



The City of
JACKSON

**QUARTERLY
REPORT NO. 17**

APRIL 2017 THROUGH JUNE 2017

Department of Public Works
Consent Decree Program

City of Jackson
Wastewater Infrastructure Redevelopment
Program

Quarterly Report No. 17
April 2017 through June 2017

July 31, 2017

Prepared for:

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City of Jackson, Mississippi

Quarterly Report No. 17

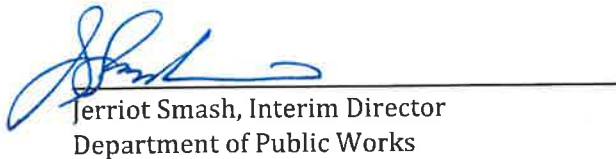
April 2017 through June 2017

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Chokwe A. Lumumba
Mayor

July 31, 2017
Date


Terriot Smash, Interim Director
Department of Public Works

27. JUL. 17
Date

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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. Over a 17½ year timeline, the Consent Decree requires the City to:

- Develop, submit, finalize, and implement plans for the continued improvement of the Wastewater Collection and Transportation System (WCTS) and Wastewater Treatment Plants (WWTPs);
- Eliminate Sanitary Sewer Overflows (SSOs), effluent limit violations (including any violations of the new effluent limits for nutrients), and reporting violations, and
- Minimize Prohibited Bypasses.

One of the ongoing requirements of the EPA Consent Decree is to submit periodic reports to demonstrate continuing compliance. The specific reporting requirements of the CD are described below.

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.

1.3 Consent Decree Requirements for Quarterly Report

As stated in the Consent Decree Section IX ¶ 57 (a), the Quarterly Report shall be submitted beginning thirty (30) Days after the first full three (3)-month period following the Date of Entry of this Consent Decree, and thirty (30) Days after each subsequent three (3)-month period until termination of the Consent Decree and shall contain the following, at a minimum:

Quarterly Reports. Beginning thirty (30) Days after the first full three (3) month period following the Date of Entry of this Consent Decree, and thirty (30) Days after each subsequent three (3)-

month period thereafter until termination of the Consent Decree, the City shall submit to EPA for review and approval a Quarterly Report that shall include the following:

- (i) the date, time, location, source, estimated duration, estimated volume, receiving water (if any), and cause of all SSOs occurring in the applicable three (3)-month period in a tabulated electronic format; and
- (ii) (ii) the date, time, estimated duration, estimated volume, and cause of all Prohibited Bypasses occurring in the applicable three (3)-month period in a tabulated electronic format.

The listing and graphical summaries of the SSOs and prohibited bypasses for April 2017 – June 2017 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 separately.

2.1 Collection System SSOs

Table 1 lists SSOs in the collection system for April through June 2017. Each day of a multiple day event is considered as a separate SSO, in accordance with penalties in the CD.

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

- Grease
- Roots
- Solids
- Collapsed Pipe
- Pump Station Failure
- Excessive Flow
- Undersized Line
- Other

Some SSO events had multiple causes. In these instances, each cause was assigned a fractional value, adding up to a total of one 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. Volumes are plotted on a logarithmic scale because of the large monthly variations. **Figure 4** shows total duration of SSOs for each month.

There were 4 events that occurred in March that were received after Quarterly Report 16 had been submitted. These are included in Table 1 of this report. There were 12 events, including 1 in March, that the duration could not be determined because either the start or stop time was missing from the assessment report or the event occurred on private property and there was no follow up inspection noted. These issues will continue to be addressed with the field crews.

Table 1
City of Jackson, Mississippi
Quarterly Report No. 17 - April 2017 through June 2017
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
3/16/2017	2:36 PM	6029 BRENNER DR	Manhole	1.22	160	YES	Purple	0.00	Grease
3/19/2017	2:06 PM	4394 WELOTA DR	Other	NR - Private Property	25	NO	Lynch	0.00	Defective service line
3/22/2017	3:53 PM	904 FORTIFICATION ST	Ground Surface (defective pipe underground)	0.72	50	YES	Town	0.00	Bypass Pump off
3/23/2017	2:46 PM	4070 MEADOW LANE DR	Ground Surface (defective pipe underground)	Undetermined	520	YES	Hanging Moss	0.00	Collapsed Pipe
4/1/2017	9:29 PM	1720 DEVINE ST	Cleanout	1.88	30	YES	Town	0.00	Collapsed Pipe
4/3/2017	5:20 PM	3050 LONGWOOD DR	Creek Crossing	Undetermined	100	YES	Cary	2.19	Other
4/3/2017	9:30 AM	760 LAKELAND DR	Manhole	2.03	300	NO	Eubanks	2.19	Collapsed Pipe
4/3/2017	1:08 PM	410 JEFFERSON ST	Manhole	2.98	10,000	YES	Town	2.19	Excessive Flow
4/5/2017	11:00 AM	1404 WINCHESTER ST	Ground Surface (defective pipe underground)	Undetermined	75	NO	Eubanks	0.01	Roots
4/6/2017	7:29 PM	1048 MEADOW HEIGHTS DR	Manhole	0.08	100	NO	Eubanks	0.00	Grease
4/6/2017	5:51 PM	4420 RIDGEWOOD ROAD	Manhole	0.08	50	YES	Eubanks	0.00	Other
4/6/2017	8:50 AM	442 DANIEL CIR	Manhole	0.35	10	YES	Hardy	0.00	Collapsed Pipe
4/11/2017	1:04 PM	4888 WATKINS DR	Ground Surface (defective pipe underground)	Undetermined	360	YES	Hanging Moss	0.00	Collapsed Pipe
4/11/2017	11:51 AM	831 COLONIAL CIR	Constructed Bypass	0.73	60	YES	Purple	0.00	Grease

Table 1 cont.
City of Jackson, Mississippi
Quarterly Report No. 17 - April 2017 through June 2017
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
4/13/2017	6:12 PM	1240 JEFFERSON ST	Manhole	1.13	250	YES	Town	0.00	Grease
4/13/2017	9:37 AM	536 LAUNCELOT ROAD	Manhole	0.05	60	YES	Hanging Moss	0.00	Grease & Roots
4/21/2017	12:24 PM	N GRANDVIEW CIR & TERRY ROAD	Ground Surface (defective pipe underground)	123.10	150	YES	Lynch	0.00	Collapsed Pipe
4/25/2017	3:53 PM	5354 I 55 N FRONTAGE ROAD	Manhole	Undetermined	100	YES	Hanging Moss	0.00	Other
5/3/2017	11:31 AM	321 RESERVE DR	Manhole	4.62	150	NO	Lynch	0.91	Grease
5/6/2017	4:37 PM	1915 EASTOVER DR	Other	0.90	65	NO	Hanging Moss	0.00	Collapsed Pipe, Other
5/8/2017	12:33 PM	949 MEADOW HEIGHTS DR	Ground Surface (defective pipe underground)	0.28	700	YES	Eubanks	0.00	Collapsed Pipe
5/9/2017	9:48 PM	1253 EASTOVER DR		3.87	100	NO	Eastover	0.00	Collapsed Pipe
5/13/2017	11:14 AM	5845 KINDER DR	Cleanout	NR - Private Property	10	NO	Purple	0.00	Choked Service line
5/16/2017	2:01 PM	2920 GREENWOOD AVE	Manhole	Undetermined	420	YES	Hardy	0.00	Unknown
5/17/2017	7:19 PM	4966 BROOKWOOD PL	Pump Station	0.20	480	YES	Trahan	0.00	PS Failure
5/17/2017	11:14 AM	5854 CANTON PARK DR	Cleanout	1.77	15	NO	Purple	0.00	Choked Service line
5/17/2017	10:38 AM	1032 PINEHURST ST	Cleanout	0.58	40	NO	Belhaven	0.00	Defective service line
5/21/2017	7:31 PM	NORTHSIDE DR & KIMWOOD DR	Ground Surface (defective pipe underground)	1.23	75	NO	Eastover	0.87	Grease

Table 1 cont.
City of Jackson, Mississippi
Quarterly Report No. 17 - April 2017 through June 2017
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
5/23/2017	9:45 AM	CAVALIER DR & WOOD DALE DR	Ground Surface (defective pipe underground)	2.00	100	YES	Eastover	0.39	Defective manhole
5/30/2017	10:15 AM	2204 TIMBER FALLS DR	Manhole	1.42	80	YES	Cany	0.01	Grease
5/30/2017	11:50 AM	202 E RIDGEWAY ST	Manhole	Undetermined	200	YES	Town	0.01	Unknown
6/15/2017	9:50 PM	3432 DUNDEE LANE	Other	0.17	15	NO	Cany	0.00	Grease
6/16/2017	6:12 PM	2021 CHEROKEE DRIVE	Manhole	1.40	150	YES	Eubanks	1.11	Grease
6/16/2017	2:21 PM	610 FOREST AVE	Other	Undetermined	25	YES	Hanging Moss	1.11	Collapsed Pipe
6/16/2017	11:09 AM	6 BRANDYWINE CT	Manhole	2.30	100	YES	Cany	1.11	Grease
6/21/2017	5:00 PM	1454 NORTHSIDE DR	Manhole	4.35	30	YES	Eubanks	1.26	Grease
6/26/2016	1:05 PM	5028 OLD CANTON ROAD	Other	6.52	100	YES	Three Mile	0.00	Unknown
6/27/2017	12:01 PM	4380 BROOK DR	Other	NR	480	YES	Eubanks	0.00	Bypass Pump
6/27/2017	1:33 PM	4150 CRANE BLVD	Other	0.50	320	YES	Eubanks	0.00	Bypass Pump
6/27/2017	11:45 AM	MEADOW HEIGHT DR	Manhole	0.52	200	YES	Eubanks	0.00	Bypass Pump
6/27/2017	11:16 AM	4568 KIRKLEY CIR	Cleanout	NR - Private Property	15	YES	Eubanks	0.00	Defective service line
6/30/2017	3:43 PM	4675 CLINTON BLVD	Manhole	0.70	3	NO	Trahon	0.01	Grease
6/30/2017	11:59 AM	1155 JOANNE ST	Manhole	0.36	2	NO	Hardy	0.01	Grease

Figure 1: Collection System SSOs by Cause

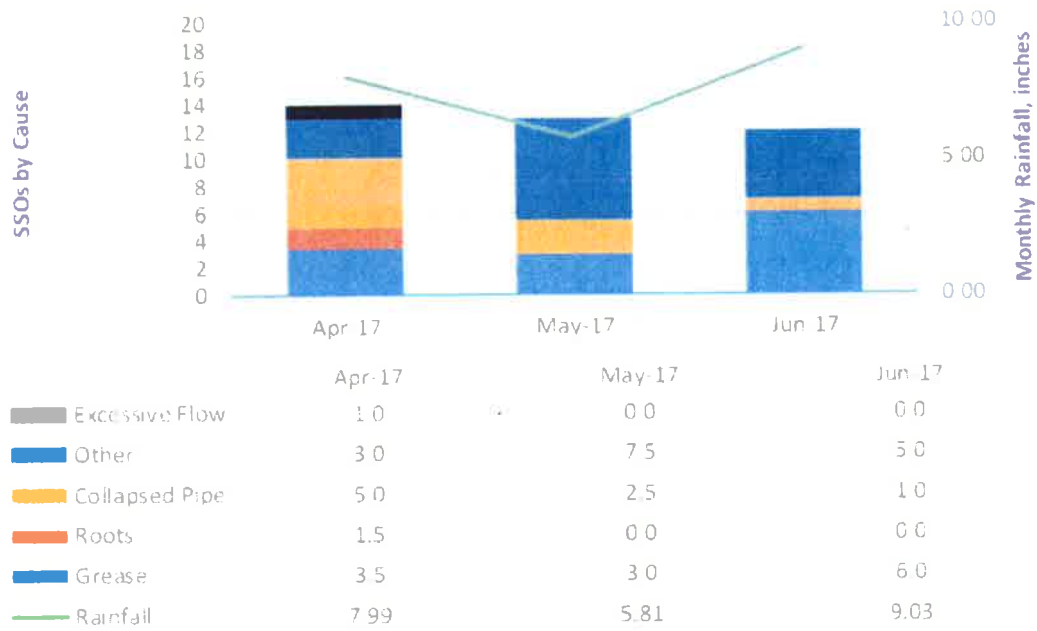


Figure 2: Percentage of Collection System SSOs by Cause

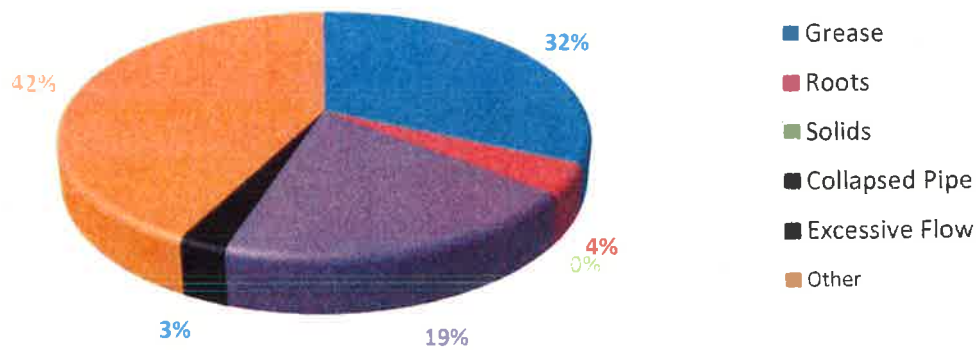


Figure 3: Collection System SSO Volume

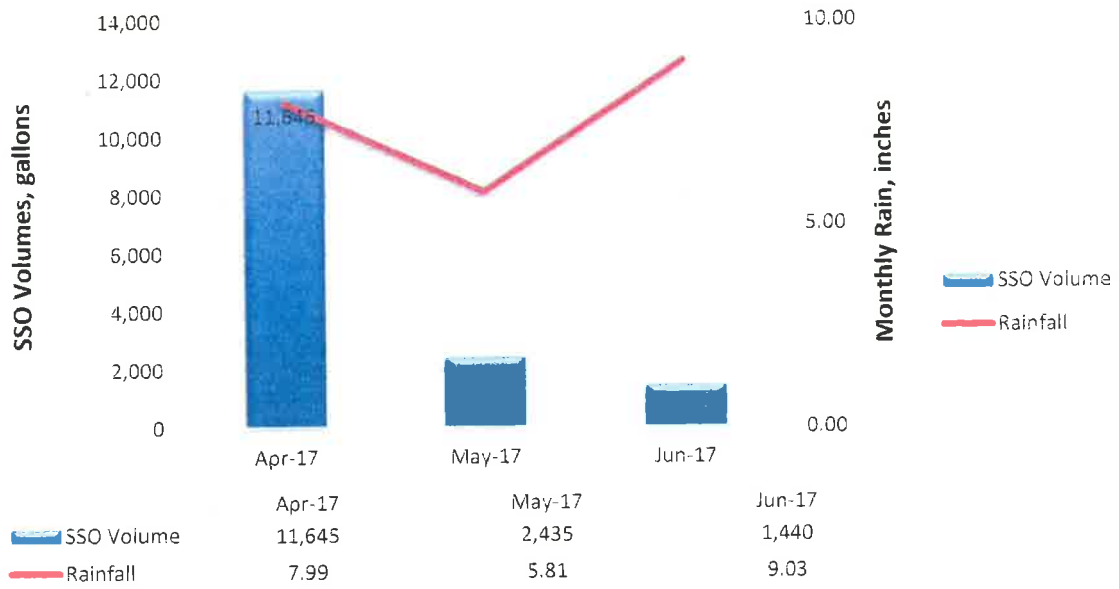
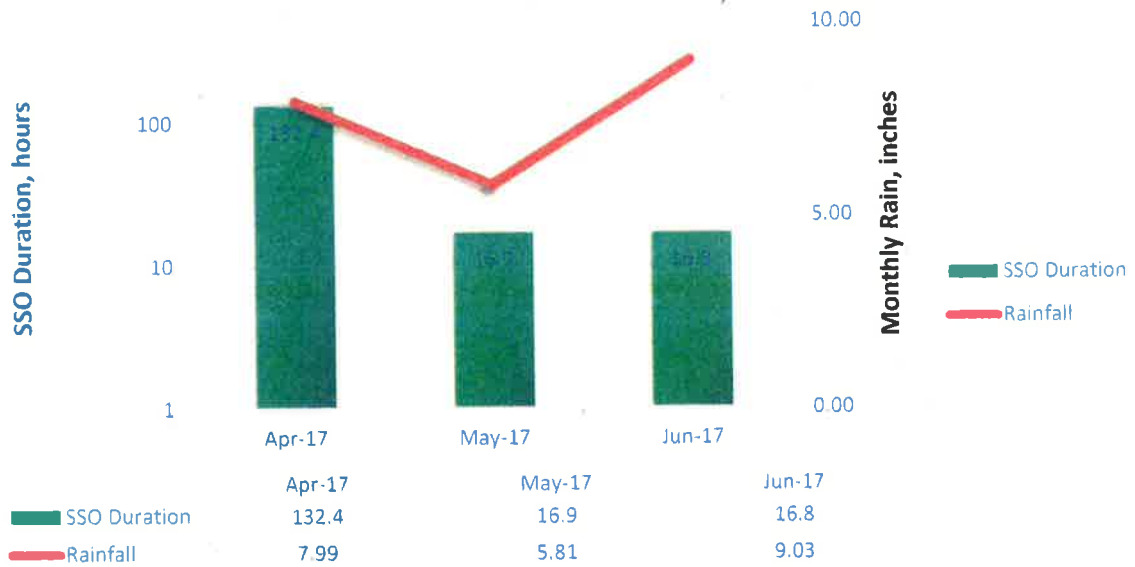


Figure 4: Collection System SSO Duration



2.2 Pump Station SSOs

Table 2 lists pump station SSOs for April through June 2017

Figure 5 shows pump station SSO events by month by reported cause, as listed above, as well as monthly rainfall.

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

Figure 7 plots total volume of pump station SSOs for each month, along with monthly rainfall.

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

Table 2
City of Jackson, Mississippi
Quarterly Report No. 17 - April 2017 through June 2017
Pump Station SSOs

Date Began	Time Began	Location	Source	Estimated Duration, Hours	Estimated Volume, Gallons	Reached Waterway	Receiving Water	Rainfall, Inches	Reported Cause
4/2/2017	11:00 PM	4210 CHURCH CIR	Pump Station	10:01	1,000	YES	Lynch	2.94	Excessive Flow.
4/3/2017	1:48 AM	1465 SHORT AVE	Pump Station	12:49	2,500	YES	Big Creek	2.19	Excessive Flow.
4/26/2017	11:06 PM	1465 SHORT AVE	Pump Station	2:01	50	YES	Big Creek	1.12	Excessive Flow.
4/30/2017	9:40 AM	1465 SHORT AVE	Pump Station	1:10	15	YES	Big Creek	0.68	Excessive Flow.
5/3/2017	9:50 PM	1465 SHORT AVE	Pump Station	4:40	100	YES	Big Creek	0.91	Excessive Flow.
5/20/2017	4:45 PM	3810 I 55 S	Pump Station	2:45	250	YES	Big Creek	0.46	Excessive Flow.
5/21/2017	4:39 PM	1465 SHORT AVE	Pump Station	4:58	200	YES	Big Creek	0.87	Excessive Flow.
5/22/2017	10:51 AM	2285 FOREST PARK DR	Pump Station	11:18	50	YES	Cany	1.04	Power Outage
5/24/2017	3:57 AM	1465 SHORT AVE	Pump Station	4:20	25	YES	Big Creek	0.32	Excessive Flow.
6/2/2017	12:07 AM	1465 SHORT AVE	Pump Station	2:02	50	YES	Big Creek	0.01	Excessive Flow.
6/4/2017	8:55 PM	1465 SHORT AVE	Pump Station	3:38	1,000	YES	Big Creek	0.54	Excessive Flow.
6/6/2017	9:00 AM	992 FLAG CHAPEL CIR	Pump Station	0:30	250	YES	Town	0.75	Excessive Flow.
6/6/2017	6:35 AM	1465 SHORT AVE	Pump Station	11:11	1,000	YES	Big Creek	0.75	Excessive Flow.
6/13/2017	4:56 PM	1465 SHORT AVE	Pump Station	2:48	500	YES	Big Creek	0.25	Excessive Flow.
6/16/2017	10:30 PM	1465 SHORT AVE	Pump Station	5:30	1,000	YES	Big Creek	1.11	Excessive Flow.
6/19/2017	6:18 PM	4210 CHURCH CIR	Pump Station	1:15	1,000	YES	Lynch	0.57	Excessive Flow.
6/21/2017	8:04 PM	1465 SHORT AVE	Pump Station	9:11	1,500	YES	Big Creek	1.26	Excessive Flow.
6/23/2017	12:30 PM	1465 SHORT AVE	Pump Station	4:30	1,500	YES	Big Creek	1.09	Excessive Flow.

Figure 5: Pump Station SSOs by Cause

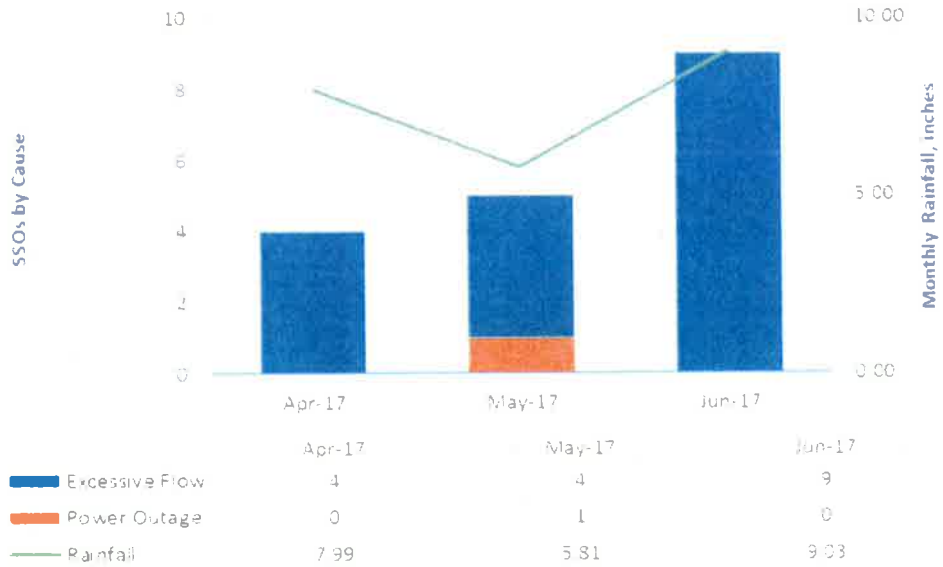


Figure 6: Percentage of Pump Station SSOs by Cause

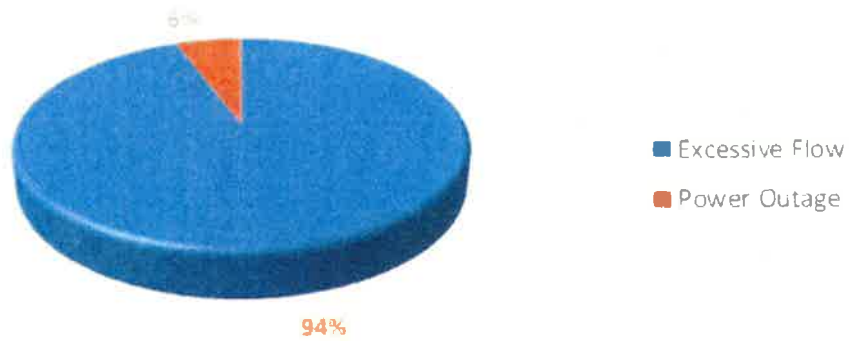


Figure 7: Pump Station SSO Volume

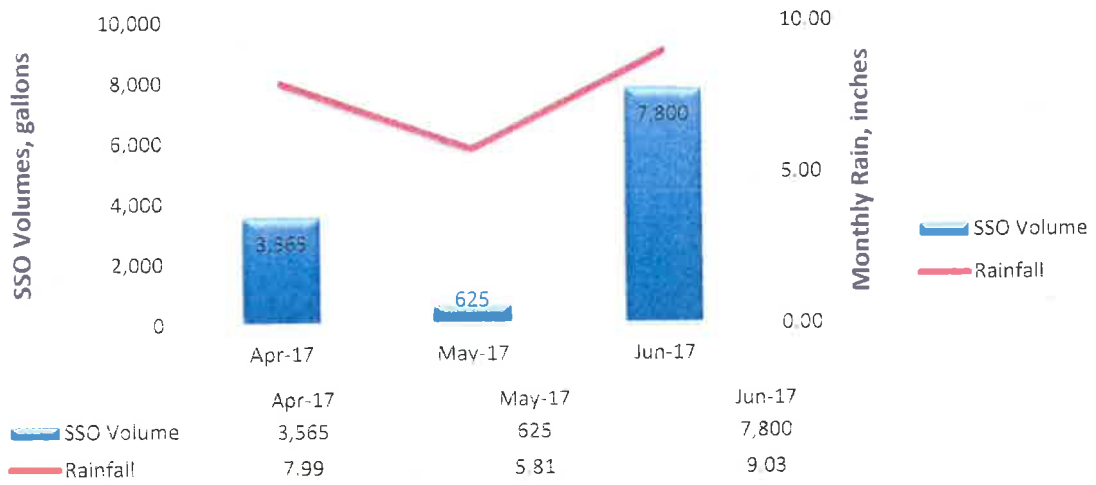
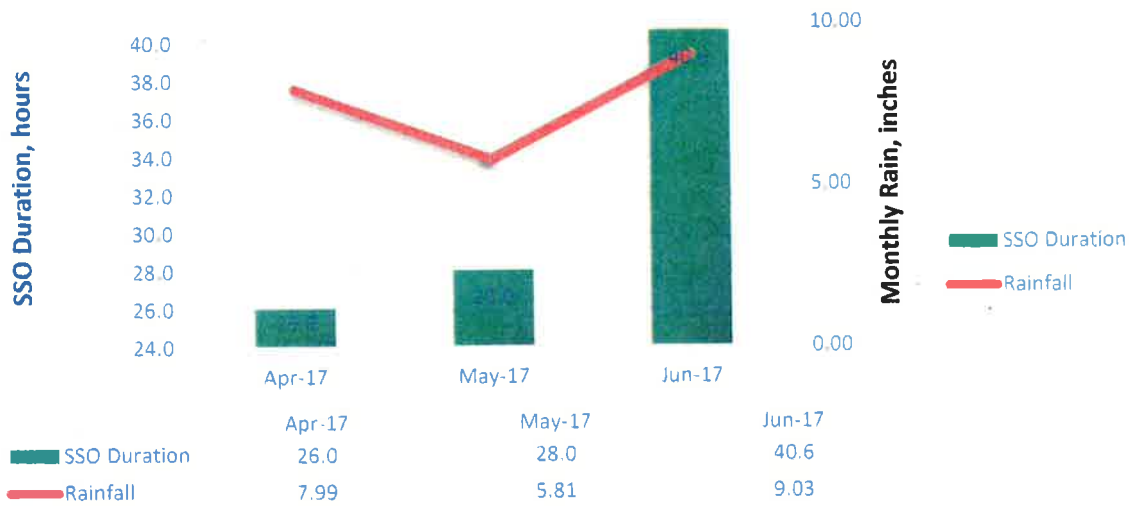


Figure 8: Pump Station SSO Duration



2.3 West Bank Interceptor SSOs

There was one (1) SSO reported in the West Bank Interceptor from April to June 2017. It began at 1:08 PM on April 3, 2017 and ended at 4:07 PM the same date. The volume was estimated to be 10,000 gallons and was due to excessive flow from entering the system from 6.16" of rainfall in the preceding 5 days and the Pearl River being at or above flood stage from April 3rd through April 10th. This SSO is included in the Collection System Tables and Graphs in Section 2.1 as the overflow at 410 Jefferson St. on April 3, 2017.

2.4 Prohibited Bypasses

Table 3 lists prohibited bypasses at the wastewater treatment plants for the year. Unlike SSOs, each event is considered as one bypass from the day it begins to the day it ends. Five (5) prohibited bypasses were reported this period.

One (1) bypass began on March 30th as reported in Quarterly Report 16. This event ended on April 13th. A total of 974.2 million gallons was diverted thru the Storm Cells, chlorinated, dechlorinated and blended with the plant effluent prior to being discharged to the Pearl River. The cause of the event was due to excessive rainfall and the high river stage discussed above in Section 2.3. Another factor contributing to the duration of the event was due to an open construction pit on the West Bank Interceptor. The contractor working on WBI Project #3 left a construction pit open that they were unable to secure when the river rose 16.22' from Sunday, April 2nd at 9:30 pm to Monday April 3rd at 8:00 am.

One (1) bypass event began on June 27th with approximately 124.61 million gallons being discharged through June 30th. This bypass event will be included in the next Quarterly report when the event ends as well as the rainfall from June that can be attributed to this bypass event.

This quarterly report does not include a graphical representation of the number of bypasses for each cause, since all bypasses at the Savanna Street WWTP have been caused by excessive flow. Future reports will include this graphical representation when it will be helpful.

Figure 9 shows total volume of prohibited bypasses for each month plotted logarithmically, along with monthly rainfall.

Figure 10 shows volume and river stages.

Figures 11 and 12 plot total duration for the month, first compared to rainfall and then compared to river stages. River stages are shown as monthly average river stage and as the Maximum monthly 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.

Table 3
City of Jackson, Mississippi
Quarterly Report No. 17 -April 2017 through June 2017
Prohibited Bypasses

Date Began	Time Began	Location	Source	Estimated Duration, Days	Estimated Volume, Million Gallons	Reached Waterway	Receiving Water	Rainfall, Inches	Reported Cause
03/30/17	2:20 PM	3810 I 55 S	WWTP	14	974.20	Yes	Pearl	5.27	Heavy rainfall, high river stage & open pit on WBI generated influent flow in excess of mechanical plant's capacity.
04/27/17	3:00 AM	3810 I 55 S	WWTP	4	85.66	Yes	Pearl	0.68	Excessive flow contributed to full lagoon levels thus creating the bypass
05/24/17	8:25 AM	3810 I 55 S	WWTP	2	94.19	Yes	Pearl	1.95	Excessive flow over the last 4 days contributed to full lagoon levels thus creating the bypass
06/06/17	9:40 AM	3810 I 55 S	WWTP	2	125.49	Yes	Pearl	2.14	Excessive flow contributed to full lagoon levels thus creating the bypass
06/21/17	10:40 AM	3810 I 55 S	WWTP	4	162.38	Yes	Pearl	3.81	Excessive flow contributed to full lagoon levels thus creating the bypass
06/27/17	10:50 PM	3810 I 55 S	WWTP	Ongoing	124.61	Yes	Pearl	2.90	There was a rainfall accumulation of 2.9" five days prior to the bypass. The excessive flow due to I/I caused us to divert, thus filling the storm lagoons.

Figure 9: Prohibited Bypass Volume vs. Rainfall



Figure 10: Prohibited Bypass Volume vs. River Stage

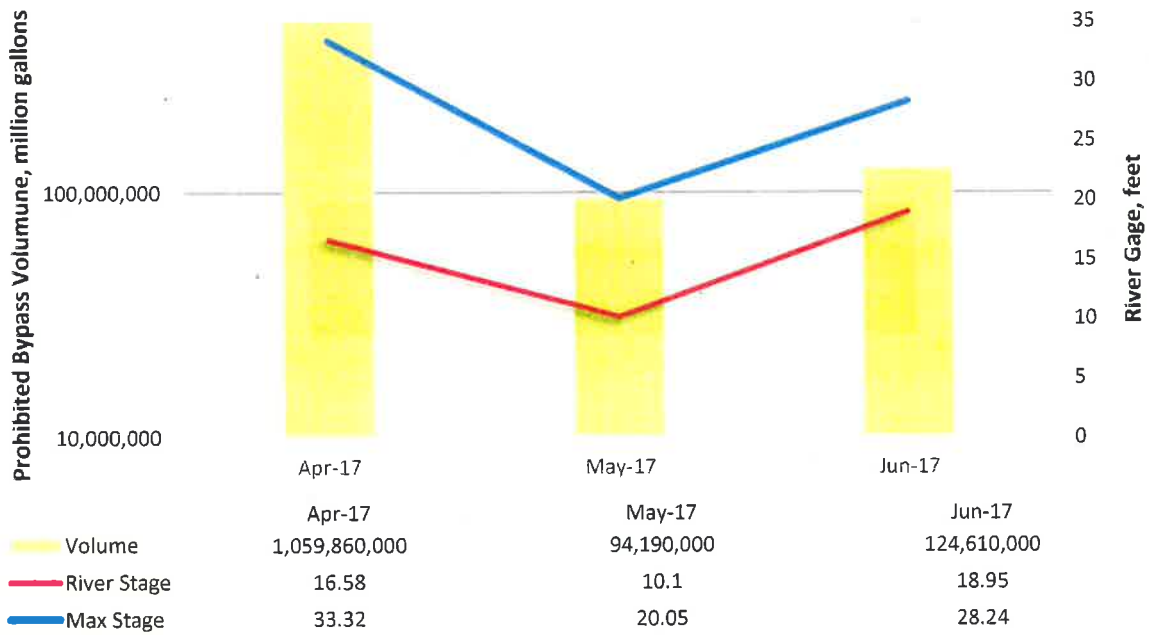
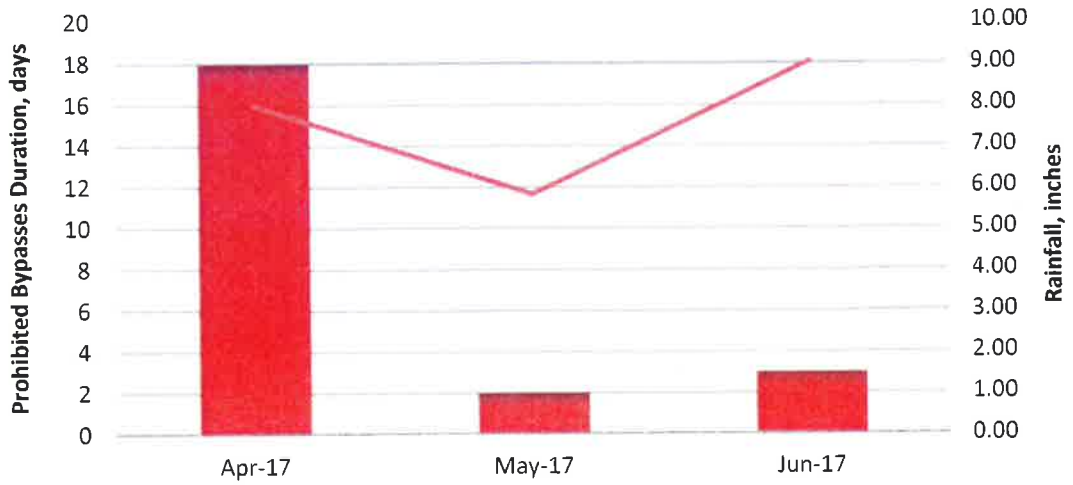
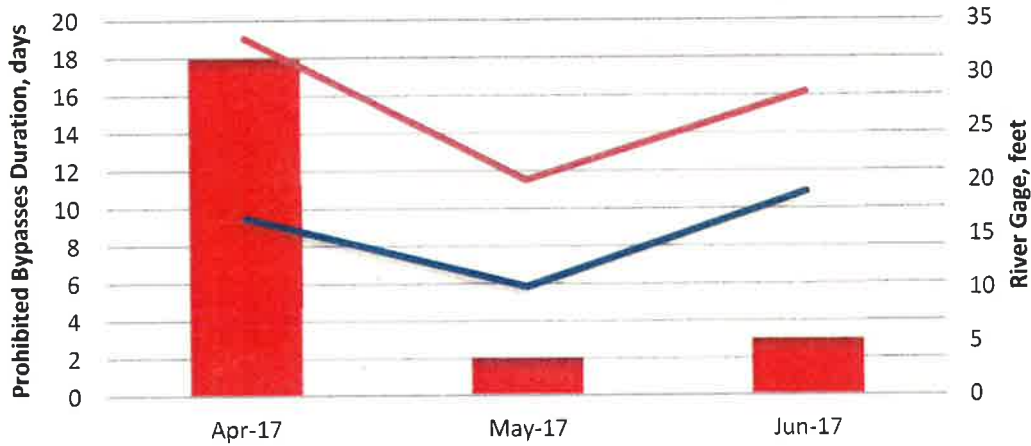


Figure 11: Prohibited Bypasses Duration vs. Rainfall



	Apr-17	May-17	Jun-17
Duration	18	2	3
Rainfall	7.99	5.81	9.03

Figure 12: Prohibited Bypasses Duration vs. River Stage



	Apr-17	May-17	Jun-17
Duration	18	2	3
River Stage	16.58	10.1	18.95
Max Stage	33.32	20.05	28.24