	ch @ N. Mair	n St collected	1 on 04/2.	2/21 11:52					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	neters										
E. Coli		312	20	MPN/100 mL	20.0	04/22/21 15:23	SM 9223B-2004		MBW	B1D1156	RC-C
Sample Number Sample Description	1041164-04 DHEC C-017	Gills Creek	@ Bluff Roa	d collected o	on 04/22/2	21 12:53					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
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							RC-C

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com an employee-owned company



Woolpert Inc City of 2000 Center Point Roa Columbia, SC 29210						Project: Work Order: Reported:	Water Qu 1041164 05/04/21	ality Testing 08:50			
Sample Number Sample Description	1041164-05 DHEC C-017 G	ills Creek	@ Bluff Roa	d collected o	n 04/22/2	21 12:54					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Par	rameters										
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 Sample Description	1041164-06 DHEC C-017 G	ills Creek	@ Bluff Roa	d collected o	n 04/22/2	21 12:55					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	eters										
E. Coli		194	20	MPN/100 mL	20.0	04/22/21 15:23	SM 9223B-2004		MBW	B1D1156	RC-C
Sample Number Sample Description	1041164-07 DHEC C-001 G	ills Creek	@ Garners F	erry Rd colle	ected on (04/22/21 12:25					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
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 Sample Description	1041164-08 DHEC C-001 G	ills Creek	@ Garners F	erry Rd colle	ected on ()4/22/21 12:26					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Pa	rameters										
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 Sample Description	1041164-09 DHEC C-001 G	ills Creek	@ Garners F	erry Rd colle	ected on ()4/22/21 12:27					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	eters										
E. Coli		20	20	MPN/100 mL	20.0	04/22/21 15:23	SM 9223B-2004		MBW	B1D1156	RC-C

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

an employee-owned company



Woolpert Inc City of Columbia	Project:	Water Quality Testing
2000 Center Point Road Ste 2200	Work Order:	1041164
Columbia, SC 29210	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

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

an employee-owned company

Roders & Callcott	allcott	CHAIN C	JF CU	STO	CHAIN OF CUSTODY RECORD	WORK ORDER 1041164
	ENVIRONMENTAL			Z	Z	Filtered (Yes/No)
Half a century of commitment and quanty			.	- -	×	Cooled (Yes/No)
Mailing PO Box 5655 Shipping 4 Address: Greenville. SC 29606 Address: 1	-	215B Stoneridge Drive Columbia, SC 29210			0.	Container Type (Plastic/Glass)
Phone (864) 232-1556	140	Phone (803) 509-8999	I	0.5G 1	120	Container Volume (mL)
Client Name <u>Woolpert – City of Columbia</u>	f Columbia			0 0	5	Sample Type (Grab/Composite)
Address <u>2000 Center Point Road Suite 2200</u>	Road Suite 2200		sis	MM	MM	Sample Source (WW, GW, DW, SW, S, Other)
Columbia, SC 29210			enist	∢		Presentation (orde(s)
Report To: Michael Long						E - HC
Email Address Michael.long@woolpert.com	lpert.com		r(s) ,			
Telephone # 803-214-5936						D - NaOH H - Ascorbic Acid L - NH4Cl
	Project # Water Quality Testing				iloC	
	SAMPLE DESCRIPTION			SST	E. (←01 COMMENTS
-	DHEC B-280 (Smith Branch @ N. Main St)	@ N. Main St)		+		D.O 9.08 mg/L
56.1.	DHEC B-280 (Smith Branch @ N. Main St)	@ N. Main St)				Temp- 21.4 °C
2 5 7						Collected @ 1150
						Analyzed @ 1154
						-
						Weather- 55° F Suuny
SAMPLER - RELINQUISHED BY:	L DATE/TIME:	RECEIVED BY: 2. (the the the			DATE/TIME:	Composite Start Date/Time:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY: 4.			DATE/TIME:	Composite End Date/Time:
Bag RELINQUISHED BY:	DATE/TIME:	RECEIVED BY: 6			DATE/TIME:	mpe
9 5. 9 9 RELINQUISHED BY:	DATE/TIME:	RECEIVED BY: 8.			DATE/TIME:	At time of collection At time of lab receipt <u>0.7</u> °C
/. ossible Hazards associated with samples:	O Non-Hazard O Flammable	O Skin Irritant O Poison		O Unknown	O other	Form Revised March, 2019 Page of

JRD WORK ORDER 104 1/64	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) A - None E - HCl I - Zn Acetate	5 ₂ 0 ₃	D - NaOH H - Ascorbic Acid K - NaH ₂ PO ₄		0 ⁻¹ COMIMENTS	D.O 8.W mg/L	Temp- 23.8 °C	Collected @ 1253	Analyzed @ 130D		Weather- 58° F Suuny		IME: Pure Start Date/Time:	Comp		Temperature of blank or representative sample IME: At time of collection °C
CHAIN OF CUSTODY RECORD	Z	λ λ	ط ط	0.5G 120	0 0	MM MM	AF		↑ (s)	ter(Par TSS T								C DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
	ENVIRONMENTAL	~	2	Fax (864) 232-6140 Phone (803) 509-8999	Woolpert – City of Columbia	2000 Center Point Road Suite 2200	taine	hnoD		uped u	Project # Water Quality Testing	SAMPLE DESCRIPTION	DHEC C-017 (Gills Creek @ Bluff Road) 1	DHEC C-017 (Gills Creek @ Bluff Road) 1						DATE/TIME: 1410 RECEIVED BY: 1-27-21 146 23 1 Au n,	DATE/TIME: RECEIVED BY:	DATE/TIME: RECEIVED BY:	6. DATE/TIME: RECEIVED BY:
Rogers & Callcott	L Z S	****	5 0	2	E	Sui			Michael.long@woolpert.com		- E		HEC O	HEC (1			

T T	Roge	S	Rogers & Callcott	tt	CHAIN	QF	CUS	loby	CHAIN OF CUSTODY RECORD	WORK ORDER
	, , , , , , , , , , , , , , , , , , ,	EN	Conturn of commitment and audity	TAL			Z	z		Filtered (<u>Yes/N</u> o)
*					21EB Ctonoridae Drive		>	~		Cooled (Yes/No)
Mailing PO Box 5 Address: Greenvill	PO Box 5655 Greenville, SC 29606	snipping Address:	Greenville, SC 29607	1	Zieb stonendge unve Columbia, SC 29210		٩	٩		Container Type (<u>Plastic/Glass</u>)
Phone (8	Phone (864) 232-1556	Ċ	Fax (864) 232-t	140	6668-600 (SUS) 5		0.5G	120		Container Volume (mL)
Client Name	Woolpe	irt – City	Woolpert - City of Columbia				U	ŋ		Sample Type (Grab/Composite)
Address	2000 Ce	nter Point	2000 Center Point Road Suite 2200	200		sıs	MM	Ŵ		Sample Source (WW, GW, DW, SW, S, Other)
	Columbi	Columbia, SC 29210	10			enist	4	ш		
Report To:	Michael Long	Long				uoJ				A - None E - HCl I - Zn Acetate
Email Address		.long@wc	Michael.long@woolpert.com			t of	↑ (s			F - Na ₂ S ₂ O ₃
Telephone #	803-214-5936	-5936				əqu	ter(C - H2SO4 G - Boric Acid K - NaH2PO4 D - NaOH H - Ascorbic Acid L - NH4Cl
PO #	6		Proje	ct # <u>Water C</u>	Project # Water Quality Testing	nN le	əme	ilo(
R & C WORK ORDFR	VR 21	TIME	SA	SAMPLE DESCRIPTION	RIPTION	stoT	n <mark>sq</mark> 22T	Е. С		-07 COMMENTS
-08	1.12	1220	DHEC C-001	Gills Creek @	DHEC C-001 (Gills Creek @ Garners Ferry Rd)					D.O 8.70 mg/L
-04	2.22	122	DHEC C-001	DHEC C-001 (Gills Creek @	Garners Ferry Rd)			Ч		Temp- 33. 8 °C
		1								Collected @ 1225
										Analyzed @ 1230
		-								Weather- 57° F Sumuy
SAMPLER - RELINQUICHED BK	ELINQUISH	ED BY:	PA 4.27	DATE/TIME: d-22-21 1410	RECEIVED BY:	~			DATE/TIME:	Composite Start Date/Time:
LINQ	ED BY:	P	DA	DATE/TIME:	RECEIVED BY:				DATE/TIME:	osite End Date/Time:
B RELINQUISHED BY:	ED BY:	/	DA	DATE/TIME:	T. RECEIVED BY:				DATE/TIME:	lime or Flow (Circle one) Initials:
ige i					6.					or representative sar
o RELINQUISHED BY: 6 7.	ED BY:		DA	DATE/TIME:	RECEIVED BY: 8.				DATE/TIME:	At time of collection 0.7 °C At time of lab receipt
pssible Hazards associated with samples:	issociated with		O Non-Hazard	O Flammable	O skin Irritant	O Poison	O Unknown	n Oother_		Form Revised March, 2019 Page of of



Sample Receipt Verification

Client: $W_{00} _{\ell_{u}} + -C_{0} _{q}$ Date Received:	ι	1.22	- 21	Work Order: 1091169
Carrier Name: Client FedEx UPS US (to Columbia) Tracking Number:	Mail		Cou	rrier Field Services Other:
Carrier Name: Client FedEx UPS US (to Greenville) Tracking Number:	Mail		Cou	rier Field Services Other:
Receipt Criteria	Y e s	No	N A	Comments
Shipping container / cooler intact?	1			Damaged Leaking Other:
Custody seals intact?			1	
COC included with samples?	17			
COC signed when relinquished and received?	1			
Sample bottles intact?	V,			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	V			
Date / time on COC agree with label on bottle(s)?				
Number of bottles on COC agrees with number of bottles received?	1			
Samples received within holding time?				
Sample volume sufficient for analysis?	1			
VOA vials free of headspace (<6mm bubble)?			\checkmark	
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. Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection?			\checkmark	
Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.				
Samples cooled when received in Columbia ?Temp at time of receipt 0.7 °CTemp measured with IR SN: 36301069WS				Ice Cold Packs Dry Ice None
Samples cooled when received in Greenville ? Temp at time of receipt V / A °C	_			Ice Cold Packs Dry Ice None
If in-house preservatio	n used	– rec	ord L	ot #
Hel	PO ₄			
112504	aOH ther			
HNO ₃				
Comments:				
Were non-conformance issues noted at initial sample receipt? Y	es o	r (1	vo)	
Non-Conformance issue other than noted above:				
Note: Samples received initially in Columbia Facility. Sample preservation checks per Revised March 2019	erforme	d at Co	olumbi	a Facility. SNY Completed by:

Page 9 of 9

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.

esse

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.

Mirande S. Steples

Project Manager/Project Validator

6/7/2021

Date

Miranda S. Staples

Printed Name





Laboratory Services

Laboratory Report

Client

Woolpert Inc. - City of Columbia Michael Long 2000 Center Point Road Ste 2200 Columbia, SC 29210 Project: Work Order: Received: Water Quality Testing 1051099 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, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

Lauren Hollister

Lauren Hollister Project Manager

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

— an employee-owned company

This report may not be reproduced, except in full, without written permission from Rogers & Callcott, Inc.



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	Project:	Water Quality Testing
	Michael Long	Work Order:	1051099
	2000 Center Point Road Ste 2200	Received:	05/20/2021 13:05
	Columbia, SC 29210		

Sample Number	Sample Description	Matrix	Sampled	Туре
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

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

an employee-owned company



Woolpert Inc City of Columbia	Project:	Water Quality Testing
2000 Center Point Road Ste 2200	Work Order:	1051099
Columbia, SC 29210	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
Field Parameters											
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										

```
ole Nu
             bei
Sample Description
```

DHEC C-017 Gills Creek @ Bluff Road collected on 05/20/21 11:51

0.0

°C

31.3

Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Pa	rameters										
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 Sample Description	1051099-03 DHEC C-017 C	fills Creek	@ Bluff Road	d collected o	on 05/20/2	21 11:52					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	ieters										
E. Coli		20	20	MPN/100 mL	20.0	05/20/21 14:55	SM 9223B-2004		MBW	B1E1087	RC-C
Sample Number Sample Description	1051099-04 DHEC C-001 G	fills Creek	@ Garners Fe	erry Rd colle	ected on (05/20/21 12:16					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		7.6	0.1	mg/L	1.00	05/20/21 12:22	SM 4500 OG-2011		MBW	B1E0997	RC-C

1.00 05/20/21 12:22

MBW B1E0997 RC-C

SM 2550B-2010

Temperature



Woolpert Inc City of 2000 Center Point Roa Columbia, SC 29210						Project: Work Order: Reported:	Water Qu 1051099 06/02/21	ality Testing 10:58			
Sample Number Sample Description	1051099-05 DHEC C-001 G	ills Creek	@ Garners F	erry Rd colle	ected on (05/20/21 12:17					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Pa	rameters										
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 Sample Description	1051099-06 DHEC C-001 G	ills Creek	@ Garners F	erry Rd colle	ected on (05/20/21 12:18					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	eters										
E. Coli		218	20	MPN/100 mL	20.0	05/20/21 14:55	SM 9223B-2004		MBW	B1E1087	RC-C
Sample Number Sample Description	1051099-07 DHEC B-280 S	mith Branc	ch @ N. Mair	1 St collected	l on 05/2	0/21 12:50					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
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 Sample Description	1051099-08 DHEC B-280 S	mith Branc	ch @ N. Mair	n St collected	l on 05/2	0/21 12:51					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Pa	rameters										
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 Sample Description	1051099-09 DHEC B-280 S	mith Branc	ch @ N. Mair	n St collected	l on 05/2	0/21 12:52					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	ieters										
E. Coli		342	20	MPN/100 mL	20.0	05/20/21 14:55	SM 9223B-2004		MBW	B1E1087	RC-C

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com an employee-owned company



Woolpert Inc City of Columbia	Project:	Water Quality Testing
2000 Center Point Road Ste 2200	Work Order:	1051099
Columbia, SC 29210	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

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

an employee-owned company

N N N N N 2136 Stroner/der Dive Countible, SC 29210 Prone (893) 509 46905 2136 Stroner/der Dive Countible, SC 29210 2136 Stroner/der Dive Countible, SC 29210 2136 Stroner/der Dive Countible, SC 29210 P P P P P P P Countible, SC 29210 Prone (893) 509 46905 Contrainer Voume (m) Countible, SC 29210 Contrainer Voume (m) Countible, SC 29210 Contrainer Voume (m) Countible, SC 29210 Countible, SC 29210 Countible, SC 29210 Contrainer Voume (m) Countible, SC 29210 Contrainer Voume (m) Contrainer Voume (m) Simple Surre (M) GW,	Rogers & Callcott	CH	IN OF C	UST	Ado	AIN OF CUSTODY RECORD	WORK ORDER	1051099
Res Stepsing Stepsing </td <td>env urv of commitmen</td> <td>IKONMENIAL At and auality</td> <td></td> <td>z</td> <td>z</td> <td></td> <td>Filtered</td> <td>(<u>Y</u>es/<u>N</u>o)</td>	env urv of commitmen	IKONMENIAL At and auality		z	z		Filtered	(<u>Y</u> es/ <u>N</u> o)
Container Volume (mu) (motioner local) Contai				~	≻		Cooled	(<u>Y</u> es/ <u>N</u> o)
A result Container Volume (mu) 2000 Columbia SC 29210 Wwww 2000 Columbia SC 29210 Www 2000 Columbia SC 29210 Www Michael long Www Michael long Michael long Michael long With the long Michael long Binit Roadi 1 Michael long Pholect # Water Quality Testing Michael long Pholect # Water Quality Testing Michael long Binit Roadi 1 Michael long Pholect # Water Quality Testing Michael long Pholect # Water Quality Testing Michael long Binit Roadi 1 Jana I State Quality Testing Pholect Reconstrainer State Quality Testing Michael long Binit Roadi 1 A Solution State Quality Testing Pholect Reconstrainer State Quality Testing Solution State Quality Testing Pholect Reconstrainer State Quality Testing Solution State Quality Testing Pholect Coll Coll Coll Collected Quality Testing		Greenville, SC 29607		٩	ط		Contain	ier Type (<u>P</u> lastic/ <u>G</u> lass)
Motioner Sample Type (grab/Composition Sample Type (grab/Composition Number Long Number Long <t< td=""><td></td><td>041</td><td></td><td>0.5G</td><td>120</td><td></td><td>Contain</td><td>ier Volume (mL)</td></t<>		041		0.5G	120		Contain	ier Volume (mL)
2000 Centrer Front: Noad Suite 2200 Xmit www Sample source (www, Gw, DW, Mww Columbia: SC 29210 A A F A A A Michael Long Michael Long A A A A A A Michael Long Michael Long A	Woolpert - Lity (or columpia		U	ŋ		Sample	Type (Grab/Composite)
Columbia Columbia Columbia A Number of contain Michael Long Michael Long Michael Long A- Nome F- HSU0 Michael Long Michael Long F- HSU0 F- HSU0 F- HSU0 Michael Long S03.214-5936 F- HSU0 F- HSU0 F- HSU0 S03.214-5936 Project # Water Quality Testing T T F- HSU0 S03.214-5936 Project # Water Quality Testing T F- HSU0 F- HSU0 S03.214-5936 Project # Water Quality Testing T T D D- Lot #- HSU0 S03.214-5936 T T T T D D- Lot #- HSU0 S03.214-5936 T T T T T D S03.214-5936 T T T T D D- Lot #- HSU0 S03.214-5936 T T T T D D- Lot #- HSU0 S03.214-5936 T T T T D D- Lot #- SU0 S124 T T T T T T T S124 T T T T T T T S124 T T T T T	2000 Center Point	Road Suite 2200	êrs	MM M	Ŵ		Sample	Source (WW, GW, DW, SW, S, Other)
Michael Long Michael Long A. None F. Hole Michael Long Project # Water Quality Testing Project # Water Quality Testing A. None F. Hole Michael Long Project # Water Quality Testing Project # Water Quality Testing A. None F. Hole S03.214.936 Project # Water Quality Testing Project # Water Quality Testing A. None F. Hole Michael Long S03.214.936 Info D. O Le, 43 Meon S120 1151 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 I S120 1152 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 I S120 1152 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 I S120 1152 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 I S120 1152 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 I S120 IS2 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 I S120 IS2 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 I S120 IS2 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 I S120 IS2 DHEC C-017 (Gills Creek @ Bluff Road) 1 <	Columbia, SC 2921	0	nistn	A	LL.			Drecenvation Code(c)
Michael Longewoolpert.com Bit Michael							A - None	
Project # Water Quality Testing E E D D Nooh H - Accorbic Add 20 Inst sample Description F0 C0 Comment Comment 20 Inst DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Emp-24-2 °C 20 Inst DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Emp-24-2 °C 20 Inst DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Emp-24-2 °C 20 Inst DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Emp-24-2 °C 20 Inst DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Emp-24-2 °C 20 Inst DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Emp-24-2 °C 21 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 1 Emp-24-2 °C 21 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 1 Emp-24-2 °C 22 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 1 Emp-24-2 °C 23 DHEC C-017 (Gills Creek @ Bluff Road) 2		olpert.com		(c) ii			B - HNO ₃ C - H ₂ SO ₄	
RU ART TMME SAMPLE DESCRIPTION RU F RU F COMMENT 20 1151 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Collected @ 1150 20 1157 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Collected @ 1150 20 1157 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Collected @ 1150 20 1157 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Collected @ 1150 20 1157 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 Collected @ 1150 21 Collected DAF Meather & Part Meather & Part Meather & Part 21 DATE/TIME: RECEIVED BY: DATE/TIME: Meather & BI * / 0 DATE/TIME: RECEIVED BY: DATE/TIME: Meather & BI * / 0 DATE/TIME: RECEIVED BY: DATE/TIME: Meather & BI * / 0 DATE/TIME: RECEIVED BY: DATE/TIME: Meather & BI * / 0 DATE/TIME: RECEIVED BY: DATE/TIME: Meather & BI * / 0 DATE/TIME: RECEIVED BY: DATE/TIME: Meather & BI * /	002-214-2020	Project # Water Ouality Testins	muN		ilo		D - NaOF	
mile SAMPLE DESCRIPTION F L <thl< th=""> L</thl<>	VR 21		letc		. Cc			
2D II51 DHEC C-017 (Gills Creek @ Bluff Road) 1 1 1 D.O Le. 73 m. $2D$ II51 DHEC C-017 (Gills Creek @ Bluff Road) 1	DATE	SAMPLE DESCRIPTION			. Э		Q	COMMENTS
3b IISL DHEC C-017 (Gills Creek @ Bluff Road) 1 1 Temp- 24.3 ° C Collected @ IISD IISL IISL IISL IISL IISL IISL IISL IISL IISD IISD </td <td></td> <td>DHEC C-017 (Gills Creek @ Bluff Rc</td> <td></td> <td></td> <td></td> <td></td> <td>D.O</td> <td>- 6.73 mg/L</td>		DHEC C-017 (Gills Creek @ Bluff Rc					D.O	- 6.73 mg/L
Image: Second		DHEC C-017 (Gills Creek @ Bluff Rc			-		Temp	
Image: Description Image: Description Analyzed @ 1153 UBSREP % Image: Description Image: Description Image: Description UBSREP % Date/TIME: RECEIVED BY: Date/TIME: Composite Start Date/Time: UBSREP % Date/TIME: RECEIVED BY: Date/TIME: Composite Start Date/Time: UBSREP % Date/TIME: RECEIVED BY: Date/TIME: Composite Start Date/Time: Date/TIME: RECEIVED BY: Date/TIME: Received BY: Date/Time: Date/TIME: RECEIVED BY: Date/TIME: Composite End Date/Time:							Colle	cted @1150
UBSIED BY: UBSIED BY: DATE/TIME: RECEIVED BY							Anal	yzed @1157
MUSATE ME Meather-& MUSATE Meather-& Meather-& MUSATE Meather-& Meather-& MUSATE Meather-& Meather- MUSATE Meather-& Meather- MUSATE Meather-								
Missien Britisher Meather-Bio Missien Britisher Meather-Bio Missien Britisher Meather-Bio Missien Britisher Date/Time: Date/Time: Received Britisher Date/Time: Date/Time:								
UISHED 8K: DATE/TIME: RECEIVED BY: UISHED 8K: DATE/TIME: RECEIVED BY: UISHED 8K: DATE/TIME: RECEIVED BY: DATE/TIME: RECEIVED BY: DATE/TIME:							Weat	୍ଚ ଡ
Ullsyed by: Date/Time: Received by: Ullsyed by: Date/Time: Received by: Date/Time: Received by: Date/Time: Control Date/Time: Received by: Date/Time: Received by: Date/Time:								
UISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME								
UNSMED BY: DATE/TIME: RECEIVED BY: DATE/TIME: DATE/TIME: RECEIVED BY: DATE/TIME: CONT DATE/TIME: RECEIVED BY: DATE/TIME: DATE/TIME:								
DATE/TIME: RECEIVED BY: DATE/TIME: Com DATE/TIME: RECEIVED BY: DATE/TIME: Com A. DATE/TIME: RECEIVED BY: DATE/TIME: Time 6. DATE/TIME: RECEIVED BY: DATE/TIME:	KELINQUISHER BY	lE: S	X			DATE/TIME:	Composite Start Date	s/Time:
DATE/TIME: RECEIVED BY: DATE/TIME: 6. DATE/TIME: RECEIVED BY: DATE/TIME:	ED BY:					DATE/TIME:	e	
6. DATE/TIME: RECEIVED BY: DATE/TIME:	ED BY:					DATE/TIME:		
DATE/TIME: RECEIVED BY: DATE/TIME: At time of collection At time of the of collection At time of the receipt O							Temperature of b	olank or representative sample
	ED BY:					DATE/TIME:	At time of collection At time of lab receipt	ction eceipt 0.4 °C

Rogers & Callcott	(Callcott	CHAIN O	F CU	STOD	AIN OF CUSTODY RECORD	WORK ORDER	DER_105/099	
Half a century of commitment and availity	ENVIRONMENTAL ment and auality			N		Filte	Filtered (<u>Y</u> es/ <u>N</u> o)	·
	176 Foirforont Winn	21EB Stonoridan Drive		۲ ۲		Cool	Cooled (<u>Y</u> es/ <u>N</u> o)	1
Address: Greenville, SC 29606 Address: Address: Address: Address:		Columbia, SC 29210		<u>а</u>		Cont	Container Type (<u>P</u> lastic/ <u>G</u> lass)	
1908) i	Fax (804) 232-014U	2000-200 (202) Anone		0.5G 120		Cont	Container Volume (mL)	
ame	/ of Columbia		I	ט ט		Sam	Sample Type (<u>G</u> rab/ <u>C</u> omposite)	T
Address 2000 Center Poir	2000 Center Point Road Suite 2200	SIG	L	ww ww		Sam	Sample Source (WW, GW, DW, SW, S, Other)	
<u>Columbia, SC 29210</u>	210		<u> </u>	A A				
Report To: Michael Long							Preservation Code	
Email Address <u>Michael.long@woolpert.com</u>	oolpert.com	 						
Telephone # 803-214-5936	-	ladm					C - H ₂ SO ₄ G - Boric Acid K - NaH ₂ PO ₄ D - NaOH H - Ascorbic Acid I - NH ₂ CI	
# Od	Project # <u>W</u>	Project # Water Quality Testing	eme			<u></u>	וו - אמרט שור אנות	
R & C YR <u>21</u> WORK ORDER DATE TIME	SAMPLE	SAMPLE DESCRIPTION	Par	E. C		þ	COMMENTS	
5.20		DHEC C-001 (Gills Creek @ Garners Ferry Rd)				D.0	0 7.62 mg/L	
-00 5.20 1218	DHEC C-001 (Gills Creek @ Garners Ferr	eek @ Garners Ferry Rd) 1		Η		Tei	Temp- 31.3 °C	1
						S	Collected @ 1216	
						An	Analyzed @ 1222	ı
								T
			<u> </u>					
						We	Weather- BI+F Swany	
								,
SAMPLER - RELUNCHISHED BY:	DATE/TIME:	IME: RECEIVER BY	,	9.	DATE/TIME:	Composite Start Date/Time:	Date/Time:	
	DATE/TIME:	E: RECEIVED BY: 4.			DATE/TIME:	e		
RELINQUISHED BY:	DATE/TIME:				DATE/TIME:			
5.						Temperature	or representative sar	
RELINQUISHED BY: 7.	DATE/TIME:	E: RECEIVED BY: 8.			DATE/TIME:	At time of collection At time of lab receipt	ollection <u>c.v.</u> C	
Possible Hazards associated with samples:	O Non-Hazard O Flammable	able 🔘 Skin Irritant 🔘 Poison	n 🔾 Unknown		O other	Form Revised March, 2019	019 Page of	,

	Soge	irs &	Rogers & Callcott	CHAIN	OF C	UST	ОDУ	AIN OF CUSTODY RECORD	WORK ORDER (05	1099
Half a centur	v of con	nmitme	a century of commitment and quality			z	z		Filtered (Yes/No)	
Mailine PO Box 5655	, <u>1</u>	Shipping	e 426 Fairforest Wav	215B Stoneridge Drive		>	~		Cooled (Yes/No)	
	Greenville, SC 29606 Phone (864) 232-1556	Address:	:: Greenville, SC 29607 Eax (864) 232-6140	Columbia, SC 29210 Phone (803) 509-899		٩	ط		Container Type (Plastic/Glass)	Glass)
		740 t				0.5G	120		Container Volume (mL)	
			the state of the s			U	IJ		Sample Type (Grab/Composite)	iposite)
Address	zuuu ue	Columbia SC 20210	columpia so 20210		Iers	Ŵ	Ŵ		Sample Source (WW, GW, DW, SW, S,	, DW, SW, S, Other)
Report To:	Michael Long	a, JU 272	DT		nistric	۲	ш		Preservation Code(s)	Code(s)
Email Address	Michael.	long@wc	Michael.long@woolpert.com							I - Zn Acetate
Telephone #	803-214-5936	-5936							C - H ₂ SO ₄ G - Boric Acid	
PO #			Project # <u>W</u>	Project # Water Quality Testing	nuN I		ilo		U - NAUH H - ASCOrbic Acid	cid L - NH4CI
R & C WORK ORDER	YR 21 DATE	TIME	SAMPLE	SAMPLE DESCRIPTION		SST	E. C		-O7 COMMENTS	NTS
20	5.20	1521	DHEC B-280 (Smith	DHEC B-280 (Smith Branch @ N. Main St)	1				D.O 8.45	mg/L
60	5.20	1252	DHEC B-280 (Smith	DHEC B-280 (Smith Branch @ N. Main St)	-				Temp- 34.2	°C
									Collected @ 1250	0
									Analyzed @ 12	1254
									Weather- 81'F	/ Partly
										0
SAMPLER - RELINDENSHEDERY	INDEMOSHE		A S.20.21 1205	E: RECEIVED BY:	۱. ۱		t	DATE/TIME:	Composite Start Date/Time:	
RELINQUISHED BY: 3.	BY:)	DATE/TIME:	e End Date/Time:	
RELINQUISHED BY: 5.	BY:		DATE/TIME:	E: RECEIVED BY: 6.				DATE/TIME:		2
RELINQUISHED BY: 7.	BY:		DATE/TIME:			· · ·		DATE/TIME:	At time of collection At time of collection At time of lab receipt	tative sample °C
Possible Hazards associated with samples:	sciated with \$		O Non-Hazard O Flammable	able O Skin Irritant O Poison			Oother	E	Form Revised March, 2019 Page	of

56 Rogers & C ENVIR Half a century of commitment	ONMENTAL	Receint	Verif	ication	n
Client: Wool Der-	f Cold I	Date ceived:	5/	125	121 Work051099
Carrier Name: Client (to Columbia) Tracking	FedEx UPS Number:	US	Mail	Со	urier Field Services Other:
Carrier Name: Client (to Greenville) Tracking	FedEx UPS Number:	US	Mail	Cor A H	rrier Field Services Other:
Receipt Criteria			Y e N s	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 re-	ceived?		V		
Sample bottles intact?			V		Damaged Leaking Other:
Sample ID on COC agree with label or	n bottle(s)?		V		
Date / time on COC agree with label o	n bottle(s)?		$\overline{\mathbf{X}}$		
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? Image: A state of the state					
of sample collection? Note: Chlorine checked at bench for sa analysis.	umples requiring Bacterial, VOA, a	nd HAA	X		
Samples cooled when received in Columbia ?	Temp at time of receipt Temp measured with IR SN: 3630/09	rf ℃ 69WS	X		Ice Cold Packs Dry Ice None
Samples cooled when received in Greenville ?	Temp at time of receipt Temp measured with IR SN: 970500	<u>− °C</u>			Ice Cold Packs Dry Ice None
	If in-house pres	servation	used –	record L	ot #
HCL		H ₃ F			
H ₂ SO ₄		Na Otl			
HNO ₃		0		L	
Comments:					
Were non-conformance issues not		Ye	s or	No	
Non-Conformance issue other than Note: Samples received initially in Columb.					a SIBB

Facility. Revised March 2019

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.

harda S.

Project Verifier/QA Manager

13/2021

Date

Miranda S. Staples

Printed Name

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

Project Manager/Project Validator

7/13/21

Date

J Jessee

Printed Name





Laboratory Services

Laboratory Report

Client

Woolpert Inc. - City of Columbia Michael Long 2000 Center Point Road Ste 2200 Columbia, SC 29210 Project: Work Order: Received: Water Quality Testing 1061062 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, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

H. Bailey Brunhan

Bailey Branham Project Manager

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

This report may not be reproduced, except in full, without written permission from Rogers & Callcott, Inc.

an employee-owned company



SUPPACEREONES

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	Project:	Water Quality Testing
	Michael Long	Work Order:	1061062
	2000 Center Point Road Ste 2200	Received:	06/22/2021 13:57
	Columbia, SC 29210		

Sample Number	Sample Description	Matrix	Sampled	Туре
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

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

an employee-owned company



Woolpert Inc City of Columbia	Project:	Water Quality Testing
2000 Center Point Road Ste 2200	Work Order:	1061062
Columbia, SC 29210	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	Resul	Reporting t Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	6.8	0.1	mg/L	1.00	06/22/21 10:05	SM 4500 OG-2011		CDT	B1F1017	RC-C
Grab	Comple	ete			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 Sample Description	1061062-02 DHEC B-280 Smith Bra	anch @ N. Mai	in St collecte	ed on 06/2	2/21 10:00					

25.7

0.0

°C

Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Pa	rameters										
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 Sample Description	1061062-03 DHEC B-280 S	mith Branc	h @ N. Main	1 St collected	l on 06/2	2/21 10:03					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	ieters										
E. Coli		550	20	MPN/100 mL	20.0	06/22/21 16:32	SM 9223B-2004		BNE	B1F1142	RC-C
Sample Number Sample Description	1061062-04 DHEC C-001 G	ills Creek	@ Garners Fe	erry Rd colle	ected on (06/22/21 11:41					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		7.2	0.1	mg/L	1.00	06/22/21 11:41	SM 4500 OG-2011		CDT	B1F1017	RC-C

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

1.00

06/22/21 11:41

SM 2550B-2010

an employee-owned company

Temperature

B1F1017 RC-C

CDT



Woolpert Inc City of 2000 Center Point Roa Columbia, SC 29210						Project: Work Order: Reported:	Water Qu 1061062 06/30/21	ality Testing 10:34			
Sample Number Sample Description	1061062-05 DHEC C-001 G	ills Creek	@ Garners F	erry Rd colle	ected on (06/22/21 11:35					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Par	ameters										
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 Sample Description	1061062-06 DHEC C-001 G	ills Creek	@ Garners F	erry Rd colle	ected on (06/22/21 11:38					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	eters										
E. Coli		2290	20	MPN/100 mL	20.0	06/22/21 16:32	SM 9223B-2004		BNE	B1F1142	RC-C
Sample Number Sample Description	1061062-07 DHEC C-017 G	ills Creek	@ Bluff Roa	d collected o	n 06/22/2	21 12:21					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
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 Sample Description	1061062-08 DHEC C-017 G	ills Creek	@ Bluff Roa	d collected o	n 06/22/2	21 12:15					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Par	ameters										
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 Sample Description	1061062-09 DHEC C-017 G	ills Creek	@ Bluff Roa	d collected o	n 06/22/2	21 12:18					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	eters										
E. Coli		370	20	MPN/100 mL	20.0	06/22/21 16:32	SM 9223B-2004		BNE	B1F1142	RC-C

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com an employee-owned company



Woolpert Inc City of Columbia	Project:	Water Quality Testing
2000 Center Point Road Ste 2200	Work Order:	1061062
Columbia, SC 29210	Reported:	06/30/21 10:34

Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporti	ng 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

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com

an employee-owned company

So Rogers & Callcott	allcott	CHAIN O	F CU:	STOD	CHAIN OF CUSTODY RECORD	
	ENVIRONMENTAL		<u> </u>	N N		Filtered (Yes/No)
nal a century of communication			-	۲ ۲		Cooled (Yes/No)
Shipping Address:		215B Stoneridge Urive Columbia, SC 29210		Р		Container Type (Plastic/Glass)
Phone (864) 232-1556	5140	Phone (803) 509-8999	Ö	0.5G 120		Container Volume (mL)
Client Name Woolpert – City of Columbia	Columbia			0 0		Sample Type (Grab/Composite)
Address 2000 Center Point Road Suite 2200	oad Suite 2200		1	MM MM		Sample Source (WW, GW, DW, SW, S, Other)
<u>Columbia, SC 29210</u>				L L		
Report To: Michael Long		juo				Preservation Code(s)
Email Address <u>Michael.long@woolpert.com</u>	pert.com	r of C				F - Na ₂ S ₂ O ₃
Telephone # 803-214-5936		iaquu				C - H ₂ SO ₄ G - Boric Acid K - NaH ₂ PO ₄ D - NaOH H - Ascorbic Acid L - NH ₄ Cl
	Project # Water Quality Testing	ality Testing	təmi	ilo		
R & C YR ZZ IME TIME	SAMPLE DESCRIPTION		Para	E. C		COMMENTS
000/ 22/9	DHEC B-280 (Smith Branch @ N. Main	@ N. Main St) 1				D.O 6,34 mg/L
609/ 1 20	DHEC B-280 (Smith Branch @ N. Main	@ N. Main St) 1	 			Temp- 24.0 °C
						Collected @ 1000 Collected
						Analyzed @ /wu5 6/22/21
			 			Weather- 75 /ight drize (t
SAMPLER-RELINQUISHED BY:	6/22/21/357	RECEIVED BY			DATE/TIME:	Somposite Start Date/Time:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY: 4.			DATE/TIME:	Composite End Date/Time:
B RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:			DATE/TIME:	
<u>ن</u> ge 6		6.				or representative sar
o RELINQUISHED BY: 6 7.	DATE/TIME:	RECEIVED BY: 8.			DATE/TIME:	At time of lab receipt
ossible Hazards associated with samples:	O Non-Hazard O Flammable	O Skin Irritant O Poison			O other	Form Revised March, 2019 Page of of

So Rogers & Callcott	Callcott	CHAIN OF	CU	STOD	AIN OF CUSTODY RECORD	WORK ORDER / 00/1	M
Half a century of commitment and auglity	ENVIRONMENTAL ment and auglity			N		Filtered (Yes/No)	
				۲ ۲		Cooled (Yes/No)	
Mailing PO Box 5655 Shipping Address: Greenville, SC 29606 Address:	_	ZISB Stonerlage Urive Columbia, SC 29210		Р		Container Type (<u>P</u> lastic/ <u>G</u> lass)	ilass)
; (864	140	2222-200 (208)	0	0.5G 120		Container Volume (mL)	
ame	of Columbia			d d		Sample Type (Grab/Composite)	oosite)
Address 2000 Center Point Road Suite 2200	Road Suite 2200	SIC	>	ww ww		Sample Source (WW, GW, DW, SW, S,	DW, SW, S, Other)
	0			AF			
Report To: Michael Long							ue(s) I - Zn Acetate
Email Address Michael.long@woolpert.com	olpert.com	er of	↑ (s	-		B - HNO ₃ F - Na ₂ S ₂ O ₃ C - H ₂ SO ₄ G - Boric Acid	J - Н ₃ РО₄ К - NaH₂PO,
Telephone # 803-214-5936		iqmi	:)191				
PO#	Project # Water Quality Testi	8 UB		:[0]			
R & C YR Z/ WORK ORDER DATE TIME	SAMPLE DESCRIPTION			E. C		-Of COMMENTS	TS
3	DHEC C-001 (Gills Creek @ Garners Ferry Rd)	arners Ferry Rd)				D.O 7.16 n	mg/L
00 1 1/38	DHEC C-001 (Gills Creek @ Garners Ferr	arners Ferry Rd)	l			Temp- 25.7 。	°C
			[Collected @ // 1/	12/22/01/
						Analyzed @ //4/	1 cledy
						Weather- ZS ⁰	Daining
							\$
SAMPLER - RELINQUISHED BY:	6 DATE/TIME:	RECEIVED BY:			DATE/TIME:	Somposite Start Date/Time:	
RELINQUISHED BY:	1	RECEIVED BY: 4.			DATE/TIME:	Composite End Date/Time:	
B B B 5.	DATE/TIME:	RECEIVED BY: 6.			DATE/TIME:	mperature of blank or repr	ative sample
4 RELINQUISHED BY: 6 7.	DATE/TIME:	RECEIVED BY: 8.			DATE/TIME:	At time of collection At time of lab receipt	ວ. ບ
ossible Hazards associated with samples:	O Non-Hazard O Flammable	O Skin Irritant O Poison		O unknown	O other	Form Revised March, 2019 Page	of

Som Rogers & Callcott	allcott	CHAIN OI	F CUS	STOD	CHAIN OF CUSTODY RECORD	WORK ORDER 1001002
Half a century of commitment and auglity	ENVIRONMENTAL		Z	Z		Filtered (Yes/No)
		tonoridao Drivo	<i>≻</i>	Υ		Cooled (Yes/No)
snipping Address:	Greenville, SC 29607 Columi	Columbia, SC 29210		٩		Container Type (Plastic/Glass)
; (864) 232-1556	140	Phone (803) 509-8999	0.5G	G 120		Container Volume (mL)
ame	olumbia		U	U U		Sample Type (Grab/Composite)
Address 2000 Center Point Road Suite 2200	ad Suite 2200	BLZ	MM	MM N		Sample Source (WW, GW, DW, SW, S, Other)
Columbia, SC 29210			4	ш		
Report To: Michael Long		uoŋ				A - None E - HCl I - Zn Acetate
Email Address <u>Michael.long@woolpert.com</u>	ert.com	<u>ور</u>	ተ (ዩ			B - HNO ₃ F - Na ₂ S ₂ O ₃ J - H ₃ PO ₄
Telephone # 803-214-5936		mbe 	er(s			C - P2SO4 G - BOTIC ACIG K - NAP2PO4 D - NaOH H - Ascorbic Acid L - NH ₄ Cl
# Od	Project # Water Quality Testir	Julity Testing	təmi	ilo		
R&C YRZ WORK ORDER DATE TIME	SAMPLE DESCRIPTION			TSS 		O COMMENTS
6/22 1315	DHEC C-017 (Gills Creek @ Bluff Road)	< @ Bluff Road) 1				D.O 6.6/ mg/L
10 1/3 DF	DHEC C-017 (Gills Creek @	< @ Bluff Road) 1				Temp-25.4 °C
						Collected @ $b(r^2/2/12^2)$
			1			Analyzed @ 122/21 122(
						Weather- 75° Raihing
SAMPLER RELINQUISHED BY:	6 22/21 1357	RECEIVED BY:			DATE/TIME:	Somposite Start Date/Time:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY: 4.		,	DATE/TIME:	Composite End Date/Time:
BA BA	DATE/TIME:	RECEIVED BY:			DATE/TIME:	
d B B B C C B C C C C C C C C C C C C C C	DATE/TIME:	o. RECEIVED BY: 8.			DATE/TIME:	At time of collection *C
ssible Hazards associated with samples:	O Non-Hazard O Flammable	O Skin Irritant O Poison			O other	Form Revised March, 2019 Page of of

Rogers & Callcott	
Columbia Sample Re	Receipt Verification
Client: WOODBAAL Date Received:	CALZZZZ Work Order: OCALDEZ
Carrier Name: Client FedEx UPS US (to Columbia) Tracking Number:	S Mail Courier Field Services Other:
Carrier Name: Client FedEx UPS US (to Greenville)	S Mail Courier Field Services Other:
Receipt Criteria	Y e s 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? 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.	
Samples cooled when received in Columbia ? Temp at time of receipt /2 °C Temp measured with IR SN: 36301069WS	- Cold Packs Dry Ice None

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

Comments:	
Were non-conformance issues noted at initial sample receipt?	Yes or No
Non-Conformance issue other than noted above:	
	YRA
Revised June 2021	Completed by: ///////////////////////////////////