Clean Water 2020 Program

CONSENT DECREE QUARTERLY REPORT

October 1, 2023 – December 31, 2023



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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):

- 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

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 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.

CITY OF COLUMBIA, S.C Clean 2023 Quarterly Report -	Vater 2020 Program 4th Quarter
Task Name	Oct Nov Dec Jan Feb Mar
MOM Programs	
Capacity Assurance Program (CAP)	
CAP CD Plan Development	
Infrastructure Rehabilitation Report (IRR) for the WCTS	
Infrastructure Rehabilitation Projects	
SS725802 Greenlawn Dr. to Burnside #1 PS (Hampton Forest) Phase 2	
Construction	60%
SS7301 Bull Street	
Construction	
SS7331 Upper Kinley Creek Sewer Improvements Phase 1	
Construction	15%
SS733701 East Rocky Branch Improvements Phase 1	
Design	%66
SS733702 East Rocky Branch Improvements Phase 2	
Construction	66
SS735003 Crane Creek Lower North Branch Capacity Upgrade Phase 1	
Construction	10%
SS7428 Lower Saluda River Relief Sewer and Major Pipe Rehabilitation	
Construction	93%
SS7450 Crane Creek Lower North Branch Capacity Upgrade Phase 2	
Construction	55%
SS7467 North Columbia Pump Station Upgrade	
Construction	45%
SS7474 Upper North Branch Crane Creek Sewer Improvements Phase 1	
Design	95%
SS7502 Summerlea SS Flood Project	
Construction	95%
SS753902 CIPP Major Pipe Rehabilitation	
Design	95%
CD Plan Development Design Phase	rofessional Services
CD Implementation Construction Phase (ity Forces

Section 2 Schedule of Projects and Activities

CITY OF COLUMBIA, S.C Clean 2023 Quarterly Report -	Nater 2020 Program 4th Quarter	Clean Water 2020 © country curvition for Coon View
Task Name	Qtr 4, 2023 Oct Nov Dec Jan	Qtr 1, 2024 Feb Mar
SS753903 Geopolymer Major Pipe Rehabilitation		
Design	95%	
SS753904 Pipe Bursting Major Pipe Rehabilitation		
Design	95%	
SS7555 Lower Crane Creek Relief Sewer Phase 2		
Design	30%	
SS7560 Lower Crane Creek Equalization Storage		
Design	100%	
SS7562 Gills Creek Relief Sewer Phase 1		
Design	85%	
SS7564 West Columbia PS 2020 Upgrades		
Construction	80%	
SS7565 Lower Kinley Creek Sewer Improvements		
Design	100%	
SS7568 Saluda River Force Main Extension Phase 1		
Construction	10%	
SS7568 Saluda River Force Main Extension Phase 2		
Design	30%	
SS7589 Broad River Force Main Replacement and Gravity Sewer Capacity		
Improvements		
Design	95%	
Supplemental IR Report		
Supplemental Infrastructure Rehabilitation Projects		
SS6786 Annual Gravity Sewer Manhole Lining and Replacement - FY2022		
Construction	100%	
SS6786 Annual Gravity Sewer Manhole Lining and Replacement - FY2024		
Construction	1%	
C Dian Data Diana	on Construction	
CD Plan Development	rotessional Services	
CD Implementation Construction Phase Construction C	ity Forces	

CITY OF COLUMBIA, S.C Clean 2023 Quarterly Report	• Water 2020 Program - 4th Quarter
Task Name	Oct Nov Dec Jan Feb Mar
SS6966 Annual Rehab on Lines less than 15" - FY2023	
Construction	70%
SS7424 SSES and Sewer Rehabilitation Implementation BR02	
Construction	85%
SS7432 Starlite Pump Station Decommissioning and Basin Rehabilitation	
Related Works	
Construction	99%
SS7435 Wexford and Windsong Lift Stations Evaluation and Rehabilitation	
Conctruction	F0/
CONSTRUCTION	2/0
SS7437 Miscellaneous Lift Station Improvements and Backup Power Addition Project	
Construction	10%
SS7462 Investigation of Crockett Road, Atlas Road and Versch Lock Lift Stat	
Design	85%
SS7463 SSES and Sewer Rehabilitation Implementation CC01	
Design	95%
SS7464 Sewer System Evaluation Study and Sewer Rehabilitation	
Implementation CC02 and CC04	
Construction	15%
SS7468 Three Rivers Force Main Replacement	
Construction	95%
SS7478 RB01 SSES - Phase 2	
Design	95%
SS7479 SB02 SSES - Phase 2	
Design	95%
SS7487 Hickory Ridge Drive Sewer Rehab	
Construction	100%
SS7497 Mill Creek PS Misc. Improvements	
Design	75%
CD Plan Development Design Phase	Professional Services
CD Implementation Construction Phase	City Forces

Ø	CITY OF C	OLUMBIA, S.C Clea 023 Quarterly Report	n Water 2020 Program t - 4th Quarter			Clean W © columbie's Ch	Vater 2020
Task Name			Oct Nov	023 Dec	Jan	Qtr 1, 2024 Feb	Mar
SS7535 Olympia Sewer Relocatio	n and Rehabilitation						
Design				8	%0		
SS7549 Woodlands Force Main R	eplacement						
Construction							
SS7554 Harbison #4 Pump Station	n Improvements and F	orce Main Replace	Ĕ				
Design				Ř	%0		
SS7583 SR02 and BR04 Engineer	Led Find and Fix Rehat	oilitation					
Construction				8	%0		
SS7615 Broad River PS Miscellan	sous Improvements						
Design				100%			
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.

The City notified the U.S. Department of Justice, the U.S. Environmental Protection Agency, and the South Carolina Department of Health and Environmental Control of a *force majeure* event starting on March 13, 2020. On this date, the Governor of South Carolina declared a state of emergency based on a determination that COVID-19 posed an imminent public health emergency for the State, and on March 17, 2020 the Mayor and City Council declared a local state of emergency in the City. On April 7, 2020, the City submitted a written *force majeure* notice and requested to provide additional information required under Paragraph 56 of the Consent Decree once the COVID-19 pandemic is contained and the City is better able to fully assess the impacts on its performance of its Consent Decree obligations. On February 5, 2021, the City submitted an interim report on the impacts of the *force majeure* event. On April 18, 2023, the City submitted the Final Report for the City's notice of a *force majeure* event due to COVID-19. The City submitted additional information in support of the City's Final Report on December 14, 2023.

3.1 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 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 60% 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 Construction 15% Complete
- SS733701 East Rocky Branch Improvements Phase 1 Design 99% Complete
- SS733702 East Rocky Branch Improvements Phase 2 Construction 99% Complete
- SS735003 Crane Creek Lower North Branch Capacity Upgrade Phase 1 Construction 10% Complete
- SS7428 Lower Saluda River Relief Sewer and Major Pipe Rehabilitation Construction 99% Complete

- SS7450 Crane Creek Lower North Branch Capacity Upgrade Phase 2 Construction 55% Complete
- SS7467 North Columbia Pump Station Upgrade Construction % Complete
- SS7474 Upper North Branch Crane Creek Sewer Improvements Phase 1 Design 95% Complete
- SS7502 Summerlea SS Flood Project Construction 80% Complete
- SS753902 CIPP Major Pipe Rehabilitation Design 95% Complete
- SS753903 Geopolymer Major Pipe Rehabilitation Design 95% Complete
- SS753904 Pipe Bursting Major Pipe Rehabilitation Design 95% Complete
- SS7555 Lower Crane Creek Relief Sewer Phase 2 Design 30% Complete
- SS7560 Lower Crane Creek Equalization Storage Design 100% Complete
- SS7562 Gills Creek Relief Sewer Phase 1 Design 85% Complete
- SS7564 West Columbia Pump Station Improvements Construction 80% Complete
- SS7565 Lower Kinley Creek Sewer Improvements Design 100% Complete
- SS7568 Saluda River Force Main Extension Phase 1 Construction 10% Complete
- SS7568 Saluda River Force Main Extension Phase 2 Design 30% Complete
- SS7589 Broad River Force Main Replacement and Gravity Sewer Capacity Improvements Design 95% 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 was submitted to EPA and SCDHEC on November 22, 2022. The City is awaiting EPA and SCHEC review and approval of the SIRR.

As rehabilitation projects are identified 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 FY2022 Construction 100% Complete
- SS6786 Annual Gravity Sewer Manhole Lining and Replacement FY2024 Construction 1% Complete
- SS6966 Annual Rehab on Lines less than 15" FY2023 Construction 70% Complete
- SS7424 Sewer System Evaluation Study and Sewer Rehabilitation Implementation BR02 Construction 85% Complete
- SS7432 Starlite PS Decommissioning and Basin Rehabilitation Related Works Construction 99% Complete
- SS7435 Wexford and Windsong Lift Stations Evaluation and Rehabilitation Project Construction 5% Complete
- SS7437 Miscellaneous Lift Station Improvements and Backup Power Addition Construction 10% Complete

- SS7462 Investigation of Crockett Road, Atlas Road and Versch Lock Lift Stations Design 85% Complete
- SS7463 SSES and Sewer Rehabilitation Implementation CC01 Design 95% Complete
- SS7464 Sewer System Evaluation Study and Sewer Rehabilitation Implementation CC02 and CC04 – Construction 15% Complete
- SS7468 Three Rivers Force Main Replacement Construction 95% Complete
- SS7478 Rocky Branch 01 SSES Phase 2 Design 95% Complete
- SS7479 Smith Branch 02 SSES Phase 2 Design 95% Complete
- SS7487 Hickory Ridge Drive Sewer Rehab Construction 100% Complete
- SS7497 Mill Creek PS Miscellaneous Improvements Design 75% Complete
- SS7535 Olympia Sanitary Sewer Relocation and Rehabilitation Design 80% Complete
- SS7549 Woodlands Force Main Replacement Construction 0% Complete
- SS7554 Harbison #4 Pump Station Improvements and Force Main Replacement Design 30% Complete
- SS7583 SR02 and BR04 Engineer Led Find and Fix Rehabilitation Construction 80% Complete
- SS7615 Broad River PS Miscellaneous Improvements Design 100% Complete

3.2 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 Columbia, SC									
					Quarterly	SSO Listing			
					4th Qua	rter 2023			
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
10/3/2023	11:53	3700 Bush River Dr, Columbia, SC 29210	Manhole	т	3D	200	Storm Water Ditch	Debris	Washed Main Line To Remove Stoppage And Resume Normal Flow. Manhole Repair To Be Done.
10/3/2023	16:00	648 Lockner Rd, Columbia, SC 29212	Manhole	10/3/2023	20:02	44	Tributary To Kinley	Collapsed Line	Sealed Inside Of Manhole. Manhole Repair.
10/5/2023	13:10	1301 Columbia College Dr, Columbia, SC 29203	Other	10/6/2023	10:30	390	Storm Drain	3rd Party Responsibility	Hydro Excavated To Expose The Line. Service Lateral Point Repair.
10/4/2023	18:00	601 Graymont Ave, Columbia, SC 29205	Cleanout	10/13/2023	12:00	87		Roots	Washed Service Line To Remove Stoppage And Resume Normal Flow. Service Lateral CIPP.
10/15/2023	14:45	1651 Shady Ln, Columbia, SC 29206	Manhole	10/16/2023	13:00	600	Lake Katherine (Gills Creek)	Debris	Washed From Downstream 24237MH To Clear Blockage And Resume Normal Flow. Main Line Washed.
10/13/2023	11:38	3000 S Beltline Blvd, Columbia, SC 29201	Other	10/13/2023	15:00	5		Equipment Failure	Shut Down Bypass Pump. Replaced Hose On Bypass Pump.
10/16/2023	13:00	1035 Garden Valley Ln, Columbia, SC 29210	Other	10/26/2023	12:00	3198	Unnamed Trib To Saluda River	Pump Station Failure	Drain Equalization Storage Tank. Re-Centered 30" Line. Repaired Link Seal.
10/18/2023	13:50	100 Wheat Street, Columbia, SC 29201	Pump Station	N	/A	840		Equipment Failure	Diverted Flow Back To Gravity Line. SSO Was The Result Of Maintenance Activities Related To Pigging Of The 42" West Columbia FM.
10/17/2023	17:56	131 Tabor Dr, Columbia, SC 29203	Cleanout	10/27/2023	10:37	7		Collapsed Line	Washed Service Line To Remove Stoppage And Resume Normal Flow. Service Lateral Point Repair.
10/27/2023	17:00	5605 Bush River Rd, Columbia, SC 29212	Manhole	11/7/23	15:00	38		Collapsed Line	Washed Main Line To Remove Stoppage And Resume Normal Flow. Inspected And Determined Main Line Needed To Be Repaired.
11/3/2023	18:30	5217 Fairfield Rd, Columbia, SC 29203	Cleanout	т	3D	3600	Storm Drain	Roots	Washed Main Line From 09320MH 75 Feet To Remove Stoppage. Main Line CIPP Point Repair To Be Done.
11/6/2023	08:10	5217 Fairfield Rd, Columbia, SC 29203	Cleanout	TI	3D	1510	Storm Drain	Roots	Washed Main Line And Service Line To Remove Stoppage And Resume Normal Flow. Main Line CIPP Point Repair To Be Done.
11/6/2023	16:06	724 Tara Ln, Columbia, SC 29210	Cleanout	11/28/2023	14:53	10	Storm Drain	Grease	Washed Service Line To Remove Stoppage And Resume Normal Flow. Service Line Point Repair.
11/16/2023	09:38	227 Watts Ln, Columbia, SC 29016	Manhole	12/5/2023	14:30	1775		Roots	Washed Main Line To Remove Stoppage And Resume Normal Flow. Manhole Repair And Main Line CIPP Point Repair.
11/23/2023	14:00	523 S Highland Forest Dr, Columbia, SC 29203	Manhole	12/11/2023	12:00	240		Roots	Removed Blockage To Resume Normal Flow. Main Line Repair.
11/29/2023	12:49	401 Columbiana Dr, Columbia, SC 29212	Manhole	11/29/2023	13:39	763	Storm Drain	Debris	Washed Main Line To Remove Stoppage And Resume Normal Flow.
11/28/2023	16:30	717 Deerwood St, Columbia, SC 29205	Cleanout	12/20/2023	12:00	75		Collapsed Line	Root Cut Service Line To Remove Stoppage And Resume Normal Flow. Service Lateral CIPP.
12/7/2023	13:29	22 Hicoria Ct, Columbia, SC 29209	Cleanout	TI	3D	13		Roots	Washed Service Line To Remove Stoppage And Resume Normal Flow. Service Lateral CIPP To Be Done.
12/12/2023	11:30	201 Scioto Dr, Columbia, SC 29203	Manhole	т	3D	2400	Unnamed Tributary To Crane Creek	Collapsed Line	Washed Main Line From 32531MH To Remove Stoppage And Resume Normal Flow. Main Line Repair To Be Done.
12/13/2023	08:58	9 Downing St, Columbia, SC 29209	Manhole	12/13/2023	12:00	224	Gills Creek	Grease	Washed Main Line 10 Feet To Clear Blockage And Resume Normal Flow. On A Pm Wash Cycle.
12/18/2023	23:00	4040 Rosewood Dr, Columbia, SC 29205	Cleanout	12/18/2023	12:00	1739	Storm Drain	Grease	Washed Main Line To Remove Stoppage And Resume Normal Flow.
12/24/2023	14:25	2 Cabinteely Ct, Blythewood, SC 29016	Cleanout	12/27/2023	10:00	120		Debris	Removed Blockage To Resume Normal Flow. Manhole Clean.
12/27/2023	13:20	200 Candi Ln, Columbia,	Manhole	N	/A	2484	Saluda River	Wet Weather	Wet Weather; Observation Only.

Table 1 – SSO Report, 4th Quarter 2023

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									
				Qua	rterly Buildi	ing Backup L	isting		
					4th Qua	rter 2023			
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
10/10/2023	15:10 4434 Woodside Haven Dr, Columbia, SC 29206 City TBD 1 Roots		Roots	Root Cut Service Line. Service Lateral CIPP To Be Done.					
10/26/2023	12:40	1200 Main St, Columbia, SC 29201	City	10/30/2023	12:50	33		3rd Party Responsibility	Washed Service Line To Clear Stoppage. Service Lateral Point Repair.
11/7/2023	13:20	131 Mill Creek Pkwy, Columbia, SC 29209	City	11/7/2023	13:00	23		Collapsed Line	Washed Service Line To Clear Stoppage And Resume Normal Flow. Tap Repair And Cleanout Install.
11/12/2023	15:00	3000 Lang Rd, Columbia, SC 29204	City	11/12/2023		30		Roots	Washed Main Line To Remove Stoppage And Resume Normal Flow.
11/25/2023	20:00	327 Glen Dornoch Way, Blythewood, SC 29016	City	11/26/2023	20:00	15		Roots	Removed Blockage To Resume Normal Flow. Service Line Washed.
11/26/2023	11:30	151 Leeward Loop, Columbia, SC 29209	City	тв	D	9		Collapsed Line	Removed Blockage To Resume Normal Flow. Main Line Repair To Be Done.
Intersection Contract, SC 2203 Main Line Repair To Be Dominant, SC 2203 11/26/2023 11:45 156 Leeward Loop, Columbia, SC 2209 City TBD 38 Collapsed Line Main Line Repair To Be Dominant, SC 2203 Removed Blockage To Resume Norm Main Line Repair To Be Dominant, SC 2203								Removed Blockage To Resume Normal Flow. Main Line Repair To Be Done.	
12/6/2023	15:20	407 Pickens St, Columbia, SC 29205	City	тв	D	17		Equipment Failure	Ceased Washing Main Line. Main Line Repair To Be Done.
12/18/2023	09:00	21 Prices Ct, Columbia, SC 29212	City	12/18/2023	09:00	1		Equipment Failure	Stopped Washing Main Line.

Table 2 – Building Backup Report, 4th Quarter 2023

Appendix A December 14, 2023 Letter to EPA



Joan W. Hartley Shareholder Admitted in SC, NC

December 14, 2023

VIA E-MAIL (SCHWARTZ.PAUL@EPA.GOV)

Paul Schwartz, Esquire Assistant Regional Counsel United States Environmental Protection Agency 61 Forsyth Street Atlanta, GA 30303

> Re: The United States of America and State of South Carolina by and through the Department of Health and Environmental Control vs. The City of Columbia; Civil Action No. 3:13-2429-TLW; DOJ Case Number 90-5-1-1-09954

Dear Paul:

On behalf of the City of Columbia ("City"), we are providing additional information requested in support of the City's Final Report of Force Majeure Event due to COVID-19 dated April 4, 2023 ("April 2023 Report"). In the April 2023 Report, the City requested extensions of certain deadlines expressly set forth in the Consent Decree. As discussed below, the City has evaluated the need for extensions on the more specific project level in order to respond to EPA's recent request for additional information. Based on this project-specific evaluation, the City has identified six CIP projects for which additional time is requested based on current status and projected completion dates for those projects. Of the six projects, four are capacity-enhancing projects, one is a project that was identified in the Infrastructure Rehabilitation Report ("IRR"), and one is a project that was identified in the Supplementation Infrastructure Rehabilitation Report ("SIRR").

The following is a general description of the additional information requested by EPA in response to its initial review of the April 2023 Report:

1230 Main Street Suite 700 (29201) PO BOX 2426 Columbia, SC 29202 www.maynardnexsen.com T (803) 540-2129 F 803.727.1471 E JHartley@maynardnexson.com Maynard Nexsen PC Attorneys and Counsciors at Law Paul Schwartz, Esquire December 14, 2023 Page 2

<u>Request No. 1</u>: Provide a list of the projects covered by the request for an extension, the current status/stage of completion for each project, and current due date under the Consent Decree.

<u>Request No. 2</u>: Provide a list of the deliverables under the Consent Decree with the date of submittal, the EPA approval date, and due dates for those deliverables for which the deadline are contingent on some preceding event.

<u>Request No. 3</u>: In connection with the request for extension of the implementation of the final Capacity Assurance Program ("CAP"), provide a list of capacity-limited sewer basins/sub-basins and the frequency and volume (per year during the most recent three calendar years) of sanitary sewer overflows ("SSOs") in the capacity-limited basins/sub-basins.

<u>Request No. 4</u>: In connection with the request for CAP extension, provide a description of the City's current capacity program, which the City is obligated to implement prior to EPA approval of the CAP.

In response to Request No. 2, please see Summary Report of Consent Decree Deliverables attached as Appendix A.

In response to Request No. 4, please see the City's Standard Operating Procedure for Wastewater System Capacity Assurance Program (May 2013, Revised April 2018) ("Current Capacity Program") attached as Appendix B. Under the Current Capacity Program, the City tracks all authorized new sewer service connections or increases in flow from existing service connections in the City's service area. For each authorized connection in the City's service area, the following information is recorded in the City's Sharepoint database: street address, estimated average daily flow, estimated peak flow, sewer basin or sub-basin, date authorized, and estimated calendar quarter when the additional flow from the connection will begin. For new wastewater connections with flow greater than 4,000 gallons per day or existing connections with an increase in wastewater flow greater than 4,000 gallons per day, a Capacity Assurance Program Analysis Request Form and supporting documents and design plans must be submitted to the City. The City conducts a capacity assurance analysis to determine whether the City's collection, transmission, and treatment system has sufficient capacity to accept the proposed increase in flow. Based on this analysis, the City will approve, approve with conditions, or deny a request for new service or increased flow for existing connections.

In the process of gathering the information to respond to Request No. 1, the City conducted an assessment of the current status and projected deadlines for the CIP

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projects identified to increase capacity in the City's system to address capacity-limited areas for which new connections may not be allowed when the CAP is implemented. Since the deadline for implementing the CAP is contingent on the EPA's approval of the Hydraulic Model Report, the City has made certain presumptions regarding the current deadline for implementation of the CAP. For each of the four capacity-enhancing projects identified, the City is providing a narrative describing the project and the process for identifying the project, the current deadline for completion under the Consent Decree (with presumptions regarding the deadline), the current status of the project, the reasons for delays in projected completion of the project, and a project-specific request for an extension of the deadline for implementing the CAP in the affected basins/sub-basins. Additionally, in response to Request No. 3, the City is providing a map showing the affected basins/sub-basins and a table with the SSOs in calendar years 2020 through 2022 for each of these four projects. The following are the four capacity-enhancing projects and the requested deadline extensions for each:

<u>SS7562 Gills Creek Relief Sewer Phase 1</u> (Appendix C): The City is requesting an extension of the use of the current capacity program SOP for new connections in the affected sub-basins in the Gills Creek Sewer Basin until July 1, 2029, or the completion of Phase 1 of the Gills Creek Relief Sewer Phase 1 project, whichever occurs first.

<u>SS7568 Saluda River Force Main Extension</u> (**Appendix D**): The City is requesting an extension of the use of the current capacity program SOP for new connections in the affected sub-basins in the Saluda River Sewer Basin until January 1, 2028, or the completion of Phase 2 of the Saluda River Force Main Extension project, whichever occurs first.

<u>SS7589 Broad River Force Main Replacement and Gravity Sewer</u> <u>Capacity Improvements</u> (Appendix E): The City is requesting an extension of the use of the current capacity program SOP for new connections in the affected sub-basins in the Broad River FM Replacement and GS Capacity Improvements project until January 1, 2029, or the completion of Broad River Force Main Replacement and GS Capacity Improvements project, whichever occurs first.

SS733701 East Rocky Branch SS Improvements Phase 1 (Appendix F): The City is requesting an extension of the use of the current capacity program SOP for new connections in the affected sub-basins in the until July 1, 2028, or the completion of East Rocky Branch SS Improvements Phase 1 project, whichever occurs first.

Paul Schwartz, Esquire December 14, 2023 Page 4

A map showing the affected basins/sub-basins for all four capacity-enhancing projects is attached as Appendix G.

The City has identified one CIP project addressing Group 2 projects identified in the IRR and one CIP project identified in the SIRR for which the City is requesting extensions of the current projected deadlines. As with the capacity-enhancing projects, the City has made certain presumptions regarding the current deadlines since the deadlines will be established upon EPA approval of the IRR and SIRR, both of which are currently pending. For both of these projects, the City is providing a narrative describing the project and the process for identifying the project, the current deadline for completion under the Consent Decree (with presumptions regarding the deadline), the current status of the project, the reasons for delays in projected completion of the project, and a project-specific request for an extension of the deadline for completion. The following are the IRR and SIRR projects and the requested deadline extension for each:

IRR Project - SS753902 Major Pipe CIPP Rehabilitation (Appendix H): The City is requesting an extension of the deadline to complete the rehabilitation of the 14 of the Group 2 pipe segments to December 31, 2029 or five years after the approval of the IRR, whichever comes later.

SIRR Project - SS6966 Rehab of Lines less than 15-inch (SR06 Subbasin) (Appendix I): The City is requesting an extension of the deadline to complete the rehabilitation of lines under 15 inches in the SR-06 Sub-basin to December 31, 2029.

If additional information or clarification of the information submitted is needed, please let us know. If it would be helpful, the City is available for a virtual or in-person meeting to further discuss these projects and the requested extensions. The City appreciates EPA's consideration of its request.

Best regards,

Harlton Joan W. Hartley

JWH/dc

Appendices

City of Columbia cc:

APPENDIX A

Summary Report of Consent Decree Deliverables

Submittal	Due Date	Submitted to Agencies	Approval Date
Sewer Mapping Program (SMP)	7/21/2014	7/18/2014	12/9/2014
Maintenance Management System (MMS)	5/21/2015	5/20/2015	9/2/2016
Transmission System Operations and Maintenance Program (TSOMP)	5/21/2015	5/20/2015	9/2/2016
Satellite Sewer System Agreements (SSSA)	5/21/2015	5/20/2015	9/2/2016
Continuing Sewer Assessment Program (CSAP) for the WCTS	6/9/2015	6/8/2015	5/23/2016
**CSAP Revision Submitted to EPA		10/3/2018	2/6/2019
WWTP Operations Program	1/5/2016	1/4/2016	5/23/2016
Contingency and Emergency Response Plan (CERP)	11/21/2015	11/20/2015	5/23/2016
WCTS Training Program	1/5/2016	1/4/2016	5/23/2016
Information Management System (IMS) Program	1/5/2016	1/4/2016	5/23/2016
Gravity Sewer System Operations and Maintenance Program (GSOMP)	11/21/2015	11/20/2015	5/23/2016
**GSOMP Revision Submitted to EPA		5/8/2019	Pending
Financial Analysis Program	1/5/2016	1/4/2016	5/23/2016
WWTP Training Program	5/21/2016	5/20/2016	11/20/2017
Infrastructure Rehabilitation Program (IRP) for the WCTS	11/23/2016	11/22/2016	4/27/2017
IR Report (IRR) for the WCTS	11/23/2019	11/22/2019	Pending
Supplemental IR Report (SIRR)	11/23/2022	11/22/2022	Pending
Hydraulic Model Report (HMR)	8/23/2020	8/21/2020	Pending
Capacity Assurance Program (CAP)	180 Days from Approval of the Hydraulic Model Report		

APPENDIX B

City's Standard Operating Procedure for Wastewater System Capacity Assurance Program (May 2013, Revised April 2018) City of Columbia, South Carolina Wastewater

Standard Operating Procedure

WASTEWATER SYSTEM CAPACITY ASSURANCE PROGRAM

May 2013 Revised April 2018

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A. PURPOSE AND APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to establish a uniform practice for the City of Columbia (City) Capacity Assurance Program (CAP). The procedures outlined in this SOP are applicable to all personnel involved in the review of submittals requesting revisions to the permitted wastewater flows that are being discharged into and conveyed through the City's Wastewater Collection and Transmission Systems (WCTS), and ultimately being treated at the City's wastewater treatment plant (WWTP).

B. REQUESTS FOR CAP ANALYSIS

This section outlines the request procedures for new connections and proposed increases in wastewater flows to the City's wastewater system.

1. **Pre-CAP Analysis Request**

To assist developers at the earliest stages of planning for a proposed development, the Engineering Division will conduct a Pre-CAP Analysis upon request to determine whether the City's wastewater system has sufficient collection, transmission and treatment capacity to accept an increased wastewater flow. The Pre-CAP Analysis is optional, and the City's determination in response to a Pre-CAP Analysis Request is non-binding as system conditions may change prior to submittal of the CAP Analysis Request for a proposed project.

Developers or other entities requesting a Pre-CAP Analysis must submit a Capacity Assurance Program Analysis Request Form to the Engineering Department. Based on the information provided in the Capacity Assurance Program Analysis Request Form, the Engineering Department will conduct an analysis in accordance with the procedures in Section C below to determine whether the City's collection, transmission, and treatment system has sufficient capacity to accept the proposed increase in flow. The Pre-CAP Analysis is based on conditions existing at the time of the Pre-CAP determination. The City's Pre-CAP Analysis determination is offered as an optional planning tool to assist developers and does not guarantee that capacity will be available upon request for a CAP Analysis.

2. CAP Analysis Request

For new wastewater connections with flow greater than 4,000 gallons per day or existing connections with an increase in wastewater flow greater than 4,000 gallons per day, a Capacity Assurance Program Analysis Request Form and supporting documents and design plans must be submitted to Planning and Development along with any other required planning and development submittals for a proposed project. Planning and Development will forward the Capacity Assurance Program Analysis Request Form and supporting documents and supporting documents and supporting the Capacity Assurance Program Analysis Request Form and supporting documents and supporting documents and supporting documents and wastewater design plans to the Engineering Division. The Engineering

Division will conduct a CAP Analysis in accordance with the procedures in Section C below to determine whether the City's collection, transmission, and treatment system has sufficient capacity to accept the proposed increase in flow. The Engineering Division may approve, approve with conditions, or deny a CAP Analysis Request.

If the City does not have capacity to accept the new connection or increase in wastewater flow for a proposed project, the City will notify the developer or entity that system upgrades would be required to serve the proposed project.

In response to a CAP Analysis Request in an area with an existing capacity limitation, the City may, in its sole discretion, authorize issuance of a construction permit for the proposed project by the South Carolina Department of Health and Environmental Control (SCDHEC) pursuant to S.C. Regulation 61-67.300.A. Under these circumstances, the City's authorization will be subject to a condition that SCDHEC's approval to place the proposed project into operation will not be issued until SCDHEC issues its approval to place the City's system upgrades into operation. In providing the authorization to proceed under S.C. Regulation 61-67.300.A, the City makes no representations or commitments regarding the date of completion or allocations of City funds necessary to complete the City's system upgrades on which SCDHEC's approval of the proposed project is conditioned.

An approval or approval with conditions of a CAP Analysis Request expires three years from the approval date or SCDHEC's issuance of the approval to place into operation, whichever is later.

C. CAP ANALYSIS PROCEDURE

This section outlines the steps that are taken to review a Pre-CAP Analysis Request or a CAP Analysis Request for new connections or increases in wastewater flow to the City's wastewater system. In conducting the Pre-CAP Analysis or CAP Analysis, the Engineering Division will use the procedural steps below to determine whether the wastewater collection system, transmission system, applicable pump stations, and the WWTP have the capacity to serve the new sewer service connection or additional flow from an existing sewer service connection. For the purposes of the CAP, a "Minor Sewer Connection" is a connection with an average flow not to exceed four thousand (4,000) gallons per day. Proposed Minor Sewer Connections will be deemed to have minimal impacts to the system and may be approved without further analysis required at the discretion of the Engineering Division.

Columbia may authorize a new sewer service connection or additional flow from an existing sewer service connection in cases where there is not Adequate Collection Capacity, Adequate Transmission Capacity, and/or Adequate Treatment Capacity for minor sewer connections, health care facilities, public safety facilities and public schools and, subject to EPA review and approval, for government facilities; and in those cases where a pollution or sanitary nuisance condition exists, as determined by the Richland or Lexington County Health Department, as the result of a discharge of untreated wastewater

from an on-site septic tank. All such new service connections or additions to flow from an existing connection will be tracked in the CAP Information Management System.

The Engineering Division will make a determination on Pre-CAP Analysis Requests and CAP Analysis Requests in accordance with the following criteria and procedures:

1. CAP and Pre-CAP Evaluation Procedures

- a. <u>Evaluation of Proposed Sewer Connection</u> Determine whether the proposed pump station, force main, or gravity sewers meet the following requirements:
 - Pertinent DHEC Standards
 - City Standard Specifications
- b. <u>Evaluation from Proposed Connection to Nearest 15 inch Sewer Line</u> Evaluate the wastewater collection system (for the purposes of this SOP, the wastewater collection system consists of all gravity sewer lines less than 15 inches in diameter) and existing minor pump stations and force mains from the proposed connection to the nearest 15 inch diameter gravity sewer to determine if the existing infrastructure has the capacity available to accept the additional flow. The existing infrastructure will be evaluated as defined in Section 2.

If the City determines that the capacity is sufficient, continue to Section 1c. If the capacity is not sufficient, the request will be denied but alternatives may be considered between the City and developer or other entity.

c. <u>Evaluation of Existing Wastewater System</u> – Using the criteria set forth in Section 2, determine whether the City's wastewater system has adequate collection, transmission, and treatment capacity for the increased wastewater flow.

If there is a capacity limiting condition downstream as determined using the criteria set forth in Section 2, evaluate the sub-basin, basin, pump station(s), and/or WWTP as required to identify any necessary system upgrades. If appropriate, notify the developer that necessary system upgrades will need to be undertaken. Restart at Section 1a when complete.

The City may, in its sole discretion, authorize issuance of a construction permit for the proposed project by the South Carolina Department of Health and Environmental Control (SCDHEC) pursuant to S.C. Regulation 61-67.300.A. Under these circumstances, the City's authorization will be subject to a condition that SCDHEC's approval to place the proposed project into operation will not be issued until SCDHEC issues its approval to place the City's system upgrades into operation.

d. Issue determination letter with approval, approval with conditions, or denial of CAP Analysis Request. Update wastewater capacity database as needed to reflect any new/increased flows and to subtract any flows if needed with change of use.

2. Evaluating Existing Wastewater System

The steps below describe the processes and methods used to determine whether the City's wastewater system has adequate collection, transmission, and treatment capacity for wastewater flows. Each of the three components of the wastewater system (collection, transmission/pumping, and treatment capacity) are evaluated separately.

a. Collection Capacity

There are three main concepts related to wastewater collection system capacity analysis:

- Total pipe capacity based on diameter
- Existing Peak Flow
- Available pipe capacity

Peak flow is defined as the peak hourly wastewater flow using a 2.5 peaking factor.

Available pipe capacity is the capacity of the sewer remaining, after discounting the existing peak flow.

In the Capacity Assurance Program, capacity analysis for the wastewater collection system will be conducted using available data. Available data for the initial capacity analysis may include:

- Sanitary Sewer Overflow (SSO) Database
- Flow Monitoring Records
- Water consumption data based on city water billing records
- Desktop Hydraulic Analysis

The first step in assessing available capacity in the wastewater collection system is to review the SSO Database between the point of the proposed new connection, downstream to the wastewater treatment plant. Determine through the SSO Database if the wastewater system has experience either one of the following capacity limiting events:

1. A repeated dry-weather, capacity-related SSOs in the wastewater collection system in the past 12-months.

2. A repeated wet-weather, capacity-related SSO in the wastewater collection system in the previous 12 month period (excluding those SSOs caused by severe natural conditions such as hurricanes, tornados, widespread flooding earthquakes, or rainfall events greater than a representative 2 year-24 hour storm event), unless Columbia can certify that the cause of the SSO has been corrected through improvements to the wastewater collection system.

If the wastewater system has not experienced either one of the events listed in 1 or 2 above, then a desktop hydraulic analysis is performed.

A desktop hydraulic analysis consists of determining the capacity of the wastewater collection system using pertinent system information, such as record drawings, in conjunction with hydraulic analysis equations, typically Manning's Equation. This methodology would be used in areas of the wastewater collection system where a more detailed evaluation is needed than is provided by the flow monitoring data analysis and may be manually for a specific segment of pipe or for numerous segments of pipe using a spreadsheet. If the Manning's equation determines that the contributing area exceeds full pipe capacity, further analysis will be required utilizing accepted methodologies to determine whether a surcharge condition exists which would preclude the introduction of additional flow. A capacity limiting surcharge condition exists when the contributing flow is greater than the capacity of the pipes and the surface of the wastewater in the manholes rises to an elevation greater than two (2) feet above the top of the pipe or within two (2) feet of the rim of the manhole, whichever is lower, and the gravity sewer pipe is under pressure or head rather than at atmospheric pressure.

b. Pumping Capacity

There are three main concepts related to pumping capacity analysis:

- Firm Pumping Capacity
- Peak Flow
- Available Pumping Capacity

Firm pumping capacity is defined as the maximum flow rate produced by a pumping station with the largest pump out of service. For the capacity analysis, the maximum capacity of the pumping station will be equal to the firm pumping capacity.

Peak flow is defined as the maximum wastewater flow rate entering the pumping station using a 2.5 peaking factor.

Available pumping capacity is the capacity of the pumping station remaining from the firm pumping capacity after discounting the existing peak flow.

The first step in determining available capacity at pumping stations is to review the SSO Database. If the pumping station has experienced repeated, capacity-related overflows, then the pumping station is deemed to have no available capacity.

Otherwise, a detailed capacity analysis will be conducted. The peak flow will be compared to the firm pumping capacity to determine the available capacity.

c. Treatment Capacity

The Capacity Assurance Program uses Metro wastewater treatment plant (WWTP) data to determine the available capacity at the WWTP versus the amount of flow from the new sewer service connection, or increase in flow to an existing connection. The available capacity at the WWTP is calculated by subtracting the average daily effluent flow from the wastewater treatment system's average design flow (currently 60 MGD) in million gallons per day (MGD) for the most recent twelve calendar months.

3. **Revisions Policy**

The City of Columbia may deem it necessary to revise or amend this document in the future. Such amendments will be developed by City staff and will be submitted to the EPA along with future quarterly reports.

D. DATA AND RECORDS MANAGEMENT

As mentioned in item C.1.d, the wastewater capacity database will be updated to reflect any changes in flow. The database will be kept in the following location: M:\Util&Eng\Wastewater\Projects\Wastewater Compliance\CAP and will be updated monthly by Subdivision Plan Review. The database will include the name and location of the project, including the sub-basin, date of approval, and the amount of flow added to the system.

APPENDIX C

SS7562 Gills Creek Relief Sewer Phase 1

SS7562 Gills Creek Relief Sewer Phase 1

<u>Description of Project</u>: Phase 1 of the Gills Creek Relief Sewer project consists of the installation of a new 48-inch diameter gravity relief sewer in the lower portion of the Gills Creek sewer basin for approximately 6,500 linear feet.

<u>History of Project</u>: The need for a capacity-enhancing project in the lower portion of the Gills Creek sewer basin was originally identified in 2020 as part of the City's hydraulic modeling recalibration study. During the model calibration the required pipe size was originally identified to be 36 inches in diameter, and the project needed to be in operation by 2030 in order to avoid capacity limitations in this sewer basin upon implementation of the Capacity Assurance Program (CAP) pursuant to Paragraph 12(e) of the Consent Decree.

In 2021 the City completed the construction of the Lake Katherine Gravity Sewer Capacity Enhancement project. The Lake Katherine project is located in the Gills Creek sewer basin directly upstream of the Gills Creek Relief Sewer project. The Lake Katherine Gravity Sewer Capacity Enhancement project was developed to address the capacity-limiting conditions and was also as an IRR Group 1 rehabilitation project due to the number of historical sanitary sewer overflows (SSOs) associated with the existing wastewater system in this area.

Following completion of the Lake Katherine project, the City performed extensive flow monitoring in the Gills Creek sewer basin in early-2022. The flow monitoring results were used to further calibrate the hydraulic model within the basin, at which time the timing and scope of projects was reevaluated. Following the recalibration of the Gills Creek basin in late-2022, the City confirmed that the Lake Katherine project had succeeded in eliminating wet-weather SSOS within the limits of the Lake Katherine project. However, the recalibration also identified a potential issue downstream of this area. Specifically, the City discovered that the completion of the Lake Katherine Gravity Sewer Capacity Enhancement project allowed for additional peak wet-weather wastewater flows to reach the limits of the Gills Creek Relief Sewer project. As a result of the additional flow entering the limits of the Gills Creek Relief Sewer project's timing and scope have been revised. The revised project now includes a 48-inch relief sewer to manage the additional peak wet-weather flow and must be in operation upon the implementation of the CAP to avoid a moratorium on new connections in upstream of this project.

<u>Deadline for completion under the Consent Decree</u>: For purposes of providing an estimated deadline for completing capacity-enhancing projects to avoid a moratorium under the CAP, the City presumed that the Hydraulic Model Report would be approved by EPA on January 1, 2024, with the CAP due to EPA 180 days later on June 29, 2024, and approved by EPA approximately four months after submittal (estimated to be November 1, 2024). Based on these presumptions, the City would be required to implement the CAP on January 1, 2025 (60 days after EPA approval of the CAP), with the surcharge condition in Paragraph 12(e)(i)(E)(1) applying until November 1, 2026.

<u>Current Status of Project and Projected Completion</u>: As discussed above, the need to revise the Gills Creek Relief Sewer project was identified in late 2022. At this point, the project design phase has just reached the stage at which easement requirements could be determined. The revised project design is now nearly complete, and easement acquisition continues. Due to the number of easements required, easement acquisition is not expected to be completed until 2026, and the project is not expected to begin construction until 2027. Construction is estimated to be complete in early-2029, in advance of the projected 2030 deadline for the original Gills Creek Relief Sewer project.

<u>Affected Sub-basins</u>: Prior to the completion of the revised Gills Creek Relief Sewer project, the City may be unable to certify new connections in the following sub-basins under the CAP: Sub-basins GC01 – GC17 (i.e., all of Gills Creek Sewer Basin except for Sub-basin GC-18). The affected sub-basins are identified on the attached map entitled "SS7562 Gills Creek Relief Sewer Phase 1 Upstream Moratorium Boundary."

<u>SSOs in Affected Sub-basins</u>: See attached table showing SSOs in each sub-basin for calendar years 2020, 2021, and 2022.

<u>Requested Extension</u>: The City is requesting an extension of the use of the current capacity program SOP for new connections in the affected sub-basins in the Gills Creek Sewer Basin until July 1, 2029, or the completion of Phase 1 of the Gills Creek Relief Sewer project, whichever occurs first. Since the completion of the Lake Katherine project, there have been no SSOs in the Gills Creek Relief Sewer project limits, thereby suggesting that the requested delay in implementation of the CAP upstream of the project would have no adverse impacts.

		SSO Count					
Basin/Sub-basin Capacity Limited	Year	No. of Non- Wet Weather SSOs	Non-Wet Weather SSO Volume (gal)	No. of Wet Weather SSOs	Wet Weather SSO Volume (gal)		
	2020	0	0	0	0		
GC01	2021	3	605	0	0		
	2022	4	867	0	0		
	2020	3	180	0	0		
GC02	2021	1	380	0	0		
	2022	1	795	0	0		
	2020	2	1,226	0	0		
GC03	2021	2	101	1	659		
	2022	1	38	1	2,250		
	2020	0	0	4	172,467		
GC04	2021	0	0	0	0		
	2022	0	0	0	0		
	2020	2	38,280	0	0		
GC05	2021	2	23	0	0		
	2022	1	200	0	0		
	2020	1	51	0	0		
GC06	2021	0	0	0	0		
	2022	0	0	0	0		
	2020	1	15	0	0		
GC07	2021	2	1,030	0	0		
	2022	0	0	0	0		
	2020	2	2,910	0	0		
GC08	2021	2	1,048	0	0		
	2022	0	0	0	0		

/		SSO Count					
Basin/Subbasin Capacity Limited	Year	No. of Non- Wet Weather SSOs	Non-Wet Weather SSO Volume (gal)	No. of Wet Weather SSOs	Wet Weather SSO Volume (gal)		
	2020	2	83	0	0		
GC09	2021	2	23	0	0		
	2022	2	1,125	0	0		
	2020	0	0	0	0		
GC10	2021	1	1,006	0	0		
	2022	1	100	0	0		
	2020	0	0	0	0		
GC11	2021	1	545	0	0		
	2022	0	0	0	0		
	2020	3	220	0	0		
GC12	2021	3	568	0	0		
	2022	0	0	0	0		
	2020	0	0	0	0		
GC13	2021	2	82	0	0		
	2022	0	0	0	0		
	2020	2	55	0	0		
GC14	2021	1	10	0	0		
	2022	0	0	0	0		
	2020	4	5,559	0	0		
GC15	2021	6	27,092	0	0		
	2022	3	70,073	0	0		
	2020	5	13,654	0	0		
GC16	2021	2	64	0	0		
	2022	1	7	0	0		

		SSO Count			
Basin/Subbasin Capacity Limited	Year	No. of Non- Wet Weather SSOs	Non-Wet Weather SSO Volume (gal)	No. of Wet Weather SSOs	Wet Weather SSO Volume (gal)
GC17, except the portion below the Bluff Road / I-77 Interchange	2020	2	38	0	0
	2021	1	730	0	0
	2022	2	3,051	0	0



APPENDIX D

SS7568 Saluda River Force Main Extension

SS7568 Saluda River Force Main Extension

<u>Description of Project</u>: The Saluda River Force Main Extension project consists of the installation of a new 36-inch diameter force main for approximately 1,000 linear feet across the Saluda River, replacing an existing 30-inch diameter subsurface crossing of the river, as well as the upsizing of existing 42-inch gravity sewer with new 48-inch diameter gravity sewer, for approximately 2,500 linear feet.

History of Project: This project was originally identified in 2020 as part of the City's hydraulic modeling recalibration study. The hydraulic model showed that the project needed to be in operation prior to EPA approval of the Capacity Assurance Program (CAP) in order to avoid capacity limitations in the upstream sewer basins, including a portion of the upstream area which would be capacity limited upon implementation of the CAP pursuant to Paragraph 12(e) of the Consent Decree. On April 19, 2022, as the project was nearing 90% design completion, the City of West Columbia approached the City of Columbia with a proposal for construction of a pedestrian bridge across the Saluda River at the same location as the City of Columbia's proposed force main crossing. Geotechnical investigations of the proposed force main river crossing had identified unstable rock conditions along the riverbed which would require an extremely deep trenchless crossing design of the river, estimated to be at least 40 feet below the riverbed. Therefore, the potential placement of the force main on a pedestrian bridge offered the City of Columbia a preferable option for this project since the depth of the river crossing significantly increased the scope of the area impacted by construction as well as the future operational and maintenance risks associated with the project. Regular cleaning of the pipe to avoid settled material and difficult access to the subsurface pipe through deep manhole shafts would each be eliminated through the installation of the force main on the pedestrian bridge.

In order to keep the project advancing while the City of West Columbia and the City of Columbia negotiated a cost-sharing agreement for placement of the force main onto the City of West Columbia's proposed pedestrian bridge, the City of Columbia split the Saluda River Force Main project into two separate phases. Phase 1 of the project consists of the construction of the 2,500 linear feet of gravity sewer located downstream of the force main and pedestrian bridge crossing. While the completion of the downstream phase 1 gravity sewer section will improve the capacity of the sewer system in the area, the upstream Phase 2 bridge and force main section must be complete to avoid capacity limitations upon implementation of the CAP.

<u>Deadline for completion under the Consent Decree</u>: For purposes of providing an estimated deadline for completing capacity-enhancing projects to avoid a moratorium under the CAP, the City presumed that the Hydraulic Model Report would be approved by EPA on January 1, 2024, with the CAP due to EPA 180 days later on June 29, 2024, and approved by EPA approximately four months after submittal (estimated to be November 1, 2024). Based on these presumptions, the City would be required to implement the CAP on January 1, 2025 (60 days after EPA approval of the CAP), with the surcharge condition in Paragraph 12(e)(i)(E)(1) applying until November 1, 2026.

<u>Current Status of Project and Projected Completion</u>: Phase 1 began construction in fall-2023 and is expected to be complete in early-2025. The City of West Columbia and the City of Columbia completed cost-sharing negotiations in summer 2023 and will begin design of the Phase 2 pedestrian bridge and force main in fall 2023. Design completion is expected by late 2025 with construction scheduled to occur from early 2026 until late 2027.

<u>Affected Sub-basins</u>: Prior to the completion of the Saluda River Force Main Extension project, the City may be unable to certify new connections in the following sub-basins under the CAP: All of the sub-basins in the Saluda River Sewer Basin and Sub-basin WCO2 in the West Columbia Sewer Basin. The affected sub-basins are identified on the attached map entitled "SS7568 Saluda River FM Extension - Upstream Moratorium Boundary."

<u>SSOs in Affected Sub-basins</u>: See attached table showing SSOs in each sub-basin for calendar years 2020, 2021, and 2022.

<u>Requested Extension</u>: The City is requesting an extension of the use of the current capacity program SOP for new connections in the affected sub-basins in the Saluda River Sewer Basin until January 1, 2028, or the completion of Phase 2 of the Saluda River Force Main Extension project, whichever occurs first.

	SSO Count						
Basin/Subbasin Capacity Limited	Year	No. of Non- Wet Weather SSOs	Non-Wet Weather SSO Volume (gal)	No. of Wet Weather SSOs	Wet Weather SSO Volume (gal)		
All of Saluda River sewer basin	2020	39	33,612	3	44,885		
	2021	29	174,217	1	21,174		
	2022	23	11,675	0	0		
WC02	2020	3	2,715	4	43,216		
	2021	1	600	7	442,551		
	2022	1	889	1	1,250		



APPENDIX E

SS7589 Broad River Force Main Replacement and Gravity Sewer Capacity Improvements

SS7589 Broad River Force Main Replacement and Gravity Sewer Capacity Improvements

<u>Description of Project</u>: The Broad River FM Replacement and GS Capacity Improvements project consists of:

- Upsizing of existing 15-inch diameter gravity sewer with new 24-inch diameter gravity sewer for approximately 4,000 linear feet;
- Upsizing of existing 30-inch diameter gravity sewer with new 42-inch diameter gravity sewer for approximately 5,000 linear feet; and
- Upsizing of the existing 16-inch diameter force main with new 24-inch diameter force main for approximately 4,000 linear feet.

All upgrades are located within the limits of the Broad River sewer basin.

<u>History of Project</u>: The project was originally identified in 2015 as part of the City's original hydraulic modeling calibration study. At that time, the hydraulic model showed that the project needed to be in operation within two years of EPA approval of the Capacity Assurance Program (CAP) due to the level of surcharge in the affected manholes. Following the procurement of a consultant in 2018 and the completion of a Preliminary Engineering Report in 2019, the City began final design efforts in 2020. Following the advancement of final design, easement acquisition efforts began in 2021. Easement acquisition efforts by the City currently continue, with delays resulting from multiple property owners, including the State of SC Department of Corrections, other local governmental agencies, and private property owners with development interests in the area. The City continues to address concerns from each property owner in an attempt to obtain each required easement but cannot confidently project a completion timeframe for easement acquisition at this time.

<u>Deadline for completion under the Consent Decree</u>: For purposes of providing an estimated deadline for completing capacity-enhancing projects to avoid a moratorium under the CAP, the City presumed that the Hydraulic Model Report would be approved by EPA on January 1, 2024, with the CAP due to EPA 180 days later on June 29, 2024, and approved by EPA approximately four months after submittal (estimated to be November 1, 2024). Based on these presumptions, the City would be required to implement the CAP on January 1, 2025 (60 days after EPA approval of the CAP), with the surcharge condition in Paragraph 12(e)(i)(E)(1) applying until November 1, 2026.

<u>Current Status of Project and Projected Completion</u>: While it is difficult to predict the completion of easement acquisition and the beginning of project construction, current projections include easement acquisition and design completion by early-2026 with construction scheduled to occur from mid-2026 until mid-2028.

<u>Affected Sub-basins</u>: Prior to the completion of the Broad River FM Replacement and GS Capacity Improvements project, the City may be unable to certify new connections in the Broad River Sewer Basin. The affected sub-basins are identified on the attached map entitled "SS7589 Broad River FM Replacement and GS Upgrades - Upstream Moratorium Boundary."

<u>SSOs in Affected Sub-basins</u>: See attached table showing SSOs in each sub-basin for calendar years 2020, 2021, and 2022.

<u>Requested Extension</u>: The City is requesting an extension of the use of the current capacity program SOP for new connections in the affected sub-basins in the Broad River FM Replacement and GS Capacity Improvements project until January 1, 2029, or the completion of Broad River FM Replacement and GS Capacity Improvements project, whichever occurs first. An analysis of wet-weather SSOs in the Broad River sewer basin confirms that current peak wet-weather flows have caused a minimal number of SSOs in the basin outside of one specific location, which is being addressed as part of a smaller SIRR rehabbased project (SS7554 Harbison #4 Pump Station Improvements and Force Main Replacement). Therefore, the imposition of capacity limitations across the entire Broad River basin may not be necessary.

	SSO Count					
Basin/Subbasin Capacity Limited	Year	No. of Non-Wet Weather SSOs	Non-Wet Weather SSO Volume (gal)	No. of Wet Weather SSOs	Wet Weather SSO Volume (gal)	
All of Broad River sewer basin	2020	11	21,831	5	16,982	
	2021	10	56,857	0	0	
	2022	23	60,202	0	0	



APPENDIX F

SS733701 East Rocky Branch SS Improvements Phase 1

SS733701 East Rocky Branch SS Improvements Phase 1

<u>Description of Project</u>: The East Rocky Branch SS Improvements Phase 1 project consists of the upsizing of existing 20-inch and 24-inch diameter gravity sewer with new 30-inch and 36-inch diameter gravity sewer for approximately 8,000 linear feet. The project is located in the downtown area of the City and runs generally along the banks of Rocky Branch Creek.

<u>History of Project</u>: The project was originally identified in 2015 as part of the City's original hydraulic modeling calibration study; the hydraulic model showed that the project needed to be in operation within two years of EPA approval of the Capacity Assurance Program (CAP) due to the level of surcharge in the affected manholes. Following completion of a Preliminary Engineering Report and the advancement of final design, easement acquisition efforts began in 2017. Easement acquisition efforts were completed in mid-2023 following extended discussions with the University of South Carolina and its state oversight agencies (State of SC Department of Administration).

<u>Deadline for completion under the Consent Decree</u>: For purposes of providing an estimated deadline for completing capacity-enhancing projects to avoid a moratorium under the CAP, the City presumed that the Hydraulic Model Report would be approved by EPA on January 1, 2024, with the CAP due to EPA 180 days later on June 29, 2024, and approved by EPA approximately four months after submittal (estimated to be November 1, 2024). Based on these presumptions, the City would be required to implement the CAP on January 1, 2025 (60 days after EPA approval of the CAP), with the surcharge condition in Paragraph 12(e)(i)(E)(1) applying until November 1, 2026.

<u>Current Status of Project and Projected Completion</u>: The project is currently scheduled to be fully funded beginning in mid-2024, with construction bidding scheduled to occur at that time. Construction activities are estimated to begin in early-2025 and be complete in early-2028. The extended construction period is due to the limited space available for construction in the densely developed commercial downtown area.

<u>Affected Sub-basins</u>: Prior to the completion of the East Rocky Branch SS Improvements Phase 1 project, the City may be unable to certify new connections in the following sub-basins under the CAP: All of Sub-basin RB01, portions of RB02 and RB05, and very small sections of GC06 and GC07. The affected sub-basins are identified on the attached map entitled "SS733701 East Rocky Branch SS Improvements Ph 1 Moratorium."

<u>SSOs in Affected Sub-basins</u>: See attached table showing SSOs in each sub-basin for calendar years 2020, 2021, and 2022.

<u>Requested Extension</u>: The City is requesting an extension of the use of the current capacity program SOP for new connections in the affected sub-basins in the until July 1, 2028, or the completion of East Rocky Branch SS Improvements Phase 1 project, whichever occurs first. An analysis of wet-weather SSOs in the Rocky Branch sewer basin confirms that current peak wet-weather flows have caused a minimal number of SSOs in the basin over the last several years, with the completion of multiple sanitary sewer rehabilitation projects in the area likely responsible for reduced infiltration and inflow into the trunk sewer to be replaced. Therefore, the imposition of capacity limitations across the entire Rocky Branch basin may not be necessary.

		SSO Count				
Basin/Subbasin Capacity Limited	Year	No. of Non- Wet Weather SSOs	Non-Wet Weather SSO Volume (gal)	No. of Wet Weather SSOs	Wet Weather SSO Volume (gal)	
GC06	2020	1	51	0	0	
	2021	0	0	0	0	
	2022	0	0	0	0	
GC07	2020	1	15	0	0	
	2021	2	1,030	0	0	
	2022	0	0	0	0	
RB01	2020	8	1,327	0	0	
	2021	3	95	0	0	
	2022	6	1,359	3	14,798	
RB02	2020	0	0	0	0	
	2021	0	0	0	0	
	2022	0	0	0	0	
RB05 upstream of 05541MH	2020	0	0	0	0	
	2021	0	0	0	0	
	2022	1	1,420	0	0	



APPENDIX G

System-Wide Map of Affected Basins/Sub-Basins



APPENDIX H

SS753902 Major Pipe CIPP Rehabilitation

INFRASTRUCTURE REHABILITATION REPORT PROJECT EXTENTION:

SS753902 Major Pipe CIPP Rehabilitation

<u>Description of Project</u>: The Major Pipe Cured-in-Place-Pipe (CIPP) Rehabilitation project consists of the rehabilitation of approximately 300 pipe segments ranging in size from 15-inch diameter to 60-inch diameter located throughout the City's wastewater system in 25 separate Project Groups.

<u>History of Project</u>: The project was identified following the completion of the inspection of all major (> 15inch diameter) pipe segments in the City's system as part of the Continuing Sewer Assessment Program (CSAP), originally submitted to EPA in 2015 and revised in 2018. The City contracted with a consultant and initiated preliminary engineering efforts in mid-2018 with a focus on the most efficient way for the City to rehabilitate the various pipe segments assigned for rehabilitation as a result of the CSAP investigations. A Preliminary Engineering Report was completed in late-2019 which recommended grouping various pipe segments by rehabilitation method into individual construction contracts. Final design efforts began in early-2020.

Following the advancement of final design, easement acquisition, which was required to allow for construction equipment to access the existing City pipe segments, began in late-2021. Due to the large number of pipe segments to be rehabilitated through this project, over 120 temporary easements must be obtained prior to beginning construction. Easement acquisition efforts by the City currently continue, with ongoing delays due to various commercial and residential property owners' requests and concerns. While it is difficult to predict the completion of easement acquisition and the beginning of project construction, current projections include easement acquisition and design completion by mid-2027 with construction scheduled to occur from early-2028 until mid-2030.

<u>Deadline for completion under the Consent Decree</u>: While the vast majority of the assets to be rehabilitated are classified as Group 3 assets under the Infrastructure Rehabilitation Report (IRR) and have a required completion date seven years after the EPA approval of the IRR, there are 14 assets associated with the Proposed Lower Gills Creek Gravity Sewer Improvements Project and the Proposed Upper Gills Creek Gravity Sewer Improvements Project and the Proposed Upper Gills Creek Gravity Sewer Improvements Project that qualify as IRR Group 2 assets. These 14 pipe segments must be completed within five years of the EPA approval of the IRR. For purposes of providing an estimated deadline for this project, the City presumed that the IRR would be approved by EPA on January 1, 2024. In such case, the deadline for completion of the rehabilitation of the Group 2 assets lines would be January 1, 2029.

<u>Current Status of Project and Projected Completion</u>: The City plans to direct the contractor to address these 14 Group 2 pipe segments at the beginning of construction in 2028, but cannot guarantee that will occur at this time.

<u>Requested Extension</u>: The City is requesting an extension of the deadline to complete the rehabilitation of the 14 Group 2 pipe segments to December 31, 2029 or five (5) years after the approval of the IRR, whichever comes later.

APPENDIX I

SS6966 Rehab of Lines less than 15-inch

SUPPLEMENTAL INFRASTRUCTURE REHABILITATION REPORT PROJECT EXTENTION:

SS696627 - Rehab on Lines less than 15-inch (SR06 Sub-basin)

<u>Description of Project</u>: The Saluda River 06 (SR06) Sub-basin was selected for rehabilitation following the completion of Continuing Sewer Assessment Program (CSAP) investigations and must be rehabilitated within five years of EPA approval of the Supplemental Infrastructure Rehabilitation Report (SIRR).

<u>History of Project</u>: The Rehab on Lines less than 15-inch project is an annual rehabilitation project contracted by the City to a local contractor. The project is issued for up to four years at a time, with annual renewal options available to the City and the contractor. Each year includes planned and unplanned work, with the planned work generally focused on specific sewer sub-basins which require rehabilitation as part of the CSAP, originally submitted to EPA in 2015 and revised in 2018. As part of the project, the contractor inspects the sewer assets in an area selected by the City, provides rehabilitation recommendations based on the results of those inspections to an outside engineer for review, and completes the required rehabilitation upon confirmation by the engineer that the recommendation rehabilitation methods are acceptable. On average, approximately 150,000 linear feet of pipe are inspected each year across 2-3 sub-basins, while approximately 55,000 linear feet of pipe are subsequently rehabilitated through a combination of cured-in-place pipe lining, pipe bursting, and open-cut replacement.

The SIRR included 31 newly-identified projects which are scheduled for completion within five years of EPA's approval of the SIRR. For the rehabilitation projects on lines less than 15 inches, the City has developed an on-going schedule for identifying and implementing these projects. Under this plan, the City generally allots 10 percent of its wastewater Capital Improvements Program (CIP) budget to this contract each year in an effort to prioritize the complete inspection and rehabilitation of multiple sewer sub-basins each fiscal year. However, contractor scheduling delays have led to a significant disruption of the City's schedule for this rehabilitation work. For example, in 2022 the contractor chose not to renew the contract for the next year due to concerns over price inflation. Following the non-renewal of the contract by this contractor, the City developed and issued a new contract for bidding. This process resulted the loss of the majority of one fiscal year before a new contractor under contract and began work. In addition to delays in the initiation of the work to be completed in a specific fiscal year, the City has also experienced multiple instances where the contractor does not completely finish the scheduled work in a fiscal year until at least six months after the official end of the fiscal year. These contractor issues have resulted in significant scheduling delays to the rehabilitation of lines under 15 inches.

<u>Deadline for completion under the Consent Decree</u>: Projects identified in the SIRR must be completed within five years from approval of SIRR which was submitted to EPA on November 22, 2022. For purposes of providing an estimated deadline for these project, the City presumed that the SIRR would be approved by EPA on January 1, 2024. In such case, the deadline for completion of the rehabilitation of the SR06 Sub-basin would be January 1, 2029.

<u>Current Status of Project and Projected Completion</u>: The SR06 Sub-basin is currently scheduled for rehabilitation in the 2027 fiscal year (July 2026 through June 2027). Based on the delays described above, the City believes that a conservative completion date for the SR06 Sub-basin is mid-2029, thereby risking non-compliance with the five-year SIRR completion requirement. While these potential delays will be avoided to the maximum extent possible, the SR06 sub-basin cannot be moved to an earlier fiscal year in

the project schedule, as other SIRR sub-basins are scheduled for completion in prior years, including SB05 and SR11 in FY2025 and SB04 and SB06 in fiscal year 2026.

<u>Requested Extension</u>: The City is requesting an extension of the deadline to complete the rehabilitation of lines under 15 inches in the SR-06 Sub-basin to December 31, 2029.