

January 30, 2019

Chief, Environmental Enforcement Section Environment and Natural Resources Division U.S. Department of Justice Box 7611 Ben Franklin Station Washington, D.C. 20044-7611 Re: DOJ No. 90-5-1-1-09841

Karl Fingerhood
Environmental Enforcement Section
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611

Brad Ammons
Environmental Engineer
Clean Water Enforcement Branch
Municipal and Industrial Enforcement
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303

Diane Schober
Office of Pollution Control
Environmental Compliance & Enforcement Div.
P.O. Box 2261
Jackson, MS 39225-2261

Re: City of Jackson, Mississippi, EPA Consent Decree

Quarterly Report No. 23

Supplemental Environmental Project Semi Annual Report 11

Dear Sirs:

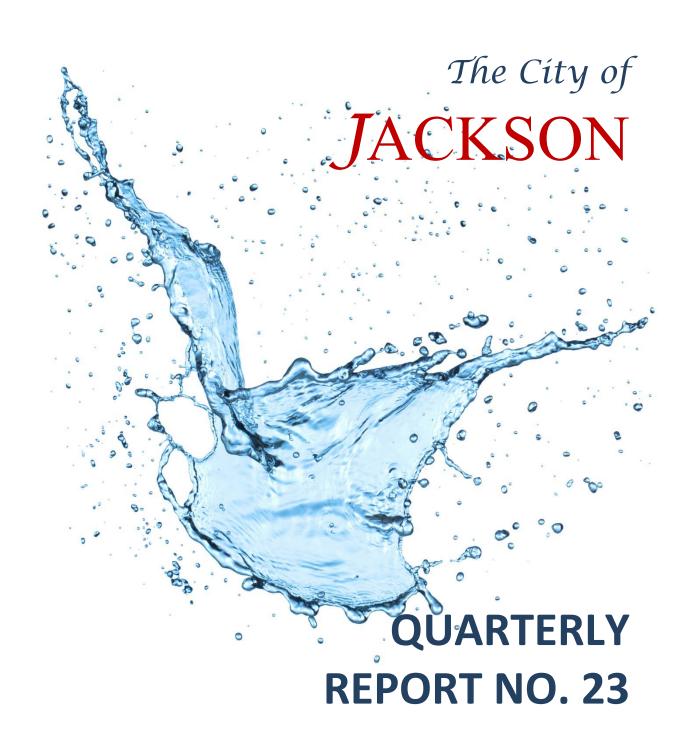
On behalf of the City of Jackson, please find enclosed Quarterly Report No. 23 and Supplemental Environmental Project Semi Annual Report 11 for your review.

Sincerely,

Tennifer Jorge, Ph.D. Assistant Project Manager

#### Enclosure

cc: Honorable Chokwe Antar Lumumba, Mayor, City of Jackson Timothy C. Howard, City Attorney, City of Jackson Robert Miller, Director, Public Works Department, City of Jackson Terry Williamson, Legal Counsel, City of Jackson Public Depository, Eudora Welty Public Library



OCTOBER 2018 THROUGH DECEMBER 2018

Department of Public Works Consent Decree Program

## City of Jackson Wastewater Infrastructure Redevelopment Program

## **Quarterly Report No. 23 October 2018 through December 2018**

January 30, 2019

#### Prepared for:

City of Jackson
Department of Public Works
P.O. Box 17
Jackson, MS 39205-0017

#### Prepared by:

Burns & McDonnell 308 E. Pearl St., Suite 104 Jackson, MS 39201

### City of Jackson, Mississippi Quarterly Report No. 23 October 2018 through December 2018

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.



Chokwe Antar Lumumba Mayor

Date

Robert K. Miller, Director

Department of Public Works

Date

## Quarterly Report No. 23 October 2018 through December 2018

### Contents

1.0 Ir	ntroduction	1-1
1.1	Consent Decree Overview	1-1
1.2	Authority to Promulgate	1-1
2.0 Si	ummary of SSOs and Prohibited Bypasses	2-1
2.1	Collection System SSOs	2-1
2.2	Pump Station SSOs	2-10
2.3	West Bank Interceptor SSO	2-12
2.4	Prohibited Bypasses	2-16

#### 1.0 Introduction

#### 1.1 Consent Decree Overview

On March 1, 2013, the U.S. District Court for the Southern District of Mississippi entered a Consent Decree (CD) agreed to by the City of Jackson, Mississippi (City), U.S. Environmental Protection Agency (EPA), and the Mississippi Department of Environmental Quality (MDEQ,) regarding the City's wastewater collection and treatment system.

One of the ongoing requirements of the EPA Consent Decree is to submit periodic reports to demonstrate continuing compliance. The specific reporting requirements can be found in Section IX  $\P$  57 of the Consent Decree. A copy of the Consent Decree, as well as previous reports, can be found on the City of Jackson website under the "Wastewater Consent Decree Public Documents" link in the Document Library.

#### 1.2 Authority to Promulgate

Burns & McDonnell Engineering Company, Inc. was retained to assist the City in addressing the requirements of the Consent Decree under a Program Management contract. Accordingly, the Program Management team compiled this Quarterly Report from information provided by the City and its contractors to fulfill the requirements of Section IX ¶ 57 (a) set forth in the CD.

The listing and graphical summaries of the SSOs and prohibited bypasses for October 2018 – December 2018 are presented in Section 2 of this report.

#### 2.0 Summary of SSOs and Prohibited Bypasses

SSOs are divided into three elements of the wastewater system: the collection system, pump stations, and West Bank Interceptor. Prohibited bypasses at the Savanna Street Wastewater Treatment Facility (SSWWTF), in periods when they occur, are listed in Section 2.4 of this report.

#### 2.1 Collection System SSOs

**Table 1** lists SSOs in the collection system for October through December 2018. Each day of a multiple day event is considered as a separate SSO, in accordance with the Consent Decree.

**Figure 1** shows SSO events by month as a result of the following reported causes:

Grease Roots Solids Collapsed Pipe PS Failure Excessive flow Other

Some SSO events had multiple causes. In these instances, each cause was assigned a fractional value, adding up to one (1) cause for each event.

**Figure 2** shows percentages of collection system SSOs for the quarter by cause. **Figure 3** shows total volume of SSOs for each month. **Figure 4** shows total duration of SSOs for each month.

Twenty-three (23) events occurred at nineteen (19) locations on private property reported this period. The cause of these events was determined to be problems on the private laterals and the crews notified owners. These events have been reported to MDEQ.

Twenty-two (22) events occurred at cleanouts on private property this period. All events were caused by problems in the City's sewer system and are included in this report.

There were ten (10) events for which the duration was not determined because stop time was missing from the assessment report, the cause, such as collapsed pipe, has not been resolved or no SSO was ongoing but there was evidence of a previous overflow. Previous SSO Follow up was an SSO that the cause, i.e. collapsed pipe, excessive flow, etc., was not resolved at the time of the first report and a crew was following up to see if it an SSO was occurring until a repair could be made. Once the cause has been resolved, the total durations can be determined and reported. Volumes reported for these events are determined from periodic follow up inspections until the cause has been resolved.

The repair at 172 E Woodcrest was completed on October 23, 2018 and the duration and volume are included in this report. There were two (2) locations initially reported as SSOs but further investigation determined that these were not SSOs. The SSOs reported at 170/188 Treehaven Dr. was determined to be a broken water main. The SSO reported at 224 E Capitol St was determined to be stormwater entering an abandoned manhole. There were SSOs at three (3) locations in which the cause was undetermined and will be further investigated.

The number of duplicate reports submitted increased this period. This issue will be addressed in future training sessions management.

Table 1
City of Jackson, Mississippi
Quarterly Report No. 23 – October 2018 through December 2018
Collection System SSOs

· · · · · · · · · · · · · · · · · · ·										
Date Began	Time Began	Location	Source	Estimated Duration, Hours	Estimated Volume, Gallons	Reached Waters of the State	Receiving Water	Rainfall, Inches	Reported Cause	
6/22/2018	3:29 PM	172 E Woodcrest Dr	Manhole	2,951.52	12,600	Yes	Cany	0.00	Tree fell. Damaged Manhole	
10/1/2018	12:00 PM	3200 Woodrow Wilson Ave	Manhole	694.50	5,800	Yes	Tow n	0.00	Grease / Solids	
10/1/2018	1:50 PM	105 E Pascagoula St			0.00	Grease / Solids				
10/1/2018	9:30 AM	Manhatten Rd / Holly Dr	Manhole	0.50	300	No	NA	0.00	Grease / Solids	
10/5/2018	1:30 PM	925 Reaves St	Ground Surface (defective pipe underground)	0.50	100	No	NA	0.00	Grease / Solids	
10/7/2018	12:40 PM	2121 East Dr	Manhole	0.42	2,000	No	NA	0.00	Grease / Solids / Collapsed Pipe	
10/10/2018	10:20 AM	201 Grandview Circle	Manhole	4.25	260	Yes	Three Mile	0.00	Grease	
10/11/2018	10:48 AM	188 Treehaven Dr	Ground Surface (defective pipe underground)	NA	NA	Yes	Hardy	0.00	No SSO. Broken Water Main	
10/15/2018	6:09 PM	203 E Monument St	Manhole	18.58	12,240	Yes	Tow n	0.00	Grease	
10/17/2018	9:35 AM	Pleasant Ave / Maple St	Ground Surface (defective pipe underground)	4.42	150	Yes	Tow n	0.00	Collapsed pipe	
10/18/2018	4:45 PM	1525 Linde Road	Ground Surface (defective pipe underground)	3.25	20	Yes	Lynch	0.00	Strainer on Bypass Pump clogged	
10/18/2018	2:40 PM	1087 I Frontage Rd	Manhole	144.58	880	No	NA	0.00	Grease / Solids	
10/22/2018	4:30 PM	100 Rolling Meadows  Dr	Manhole	2.02	100	Yes	Purple	0.00	Damaged by Water Dept.	
10/23/2018	9:30 AM	1304 Eastover Dr	Manhole	3.53	100	Yes	Eubanks	0.00	Grease / Solids	
10/24/2018	12:20 PM	2820 Terry Road	Manhole	1.92	500	No	NA	0.00	Grease	
10/26/2018	2:15 PM	1110 N Jefferson St	Cleanout	120.75	2,400	Yes	Belhaven	0.00	Grease / Collapsed Pipe	
10/28/2018	6:25 PM	319 Queen Julianna Lane	Ground Surface (defective pipe underground)	0.33	60	No	NA	0.00	Collapsed pipe	

# Table 1 cont. City of Jackson, Mississippi Quarterly Report No. 23 – October 2018 through December 2018 Collection System SSOs

Date Began	Time Began	Location	Source	Estimated Duration, Hours	Estimated Volume, Gallons	Reached Waters of the State	Receiving Water	Rainfall, Inches	Reported Cause
10/29/2018	5:45 PM	629 Fondren Pl	Manhole	1.25	Previous SSO	No	NA	0.00	Solids
10/30/2018	1:50 PM	2118 East Dr	Ground Surface (defective pipe underground)	0.00	Previous SSO No NA		0.00	Collapsed pipe	
10/30/2018	9:15 AM	1429 Northside Dr	Manhole	0.00	Previous SSO	No	NA	0.00	Grease / Excessive Flow
10/30/2018	10:15 AM	2305 Timber Crossing	Manhole	1.58	700	No	NA	0.00	Grease / Solids
10/30/2018	10:00 AM	3638 Cavalier Dr	Manhole	0.00	Previous SSO	No	NA	0.00	Excessive Flow
11/1/2018	1:58 PM	1525 Linde Road	Other	0.45	10	No	NA	0.99	Leaking Pump Hose
11/3/2018	8:03 PM	3373 Cooper Rd	Manhole	37.78	2,200	No	NA	0.00	Solids
11/3/2018	10:00 PM	1117 Cooper Rd	Manhole	16.17	700	No	NA	0.00	Grease / Solids
11/6/2018	8:37 AM	125 Taylor St	Cleanout	3.82	280	Yes	Tow n	0.22	Grease
11/6/2018	2:47 PM	904 E Fortification St	Ground Surface (defective pipe underground)	2.18	460	Yes	Belhaven	0.22	Grease
11/7/2018	11:05 AM	1244 Cooper Rd	Cleanout	148.58	350	No	NA	1.11	Grease / Solids / Collapsed Pipe
11/8/2018	1:00 PM	1423 Woody Dr	Manhole	0.00	Previous SSO	No	NA	0.60	Excessive Flow
11/8/2018	12:30 PM	448 Cambridge Ln	Manhole	0.00	Previous SSO	No	NA	0.60	Excessive Flow
11/8/2018	12:50 PM	3138 Lakew ood Dr	Manhole	0.00	Previous SSO	No	NA	0.60	Excessive Flow
11/11/2018	12:05 PM	2305 Timber Crossing	Manhole	1.67	100	No	NA	0.47	Grease
11/12/2018	9:35 AM	5333 Brookhollow Dr	Ground Surface (defective pipe underground)	NR	1,500	No	NA	2.27	Excessive Flow / Pump Station Failure / Collapsed Pipe

## Table 1 cont. City of Jackson, Mississippi Quarterly Report No. 23 – October 2018 through December 2018

**Collection System SSOs** 

			_	Estimated	Estimated	Reached		Rainfall,	
Date Began	Time Began	Location	Source	Duration, Hours	Volume, Gallons	Waters of the State	Receiving Water	Inches	Reported Cause
11/12/2018	5:20 PM	Kimw ood Dr / E Northside Dr	Manhole	0.08	25	No	NA	2.45	Grease
11/13/2018	2:45 PM	1244 Cooper Rd	Cleanout 0.92 150 No NA		0.01	Grease / Collapsed Pipe			
11/13/2018	7:05 AM	210 Highland Place Dr	Cleanout 6.47 30 No NA		0.00	Collapsed Pipe			
11/14/2018	2:31 PM	Belvedere Dr / Freemont St	Manhole	21.98	500	Yes	Hardy	0.01	Grease
11/14/2018	10:00 AM	170 Treehaven Dr	Ground Surface (defective pipe underground)	NA	NA	Yes	Hardy	0.01	Confirmed as Water Main Break 12/11
11/15/2018	9:15 AM	1253 Eastover Dr	Manhole	289.75	1,581	Yes	Eubanks	0.00	Grease / Solids
11/20/2018	4:07 PM	1621 Blair St	Ground Surface (defective pipe underground)	NR	2,200	Yes	Tow n	0.00	Collapsed Pipe
11/26/2018	6:30 AM	505 Stillw ood Dr	Ground Surface (defective pipe underground)	9.87	320	No	NA	0.00	Grease
11/27/2018	10:00 AM	1253 Eastover Dr	Manhole	1.00	500	Yes	Eubanks	0.00	Grease / Solids
11/27/2018	11:09 AM	121 Melrose Dr	Manhole	1.98	168	Yes	White Oak	0.00	Grease
11/27/2018	4:00 PM	4540 Manhattan Rd	Manhole	0.17	150	Yes	Eubanks	0.00	Grease / Solids
11/29/2018	10:30 AM	1785 Minor Ln	Manhole	0.25	200	Yes	White Oak	0.00	Solids
12/1/2018	3:12 PM	3015 Woodview Dr	Manhole	96.30	Previous SSO	No	NA	0.00	Grease / Roots
12/2/2018	1:33 PM	117 E Pascagoula St	Manhole	1.35	60	Yes	Tow n	0.00	Solids
12/3/2018	8:41 AM	1253 Eastover Dr	Manhole	27.48	300	Yes	Eubanks	0.00	Collapsed Pipe
12/3/2018	7:41 PM	1757 Southhaven Cir	Cleanout	0.23	40	No	NA	0.00	Undetermined
12/4/2018	8:45 AM	145 Lorenz Blvd	Cleanout	2.22	480	Yes	Tow n	0.00	Grease

### Table 1 cont.

#### City of Jackson, Mississippi Quarterly Report No. 23 – October 2018 through December 2018

#### **Collection System SSOs**

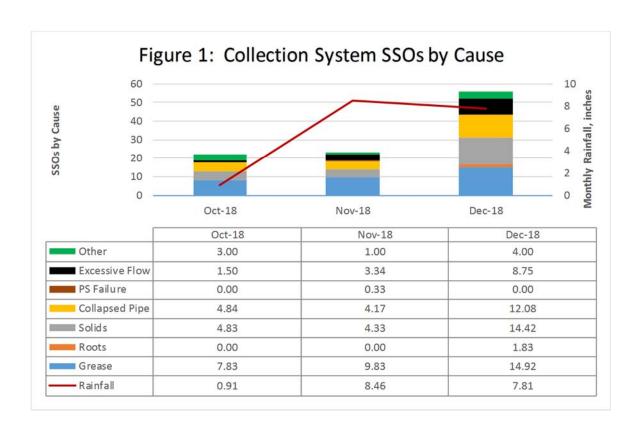
Date Began	Time Began	Location	Source	Estimated Duration, Hours	Estimated Volume, Gallons	Reached Waters of the State	Receiving Water	Rainfall, Inches	Reported Cause
12/5/2018	5:15 PM	5406 I 55 Frontage Rd	Manhole	17.58	480	Yes	Hanging Moss	0.00	Undetermined
12/5/2018	5:32 PM	1930 Boling St	Cleanout	0.13	20	No	NA	0.00	Solids
12/6/2018	1:10 PM	656 Chelsea Dr	Manhole	1.17	700	No	NA	0.00	Grease / Solids
12/6/2018	11:35 AM	1117 Cooper Rd	Manhole	0.92	600	No	NA	0.00	Grease / Solids / Collapsed Pipe
12/6/2018	10:19 PM	4615 I 55 Frontage Rd	Cleanout	0.30	50	No	NA	0.00	Grease / Solids
12/6/2018	12:50 PM	1596 W Capitol St	Manhole	3.17	75	Yes	Tow n	0.00	Solids
12/7/2018	9:25 AM	4570 Old Canton Rd	Cleanout	Unresolved	7,500	No	NA	0.31	Grease, Solids, Collapsed Pipe, Excessive Flow
12/8/2018	11:30 AM	4121 Crane Blvd	Cleanout	Unresolved	960	Yes	Eubanks	2.24	Excessive Flow
12/9/2018	12:00 PM	428 Springfield Cir	Manhole	0.00	Previous SSO	No	NA	0.00	Excessive Flow
12/9/2018	6:35 PM	1309 W Northside Dr	Ground Surface (defective pipe underground)	0.55	50	Yes	Eubanks	0.00	Grease
12/10/2018	2:54 PM	5406 I 55 Frontage Rd	Cleanout	20.82	45	Yes	Hanging Moss	0.00	Undetermined
12/10/2018	10:30 AM	Springfield Cir / Colebrook Dr	Manhole	0.00	Previous SSO Follow up	No	NA	0.00	Excessive Flow
12/10/2018	7:05 PM	1429 E Northside Dr	Ground Surface (defective pipe underground)	1.17	40	Yes	Eastover	0.00	Grease
12/10/2018	12:40 PM	2492 N Mill St	Manhole	4.08	1,000	No	NA	0.00	Grease / Solids
12/10/2018	2:27 PM	4761 McWillie Dr	Manhole	21.58	600	Yes	Hanging Moss	0.00	Grease
12/11/2018	11:00 PM	4341 Meadow Hill Dr	Cleanout	0.25	3	No	NA	0.00	Collapsed Pipe
12/11/2018	3:40 PM	3190 Medgar Evers Blvd	Ground Surface (defective pipe underground)	1.33	50	Yes	Tow n	0.00	Grease

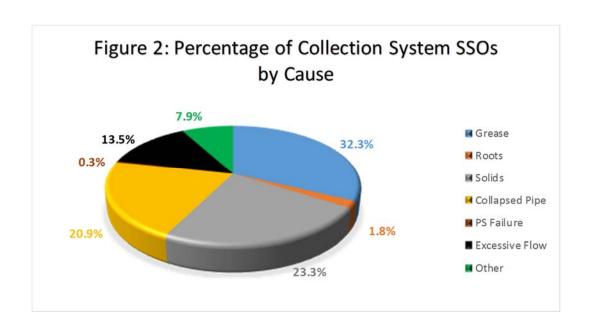
# Table 1 cont. City of Jackson, Mississippi Quarterly Report No. 23 – October 2018 through December 2018 Collection System SSOs

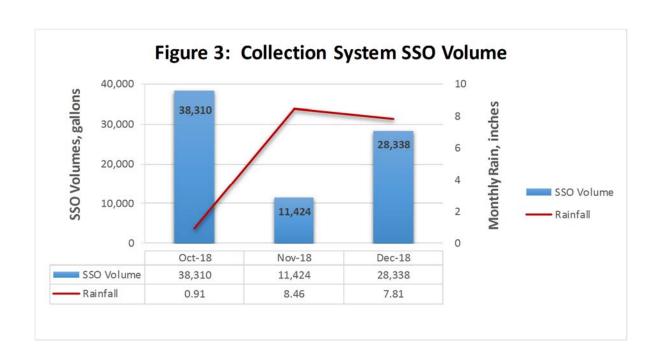
Date Began	Time Began	Location	Source	Estimated Duration, Hours	Estimated Volume, Gallons	Reached Waters of the State	Receiving Water	Rainfall, Inches	Reported Cause
12/11/2018	10:25 AM	2007 N Lamar St	Cleanout	4.58	600	Yes	Tow n	0.00	Grease
12/12/2018	9:36 AM	4335 Manhassett Dr	Manhole	6.00	240	No	NA	0.00	Roots
12/12/2018	11:30 AM	2650 Belvedere Dr	Manhole	1.00	250	Yes	Hardy	0.00	Grease / Solids
12/12/2018	9:16 AM	821 Monterey St	Cleanout	2.80	380	No	NA	0.00	Collapsed Pipe
12/13/2018	7:49 PM	1091 ⊟lis Ave	Manhole	1.60	40	No	NA	0.29	Grease
12/14/2018	9:42 AM	4615 I 55 Frontage Rd	Cleanout	1.30	40	No	NA	0.01	Grease / Solids
12/14/2018	9:33 AM	1519 E Northside Dr	Manhole	Bypass Pump set up	NR	Yes	Eastover	0.01	Collapsed Pipe
12/15/2018	12:03 PM	1805 Meadow brook Rd	Manhole	2.88	1,940	Yes	Eastover	0.08	Grease / Collapsed pipe
12/15/2018	2:15 PM	132 Glenstone Cir	Manhole	0.75	100	Yes	Cany	0.03	Solids
12/15/2018	9:15 PM	1087 I 20 Frontage Rd	Manhole	6.00	60	No	NA	0.03	Solids
12/17/2018	11:21 AM	340 S Denver St	Cleanout	2.33	60	Yes	Lynch	0.00	Collapsed Pipe
12/18/2018	11:50 AM	1253 Eastover Dr	Manhole	2.58	2,400	Yes	Eubanks	0.00	Collapsed Pipe
12/19/2018	12:30 PM	1253 Eastover Dr	Manhole	3.50	800	Yes	Eubanks	0.45	Collapsed Pipe
12/19/2018	12:30 PM	224 E Capitol St	Manhole	NA	NA	Yes	Town	0.44	No SSO. Abandoned Manhole. Stormw ater
12/20/2018	10:30 AM	1253 Eastover Dr	Manhole	2.67	300	Yes	Eubanks	0.10	Collapsed Pipe
12/20/2018	10:00 AM	2650 Belvedere Dr	Manhole	0.42	200	Yes	Hardy	0.13	Solids
12/20/2018	10:00 AM	2650 Belvedere Dr	Manhole	0.42	200	Yes	Hardy	0.13	Solids

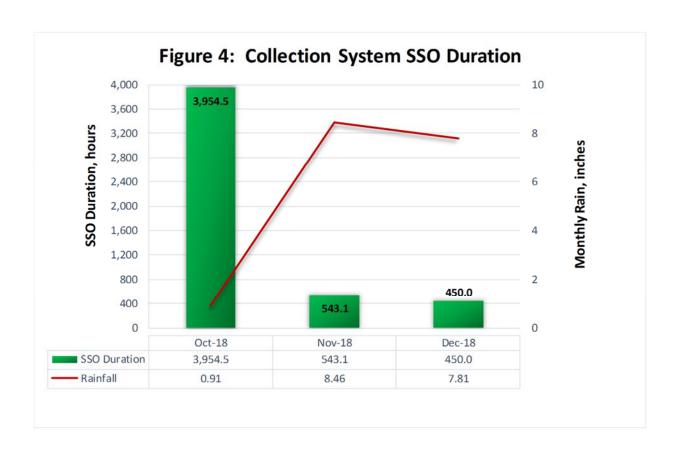
# Table 1 cont. City of Jackson, Mississippi Quarterly Report No. 23 – October 2018 through December 2018 Collection System SSOs

Date Began	Time Began	Location	Source	Estimated Duration, Hours	Estimated Volume, Gallons	Reached Waters of the State	Receiving Water	Rainfall, Inches	Reported Cause
12/21/2018	3:55 PM	2981 Mcdow ell Rd Ex	Manhole	0.58	80	Yes	Cany	0.00	Grease / Solids
12/22/2018	8:08 PM	2213 Mcdow ell Rd Ex	Cleanout	1.50	5	No	NA	0.00	Solids
12/24/2018	12:25 PM	4615 I 55 Frontage Rd	Cleanout	2.25	20	No	NA	0.00	Solids
12/24/2018	9:46 AM	1125 Palmyra St	Manhole	27.23	410	Yes	Tow n	0.00	Collapsed Pipe
12/25/2018	8:23 PM	1420 Woody Dr	Cleanout	0.40	5	No	NA	0.00	Solids
12/25/2018	10:30 AM	210 Highland Place Dr	Cleanout	2.77	15	No	NA	0.00	Collapsed Pipe
12/27/2018	10:20 AM	3602 Cavalier Dr	Manhole	24.42	Previous SSO Follow up	Yes	Eubanks	0.06	Excessive Flow
12/27/2018	10:20 AM	Wood Dale Dr / Cavalier Dr	Manhole	24.42	Previous SSO Follow up	Yes	Eubanks	0.06	Excessive Flow
12/27/2018	10:50 AM	3535 Edmar Pl	Manhole	24.15	Previous SSO Follow up	Yes	Eubanks	0.06	Excessive Flow
12/27/2018	10:50 AM	3502 Edmar Pl	Manhole	24.15	Previous SSO Follow up	Yes	Eubanks	0.06	Excessive Flow
12/27/2018	11:09 AM	Law rence Rd / Manhatten Rd	Manhole	24.18	Previous SSO Follow up	Yes	Hanging Moss	0.06	Excessive Flow
12/28/2018	9:03 PM	5519 George Washington Dr	Manhole	26.38	3,680	Yes	Bogue Chitto	0.00	Grease
12/28/2018	10:30 AM	1150 Lakeland Dr	Manhole	3.58	700	Yes	Eubanks	0.06	Grease / Solids
12/28/2018	5:30 PM	1073 Arbor Vista Blvd	Ground Surface (defective pipe underground)	0.55	10	No	NA	0.06	Collapsed Pipe
12/28/2018	8:50 AM	2017 N Lamar St	Cleanout	2.17	50	Yes	Tow n	0.06	Grease
12/28/2018	11:25 AM	Kimw ood Cr / Northside Dr	Manhole	0.08	Previous SSO	Yes	Eastover	0.06	Grease / Excessive Flow
12/29/2018	3:42 PM	4839 Cottonw ood Ln	Manhole	21.72	2,700	Yes	Big Creek	0.74	Grease / Roots / Solids









#### 2.2 Pump Station SSOs

**Table 2** lists pump station SSOs for October through December 2018

**Figure 5** shows pump station SSO events by month by reported cause, as listed in Table 2, as well as monthly rainfall.

**Figure 6** shows percentage of SSOs by cause for the quarter.

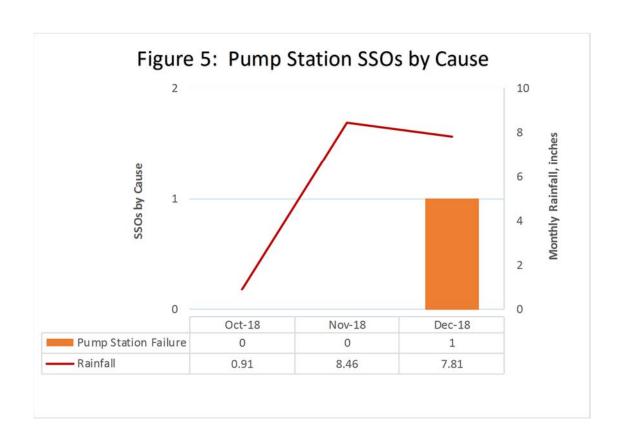
**Figure 7** shows total volume of pump station SSOs for each month, as well as monthly rainfall.

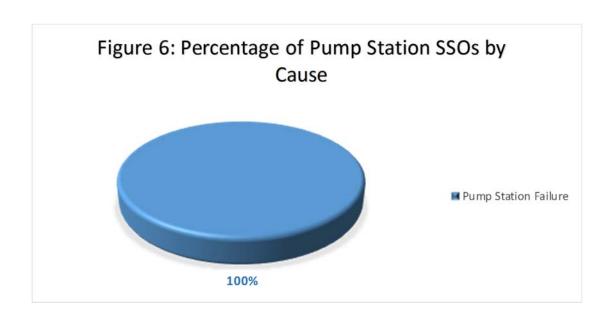
**Figure 8** shows total duration of pump station SSOs for each month, as well as rainfall.

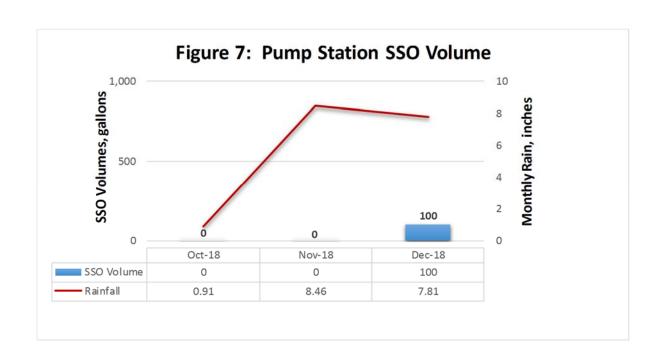
There was one (1) SSO event this reporting period. It was located at LS-083 Western Hills #1. It was caused by rehabilitation contractor error placing the station into service without check valves and proper alarm set up.

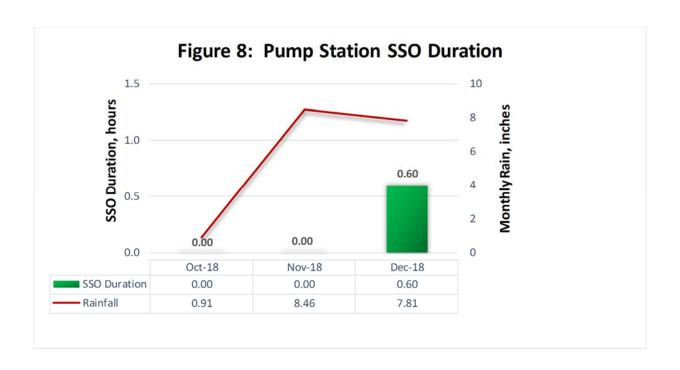
Table 2
City of Jackson, Mississippi
Quarterly Report No. 23 – October 2018 through December 2018
West Bank Interceptor SSOs

Date Began	Time Began	Location	Source	Estimated Duration, Hours	Estimated Volume, Gallons	Reached Waterway	Receiving Water	Rainfall, Inches	Reported Cause		
		NO PU	IMP STATION SS	SOS REPORT	ΓED - Octob	er 2018					
	NO PUMP STATION SSOS REPORTED - November 2018										
12/16/2018	6:00 PM	Western Hills Dr (LS-83	Pump Station	0.60	100	Yes	Trahon	0.00	Rehab Contractor placed station into service w/o check valves & proper alarm set up.		









#### 2.3 West Bank Interceptor SSOs

West Bank Interceptor SSOs at the Jefferson St location are generally caused when flow to the Savanna WWTP exceeds the facility's pumping capacity. This creates the need to restrict influent flow to the facility in order to protect the facility from flooding and catastrophic damage. Insufficient pumping capacity can be caused by equipment failures at the facility, excessive flow caused by rain events, high river levels or a combination of all the above.

**Table 3** lists pump station SSOs for October through December 2018.

**Figure 9** shows West Bank Interceptor SSO events by month by reported cause, as listed in Table 2, as well as monthly rainfall.

**Figure 10** shows percentage of West Bank Interceptor SSOs by cause for the quarter.

**Figure 11** shows total volume of West Bank Interceptor SSOs for each month, as well as monthly rainfall.

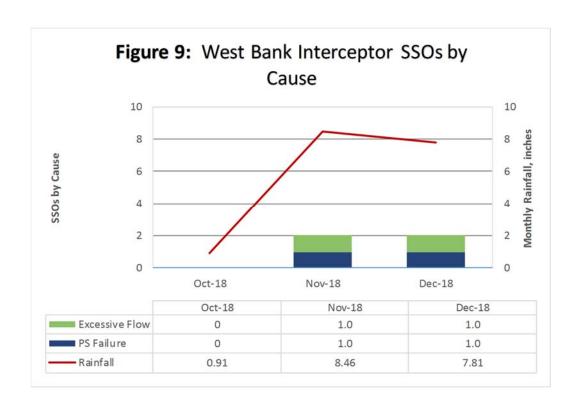
**Figure 12** shows total duration of West Bank Interceptor SSOs for each month, as well as rainfall.

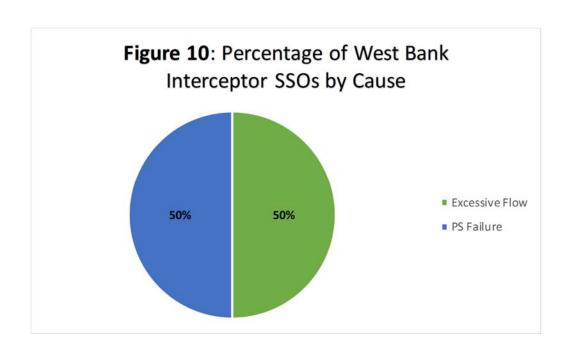
There were four (4) SSO events on the West Bank Interceptor this reporting period. All events were caused by equipment failure of the 100 million gallon per day Influent Pump #4, failure of temporary pump(s) and excessive flow due to rainfall and high river levels.

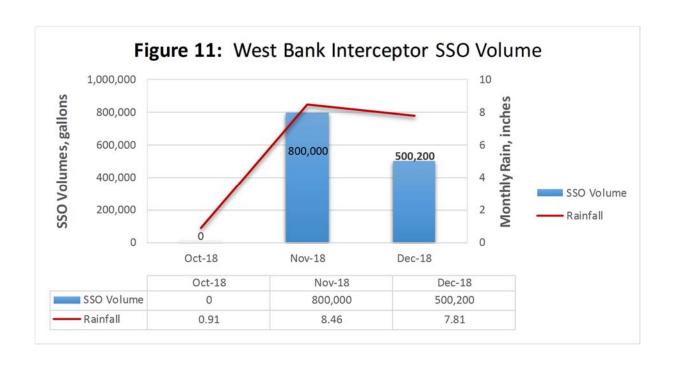
After the failure of Influent Pump #4 on November 9th, the City began installation of thirteen (13) temporary diesel pump to replace capacity until repairs to Influent Pump #4 are complete. Installation of ten (10) pumps was completed on November 11<sup>th</sup> and the installation of the remaining three (3) pumps was completed on November 13<sup>th</sup>.

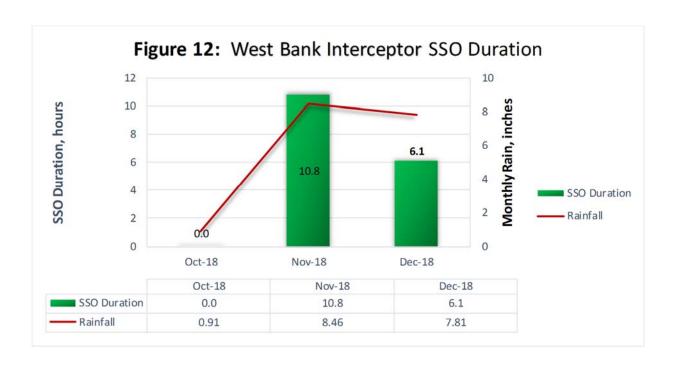
Table 3
City of Jackson, Mississippi
Quarterly Report No. 23 – October 2018 through December 2018
West Bank Interceptor SSOs

Date Began	Time Began	Location	Source	Estimated Duration, Hours	Estimated Volume, Gallons	Reached Waterway	Receiving Water	Rainfall, Inches	Reported Cause
		NO WES	T BANK INTERCE	PTOR SSOs R	EPORTED - C	OCTOBER :	2018		
11/9/2018	10:45 AM	408 S. Jefferson St.	Manhole	3.08	300,000	YES	Pearl	0.00	Excessive rain and failure of the #4 Influent pump . A total of 2.85" of rain fell from November 4 – November 10.
11/12/2018	5:45 AM	408 S. Jefferson St.	Manhole	7.75	500,000	YES	Pearl	0.00	Excessive rain and failure of the #4 Influent pump . A total of 2.85" of rain fell from November 4 – November 10.
12/27/2018	2:00 PM	408 S Jefferson St	Manhole	5.53	500,000	Yes	Pearl	3.03	Excessive rain and failure of the #4 Influent pump.
12/31/2018	3:42 PM	408 S Jefferson St	Manhole	0.60	200	Yes	Pearl	0.59	Influent Pump #4 out of service and temporary rental pump #9 out of service.









#### 2.4 Prohibited Bypasses

This quarterly report does not include a graphical representation of the number of bypasses for each cause, since most bypasses at the Savanna Street WWTP are caused by excessive flow or specific causes explained below. Future reports will include this graphical representation as appropriate

**Table 4** lists prohibited bypasses at the wastewater treatment plant for the year. Unlike SSOs, each event is considered as one bypass from the day it begins to the day it ends.

**Figure 13** shows total volume of prohibited bypasses for each month plotted logarithmically, along with monthly rainfall.

Figure 14 shows volume and river stages.

**Figures 15 and 16** plot total duration for the month, first compared to rainfall and then compared to river stages. River stages are shown as monthly average daily maximum river stage and as the monthly maximum day river stage. These appear to indicate that the inflow into the system and subsequent excessive flows to the treatment facility is influenced by the river stage more so than the local rainfall events. Note that duration of prohibited bypasses is plotted in days.

**November 8, 2018 Event** - A total of 2.85 inches of rain fell from November 4<sup>th</sup> through November 10<sup>th</sup> filling the Storm Diversion Cells to capacity. On November 9th, Influent Raw Sewage Pump #4 (100 mgd) was removed from service due to an upper bearing failure causing the stator to contact and short the motor. Thirteen (13) temporary, diesel rental pumps are being used to divert flow to the lagoons while the Influent Pump #4 is out for repair. The bypass ended at 3:37 p.m. on November 21, 2018.

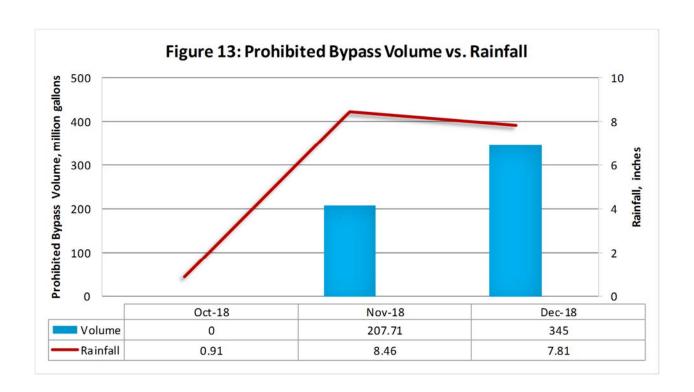
**December 9, 2018 Event** - The level in Storm Diversion Cell #3 was below 4.0 feet before December 8th rain event in which we received 2.32 inches of rain and the river stage went from 9.0 ft. to 18.7 ft. on December 09, 2018. The operators started the 13 temporary rental pumps to begin diverting the flow to the Storm Diversion Cells on December 8<sup>th</sup> and the bypass subsequently began at 10:26 a.m. on December 09, 2018. The total volume bypassed through December 31, 2018 for this event is 345.00 million gallons. Bypassing from the Storm Diversion Cells was ongoing at the end of the reporting period and will continue until weather and operational issues are resolved.

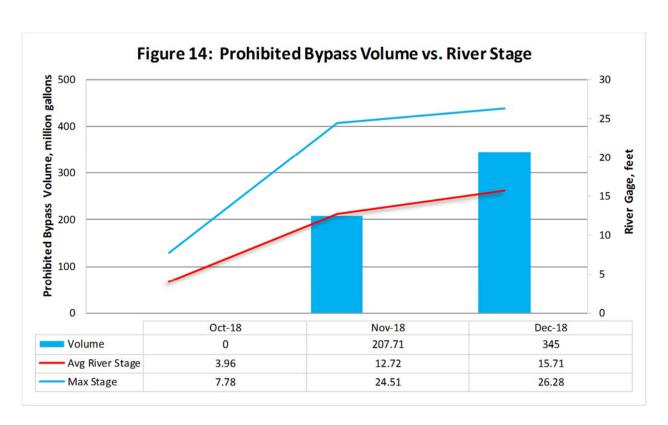
All bypassed volume is chlorinated, de-chlorinated and required samples taken prior to blending with the mechanical plant effluent and subsequently discharged to the Pearl River.

Table 4
City of Jackson, Mississippi
Quarterly Report No. 23 – October 2018 through December 2018
Prohibited Bypasses

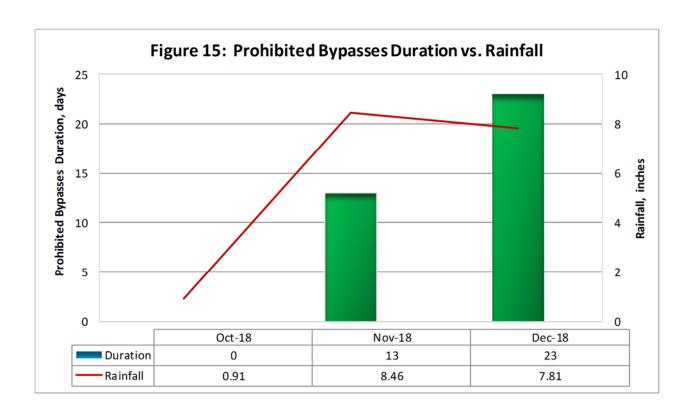
Date Began	Time Began	Location	Source	Estimated Duration, Days	Estimated Volume, Million Gallons	Reached Waterway	Receiving Water	Rainfall, Inches	Reported Cause
			NO PROHI	BITED BY	PASSES F	REPORTED	- October 2	2018	
11/08/18	5:11 PM	3813 I 55 S	WWTP	13	207.71	YES	Pearl	2.85	Excessive rain and failure of the #4 Influent pump created the need to bypass. A total of 2.85" of rain fell from November 4 – November 10.
12/09/18	10:26 AM	3813 I 55 S	WWTP	Ongoing	345.00	YES	Pearl	2.32	Excessive flow . Rainfall total for the month of December w as 8.03" with a total of 7.92" from December 7 – December 31.

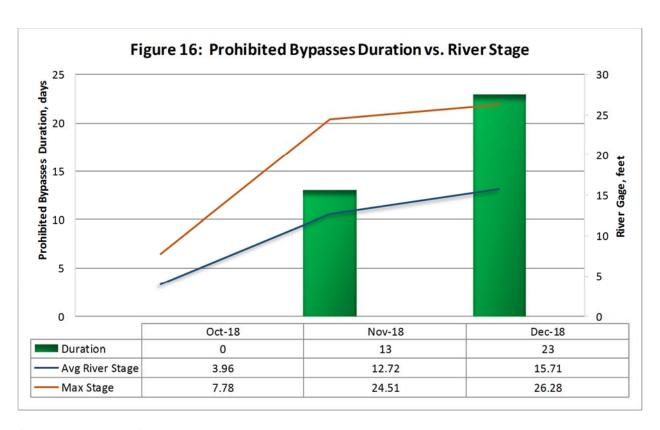
<sup>\*</sup> Volume reported for the December ongoing event is through December 31, 2018. Duration through December 31, 2019 is 23 days





<sup>\*</sup>Volume reported for the December ongoing event is through December 31, 2018.





<sup>\*</sup>Duration reported for the December ongoing event is through December 31, 2018.