

Clean Water 2020 Program

CONSENT DECREE QUARTERLY REPORT

January 1, 2022 – March 31, 2022



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Section 1 Introduction

1.1 Summary of Reporting Requirements

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

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

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

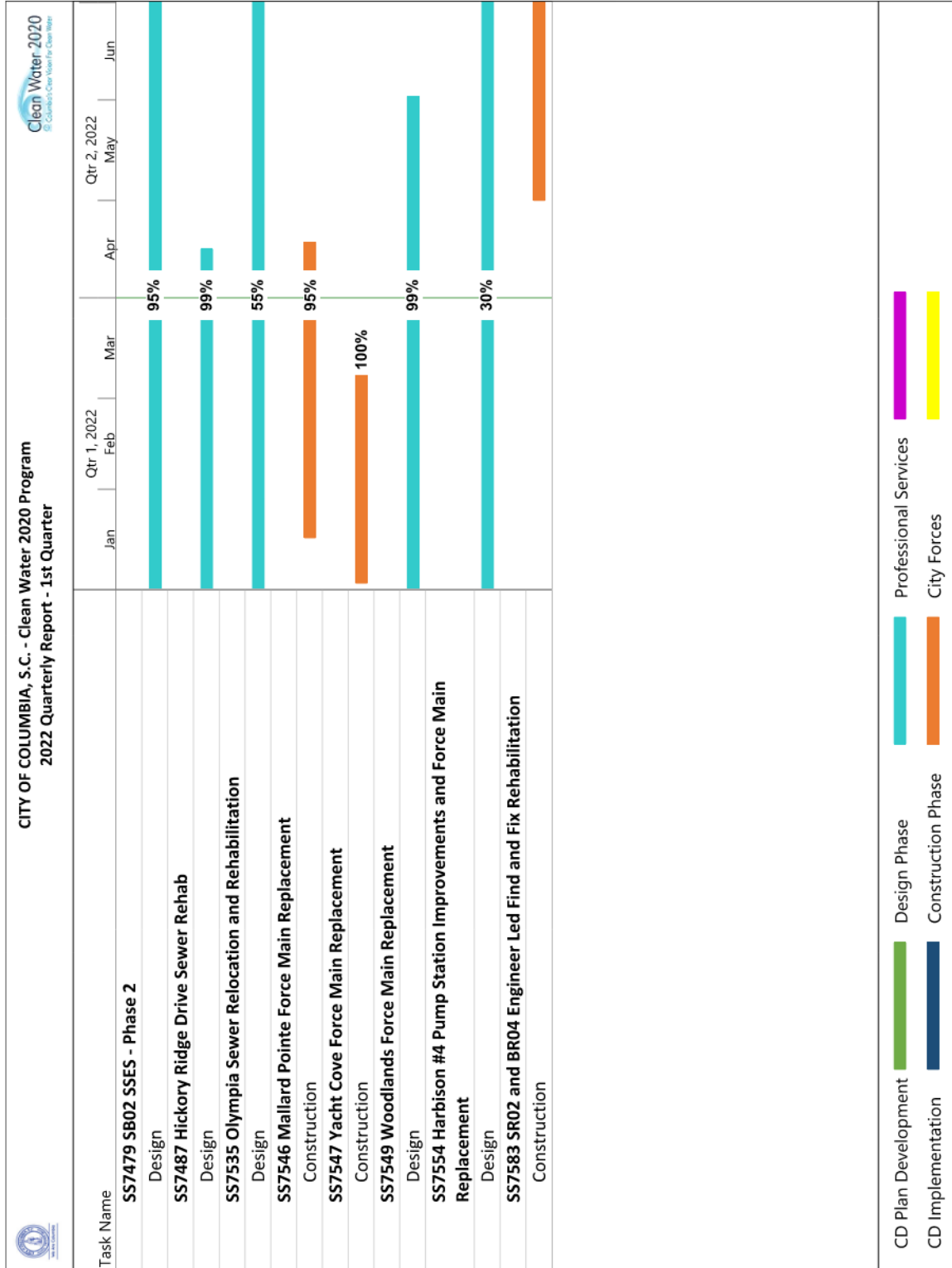
This section addresses the requirements of Section IX.39.a.(v) of the Consent Decree and provides the results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the CD. Water quality monitoring was completed on January 05, 2022, fulfilling the City’s obligations under the SEP.

Section 2 Schedule of Projects and Activities









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 – 90% 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 – 90% complete
 - Crane Creek Basin – 91% complete
 - Broad River Basin – 47% 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 – 98% Complete
- Minor Pump Stations Condition Assessment – 98% Complete
- Minor Force Mains Field Assessment – 98% 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 95% Complete
- SS733701 East Rocky Branch Improvements Phase 1 – Design 95% Complete
- SS733702 East Rocky Branch Improvements Phase 2 – Construction 85% 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 50% Complete
- SS7433 Cunningham Rd/Johnson Ave/Cramer Dr/Summerlea Dr Sewer Relocation – Construction 10% Complete
- SS7450 Crane Creek Lower North Branch Capacity Upgrade Phase 2 – Design 99% Complete
- SS7467 North Columbia Pump Station Upgrade – Design 85% Complete
- SS7474 Upper North Branch Crane Creek Sewer Improvements Phase 1 – Design 90% Complete
- SS7502 Summerlea SS Flood Project – Construction 0% Complete

- SS753902 CIPP Major Pipe Rehabilitation – Design 90% Complete
- SS753903 Geopolymer Major Pipe Rehabilitation – Design 90% Complete
- SS753904 Pipe Bursting Major Pipe Rehabilitation – Design 60% Complete
- SS7555 Lower Crane Creek Relief Sewer Phase 2 – Design 30% Complete
- SS7560 Lower Crane Creek Equalization Storage – Design 65% Complete
- SS7562 Gills Creek Relief Sewer Phase 1 – Design 40% Complete
- SS7564 West Columbia Pump Station Improvements – Design 70% Complete
- SS7565 Lower Kinley Creek Sewer Improvements – Design 90% Complete
- SS7568 Saluda River Force Main Extension – Design 75% Complete
- SS7589 Broad River Force Main Replacement and Gravity Sewer Capacity Improvements – Design 75% 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 – FY2021 Construction 40% Complete
- SS6966 Annual Rehab on Lines less than 15" – FY2021 Construction 55% Complete
- SS7363 Smith Branch 03 SSES – Construction 85% Complete
- SS7425 SSES and Sewer Rehabilitation Implementation RB03 – Construction 90% Complete
- SS7432 Starlite PS Decommissioning and Basin Rehabilitation Related Works – Design 95% 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 100% Complete
- SS7462 Investigation of Crockett Road, Atlas Road and Versch Lock Lift Stations – Design 70% Complete
- SS7463 SSES and Sewer Rehabilitation Implementation CC01 – Design 95% 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 95% Complete
- SS7487 Hickory Ridge Drive Sewer Rehab – Design 99% Complete
- SS7535 Olympia Sanitary Sewer Relocation and Rehabilitation – Design 55% Complete
- SS7546 Mallard Pointe Force Main Replacement – Construction 95% Complete
- SS7547 Yacht Cove Force Main Replacement – Construction 100% Complete

- SS7549 Woodlands Force Main Replacement – Design 99% 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 0% Complete

3.4 Sewer System Hydraulic Model

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

Section 4 Quarterly SSO Report

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

Table 1 – SSO Report, 1st Quarter 2022

City of Columbia, SC Quarterly SSO Listing 1st Quarter 2022									
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
1/2/2022	11:30	2601 Rosewood Dr, Columbia, SC 29205	Cleanout	1/2/2022	12:30	100	Storm Drain	Debris	Removed Blockage To Resume Normal Flow. Washed Service Line 60 Feet To Remove Blockage.
1/3/2022	08:10	4440 Bluff Rd, Columbia, SC 29209	Manhole	1/3/2022	08:30	460		3rd Party Responsibility	Bypass Pump Engaged When Utility Power Was Lost. Pumps Were Reset When Power Was Restored From Utility.
1/3/2022	17:35	134 Ramblewood Dr, Columbia, SC 29209	Manhole	1/3/2022	18:00	284	Storm Drain	Debris	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Blockage.
1/4/2022	14:00	1241 Assembly St, Columbia, SC 29201	Cleanout	TBD		12	Storm Drain	Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair To Be Done.
1/5/2022	11:07	228 Hickory Ridge Rd, Columbia, SC 29209	Manhole	1/5/2022	12:00	7992	Trib To Lake Rebecca	Collapsed Line	Removed Blockage To Resume Normal Flow. PM Wash Every 6 Months.
1/10/2022	16:49	2005 Sapling Dr, Columbia, SC 29210	Manhole	TBD		1527	Storm Drain	Roots	Removed Blockage To Resume Normal Flow. Contractor To Make Repairs.
1/10/2022	20:00	948 Rosedale Arch, Columbia, SC 29203	Manhole	1/10/2022	21:00	3642	Storm Drain	Debris	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Debris Buildup.
1/15/2022	18:00	34 Carriage Trace Ct, Columbia, SC 29212	Manhole	TBD		2292	Stoop Creek	Roots	Removed Blockage To Resume Normal Flow. Contractor To Do Main Line Repair.
1/17/2022	17:30	2109 Apple Valley Rd, Columbia, SC 29210	Cleanout	1/17/2022	18:00	12		Debris	Removed Blockage To Resume Normal Flow. Removed Wood From Cleanout And Replaced Broken Lid.
1/18/2022	09:00	511 Alcott Dr, Columbia, SC 29203	Manhole	TBD		75		Roots	Removed Blockage To Resume Normal Flow. Main Line Repair To Be Done.
1/18/2022	17:00	304 Lakeside Ave, Columbia, SC 29203	Cleanout	1/18/2022	17:30	9		Roots	Removed Blockage To Resume Normal Flow. Root Cut Service Line To Remove Roots.
1/23/2022	16:20	4820 Quail Ln, Columbia, SC 29206	Manhole	1/28/2022	14:00	200	Pen Branch	Collapsed Line	Removed Blockage To Resume Normal Flow. PM Wash Every 6 Months To Prevent Grease Buildup In Bellies.
1/28/2022	05:30	1200 Simmon Tree Ln, Columbia, SC 29201	Other	1/28/2022	05:30	50		Treatment Plant	Beat & Defoamed Digester Annual Seal And Diverted Feed To Digesters 3 & 4. Adjusted Feed Sequence.
2/2/2022	11:16	3613 Lucius Rd, Columbia, SC 29201	Manhole	TBD		520	Storm Drain	Roots	Removed Blockage To Resume Normal Flow. Main Line CIPP To Be Done.
2/5/2022	18:45	2609 Pleasant Ridge Dr, Columbia, SC 29209	Manhole	TBD		1947	Storm Water Ditch	Debris	Removed Blockage To Resume Normal Flow. Line Added To PM Wash List.
2/7/2022	21:00	3408 Bush River Rd, Columbia, SC 29210	Cleanout	TBD		15		Roots	Removed Blockage To Resume Normal Flow. Liner To Cover Root Intrusion At Tap.
2/9/2022	15:12	4912 Brickyard Rd, Columbia, SC 29203	Manhole	TBD		1826	Trib To Crane Creek	Collapsed Line	Removed Blockage To Resume Normal Flow. Main Line Repair To Be Done.
2/14/2022	11:00	1615 Haviland Cir, Columbia, SC 29210	Cleanout	2/14/2022	11:15	150		Debris	Removed Blockage To Resume Normal Flow. Main Line Wash To Remove Debris.
2/16/2022	08:28	1200 Simmon Tree Ln, Columbia, SC 29201	Other	2/16/2022	08:29	182048	Storm Drain To Congaree River	Treatment Plant	Re-Opened Grit Chamber #1. PTF Grit Gate #2 Torque Alarm Was Cleared, Gate Was Opened. Spill Caused When Torque Alarm Closed Gate During PTF Transitioning Between Gate #1 And Gate #2. Staff will continue to regularly exercise gates in the future in order to prevent a recurrence.
2/17/2022	12:37	301 Challedon Ct, Columbia, SC 29212	Cleanout	TBD		22		Roots	Removed Blockage To Resume Normal Flow. Service Line Repair To Be Done.
2/17/2022	13:18	5106 Brickyard Rd, Columbia, SC 29203	Manhole	TBD		407	Trib To Crane Creek	Roots	Removed Blockage To Resume Normal Flow. Root Cut And Liner To Be Done By Contractor.
2/19/2022	12:30	2120 Rolling Hills Rd, Columbia SC 29210	Manhole	TBD		1005	Trib To Broad River	Roots	Removed Blockage To Resume Normal Flow. Tap Repair To Be Done.

City of Columbia, SC Quarterly SSO Listing 1st Quarter 2022									
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
2/20/2022	15:30	166 Cokesdale Rd, Columbia, SC 29212	Cleanout	2/20/2022	16:00	6		Debris	Removed Blockage To Resume Normal Flow. Washed Service Line To Clear Blockage.
2/22/2022	11:15	224 Pine Sapp Dr, Columbia, SC 29016	Manhole	2/22/2022	11:15	225		Grease	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Grease Buildup.
2/24/2022	18:45	605 Alcott Dr, Columbia, SC 29203	Manhole	TBD		1800	Storm Water Ditch	Grease	Removed Blockage To Resume Normal Flow. Line Added To PM Wash List.
2/24/2022	21:21	659 Delverton Rd, Columbia, SC 29203	Manhole	TBD		2171	Storm Drain	Roots	Removed Blockage To Resume Normal Flow. Main Line Repair To Be Done.
3/2/2022	18:27	218 Finsbury Rd, Columbia, SC 29212	Manhole	3/2/2022	23:30	90		Roots	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Roots.
3/3/2022	17:17	5006 Ridgewood Ave, Columbia, SC 29205	Cleanout	TBD		10	Storm Water Ditch	Roots	Removed Blockage To Resume Normal Flow. Service Line CIPP To Be Done.
3/4/2022	17:00	2203 College St, Columbia, SC 29205	Cleanout	3/5/2022	11:24	132	Storm Drain	Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair.
3/6/2022	16:45	508 Wilmette Rd, Columbia, SC 29203	Manhole	TBD		450	Trib To Crane Creek	Roots	Removed Blockage To Resume Normal Flow. Main Line Repair To Be Done.
3/7/2022	15:45	207 Finsbury Rd, Columbia, SC 29212	Manhole	3/7/2022	17:00	1067	Koon Branch	Debris	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Piece Of Broken Pipe.
3/9/2022	18:05	340 Paddington Rd, Columbia, SC 29203	Cleanout	TBD		10		Roots	Removed Blockage To Resume Normal Flow. Service Line CIPP To Be Done.
3/14/2022	12:15	5709 Ames Rd, Columbia, SC 29203	Manhole	3/14/2022	12:00	100		Collapsed Line	Removed Blockage To Resume Normal Flow. Main Line Wash To Remove Stoppage.
3/14/2022	15:37	3123 N Beltline Blvd, Columbia, SC 29204	Cleanout	TBD		599		Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Tap Repair To Be Done.
3/15/2022	16:00	627 Rapids Rd, Columbia, SC 29212	Cleanout	3/15/2022	16:30	20		Debris	Removed Blockage To Resume Normal Flow. Removed Blockage From Cleanout.
3/15/2022	18:00	527 Harden St, Columbia, SC 29205	Cleanout	TBD		126	Storm Drain	Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair To Be Done.
3/18/2022	00:43	47 Woodwind Ct, Columbia, SC 29209	Manhole	TBD		209	Emerald Lake	Roots	Removed Blockage To Resume Normal Flow. Cut Roots 3-22-22. Tap Repair To Be Done.
3/20/2022	12:43	6009 Ellisor St, Columbia, SC 29212	Manhole	TBD		745		Roots	Removed Blockage To Resume Normal Flow. Main Line CIPP To Be Done.
3/20/2022	19:48	301 Myles Ave, Columbia, SC 29203	Manhole	TBD		137		Roots	Unable To Remove Blockage, Set Up Bypass. Main Line Repair To Be Done.
3/23/2022	17:00	2773 Covenant Rd, Columbia, SC 29204	Cleanout	TBD		39	Storm Drain	Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair To Be Done.
3/21/2022	08:45	4904 Ridgewood Ave, Columbia, SC 29203	Cleanout	TBD		90		Roots	Removed Blockage To Resume Normal Flow. Service Line CIPP To Be Done.
3/25/2022	12:30	2773 Covenant Rd, Columbia, SC 29204	Cleanout	3/26/2022	12:00	31		Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair.
3/29/2022	20:50	3010 Farrow Rd, Columbia, SC 29203	Cleanout	TBD		1122	Storm Drain	3rd Party Responsibility	Washed Service Line But Could Not Break Stoppage. Contractor To Make Repairs/Reinstate Tap.
3/28/2022	17:00	2227 Harper St, Columbia, SC 29204	Cleanout	3/28/2022	17:30	35		Debris	Removed Blockage To Resume Normal Flow. Washed Service Line To Remove Debris.

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

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

Table 2 – Building Backup Report, 1st Quarter 2022

City of Columbia, SC Quarterly Building Backup Listing 1st Quarter 2022									
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
1/21/2022	02:00	17 Twin Oaks Cir, Columbia, SC 29209	City	TBD		42		Roots	Homeowner Cleaned Up Spill. Main Line CIPP.
3/11/2022	20:20	1320 Washington St, Columbia, SC 29201	City	3/18/2022	08:00	235		Collapsed Line	Attempted To Remove Blockage. Cleanout Repair.
3/14/2022	15:00	1320 Washington St, Columbia, SC 29201	City	3/18/2022	08:00	16		Collapsed Line	N/A, Observation Only. Cleanout Repair.

Section 5 SEP Water Quality Monitoring Results

Following receipt of the final approval of the Quality Assurance Project Plan (QAPP) from EPA and SCDHEC on January 15, 2016, the City conducted water quality monitoring on a quarterly basis for the first three years under the CD (through January 15, 2019) and monthly for years four through six under the CD (through January 15, 2022). The water quality monitoring completed on January 05, 2022 fulfilled the City's obligations under the SEP; a supplement to the previously approved SEP Completion Report will be provided with a summary of the Water Quality Monitoring results.