



City of Chattanooga

Mayor Andy Berke

January 29, 2019

VIA CERTIFIED MAIL

Ms. Sara Janovitz
Environmental Engineer
Clean Water Enforcement Branch
US EPA-Region 4
61 Forsyth Street, SW
Atlanta, GA 30303

**Re: *United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245*
Quarterly Report No. 22 – October 2018 to December 2018**

Dear Ms. Janovitz:

On behalf of the City of Chattanooga, Tennessee ("City"), and in accordance with the consent decree entered by the United States District Court for the Eastern District of Tennessee (Southern Division), on April 24, 2013, in the case styled the United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245 ("Consent Decree"), we are submitting to both the Environmental Protection Agency ("EPA") and the Tennessee Department of Environment and Conservation ("TDEC") the twenty-second quarterly report required pursuant to paragraph 38 of the Consent Decree. This report is also being submitted in accordance with the letter from Denise Diaz, dated September 16, 2013, establishing the dates for reporting under the Consent Decree.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Ms. Sara Janovitz
January 29, 2019
Page Two

Please let me know if you have any questions regarding our submittal.

Sincerely,



Jeffrey A. Rose, P.E.
Director, Waste Resources Division

Enclosure

cc: Karl Fingerhood, Esq., US DOJ
Chief, Environmental Enforcement Section, US DOJ
Chief, Clean Water Enforcement Branch, US EPA Region 4
Bill Bush, Esq., US EPA
Sohnia Hong, Office of the Attorney General
Enforcement Coordinator, Water Pollution Control, TDEC
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Adam Sowatzka, Esq., King & Spalding
Mike Marino, P.E., Jacobs Engineering



Quarterly Report No. 22

October 1, 2018 – December 31, 2018

Prepared for

**United States Environmental Protection Agency
and Tennessee Department of Environment and
Conservation**

City of Chattanooga
Waste Resources Division
Consent Decree Program
Case No. 1:12-cv-00245

Prepared by

City of Chattanooga
Waste Resources Division

Submitted by

JACOBS®

Jacobs Engineering Group Inc.
Consent Decree Program Manager

Chattanooga, Tennessee

January 29, 2019

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Acronyms and Abbreviations

Ave	Avenue
CD	Consent Decree
CFR	Code of Federal Regulations
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
Dr	Drive
EPA	Environmental Protection Agency
Gal	Gallons
Hrs	Hours
Hwy	Highway
Ln	Lane
MBWWTP	Moccasin Bend Waste Water Treatment Plant
MG	Million Gallons
MH	Manhole
N/A	Not Applicable
No.	Number
NPDES	National Pollutant Discharge Elimination System
PS	Pump Station
Rd	Road
SSO	Sanitary Sewer Overflow
St	Street
TDEC	Tennessee Department of Environment and Conservation
Trl	Trail
UNK	Unknown
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

1.0 Introduction

1.1 Purpose

The City of Chattanooga entered into a consent decree with the United States and the State of Tennessee in the case styled *United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245* (“CD”), which became effective on April 24, 2013. Pursuant to Section IX, paragraph 38 of the CD, Chattanooga is required to submit reports on a quarterly basis to the Environmental Protection Agency (“EPA”) and Tennessee Department of Environment and Conservation (“TDEC”). Chattanooga has prepared Quarterly Report No.22 to satisfy the reporting requirements of the CD. This report is also being submitted in accordance with the letter from Denise Diaz, dated September 16, 2013, establishing the dates for reporting under the CD.

1.2 Requirements

As detailed in Section IX, paragraph 38 of the CD, Chattanooga is required to report the date, time, location, source, estimated duration and volume, and receiving water of the following events:

1. Sanitary sewer overflow (“SSO”) events occurring during the reporting period;
2. Combined sewer overflow (“CSO”) outfall discharges occurring during the reporting period;
and
3. Bypasses at the Moccasin Bend Wastewater Treatment Plant (“MBWWTP”) occurring during the reporting period.

This information is provided in tabular form in Sections 2.0 – 4.0 of this report.

2.0 SSO Events

For the reporting period of October 1, 2018 through December 31, 2018, Chattanooga experienced the SSOs listed in Table 2-1. An SSO event is defined in paragraph 8.(nn) of the CD as “any discharge of wastewater to waters of the United States or State from Chattanooga’s Sewer System through a point source not permitted in any National Pollutant Discharge Elimination System (“NPDES”) permit, as well as any overflow, spill, or release of wastewater to public or private property from the Sewer System that may not have reached waters of the United States or the State, including all building backups.”

**Table 2-1
Quarterly SSO Report**

SSO ID	Start Date	Start Time	Location	Source	MH ID#	Estimated Duration (hrs)	Estimated Volume (gal)	SSO Destination	Cause
1	04-Oct-18	3:00 PM	835 Mauldeth Rd	Service Line	N/A	UNK ²	5,000	Structure*	Wet Weather
2	20-Oct-18	9:00 PM	5044 Mimosa Cr	Service Line	N/A	4.00	1,500	Structure*	Blockage - Trash/Debris
3 ¹	25-Oct-18	9:30 AM	6748 Sandwitch Rd	Service Line	N/A	2.50	3,500	North Chickamauga Creek	Blockage - Gravel
4	01-Nov-18	2:48 PM	1150 Flynn St	Manhole	S146H589	3.95	1,500	Storm Drain	Blockage - Trash/Debris
5	05-Nov-18	9:20 AM	1345 Hickory Valley Rd	Manhole	S158F073	1.25	750	Storm Drain	Blockage - Roots
6	06-Nov-18	5:30 AM	122 Rowland Gap Rd (West Bank)	West Bank	S135O217	36.33	22,312,000	Tennessee River	Wet Weather
7	12-Nov-18	1:45 PM	2109 Lynnbrook Ave	Manhole	S156G048	15.25	10,000	Dobbs Branch	Wet Weather
8	12-Nov-18	1:51 PM	914 Sterling Ave	Manhole	S136H107	22.25	150,000	Tennessee River	Wet Weather
9	12-Nov-18	2:00 PM	1033 Lupton Dr	Manhole	S118K006	48.00	145,000	Tennessee River	Wet Weather
10	12-Nov-18	3:30 PM	122 Rowland Gap Rd (West Bank)	Manhole	S135O217	4.00	853,000	Tennessee River	Wet Weather

**Table 2-1
Quarterly SSO Report**

SSO ID	Start Date	Start Time	Location	Source	MH ID#	Estimated Duration (hrs)	Estimated Volume (gal)	SSO Destination	Cause
11	13-Nov-18	5:30 AM	122 Rowland Gap Rd (West Bank)	Manhole	S135O217	3.75	1,000,000	Tennessee River	Wet Weather
12	13-Nov-18	11:00 AM	Stratton Place Dr	Manhole	S158M009	UNK ²	150	Mackey Branch	Wet Weather
13	13-Nov-18	12:00 PM	406 Brown Rd	Manhole	S158O005	22.50	85,000	South Chickamauga Creek	Wet Weather
14	13-Nov-18	12:00 PM	406 Brown Rd	Manhole	S158I060	22.50	150,000	South Chickamauga Creek	Wet Weather
15	15-Nov-18	12:20 AM	929 Riverside Dr (Citico PS)	Manhole	S136P605	2.92	5,500	Tennessee River	Wet Weather
16	15-Nov-18	2:40 AM	122 Rowland Gap Road (West Bank)	Manhole	S135O217	15.00	3,603,000	Tennessee River	Wet Weather
17 ¹	15-Nov-18	5:00 AM	2109 Lynnbrook Ave	Manhole	S156G048	6.00	12,500	Dobbs Branch	Wet Weather
18	15-Nov-18	8:30 AM	HWY 58	Manhole	S120K018	25.00	1,500	Storm Drain	Wet Weather
19	15-Nov-18	9:00 AM	Wilcox Blvd & Shallowford Rd	Manhole	S147F015	29.50	85,000	South Chickamauga Creek	Wet Weather
20	15-Nov-18	9:00 AM	2013 S Kelly St	Manhole	S156G022	2.00	7,500	Dobbs Branch	Wet Weather
21	15-Nov-18	9:00 AM	1022 Shallowford Rd	Manhole	S147G104	29.50	100	South Chickamauga Creek	Wet Weather

**Table 2-1
Quarterly SSO Report**

SSO ID	Start Date	Start Time	Location	Source	MH ID#	Estimated Duration (hrs)	Estimated Volume (gal)	SSO Destination	Cause
22'	15-Nov-18	9:20 AM	6695 Hickory Brook Dr	Manhole	S138M082	23.67	950	Storm Drain	Wet Weather
23	15-Nov-18	9:30 AM	0 Aim Way	Manhole	S157H046	2.00	500	Storm Drain	Wet Weather
24'	15-Nov-18	9:45 AM	406 Brown Rd	Manhole	S158O005	23.25	100,000	South Chickamauga Creek	Wet Weather
25	15-Nov-18	9:45 AM	5302 Old Mission Rd	Manhole	S157K058	28.25	500	Storm Drain	Wet Weather
26'	15-Nov-18	9:45 AM	406 Brown Rd	Manhole	S158I060	23.25	150,650	South Chickamauga Creek	Wet Weather
27	15-Nov-18	10:20 AM	914 Sterling Ave	Manhole	S136H107	23.30	150,000	Tennessee River	Wet Weather
28'	15-Nov-18	11:00 AM	634 Lupton Dr	Manhole	S118G087	22.00	15,000	Storm Drain	Wet Weather
29	15-Nov-18	11:00 AM	1100 Lupton Dr	Manhole	S118L002	48.00	175,000	Tennessee River	Wet Weather
30	15-Nov-18	11:00 AM	1033 Lupton Dr	Manhole	S118K006	48.00	150,000	Tennessee River	Wet Weather
31	15-Nov-18	1:30 PM	520 Airport Rd	Manhole	S158A019	21.50	80,000	South Chickamauga Creek	Wet Weather
32	25-Nov-18	12:10 AM	10 E 7th St	Manhole	Unassigned	17.33	100	Land*	Blockage - General
33	28-Nov-18	12:40 PM	6830 McCutchen Rd	Manhole	Unassigned	1.17	1,750	Storm Drain	Blockage - Trash/Debris
34	09-Dec-18	9:56 AM	5203 Old Mission Rd.(Brainerd Golf Course)	Manhole	S157F057	12.57	3,470	South Chickamauga Creek	Wet Weather
35	09-Dec-18	1:19 PM	914 Sterling Ave	Manhole	S136H107	25.15	45,000	Tennessee River	Wet Weather

**Table 2-1
Quarterly SSO Report**

SSO ID	Start Date	Start Time	Location	Source	MH ID#	Estimated Duration (hrs)	Estimated Volume (gal)	SSO Destination	Cause
36	09-Dec-18	1:35 PM	1033 Lupton Dr	Manhole	S118K036	44.42	60,000	Tennessee River	Wet Weather
37	09-Dec-18	1:45 PM	3470 Van Buren St	Manhole	S118G114	25.25	2,250	Storm Drain	Wet Weather
38	09-Dec-18	1:50 PM	3857 Birmingham Dr	Manhole	S118D128	24.78	3,000	Tennessee River	Wet Weather
39	09-Dec-18	1:58 PM	5010 Creekside Preserve Dr	Service Line	N/A	24.53	15,000	North Chickamauga Creek	Wet Weather
40	09-Dec-18	2:57 PM	Wilcox Blvd & Shallowford Rd	Manhole	S147F015	18.80	5,000	South Chickamauga Creek	Wet Weather
41	09-Dec-18	4:08 PM	6839 McCutcheon Rd	Service Line	N/A	1.32	6,500	Structure*	Blockage - Trash/Debris
42	09-Dec-18	6:28 PM	1706 Monterey Dr	Manhole	S137P045	0.85	2,000	Storm Drain	Wet Weather
43	09-Dec-18	6:28 PM	5302 Old Mission Rd	Manhole	S157K058	16.03	3,500	Storm Drain	Wet Weather
44	10-Dec-18	2:00 PM	0 Aim Way	Manhole	S157H046	UNK ²	5,000	Storm Drain	Wet Weather
45	10-Dec-18	2:50 PM	3910 Juandale Trl	Manhole	S137N041	22.92	60,000	South Chickamauga Creek	Wet Weather
46	11-Dec-18	11:52 AM	406 Brown Rd	Manhole	S158I060	26.13	150,000	South Chickamauga Creek	Wet Weather
47	28-Dec-18	2:37 AM	122 Rowland Gap Rd (West Bank)	Manhole	S135O217	101.13	15,000,000	Tennessee River	Wet Weather

**Table 2-1
Quarterly SSO Report**

SSO ID	Start Date	Start Time	Location	Source	MH ID#	Estimated Duration (hrs)	Estimated Volume (gal)	SSO Destination	Cause
48	28-Dec-18	6:20 AM	End of MLK BLVD (East Bank)	East Bank	S135O547	50.08	10,511,000	Tennessee River	Wet Weather
49	28-Dec-18	6:39 AM	1500 Dodson Ave	Manhole	S136M048	7.53	24,000	Storm Drain	Wet Weather
50	28-Dec-18	8:00 AM	1609 S Orchard Knob Ave	Manhole	UNK ²	UNK ²	85,000	Storm Drain	Wet Weather
51	28-Dec-18	8:23 AM	Terrace Ave & Young Ave	Manhole	S136A130	72.12	12,900	Tennessee River	Wet Weather
52	28-Dec-18	8:23 AM	Wilcox Blvd & Shallowford Rd	Manhole	S147F015	27.62	195,000	South Chickamauga Creek	Wet Weather
53	28-Dec-18	8:23 AM	3750 Wilcox Blvd	Manhole	S147B103	27.62	7,800	Storm Drain	Wet Weather
54	28-Dec-18	8:27 AM	1022 Shallowford Rd	Manhole	S147G104	27.55	48,000	South Chickamauga Creek	Wet Weather
55	28-Dec-18	8:28 AM	914 Sterling Ave	Manhole	S136H107	72.03	608,000	Tennessee River	Wet Weather
56	28-Dec-18	8:33 AM	25 S. Germantown Rd	Manhole	S157A056	27.45	113,400	Storm Drain	Wet Weather
57	28-Dec-18	8:35 AM	4500 Gann Store Rd (Big Ridge #2)	Manhole	S111P018	12.42	81,300	Tennessee River	Wet Weather
58	28-Dec-18	8:40 AM	1033 Lupton Dr	Manhole	S118K036	72.17	500,000	Tennessee River	Wet Weather

**Table 2-1
Quarterly SSO Report**

SSO ID	Start Date	Start Time	Location	Source	MH ID#	Estimated Duration (hrs)	Estimated Volume (gal)	SSO Destination	Cause
59	28-Dec-18	8:40 AM	6695 Hickory Brook Dr	Manhole	S138M082	26.28	71,400	Storm Drain	Wet Weather
60	28-Dec-18	8:43 AM	3857 Birmingham Dr	Manhole	S118D128	26.38	52,550	Tennessee River	Wet Weather
61	28-Dec-18	9:00 AM	1 Aim Way	Manhole	S157H046	26.77	354,000	Storm Drain	Wet Weather
62	28-Dec-18	9:14 AM	406 Brown Rd	Manhole	S158O004	71.77	350,000	South Chickamauga Creek	Wet Weather
63	28-Dec-18	9:14 AM	406 Brown Rd	Manhole	S158I060	71.77	500,000	South Chickamauga Creek	Wet Weather
64	28-Dec-18	9:21 AM	5203 Old Mission Rd (Brainerd Golf Course PS)	Manhole	S157F039	27.15	36,300	Storm Drain	Wet Weather
65	28-Dec-18	9:22 AM	4509 Kemp Drive	Manhole	S157B072	27.30	75,900	Storm Drain	Wet Weather
66	28-Dec-18	9:40 AM	801 Altamont Rd	Manhole	S127A084	3.58	14,750	Storm Drain	Wet Weather
67	28-Dec-18	9:58 AM	1809 East 14th Street	Manhole	S146O0110	74.03	13,320	Storm Drain	Wet Weather
68	28-Dec-18	10:26 AM	601 Lupton Dr	Manhole	S118G055	24.57	321,000	Storm Drain	Wet Weather
69	28-Dec-18	10:35 AM	2001 S Kelley St	Manhole	S156G030	24.42	247,500	Dobbs Branch	Wet Weather
70	28-Dec-18	10:40 AM	1900 E 25th Street Place	Manhole	S156J057	24.33	28,800	Storm Drain	Wet Weather
71	28-Dec-18	10:55 AM	1111 Plaza Drive	Manhole	S109M084	72.08	15,000	Storm Drain	Wet Weather

**Table 2-1
Quarterly SSO Report**

SSO ID	Start Date	Start Time	Location	Source	MH ID#	Estimated Duration (hrs)	Estimated Volume (gal)	SSO Destination	Cause
72	28-Dec-18	11:20 AM	1100 Lupton Dr	Manhole	S118L002	72.67	675,000	Tennessee River	Wet Weather
73	28-Dec-18	11:23 AM	2109 Lynnbrook Ave	Manhole	S156G048	23.52	12,500	Dobbs Branch	Wet Weather
74	28-Dec-18	11:28 AM	1511 Riverview Rd	Manhole	S136B014	73.03	262,800	Tennessee River	Wet Weather
75	28-Dec-18	11:36 AM	3605 Monte Vista Dr	Manhole	S157H050	25.12	10,000	Storm Drain	Wet Weather
76	28-Dec-18	1:12 PM	2914 Hamill Rd	Manhole	S110F014	22.30	225,000	North Chickamauga Creek	Wet Weather
77	28-Dec-18	1:44 PM	930 Dartmouth St	Manhole	S127P060	69.27	330,000	Storm Drain	Wet Weather
78	28-Dec-18	4:00 PM	3200 Calhoun Ave	Service Line	UNK ²	2.50	6,500	Structure*	Blockage - Trash/Debris
79	29-Dec-18	9:30 AM	808 Browns Ferry Rd (Tiftonia #1 PS)	Pump Station	UNK ²	0.25	750	Tennessee River	Pump Station - Mechanical Failure

¹ Common cause, within 500 yards of separate event.

² This information was not available at time of reporting.

* Did not reach waters of the United States

3.0 Moccasin Bend WWTP Bypasses

The CD sets forth the same definition for bypass as the EPA's regulations at 40 C.F.R. § 122.41(m), which defines a bypass as the intentional diversion of waste streams from any portion of a treatment facility. The City's current NPDES permit defines a bypass as the intentional diversion of wastewater away from any portion of a treatment facility other than through peak excess flow treatment facilities or permitted outfalls in accordance with both the long-term control plan and the nine minimum technology-based effluent controls for combined sewer systems. The City reports bypasses and wet weather discharges separately on the monthly Discharge Monitoring Reports, as a discharge from the City's permitted wet weather discharge is not a bypass under the City's current NPDES permit. Based on the foregoing, the WWTP experienced no bypasses during the reporting period of October 1, 2018 through December 31, 2018.

4.0 CSO Outfall Discharges

For the reporting period of October 1, 2018 through December 31, 2018 Chattanooga experienced CSO discharges from CSO outfall treatment facilities as listed in Table 4-1. Paragraph 8.(h) of the CD defines a CSO as “any discharge from the CSS from any outfall currently identified, or identified in the future, as a permitted combined sewer overflow outfall in any Chattanooga NPDES permit from which CSOs are discharged to waters of the United States or the State.” The CSS is defined as the portion of Chattanooga’s wastewater collection and transmission system (“WCTS”) designed to convey municipal sewage (domestic, commercial and industrial wastewaters) and storm water runoff through a single-pipe system to Chattanooga’s WWTP or CSO outfalls. Chattanooga operates eight (8) permitted CSO outfall treatment facilities, eight (8) of which discharged during the reporting period.

**Table 4-1
Quarterly CSO Outfall Discharge Report**

October 1, 2018 – December 31, 2018						
Start Date	Start Time	Location/Nearest Stream	Duration (hrs)	Volume (MG)	Receiving Water	Cause
1-Oct-18	12:50	Central Ave. CSO (002)	2.35	0.102463	Chattanooga Creek	Rain Event
1-Oct-18	0:01	Citico CSO (004)	6.68	3.642724	Tennessee River	Rain Event
26-Oct thru 27-Oct	3:55	Central Ave. CSO (002)	20.88	3.627444	Chattanooga Creek	Rain Event
26-Oct-18	0:20	ML King CSO (007)	3.23	1.022033	Tennessee River	Rain Event
26-Oct-18	17:23	19th St. CSO (008)	0.02	0.000253	Tennessee River	Rain Event
26-Oct-18	1:35	Carter St. CSO (009)	5.53	1.759935	Tennessee River	Rain Event
1-Nov thru 2-Nov	17:13	Central Ave. CSO (002)	26.24	1.234735	Chattanooga Creek	Rain Event
1-Nov-18	13:44	Tremont CSO (005)	0.55	0.153895	Tennessee River	Rain Event
1-Nov thru 2-Nov	13:50	ML King CSO (007)	7.62	0.404125	Tennessee River	Rain Event
1-Nov-18	13:51	Carter St. CSO (009)	4.15	1.238065	Tennessee River	Rain Event
6-Nov thru 7-Nov	4:34	Central Ave. CSO (002)	26.58	4.750313	Chattanooga Creek	Rain Event
6-Nov-18	5:02	Citico CSO (004)	0.7	0.478969	Tennessee River	Rain Event
6-Nov-18	4:19	Tremont CSO (005)	1.88	4.81167	Tennessee River	Rain Event
6-Nov-18	4:43	Ross's Landing CSO (006)	1.32	1.416905	Tennessee River	Rain Event
6-Nov thru 7-Nov	4:19	ML King CSO (007)	31.29	1.509217	Tennessee River	Rain Event
6-Nov-18	4:28	19th St. CSO (008)	1.9	0.65163	Tennessee River	Rain Event
6-Nov-18	5:45	Carter St. CSO (009)	5.23	2.144951	Tennessee River	Rain Event
9-Nov thru 10-Nov	7:36	Central Ave. CSO (002)	37.83	6.151072	Chattanooga Creek	Rain Event
9-Nov-18	7:42	Citico CSO (004)	4.63	1.922935	Tennessee River	Rain Event
9-Nov-18	8:30	Tremont CSO (005)	0.38	0.024609	Tennessee River	Rain Event
9-Nov-18	7:34	ML King CSO (007)	8.77	0.476011	Tennessee River	Rain Event
9-Nov-18	7:31	19th St. CSO (008)	1.22	0.049787	Tennessee River	Rain Event
9-Nov-18	7:55	Carter St. CSO (009)	3.25	1.462911	Tennessee River	Rain Event
12-Nov thru 15-Nov	7:37	Central Ave. CSO (002)	69.41	29.116417	Chattanooga Creek	Rain Event

**Table 4-1
Quarterly CSO Outfall Discharge Report**

October 1, 2018 – December 31, 2018						
Start Date	Start Time	Location/Nearest Stream	Duration (hrs)	Volume (MG)	Receiving Water	Cause
12-Nov thru 14-Nov	10:19	Williams St. CSO (003)	40.2	2.788827	Chattanooga Creek	Rain Event
12-Nov thru 14-Nov	10:42	Citico CSO (004)	31.8	8.986399	Tennessee River	Rain Event
12-Nov thru 13-Nov	9:48	Tremont CSO (005)	6.7	0.718952	Tennessee River	Rain Event
12-Nov thru 14-Nov	8:19	ML King CSO (007)	36.1	2.442359	Tennessee River	Rain Event
12-Nov-18	8:50	19th St. CSO (008)	5.12	0.272384	Tennessee River	Rain Event
12-Nov thru 13-Nov	9:14	Carter St. CSO (009)	9.75	3.942751	Tennessee River	Rain Event
13-Nov-18	2:08	19th St. CSO (008)	0.43	0.019046	Tennessee River	Rain Event
14-Nov thru 16-Nov	21:36	Williams St. CSO (003)	41.8	2.787759	Chattanooga Creek	Rain Event
14-Nov thru 15-Nov	19:56	Tremont CSO (005)	8.3	0.95358	Tennessee River	Rain Event
14-Nov thru 16-Nov	19:36	ML King CSO (007)	30.78	1.876595	Tennessee River	Rain Event
14-Nov thru 15-Nov	23:21	19th St. CSO (008)	3.93	0.360757	Tennessee River	Rain Event
14-Nov thru 15-Nov	21:44	Carter St. CSO (009)	6.43	4.02336	Tennessee River	Rain Event
15-Nov thru 16-Nov	0:19	Citico CSO (004)	13.8	6.991214	Tennessee River	Rain Event
30-Nov-18	19:40	Tremont CSO (005)	0.33	0.024087	Tennessee River	Rain Event
1-Dec thru 5-Dec	8:57	Central Ave. CSO (002)	97.13	5.443383	Chattanooga Creek	Rain Event
1-Dec-19	7:03	Tremont CSO (005)	1.73	0.183582	Tennessee River	Rain Event
1-Dec thru 2-Dec	6:30	ML King CSO (007)	19.33	1.082411	Tennessee River	Rain Event
1-Dec-19	8:00	19th St. CSO (008)	0.05	0.000335	Tennessee River	Rain Event
1-Dec-19	6:40	Carter St. CSO (009)	3.85	2.375309	Tennessee River	Rain Event
8-Dec thru 9-Dec	22:07	Central Ave. CSO (002)	5.15	8.63719	Chattanooga Creek	Rain Event
8-Dec thru 11-Dec	23:52	Citico CSO (004)	20.6	11.160758	Tennessee River	Rain Event
8-Dec thru 9-Dec	19:47	Tremont CSO (005)	13.73	1.536228	Tennessee River	Rain Event
8-Dec thru 10-Dec	19:22	ML King CSO (007)	46.08	3.351975	Tennessee River	Rain Event
8-Dec thru 9-Dec	20:33	19th St. CSO (008)	8.05	1.207823	Tennessee River	Rain Event

**Table 4-1
Quarterly CSO Outfall Discharge Report**

October 1, 2018 – December 31, 2018						
Start Date	Start Time	Location/Nearest Stream	Duration (hrs)	Volume (MG)	Receiving Water	Cause
8-Dec thru 9-Dec	20:38	Carter St. CSO (009)	7.52	2.950877	Tennessee River	Rain Event
9-Dec-19	0:12	Ross's Landing CSO (006)	2.87	1.087975	Tennessee River	Rain Event
14-Dec-19	20:28	ML King CSO (007)	2.5	0.01556	Tennessee River	Rain Event
27-Dec thru 31-Dec	20:44	Citico CSO (004)	97.27	14.446529	Tennessee River	Rain Event
27-Dec thru 28-Dec	20:51	Tremont CSO (005)	16.68	1.95194	Tennessee River	Rain Event
27-Dec thru 28-Dec	21:17	ML King CSO (007)	19.97	4.872412	Tennessee River	Rain Event
27-Dec thru 28-Dec	21:15	19th St. CSO (008)	12.98	7.145849	Tennessee River	Rain Event
27-Dec thru 28-Dec	21:23	Carter St. CSO (009)	10.17	12.482326	Tennessee River	Rain Event
28-Dec-19	1:00	Ross's Landing CSO (006)	6.67	9.329037	Tennessee River	Rain Event
29-Dec-19	1:30	19th St. CSO (008)	0.3	0.059907	Tennessee River	Rain Event
30-Dec-19	2:55	19th St. CSO (008)	0.4	0.124426	Tennessee River	Rain Event
31-Dec-19	20:00	19th St. CSO (008)	1.18	0.449172	Tennessee River	Rain Event