



# City of Chattanooga

Mayor Andy Berke

January 27, 2016

VIA CERTIFIED MAIL

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

**Re: *United States of America et. al. v. City of Chattanooga, No. 1:12-cv-0024*  
Semi-Annual Work Progress Report No. 4 – July 2015 to December 2015**

Dear Ms. Janovitz:

On behalf of the City of Chattanooga, Tennessee ("City"), and in accordance with the Consent Decree entered by the United States District Court for the Eastern District of Tennessee (Southern Division), on April 24, 2013, in the case styled the United States of America et. al. v. City of Chattanooga, No. 1:12-cv-0024 ("Consent Decree"), we are submitting to both the Environmental Protection Agency ("EPA") and the Tennessee Department of Environment and Conservation ("TDEC") the fifth semi-annual work progress report required pursuant to paragraph 39 of the Consent Decree. This report is also being submitted in accordance with the letter from Denise Diaz, dated September 16, 2013, establishing the dates for reporting under the Consent Decree.

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

Ms. Sara Janovitz  
January 27, 2016  
Page Two

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

Sincerely,



Michael C. Patrick, P.E.  
Director, Waste Resources Division

Enclosure

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# Semi-Annual Work Progress Report No. 5

**July 1 – December 31, 2015**

*Prepared for*

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

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

*Prepared by*

**City of Chattanooga**  
Waste Resources Division

*Submitted by*

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Chattanooga, Tennessee

January 27, 2016

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# Acronyms and Abbreviations

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CAP	Capacity Assurance Program
CD	Consent Decree
CIPP	Cured in Place Pipe
CMOM	Capacity, Management, Operations, and Management
CSO	Combined Sewer Overflow
CSOTF	Combined Sewer Overflow Treatment Facility
CSS	Combined Sewer System
EFT	Electronic Funds Transfer
EPA	Environmental Protection Agency
ESIP	Enterprise South Industrial Park
FOG	Fats, Oils, and Grease
FSE	Food Service Establishments
GIPP	Green Infrastructure Program Plan
GLPMP	Gravity Line Preventative Maintenance Program
HVAC	Heating, Ventilation, and Air Conditioning
IPS	Influent Pump Station
ISS	Interceptor Sewer System
LF	Linear Feet
LTCP	Long Term Control Plan
MBWWTP	Moccasin Bend Wastewater Treatment Plant
MCC	Motor Control Center
MGD	Million Gallons per Day
N/A	Not Applicable
NPDES	National Pollution Discharge Elimination System

NTP	Notice to Proceed
PCP	Process Controls Program
PCCMP	Post Construction Compliance Monitoring Program
PDR	Public Document Repository
PS	Pump Station
PSOP	Pump Station Operations Program
PSPMP	Pump Station Preventive Maintenance Program
RDII	Rain-derived Infiltration and Inflow
SCADA	Supervisory Control and Data Acquisition
SORP	Sewer Overflow Response Protocol
SRF	State Revolving Funds
SSES	Sanitary Sewer Evaluation Study
SSO	Sanitary Sewer Overflow
SUO	Sewer Use Ordinance
TCWN	Tennessee Clean Water Network
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
USDOJ	United States Department of Justice
VFD	Variable Frequency Drive
WCTS	Waste Collection and Transmission System
WRD	Waste Resources Division
WWTAA	Wastewater Treatment Authority

# 1.0 Executive Summary

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On April 24, 2013, the City of Chattanooga (“City”) entered into a consent decree with the United States and the State of Tennessee, in the case styled *United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245* (“CD”). This Semi-Annual Work Progress Report (“Report”) has been prepared pursuant to the requirements of paragraph 39 of the CD. In accordance with the CD, this Report presents the major milestones achieved in the last 6 months, and also provides projections for activities anticipated to be completed in the following 6 months. This Report presents milestones achieved from July 1, 2015 through December 31, 2015 (“Report Period”), and the projections cover the period of January 1, 2016 through June 30, 2016.

The City met all of the deadlines for this Report Period. During the Report Period, the City developed and submitted the deliverables that are listed in Table 1-1 to the Environmental Protection Agency (“EPA”) and the Tennessee Department of Environment and Conservation (“TDEC”) for review and approval. This information is also presented in Gantt chart format in Appendix A.

**Table 1-1**  
Completed Projects and Submitted Consent Decree Deliverables for the Current Reporting Period

CD Deliverable	CD Reference	CD Deadline	Original Submittal Date	Re-Submittal Date
CMOM-FOG (Fats, Oils, and Grease) Management Program	Section VI, para 20(c)	5/27/14	5/22/2014	7/21/2015*
SSES Work Plan	Section VI., para 21	11/24/2014	11/18/2014	7/28/2015*
CMOM-Emergency Response Plan	Section VI., para 20(b)	11/24/2014	11/18/2014	7/28/2015*
Quarterly Report No. 8	Section IX., para 38	7/30/2015	7/30/2015	N/A
Semi-Annual Work Progress Report No. 4	Section IX., para 39	7/30/2015	7/30/2015	N/A
CMOM-PS Operations Program	Section VI., para 20(e)	11/24/2014	11/18/2014	10/22/2015*
Quarterly Report No. 9	Section IX., para 38	10/30/2015	10/30/2015	N/A
Green Infrastructure Program Plan for CSS Basins	Section VI, para 26	4/24/2015	4/23/2015	11/13/2015*

\*Re-submitted based on EPA’s comments on original submittal.

Table 1-2 lists the deliverables that the City will submit to the EPA and TDEC during the upcoming semi-annual period of January 1, 2016 through June 30, 2016. This information is also available in Gantt chart format in Appendix A.

**Table 1-2**

Anticipated Completed Projects and Consent Decree Deliverables for the Next Reporting Period

CD Deliverable	CD Reference	CD Deadline
Quarterly Report No. 10	Section IX., para 38	1/31/2016
Semi-Annual Work Progress Report No. 5	Section IX., para 39	1/31/2016
Annual Report No. 3	Section IX, para 40	2/28/16
CMOM-CAP Capacity Assurance Program	Section VI, para 20(h)	5/24/2016
CMOM-Hydraulic Model Development	Section VI, para 20(g)	5/24/2016
Carter Street CSOTF Outfall Replacement	Section VI, para 22	4/24/2016
East Bank/West Bank ("EB/WB") Flow Monitoring	Section VI, para 22	4/24/2016
ESIP PS, Force Main and Interceptor Upgrade	Section VI, para 22	4/24/2016
MBWWTP Effluent Disinfection System Upgrade	Section VI, para 22	4/24/2016
Chattanooga Creek Interceptor Rehabilitation	Section VI, para 22	4/24/2016
Tannery Flats Interceptor Rehabilitation	Section VI, para 22	4/24/2016
Quarterly Report No. 11	Section IX., para 38	7/30/2016
MBWWTP Bar and Fine Screen Replacements	Section VI, para 22	4/24/2018
MBWWTP Hydraulic and Pump Improvements	Section VI, para 22	4/24/2018

## 2.0 Introduction

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### 2.1 Purpose

Pursuant to Section IX of the CD, the City is required to submit work progress reports on a semi-annual basis to the EPA and TDEC. Chattanooga has prepared this Report to satisfy the reporting requirements found in paragraph 39 of the CD.

### 2.2 Requirements

As detailed in Section IX of the CD, the City is required to report the following information concerning compliance with the remedial actions set forth under the CD:

1. A description of projects and activities completed and milestones achieved during the previous 6 month period pursuant to the requirements of the CD, in Gantt chart or similar format, including a description of compliance or non-compliance with the requirements of the CD and, if applicable, the reasons for non-compliance;
2. A summary of significant projects and activities anticipated to be performed, and milestones anticipated to be achieved, in the successive 6 month period to comply with the requirements of the CD, in Gantt chart or similar format; and
3. Any additional information the City determines is appropriate to demonstrate that the City is implementing the remedial actions required under the CD in an adequate and timely manner.

### 2.3 Report Structure

Work progress is presented in the body of the Report in a narrative format. This narrative includes a brief description of each CD project, as well as any activities completed or milestones that were achieved or are anticipated to be completed. In addition to these descriptions, a detailed schedule containing each of the projects in Gantt format is provided in Appendix A.

## **3.0 Work Progress**

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### **3.1 Capacity, Management, Operations and Management (“CMOM”) Programs**

#### **3.1.1 CMOM-Sewer Overflow Response Protocol (completed)**

The City’s Sewer Overflow Response Protocol (“SORP”) was developed in accordance with the requirements of Paragraph 20(a) of the CD. This document establishes a procedure which facilitates the City’s timely and effective response to all sanitary sewer overflows (“SSOs”). The draft SORP was developed and submitted to the Public Document Repository (“PDR”) for public review on October 23, 2013, followed by a submittal to the EPA and TDEC on November 25, 2013. The City received comments from the EPA following the November submission. The City revised the draft SORP, which submitted to the EPA on May 21, 2014. Final EPA and TDEC approval of the SORP was received on May 29, 2014. The City has implemented the SORP since receiving EPA’s approval in May 2014. Key performance measures for the SORP are provided in the Annual Report per the CD.

#### **3.1.2 CMOM-Emergency Response Plan (completed)**

The City’s Emergency Response Plan (“ERP”) was developed in accordance with Paragraph 20(b) of the CD. The ERP establishes procedures for the City’s Waste Resources Division (“WRD”) that will dictate a plan of operations for the Collection System, Wastewater Pump Stations, and Combined Sewer Overflow Treatment Facilities (“CSOTF”) during emergency situations. The ERP is also being developed in accordance with the CMOM guidance attached to the CD as Appendix B. The draft ERP was submitted to the PDR for public review on October 13, 2014, followed by submittal to the EPA and TDEC on November 18, 2014. Final EPA and TDEC approval of the SORP was received on July 28, 2015.

#### **3.1.3 CMOM-Fats, Oils, and Grease (“FOG”) Mgmt. Plan (completed)**

The City’s FOG management plan was developed in accordance with Paragraph 20(c) of the CD. The FOG management plan involves a comprehensive re-evaluation of the City’s previous FOG program, which was originally adopted in June of 2005. This draft FOG management plan was submitted to the PDR for public review and comment on April 16, 2014, followed by submittal to the EPA and TDEC on May 27, 2014. EPA issued conditional approval of the FOG management plan on November 6, 2014, pending revision of the City’s Sewer Use Ordinance (“SUO”). The SUO was approved by the City June 16, 2015, and has been incorporated into the FOG. The City has implemented the FOG management plan since receiving EPA conditional approval in November 2014. Key performance measures for the FOG management plan are provided in the Annual Report per the CD.

### **3.1.4 CMOM-Gravity Line Preventive Maintenance Program (completed)**

The City's Gravity Line Preventive Maintenance Program ("GLPMP") was developed in accordance with Paragraph 20(d) of the CD. The GLPMP provides a plan of operations for preventive maintenance of gravity line sanitary sewers and manholes. The draft GLPMP was submitted to the PDR for public review and comment on April 16, 2014, followed by submittal to the EPA and TDEC on May 21, 2014. Final EPA approval was received on December 5, 2014. The City has implemented the GLPMP since receiving EPA approval in December 2014. Key performance measures for the GLPMP plan are provided in the Annual Report per the CD.

### **3.1.5 CMOM-Pump Station Operations Program (completed)**

The City's Pump Station Operations Program ("PSOP") was developed in accordance with Paragraph 20(e) of the CD. The PSOP establishes a plan of operation for pump stations during routine and emergency operations. The draft PSOP was submitted to the PDR for public review on October 13, 2014, followed by submittal to the EPA and TDEC on November 18, 2014. Conditional approval was granted by EPA on June 23, 2015. Final approval was granted on October 22, 2015. The City has implemented the PSOP since receiving EPA approval in October 2015. Key performance measures for the PSOP plan are provided in the Annual Report per the CD.

### **3.1.6 CMOM-Pump Station Preventive Maintenance Program (completed)**

The City's Pump Station Preventive Maintenance Program ("PSPMP") was developed in accordance with Paragraph 20(f) of the CD. The PSPMP establishes a plan of routine preventive maintenance requirements for the City's pump stations. The draft PSPMP was submitted to the PDR for public review on October 13, 2014, followed by submittal to the EPA and TDEC on November 18, 2014. Final approval was granted by EPA on May 25, 2015. The City has implemented the PSPMP since receiving EPA approval in May 2015. Key performance measures for the PSPMP are provided in the Annual Report per the CD.

### **3.1.7 CMOM-Hydraulic Model Development**

The hydraulic model is being developed in accordance with Paragraph 20(g) of the CD. The model will give the City greater ability to identify capacity limitations and potential causes of SSOs in addition to prioritization of wet-weather related I/I reduction projects, optimization of CSOTF's, and proposed project alternative analysis. No major milestones occurred during the second half of 2015. Work on the model is continuing and is anticipated to be completed per the CD requirements in May of 2016.

### **3.1.8 CMOM-Capacity Assurance Program ("CAP")**

The CAP is being developed in accordance with Paragraph 20(h) of the CD. The CAP will identify each sewer sub-basin or part of a sub-basin with insufficient capacity under either one hour peak flows, or average conditions, or both. It will also analyze all portions of the Sanitary Sewer System that hydraulically impact all known wet weather-related SSOs and all portions of the Wastewater Treatment Plant that may contribute to violations of the NPDES permit. This

program will enable the City to authorize new sewer service connections or increases in flow from existing sewer service connections. No major milestones occurred in the second half of 2015 and work on the CAP will continue into 2016. The CAP is anticipated to be submitted to EPA and TDEC for review and approval in May of 2016.

### **3.1.9 CMOM-Inter-Jurisdictional Agreement Program (completed)**

The Inter-Jurisdictional Agreement (“IJA”) Program was developed in accordance with Paragraph 20(i) of the CD. This program governs the renewal of existing agreements or the entering of new agreements that cover the collection, conveyance, and treatment of sewage by the City from municipal satellite sewer systems. The program, among other things, sets forth provisions including flow limitation requirements, management and maintenance requirements, compliance requirements for industrial users, and mechanisms for modification and enforcement of the agreements. The draft IJA Program was submitted to the PDR for public review and comment on April 16, 2014, followed by submittal to the EPA and TDEC on May 21, 2014. Final EPA approval was received September 16, 2014. The City has implemented the IJA program since receiving EPA approval in September 2014. Key performance measures for the IJA are provided in the Annual Report per the CD.

## **3.2 Sanitary Sewer Evaluation Study Work Plan (completed)**

The Sanitary Sewer Evaluation Study (“SSES”) Work Plan was developed in accordance with Paragraph 21 of the CD. The purpose of the SSES Work Plan is to assess, analyze, and rehabilitate the infrastructure of City’s Sanitary Sewer System in order to address I/I, structural defects, and other conditions which currently cause or which may cause SSOs. The work plan establishes procedures for prioritizing problem areas within the sewer system and for setting schedules which will allow for the efficient undertaking of the assessment and rehabilitation. Furthermore, the SSES is being executed in two phases, with Phase 1 focusing on 5 sewer sub-basins identified as having the highest rainfall-derived I/I (“RDII”). These sewer sub-basins are Chattanooga Creek 4, Dobbs Branch 3, South Chickamauga Creek 1, South Chickamauga Creek 5, and South Chickamauga Creek 16, each of which are discussed in further detail in the sections below. Phase I SSES projects are currently underway. Phase II of the SSES work plan will focus on the 24 remaining sewer sub-basins identified specifically in Appendix A of the CD. Several components of the SSES Work Plan include corrosion defect identification, flow monitoring, CCTV inspection, and smoke testing. The draft SSES Work Plan was submitted to the PDR for public review and comment on October 17, 2014, followed by submittal to the EPA and TDEC on November 20, 2014. The EPA approved the SSES Work Plan on July 28, 2015. The City has implemented the SSES Work Plan since receiving EPA approval in July 2015. Key performance measures for the SSES Work Plan are provided in the Annual Report per the CD.

### **3.2.1 Focused SSES and Rehabilitation-Chattanooga Creek 4**

This project represents 1 of the 5 Phase I priority sewer sub-basins and is being executed in accordance with Paragraph 21 of the CD. The Chattanooga Creek 4 sewer sub-basin consists

of approximately 68,000 linear feet (“LF”) of sanitary sewer piping, ranging from 6 to 48 inches in diameter. The Notice to Proceed (“NTP”) for professional services was issued April 19, 2013, and as of April 23, 2014, SSES investigations have been completed on approximately 61,500 LF of sewer. The Preliminary Engineering Report (“PER”) was approved November 2014. The project is presently under final design with completion and submittal to TDEC for review in January of 2016. Contract bidding is scheduled for the first half of 2016.

### **3.2.2 Focused SSES and Rehabilitation-Dobbs Branch 3**

This project represents 1 of the 5 Phase I priority sewer sub-basins and is being executed in accordance with Paragraph 21 of the CD. The Dobbs Branch 3 sewer sub-basin consists of approximately 47,381 LF of sanitary sewer piping, ranging from 6 to 24 inches in diameter. The NTP for professional services was issued April 19, 2013, and SSES investigations were completed for approximately 47,381 LF of sewer on October 4, 2013. The PER was submitted to the City on May 15, 2014. The design was completed and submitted to TDEC for approval on October 6, 2015. The project is currently in the bidding phase. Construction is scheduled to begin in the first half of 2016.

### **3.2.3 Focused SSES and Rehabilitation-South Chickamauga Creek 1**

This project represents 1 of the 5 Phase I priority sewer sub-basins and is being executed in accordance with Paragraph 21 of the CD. The South Chickamauga Creek 1 sewer sub-basin consists of approximately 81,800 LF of sanitary sewer piping, ranging from 4 to 84 inches in diameter. SSES investigations of this sewer sub-basin were completed January 17, 2014, with approximately 69,751 LF of sewer piping inspected. The project is currently under detailed design, which is expected to be complete in February of 2016. Final design is scheduled for completion in the first half of 2016.

### **3.2.4 Focused SSES and Rehabilitation-South Chickamauga Creek 5**

This project represents 1 of the 5 Phase I priority sewer sub-basins and is being executed in accordance with Paragraph 21 of the CD. The South Chickamauga Creek 5 sewer sub-basin consists of approximately 58,164 LF of sanitary sewer piping, ranging from 6 to 36 inches in diameter. SSES investigations of this sewer sub-basin are currently ongoing, with approximately 58,164 LF of sewer piping inspected as of March of 2014. The project is under final design, which is anticipated to be complete in early 2016. TDEC review and contract bidding is also scheduled for the first half of 2016.

### **3.2.5 Focused SSES and Rehabilitation-South Chickamauga Creek 16 (completed)**

This project represents 1 of the 5 Phase I priority sewer sub-basins and is being executed in accordance with Paragraph 21 of the CD. The South Chickamauga Creek 16 sewer sub-basin SSES and rehabilitation is captured as part of the East Brainerd Pump Station and Collection System Rehabilitation project, a CD Early Action Capital Improvement project. Consequently, the SSES and rehabilitation recommendations and design for this sub-basin have been completed under the East Brainerd contract. The South Chickamauga Creek 16 sewer sub-

basin consists of approximately 75,000 LF of sanitary sewer piping, ranging from 4 to 36 inches in diameter. SSES was performed on approximately 61,000 LF of sewer piping. TDEC approval of contract documents was received on August 6, 2013, and bids were received on October 24, 2013. NTP for construction was issued March 3, 2014. Substantial completion was received on June 6, 2015 and final completion for the project was received September 18, 2015. No further updates regarding this project are expected in future reports.

### **3.3 Early Action Capital Improvement Projects**

#### **3.3.1 SSO and Wet Weather Volume Reduction Projects**

##### **3.3.1.1 DuPont Pump Station and Basin Improvements – Phase 1 and Phase 2**

The DuPont Pump Station and Basin Improvements Phase 1 and 2 projects are being performed pursuant to Paragraph 22 and Appendix C of the CD.

Phase 1 includes SSES and rehabilitation of sewers within the DuPont Parkway Pump Station service area which are within three selected sub-basins (North Chickamauga Creek 1, North Chickamauga Creek 3, and Tennessee River 10). The total amount of sewer estimated from these basins for SSES is approximately 270,000 LF ranging from 8" to 48" diameter. The NTP for Phase 1 professional services was issued on April 19, 2013, and SSES has been performed on approximately 243,000 LF of sewer piping. The final PER was submitted on September 5, 2014, and the design was completed and submitted to TDEC for review and approval in August of 2015. The bidding phase began on December 15, 2015 with construction expected to begin in the first half of 2016.

Phase 2 involves the design and construction of approximately 7.5 Million Gallons of wet weather storage and a new wet weather pump station at the DuPont Pump Station site. The project also includes a new diversion structure, standby generator, as well as the upsizing of a section of interceptor. The NTP for Phase 2 professional services was issued on June 24, 2015. The project is currently in the preliminary engineering phase with detailed design to commence in the first half of 2016.

##### **3.3.1.2 Collegedale Pump Station Improvements**

The Collegedale Pump Station Improvements project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project includes an assessment of the pump station to increase the capacity and reliability of the Collegedale Pump Station to reduce sanitary sewer overflows. In April 2015, the City installed a Dri-Prime Backup System ("DBS"), which allowed the Collegedale Pump Station to pump at the contracted capacity of 4.56, based on the agreement with the City of Collegedale. The project also consists of force main improvements that are being coordinated and coincide with a Tennessee Department of Transportation ("TDOT") project. The TDOT project is slated to occur in 2016.

### **3.3.1.3 East Brainerd Collection System and Pump Station Rehabilitation**

The East Brainerd Collection System and Pump Station Rehabilitation project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project includes the SSES and rehabilitation of portions of the East Brainerd basin collection system and the upgrade of the pump station. Improvements to the collection system and pump station were designed as two different projects with two sets of contract documents.

Collections System Rehabilitation- The rehabilitation of the collection system included SSES of approximately 280,846 LF of sewer piping and over 629 manholes and rehabilitation of approximately 43, 169 LF of sanitary sewer pipelines and 87 manholes. TDEC approval of the contract documents for the collection system was received on August 6, 2013. Bids were received on October 24, 2013 and the contract awarded on November 19, 2013. The NTP for the collection system construction contract was issued March 3, 2014. Substantial completion was received for the collection system on June 15, 2015, and final completion for was received September 18, 2015. No further updates regarding this project are expected in future reports.

Pump Station Rehabilitation- The pump station upgrade will include constructing one cast-in-place wet-well containing four submersible pumps and appurtenances; one precast electrical building approximately 20 feet by 30 feet containing variable frequency drives, necessary electrical gear to support the submersible pumps, restroom facility and HVAC units; a 30-inch force main approximately 500 feet in length connecting the new pump station with the discharge manhole at the force main sewer discharge; and an on-site emergency generator and switch gear to power the new pump station. TDEC approval of the contract documents for the pump station rehabilitation was received on January 30, 2015. Bids were received on May 7, 2015, and the contract was awarded on July 16, 2015. The NTP for the Pump Station Rehabilitation construction contract was issued August 10, 2015. The construction phase will continue in the first half of 2016.

### **3.3.1.4 Altamont Sewer Basin and Pump Station Improvements (completed)**

This project has been completed. See Semi-Annual Work Progress Report No. 2 submitted July 28, 2014.

### **3.3.1.5 Pineville Pump Station and Sewer Basin Improvements (completed)**

This project has been completed. See Semi-Annual Work Progress Report No. 3 submitted January 27, 2015.

### **3.3.1.6 Citico Creek Interceptor Rehabilitation (completed)**

This project has been completed. See Semi-Annual Work Progress Report No. 2 submitted July 28, 2014.

### **3.3.1.7 Highland Park Sewer Rehabilitation**

The Highland Park Sewer Rehabilitation project is being performed pursuant to Paragraph 22 and Appendix C of the CD. The sewer sub-basins in the Highland Park area consist of approximately 74,446 LF of sanitary sewer pipe ranging from 4 to 12 inches in diameter. The

SSES investigation of this basin was completed in April of 2015, with approximately 54,354 LF of sewer piping inspected. The final design was completed and submitted to TDEC for review in December 2015. Completion of the TDEC review and bidding is scheduled for the first half of 2016.

#### **3.3.1.8 Citico CSOTF Pump Station Improvement Study (completed)**

This project has been completed. See Semi-Annual Work Progress Report No. 3 submitted January 27, 2015.

#### **3.3.1.9 Tremont Area Sewer Separation Study (completed)**

This project has been completed. See Semi-Annual Work Progress Report No. 2 submitted July 28, 2014.

#### **3.3.1.10 Enterprise South Industrial Park (“ESIP”) Pump Station, Force Main and Interceptor Upgrade**

The ESIP Pump Station, Force Main and Interceptor Upgrade project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project includes the replacement and upgrade of four existing pumps to four new 1.0 million gallons per day (“MGD”) pumps. Additionally, a new 4,800 LF 16 inch force main will be installed as well as replacing the existing 15 inch sewer with 8,500 LF of 36 inch gravity sewer. TDEC approval of contract documents was received January 23, 2014. A contractor was selected and the NTP for construction services was issued June 9, 2014. Completion of construction activities is scheduled for March of 2016. However, due to an issue with the contractor beyond the control of Chattanooga’s control, Chattanooga has issued a request to EPA to extend the deadline for this project on January 18, 2016.

#### **3.3.1.11 Orchard Knob Pump Station Improvements**

The Orchard Knob Pump Station Improvements project is being performed pursuant to Paragraph 22 and Appendix C of the CD. The upgrade involves the replacement of the existing pumps, piping, valves, electrical controls and instrumentation, and back-up generator. The NTP for professional services was issued January 24, 2013, and the final PER was submitted to the City on February 28, 2014. Final design was approved by TDEC and the project bid phase started on December 17, 2015. Completion of the bid phase and commencement of the construction phase is scheduled for the first half of 2016.

#### **3.3.1.12 Friars Branch Pump Station Improvements**

The Friars Branch Pump Station Improvements project is being performed pursuant to Paragraph 22 and Appendix C of the CD. The purpose of this project is to design and construct improvements to increase reliability and extend the service life of the pump station. This project involves replacement of the existing pumps, piping, effluent trough, electrical controls and instrumentation, and addition of an onsite odor control system. The NTP for professional services was issued April 19, 2013, and the final PER was submitted to the City on May 15, 2014. The final design was completed and submitted to TDEC for review in December of 2016.

Completion of the bid phase and commencement of the construction phase is scheduled for the first half of 2016.

#### **3.3.1.13 Friars Branch Basin Improvements**

The Friars Branch Basin Improvements project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project involves rehabilitation of portions of the collection system in the Friars Branch basin. The sewer basin consists of approximately 221,344 LF of sanitary sewer piping, ranging from 4 to 42 inches in diameter. SSES investigations were conducted on approximately 214,103 LF of sewer piping as of December 10, 2013. The PER was approved by the City on January 28, 2015 and the design was completed and submitted to TDEC in December 2015. The completion of the bid phase and the commencement of the construction phase is scheduled for the first half of 2016.

#### **3.3.1.14 Chattanooga Creek Interceptor Rehabilitation**

The Chattanooga Creek Interceptor Rehabilitation project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project involves the repair of approximately 6,900 LF of 36 inch interceptor gravity sewer pipelines using trenchless rehabilitation techniques. The NTP for professional services was issued on April 18, 2013, and the SSES investigations of the interceptor were completed on September 30, 2013. The PER was submitted to the City on January 30, 2014. The final design was submitted to TDEC for review on December 18, 2014. Bid were received a contractor was selected and the NTP for construction was issued July 2015. Construction is on track for completion in April 2016.

#### **3.3.1.15 Tannery Flats Interceptor Rehabilitation**

The Tannery Flats Interceptor Rehabilitation project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project includes the rehabilitation of approximately 5,921 LF of 36 inch interceptor gravity sewer pipelines using trenchless rehabilitation techniques and manhole rehabilitation. NTP for professional services was issued on April 19, 2013, and the SSES investigations were completed on September 16, 2013. The PER was submitted to the City on November 7, 2013. The final design was submitted to TDEC for review on January 5, 2014. Bids were received, a contractor was selected, and the NTP for construction was issued on June 25, 2015. Construction is on track for completion in April 2016.

#### **3.3.1.16 East Bank/West Bank ("EB/WB") Flow Monitoring**

The EB/WB Flow Monitoring project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project involves the study, design and implementation of a more accurate way to determine discharge volume from the EB/WB overflow locations. This project includes monitoring the flow utilizing the existing infrastructure and installing customized metering devices to monitor and verify flows. A pilot of the customized flow monitoring approach in the existing facilities began March 29, 2013. The results of the pilot have demonstrated the adequacy of the customized monitoring approach and has now become the permanent flow monitoring process. The City continues to collect and analyze data as it is available as part of the start-up of the project. The project is on track to be completed in April of 2016.

## **3.3.2 Moccasin Bend Wastewater Treatment Plant Projects**

### **3.3.2.1 Moccasin Bend Wastewater Treatment Plant Hydraulic and Pump Improvements**

The Moccasin Bend Wastewater Treatment Plant (“MBWWTP”) Hydraulic and Pump Improvements project is being performed pursuant to Paragraph 22 and Appendix C of the CD. The existing influent and equalization pump stations at the MBWWTP are currently rated at 120 and 140 MGD, respectively. The purpose of this project is to increase the pumping capacity at both stations in order to maximize flow through secondary treatment by designing and constructing upgrades to the pump stations. The main features of the pump station upgrade include rebuilding and upgrading the existing pumps, and upgrading the electrical components, variable frequency drives (“VFDs”), and instrumentation of the pump stations. The NTP for professional services was issued on January 24, 2013. The PER was submitted to the City on December 2, 2013. The final design was submitted to TDEC for review and approval was received on October 22, 2014. Bids were received, a contractor was selected and the NTP for construction was issued in February 2015. Construction is underway and expected to be completed by April of 2016.

### **3.3.2.2 MBWWTP Bar and Fine Screen Replacements**

The MBWWTP Bar and Fine Screen Replacements project is being performed pursuant to Paragraph 22 and Appendix C of the CD. The purpose of this project is to design and construct a solution which will improve screening and overall capacity at the plant. The main features of this project include installing and upgrading the concrete channel, installing new bar screens, upgrading the motor control center panel, upgrading and replacing the screw conveyors, belt conveyor and slide gates, and updating the electrical and instrumentation design. Final design documents were completed and submitted to TDEC for review and approved October 22, 2014. Bids were received, a contractor selected and the NTP for construction was issued in February 2015. Construction is underway and expected to be complete by April of 2016.

### **3.3.2.3 MBWWTP Secondary Clarifier Upgrades and Additions**

The MBWWTP Secondary Upgrades and Additions project is required under Paragraph 22 and Appendix C of the CD. The project will provide evaluation and design of improvements to increase the MBWWTP secondary treatment capacity from 140 MGD to 150 MGD. Improvements involve the addition of two new secondary clarifiers, flow control to new and existing clarifiers, additional chlorine contact volume, and associated yard piping. An evaluation of the liquid stream processes at the plant will also be conducted. A consultant has been contracted to perform the work and the NTP for professional services has been issued. The PER was completed in November of 2015. The project proceeded to detailed design in October of 2015 and will continue in the design phase for the first half of 2016.

### **3.3.2.4 MBWWTP Effluent Disinfection System Upgrade**

The MBWWTP Effluent Disinfection System Upgrade project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project involves the design and construction of a new bulk sodium hypochlorite system to replace the existing chlorine gas system at the

MBWWTP. The NTP for professional services was issued on January 24, 2013, and PER was submitted to the City on November 22, 2013. Final design was completed and submitted to TDEC for review on October 20, 2014. Bids were received, a contractor was selected and the NTP for construction was issued March 16, 2015. Construction is on track to be completed by April of 2016.

### **3.3.3 CSO Projects**

#### **3.3.3.1 Carter Street CSOTF Sewer Outfall Replacement**

The Carter Street CSOTF Sewer Outfall Replacement project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project involves the rehabilitation of approximately 400 linear feet of 72" diameter CMP outfall using slip lining and tunnel lining and includes the installation of end walls and bank stabilization. Plans and specifications were issued for bid and bids were opened in May of 2015. The NTP was issued and construction began in September of 2015. Construction is on track to be completed by April of 2016.

#### **3.3.3.2 Automation of Valve Operators at CSO Facilities (complete)**

This project has been completed. See Semi-Annual Work Progress Report No. 1 submitted January 30, 2014.

### **3.3.4 Operations Projects**

#### **3.3.4.1 South Chickamauga Pump Station Reliability Improvements (complete)**

This project has been completed. See Semi-Annual Work Progress Report No. 1 submitted January 30, 2014.

#### **3.3.4.2 MBWWTP Telemetry and SCADA Upgrades**

The MBWWTP Telemetry and SCADA Upgrades project is being performed pursuant to Paragraph 22 and Appendix C of the CD. This project involves updating and installing control and monitoring systems for reacting to and controlling equipment to convey wastewater to the MBWWTP. NTP for professional services was issued on January 24, 2013. The final design was completed and submitted to TDEC for review and was approved on November 10, 2015. Completion of the bid phase and commencement of the construction phase is scheduled for the first half of 2016.

## **3.4 Long Term Control Plan ("LTCP") Updates**

### **3.4.1 LTCP-Additional Operational Plan**

The LTCP-Additional Operational Plan is being developed pursuant to Paragraph 24(a) of the CD. This program will result in a plan for the Chattanooga Creek CSO Outfalls (Central Avenue CSO and William Street CSO). The plan will augment Chattanooga's current CSO control measures with additional long term controls to ensure that discharges from these CSO's meet

State water quality standards. Work on this plan continued through the second half of 2015, with no major milestones during the Reporting Period.

### **3.4.2 LTCP-Post Construction Compliance Monitoring Program (completed)**

This project has been completed. See Semi-Annual Work Progress Report No. 3 submitted January 27, 2015.

## **3.5 MBWWTP Process Controls Program (completed)**

This project has been completed. See Semi-Annual Work Progress Report No. 3 submitted January 27, 2015.

## **3.6 Green Infrastructure Program Plan for CSS Basins (completed)**

The Green Infrastructure Program Plan (“GIPP”) for CSS Basins was developed pursuant to Paragraph 26 of the CD. This project resulted in a master plan for implementing green infrastructure practices and designs in the Combined Sewer System (“CSS”) basin to reduce storm water flows into the CSS. The NTP for professional services was issued on January 24, 2013. The GIPP was submitted to the PDR for public review and comment on March 18, 2015, followed by submittal to the EPA and TDEC on April 28, 2015. The final approval was received from EPA and TDEC on November 13, 2015. The City has implemented the GIPP since receiving EPA approval in November 2015. This project is complete and no further updates regarding this project are expected in future reports.

## **3.7 Civil Penalty**

Compliance with Section VII of the CD requires the payment of the sum of \$476,400 as a civil penalty. Payment of the civil penalty is to be made as follows:

- Cash Payment – 50% of the civil penalty (\$238,200) is to be paid to the United States by FedWire Electronic Funds Transfer (EFT). This payment was made to EPA on May 17, 2013.
- State Project – the remaining 50% of the civil penalty is to be spent on the state project in accordance to Appendix D of the CD.

### **3.7.1 Cash Payment (completed)**

In accordance with Paragraph 29 of the CD, the cash payment of \$238,200 was made to EPA on May 17, 2013.

### **3.7.2 Highland Park Green Infrastructure Demonstration Project**

The Highland Park Green Infrastructure Demonstration Project (“State Project”) is currently being performed pursuant to Appendix D of the CD. The State Project involves retrofitting a portion of the Highland Park neighborhood in Chattanooga with green infrastructure through the use of green infrastructure practices such as streetscapes, pervious pavement, tree boxes, bio-swales and bio-retention facilities. A project plan was developed and submitted to TDEC on October 24, 2013, and approval of the plan was received April 25, 2014. A detailed design was submitted to TDEC on April 24, 2014, and bid documents were developed. The completion of the bid phase and the commencement of the construction phase is scheduled for the first half of 2016.

### **3.8 Agawela Drive Stream Restoration – Supplemental Environmental Project (“SEP”)**

The SEP is being performed pursuant to Section VIII and Appendix E of the CD. The Agawela Drive Stream Restoration targets a tributary of the South Chickamauga Creek, which is currently on the 303(d) list for habitat alteration and sediment. The SEP involves restoration of a minimum of 1,500 LF of the tributary and is designed to significantly improve water quality of both the tributary and South Chickamauga Creek. The NTP for professional services was issued on January 24, 2013, and the PER was submitted to the City in October 2013. Detailed design of the restoration began on October 16, 2013. The City has been working closely with TDEC on permitting issues since that time, including conducting several face-to-face meetings and TDEC has issued the Aquatic Resource Alternation Permit (“ARAP”) permit on August 17, 2015. Completion of the bid phase and commencement of the construction phase is scheduled for the first half of 2016.

### **3.9 Reporting Requirements**

Compliance with Section IX of the CD requires the City to submit the following reports on a calendar schedule:

- Quarterly Reports, including detailed information on Chattanooga’s SSOs, CSO discharges and bypasses at the MBWWTP;
- Semi-Annual Work Progress Reports, including CD deliverable milestones achieved in the last 6 months and projections for activities anticipated to be completed in the following 6 months; and
- Annual Reports, including trends and analyses of the results of the Chattanooga CD programs including CMOM and SSO reduction programs.

To date, the following reports have been submitted to the EPA:

- Quarterly Reports 1 – 9;
- Semi-Annual Work Progress Reports 1 – 4, and

- Annual Report 1 and 2.

The following reports will be submitted to the EPA during the next Reporting Period:

- Quarterly Reports 10 and 11;
- Semi-Annual Work Progress Report 5; and
- Annual report 3.

### **3.10 Stipulated Penalties**

Paragraph 48 of the CD sets for the nine categories of CD violations or milestones subject to stipulated penalties under the CD. No demands were for stipulated penalties were made by EPA during this Reporting Period.

## 4.0 Additional Work

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According to paragraph 39(c) of the CD, the City is required to include in this Report “any additional information Chattanooga determines is appropriate to demonstrate that Chattanooga is implementing the remedial actions required under this Consent Decree in an adequate and timely manner.” The purpose of this section is to address this requirement of the CD.

In addition to the work progress achieved in accordance with the CD as described in the previous sections, the City continued to implement remedial and improvement efforts under the existing Capital Improvement Program during the Reporting Period. The work described below is aimed at assessing and improving Chattanooga’s Interceptor Sewer System (“ISS”). While not required by the CD, these projects directly impact Chattanooga’s on-going effort to reduce and eliminate SSOs.

### 4.1 201 Facility Plan Update

This project will provide an update to the Chattanooga, Tennessee-Georgia Regional Wastewater Facilities Plan (“201 Plan”), which was previously updated in 2008. The updated 201 Plan will also be used to coordinate future SRF Loan Program projects. This plan is one of the master planning documents that the City will use to manage the technical solutions derived from the work required by the CD. The draft plan has been completed by the contractor and was submitted to the City in December 2015 for its review and approval.

### 4.2 MBWWTP Backup Electrical Power

The City has completed an analysis of the electrical power feeds at each of their wastewater and storm water pumping stations and combined sewer overflow facilities located within the ISS. The result of this analysis is a list of priority projects that will be executed over the next several years to address electrical power or backup pumping redundancy at these locations. These sites include several sanitary sewer and storm water pumping stations throughout the ISS as well as the MBWWTP. The improvements have proceeded under two contracts: the first is the purchase of a portable generator and the second includes installation of a permanent generator at the MBWWTP as well as generator connections at priority sites. The City received TDEC approval of both contracts June 27, 2014. The City completed the bidding process in 2015 and has issued an NTP to the selected contractor for construction. Construction activities are on-going and the project is expected to be completed in the first half of 2016.

### 4.3 Citico Pump Station (“PS”) and CSOTF Upgrades

The Citico PS and CSOTF Upgrades project will consist of the design and construction of pumping improvements to the Citico CSOTF. The project includes an evaluation of the Citico

Pump Station to determine improvements necessary to operate the pump station at design capacity as well as design and construction oversight of the selected improvements. A consultant has been contracted to perform the design. The NTP for professional services was issued on January 27, 2015, and the project is currently in the detailed design phase. The City expects to complete the bid phase and begin construction in the first half of 2016.

#### **4.4 South Chick PS Phase II and Spring Creek PS Upgrades**

The South Chick PS Phase II and Spring Creek PS Upgrades project will evaluate and design additional reliability improvements for the South Chickamauga Creek Pump Station, including replacement of the sluice gates and bar screens and rehabilitation of the pump station wet well. This project will also evaluate and design improvements for the Spring Creek Pump Station in order to meet or exceed the rated capacity of the existing pump station. Improvements for both pumping stations have been scoped under a single contract. The NTP for professional services was awarded on May 6, 2015. The project is undergoing preliminary engineering with detailed design expected to commence in February of 2016.

#### **4.5 Carter Street Sewer Rehabilitation**

This project consists of the rehabilitation of approximately 800 LF of 21-inch sewer from under an abandoned industrial landfill that connects the Carter Street sewer with a main City interceptor. This project will improve the reliability and structural integrity of the existing pipe and will remove unwanted inflow and infiltration for the system. Trenchless technology methods are being analyzed to reduce construction and permitting costs. The NTP for professional services was awarded on September 7, 2012. The project is currently in final design and will be re-submitted to TDEC for review and approval in February 2016. Additionally, commencement and completion of the bid phase and the commencement of the construction phase is scheduled for the first half of 2016.

#### **4.6 MBWWTP – Detritors Rehabilitation**

This project involves the rehabilitation and upgrade of the influent grit detritors and related splitter box at the MBWWTP. This project will improve reliability and prevent equipment failure that could lead to bypasses during peak flows by updating aging infrastructure. The NTP for professional services was awarded on July 1, 2015. The project is undergoing preliminary engineering with detailed design expected to commence in the first half of 2016.

#### **4.7 Friar's Branch-South Chick Creek 5 Interceptor Rehabilitation**

This project involves the rehabilitation of approximately 23,640 linear feet of pipeline in the Friars Branch and South Chickamauga Creek 5 Sub Basins using trenchless technologies. Trenchless rehabilitation allows the City to conduct the pipe repairs while limiting disturbances to the areas near the work site. The NTP for professional services was awarded on August 6,

2015. The project is undergoing preliminary engineering with detailed design expected to commence in the first half of 2016.

## **4.8 MBWWTP-Control Room Upgrades**

This project involves the upgrade to the existing MBWWTP control room with improvements to better manage the WRD system through the SCADA system. The NTP for professional services was awarded on November 30, 2015. The project is undergoing preliminary engineering with detailed design expected to commence in the first half of 2016.

# Appendix A

## Project Schedules Gantt Chart

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### PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013				2014				2015				2016	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
<b>Chattanooga Consent Decree Deliverables Schedule</b>																		
<b>Program Milestones</b>																		
<b>Program Milestones</b>																		
<b>Consent Decree Effective Date</b>																		
<b>PROGRAM MILESTONES</b>																		
<b>Section II - Applicability</b>																		
<b>Para 5 - Distribute CD</b>																		
<b>Distribute Consent Decree</b>																		
<b>Para 5 - Distribute CD</b>																		
<b>Section V - Review / Certification of Deliverables</b>																		
<b>Para 9 - Public Document Repository</b>																		
<b>Public Document Repository</b>																		
<b>Para 9 - Public Document Repository Development</b>																		
<b>Section VI - Compliance Requirements</b>																		
<b>Para 19 - Community Input Plan</b>																		
<b>Community Input Plan</b>																		
<b>Consent Decree Duration</b>																		
<b>Community Input Plan</b>																		
<b>Para 20 - CMOM</b>																		
<b>CMOM-Sewer Overflow Response Protocol (SORP)</b>																		
<b>Consent Decree Duration (7 Months)</b>																		
<b>Project Procurement</b>																		
<b>Planning Phase</b>																		
<b>Public Document Repository</b>																		
<b>EPA and TDEC Approvals</b>																		
<b>CMOM-Emergency Response Plan</b>																		
<b>Consent Decree Duration (19 Months)</b>																		
<b>Project Procurement</b>																		
<b>Planning Phase</b>																		
<b>Public Document Repository</b>																		
<b>EPA and TDEC Approvals</b>																		
<b>CMOM-Fats, Oils, and Grease (FOG) Mgmt. Plan</b>																		
<b>Consent Decree Duration (13 Months)</b>																		
<b>Project Procurement</b>																		
<b>Planning Phase</b>																		
<b>Public Document Repository</b>																		
<b>EPA and TDEC Approvals</b>																		
<b>CMOM-Gravity Line Preventive Maint. Program</b>																		
<b>Consent Decree Duration (13 Months)</b>																		
<b>Project Procurement</b>																		
<b>Planning Phase</b>																		
<b>Public Document Repository</b>																		



- Actual Work
- Remaining Work
- Critical Remaining W...



### PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013				2014				2015				2016			
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2				
	<b>EPA and TDEC Approvals</b>	312d	22-May-14 A	09-Dec-14 A																
	<b>CMOM-PS Operations and Preventive Maint. Programs</b>	1184d	18-Oct-12 A	14-Jan-16																
	Consent Decree Duration (19 Months)	580d	24-Apr-13 A	24-Nov-14 A																
	Project Procurement	97d	18-Oct-12 A	22-Jan-13 A																
	Planning Phase	627d	24-Jan-13 A	12-Oct-14 A																
	Public Document Repository	48d	13-Oct-14 A	18-Nov-14 A																
	EPA and TDEC Approvals	411d	18-Nov-14 A	14-Jan-16																
	<b>CMOM-Hydraulic Model Development</b>	1537d	27-Jan-09 A	28-Sep-16																
	Consent Decree Duration (37 Months)	1127d	24-Apr-13 A	24-May-16																
	Project Procurement	0d	15-Jul-12 A	15-Jul-12 A																
	Planning Phase	1354d	27-Jan-09 A	29-Mar-16																
	Public Document Repository	48d	30-Mar-16	16-May-16																
	EPA and TDEC Approvals	135d	17-May-16	28-Sep-16																
	<b>CMOM-Capacity Assurance Program</b>	1536d	15-Jul-12 A	27-Sep-16																
	Consent Decree Duration (37 Months)	1127d	24-Apr-13 A	24-May-16																
	Project Procurement	0d	15-Jul-12 A	14-Oct-14 A																
	Planning Phase	1364d	15-Jul-12 A	08-Apr-16																
	Public Document Repository	45d	09-Apr-16	23-May-16																
	EPA and TDEC Approvals	127d	24-May-16	27-Sep-16																
	<b>CMOM-Inter-Jurisdictional Agreement Program</b>	807d	15-Jul-12 A	16-Sep-14 A																
	Consent Decree Duration (13 Months)	402d	24-Apr-13 A	27-May-14 A																
	Project Procurement	0d	15-Jul-12 A	15-Jul-12 A																
	Planning Phase	661d	15-Jul-12 A	10-Apr-14 A																
	Public Document Repository	34d	16-Apr-14 A	21-May-14 A																
	EPA and TDEC Approvals	122d	22-May-14 A	16-Sep-14 A																
	<b>Para 21 - Sanitary Sewer Evaluation Study (SSES) Work F</b>	2935d	25-Mar-11 A	27-Jul-20																
	<b>SSES Work Plan</b>	1157d	15-Jul-12 A	20-Jul-15 A																
	Consent Decree Duration (19 Months)	610d	24-Apr-13 A	24-Nov-14 A																
	Project Procurement	0d	15-Jul-12 A	15-Jul-12 A																
	Planning Phase	823d	15-Jul-12 A	16-Oct-14 A																
	Public Document Repository	48d	17-Oct-14 A	20-Nov-14 A																
	EPA and TDEC Approvals	289d	21-Nov-14 A	20-Jul-15 A																
	<b>Focused SSES and Rehab - Chattanooga Creek 4</b>	2785d	12-Dec-12 A	27-Jul-20																
	Consent Decree Duration (87 Months)	2652d	24-Apr-13 A	27-Jul-20																
	Project Procurement	128d	12-Dec-12 A	18-Apr-13 A																
	Planning Phase	375d	29-Apr-13 A	22-Apr-14 A																
	Engineering Phase	534d	11-Jul-14 A	29-Jan-16																
	Construction Bidding Phase	217d	30-Jan-16	02-Sep-16																
	Construction Phase	270d	03-Sep-16	30-May-17																
	Project Completion Report	0d	31-May-17	31-May-17																
	EPA and TDEC Approvals	0d	31-May-17	31-May-17																
	<b>Focused SSES and Rehab - Dobb's Branch 3</b>	2785d	12-Dec-12 A	27-Jul-20																



- Actual Work
- Remaining Work
- Critical Remaining W..

**CHATTANOOGA CONSENT DECREE PROGRAM - PHASE I**  
 CITY OF CHATTANOOGA, TN  
 WASTE RESOURCES DIVISION



### PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013				2014				2015				2016	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
<b>Consent Decree Duration (87 Months)</b>																		
	Project Procurement	113d	12-Dec-12 A	18-Apr-13 A														
	Planning Phase	564d	19-Apr-13 A	04-Nov-14 A														
	Engineering Phase	359d	05-Nov-14 A	28-Oct-15 A														
	Construction Bidding Phase	147d	29-Oct-15 A	25-Mar-16														
	Construction Phase	289d	26-Mar-16	08-Jan-17														
	Project Completion Report	0d	09-Jan-17	09-Jan-17														
	EPA and TDEC Approvals	0d	09-Jan-17	09-Jan-17														
<b>Focused SSES and Rehab - South Chick Creek 1</b>																		
	Consent Decree Duration (87 Months)	2652d	24-Apr-13 A	27-Jul-20														
	Project Procurement	128d	12-Dec-12 A	18-Apr-13 A														
	Planning Phase	652d	26-Jun-13 A	30-Nov-15														
	Engineering Phase	388d	11-Feb-15 A	25-Apr-16														
	Construction Bidding Phase	337d	26-Apr-16	28-Mar-17														
	Construction Phase	329d	29-Mar-17	20-Feb-18														
	Project Completion Report	0d	21-Feb-18	21-Feb-18														
	EPA and TDEC Approvals	0d	21-Feb-18	21-Feb-18														
<b>Focused SSES and Rehab - South Chick Creek 5</b>																		
	Consent Decree Duration (87 Months)	2652d	24-Apr-13 A	27-Jul-20														
	Project Procurement	128d	12-Dec-12 A	18-Apr-13 A														
	Planning Phase	665d	03-Jun-13 A	13-Feb-15 A														
	Engineering Phase	298d	13-Feb-15 A	04-Feb-16														
	Construction Bidding Phase	126d	05-Feb-16	09-Jun-16														
	Construction Phase	169d	10-Jun-16	25-Nov-16														
	Project Completion Report	0d	26-Nov-16	26-Nov-16														
	EPA and TDEC Approvals	0d	26-Nov-16	26-Nov-16														
<b>Focused SSES and Rehab - South Chick Creek 16</b>																		
	Consent Decree Duration (87 Months)	2652d	24-Apr-13 A	27-Jul-20														
	Project Procurement	1d	07-Sep-12 A	07-Sep-12 A														
	Planning Phase	798d	25-Mar-11 A	30-May-13 A														
	Engineering Phase	368d	27-Mar-12 A	06-Aug-13 A														
	Construction Bidding Phase	132d	07-Aug-13 A	02-Mar-14 A														
	Construction Phase	598d	03-Mar-14 A	15-Dec-15 A														
	Project Completion Report	0d	30-Nov-15 A	15-Dec-15 A														
	EPA and TDEC Approvals	0d	30-Nov-15 A	15-Dec-15 A														
<b>Para 22 - Early Action Capital Improvement Projects</b>																		
<b>SSO and Wet Weather Volume Reduction Projects</b>																		
<b>DuPont PS and Basin Improvements - Phase 1</b>																		
	Consent Decree Duration (60 Months)	1827d	24-Apr-13 A	24-Apr-18														
	Project Procurement	113d	12-Dec-12 A	18-Apr-13 A														
	Planning Phase	809d	01-Nov-13 A	27-Feb-15 A														
	Engineering Phase	707d	01-Nov-13 A	02-Dec-15 A														



- Actual Work
- Remaining Work
- Critical Remaining W...

CHATTANOOGA CONSENT DECREE PROGRAM - PHASE I  
CITY OF CHATTANOOGA, TN  
WASTE RESOURCES DIVISION





# PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013				2014				2015				2016		
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
	<b>EPA and TDEC Approvals</b>	0d	18-Sep-14 A	18-Sep-14 A															
	<b>Citico Creek Interceptor Rehab</b>	1327d	30-Jun-09 A	25-Apr-16															
	Consent Decree Duration (36 Months)	1098d	24-Apr-13 A	25-Apr-16															
	Project Procurement	0d	07-Sep-12 A	07-Sep-12 A															
	Planning Phase	63d	30-Jun-09 A	01-Sep-09 A															
	Engineering Phase	390d	01-Jul-09 A	01-Aug-10 A															
	Construction Bidding Phase	31d	01-Aug-12 A	01-Sep-12 A															
	Construction Phase	389d	03-Jun-13 A	27-Jun-14 A															
	Project Completion Report	31d	28-Jun-14 A	29-Jul-14 A															
	EPA and TDEC Approvals	0d	30-Jul-14 A	30-Jul-14 A															
	<b>Highland Park Sewer Rehab</b>	1960d	12-Dec-12 A	24-Apr-18															
	Consent Decree Duration (60 Months)	1827d	24-Apr-13 A	24-Apr-18															
	Project Procurement	128d	12-Dec-12 A	18-Apr-13 A															
	Planning Phase	720d	19-Apr-13 A	10-Apr-15 A															
	Engineering Phase	321d	10-Apr-15 A	15-Mar-16															
	Construction Bidding Phase	120d	16-Mar-16	13-Jul-16															
	Construction Phase	170d	14-Jul-16	30-Dec-16															
	Project Completion Report	0d	31-Dec-16	31-Dec-16															
	EPA and TDEC Approvals	0d	31-Dec-16	31-Dec-16															
	<b>Citico CSOTF PS Improvement Study</b>	1286d	18-Oct-12 A	25-Apr-16															
	Consent Decree Duration (36 Months)	1098d	24-Apr-13 A	25-Apr-16															
	Project Procurement	97d	18-Oct-12 A	22-Jan-13 A															
	Planning Phase	656d	23-Jan-13 A	10-Nov-14 A															
	Project Completion Report	0d	10-Nov-14 A	10-Nov-14 A															
	EPA and TDEC Approvals	0d	10-Nov-14 A	10-Nov-14 A															
	<b>Tremont Area Sewer Separation Study</b>	1327d	07-Sep-12 A	25-Apr-16															
	Consent Decree Duration (36 Months)	1098d	24-Apr-13 A	25-Apr-16															
	Project Procurement	0d	07-Sep-12 A	07-Sep-12 A															
	Planning Phase	447d	01-Mar-13 A	22-May-14 A															
	Project Completion Report	67d	23-May-14 A	29-Jul-14 A															
	EPA and TDEC Approvals	0d	30-Jul-14 A	30-Jul-14 A															
	<b>ESIP PS, Force Main and Interceptor Upgrade</b>	1327d	25-Feb-11 A	25-Apr-16															
	Consent Decree Duration (36 Months)	1098d	24-Apr-13 A	25-Apr-16															
	Project Procurement	0d	07-Sep-12 A	07-Sep-12 A															
	Planning Phase	41d	25-Feb-11 A	07-Apr-11 A															
	Engineering Phase	581d	08-Apr-11 A	23-Jan-14 A															
	Construction Bidding Phase	88d	30-Jan-14 A	12-May-14 A															
	Construction Phase	530d	09-Jun-14 A	01-Feb-16															
	Project Completion Report	0d	02-Feb-16	02-Feb-16															
	EPA and TDEC Approvals	0d	02-Feb-16	02-Feb-16															
	<b>Orchard Knob PS Improvements</b>	2015d	18-Oct-12 A	24-Apr-18															
	Consent Decree Duration (60 Months)	1827d	24-Apr-13 A	24-Apr-18															



- Actual Work
- Remaining Work
- Critical Remaining W..

**CHATTANOOGA CONSENT DECREE PROGRAM - PHASE I**  
CITY OF CHATTANOOGA, TN  
WASTE RESOURCES DIVISION



# PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013								2014				2015				2016	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
	<b>Project Procurement</b>	97d	18-Oct-12 A	22-Jan-13 A	[Actual Work]																	
	<b>Planning Phase</b>	351d	17-Apr-13 A	13-Jan-14 A	[Actual Work]																	
	<b>Engineering Phase</b>	638d	14-Jan-14 A	12-Oct-15 A									[Actual Work]									
	<b>Construction Bidding Phase</b>	155d	21-Oct-15 A	15-Mar-16													[Actual Work]					
	<b>Construction Phase</b>	370d	16-Mar-16	20-Mar-17													[Actual Work]					
	<b>Project Completion Report</b>	0d	21-Mar-17	21-Mar-17																		
	<b>EPA and TDEC Approvals</b>	0d	21-Mar-17	21-Mar-17																		
	<b>Friars Branch PS Improvements</b>	1960d	12-Dec-12 A	24-Apr-18																		
	<b>Consent Decree Duration (60 Months)</b>	1827d	24-Apr-13 A	24-Apr-18	[Actual Work]																	
	<b>Project Procurement</b>	128d	12-Dec-12 A	18-Apr-13 A	[Actual Work]																	
	<b>Planning Phase</b>	392d	15-Apr-13 A	24-Mar-14 A	[Actual Work]																	
	<b>Engineering Phase</b>	700d	25-Mar-14 A	31-Dec-15									[Actual Work]									
	<b>Construction Bidding Phase</b>	118d	01-Jan-16	27-Apr-16													[Actual Work]					
	<b>Construction Phase</b>	497d	28-Apr-16	06-Sep-17													[Actual Work]					
	<b>Project Completion Report</b>	0d	07-Sep-17	07-Sep-17																		
	<b>EPA and TDEC Approvals</b>	0d	07-Sep-17	07-Sep-17																		
	<b>Friars Branch Basin Improvements</b>	1960d	12-Dec-12 A	24-Apr-18																		
	<b>Consent Decree Duration (60 Months)</b>	1827d	24-Apr-13 A	24-Apr-18	[Actual Work]																	
	<b>Project Procurement</b>	128d	12-Dec-12 A	18-Apr-13 A	[Actual Work]																	
	<b>Planning Phase</b>	457d	29-Apr-13 A	30-Jul-14 A	[Actual Work]																	
	<b>Engineering Phase</b>	727d	12-May-14 A	25-Apr-16									[Actual Work]									
	<b>Construction Bidding Phase</b>	190d	26-Apr-16	01-Nov-16													[Actual Work]					
	<b>Construction Phase</b>	183d	02-Nov-16	03-May-17													[Actual Work]					
	<b>Project Completion Report</b>	0d	04-May-17	04-May-17																		
	<b>EPA and TDEC Approvals</b>	0d	04-May-17	04-May-17																		
	<b>Chattanooga Creek Interceptor Rehab</b>	1263d	12-Dec-12 A	25-Apr-16																		
	<b>Consent Decree Duration (36 Months)</b>	1098d	24-Apr-13 A	25-Apr-16	[Actual Work]																	
	<b>Project Procurement</b>	128d	12-Dec-12 A	18-Apr-13 A	[Actual Work]																	
	<b>Planning Phase</b>	381d	06-May-13 A	02-May-14 A	[Actual Work]																	
	<b>Engineering Phase</b>	273d	05-May-14 A	30-Jan-15 A									[Actual Work]									
	<b>Construction Bidding Phase</b>	106d	02-Feb-15 A	11-Jun-15 A													[Actual Work]					
	<b>Construction Phase</b>	286d	14-Jul-15 A	22-Apr-16													[Actual Work]					
	<b>Project Completion Report</b>	0d	23-Apr-16	23-Apr-16																		
	<b>EPA and TDEC Approvals</b>	0d	23-Apr-16	23-Apr-16																		
	<b>Tannery Flats Interceptor Rehab</b>	1275d	12-Dec-12 A	29-Apr-16																		
	<b>Consent Decree Duration (36 Months)</b>	1101d	24-Apr-13 A	28-Apr-16	[Actual Work]																	
	<b>Project Procurement</b>	128d	12-Dec-12 A	18-Apr-13 A	[Actual Work]																	
	<b>Planning Phase</b>	386d	20-Apr-13 A	19-Dec-13 A	[Actual Work]																	
	<b>Engineering Phase</b>	431d	20-Dec-13 A	10-Feb-15 A									[Actual Work]									
	<b>Construction Bidding Phase</b>	146d	19-Feb-15 A	24-Jun-15 A													[Actual Work]					
	<b>Construction Phase</b>	305d	25-Jun-15 A	28-Apr-16													[Actual Work]					
	<b>Project Completion Report</b>	0d	29-Apr-16	29-Apr-16																		



- Actual Work
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**CHATTANOOGA CONSENT DECREE PROGRAM - PHASE I**  
CITY OF CHATTANOOGA, TN  
WASTE RESOURCES DIVISION





# PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013				2014				2015				2016			
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2				
	<b>Engineering Phase</b>	386d	10-Oct-13 A	20-Oct-14 A																
	<b>Construction Bidding Phase</b>	117d	30-Oct-14 A	30-Jan-15 A																
	<b>Construction Phase</b>	406d	16-Mar-15 A	24-Apr-16																
	<b>Project Completion Report</b>	0d	25-Apr-16	25-Apr-16																
	<b>EPA and TDEC Approvals</b>	0d	25-Apr-16	25-Apr-16																
	<b>CSO Projects</b>	1503d	15-Jul-12 A	25-Aug-16																
	<b>Carter Street CSOTF Outfall Replacement</b>	1327d	07-Sep-12 A	25-Apr-16																
	<b>Consent Decree Duration (36 Months)</b>	1098d	24-Apr-13 A	25-Apr-16																
	<b>Project Procurement</b>	66d	07-Sep-12 A	11-Nov-12 A																
	<b>Planning Phase</b>	0d	12-Nov-12 A	12-Nov-12 A																
	<b>Engineering Phase</b>	892d	13-Nov-12 A	12-Feb-15 A																
	<b>Construction Bidding Phase</b>	103d	01-Aug-15 A	31-Aug-15 A																
	<b>Construction Phase</b>	147d	01-Sep-15 A	24-Apr-16																
	<b>Project Completion Report</b>	0d	25-Apr-16	25-Apr-16																
	<b>EPA and TDEC Approvals</b>	0d	25-Apr-16	25-Apr-16																
	<b>Automation of Valve Operators at CSO Facilities</b>	1503d	15-Jul-12 A	25-Aug-16																
	<b>Consent Decree Duration (36 Months)</b>	1220d	24-Apr-13 A	25-Aug-16																
	<b>Project Procurement</b>	0d	15-Jul-12 A	15-Jul-12 A																
	<b>Construction Phase</b>	54d	15-Jul-12 A	07-Sep-12 A																
	<b>Project Completion Report</b>	181d	01-Aug-13 A	29-Jan-14 A																
	<b>EPA and TDEC Approvals</b>	0d	30-Jan-14 A	30-Jan-14 A																
	<b>Operations Projects</b>	2056d	07-Sep-12 A	24-Apr-18																
	<b>South Chick PS Reliability Improvements</b>	1418d	07-Sep-12 A	25-Jul-16																
	<b>Consent Decree Duration (36 Months)</b>	1189d	24-Apr-13 A	25-Jul-16																
	<b>Project Procurement</b>	66d	07-Sep-12 A	11-Nov-12 A																
	<b>Planning Phase</b>	0d	12-Nov-12 A	12-Nov-12 A																
	<b>Engineering Phase</b>	0d	12-Nov-12 A	12-Nov-12 A																
	<b>Construction Bidding Phase</b>	0d	12-Nov-12 A	12-Nov-12 A																
	<b>Construction Phase</b>	5d	12-Nov-12 A	16-Nov-12 A																
	<b>Project Completion Report</b>	438d	17-Nov-12 A	29-Jan-14 A																
	<b>EPA and TDEC Approvals</b>	0d	30-Jan-14 A	30-Jan-14 A																
	<b>MBWWTP Telemetry and SCADA Upgrades</b>	2015d	18-Oct-12 A	24-Apr-18																
	<b>Consent Decree Duration (60 Months)</b>	1827d	24-Apr-13 A	24-Apr-18																
	<b>Project Procurement</b>	97d	18-Oct-12 A	22-Jan-13 A																
	<b>Planning Phase</b>	187d	27-Mar-13 A	11-Jul-13 A																
	<b>Engineering Phase</b>	898d	12-Jul-13 A	10-Nov-15 A																
	<b>Construction Bidding Phase</b>	110d	10-Nov-15 A	18-Mar-16																
	<b>Construction Phase</b>	364d	19-Mar-16	17-Mar-17																
	<b>Project Completion Report</b>	0d	18-Mar-17	18-Mar-17																
	<b>EPA and TDEC Approvals</b>	0d	18-Mar-17	18-Mar-17																
	<b>Para 23 - East Bank/West Bank Outfall Assessment and R</b>	2771d	25-Jan-20	26-Aug-27																
	<b>East Bank/West Bank Outfall Assessment and Rehabilitator</b>	2771d	25-Jan-20	26-Aug-27																



- Actual Work
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**CHATTANOOGA CONSENT DECREE PROGRAM - PHASE I**  
 CITY OF CHATTANOOGA, TN  
 WASTE RESOURCES DIVISION



### PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013		2014				2015				2016	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>East Bank/West Bank Outfall Assessment and Rehabilitation</b>																
<b>Para 24 - Long Term Control Plan Updates</b>																
<b>LTCP-Post Const. Compliance Monitoring Program</b>																
Consent Decree Duration (19 Months)																
Project Procurement																
Planning Phase																
Public Document Repository																
EPA and TDEC Approvals																
<b>LTCP-Additional Operational Plan</b>																
Consent Decree Duration (48 Months)																
Project Procurement																
Planning Phase																
Public Document Repository																
EPA and TDEC Approvals																
<b>LTCP-Maximizing Treatment at Moccasin Bend WWTP</b>																
<b>LTCP-Maximizing Treatment at Moccasin Bend WWTP</b>																
<b>Para 25 - Moccasin Bend WWTP Process Controls Program</b>																
<b>MBWWTP Process Controls Program</b>																
Consent Decree Duration (19 Months)																
Project Procurement																
Planning Phase																
Public Document Repository																
EPA and TDEC Approvals																
<b>Para 26 - Green Infrastructure Plan</b>																
<b>Green Infrastructure Program Plan for CSS Basins</b>																
Consent Decree Duration (24 Months)																
Project Procurement																
Planning Phase																
Public Document Repository																
EPA and TDEC Approvals																
<b>Section VII - Civil Penalty</b>																
<b>Para 29 - Cash Fine</b>																
<b>Cash Fine</b>																
Civil Penalty - 50% Cash Payment																
<b>Para 30 - State Project (50% of Civil Penalty)</b>																
<b>Highland Park GI Demonstration Project</b>																
Consent Decree Duration																
Project Procurement																
Task 1 - Planning Phase																
Task 2 - Engineering Phase																
Task 3 - Project Implementation																
Task 4 - GI Design Workshop																



- Actual Work
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**CHATTANOOGA CONSENT DECREE PROGRAM - PHASE I**  
CITY OF CHATTANOOGA, TN  
WASTE RESOURCES DIVISION



# PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013				2014				2015				2016	
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
<b>Section VIII - Supplemental Environmental Project</b>																		
<b>Para 31 - Supplemental Environmental Project</b>																		
<b>Agawela Drive Stream Restoration</b>																		
	Consent Decree Duration (60 Months)	1827d	24-Apr-13 A	24-Apr-18														
	Project Procurement	97d	18-Oct-12 A	22-Jan-13 A														
	Planning Phase	265d	24-Jan-13 A	16-Oct-13 A														
	Engineering Phase	780d	18-Oct-13 A	16-Jan-16														
	Construction Bidding Phase	65d	01-Mar-16	04-May-16														
	Construction Phase	388d	05-May-16	27-May-17														
	Project Completion Report	30d	28-May-17	26-Jun-17														
	EPA and TDEC Approvals	67d	27-Jun-17	01-Sep-17														
<b>Section IX - Reporting Requirement</b>																		
<b>Para 38 - Quarterly Reports</b>																		
<b>Quarterly Reports</b>																		
	Quarterly Report - 2013	311d	24-Apr-13 A	10-Feb-14 A														
	Quarterly Report - 2014	391d	01-Jan-14 A	26-Jan-15 A														
	Quarterly Report - 2015	312d	01-Jan-15 A	06-Mar-16														
	Quarterly Report - 2016	401d	31-Jan-16	06-Mar-17														
	Quarterly Report - 2017	403d	31-Jan-17	09-Mar-18														
	Quarterly Report - 2018	403d	31-Jan-18	09-Mar-19														
	Quarterly Report - 2019	403d	31-Jan-19	08-Mar-20														
	Quarterly Report - 2020	220d	31-Jan-20	06-Sep-20														
<b>Para 39 - Semi Annual Reports</b>																		
<b>Semi Annual Reports</b>																		
	Semi-Annual Report - 2013	273d	24-Apr-13 A	10-Feb-14 A														
	Semi-Annual Report - 2014	365d	01-Jan-14 A	28-Jan-15 A														
	Semi-Annual Report - 2015	306d	01-Jan-15 A	08-Mar-16														
	Semi-Annual Report - 2016	404d	31-Jan-16	09-Mar-17														
	Semi-Annual Report - 2017	403d	31-Jan-17	09-Mar-18														
	Semi-Annual Report - 2018	403d	31-Jan-18	09-Mar-19														
	Semi-Annual Report - 2019	403d	31-Jan-19	08-Mar-20														
	Semi-Annual Report - 2020	220d	31-Jan-20	06-Sep-20														
<b>Para 40 - Annual Reports</b>																		
<b>Annual Reports</b>																		
	Annual Report - 2013	56d	01-Jan-14 A	28-Feb-14 A														
	Annual Report - 2014	418d	01-Jan-14 A	25-Feb-15 A														
	Annual Report - 2015	365d	01-Jan-15 A	06-Apr-16														
	Annual Report - 2016	432d	31-Jan-16	06-Apr-17														
	Annual Report - 2017	431d	31-Jan-17	06-Apr-18														
	Annual Report - 2018	431d	31-Jan-18	06-Apr-19														
	Annual Report - 2019	431d	31-Jan-19	05-Apr-20														
	Annual Report - 2020	430d	31-Jan-20	04-Apr-21														



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**CHATTANOOGA CONSENT DECREE PROGRAM - PHASE I**  
CITY OF CHATTANOOGA, TN  
WASTE RESOURCES DIVISION



### PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013								2014				2015				2016			
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2				
<b>Program Management</b>	<b>Program Management</b>	639d	01-Jul-12 A	30-Jul-17																				
<b>Program Management</b>	<b>Program Management</b>	639d	01-Jul-12 A	30-Jul-17																				
<b>Program Management</b>	<b>Program Management</b>	639d	01-Jul-12 A	30-Jul-17																				
Year 1 2013		364d	01-Jul-12 A	30-Jun-13 A	█																			
Year 2 2014		364d	01-Jul-13 A	30-Jun-14 A			█																	
Year 3 2015		364d	01-Jul-14 A	30-Jun-15 A							█													
Year 4 2016		366d	01-Jul-15 A	30-Jul-16														█						
Year 5 2017		365d	31-Jul-16	30-Jul-17																				
<b>Additional Consent Decree Supported Projects</b>	<b>Additional Consent Decree Supported Projects</b>	1914d	07-Sep-12 A	03-Dec-17																				
<b>201 Facility Plan Update</b>	<b>201 Facility Plan Update</b>	709d	18-Oct-12 A	05-Feb-16																				
<b>201 Facility Plan Update</b>	<b>201 Facility Plan Update</b>	709d	18-Oct-12 A	05-Feb-16																				
Project Procurement		97d	18-Oct-12 A	22-Jan-13 A	█																			
Planning Phase		612d	23-Jan-13 A	05-Feb-16			█																	
<b>Citico PS and CSOTF Upgrades</b>	<b>Citico PS and CSOTF Upgrades</b>	808d	21-Aug-14 A	17-Mar-17																				
<b>Citico PS and CSOTF Upgrades</b>	<b>Citico PS and CSOTF Upgrades</b>	808d	21-Aug-14 A	17-Mar-17																				
Project Procurement		57d	21-Aug-14 A	26-Jan-15 A									█											
Planning Phase		172d	11-Feb-15 A	17-Dec-15														█						
Engineering Phase		254d	27-May-15 A	30-Mar-16																				
Construction Bidding Phase		79d	31-Mar-16	17-Jun-16																				
Construction Phase		273d	18-Jun-16	17-Mar-17																				
<b>MBWWTP Detritors Rehab</b>	<b>MBWWTP Detritors Rehab</b>	759d	01-Jul-15 A	27-Sep-17																				
<b>MBWWTP Detritors Rehab</b>	<b>MBWWTP Detritors Rehab</b>	759d	01-Jul-15 A	27-Sep-17																				
Planning Phase		152d	01-Jul-15 A	29-Jan-16																				
Engineering Phase		276d	30-Jan-16	31-Oct-16																				
Construction Bidding Phase		91d	01-Nov-16	30-Jan-17																				
Construction Phase		240d	31-Jan-17	27-Sep-17																				
<b>Friar's Branch -South Chick Creek 5 Interceptor Rehab</b>	<b>Friar's Branch -South Chick Creek 5 Interceptor Rehab</b>	826d	16-Aug-15 A	03-Dec-17																				
<b>Friar's Branch -South Chick Creek 5 Interceptor Rehab</b>	<b>Friar's Branch -South Chick Creek 5 Interceptor Rehab</b>	826d	16-Aug-15 A	03-Dec-17																				
Planning Phase		136d	16-Aug-15 A	13-Jan-16																				
Engineering Phase		180d	14-Jan-16	11-Jul-16																				
Construction Bidding Phase		150d	12-Jul-16	08-Dec-16																				
Construction Phase		360d	09-Dec-16	03-Dec-17																				
<b>South Chick PS Phase II/Spring Creek PS Upgrades</b>	<b>South Chick PS Phase II and Spring Creek PS Upgrades</b>	714d	21-Aug-14 A	13-Dec-16																				
<b>South Chick PS Phase II and Spring Creek PS Upgrades</b>	<b>South Chick PS Phase II and Spring Creek PS Upgrades</b>	714d	21-Aug-14 A	13-Dec-16																				
Project Procurement		163d	21-Aug-14 A	05-May-15 A																				
Planning Phase		182d	06-May-15 A	23-Feb-16																				
Engineering Phase		119d	24-Feb-16	21-Jun-16																				
Construction Bidding Phase		119d	22-Jun-16	18-Oct-16																				
Construction Phase		56d	19-Oct-16	13-Dec-16																				
<b>Carter Street Sewer Rehab</b>	<b>Carter Street Sewer Rehabilitation</b>	1794d	07-Sep-12 A	16-Dec-16																				
<b>Carter Street Sewer Rehabilitation</b>	<b>Carter Street Sewer Rehabilitation</b>	1794d	07-Sep-12 A	16-Dec-16																				
Project Procurement		0d	07-Sep-12 A	07-Sep-12 A																				



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### PROJECT SCHEDULES GANTT CHART

Activity ID	Activity Name	Original Duration	Start	Finish	2013				2014				2015				2016		
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
	<b>Planning Phase</b>	0d	07-Sep-12 A	07-Sep-12 A															
	<b>Engineering Phase</b>	615d	08-Sep-12 A	28-Feb-16															
	<b>Construction Bidding Phase</b>	123d	29-Feb-16	30-Jun-16															
	<b>Construction Phase</b>	169d	01-Jul-16	16-Dec-16															



- Actual Work
- Remaining Work
- Critical Remaining W..