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Chokwe Lumumba, Mayor



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Chief, Environmental Enforcement Section  
Environment and National 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

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

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

September 30, 2013

RE: City of Jackson  
EPA Consent Decree  
1<sup>st</sup> Semi-Annual Report, March – August 2013 and Sewershed Prioritization Work Plan


Dear Gentlemen,

Enclosed please find the Semi-Annual Report for the period of March through August 2013. The report was developed and submitted by the City in accordance with the EPA Consent Decree dated March 1, 2013 and your correspondence of May 31, 2013. Also enclosed is Sewershed Prioritization Work Plan prepared pursuant to the Consent Decree.

Finally, enclosed is an executed copy of the Supplemental Environmental Project Escrow Agreement and the Account Statement showing the first deposit in the amount of \$175,000.00 made on August 30, 2013.

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 evaluated 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.

Sincerely,

  
Chokwe Lumumba  
Mayor

cc: Les Herrington, P.E., Mississippi Department of Environmental Quality  
Pieter Teeuwissen, City Attorney  
Dan Gaillet, P.E., Director, Department of Public Works  
Public Depository, Eudora Welty Public Library



# SEMI-ANNUAL REPORT NO. 1 MARCH 2013 THROUGH AUGUST 2013

Department of Public Works  
Wastewater Infrastructure Redevelopment Program



SEPTEMBER 30, 2013

# City of Jackson, Mississippi

## Semi-Annual Report No.1

### March 2013 through August 2013

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 Lumumba*

Chokwe Lumumba  
Mayor

*9-30-13*

Date

*Dan Gallet*

Dan Gallet, P.E., Director  
Department of Public Works

*9-26-13*

Date

# **Semi-Annual Report No. 1**

## **March 2013 through August 2013**

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## 1.0 Introduction

### 1.1 Overview

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

The City of Jackson Public Works Department (JPWD) established the Wastewater Infrastructure Redevelopment Program in 2004. The Waggoner Engineering/AJA Management and Technical Services joint venture company, WEI/AJA LLC, was retained to assist the City in addressing the requirements of the Consent Decree under the existing Program Management contract for the Wastewater Infrastructure Redevelopment Program. Accordingly, the Program Management team prepared this Semi Annual Report with input from the City and its various contractors to fulfill the requirements of Section IX ¶ 57 (b) set forth in the CD.

### 1.3 Consent Decree Requirements for Semi Annual Report

As stated in the Consent Decree Section IX ¶ 57 (b), the Semi Annual Report be submitted beginning thirty (30) Days after the first full six (6)-month period following the Date of Entry of this Consent Decree, and thirty (30) Days after each subsequent six (6)-month period until termination of the Consent Decree and shall contain the following, at a minimum:

Semi-Annual Reports ...the City shall submit to EPA for review and approval a Semi-Annual Report. Each Semi-Annual Report shall include, at a minimum:

- (i) *A description of projects and activities completed and milestones achieved during the previous applicable six (6)-month period pursuant to the requirements of this*

Consent Decree, in Gantt chart or similar format, including a description of the status of compliance or non-compliance with the requirements of this Consent Decree and, if applicable, the reasons for non-compliance. If any non-compliance cannot be fully explained at the time the report is due, the City shall include a statement to that effect in the report. The City shall investigate to determine the cause of the non-compliance and then shall submit an amendment to the report, including a full explanation of the cause of the non-compliance, within thirty (30) Days after submission of the Semi-Annual Report.

- (ii) *A summary of significant projects and activities anticipated to be performed, and milestones anticipated to be achieved*, in the successive applicable six (6)-month period to comply with the requirements of this Consent Decree, in Gantt chart or similar format.
- (iii) Any additional information the City determines is appropriate to demonstrate that the City is implementing the remedial actions required under this Consent Decree in an adequate and timely manner.

## 1.4 Compliance Statement

For the reporting period of March 1, 2013 through August 31, 2013, the City of Jackson, to the best of its knowledge, is in compliance with the requirements of the Consent Decree entered on March 1, 2013.

## 2.0 Summary of Activities for the Reporting Period

### 2.1 Wastewater Collection and Transmission System

#### 2.1.1 West Bank Interceptor Work Plan

The Consent Decree requires that within five (5) months after the Date of Entry of this Consent Decree, the City shall submit to EPA for review and approval a West Bank Interceptor Work Plan. Upon approval by EPA, the City shall implement the West Bank Interceptor Work Plan. The West Bank Interceptor Work Plan shall include, at a minimum, the following:

- (a) The proposed locations selected, and proposed methodologies and criteria that the City will implement and use, to conduct sewage flow monitoring and inspection of the West Bank Interceptor to identify and analyze structural deficiencies in the West Bank Interceptor.
- (b) The methodologies and procedures the City will implement for monitoring and determining the total dry weather and wet weather (peak) flow rate in the West Bank Interceptor in order to estimate the severity of I/I in the West Bank Interceptor.
- (c) The methodologies and procedures the City will implement for evaluating and assessing the West Bank Interceptor to enable the City, in the West Bank Interceptor Rehabilitation Plan set forth below, to identify any deficiencies therein and a specific list of proposed remedial measures to correct such deficiencies. The proposed remedial measures shall be performed in two (2) phases. The first phase of such remedial measures shall include cleaning of debris accumulated in the West Bank Interceptor and repairs throughout the length of the West Bank Interceptor that have been evaluated as being necessary to prevent imminent structural failure or have been evaluated as necessary to correct a major structural defect, including sources of Excessive I/I. The first phase shall also include total rehabilitation of at least 20% of the total length of the West Bank Interceptor, or a lesser amount as approved by EPA based upon justification by the City in the West Bank Interceptor Work Plan. Examples of these repairs include, but are not limited to, point repairs, manhole repairs, and replacement of sections of sewer pipe or pipe lining of critical segments. The second phase of such remedial measures shall include rehabilitation of those segments throughout the length of the West Bank Interceptor that include long-term repairs necessary for proper "Asset Management" and/or addressing sources of non-Excessive I/I. Examples of these repairs include, but are not limited to, manhole repairs, sewer pipe lining, and replacement or construction of new gravity sewer pipe segments. Asset Management is a continuous process that guides the acquisition, use, and disposal of infrastructure assets to optimize service delivery and minimize costs over the asset's entire life.

The West Bank Interceptor Work Plan was completed and submitted to EPA on July 30, 2013 in compliance with the requirements of the Consent Decree. The City is awaiting approval by EPA.

#### **2.1.1.1 West Bank Interceptor Flow Monitoring**

As indicated in the West Bank Interceptor Work Plan, the first activity required is to conduct sewage flow monitoring in order to determine the severity of I/I in various segments along the length of West Bank Interceptor. The flow metering is needed for the completion of the West Bank Interceptor Rehabilitation Plan.

**Significant milestones reached this period in order to begin the flow monitoring project are:**

- **Submitted the “Request for Ranking and Consideration for Funding” to the MDEQ for the Water Pollution Control Revolving Loan Fund (WPCRLF) Program**
- **Submitted the West Bank Interceptor Facilities Plan Amendment to the MDEQ to include the long term flow monitoring project.**
- **Prepared the WPCRLF Loan application package for execution and submission to MDEQ.**
- **Prepared the Bid Specifications for equipment and services required for the project.**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Submit the WPCRLF Loan application package to MDEQ.**
- **Receive the WPCRLF Loan offer from MDEQ**
- **Submit Bid specifications to MDEQ for review and approval**
- **Submit Clear Site Certification to MDEQ**
- **Receive authorization to advertise the project from MDEQ**
- **Receive and Accept bids for the project**
- **Execute Contract with successful bidder**
- **Install flow meters, begin calibration and training period**



## 2.1.2 Sewershed Prioritization Work Plan

The Consent Decree requires that within seven (7) months after the Date of Entry of this Consent Decree, the City shall submit to EPA for review and approval a Prioritization Work Plan which shall set forth the proposed locations selected, and proposed methodologies and criteria that the City will implement and use, to identify the severity of I/I within the WCTS, to map the Sewer System, to assess the capacity of WCTS, and to establish Sewershed priorities for further evaluation and rehabilitation of the WCTS pursuant to the Sewershed Evaluation Plan and Evaluation Report/Rehabilitation Plan. Upon approval by EPA, the City shall implement the Prioritization Work Plan. The Prioritization Work Plan shall include, at a minimum, the following:

- (a) The methodologies and procedures the City will implement to estimate the severity of I/I within each Sewershed.
- (b) The methodologies and procedures the City will implement for the development of a computerized digital mapping system for each Sewershed that shall include, and have the ability to display, the West Bank Interceptor, all Gravity Sewer Lines, Force Mains, Pump Stations, manholes, inverts, siphons, WWTP locations, diversion valves, outfall locations, and all other appurtenances relating to the City's Sewer System. The mapping system does not need to include Private Laterals. The mapping system shall have the capability to store, update, and display information in a manner that will aid City personnel in the development and implementation of a Hydraulic Model, the Sanitary Sewer Evaluation Survey and the proper operation and maintenance of the Sewer System.
- (c) The methodologies and procedures the City will implement for assessing the capacity of the WCTS including the West Bank Interceptor, all Pump Stations, all Major Sewer Gravity Lines, all Force Mains and siphons and their respective related appurtenances, all known SSO locations, and any other portions of each Sewershed. The capacity assessment shall include the WCTS that must be assessed so as to allow a technically-sound evaluation of the causes of SSOs and Prohibited Bypasses at the WWTPs. The capacity assessment shall specifically identify, at a minimum, the hydraulic capacities of the WCTS, and compare those capacities to existing and future projected average and peak flows in dry and wet weather. This assessment shall identify those portions of the WCTS that are expected to cause or contribute to SSOs and/or Prohibited Bypasses at the WWTPs under existing and future projected average and peak flows in dry and wet weather, and the degree to which those portions experience or cause, under current or projected future conditions, SSOs and/or Prohibited Bypasses at the WWTPs. As part of the capacity assessment, the City shall use the information it is required to develop pursuant to Section VI.B to assess existing and future projected capacity of the WCTS and the ability of the WCTS to transmit peak flows experienced by and predicted for the WCTS.
- (d) The methodologies and procedures the City will implement to develop a computerized Hydraulic Model of the WCTS within each Sewershed using a hydraulic modeling software package. The City shall use the Hydraulic Model in the assessment of the hydraulic capacity of the WCTS in that Sewershed and in

the identification of appropriate rehabilitative and corrective actions to address all capacity and condition limitations identified in that Sewershed's WCTS. The City shall develop the Hydraulic Model to provide a detailed understanding of the response of the WCTS to wet weather events and an evaluation of the impacts of proposed remedial measures and removal of I/I flow.

The City shall configure the Hydraulic Model to accurately represent the City's WCTS, in accordance with currently accepted engineering practice. The City may model its WCTS in different levels of detail, as necessary to identify the causes of all known SSOs and to assess proposed remedial measures with the goal of eliminating those SSOs. The City's Hydraulic Model shall include at a minimum the West Bank Interceptor, all Major Gravity Lines and associated manholes, and all Pump Stations and associated Force Mains.

The City shall configure the Hydraulic Model using adequate, accurate, and sufficiently current physical data (e.g., invert and ground elevations, pipe diameters, slopes, pipe run lengths, Manning roughness factors, manhole sizes and configurations, Pump Station performance factors) for its WCTS. In particular, the City shall field verify the physical data to allow calibration and verification of the model.

The City shall calibrate and verify the Hydraulic Model using appropriate rainfall data, actual hydrographs, and WCTS flow data. The City shall use at least three (3) separate data sets each for calibration and verification. As part of the calibration process, the City shall either use existing sensitivity analyses for the selected model, or carry out its own sensitivity analyses, such that calibration effectiveness is maximized.

The Hydraulic Model shall, at a minimum, include:

- (i) a description of the Hydraulic Model that includes the criteria set forth above;
- (ii) specific attributes, characteristics, and limitations of the Hydraulic Model;
- (iii) identification of all input parameters, constants, assumed values, and expected outputs;
- (iv) digitized map(s) and schematics that identify and characterize the portions (including the specific Gravity Sewer Lines) of the WCTS that shall be included in the Hydraulic Model;
- (v) identification of input data to be used;
- (vi) configuration of the Hydraulic Model;
- (vii) procedures and protocols for performance of sensitivity analyses (*i.e.*, how the Hydraulic Model responds to changes in input parameters and

variables including the use of various design storms of varying durations and intensities);

(viii) procedures for calibrating the Hydraulic Model to account for values representative of the WCTS and WWTPs using actual system and WWTP data (*e.g.*, flow data); and

(ix) procedures to verify the Hydraulic Model's performance using additional, independent actual Sewer System data (*e.g.*, flow data).

(e) The methodology and criteria for prioritizing Sewersheds or groups of Sewersheds in order to conduct the phased evaluation and rehabilitation of the WCTS in each Sewershed as required by this Consent Decree. The criteria for prioritizing Sewersheds shall include, at a minimum, the following:

(i) the severity of the estimated I/I in the Sewersheds;

(ii) the frequency, volume and location of SSOs in the Sewersheds;

(iii) the relative potential impact of SSOs in the Sewersheds to human health and the environment;

(iv) the average age of Gravity Sewer Lines within each Sewershed;

(v) the pipe material used within each Sewershed; and

(vi) any ongoing rehabilitation or corrective action work in the Sewersheds including detailed information on the current status and completion dates for such work.

(f) The methodologies, procedures and criteria for developing proposed schedules for implementing and completing the evaluation and rehabilitation of the WCTS in each Sewershed or groups of Sewersheds as required by this Consent Decree

**Significant milestones reached this period for this activity:**

- **Completed Draft Sewershed Prioritization Work Plan and circulated for review and comment**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Submit Sewershed Prioritization Work Plan to EPA for review and approval**
- **Continue work on WCTS computerized mapping system**
- **Begin development of Hydraulic model**

## 2. 2 Wastewater Treatment Facilities

### 2.2.1 Savanna WWTP Comprehensive Performance Evaluation

The Consent Decree requires that within fifteen (15) months after the Date of Entry of this Consent Decree, the City shall submit to EPA for review and approval a CPE for the Savanna Street WWTP. The CPE shall be consistent with the EPA publications *Improving POTW Performance Using the Composite Correction Approach*, EPA CERL, October 1984, and *Retrofitting POTWs*, EPA CERL, July 1989, and the most current edition of MDEQ's *Guidance for the Design of Publicly Owned Wastewater Facilities*. The purpose of the CPE is to identify flow and/or loading rate restricted treatment process unit(s) at the Savanna Street WWTP. Upon approval by EPA, the City shall implement the CPE in accordance with the schedule contained therein. The CPE shall include, at a minimum, the following:

- (a) An in-depth diagnostic evaluation of the capacity and operation of the Savanna Street WWTP and its ability to provide Secondary Treatment to all dry and wet weather flow and otherwise meet all terms of the NPDES Permit.
- (b) An evaluation of the major individual unit processes, identification of all performance-limiting factors, prioritization of performance-limiting factors, and a comprehensive assessment of the ability to improve performance with a CCP.
- (c) Identification of whether the design requirements for the Savanna Street WWTP are consistent with the most current edition of MDEQ's *Guidance for the Design of Publicly Owned Wastewater Facilities*.
- (d) Identification of design flow capacity requirements for the Savanna Street WWTP to adequately treat 100% of the peak annual dry weather flow, including providing Secondary Treatment without experiencing a Prohibited Bypass.
- (e) Identification of design capacity requirements to adequately treat 100% of the peak wet weather flow, including providing Secondary Treatment for all flows without experiencing a Prohibited Bypass. The CPE may include estimated wet weather flow anticipated after performance of I/I reduction efforts identified in the Rehabilitation Plans for the WCTS and after sludge/solids removal at the Savanna Street WWTP.
- (f) Identification of design requirements necessary to treat sewage to the level established by the most current MDEQ effluent permit requirements, including to the extent feasible any planned TMDLs to be implemented by MDEQ.
- (g) A schedule and procedures that the City will use to prepare a Composite Correction Plan ("CCP"), as set forth below, based on the results of the CPE.
- (h) Use of flow modeling and other appropriate techniques to evaluate Savanna Street WWTP capacity and operation, taking into account the net (cumulative) increase or decrease to the existing volume of wastewater introduced to the Savanna Street WWTP as a result of the City's actual and anticipated increases in flow from the authorization of new sewer service connections and/or from existing sewer service connections pursuant to Paragraph 33 of the Consent Decree, and the reduction of I/I into the WCTS as a result of any remedial measures taken pursuant to Section VI.B of the Consent Decree.

- (i) A schedule for submission of the CCP; provided, however, that for submission of the CCP, such schedule shall not exceed twelve (12) months after EPA's approval of the CPE.

**Significant milestones reached this period for this activity:**

- **Comprehensive Performance Evaluation for the facility is being performed by CDM Smith and is approximately 70% complete**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Complete CPE and submit draft report for internal review and comment**

### 2.2.2 Savanna WWTP Storm Cell Renovation and Sludge Removal

The Consent Decree requires that as set forth in Section 2.D of the MDEQ Agreed Order I, the City has agreed to implement a Sludge and Solids Removal Plan that provides for the removal and proper disposal of excess, accumulated sludge/solids from the Savanna Street WWTP storm diversion cells. The Parties agree that the City shall implement the Sludge and Solids Removal Plan as an enforceable obligation under this Consent Decree. Section 2.D of the Agreed Order as amended September 29, 2011 states

*"...In any event, Respondent, in accordance with the implementation schedule, shall remove all sludge not later than April 30, 2014 and shall dispose of all removed sludge no later than December 31, 2017".*

**Significant milestones reached this period for this activity:**

- **Contractor has completed all project site civil work**
- **Contractor has continued pumping dredged solids into geotextile tubes located in Dewatering and Storage Areas – East & West**
- **Contractor has removed approximately 34,089 dry tons of solids from storm cells**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Continue dredging operations. Current projected solids removal completion date is December 24, 2013.**
- **Continue discussions with MDEQ on beneficial uses of dewatered solids.**

### 2.2.3 Presidential Hills Wastewater Treatment Plant Project

The Consent Decree requires that as set forth in Sections 2.B., C. and D. of the MDEQ Order II, the City has agreed to implement certain remedial measures to address NPDES permit effluent limitation violations at the Presidential Hills WWTP. To comply with the Order, the City agreed to construct a new 750,000 gallon per day Sequencing Batch Reactor treatment facility, influent pumping station and other related appurtenances as recommended in the Engineering Report required in Section 2.B of the Order.

#### **Significant milestones reached this period for this activity:**

- **Contractor was issued the Notice to Proceed on March 18, 2013**
- **Clearing and Grubbing start delayed due to inclement weather**
- **Mobilization, clearing and grubbing the site**
- **Excavation and backfill of the SBR basin area**
- **SBR drain piping installation**
- **Installed steel reinforcement and poured concrete for the basin bottom, sides and center divider wall**
- **The equalization tank reinforcement steel has been placed**
- **All submittals have been received and approved/resolved and**
- **All mechanical equipment has been ordered**

#### **Significant milestones anticipated to be completed during the next reporting period:**

- **Complete all major process construction.**
- **Current projected startup date of March 1, 2014 remains achievable barring unforeseen weather or equipment delivery delays**

## 2. 3 Capacity, Management, Operations and Maintenance Programs

The Consent Decree Section VI, D ¶ 31 through 43 requires the City to implement various programs in order to properly manage, operate and maintain sanitary wastewater collection, transmission and treatment systems, investigate capacity-constrained areas of these systems, and respond to SSO events.

### 2.3.1 Training Program

Within twelve (12) months after the Date of Entry of this Consent Decree, February 28, 2014, the City shall submit to EPA for review and approval a Training Program, including a schedule for full implementation of the program not to exceed twelve (12) months after its approval by EPA. The Training Program shall include, at a minimum, the following:

- (a) Technical Training. The technical training component shall include, at a minimum, the following:
  - (i) employee technical training and refresher technical training requirements (curriculum) that ensure that each City employee has a level of knowledge, commensurate with duties, of the overall functions of the City's Infrastructure;
  - (ii) a description of outside technical training and networking opportunities, such as conferences and seminars, that are made available to City employees;
  - (iii) a description of the extent to which employee certification, at the State or at the City level, is required as a basis for obtaining or maintaining a position;
  - (iv) records of technical training, including on-the-job training, which shall be maintained in an information management system and shall describe the degree to which completed technical training and on-the-job training is tied to promotion and pay; and
  - (v) a description of the technical training required before an employee can undertake specific work assignments or tasks.
  
- (b) Skills Training. The skills training component shall include, at a minimum, the following:
  - (i) employee skills training and refresher skills training requirements (curriculum) that ensure that each City employee has a level of knowledge,

commensurate with duties, of the specific equipment to be used and the procedures to be followed in carrying out duties;

(ii) a description of outside skills training opportunities, such as manufacturers' training, that are made available to employees;

(iii) a description of the extent to which employee certification, at the State or at the City level, is required as a basis for obtaining or maintaining a position;

(iv) records of skills training, including on-the-job training, which shall be maintained in an information management system) and shall describe the degree to which completed skills training and on-the-job training is tied to promotion and pay; and

(v) a description of the skills and on-the-job training required before an employee can undertake specific work assignments or tasks.

(c) Safety Training. The safety training component shall include, at a minimum, the following:

(i) employee safety training and refresher safety training requirements (curriculum) that ensure that each City employee has level of knowledge regarding on-the-job safety that is commensurate with the employee's equipment and work environment;

(ii) a description of the extent to which employee safety certification at the State or at the City level is required as a basis for obtaining or maintaining a position;

(iii) records of safety training, including on-the-job training, which shall be maintained in an information management system and shall describe the degree to which completed safety training and on-the-job training is tied to promotion and pay; and

(iv) a description of the safety training required before an employee can undertake specific work assignments or tasks.

**Significant milestones reached this period for this activity:**

- **Developed Program definition and outline**
- **Researched other utilities' programs**



- **Discussed training needs and available training programs with providers**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Develop Promotion and Pay Criteria by Job Classification**
- **Develop tracking database**
- **Compile summary of available training activities**
- **Develop training schedule for 2014**
- **Complete draft Program document and circulate for Internal review by January 1, 2014**
- **Submit Final Program document for review and approval by February 28, 2014.**

### 2.3.2 Sewer Overflow Response Plan

The City submitted to MDEQ a SORP on September 28, 2011, pursuant to the MDEQ Agreed Order I. MDEQ approved the SORP on October 10, 2011. A copy of the SORP is Appendix E to the Consent Decree. The City shall continue to implement the SORP as an enforceable obligation under the Consent Decree. Key elements in the SORP are:

- **Overflow identification and Response Procedures**
- **Building Backups Procedure**
- **Public Advisory Procedure**
- **Regulatory Agency Notification Procedure**
- **Long Term Corrective Action Procedure**
- **Personnel Training**

**Significant milestones reached this period for this activity:**

- **Continued remotely monitoring high water alarms on all lift stations**
- **Continued to map SSO locations for follow up inspections**
- **Continued Regulatory Agency notifications**
- **Conducted 2 hour Training session on Reporting Procedures**
- **Submitted Quarterly Report on SSO's**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Review SSO locations with multiple occurrences and determine needs**

- **Submit 2<sup>nd</sup> and 3<sup>rd</sup> Quarterly Reports**
- **Conduct annual Program review**
- **Conduct annual 4 hour Training session**

### 2.3.3 Pump Station Operations Program

Within twelve (12) months after the Date of Entry of this Consent Decree, February 28, 2014, the City shall submit to EPA for review and approval Pump Station Operations Programs, including a schedule for full implementation of the programs not to exceed twelve (12) months after their approval by EPA. The Pump Station Operations Programs shall include, at a minimum, the following:

- (a) **Routine Pump Station Operations Program.** The Routine Pump Station Operations Program shall be developed to ensure proper Pump Station operations that will necessitate prevention of Pump Station failure. This program shall include, at a minimum, the following:
  - (i) procedures for reading and recording information appropriate to each Pump Station including, as applicable, pump run-time meter readings, start counters, amperage readings, checking and resetting conditions, wet-well points, grease accumulations, and any other information that is necessary for the proper operation of a Pump Station;
  - (ii) development of standard inspection routes and schedules; and
  - (iii) provisions for needs determination, establishing priorities and scheduling, number of crews and personnel (including, where appropriate, contract crews), standard forms, records and performance measures, and an information management system.
- (b) **Emergency Pump Station Operations Program.** The Emergency Pump Station Operations Program shall be developed to necessitate emergency operations in the event of Pump Station failure. This program shall provide guidance and ensure timely response to atypical situations in the WCTS through the use of written standard emergency operating procedures for each type of Pump Station and shall include, at a minimum, the following:
  - (i) emergency contact information;

- (ii) location(s) of auxiliary power including portable or fixed emergency generators applicable to each Pump Station;
- (iii) location(s) of portable pumping equipment;
- (iv) guidance for initiating auxiliary power with portable or fixed generators;
- (v) guidance for installing portable pumps during high flow;
- (vi) applicable contingency plans; and
- (vii) standard forms, records and performance measures and an information management system.

**Significant milestones reached this period for this activity:**

- **Reviewed United Water Service(UWS) SOP's**
- **Received UWS Lift Station Condition Station Assessment Report**
- **Program definition and outline developed**
- **Began Program Development**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Complete draft Program document and circulate for Internal review by January 1, 2014**
- **Submit Final Program document for review and approval by February 28, 2014.**

## 2.3.4 Pump Preventive Maintenance Program

Within twelve (12) months after the Date of Entry of this Consent Decree, February 28, 2014, the City shall submit to EPA for review and approval Pump Station Preventive Maintenance Programs, including a schedule for full implementation of the programs not to exceed twelve (12) months after their approval by EPA. The Pump Station Preventive Maintenance Programs shall include, at a minimum, the following:

- (a) An electrical maintenance component which shall provide guidance to managers and field personnel responsible for electrical maintenance to ensure that preventive maintenance on Pump Station electrical components are performed on a routine basis. This component shall include meter calibration schedules for any meter used to record data collected at or from a Pump Station.

- (b) A mechanical maintenance component that shall provide guidance to managers and field personnel responsible for mechanical maintenance to ensure that preventive maintenance on Pump Station mechanical components are performed on a routine basis.
- (c) A physical maintenance component that shall provide guidance to managers and field personnel responsible for physical maintenance (pipes, walls, inverts, covers, etc.) to ensure that preventive maintenance on Pump Station physical components are performed on a routine basis.
- (d) A Pump Station repair component that shall serve as a reactive maintenance system to repair Pump Stations that are currently in a state of disrepair but still cost-effective to service. This component shall provide for the identification, prioritization, scheduling, and repair of Pump Stations on a timely basis once a Pump Station has deteriorated beyond the scope of the preventive maintenance programs. This component shall include, at a minimum, the following:
- (i) guidance outlining when a Pump Station is to be placed in the Pump Station Repair Program;
  - (ii) a prioritized inventory of Pump Stations in need of repair;
  - (iii) an ongoing inventory of completed repairs;
  - (iv) a work schedule for repairs; and
  - (v) standard forms, records and performance measures, and an information management system.

**Significant milestones reached this period for this activity:**

- **Program definition and outline developed**
- **Reviewed United Water Service(UWS) SOP's**
- **Reviewed UWS PM Software-ePortal**
- **Began Program Development**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Complete draft Program document and circulate for Internal review by January 1, 2014**
- **Submit Final Program document for review and approval by February 28, 2014.**

### 2.3.5 Gravity Line Preventative Maintenance Program

Within fifteen (15) months after the Date of Entry of this Consent Decree, May 31, 2014, the City shall submit to EPA for review and approval a Gravity Line Preventive Maintenance Program, including a schedule for full implementation of the program not to exceed twelve (12) months after its approval by EPA. The Gravity Line Preventive Maintenance Program shall include, at a minimum, the following:

- (a) A preventive hydraulic cleaning component which shall include protocols for implementing routine hydraulic cleaning component of the preventive maintenance program for Gravity Sewer Lines. This component shall include provisions for needs determination, establishing priorities and scheduling, number of crews and personnel (including, where appropriate, contract crews), hydraulic cleaning equipment to be used, standard hydraulic cleaning maintenance procedures, standard forms, records and performance measures, and an information management.
- (b) A preventive mechanical cleaning component which shall include protocols for implementing routine mechanical cleaning component of the preventive maintenance program for Gravity Sewer Lines. This component shall include provisions for needs determination, establishing priorities and scheduling, number of crews and personnel (including, where appropriate, contract crews), mechanical cleaning equipment to be used, standard mechanical cleaning maintenance procedures, standard forms, records and performance measures, and an information management system.
- (c) A root control component which shall include protocols, methods, and approaches for implementing a root control component of the preventive maintenance program for Gravity Sewer Lines. This component shall include provisions for needs determination, establishing priorities and scheduling, number of crews and personnel (including, where appropriate, contract crews), root control methods and approaches, root control maintenance procedures, standard forms, records and performance measures, and an information management system.

(d) A manhole preventive maintenance component which shall include protocols, methods, and approaches for implementing a routine inspection and maintenance component of the preventive maintenance program for Gravity Sewer Lines. This component shall include provisions for needs determination, establishing priorities and scheduling, number of crews and personnel (including, where appropriate, contract crews), inspection methods and approaches, standard maintenance procedures, standard forms, records and performance measures, and an information management system.

(f) A prioritized and expedited schedule for implementation of the Program for the West Bank Interceptor.

**Significant milestones reached this period for this activity:**

- **Program definition and outline developed**
- **Developed cost estimates base on City's most recent Term Bid for various maintenance frequencies**
- **Began Program Development**

**Significant milestones anticipated to be completed during the next reporting period:**

- **Implement Work Order module in CityWorks software**
- **Update Staffing and Equipment requirements**
- **Continue Program Development**

### 2.3.6 WWTP Operations and Maintenance Program

Within fifteen (15) months after the Date of Entry of this Consent Decree, May 31, 2014, the City shall submit to EPA for review and approval a WWTP Operations and Maintenance Program, including a schedule for full implementation of the program not to exceed twelve (12) months after its approval by EPA. The WWTP Operations and Maintenance Program shall include, at a minimum, the following:

- (a) Equipment, Parts, and Material Inventory. The City shall inventory its WWTPs' operating equipment and materials and evaluate the impacts of the loss of use or failure of each major system component. The City shall develop an inventory control system which shall have the capability of tracking spare parts use and

inventory, as well as generating inventory replenishment needs reports. The City's inventory control system shall also include the following elements:

- (i) prioritization of WWTP components as critical, semi-critical, or non-critical which shall allow the City to focus its maintenance capabilities and spare parts inventories on the WWTP components and potential failures that would have the greatest impact on treatment capacity, Prohibited Bypassing, and NPDES Permit compliance;
  - (ii) identification of critical spare parts and materials, and procedures to ensure that these parts and materials are stored and maintained in inventory at the WWTP;
  - (iii) a list of where the remaining spare parts may be secured to enable the repair or replacement of such equipment in a minimum amount of time and to ensure proper operation of the WWTP; and
  - (iv) tracking of spare parts use and inventory, as well as generating inventory replenishment needs reports.
- (b) Sludge Processing and Removal. Not inconsistent with the requirements of the MDEQ Agreed Order I, the maintenance program shall include sludge removal procedures, schedules, and standard practices for the WWTPs and from any storage lagoons, wet weather storage cells, equalization ponds, or any other wet weather storage facility that is, or is planned for use by, a WWTP.
- (c) Preventive Maintenance. The City develop and implement a preventive maintenance system for the WWTPs to ensure that preventive and corrective maintenance is conducted and that equipment integral to proper operation and maintenance, treatment units, and tanks are maintained so as to achieve compliance with the NPDES permit. The preventive maintenance system shall include, at a minimum, the following:
- (i) identification of equipment used in the treatment of wastewater liquids and biosolids;
  - (ii) identification of the standard procedures to conduct preventive maintenance of such WWTP equipment;
  - (iii) identification of the frequency and duration of preventive maintenance necessary to ensure that all WWTP equipment is maintained in such a way so as to achieve compliance with the NPDES permit;

- (iv) identification of the training and education required for maintenance personnel to perform the standard preventive maintenance procedures;
- (v) procedures for recognition of indicators that corrective maintenance on WWTP equipment is necessary;
- (vi) procedures for the generation of work orders for preventive and corrective maintenance of WWTP equipment;
- (vii) procedures for the generation of purchase orders associated with preventive and corrective maintenance of WWTP equipment;
- (viii) examples of the types of reports and forms which will be used in implementing the preventive maintenance system;
- (ix) a system for tracking preventive and corrective maintenance activities and histories including the generation of summary reports each month that identify major equipment failures occurring in the previous month and the end-of-month status of preventive and corrective maintenance work orders issued or outstanding in the previous month for equipment; and
- (x) procedures to ensure that failures of equipment and/or loss of power supply during abnormal and emergency conditions are corrected in a timely fashion so as to limit the downtime of the facility or component.

**Significant milestones reached this period for this activity:**

- **Program definition and outline developed**
- **Reviewed United Water Service(UWS) SOP's**
- **Reviewed UWS PM Software-ePortal**
- **Began Program Development**
- 

**Significant milestones anticipated to be completed during the next reporting period:**

- **Develop Program document. Target to circulate for Internal review is April 1, 2014**



### 2.3.7 Financing and Cost Analysis Program

Within eighteen (18) months after the Date of Entry of this Consent Decree, August 31, 2014, the City shall submit to EPA for review and approval a Financing and Cost Analysis Program. The Financing and Cost Analysis Program shall include, at a minimum, the following:

- (a) A process (including a schedule of implementation) that regularly analyzes, projects, plans, and finances management, operating, and maintenance costs of its Sewer System, including those management, operating, and maintenance costs associated with labor and equipment needed to properly implement the CMOM programs required pursuant to this Consent Decree.
- (b) A process (including a schedule of implementation) that regularly analyzes, projects, plans, and finances capital improvements to its Sewer System, including those capital improvements required pursuant to this Consent Decree. Capital improvement financing shall be planned using, at a minimum, a five (5)-year planning horizon followed by annual updates.
- (c) A process, including a schedule of implementation, to ensure that life cycle cost analysis is incorporated into its operations cost analyses, maintenance cost analyses, and management cost analyses for all Sewer System equipment and infrastructure.
- (d) A process, including a schedule of implementation, to establish its annual budget and set customer rates that assures that the budget and rates are based on the programs referenced in Paragraph 43.(a) through (c) above.

#### **Significant milestones reached this period for this activity:**

- **Developed Program definition and outline**
- **Completed Draft User Charge Projection Model**
- **Submitted Sewer System budget to City Council with projected Compliance costs including User Charge increase of 109%**

#### **Significant milestones anticipated to be completed during the next reporting period:**

- **Adopt User Charge increase Ordinance**
- **Finalize Infrastructure Asset Software Selection**

- **Develop Operations & Maintenance budget process**
- **Develop Capital Improvement Program process**
- **Continue overall Program development**

## 2.4 Supplemental Environmental Project

The purpose of the Supplemental Environmental Project ("SEP") is to reduce extraneous flows entering the Wastewater Collection and Transmission System (WCTS) through defective residential Private Laterals and through illicit connections from residential properties of eligible property owners. For purposes of this SEP, an illicit connection is any residential connection to the WCTS that discharges any substance or solution that is not intended to be transferred via the WCTS, such as stormwater, surface water runoff and roof runoff. The WCTS becomes a conduit for stormwater when defective Private Laterals or illicit connections allow rain or groundwater to enter the WCTS. Certain components of the WCTS Evaluation Plan required by Section VIII. of the Consent Decree will assist the City in identifying defective Private Laterals in need of repair or replacement and illicit connections to the WCTS.

### **Significant milestones reached this period for this activity:**

- **Submitted Draft Escrow Agreement for EPA review**
- **Received comments and incorporated into Final Agreement.**
- **Established the Escrow Account**
- **Made 1<sup>st</sup> Escrow deposit of \$175,000**

### **Significant milestones anticipated to be completed during the next reporting period:**

- **Submit copy of the executed Escrow Agreement to EPA**
- **Submit Escrow deposit verification to EPA**
- **Develop scopes of work, fee schedule, forms, and contracts to be used in implementation of the SEP**
- **Develop financial hardship qualifications for eligibility for the SEP**

## 3.0 Other Significant Activities

### 3.1 West Bank Interceptor Rehabilitation Projects

**The West Bank Interceptor Sewer Rehabilitation, Phase 3, City Project No. 20505702, Contract I,** lies in an area from south of High Street at MH IT-0051 and extends upstream approximately 3,000 L.F. generally to the West right-of-way of I-55 at MH IT 0067. The work generally consists of clearing and grubbing the existing easement to allow the work to be done, provide temporary bypass pumps and piping necessary to complete the work, clean pipe and perform closed circuit television inspection prior to rehabilitation of approximately 3,147 L.F. of 66" pipe, 2,563 L.F. of 54" pipe, 2,627 L.F. of 48" pipe, 573 L.F. of 36" pipe, 236 L.F. of 30" and 400 L.F. of 27" pipe and 27 manholes, install approximately 2,563 L.F. of 54", 2,627 L.F. of 48", 573 L.F. of 36", 236 L.F. of 30" and 400 L.F. of 27" of cured-in-place pipe (CIPP), rehabilitate and/or replace existing 27 manholes.

#### **Significant milestones reached this period for this activity:**

- **Bidding & Contracting phase completed**
- **Notice to Proceed issued June 10, 2013. Contract time 300 calendar days**
- **Began clearing & grubbing, bypass pumping, cleaning & CCTV**

#### **Significant milestones anticipated to be completed during the next reporting period:**

- **Complete all CIPP installation**
- **Complete all manhole rehabilitation**

**The West Bank Interceptor Sewer Rehabilitation, Phase 3, City Project No. 20505701, Contract II,** extends north from MH IT-0067 approximately 6,600 L.F. to Eubanks Creek. The work generally consists of Clear and grub the existing easement to allow the work to be done, provide temporary bypass pumps and piping necessary to complete the work, clean pipe and perform closed circuit television inspection prior to rehabilitation of approximately 6,600 L.F. of 60" pipe and 16 manholes, furnish and install approximately 6,600 linear feet of slip lining pipe and rehabilitate and/or replace 16 existing manholes.

#### **Significant milestones reached this period for this activity:**

- **Bidding & Contracting phase completed**

### **Significant milestones anticipated to be completed during the next reporting period:**

- **Issue Notice to Proceed**
- **Begin Construction**

## **3.2 Collection System Replacement Projects**

The City of Jackson has entered into a Performance Contracting Agreement with Siemens Industry, Inc., Building Technologies Division (Siemens) for Water Infrastructure Improvements. As part of that contract, SIEMENS will provide sewer collection line repairs at the below locations. This includes labor and material for a complete line repair as described. Asphalt repairs, erosion control, bypass pumping; select fill, traffic control, and fence removal/replacement are included on an as-needed basis.

- **Wilshire Avenue**
  - Remove and replace 600 linear feet of twenty-one inch (21") sewer line;
  - Remove and replace 400 linear feet of eighteen inch (18") sewer line;
  - Includes three (3) manholes;
  - Includes one (1) stream crossing;
- **300 Block of Rollingwood Drive**
  - Remove and replace 1,140 linear feet of eight inch (8") and ten inch (10") sewer line;
  - Includes four (4) manholes;
  - Includes one (1) stream crossing;
- **2704 Quail Run at Eastover**
  - Remove and replace 320 linear feet of twelve inch (12") sewer line;
- **2115 Robin Drive**
  - Remove and replace 1,125 linear feet of twelve inch (12") sewer line;
  - Includes six (6) manholes;
- **220 Dixon Road to 1-220**
  - Remove and replace 1,200 linear feet of twelve inch (12") sewer line;
  - Includes three (3) manholes;
- **East Northside Drive**
  - Relocate 500 linear feet of sewer line from side of street to middle of street from Eastwood Road to Culleywood Drive;
  - Includes two (2) manholes;
- **Pearl Street**
  - Remove and replace 260 linear feet of eight inch (8") sewer line;
  - Includes two (2) manholes;

- 2234 West Highway 80
  - Repair of thirty inch (30") sewer line from Lynch Creek interceptor at Hattiesburg Street going west to the north turn of line;
- McClure Road at Meadow Lane
  - Replace 2,250 linear feet of fifteen inch (15") sewer line;
  - Replace ten inch (10") sewer line with a fifteen inch (15") sewer line from intersection of Meadow Lane and Wildwood Terrace to South Sunset Terrace;
- 3838 Eastover Drive to 3900 Eastover Drive
  - Replace six inch (6") sewer line with eight inch (8") sewer line;
  - Includes five (5) manholes;
- Beasley Road to Meadow Road
  - Repair of thirty inch (30") sewer line;
  - Includes two (2) stream crossings and lining of pipe;
- 2212 Heritage Hill Drive
  - Remove and replace 400 linear feet of eight inch (8") sewer line;
  - Includes one (1) manhole;
- 5044 Wayneland Drive
  - Removal of 700 linear feet of six inch (6") sewer line;
  - Replace six inch (6") sewer line with eight inch (8") sewer line;
  - Includes two (2) manholes;
- South Drive/ Galvez Street to Jayne Avenue
  - Remove and replace 2,300 linear feet of twenty-one inch (21") sewer line;
  - Includes six (6) manholes;
  - Includes two (2) stream crossings;
- Liberty Street to Coleman Avenue
  - Remove and replace 60 linear feet of fifteen inch (15") sewer line;
  - Includes one (1) stream crossing.
- 1500 Block of Sheffield Drive
  - Repair 8" Sewer Line Collapse

**The following projects are currently scheduled to be completed during the next reporting period:**

- **Wilshire Avenue**
- **Beasley Road to Meadow Road**
- **1500 Block of Sheffield Drive**
- **2234 West Highway 80**
- **2704 Quail Run at Eastover**

**The following projects are currently scheduled start during the next reporting period:**

- **2115 Robin Drive**
- **McClure Road at Meadow Lane**
- **300 Block of Rollingwood Drive**
- **220 Dixon Road to 1-220**

## **4.0 Consent Decree Progress Schedule**

A Gantt chart indicating the overall progress of Consent Decree required activities and major milestones is shown on the following page.

# City of Jackson, MS

## Consent Decree Schedule 2013-2014

Program Management Support	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19						
Supplemental Environmental Project (SEP)									Develop Plan																
West Bank Interceptor																									
West Bank Interceptor Work Plan	Develop Work Plan																								
Flow Monitoring			Facilities Plan / Bidding					Contract Award / Begin Flow Monitoring																	
Inspection and Structural Evaluation of West Bank Interceptor									CCTV / Physical Inspection																
Flow Data and Structural Evaluation Analysis									Data and Structural Evaluation Analysis																
West Bank Interceptor Evaluation Activities and Report													Develop Evaluation Report												
West Bank Interceptor Evaluation Report and Rehabilitation Plan																									
West Bank Interceptor Design and Construction - Phase 1																									
West Bank Interceptor Activity Report - Phase 1																									
West Bank Interceptor Design and Construction - Phase 2																									
West Bank Interceptor Activity Report - Phase 2																									
Wastewater Collection & Transportation System																									
Sewershed Prioritization Work Plan		Develop Work Plan																							
Flow Monitoring												Contract Award / Begin Flow Monitoring													
Sewershed Characterization																									
WCTS Mapping	Continue building digital system map							Field verification/Mapping																	
WCTS Capacity Assessment (Pump Stations, Lines, Etc.)												Model Development													
Hydraulic Modeling									Model Selection																
Sewershed Prioritization Activities and Report																									
Sewershed Evaluation Plan								Develop Work Plan																	
WCTS Evaluation - Flow Monitoring, SSES, Etc. - Sewershed Group 1																									
WCTS Evaluation Report Group 1																									
WCTS Rehabilitation Design and Construction Group 1																									
WCTS Rehabilitation Activity Report (Group 1)																									
WCTS Evaluation - Flow Monitoring, SSES, Etc. - Sewershed Group 2																									
WCTS Evaluation Report Group 2																									
WCTS Rehabilitation Design and Construction Group 2																									
WCTS Rehabilitation Activity Report (Group 2)																									
Savanna WWTF, PH, Trahon																									
Comprehensive Performance Evaluation (CPE) of SSWWTF	Perform Comprehensive Performance							Evaluation of Savanna WWTF																	
Composite Correction Plan (CCP) of SSWWTF																									
Short Term Corrective Actions																									
Long Term Corrective Actions																									
SSWWTF - Remove Sludge From Storm Cells	Continue Improvements and Removal																								
SSWWTF - Dispose of Sludge Removed From Storm Cells																									
Presidential Hills NPDES Compliance	Construct Improvements							Achieve Compliance																	
CMOM Activities																									
Training Program								Program Development					Implementation												
Capacity Assurance Program (CAP)																									
Sewer Overflow Response Plan (SORP)								Training, tracking, analysis, reporting																	
Interjurisdictional Agreement Program												Program Development													
Private Lateral Program												Program Development													
Water Quality Monitoring Program												Program Development													
Pump Station Operations Program							Program	Development								Implementation									
Fats, Oils and Grease (FOG) Program												Program Development													
Pump Station Maintenance Program							Program	Development								Implementation									
Gravity Line Preventative Maintenance Program								Program Development																	
WWTF Operation and Maintenance Program								Program Development																	
Financing & Cost Analysis Program								Program Development																	