

**CAPACITY, MANAGEMENT,
OPERATIONS AND MAINTENANCE
FY 2013**

September 1, 2013



**City of Tuscaloosa
Water and Sewer Department**

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Acronyms and Abbreviations

ADEM	Alabama Department of Environmental Management
BMP	Best Management Practices
CCTV	Closed-Circuit Television
CIP	Capital Improvement Program
CMMS	Computerized Maintenance Management
CMOM	Capacity, Management, Operations, and Maintenance
CSA	Continuing Sewer Assessment
CSAP	Continuous Sewer Assessment Program
EPA	Environmental Protection Agency
FOG	Fats, Oils, and Grease
FSE	Food Service Establishment
FY	Fiscal Year
GIS	Geographic Information System
GLPM	Gravity Line Preventative Maintenance
LDP	Land Development Permit
NAASCO	National Association of Sewer Services Companies
O&M	Operation and Maintenance
OCE	The City of Tuscaloosa Office of the City Engineer
OTS	Operation's Technical Services
PACP	Pipeline Assessment and Certification Program
RDII	Rainfall-Derived Infiltration and Inflow
ROW	Right of Way
SCREAM	Sewer Condition Risk Evaluation Assessment Model
SOP	Standard Operating Procedure
SORP	Sewer Overflow Response Plan
SSO	Sanitary Sewer Overflow
TWSD	Tuscaloosa Water and Sewer Department

SECTION 1. INTRODUCTION

1.1 Overview and Report Period

On September 8, 2009 the City of Tuscaloosa Water and Sewer Department (TWSD) entered into a Consent Decree (Consent Order 09-104-CWP) with the Alabama Department of Environmental Management (ADEM). TWSD submitted the Engineering Report and Compliance Plan on December 15, 2009. As requested by the U.S. Environmental Protection Agency, TWSD also submitted a supplement to the Engineering Report and Compliance plan in order to address sanitary sewer overflows (SSOs) caused by grease, roots and other debris. The Supplement required that TWSD implement the following three items as part of a Capacity, Management, Operations and Maintenance Program:

- Fats Oils and Grease (FOG) Specific Program Development
- Capacity, Management, Operations, and Maintenance (CMOM) Program Development – Gravity Line Preventative Maintenance Plan
- Sanitary Sewer Overflow Response Plan (SORP)

The recommended practices for successfully developing and implementing a CMOM program can be resource intensive and require both policy and procedural changes in how the collection system is operated and maintained. TWSD has partnered with CH2M HILL to provide an added value with its national perspective on regulatory matters and extensive CMOM program development experience. In general the CMOM program is a methodology that focuses on management and operational techniques to provide better service to the customer and preventing SSOs. The CMOM programs provide the TWSD an opportunity to develop program goals and objectives and define strategies that are used to meet those goals. Appropriate performance metrics are being selected to measure progress with the CMOM Program goals and objectives.

Pursuant to the Consent Decree the TWSD is required to submit semi-annual reports on its development and implementation of these programs. This report describes the development and implementation of these programs including significant progress as well as obstacles or barriers to implementation.

1.2 Collection System Major Components

The TWSD sewer system currently covers approximately 51 square miles and serves approximately 42,000 customer accounts. The TWSD Hilliard Fletcher Wastewater Treatment Facility treats flow from a collection system that is comprised of approximately:

- 500 Miles of pipe to maintain
- 12,000 manholes to maintain

- 58 lift stations to maintain
- 12 Siphons
- 50 miles of force main

A map of the service area and major components can be found in Appendix A.

1.3 CMOM Program Structure

TWSD has been performing CMOM related activities for many years. In 2012, these activities were structured into a formal CMOM program and the TWSD was reorganized to provide leadership and focus on collection system operation and maintenance asset management while making necessary investments of resources for successful implementation of the programs. TWSD currently has 28 CMOM program elements which are identified in Table 1.1. Section 2 and 3 of this report provides an update on the implementation of each of these program elements.

Table 1.1 CMOM Program Activities

Capacity Programs	Operations Programs
Capacity Assessment and Assurance	Emergency Preparedness and Response
Hydraulic Model	Safety
	Budgeting
Management Programs	Alabama One Call Line Locates
Organizational Structure	FOG Programs
Communication and Customer Service	Pump Station Operations
Legal Authority	Pump Station ARV Program
Asset Management Program	Continuous Sewer Assessment Program
Safety and Training Program	Flow Monitoring
SSO Reporting and Notification	CCTV Inspections
	Manhole Inspections
Maintenance Programs	Creek Crossing Inspections
Asset Renewal Program	Root Control
Sewer Cleaning	Engineering
Equipment and Tool Maintenance	
Lift Station Maintenance	
Right of Way Maintenance	

SECTION 2. CMOM PROGRAM HIGHLIGHTS

While the consent decree did not specifically require the TWSD to formalize a comprehensive CMOM program, it was recognized that to be successful implementing the required items that the TWSD would best be served by taking the steps to formalize the CMOM program according to US EPA Guidance. This section provides an update of the TWSD CMOM program implementation.

2.1 Budgeting

The purpose of TWSD's budgeting program is to provide sound fiscal responsibility and cost effective services to its ratepayers. The budgeting program provides the department with a clear understanding of its needs and obligations. It also allows for planning for future needs and expenditures. Multiyear operating and capital budget projections are used to set priorities and realistic implementation schedules. The CMOM Program and necessary investments for successful implementation of the Program has been endorsed by the City of Tuscaloosa's elected leaders.

2.1.1 Operations and Maintenance Budget

The TWSD fiscal year runs from October 1 till September 30 which in general is when the O&M Budget runs. The TWSD divisions begin preparing the upcoming year's operations and maintenance budget about 6 months in advance of the approval period of the budget to assure proper review has been conducted by the TWSD, the City of Tuscaloosa Finance Department and the Mayor's Office.

Table 2.1 represents each operating division of the TWSD and their respective budgets from FY 2010 till the proposed FY 2014 budget. Table 2.1 also totals out the annual budget for the Wastewater Collection and Conveyance Divisions. These divisions have had an average annual increase of 13.43% since FY 2010. This increase is primarily due to increase preventative maintenance activities that are being done to prevent and investigate sanitary sewer overflows.

Table 2.2 list the TWSD special projects for the Wastewater Collection and Conveyance System. This table shows over \$2,000,000 per year increase in funding for operation and maintenance special projects since FY2010 till now.

Table 2.1 Budgets for Operating Divisions of the TWSD

Divisions	FY 2010	FY 2011	FY 2012	FY 2013 Projection	FY 2014 Budget	
Engineering	\$756,754	\$761,312	\$706,627	\$812,694	\$991,636	
Administration	\$167,108	\$160,495	\$369,170	\$538,762	\$723,684	
Business Office	\$1,692,216	\$1,854,457	\$1,593,312	\$1,648,325	\$166,739	
Claims	\$193,150	\$166,150	\$75,108	\$125,500	\$125,000	
Meter Reading	\$1,178,676	\$1,290,543	\$1,238,520	\$1,406,443	\$1,411,501	
Lakes	\$589,430	\$558,626	\$615,165	\$696,419	\$783,413	
Wastewater Treatment	\$2,817,231	\$2,617,617	\$2,984,699	\$3,355,254	\$3,652,821	
Wastewater Collection	\$1,714,844	\$1,684,539	\$1,845,765	\$2,783,178	\$2,823,056	
Wastewater Pump Stations	\$1,076,677	\$1,010,422	\$1,177,922	\$1,434,224	\$1,611,682	
Plott Water Treatment Plant	\$490,217	\$631,820	\$697,948	\$611,788	\$681,350	
Ed Love Water Treatment Plant	\$393,309	\$3,881,971	\$4,019,268	\$4,230,934	\$4,621,119	
Ed Love Lab	\$190,397	\$163,334	\$150,628	\$166,680	\$191,350	
Water Distribution	\$2,949,894	\$2,845,098	\$2,741,617	\$3,495,288	\$3,986,296	
Other Operating Costs	\$5,599,239	\$5,302,352	\$4,823,267	\$10,815,344	\$10,825,683	
Transfers to General Fund for Support	<u>\$2,327,719</u>	<u>\$2,797,506</u>	<u>\$2,797,506</u>	<u>\$2,485,901</u>	<u>\$2,500,000</u>	
Totals	\$22,136,861	\$25,726,242	\$25,836,522	\$34,606,734	\$35,095,330	
						Average
Totals Percent Increase		16.214%	0.429%	33.945%	1.412%	13.000%
Wastewater Collection & Conveyance	\$2,791,521	\$2,694,961	\$3,023,687	\$4,217,402	\$4,434,738	
						Average
WWC Percent Increase		-3.459%	12.198%	39.479%	5.153%	13.343%
WWC Percent of Total	12.610%	10.476%	11.703%	12.187%	12.636%	

Table 2.2 Operation and Maintenance Special Projects Budget

	FY 2010	FY 2011	FY 2012	FY 2013 Projection	FY 2014 Budget
CMOM Development			\$315,000	\$22,802	
CMOM Activities			\$59,155	\$277,296	\$100,000
Flow Monitoring			\$260,675	\$70,500	\$80,000
CMOM II				\$250,000	\$350,000
SCREAM			\$57,645	\$125,000	
Rehab/Repair				\$756,110	\$1,240,500
Assess/Cleaning				\$418,890	\$400,000
Root Control				\$100,000	\$25,000
ROW Spraying				\$100,000	\$75,000
Total Wastewater Collection Special Projects	\$0	\$0	\$692,475	\$2,120,598	\$2,270,500

2.1.2 Capital Budgeting

The TWSD capital budget is usually prepared and approved midway into the fiscal year. In FY 2012 the City of Tuscaloosa approved approximately \$5,000,000 in capital spending on sanitary sewer projects. It is projected that over \$20,000,000 will be allocated toward wastewater projects over the next five years as demonstrated in Table 2.3. All projects required by the Engineering Report and Supplement have either been completed or are funded in current or projected budgets. The primary basis for developing the capital budget is described in Section 2.2.

Table 2.3 5-Year Capital Budget

Description	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
College Park Line	=>	\$ 30,000			
*39th Avenue East Drainage and Sidewalks (Univ. BLVD/VM PKWY)	=>	\$ 50,000			
*Highland Water/Sewer Improvements	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	
*Hargrove Road and Skyland Boulevard Re- Alignment	\$ 110,000				
*Emergency/Unanticipated Utility Repairs	\$ 1,500,000	\$ -	\$ 500,000	\$ -	\$ -

Airport Industrial Park Utility Improvements	\$ 1,100,000				
LS 21 Interceptor Upper Portion	\$ 720,000				
LS 21 Interceptor Lower Portion	\$ 1,110,000	\$ 2,590,000			
Fletcher Plant: Blower and Aeration Upgrade	\$ 1,400,000				
LS 3 Gravity Line Condition Upgrades	=>	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	
*Harrison Parkway and Hargrove Road Re-Alignment		\$ 250,000			
Tamko Line Upgrade		\$ -	\$ 430,000		
*Cypress Creek Drainage Project: Phase I			\$ 150,000		
39th Street Downstream of Holy Spirit			\$ 1,400,000		
*Cypress Creek Drainage Project: Phase II				\$ 150,000	
Pier Replacement Project for Sewer Lines				\$ 550,000	
Queen City Trunk Jumper to 21st Avenue Sewer					\$ 850,000
Fletcher Plant: Digester 1 Repairs / Modifications					\$ 900,000
*Cypress Creek Drainage Project: Phase III					\$ 150,000
Total	\$ 6,140,000	\$ 5,120,000	\$ 4,680,000	\$ 2,900,000	\$ 1,900,000

***These projects are combined water and sewer projects**

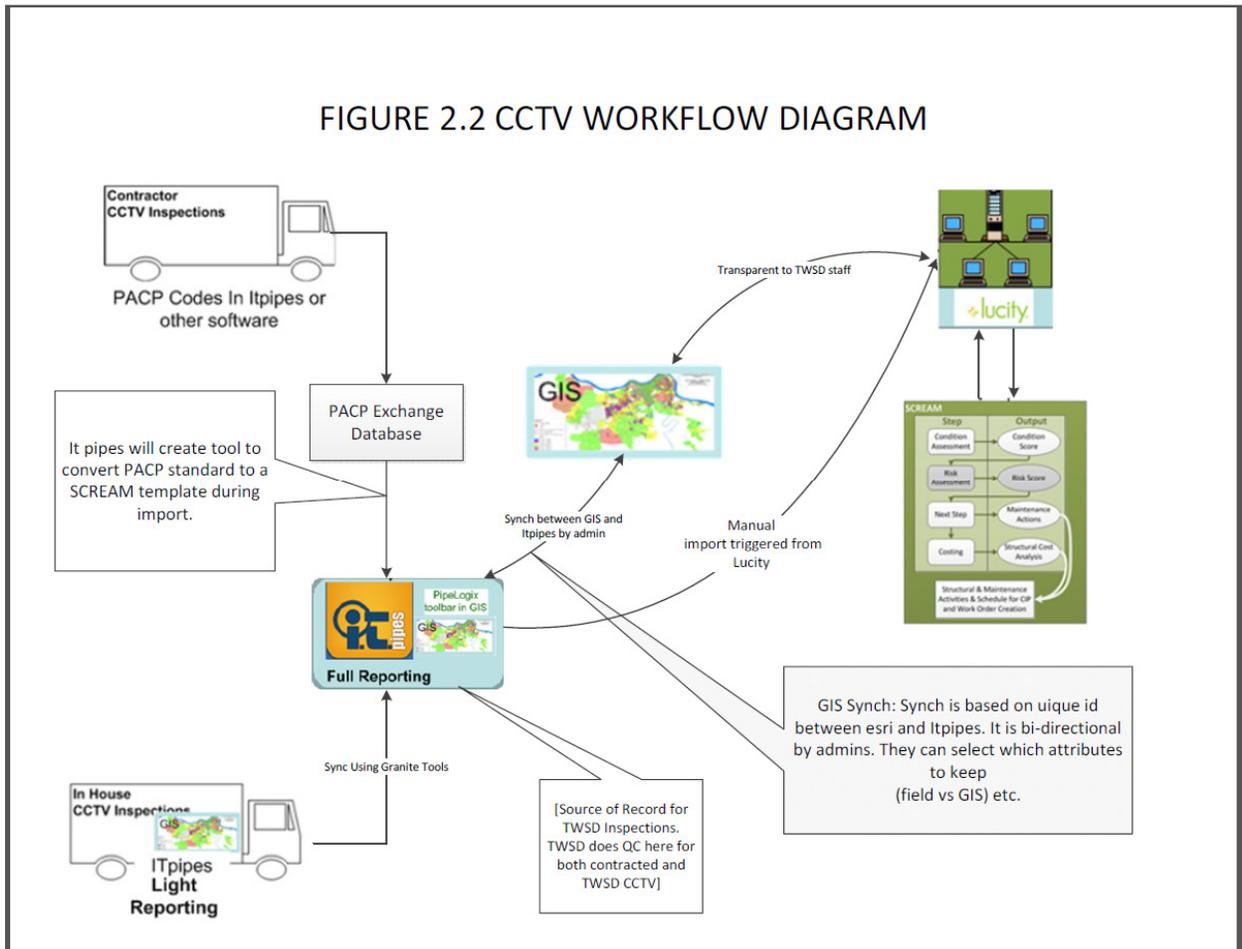
2.2 System Inventory, Maintenance Management System and Data Management Plan

TWSD has a goal to perform a high level comprehensive asset management program on all assets within the department (both water and wastewater). This starts with a complete inventory of all assets which TWSD has completed for all of its sanitary sewer assets (water distribution system assets are still being inventoried). These assets are inventoried with all pertinent data in a GIS database and in a CMMS database. The TWSD uses software named Lucity as its CMMS. Both the TWSD's GIS software and CMMS (Lucity) communicate bi-directional, so that when an update is made in one it is reflected in the other.

TWSD has created a 5-year rehabilitation and assessment plan using the Lucity and GIS database and by assigning risk scores to assess priorities. The TWSD is currently in the process of implementing a continuous sewer assessment program (CSAP) using a Sewer Condition Risk Evaluation Analysis Model™ (SCREAM). This model will help with automation of next action work orders for cleaning, re-inspection, work scheduling and permanent solution determination. SCREAM is a tool used by high performing wastewater utilities.

The TWSD also invested \$57,645 for the purchase of new CCTV assessment software called IT Pipes. This software will be equipped with a GIS integration tool and will support the work flow represented in Figure 2.2.

With the help of consulting firm CH2Mhill, the TWSD has created a data management plan which was previously submitted to ADEM in November 2012. This plan is the roadmap to how all of the data is stored and delivered to the databases. This plan also addresses work flow, communication and data handling. This plan will be updated annually from this point forward and is a fundamental part of the TWSD Asset Management Approach.



2.3 Sewer Overflow Response Plan

To provide the best overall level of service to the citizens of the City of Tuscaloosa, the TWSD developed a Sanitary Overflow Response Plan (SORP) to define how the TWSD responds to SSOs, protects public health and environment, performs source identification, restores sewer service, and mitigates further problem issues with sewer systems. The SORP was submitted to ADEM in November 2012. It outlines the TWSD's response plan to SSOs in order to minimize impacts to public health and the environment and to meet required regulatory guidance.

2.3.1 SORP Updates

Updates to this SORP in comparison to the SORP being used prior to this submission include the following:

- Personnel are better trained to the SORP procedures.
- Personnel are better trained on how to clean up a spill and document clean activities.
- The TWSD hired three new SSO investigators.
- Personnel are better trained on how to make decisions on whether SSOs are notifiable according to the SORP criteria and ADEM requirements.
- All building backups are now deemed notifiable.
- All SSOs are being investigated by some method(s) and this is being tracked in Lucity. All recommendations for the next step action are being entered into a work order in Lucity and being completed in a very timely matter in most cases depending on available resources and the criticality of the work order.
- Recurrent SSOs are those that are known to have occurred more than once in three years. The SSO investigators have a list of recurrent SSOs that they inspect after each significant rain event (2.2 inches or more within a 24-hour period). A list of these locations from 2009-2012 are represented in Appendix C.

2.3.2 SORP Training

Current TWSD staff was trained on the most recent version of the TWSD SORP on October 17 and 19, 2012. The sign in sheets and presentation notes are shown as Appendix B. The TWSD will provide refresher training to all employees at least once per year.

The TWSD Program Coordinator has developed a training checklist form for new employees. It is shown in Appendix D. The Program Coordinator is responsible for scheduling and training new employees on all TWSD policies and procedures including the SORP.

2.3.3 SORP Annual Review

The TWSD will complete an annual review to serve as an audit of program activities, successes, and issues in order to develop a strategy to make any necessary updates to further strengthen the

SORP and the City of Tuscaloosa. The SORP Annual Review will be scheduled to be performed so that any updates will be implemented by January 2014.

2.4 Fats, Oil and Grease Program

Records indicated that one of the historic major contributors to SSOs in the TWSD system has been blockages caused by fats, oils and grease (FOG). TWSD had a functional program but performed a comprehensive FOG Program review to develop an updated FOG Program. In November 2012, the TWSD submitted to ADEM a Fats Oils and Grease (FOG) Program Plan. The TWSD worked with its consultant CH2MHill to develop the updated plan that was submitted. The FOG Management Program has been developed to reduce FOG SSOs and avoid potential conveyance and treatment performance problems. The program development involved the following steps:

- Understanding the regulatory requirements – This step involved identifying regulatory requirements that establish the legal framework for program development and implementation.
- Characterizing FOG sources – This step involved identifying the sources of FOG to be inventoried and evaluating where FOG may be affecting the conveyance or treatment system.
- Establishing program administration – This step involved identifying staff requirements and funding needs and sources for supporting the FOG management program.
- Selecting a FOG management program implementation approach – This step entailed selection of an approach for regulating the FSEs and establishing FOG handling and disposal practices.

The Fats, Oil, and Grease (FOG) Management Program is a formal program by the City of Tuscaloosa that incorporates applicable guidance, policies, and regulations governing FOG generators and haulers in order to manage grease waste generated by customers that discharge to the City's sanitary sewer system or treatment system.

The primary goal and purpose of the Tuscaloosa FOG Management Program is to prevent grease related pipe blockages and subsequent overflows from happening and thus avoid property damages, environmental problems in nearby surface waters, and public health hazards. By controlling the discharge of FOG to the wastewater collection system, FOG buildup in sewer lines and lift stations will be lessened, thereby increasing the wastewater collection system's operating efficiency and minimizing system maintenance expenditures. In addition, an effective FOG Management Program will minimize potential revenue losses associated with enforcement FOG related actions.

Another important purpose of the program is to prevent FOG discharges at the City's wastewater treatment plant (WWTP) from containing concentrations of pollutants or pollutant properties that might interfere with the operation of the plant or cause the treatment plant to exceed the NPDES permit effluent limits or cause pass-through of pollutants to the receiving stream or atmosphere. Goals of the FOG Management Program to reduce FOG related expenditures and protect the environment and the public health will be achieved by:

- Minimizing FOG entering the City's sanitary sewer infrastructure and keeping it in concentrations or rates allowed
- Public Education and Outreach
- Establishing control over FOG discharges at the City's wastewater treatment plant and keeping discharged FOG in concentrations within allowed limits.

2.4.1 Program Management

Program management has been led by the TWSD Program Coordinator and Linear Assets Manager. Together along with staff they have fully implemented the submitted FOG plan. This implementation included the following:

- Reviewed and restructured record keeping protocols for the FOG data in Lucity as well as Record keeping for the food service establishments.
- Grease Trap Inspection SOP changes
- Grease Trap Waste Disposal Changes
- Develop and Conduct FOG Education programs
- Research Performance Indicators and make program adjustments

2.4.2 Record Keeping

The City has been using Lucity data management software for its grease trap program before the FOG program was developed. During this time the TWSD used the Service Lateral Module in Lucity to inventory and track inspections of the grease traps. With the additional needs for data storage on grease haulers, Food Service Establishments (FSEs), manifests, and inspections, the TWSD chose to implement the use of the Lucity FOG Module that was available in version 7.3 of Lucity. The module enables performing additional activities that will further improve the FOG Program effectiveness such as:

- Scheduling and tracking of facility inspections.
- Scheduling and tracking of facility pump-outs.
- Tracking of maintenance log submittals.
- Tracking of discussions with facility and/or hauler.
- Comparing pickup volumes with disposal volumes.
- Tracking of notices, warning and violations as well as corrective activities.
- Tracking of permits for facilities, haulers and receiving stations.

2.4.3 Inspections

Before implementation of the TWSD FOG Plan, the TWSD had a grease trap inspector that inspected grease traps of the FSEs at least 4 times per year with minimal regard to problems or priorities.

Since the implementation of the FOG Management Program, routine inspections of all permitted FSEs are performed as random and unannounced inspections to observe their daily business

operations and routines and check their compliance with the FOG Management Program which includes visual inspection of the grease removal device and BMPs. All FSEs will be inspected approximately twice per year but eventually will be prioritized and inspected based on criteria such as:

- Type and method of food preparation.
- Size and grade of sewer mainline pipe to which the FSE discharges.
- History of grease related pipe blockages and SSOs downstream of the FSE.
- Compliance history.

In addition to routine inspections, some FSEs will be inspected following complaints such as sewer backups or SSOs. These triggered inspections will be performed to identify facilities possibly responsible for the blockage. Triggered inspections will occur regardless of any prior and/or recent routine inspection of these facilities.

2.4.4 Grease Trap Waste Disposal

Prior to implementing this updated FOG plan grease and septic haulers were not required to complete a manifest form for loads delivered at the plant nor were they tracked or logged in when they dumped loads at the plant. The TWSD has installed an automated security lift gate system at the FOG hauler receiving station that uses a bar code sticker to access FOG hauler trucks and logs their time and date of access. The FOG haulers must obtain this sticker by completing the form attached in Appendix E. This database will allow TWSD staff to check the manifest received against the number of accesses by each hauler. Currently the TWSD only requires manifests for FOG dumping however manifests will be required for all trucked waste dumping in the near future.

2.4.5 FOG Education Program

The TWSD has improved its FOG Education Program however efforts are still being made by the program coordinator to enhance this program. The OTS group provided FOG Education Classes to Food Service Establishments (FSEs) and Grease Haulers. The training program and participation sheets are attached in Appendix F and G:

The main purpose of these classes was to demonstrate and teach the new FOG Program changes that were being implemented in the TWSD's FOG Plan. Overall the new expectations of the haulers and FSEs were well received, once they understood the purpose and importance of the program.

2.4.6 Performance Indicators

Performance measurements are a key to properly evaluating the program activities. They allow the TWSD to determine if goals and level of service are being met. The following key performance measures are listed in the City's FOG Plan and will be evaluated to determine which the best performance indicators are for the TWSD.

- **Number of FSEs inspections** – The number of inspections and follow-ups re-inspection per day and month conducted by the SSO/FOG Investigator is calculated to determine appropriate resources and training. The desired number is 4 to 6 inspections per work day and 64 per month, which allows for inspections during periods other than prime FSE busy periods.
- **Time per inspection** – Average time per inspection is calculated to ensure appropriate staffing and training (sum of actual inspection times divided by number of inspections). The desired duration is between 30 min and 60 min.
- **Number of FSEs in the database** – This number determines required staffing for communication and inspection of FSEs.
- **Notices of Non-Compliance** – The number of courtesy and certified letters is expected to decrease with proper education and outreach, and effective enforcement measures. The staff must have adequate training and resources for follow-up activities after FSE inspections.
- **Percentage SSOs due to FOG** – The percentage of all SSOs correctly attributed to FOG is expected to decrease as a result of FOG Management Program.
- **New FSEs Permits** – The number of FSEs (new or previously not identified) issued FOG Wastewater Discharge Permits.
- **Cost of Regulatory Fines for SSOs due to FOG** – Costs should reduce over time.

2.5 Collection System Maintenance

2.5.1 Gravity Line Preventative Maintenance Plan

Gravity line preventative maintenance plays a key role in maintaining system capacity, clearing obstructions and preventing SSOs. The TWSD submitted a Gravity Line Preventative Maintenance Plan to ADEM in November 2012. This plan documents the TWSD's process for preventative cleaning in the wastewater collection system. This plan has been fully implemented and is already showing improvement to the operation and effectiveness of the system. The gravity line preventative maintenance program is a subprogram to the TWSD's Continuing Sewer Assessment (CSA) Program that is discussed further in Section 2.6 of this report.

2.5.2 Preventative Maintenance Work Orders

TWSD is cleaning several hot spot sewer segments that have known historic problems and is attempting to prevent repeated SSOs. The TWSD has six cleaning lists that are automatically scheduled at specified intervals. Three of these lists are scheduled monthly. There are approximately 71 line segments on these lists and they are organized geographically in order to maximize the efficiency of the crews doing the work orders. Two of the other lists are scheduled on a 6-month interval. There are 38 lines on this list. One of these lists is specifically for cleaning lines with siphons and the other is a list of problem lines that we anticipated may need to be cleaned as often as 6 months. The sixth list has 14 lines on it and is scheduled to be completed one day before each University of Alabama home football game.

2.5.3 Right of Way Maintenance

The TWSD employees a Right of Way (ROW) crew that is responsible for maintaining security, access and clearing trees from the ROWs in areas that are not in public streets or roads. The TWSD has approximately 150 miles of ROW that is not located within streets and roads. This crew utilizes bush hogs, heavy equipment and chemical spraying for its maintenance activities. In FY 2012 TWSD contracted ROW spraying for approximately 123,000 linear feet of ROW. In FY 2013 TWSD has contracted ROW spraying for approximately 107,000 linear feet of ROW.

2.5.4 Root Control Program

The goal of the TWSD's Root Control Program is to limit root intrusion sufficiently to prevent significant capacity reductions and overflows in areas where there is high risk for root intrusion. Roots alone can significantly block sewer lines, and they can allow debris and grease to accumulate. Root intrusion into gravity sewer lines can significantly reduce transport capacity and lead to overflows. Root intrusion occurs primarily along sewer lines within vegetated sewer easements. Line segments beneath roadways and other concrete or asphalt surfaces are typically far enough removed from nearby trees to limit root intrusion.

The objectives of the Root Control Program are to:

- Eliminate root-caused SSOs
- Reduce deterioration of the collection system caused by root intrusion
- Ensure corrective action is taken in a timely manner
- Identify and implement measures to control root intrusion
- Implement effective public outreach and education resources that can be useful in educating property owners on tree and shrub selection and placements and potential root problems that they may have with the service laterals that are their responsibility.

Roots are cut by hydraulic and mechanical cleaning, and chemicals are normally applied as a follow up procedure. Root saw attachments are standard equipment on cleaning trucks. When a crew encounters roots during routine cleaning, a hydraulic saw is attached to the jetter and used

to cut and remove the roots. The severity of the problem is recorded on the daily log in Lucity, and if necessary, the pipe section is placed on the list for priority cleaning.

The City currently has identified approximately 105,000 linear feet of sanitary lines that require routine root maintenance. In FY2012 and FY 2013, the TWSD contracted to have 68,872 linear feet of sanitary chemically treated. In FY2012 and FY2013 the TWSD crews chemically treated 13,453 linear feet of sanitary sewer lines in 2013.

2.5.5 Creek Crossing Inspections

The TWSD has two lists of sanitary sewer creek crossings. The first list is inspected annually in the fall and the second list is inspected every five years. These lists are represented in a table in Appendix H. Although creek crossings have not been a significant problem, any SSO that occurs at or near a creek crossing will be assessed on a priority basis.

2.5.6 Performance Indicators

The TWSD uses its CMMS and GIS to evaluate key performance indicators. The indicators that are used appear in the list below:

- SSOs per 100 miles per year
- SSOs per year
- SSOs cause by grease, roots and debris per year
- Odor Complaints
- Customer Service Calls
- Maintenance Targets
- Percent Repeat Offenders
- Maintenance Target (%CCTV, Cleaned, Manhole inspections, etc) per year
- Preventative to reactive maintenance work order ratios
- Number of Blockages per year
- Number of Operations Related SSOs
- Number of Building Backups
- Rehabilitation and Repair Efforts
- Wet Weather SSOs per inch of rain per 100 miles of sewer per year
- Geospatial presentations of blockages and overflows to analyzed trouble spots

TWSD will annually review and revise performance indicators as the CMOM Program evolves.

2.6 Continuous Sewer Assessment Program

The TWSD is currently in the process of developing and implementing a Continuous Sewer Assessment Program (CSA) with the help of CH2MHill. It will use SCREAM along with IT Pipes Software to generate condition and structural maintenance scores for pipes and manholes

which will then generate recommended next actions such as re-inspecting, cleaning, rehabilitation, repair or replacement.

The purpose of the CSA program is to provide a proactive and coordinated asset management-based approach to assessing the condition and life cycle of TWSD's assets. As part of this GLPM Program, the City will implement a CSA Program that involves every element of the City's sewer services. The CSA Program promotes risk based decisions and prioritization of preventative maintenance activity to ensure that the City optimizes use of its resources in executing this activity. The purpose of the CSA Program is to proactively manage the structural and functional integrity of the City's collection system and reduce sewer overflows by developing a sewer maintenance program based on the likelihood and consequence of failure of its collection system assets. The City's CSA Program will encompass multiple EPA capacity, management, operations, and maintenance (CMOM) Program elements that are closely integrated and interdependent. The programs collectively support activities and address the City's conveyance infrastructure assets. The major EPA CMOM Programs associated with the CSA are:

- **Preventative O&M** – prioritizes the condition assessment, maintenance and repair/rehabilitation of the collection system to proactively prevent system failure that can cause overflows.
- **Collector and Interceptor System Program** – target cleaning and condition assessments of all collectors.
- **Large Diameter Sewer Assessment Program** – focuses on the maintenance and condition assessment of large diameter sanitary sewer (greater than 18 inches in diameter).
- **Sewer Callout Program** – provides response to customer calls and complaints in relation to the sanitary sewer system.
- **Manhole Inspection Program** – assess manholes throughout the entire system to determine the extent of structural defects, signs of sewer surcharge and signs of I/I.
- **Repair and Rehabilitation Program** – provides long term solutions to problems found in the above programs.

The goals of the City's CSA Program are to:

- Anticipate and respond to prioritized structural and maintenance performance issues before they create regulatory problem or a level of service issue with customers
- Maintain or extend infrastructure's expected service life
- Sustain a long-term data and information system and asset management approach to efficiently leverage the value of inspection data into cost effective infrastructure maintenance and related decisions and investments
- Eliminate most recurring SSOs and reduce the frequency of occurrence of those not eliminated The City's CSA Program goals support the EPA's Continuing Sewer Assessment Program interests, as contained in their 2005 Guidance. Although EPA stated them slightly differently, EPA's CSA goals are to:
 - Understand the nature and source of sewer system problems
 - Prioritize investigations and subsequent corrective actions
 - Select effective corrective actions

- Sustain the investigative and corrective action process

One of the major supporting programs from among the listed CSA programs that are instrumental to achieving both the City’s and EPA’s CSA goals is the City’s GLPM Program. As part of the CSA, the GLPM program implements the sewer inspection and subsequent cleaning priorities from the CSA.

2.6.1 Collection System Condition Assessments

The CSA program will use IT Pipes software in conjunction with SCREAM codes to assess its sanitary sewer pipes and manholes. The TWSD currently contracts out the majority of its assessment work and the data is delivered in a PACP standard exchange database using NAASCO PACP codes. These codes will be converted to SCREAM codes in order to be evaluated in the future by the end of FY 2014.

Tables 2.2 and 2.3 outline the amount of the system that has been assessed since 2009 through July 2013.

TABLE 2.4 Pipes that have been CCTV Inspected since 2009

Period	Cumulative Initial Inspection Mileage/ Overall	Total Cumulative Mileage	Total System Mileage	Percentage Total System Initial Inspection	Percentage Total System Cumulative Inspection
2009	4.72	5.14	550	0.86%	0.94%
2010	10.64	12.08	550	1.93%	2.20%
2011	14.69	16.35	550	2.67%	2.97%
2012	33.82	38.23	550	6.15%	6.95%
2013	58	66.08	550	10.55%	12.01%

- TWSD currently has a contract with Video Industrial to clean and CCTV 16 miles of sanitary sewer pipe

TABLE 2.5 Manhole Inspections performed since 2009

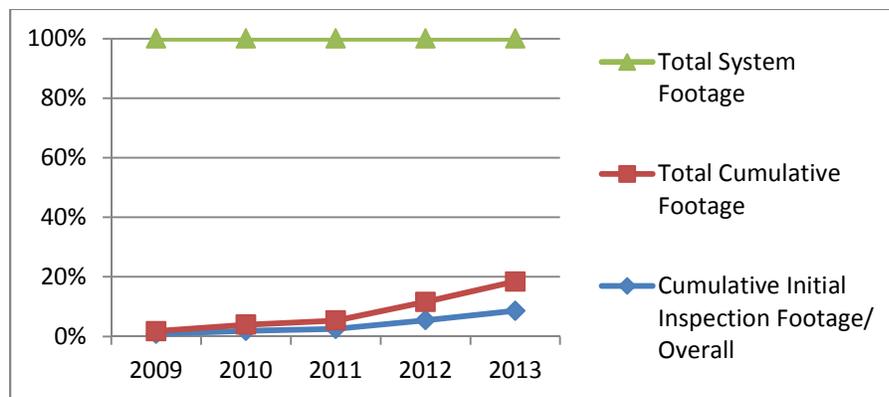
Period	# of Manholes Inspected
2007	0
2008	0
2009	0
2010	9
2011	47
2012	40
2013	48
Total	144

* TWSD currently has contracted 4000 vertical feet of manhole inspection in basins 7, 10 & 33 with Video Industrial Services approximately 800 manholes.

In FY 2013 TWSD contracted out approximately 40 miles of CCTV inspections and 800 manhole inspections. The locations of these inspections were also in priority drainage basins with priority being based on April 2011 storm recovery areas, RDII and maintenance problem areas.

The GLPM Plan projected that the TWSD will assess all of its sanitary sewer lines over a ten year period. Figure 2.3 illustrates TWSD current progress toward that goal.

FIGURE 2.3



The TWSD assessment crews will inspect upstream and downstream manholes during sanitary sewer pipe inspections; unless they have been inspected within the last three years once the CSA program is fully implemented.

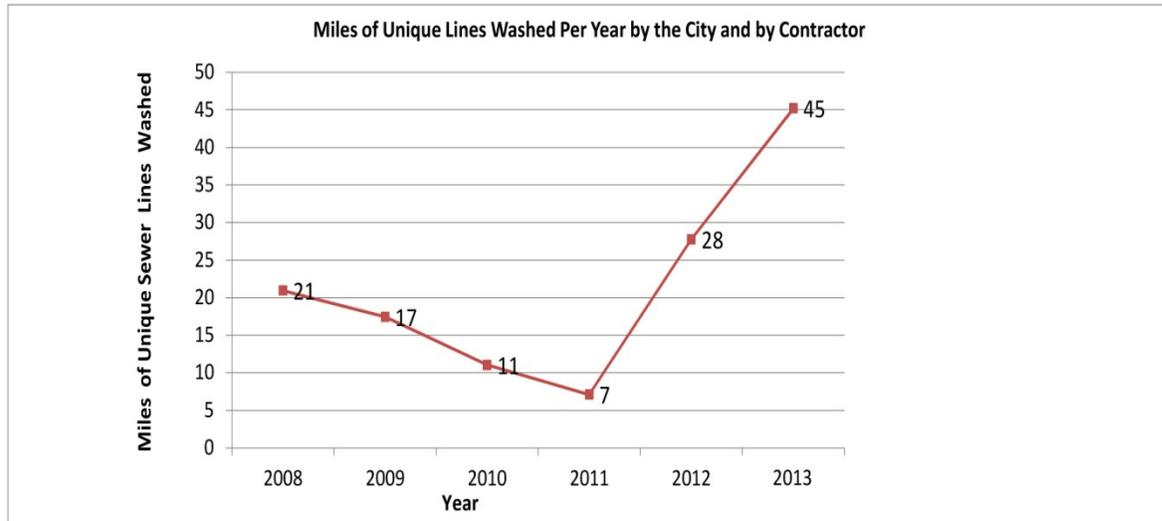
2.6.2 Collection System Maintenance

Cleaning

Sewer cleaning is critical to keep sewer lines open and maintaining capacity. It is also extremely important in preventing overflow. Currently the TWSD is cleaning sewer in known problem basins that have been historically plagued with root and grease issues. Once the CSA program has been fully implemented the TWSD will be to use the SCREAM model to direct work based on maintenance scores and identify appropriate scheduling for the cleaning of the pipes. Figure 2.4 below shows the footage of pipe cleaned per year since 2009.

FIGURE 2.4 Miles of Pipes Washed per Year

Year	Feet of Unique Lines Washed	Miles of Unique Lines Washed	Percentage of the System Washed By Year
2008	110481	21	2.9
2009	92057	17	2.4
2010	58218	11	1.5
2011	37511	7	1.0
2012	146407	28	3.9
2013	238539	45	6.3



Rehab and Replacement

Table 2.4 describes the rehabilitation, repair and replacement activities performed by TWSD contractors and internal crews since 2009. In 2013 the TWSD contracted with REV construction to perform all necessary point repairs and replacements on lines and manholes. The amount for this contract was \$756,000.

TABLE 2.4 Rehabilitation, Repair and Replacement Activities

Activity	2009-2012	2013 YTD	Total
Feet Sewer Line Repaired or Replaced	4788	2343	7131
Feet Sewer Line Rehabilitated (CIPP)	26434.5	1447.07	27881.57
Number Misc. Sewer Repairs (ie point repairs)	194	37	231
Number Manhole Repairs	223	39	262
Number New Manhole Installations/ Replacements	29	15	44

2.7 Lift Station Operation and Maintenance

Currently the lift station operation and maintenance group is made up of seven employees. They are a supervisor, three maintenance technicians and three maintenance assistants. They are responsible for maintaining and operating 58 lift stations. They use the same CMMS as the collection system maintenance and assessment crews. Currently 42 lift stations have generators. The City of Tuscaloosa TWSD is currently funded ~\$475,000 to install generators at all of the remaining stations to be completed by the end of FY 2014.

The Lift Station Operation and Maintenance policies and procedures (SOP's) are being evaluated in house by the Linear Asset Manager and Program Coordinator. Once this evaluation is complete, an implementation plan will be developed and placed into action. The completion date goal for this project is December 2014.

2.8 Capacity Assurance

The reason for the TWSD's capacity assurance program is to determine the system's overall capacity in the collection system and wastewater treatment plant, identify areas that lack capacity and develop a plan and solution to provide sufficient capacity to those areas. There is staff assigned to this program that has an understanding of TWSD's system capacity which will allow for better planning and management for system improvements. It should also be noted that

TWSD has done a system Master Plan and is continuously evaluating planned improvements to address capacity problems and future growth needs.

2.8.1 Flow Monitoring

Flow monitor data provides insight into sewer performance by revealing important information about how the collection system handles observed flow rates. It is also used for calibration and loading of the TWSD hydraulic model. TWSD hired ADS Environmental Services to conduct a comprehensive flow monitoring event in the first and second quarter of 2012. A total of 45 basins were evaluated using 49 flow monitors and 5 rain gauges. Following this project the TWSD decided to hire CSL Services to deploy 10 permanent flow meters and 5 rain gauges in late 2012. In July 2013 the City of Tuscaloosa approved the addition of 3 more permanent flow meters within the system bringing the total to 13 permanent flow meters installed in the collection system. The location of these flow meters on represented on Appendix I. TWSD meets or exceeds CMOM capacity management recommendations.

2.8.2 Field Inspections and Permitting Requirements

All new sanitary sewer lines, manholes and lift station installations must be permitted through OCE by a Land Development Permit (LDP). The City of Tuscaloosa Office of the City Engineer (OCE) is responsible for insuring that all installations of sanitary sewer lines and manholes meet City of Tuscaloosa design and construction standards.

2.8.3 Hydraulic Model

The TWSD last updated its sanitary sewer hydraulic model in 2009. It is scheduled and requested in the FY 2014 Budget for the model to be updated using the flow monitoring data previously collected in the project discussed in Section 2.9.1. This model is to be used as a planning tool for needed capital improvement projects as well as provide ongoing information about the current performance of the collection system in response to system expansion or improvements.

2.9 Standard Design, Construction and Inspection

The OCE maintains the City of Tuscaloosa Manual for Design of Sanitary Sewers and Standard Specifications. These design standards were adopted by the City of Tuscaloosa governing council in 2010. These standards and specifications are currently being reviewed for additions and revisions. These changes should be reviewed and approved in FY 2014. These standards are consistent with recommended practice.

2.10 Communication and Public Outreach

The purpose of the TWSD's communication and public outreach program is to educate staff, internal City of Tuscaloosa Departments, customers and community groups about the program and services the TWSD offers.

One of the top goals of the TWSD is provide customer service at a high level by providing excellent customer service to both internal and external customers. The wastewater collection division prides itself by reacting quickly and effectively to customer callouts and being knowledgeable when called upon.

Another goal of the TWSD wastewater collection staff is to improve communication and trust between TWSD staff and stakeholders. TWSD realizes it needs to put more effort into this program so the TWSD Program Coordinator has been given the responsibility for the communication and public outreach program. He has been tasked to assemble an internal team that will develop a mission statement, vision and list of goals for the customer service plan. This plan will include improved outreach for the FOG program, an improved website and communication plan.

The FOG education program for residential properties is an area we have identified as needing work. We know we have FOG problems from some high intensity residential areas.

The wastewater collections division of the TWSD also feels that it is important to share TWSD information and success with others in the industry. The TWSD plans to make presentations in the following forums and events over the next year (see table 2.5):

TABLE 2.5 Planned Presentations

Date	Forum/Event	Presentation/Topic
Sep-13	2013 Lucity Conference	How Tuscaloosa Water and Sewer Department used Asset Management to Reduce SSOs
Dec-13	AWEA Collection System Committee Seminar	How Tuscaloosa Water and Sewer Department used Asset Management to Reduce SSOs
Mar-14	2014 WEF Collection System Conference	Managing Smarter Moves Tuscaloosa Water and Sewer Department towards Sustainable SSO Reduction Accomplishments
Apr-14	2014 AWEA Conference	SSO & FOG Reduction

2.11 Organizational Structure

The purpose of TWSD's Organizational structure is to provide structure to the department and to define job responsibilities for each position within the department. This helps ensure that adequate staff is assigned to the different divisions to accomplish the goals of the department.

The TWSD wastewater collection division is part of the Linear Asset Division of TWSD. This division also is responsible for water distribution division. Attached in Appendix J is an organizational chart for wastewater collections.

It was recognized early on that the wastewater collections division would need additional staff to support the CMOM programs effectively and efficiently. A new group within the division was created. This newly formed group is called Operation's Technical Service Group. They are responsible for the following:

- Program Development, Training and Implementation
- FOG Program Operations
- SSO Investigation
- QA/QC
- Scheduling
- Safety
- Training
- Asset Management
- Software Management
- Reporting

In 2012 and 2013, four new positions were created to help handle the new CMOM programs. These positions are as follows:

- Linear Asset Manager – Jarrod Milligan P.E.
- Operations Technical Service Supervisor – Craig Thorpe
- System Database Specialist – Jason Townsend
- Secretary Senior – Amy Jones

During this time we also reclassified three positions to higher pay grades so that they could take on additional responsibility. These positions are as follows:

- Program Coordinator – Charles B Smith
- SSO Investigator – Phillip Burroughs
- SSO Investigator – Coleman Campbell

2.12 Safety and Training

The purpose for the TWSD safety and training program is to build a workforce that meets its goal of becoming a best-in-class-utility by being professional and proactive while ensuring correct measures are taken to eliminate and control exposure of TWSD employees and the general public to safety hazards. TWSD has conducted peer review at multiple utilities across the country to review their data management protocols, SOPs and safety programs in order to improve on our programs. Safety and training are being constantly improved with intentional focus from the Linear Asset Manager and Program Coordinator. Appendix K represents training and peer review trips that staff have attended in FY 2012 and 2013.

SECTION 3. CMOM SELF ASSESSMENT UPDATE AND CORE ATTRIBUTE ASSESSMENT

In April 2013, TWSD partnered with its consultant CH2MHill to conduct a CMOM self-assessment update and core attribute assessment workshop. CH2M HILL has been involved with the development of the TWSD CMOM Program from the beginning and has a good understanding of the issues and challenges that faced utility personnel to implement a “best practice” CMOM program to meet the regulatory requirements of the ADEM order and the U.S. Environmental Protection Agency (EPA) Region 4 guidance. The purpose of the workshop was to gather information and recommendations to improve on TWSD’s CMOM program using core attributes to assess progress and to reduce SSOs.

The workshop provided an opportunity to have an informative dialogue regarding TWSD’s progress on its development and implementation of the CMOM Programs and related activities. The workshop attendees engaged in the following activities:

- Reviewed TWSD’s compliance status for CMOM related tasks.
- Benchmarked progress against best practice goals and regulatory expectations.
- Identified gaps or problem areas where improvement might be needed.
- Reviewed SSO experience and the focus on SSO reduction strategies for 2013, 2014, and 2015.
- Linked improvements to Core Attributes of Effectively Managed Wastewater Collection Systems.

While the workshop identified enormous amounts of progress to date by the TWSD staff there were still many recommendations for improvements that were made by CH2MHill to TWSD that are presented in the table below.

TABLE 3.1

Core Attribute Scores for the TWSD

Consent Order Compliance and Reporting

1. Improve CMOM reporting to ADEM and public stakeholders.
 2. Evaluate CMOM staffing needs.
 3. Review and refine metrics.
-

FOG

1. Characterize FOG-related SSOs and make program adjustments
 2. Pilot the installation of a grease interceptor for a problematic housing development.
 3. Document courtesy letters as enforcement activities.
-

GLPM

1. Perform a more in-depth review of SSO repeaters, history, causes, and trends and make adjustments quickly.
 2. Review inspection and cleaning SOP's and reporting/recordkeeping (field and office).
 3. Assess resources needed to meet the long term goals for system wide CCTV inspection and cleaning.
-

SORP

1. Develop tools to automate data analysis tasks.
 2. Develop procedures to consume data analysis output to improve institutional knowledge and decision-making.
 3. Follow current NPDES permit requirements.
 4. Consider setting up review team to provide better understanding of SSOs and best follow up actions.
-

Root Cause Identification and Verification

1. Establish representative performance measures to track and monitor activities related to moving TWSD into a strong preventative maintenance status for addressing SSOs.
 2. Develop more specific post-SSO investigation protocols tailored to the initial root cause.
-

Core Attributes

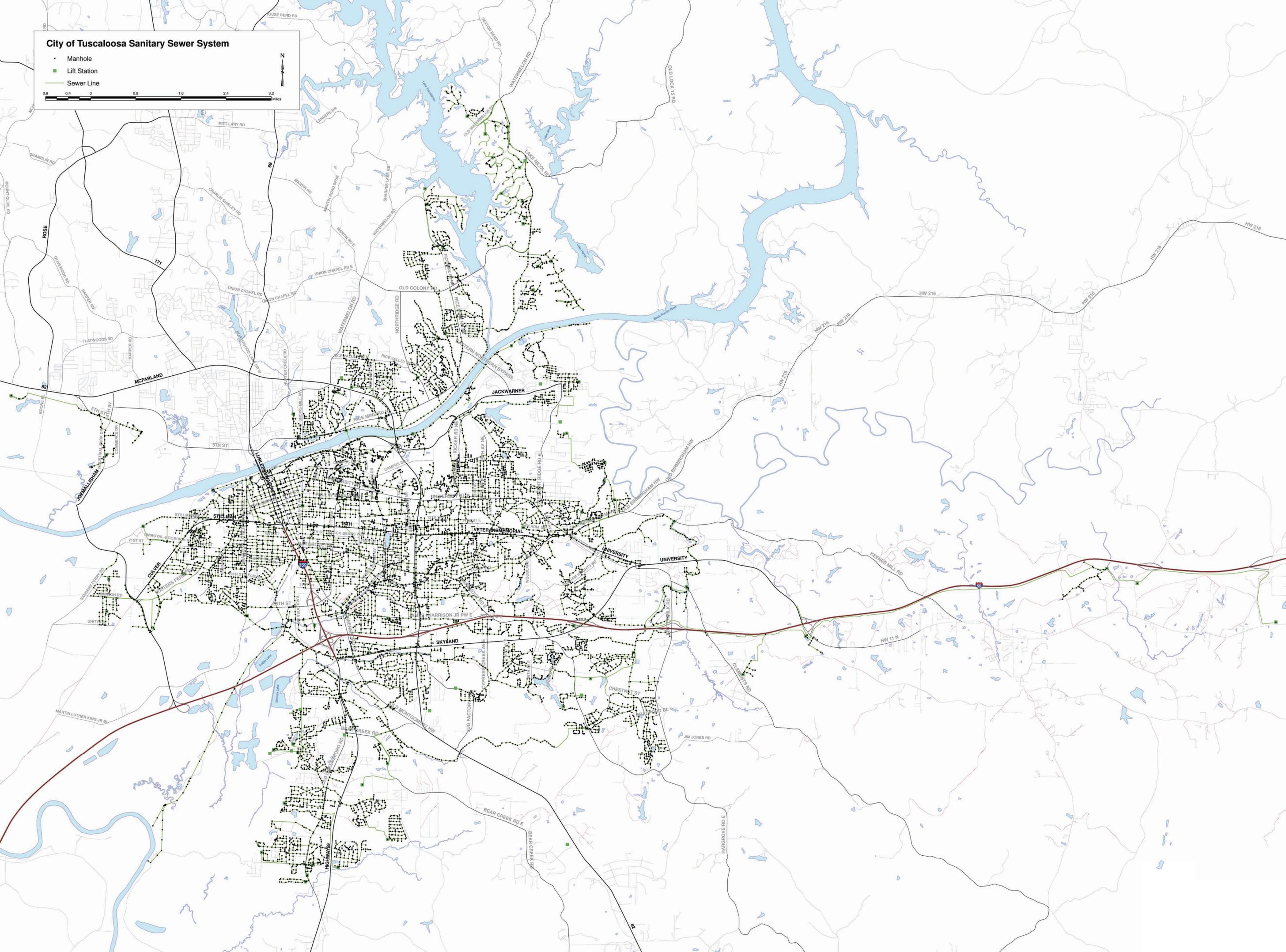
1. Map service laterals
 2. Have an external review performed of safety practices
 3. Initiate a plan to address private sources of I&I, primarily through a private lateral management program.
 4. Update hydraulic model.
 5. Develop capacity assurance protocols.
 6. Improve public education.
 7. Determine acceptable funding levels to sustain the CMOM program and secure funding commitment.
-

Appendix Table of Contents

- A-** Map of the Service Area and Major Components
- B-** SORP Sign in Sheets and Presentation Notes
- C-** 2009-2012 Recurrent SSOs
- D-** TWSD New Employee Training Check List
- E-** Application for FOG Haulers Sticker
- F-** FOG Training and Participation Sheets for Haulers
- G-** FOG Training and Participation Sheets for FSEs
- H-** Creek Crossing Inspections lists
- I-** Flow Meter Locations
- J-** Wastewater Collections Organizational Chart
- K-** Safety Training and Peer Review Trips FY2012-2013

City of Tuscaloosa Sanitary Sewer System

- Manhole
- Lift Station
- Sewer Line



SORP
TRAINING
CALL OUT
&
SSO DESTINATION
DECISION MAKING

FIELD PERSONNEL TRAINING

1  **SORP TRAINING
CALL OUT
&
SSO DESTINATION DECISION MAKING**
FIELD PERSONNEL TRAINING

2  **SORP TRAINING
CALL OUT PROCEDURE &
SSO DESTINATION DECISION MAKING**

Figure 1: SSO Notification.

SSO Response Field Activity
Flow

Figure 1 of the City of Tuscaloosa Sewer
Plan details the work
responding

Work

Overflow Response
flow of the field activity of
sewer crews.

3  **SORP TRAINING
CALL OUT PROCEDURE &
SSO DESTINATION DECISION MAKING**

Call Out Procedure

The Call Out Procedure is an internal
Tuscaloosa
flow of the
crews
responding

document of the City of
that further details the work
field activity of responding sewer
and details the data flow of
sewer and support crews.

4  **SORP TRAINING
CALL OUT PROCEDURE (PLANT)**

- ✓ A Call-out will be received by treatment plant personnel.
- ✓ The "WWTP Call Out-Work Order Sheet" will be filled out at that time by the "Dispatcher" of record.
- ✓ The Dispatcher will create a Work Request in the Lucity Maintenance Management Software Package and populate the appropriate information.
- ✓ The Dispatcher will also create an attached Work Order in the Lucity Maintenance Management Software Package.
- ✓ The Dispatcher will contact the Sewer Maintenance Supervisor.
- ✓ The Sewer Maintenance Supervisor will assign a crew or crews as needed. (After-hours calls will be dispatched directly to pre-assigned on-call personnel.)

5  **SORP TRAINING
CALL OUT PROCEDURE (SEWER MAINTENANCE)**

- ✓ For any call-out received resulting in a Sanitary Sewer Overflow(SSO) or Building Backup the Sewer Maintenance Supervisor will be immediately notified.
- ✓ The responding crew and/or Supervisor will assess the SSO or Building Backup to

determine it to be notifiable or non-notifiable by the following criteria:

- ✓ Water of the State
- ✓ Storm Drain
- ✓ Building Backups
- ✓ Public and Private Water Supply Well
- ✓ Ground Surface

6  **SORP TRAINING**

CALL OUT PROCEDURE (SEWER MAINTENANCE)

- ✓ For any SSO or Building Backup deemed notifiable the System Program Coordinator and/or his designee will be notified immediately.
 - ✓ The responding crew will take necessary action(s) to relieve any SSO or Building Backup and all necessary action(s) will be taken to clean affected area. Public notification, typically in the form of signage, will be placed by the responding crew. Any necessary photo documentation will be recorded.
 - ✓ Immediately after mitigation of SSO or Building Backup the responding crew will complete the "Sewer Call Out-Work Order Sheet". The "Sewer Call Out-Work Order Sheet" will be provided to the Investigation Crew immediately after completion.
- (For any call-out not resulting in a SSO or Building Backup or any SSO or Building Backup deemed non-notifiable the "Sewer Call Out-Work Order Sheet" will be provided to Sewer Maintenance Supervisor after completion.)

7  **SORP TRAINING**

CALL OUT PROCEDURE (INVESTIGATION)

- ✓ Upon notification the Investigation Crew will begin a SSO investigation.
- ✓ The SSO investigation will include the following items in the order listed below:
 - ✓ Complete "Collection Systems Technical Investigations Crew Daily Work Order Sheet".
 - ✓ Complete any necessary field investigation.
 - ✓ Submit Verbal Notification to ADEM within 24hours if necessary.
 - ✓ Review of responding crew paperwork.
 - ✓ Complete asset history appraisal.
 - ✓ Formulate follow-up needs.
 - ✓ Review investigation results with Sewer Maintenance Supervisor and obtain necessary signatures.
 - ✓ Review investigation results with Linear Assets Manager and obtain necessary signatures.
 - ✓ Generate attached follow-up work orders in the Lucity Maintenance Management Software Package.
 - ✓ Submit Written Notification to ADEM and Health Department within 5days if necessary.
 - ✓ Oversee input of all data into the Lucity Work Order and Overflow modules.

8  **SORP TRAINING**

SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

- ✓ The responding crew and/or Supervisor will assess the SSO or Building Backup to

determine it to be notifiable or non-notifiable by the following criteria:

- ✓ Water of the State
- ✓ Storm Drain
- ✓ Building Backups
- ✓ Public and Private Water Supply Well
- ✓ Ground Surface

9  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

Figure 2: Determining if an SSO is Notifiable or Non-Notifiable

SSO Decision Making Matrix
 Figure 2 of the City of Tuscaloosa Sewer Response Plan details the process for Supervisors crews to determine Backup is deemed notifiable.

Overflow decision making and responding sewer if a SSO or Building notifiable or non-

10  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

Figure 3: SSO Destination Decision Matrix

Examples

SSO Decision Making Matrix Examples
 Figure 3 of the City of Tuscaloosa Sewer Overflow Response Plan details examples to assist Supervisors and responding sewer crews to determine if a SSO or Building Backup is deemed notifiable or non-notifiable.

11  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

- ✓ Water of the State
 - ✓ Description - Any perennial or ephemeral stream, a jurisdictional wetland, or groundwater. This includes free flowing streams, ponds, lakes, wetlands, wet weather streams (including dry channels that carry water in wet weather).
 - ✓ Notifiable - Any SSO that reaches a water of the state is a notifiable SSO in accordance with the City's NPDES Permit.
 - ✓ Non-Notifiable - There are no instances where a SSO that reaches a water of the state that is non-notifiable.

✓

12  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

✓ Storm Drain

- ✓ Description - A portion of the City's municipal separate stormwater system that includes manmade structures to transport water during wet weather conditions but are not a natural conveyance of wet weather water.
- ✓ Notifiable - If the SSO is conveyed ultimately to a water of the state and not contained to the storm drain or if the SSO is an immediate potential threat to public health.
- ✓ Non-Notifiable - If the SSO is confined to the manmade storm drain and does not reach a water of the state nor pose a risk to public health. Generally applies when the SSO is small enough in volume that the City can contain, remove, and stabilize the area where the sewage is conveyed.

✓

13  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

✓ Building Backup

- ✓ Description - A backup of sewage from the City's wastewater conveyance system through the private lateral and into a building.
- ✓ Notifiable - If the SSO poses an immediate risk to public health. An example would be that the SSO occurs in an occupied building or a portion of an occupied building that requires Public exposure. This is also applicable if vectors such as pets come in contact with significant portions of the SSO and interact with the public.
- ✓ Non-Notifiable - If the building backup can be contained, cleaned, and the area stabilized by the City and/or professional cleaning without public exposure. In some cases, the public may locate and identify the SSO but not come in contact with the sewage and it may not be reported to the City.

The Investigation crew should be notified for any building back-up. The Investigation crew will assess the potential for human exposure.

✓

14  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

✓ Public and Private Water Supply Well

- ✓ Description - Alabama includes in its definition of a water of the state, groundwater in order to protect groundwater water supply from pollutants.

- ✓ Notifiable - If an SSO occurs within the wellhead protection zone of a public water supply well or within 100 feet of a private water supply well. It may be reasonable to consider that a large SSO (10,000 gallons or more) has greater risk to impact groundwater source, but any SSO within the boundaries described above should be considered notifiable.
- ✓ Non-Notifiable - There are no instances where a SSO that reaches a water of the state that is non-notifiable.

✓

15 **PRIVATE WELL**16 **PRIVATE WELL**17 **PRIVATE WELL**18 **PRIVATE WELL**19 **SORP TRAINING
SSO DESTINATION DECISION MAKING**

What makes a SSO or Building Backup Notifiable?

✓ Ground Surface

- ✓ Description - This generally applies to a small SSOs that are contained on the ground in a small depression or does not run off and affect a water of the state or reach a storm drain.
- ✓ Notifiable - If the SSO is in an area that has an immediate risk to public health. Applies if in an area that is a direct path for public pedestrian traffic or pets. Also applies if an attractive nuisance such that public comes in contact with the sewage.
- ✓ Non-Notifiable - If the SSO is contained to a specific area and isolated from public contact. An example would include an area where the SSO is occurs in a remote area that does not have any public exposure. Also applies to a circumstance when a small volume SSO occurs in a public area but is not a part of the public traffic area and can be contained to protect public health.

✓

20

Questions?

21

Examples.

22 **EXAMPLE 1**23 **EXAMPLE 2**24 **EXAMPLE 3**25 **EXAMPLE 4**

26  **EXAMPLE 5**

27 

Questions?

SORP TRAINING

CALL OUT & SSO DESTINATION DECISION MAKING

FIELD PERSONNEL TRAINING

Sign-In Sheet

Name Printed

Signature

Date

Kevin Sexton

Kevin Sexton

10-19-12

Izeck Thomas

Izeck Thomas

10-19-12

Stevie Jones

Stevie Jones

10-19-12

Archie Wilson

Archie Wilson

10-19-12

PATRICK JONES

Patrick Jones

10-19-12

PHILLIP BURROUGHS

Phillip R. Burroughs

10-19-12

CRAIG M. THORPE

C. M. Thorpe

10/19/2012

Charles B. Sutt

Charles B. Sutt

10/19/2012

Jared Marshall

Jared Marshall

6/10/13

SORP TRAINING

CALL OUT & SSO DESTINATION DECISION MAKING

FIELD PERSONNEL TRAINING

Sign-In Sheet

Name Printed

Signature

Date

Anthony Stallworth



10/19/12

Aaron Parkam

Aaron Paul

10-19-12

Joshua Cook

Joshua Cook

10-19-12

John Smith

John Smith

10-19-12

Neil Moakley

Neil Moakley

10-19-12

Jermaine Jefferson



10-19-12

SORP TRAINING

CALL OUT & SSO DESTINATION DECISION MAKING

FIELD PERSONNEL TRAINING

Sign-In Sheet

Name Printed

Signature

Date

Chris Guy

JOHN BATES

Hank Logan

Coleman Campbell

Eclister James

Jemarius Burch

Kenneth C Crawford

Chris Guy

John Bates

Hank Logan

Coleman Campbell

Eclister James

Jemarius Burch

Jemarius Burch

10-19-12

19 OCT 12

10/19/12

10/19/12

11

10-19-12

10-19-12

SORP TRAINING

CALL OUT & SSO DESTINATION DECISION MAKING

FIELD PERSONNEL TRAINING

Sign-In Sheet

Name Printed

Signature

Date

Adam Guin

Adam Guin

10/19/12

Jarrod Milligan

Jarrod Milligan

10/19/12

Lewis Grace

Lewis Grace

10/19/12

Amy Jones

Amy Jones

10/19/12

Wesley Mullenix

Wesley Mullenix

10/19/12

Jordan Burton

Jordan Burton

10/19/12

Gregory Jones

Gregory Jones

10/19/12

Jeffery

Jeffery

10/19/12



City of Tuscaloosa, Water & Sewer



You, the employee of the City of Tuscaloosa WSD Wastewater Collection System, must adhere to City of Tuscaloosa, WSD Departmental and Linier Assets Division policies.

This form certifies the materials and information WSD supervisory staff has provided and reviewed with each employee. One copy of this form should be provided to each new employee and one copy of this form should be kept on file as confirmation of completed initial training.

To Be Completed by Employee

Employee Name Jesse Sullivan
Employee Title Waste Water Maintenance Technician
Employee Department/
Division Water and sewer linear assets

To Be Completed by Trainer

Supervisor Name Charles B. Smith
Supervisor's Signature [Signature] Date 06/18/2013

Materials Provided:

- WSD Attendance Absense Policy
- WSD Uniform Policy
- Collection System Call-Out Procedure

Items Reviewed

- WSD Attendance Absense Policy
- WSD Uniform Policy
- Collection System Call-Out Procedure
- Sewer Overflow Response Plan

I certify that the Supervisor has instructed me about the above mentioned Departmental and Division Policies. I certify that we have together reviewed all Materials and Items listed and checked above. I also certify that I have been provided copies of the Materials listed above and checked.

Employee's Signature [Signature] Date: 6/19/2013



City of Tuscaloosa, Water & Sewer



You, the employee of the City of Tuscaloosa WSD Wastewater Collection System, must adhere to City of Tuscaloosa, WSD Departmental and Linier Assets Division policies.

This form certifies the materials and information WSD supervisory staff has provided and reviewed with each employee. One copy of this form should be provided to each new employee and one copy of this form should be kept on file as confirmation of completed initial training.

To Be Completed by Employee

Employee Name Christopher J. Shaw
Employee Title Senior Equipment Operator
Employee Department/ Division Water/Sewer wastewater collections

To Be Completed by Trainer

Supervisor Name Charles B. Smith
Supervisor's Signature [Signature] Date 07/19/2013

Materials Provided:

- WSD Attendance Absense Policy
WSD Uniform Policy
Collection System Call-Out Procedure

Items Reviewed

- WSD Attendance Absense Policy
WSD Uniform Policy
Collection System Call-Out Procedure
Sewer Overflow Response Plan

I certify that the Supervisor has instructed me about the above mentioned Departmental and Division Policies. I certify that we have together reviewed all Materials and Items listed and checked above. I also certify that I have been provided copies of the Materials listed above and checked.

Employee's Signature [Signature]

Date: 7-19-13

SORP
TRAINING
CALL OUT
&
SSO DESTINATION
DECISION MAKING

SUPERVISOR TRAINING

1  **SORP TRAINING
CALL OUT
&
SSO DESTINATION DECISION MAKING**
SUPERVISOR TRAINING

2  **SORP TRAINING
CALL OUT PROCEDURE &
SSO DESTINATION DECISION MAKING**
Figure 1: SSO Notification.

SSO Response Field Activity
Flow

Work

Figure 1 of the City of Tuscaloosa Sewer
Plan details the work
responding

Overflow Response
flow of the field activity of
sewer crews.

3  **SORP TRAINING
CALL OUT PROCEDURE &
SSO DESTINATION DECISION MAKING**

Call Out Procedure

The Call Out Procedure is an internal
Tuscaloosa
flow of the
crews
responding

document of the City of
that further details the work
field activity of responding sewer
and details the data flow of
sewer and support crews.

4  **SORP TRAINING
CALL OUT PROCEDURE (PLANT)**

- ✓ A Call-out will be received by treatment plant personnel.
- ✓ The "WWTP Call Out-Work Order Sheet" will be filled out at that time by the "Dispatcher" of record.
- ✓ The Dispatcher will create a Work Request in the Lucity Maintenance Management Software Package and populate the appropriate information.
- ✓ The Dispatcher will also create an attached Work Order in the Lucity Maintenance Management Software Package.
- ✓ The Dispatcher will contact the Sewer Maintenance Supervisor.
- ✓ The Sewer Maintenance Supervisor will assign a crew or crews as needed. (After-hours calls will be dispatched directly to pre-assigned on-call personnel.)

5  **SORP TRAINING
CALL OUT PROCEDURE (SEWER MAINTENANCE)**

- ✓ For any call-out received resulting in a Sanitary Sewer Overflow(SSO) or Building Backup the Sewer Maintenance Supervisor will be immediately notified.
- ✓ The responding crew and/or Supervisor will assess the SSO or Building Backup to

determine it to be notifiable or non-notifiable by the following criteria:

- ✓ Water of the State
- ✓ Storm Drain
- ✓ Building Backups
- ✓ Public and Private Water Supply Well
- ✓ Ground Surface

6  **SORP TRAINING**

CALL OUT PROCEDURE (SEWER MAINTENANCE)

- ✓ For any SSO or Building Backup deemed notifiable the System Program Coordinator and/or his designee will be notified immediately.
 - ✓ The responding crew will take necessary action(s) to relieve any SSO or Building Backup and all necessary action(s) will be taken to clean affected area. Public notification, typically in the form of signage, will be placed by the responding crew. Any necessary photo documentation will be recorded.
 - ✓ Immediately after mitigation of SSO or Building Backup the responding crew will complete the "Sewer Call Out-Work Order Sheet". The "Sewer Call Out-Work Order Sheet" will be provided to the Investigation Crew immediately after completion.
- (For any call-out not resulting in a SSO or Building Backup or any SSO or Building Backup deemed non-notifiable the "Sewer Call Out-Work Order Sheet" will be provided to Sewer Maintenance Supervisor after completion.)

7  **SORP TRAINING**

CALL OUT PROCEDURE (INVESTIGATION)

- ✓ Upon notification the Investigation Crew will begin a SSO investigation.
- ✓ The SSO investigation will include the following items in the order listed below:
 - ✓ Complete "Collection Systems Technical Investigations Crew Daily Work Order Sheet".
 - ✓ Complete any necessary field investigation.
 - ✓ Submit Verbal Notification to ADEM within 24hours if necessary.
 - ✓ Review of responding crew paperwork.
 - ✓ Complete asset history appraisal.
 - ✓ Formulate follow-up needs.
 - ✓ Review investigation results with Sewer Maintenance Supervisor and obtain necessary signatures.
 - ✓ Review investigation results with Linear Assets Manager and obtain necessary signatures.
 - ✓ Generate attached follow-up work orders in the Lucity Maintenance Management Software Package.
 - ✓ Submit Written Notification to ADEM and Health Department within 5days if necessary.
 - ✓ Oversee input of all data into the Lucity Work Order and Overflow modules.

8  **SORP TRAINING**

SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

- ✓ The responding crew and/or Supervisor will assess the SSO or Building Backup to

determine it to be notifiable or non-notifiable by the following criteria:

- ✓ Water of the State
- ✓ Storm Drain
- ✓ Building Backups
- ✓ Public and Private Water Supply Well
- ✓ Ground Surface

9  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

Figure 2: Determining if an SSO is Notifiable or Non-Notifiable

SSO Decision Making Matrix
 Figure 2 of the City of Tuscaloosa Sewer Response Plan details the process for Supervisors crews to determine Backup is deemed notifiable.

Overflow decision making and responding sewer if a SSO or Building notifiable or non-

10  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

Figure 3: SSO Destination Decision Matrix

Examples

SSO Decision Making Matrix Examples
 Figure 3 of the City of Tuscaloosa Sewer Overflow Response Plan details examples to assist Supervisors and responding sewer crews to determine if a SSO or Building Backup is deemed notifiable or non-notifiable.

11  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

- ✓ Water of the State
 - ✓ Description - Any perennial or ephemeral stream, a jurisdictional wetland, or groundwater. This includes free flowing streams, ponds, lakes, wetlands, wet weather streams (including dry channels that carry water in wet weather).
 - ✓ Notifiable - Any SSO that reaches a water of the state is a notifiable SSO in accordance with the City's NPDES Permit.
 - ✓ Non-Notifiable - There are no instances where a SSO that reaches a water of the state that is non-notifiable.

✓

12  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

✓ Storm Drain

- ✓ Description - A portion of the City's municipal separate stormwater system that includes manmade structures to transport water during wet weather conditions but are not a natural conveyance of wet weather water.
- ✓ Notifiable - If the SSO is conveyed ultimately to a water of the state and not contained to the storm drain or if the SSO is an immediate potential threat to public health.
- ✓ Non-Notifiable - If the SSO is confined to the manmade storm drain and does not reach a water of the state nor pose a risk to public health. Generally applies when the SSO is small enough in volume that the City can contain, remove, and stabilize the area where the sewage is conveyed.

✓

13  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

✓ Building Backup

- ✓ Description - A backup of sewage from the City's wastewater conveyance system through the private lateral and into a building.
- ✓ Notifiable - If the SSO poses an immediate risk to public health. An example would be that the SSO occurs in an occupied building or a portion of an occupied building that requires Public exposure. This is also applicable if vectors such as pets come in contact with significant portions of the SSO and interact with the public.
- ✓ Non-Notifiable - If the building backup can be contained, cleaned, and the area stabilized by the City and/or professional cleaning without public exposure. In some cases, the public may locate and identify the SSO but not come in contact with the sewage and it may not be reported to the City.

The Investigation crew should be notified for any building back-up. The Investigation crew will assess the potential for human exposure.

✓

14  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

✓ Public and Private Water Supply Well

- ✓ Description - Alabama includes in its definition of a water of the state, groundwater in order to protect groundwater water supply from pollutants.

- ✓ Notifiable - If an SSO occurs within the wellhead protection zone of a public water supply well or within 100 feet of a private water supply well. It may be reasonable to consider that a large SSO (10,000 gallons or more) has greater risk to impact groundwater source, but any SSO within the boundaries described above should be considered notifiable.
- ✓ Non-Notifiable - There are no instances where a SSO that reaches a water of the state that is non-notifiable.

15  **SORP TRAINING**
SSO DESTINATION DECISION MAKING

What makes a SSO or Building Backup Notifiable?

- ✓ Ground Surface
 - ✓ Description - This generally applies to a small SSOs that are contained on the ground in a small depression or does not run off and affect a water of the state or reach a storm drain.
 - ✓ Notifiable - If the SSO is in an area that has an immediate risk to public health. Applies if in an area that is a direct path for public pedestrian traffic or pets. Also applies if an attractive nuisance such that public comes in contact with the sewage.
 - ✓ Non-Notifiable - If the SSO is contained to a specific area and isolated from public contact. An example would include an area where the SSO is occurs in a remote area that does not have any public exposure. Also applies to a circumstance when a small volume SSO occurs in a public area but is not a part of the public traffic area and can be contained to protect public health.

16 

Questions?

SORP TRAINING

CALL OUT & SSO DESTINATION DECISION MAKING

SUPERVISOR TRAINING

Sign-In Sheet

Name Printed

Signature

Date

Michael S. Barton

Michael Barton

10/17/12

Amy Jones

Amy Jones

10/17/2012

PHILLIP R. BURROUGHS

Phillip R. Burroughs

10/17/12

Stacey King

Stacey King

10-17-12

Jarrod Milligan

Jarrod Milligan

10-17-12

Hosay Thomas

Hosay Thomas

10-17-12

Anthony Wyatt

Anthony Wyatt

10-17-12

CRAIG TERRE

Craig Terre

10/17/2012

Charles B. Smith

Charles B. Smith

10/17/2012

Appendix C: Recurrent SSOs for July 2009 to July 2012

Up Stream Manhole	Down Stream Manhole
456	445
3264	3284
1658	1631
1331	1328
4149a	4149b
PS55	8709
PS42	7990
1876	9363
2606	2598
5214	5191
5229	5214
5290	5289
1873	1863
1898	1868
1858	
2594	2597
2807	2785
3494	3493
3159	3160
7218	7222
7481	7480
3180	3193
4135	4134
4172	4190
11484	11485
7898	7890
4761	4760
2024a	2062
4913	4933
4992	4980
5320	5288
5165	5164
5164	5166

Appendix C: Recurrent SSOs for July 2009 to July 2012

Up Stream Manhole	Down Stream Manhole
5589	5549
5646	12015
6697	6707
6335	6333
531	533
568	559
559	547
620	616
2286	2310
5645	5649
5646	11791
5601	5572
3859	3868
2729	2718
2541	2548
5874	5894
5930	5916
5631	5630
5254	5223
5668	5623
1317	PS16
5770	5771
2718	2709
5572	5567
10591	1919
4520	4520a
2896c	2896b
5631a	5631
5251a	5251
4537	4531
4537	4531
9178d	9178c
1710g	1713a
8979	4427

Appendix C: Recurrent SSOs for July 2009 to July 2012

Up Stream Manhole	Down Stream Manhole
4419	4404
9813	9809
4880	
2607	11447
1315	11771
5558a	12017
11913	11914
11914	3098
5744	5730
4175	12221
12221	4154
1298	12242
2182	2123
1969	1970
1908	1905
4073	4093
4121	4130
4972	4966
6978	6979
4740	4755
4733	4740
4189	4196
1456	1465



City of Tuscaloosa, Water & Sewer



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To Be Completed by Employee

Employee Name _____
Employee Title _____
Employee Department/ Division _____

To Be Completed by Trainer

Supervisor Name _____ Date _____
Supervisor's Signature _____

Materials Provided:

- WSD Attendance Absense Policy
WSD Uniform Policy
Collection System Call-Out Procedure

Items Reviewed

- WSD Attendance Absense Policy
WSD Uniform Policy
Collection System Call-Out Procedure
Sewer Overflow Response Plan

I certify that the Supervisor has instructed me about the above mentioned Departmental and Division Policies. I certify that we have together reviewed all Materials and Items listed and checked above. I also certify that I have been provided copies of the Materials listed above and checked.

Employee's Signature _____ Date: _____



City of Tuscaloosa, AL

FOG Management Program

FOG Haulers

Hauler #	_____	(Office Use Only)
Hauler Name	_____	
Address	_____	

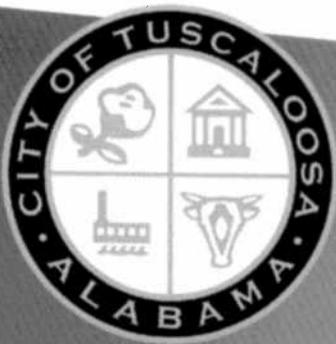
Phone	_____	
Fax	_____	

Contacts	
Owner	
Name	_____
Title	_____
Phone	_____
Cell	_____
Fax	_____
Email	_____
Driver	
Name	_____
Title	_____
Phone	_____
Cell	_____
Fax	_____
Email	_____

Vehicle			
AOWB Pumper License #	_____		
THD Septic Tank Pumper Permit #	_____		
City of Tuscaloosa Business License Account ID #	_____		
Vehicle Tag #	_____	Vehicle Model	_____
Vehicle Year	_____	Vehicle Type	_____
Vehicle Manufacturer	_____	Capacity	_____

Approved Discharge																
<input type="checkbox"/> Grease Traps <input type="checkbox"/> Commercial Septic Tanks <input type="checkbox"/> Residential Septic Tanks <input type="checkbox"/> Portable Toilets <input type="checkbox"/> Package Plants	<table border="1"> <tr> <td>(Office Use Only)</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>AOWB License (Yes/ No)</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>THD Permit (Yes/ No)</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>City Business License (Yes/ No)</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Access Card #</td> <td colspan="2">_____</td> </tr> </table>	(Office Use Only)	Yes	No	AOWB License (Yes/ No)	<input type="checkbox"/>	<input type="checkbox"/>	THD Permit (Yes/ No)	<input type="checkbox"/>	<input type="checkbox"/>	City Business License (Yes/ No)	<input type="checkbox"/>	<input type="checkbox"/>	Access Card #	_____	
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THD Permit (Yes/ No)	<input type="checkbox"/>	<input type="checkbox"/>														
City Business License (Yes/ No)	<input type="checkbox"/>	<input type="checkbox"/>														
Access Card #	_____															

Fats Oils Grease Program



Tuscaloosa
Wastewater
Management

1 

Fats Oils Grease Program

2  **Introduction**

- ⦿ A leading cause of sewer blockages across the U.S. is the Fats, Oil, and Grease (FOG) build-up in the sanitary sewers. FOG buildup is usually found in conjunction with the tree root growth and the accumulation of other sediment and debris.
- ⦿ Grease deposits are responsible for creating bottlenecks in the sewer collection system in the form of partial or complete pipe blockages.
- ⦿ The blockages may cause or contribute to Sanitary Sewer Overflows (SSOs) into local waterways and backups into homes and businesses.
- ⦿ Thus, grease blockages can cause significant damage to properties and be a risk to public health and the environment.

3  **Introduction**

- ⦿ Municipalities experience a direct cost burden for responding to blockages, relieving the blockage, cleaning damage done, or paying regulatory fines and penalties for violating their NPDES Permits because of FOG related problems.
- ⦿
- ⦿ SSOs and basement backups also present various levels of public health hazards and pollution of the environment.
- ⦿
- ⦿ In addition, there are potentially adverse impacts from FOG on the performance of the wastewater treatment plants (WWTPs).
- ⦿
- ⦿ The maintenance costs associated with the blockages and adverse performance are ultimately passed along to sewer rate payers.

4  **Introduction**

- ⦿ The City of Tuscaloosa has been implementing grease pollution prevention measures for over five years by requiring large commercial or public kitchens to install, and properly maintain, Grease Removal Devices (GRDs) in drain lines.
- ⦿
- ⦿ A comprehensive FOG program has been formulated and was initiated in 2012.

-
- State and local regulating agencies include FOG management programs as a key activity in their regulatory toolbox.
-
- This presentation details the FOG Management Program that has been developed to avoid potential conveyance and treatment performance problems.

5  **FOG Program Purpose**

The Fats, Oil, and Grease (FOG) Management Program is a formal program by the City of Tuscaloosa that incorporates applicable guidance, policies, and regulations. These measures govern FOG generators and haulers in order to manage grease waste generated by customers that discharge to the City’s sanitary sewer system or treatment system.

- The primary purpose of the Tuscaloosa FOG Management Program is to prevent grease related pipe blockages and subsequent overflows from happening and thus avoid property damages, environmental problems in nearby surface waters, and public health hazards.
- By controlling the discharge of FOG to the wastewater collection system, FOG buildup in sewer lines and lift stations will be lessened, thereby increasing the wastewater collection system’s operating efficiency and minimizing system maintenance expenditures.
- In addition, an effective FOG Management Program will minimize potential revenue losses associated with enforcement FOG related actions.

6  **FOG Program Purpose**

- Another important purpose of the program is to prevent FOG discharges at the City’s wastewater treatment plan (WWTP) from containing concentrations of pollutants or pollutant properties. These might interfere with the operation of the plant or cause the treatment plant to exceed the NPDES permit effluent limits or cause pass-through of pollutants to receiving streams or atmosphere.

7  **FOG Program Goals**

GOALS of the FOG Management Program are to:

- REDUCE SANITARY SEWER OVERFLOWS (SSOs),
- PROTECT THE ENVIRONMENT AND THE PUBLIC HEALTH and
- REDUCE FOG RELATED EXPENDITURES

These goals will be achieved by:

- ☉ Minimizing FOG entering the City's sanitary sewer infrastructure, and keeping it in concentrations or rates allowed,

- and also,

- ☉ Establishing control over FOG discharges at the City's wastewater treatment plant and keeping discharged FOG in concentrations within allowed limits.

8 **FOG Program Implementation City's Responsibility**

The responsibility to achieve the goals of the City's FOG Management Program will be shared between the City of Tuscaloosa, Tuscaloosa Food Service Establishments, Tuscaloosa area FOG Haulers and the Citizens of Tuscaloosa.

The City of Tuscaloosa's responsibilities will be the following:

- ☉ Public FOG Education and Outreach
- ☉
- ☉ Training to Food Service Establishments (FSEs)
- ☉
- ☉ Achieving Compliance from FSEs
- ☉
- ☉ FSE Inspections
- ☉
- ☉ Internal Training within the City about FOG Program

9 **FOG Program Implementation City's Responsibility**

Achieving Compliance from FSEs

In order to achieve compliance with the FOG Management Program from all FSEs while maintaining good public relations, compliance enforcement consequences are designed to directly vary with the degree of the FSE compliance cooperation and resolutions:

- ☉ Educate FSEs about the program and requirements through training provided at the program onset.
- ☉ Perform FSE inspections periodically for checking compliance with the program.
- ☉ Encourage compliance through notices of non-compliance and warnings of potential fines and stringent enforcement measures that would follow for persistent non-compliance.

▶

10 **FOG Program Implementation**

City's Responsibility

Achieving Compliance from FSEs

In order to achieve compliance with the FOG Management Program from all FSEs while maintaining good public relations, the following compliance enforcement consequences are designed to directly vary with the degree of the FSE compliance cooperation and resolutions:

- Verbal warning – the first disciplinary measure for Best Management Practices (BMPs) where a FSE is told by the SSO/FOG Investigator that the BMPs implementation by the FSE does not comply with the City's standards and must be improved. Verbal warning may or may not stipulate a follow up inspection.
- Courtesy letter – a standard letter issued by the City which specifies BMP or/and GRD deficiencies identified during the FSE inspection. The courtesy letter stipulates that a follow up inspection will be performed typically within five working days for GRD deficiencies and within two weeks for BMP deficiencies.
- Certified letter – a standard letter which specifies BMP and/or GRD deficiencies identified during the inspection. The certified letter is the final warning to the FSE to correct deficiencies within a specified time frame, typically within five working days, and is followed by the FSE re-inspection. Failure to comply with FOG facility standards shall result in the issuance of a summons.
- Issue non-compliance summons following determination that the FSE is in a violation, and pursue as a Municipal Code violation in Municipal Court.
- Terminate water and sewer service to the FSE if all other measures have been tried and proved unsuccessful.

11 FOG Program Implementation City's Responsibility

Training to FSEs

Educating FSE owners and managers about the FOG Maintenance Program, specifically in implementing Best Management Practices (BMPs) and performing proper GRDs maintenance, is essential for achieving their compliance with the program.

The SSO/FOG Investigators are the principal means for delivering the FOG Management Program requirements and necessary education to the FSE community.

At the onset of the FOG program, FSE's knowledge and awareness of the program may vary greatly.

The SSO/FOG Investigator will visit the facility and provide training to instruct the FSE owner/manager (who will instruct all other employees) of how the FOG program should be implemented and how it affects their business.



12 FOG Program Implementation

City's Responsibility

Training to FSEs



The FSE owner/manager will be instructed about forms that the FSE is required to use, which all will remain in the FSE and be shown to the SSO/FOG Investigator during future FSE inspections upon request.

Some of these forms include:

☉ FOG Hauler Manifest Forms will be used to document the cleaning of GRDs (mainly grease interceptors) performed by the professional FOG haulers.



☉ Checklist for Hauler Monitoring forms will be used by FSE personnel to monitor grease interceptor pump outs to ensure proper cleaning and maintenance procedures are followed and that the FOG hauler does not take any shortcuts.



13 FSE's Responsibility

Commercial Food Service Establishments (FSEs)

All commercial food service establishments (FSEs) doing business in Tuscaloosa require a business license issued by the City. One of requirements for FSEs in obtaining the Code Compliance Certificate is to have a grease removal device (GRD) installed and approved by the City.

The requirement is based on the City Ordinance No. 2255, Sec. 16-55, which specifies that all FSEs must install, operate and maintain grease control devices on the premises of the establishment which prevent the discharge into the sanitary sewer of solid or viscous substances in amounts which may cause obstruction to the flow in a sewer collection system or other interference with the operation of the WWTP.

This City Ordinance also says that the City, ADEM, and EPA have a right of entry to all properties for inspection, observation, measurement, sampling and testing in accordance with the provisions of this division, and may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required, inspect sources of wastewater, treatment facilities, and sample any effluents which the owner or operator is required to sample.

The regulations require that the amount of FOG in the wastewater discharged to the sewer system be less than 100 mg/L (ppm) (see 2.3.1 about City Ord. No. 2255, Sec. 16-42, General discharge prohibitions). FSEs that implement BMPs described in this section and properly maintain Grease Removal Devices (GRDs) should be able to satisfy the limit prescribed in the Ordinance.

14 FSE's Responsibility

FOG Best Management Practices (BMPs) for FSEs

Proper FOG handling at FSEs will reduce the amount of FOG that enters the sewer

system. Kitchen Best Management Practices (BMPs) include kitchen's daily activities and measures to keep FOG from being discharged to the sanitary sewer. Proper GRDs maintenance practices relate to their cleaning frequencies, effective cleaning methods, and retaining pump-out records for a specified amount of time.

- ☉ In order to get in compliance with the FOG Management Program the FSE must implement Best Management Practices, FSEs may use the provided checklist for implementing BMPS.
- ☉
- ☉ The FSE must also install, operate and maintain a properly sized Grease Removal Device, FSEs may use the provided checklist for requirements of the FOG Management Program related to condition and performance of GRDs.
- ☉
- ☉ The FOG Management Program also includes requirements to keep proper documentation about employee training and GRD maintenance, FSE's will use the provided checklist.

15 **Documentation Associated with the FOG Program**

The following is a list of the some of the forms associated with the documentation of the FOG Program:

- Tracking of GRD Maintenance Training Form
- Inspection Form for Grease Interceptors Pages 1 & 2
- Inspection/Cleaning Form for Grease Traps Pages 1 & 2
- FOG Hauler Manifest Form (Including Instructions for completing FOG Hauler Manifest)
- Instructions for completing FOG Hauler Manifest
- Checklist for Hauler Monitoring
-
-

16 **Tracking of GRD Maintenance Training Form**

- ▶
- Tracking of GRD Maintenance Training – This form will list selected employees that received training in GRD inspection/cleaning and the dates when they were trained.

17 **Inspection Form for Grease Interceptors**

- ▶
- Inspection Form for Grease Interceptors – This form will be used to keep record of how often grease interceptors are inspected by the FSE personnel.

18 **Inspection Form for Grease Interceptors Page 2**

- Inspection Form for Grease Interceptors Page 2 – This form will be used to assist keeping records of how often grease interceptors are inspected by the FSE personnel.
- This form also list FOG Discharge Prohibitions

19  **Inspection/Cleaning Form for Grease Traps**



- Inspection/Cleaning Form for Grease Traps – This form will be used to keep record of how often grease traps are inspected and cleaned by the FSE personnel.

20  **Inspection/Cleaning Form for Grease Traps Page 2**



- Inspection/Cleaning Form for Grease Traps Page 2 – This form will be used to assist keeping records of how often grease traps are inspected and cleaned by the FSE personnel.

21  **FOG Haulers Manifest Form**



- FOG Hauler Manifest Form – This form will be used to document the cleaning of GRDs (mainly grease interceptors) performed by the professional FOG haulers.

22  **Instructions for Completing FOG Haulers Manifest**

- Instructions for completing FOG Hauler Manifest– This form explains the procedure for completing the FOG Hauler Manifest with instructions for FSE Representatives, instructions for FOG Haulers and instructions for City of Tuscaloosa Personnel.

23  **Checklist for Haulers Monitoring**



- Checklist for Hauler Monitoring – This form will be used by FSE personnel to monitor grease interceptor pump outs to ensure proper cleaning and maintenance procedures are followed and that the FOG hauler does not take any shortcuts.

24  **FOG Hauler's Responsibility**

Commercial Fats, Oils and Grease (FOG) Haulers

Alabama Onsite Wastewater Board (AOWB) Administrative Code, Chapter 628-X-3 Licensing, requires that any individual, business, partnership or corporation performing “pumping, servicing, replacing lids, repairing, replacing or maintaining the component parts of a septic tank; sewage tanks and grease traps” must have a Pumper’s License. Obtaining this license from AOWB involves initial training and examination, and continuing education thereafter. This assures that the FOG hauler truck drivers are experienced and understand the correct procedures.

Alabama Department of Public Health (ADPH), in *Onsite Sewage Treatment and Disposal Rules* Chapter 420-3-1-.34, requires that a person proposing to be a sewage-tank pumper obtains a permit from the Local Health Department (LHD), in this case Tuscaloosa Health Department (THD). THD issues a Septic Tank Pumper Permit for each hauler truck after performing truck inspection.

Any persons owning a septic pump truck or other liquid transport truck desiring to discharge contents of the truck at the Hilliard Fletcher Wastewater Treatment Plant

has to obtain an Access Pass Card (or Bar Code Sticker) from City of Tuscaloosa, as defined by the City's Sewer Use Ordinance Section 16-58.

25  **FOG Hauler's Responsibility**

Initial Permitting

- ☉The applicant for a FOG hauling Business License in Tuscaloosa has to obtain a Pumper's License from AOWA first. (A Pumper's License from AOWB is not required if haulers perform pumping for only tanks that are connected to Public sewer systems.)
- ☉The next step is obtaining a Septic Tank Pumper Permit from the Tuscaloosa Health Department (THD) for each truck that will be used in FOG collection and delivery to the WWTP. After an application is submitted, the THD performs inspection of a hauler's truck and issues the permit.
- ☉The FOG hauler next submits an application for a Business License, with Pumper's License and Septic Tank Pumper Permit enclosed. The City's Revenue Department issues a Business License.
- ☉The last step is obtaining an Access Pass Card (or Bar Code Sticker) for each FOG haulers truck from the City's Sewer and Water Department.

26  **FOG Hauler's Responsibility**

Initial Permitting

A flow chart showing the permitting process for FOG haulers is included in Figure 22.

27  **FOG Hauler's Responsibility**

Permit Renewal

- ☉A Pumper's License and Septic Tank Pumper Permits must be renewed annually.
- ☉
- ☉A Septic Tank Pumper Permit expires on December 31 and the renewal is required each year prior to December 31. To renew Septic Tank Pumper Permit, an application need to be submitted to the THD and the hauler truck re-inspected. If the inspection is satisfactory, the permit is renewed.
- ☉
- ☉An Access Pass Card (or Bar Code Sticker) is valid for as long as Business License is in good standing.

28  **FOG Hauler's Responsibility**

Permit Renewal

A flow chart showing the license and permits renewal timing and requirements for FOG Haulers is included in Figure 23.

29  **FOG Hauler's Responsibility**

Grease Interceptor Cleaning

- ☉The interceptor cleaning begins with cleaning of the top grease layer. Using the truck suction hose, the top layer of FOG is vacuumed up first. The bottom layer consisting of the heavier sludge and FOG is vacuumed up next. In the last step, the remaining "water" or liquid is pumped out to leave the interceptor completely empty.

This may be followed by high-pressure water scrubbing. "Definition of clean" means the tank is entirely pumped out.



Decanting is a practice of returning wastewater from a grease hauler truck back into the grease interceptor after it is vacuumed out. Decanting is not allowed. This wastewater has high grease and solids content and low pH, may be contaminated from the hauler's previous load and cause odors.

30 **FOG Hauler's Responsibility**

Grease Interceptor Cleaning

FOG haulers are required to keep a complete record of facilities cleaned and submit such records (manifests) to the Tuscaloosa Health Department (THD) when requested, as per ADPH's Onsite Sewage Treatment and Disposal Rules.



The form used for this purpose is a FOG Hauler Manifest.



It is a standard form that enables FSEs to record the times and volumes of FOG pumped and removed from their facility, and gives FOG haulers proof that they have properly discharged the collected FOG loads.



It serves the City tracking the grease after it has been collected until it has been disposed and enables the City to assess the FOG haulers for the FOG quantities disposed at the plant.

31 **FOG Hauler's Responsibility**

FOG Hauler Manifest

The form has three parts that are filled in as follows:

Top portion is filled in by the FSE representative who signs and dates the form when the waste is removed, specifies the number of GRDs cleaned and estimates quantity of FOG removed in gallons.

Middle portion is filled in by the FOG hauler who before leaving the FSE fills in details about hauler business, driver and truck's Access Pass Card (City's truck permit), and after discharging FOG at the plant dates the form to indicate date of discharge.

Bottom portion is filled in by the City's Database Specialists after entering information into the database.

The Manifest is printed on a carbonless white/canary/pink form.

32 **FOG Hauler's Responsibility**

FOG Hauler Manifest

The steps in filling and processing the Manifest are shown in Figure 50. (Instructions how to fill in the form are written on the back page of the form, Appendix D.9).

33 **FOG Hauler's Responsibility**

FOG Hauler Manifest

The steps in filling and processing the Manifest shown in Figure 50. (Instructions how to fill in the form are written on the back page of the form, Appendix D.9).



☉The FSE keeps the PINK copy of this manifest after the hauler has accepted the waste.

☉After collecting FOG loads from one or more FSEs, the FOG driver will discharge the FOG load at the WWTP (the procedure described in Section 9.3). At that time, the driver dates the forms from each FSE and leaves the original WHITE copy in the drop box at the WWTP plant and retains the CANARY copy for company records.

☉The original form is forwarded to the City's Database Specialists who enters the information into the City's database and retains original copies of the manifests for a period of 1 year.

☉It is the FSE's responsibility to keep the PINK copy of the manifest at the FSE and make it available to the SSO/FOG Investigator upon request at inspection.

☉It is the FOG Hauler's responsibility to keep the CANARY copy of the manifest at the Hauler's place of business and make it available upon request.

34 **Hauler's Application for Pumper Truck Permit**



○Application For Sewage Tank Pumper Permit – After obtaining a Pumper's License from AOWA first, This form will be submitted to the Tuscaloosa Health Department (THD) for each truck that will be used in FOG collection and delivery to the WWTP. After an application is submitted, the THD performs inspection of a hauler's truck and issues the permit.

35 **Sewage Tank Pumping General Requirements**



○Sewage Tank Pumping General Requirements – This form will serve as a general guideline for sewage tank pumping requirements.

36 **FOG Hauler Manifest Form**



○FOG Hauler Manifest Form– This form will be used to document the cleaning of GRDs (mainly grease interceptors) performed by the professional FOG haulers.

37 **FOG Hauler Manifest Page 2** **Instructions for completing Manifest**



○Instructions for completing FOG Hauler Manifest– This form explains the procedure for completing the FOG Hauler Manifest with instructions for FSE Representatives, instructions for FOG Haulers and instructions for City of Tuscaloosa Personnel.

38 **Checklist for Haulers Monitoring**



○Checklist for Hauler Monitoring – This form will be used by FSE personnel to monitor grease interceptor pump outs to ensure proper cleaning and maintenance procedures are followed and that the FOG hauler does not take any shortcuts.

39 **FOG Hauler's Responsibility**

FOG Disposal at WWTP

- FOG haulers discharge their grease loads at the WWTP's FOG/Septage Receiving Station adjacent to the WWTP's Influent Pump Station. There are a total of six receiving holes located in the receiving area adjacent to the plant's influent pump station (Figure 51), which convey the trucks' discharge directly to the plant's influent pump station.

-
-

Figure 51

- The receiving station area also contains three subsurface holding basins that can receive questionable or more toxic hauler loads (Figure 52). Separate discharge holes are used when haulers trucks are discharging to the holding basins, i.e., the discharge flow from the "regular" receiving holes cannot be redirected to the holding basins.

Figure 52

40 **FOG Hauler's Responsibility**

FOG Disposal at WWTP

- Only permitted FOG haulers should access the plant using the issued gate access device provided by the City when the FOG hauler permit is issued. The City may monitor and record the arrival of FOG haulers at the WWTP receiving area using CCTV equipment.
- Each hauler should leave FOG Hauler Manifest form at the drop box provided by the City at the FOG/Septage receiving area. The manifest provides a listing of the locations where they collected the grease loads and the FOG quantities that were collected at each of these locations.
- Once the dumping begins, it takes about 10 min to empty the truck. After dumping, the driver washes down the area.

41 **What will I as a FOG Hauler Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

In order to get in compliance with the FOG Management Program the applicant for a FOG hauling Business License in Tuscaloosa has to obtain a Pumper's License from AOWA first.

- After submitting application to AOWB, it is necessary to register and complete the training – a 1.5 day course offered by AOWB and the University of West Alabama (UWA) in the AOWA Training Center in Livingston, AL, and take written exam with AOWB on the last day of training.
- The applicant also needs to post a \$15,000 performance bond to an insurance

company where a Certificate of Insurance is issued.

- ☉With successfully passed exam and evidence of posted bond, the AOWB issues a Pumper's License (additional requirement is that the applicant is of legal age).
- ☉A Pumper's License expires at the end of each calendar year.
- ☉A licensee must obtain required Continuing Education credit hours annually.

42  **What will I as a FOG Hauler Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

In order to get in compliance with the FOG Management Program the applicant for a FOG hauling Business License in Tuscaloosa has to obtain a Septic Tank Pumper Permit from the Tuscaloosa Health Department next.

- ☉Obtain a Septic Tank Pumper Permit from the Tuscaloosa Health Department (THD) for each truck that will be used in FOG collection and delivery to the WWTP. After an application is submitted, the THD performs inspection of a hauler's truck and issues the permit.
- ☉
- ☉A Septic Tank Pumper Permit expires on December 31 and the renewal is required each year prior to December 31. To renew Septic Tank Pumper Permit, an application need to be submitted to the THD and the hauler truck re-inspected. If the inspection is satisfactory, the permit is renewed.

43  **What will I as a FOG Hauler Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

In order to get in compliance with the FOG Management Program the applicant for a FOG hauling Business License in Tuscaloosa has to obtain an Access Pass Card (or Bar Code Sticker) for each FOG haulers truck from the City's Sewer and Water Department.

- ☉Obtain an Access Pass Card (or Bar Code Sticker) for each FOG haulers truck from the City's Sewer and Water Department.
- ☉
- ☉An Access Pass Card (or Bar Code Sticker) is valid for as long as Business License is in good standing.

44  **What will I as a FOG Hauler Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

FOG Haulers may use the following checklist for requirements of the FOG Management Program related to maintenance of GRDs:

- ☉The interceptor cleaning begins with cleaning of the top grease layer. Using the truck suction hose, the top layer of FOG is vacuumed up first. The bottom layer consisting of the heavier sludge and FOG is vacuumed up next. In the last step, the remaining "water" or liquid is pumped out to leave the interceptor completely empty. This may be followed by high-pressure water scrubbing. "Definition of clean" means the tank is entirely pumped out.

☉Decanting is a practice of returning wastewater from a grease hauler truck back into the grease interceptor after it is vacuumed out. Decanting is not allowed. This wastewater has high grease and solids content and low pH, may be contaminated from the hauler's previous load and cause odors.

45  **What will I as a FOG Hauler Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

FOG Haulers may use the following checklist for requirements of the FOG Management Program related to maintenance of GRDs:

☉FOG haulers are required to keep a complete record of facilities cleaned and submit such records (manifests) to the Tuscaloosa Health Department (THD) when requested, as per ADPH's Onsite Sewage Treatment and Disposal Rules.

The form used for this purpose in a FOG Hauler Manifest.

It is a standard form that enables FSEs recording the times and volumes of FOG pumped and removed from their facility, and gives FOG haulers proof that they have properly discharged the collected FOG loads.

It serves the City tracking the grease after it has been collected until it has been disposed and enables the City to assess the FOG haulers for the FOG quantities disposed at the plant.

46  **What will I as a FOG Hauler Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

FOG Haulers may use the following checklist for requirements of the FOG Management Program related to disposal of septage:

☉FOG haulers discharge their grease loads at the WWTP's FOG/Septage Receiving Station adjacent to the WWTP's Influent Pump Station. There are a total of six receiving holes located in the receiving area adjacent to the plant's influent pump station, which convey the trucks' discharge directly to the plant's influent pump station.

☉The receiving station area also contains three subsurface holding basins that can receive questionable or more toxic hauler loads. Separate discharge holes are used when haulers trucks are discharging to the holding basins, i.e., the discharge flow from the "regular" receiving holes cannot be redirected to the holding basins.

47  **Website Links**

For the information below and other resources please visit:

<http://www.tuscaloosa.com/fog>

- Video of Presentation
- FOG Program Management Report
- Each Form
 - FOG Hauler Manifest Form (Including Instructions for completing FOG Hauler Manifest)
 - Checklist for Hauler Monitoring
 - Haulers Application for Pumper Truck Permit
 - Sewage Tank Pumping General Requirements
 - FOG Collecting and Disposal Proper Practices



48 

Fats Oils Grease Program



Tuscaloosa
Wastewater
Management

Training Sign-In Sheet 2:00PM Thursday 05/02/2013

Name Printed

Company Name

Phone

Jesse James

Roto Rooter

256-677-3274

David Wells

C and I Services

205 556 7614

Jason Cozay

Sprays Pumping

(205) 556-1388

STEVE MEEKS

MEEKS

205 425 8303

Ronald Booth

Booth Pumping

(205) 339-8100

Bobby Skelton

Bobby Skelton

252-7217

Jason Elmore

Bobby Skelton

252-2217

Dennis Hevert

'' ''

'' ''

Steven T. Davis

Rogers Septic

205-497-0354

JOHN SNEAD

CITY OF TUSCALOOSA

248-5954

Fats Oils Grease Program



Tuscaloosa
Wastewater
Management

Training Sign-In Sheet 4:00PM Tuesday 05/07/2013

Name Printed

Company Name

Phone

BRIAN DAVIS

American Septic Systems, Inc. 205 (491-1930)

Kyle Nelson

American Septic Systems, Inc. 205 (491-1930)

McCoy Booth

McCoy Booth Septic Tank 205-339-5511

STEVEN BOOTH

MCCOY BOOTH SEPTIC TANK 205-339-5511

WARREN STANBERRY

PRECISION SERVICES 205-962-7719

Brent Sanders

Jones Heating A/C Plumb 205-553-0632

Zed A. White

WHITES SEPTIC SERVICE

Matthew Tierce

Spanky's Portable Toilets (205) 556-0081

Matthew Renicks

Spanky's Portable Toilets (205) 556-0081

Laura Hawthorne

HAWTHORNE SEPTIC TANKS 799 3141

Jeff George

George Septic Tank Serv 205-938-5195

Fats Oils Grease Program



Tuscaloosa
Wastewater
Management

Training Sign-In Sheet 6:00PM Thursday 05/09/2013

Name Printed

Company Name

Phone

Callem Davis
Danny Davis
Willie Parham
Lee Barkfield
David Bucklew

Warrior Pumping, Inc
WARRIOR Pumping, Inc
Parham Septic Ser.
Barkfield Septic
Runsay ENVIRONMENTAL

205-331-290
205-331-1825
205-792-4889
205-333-9000
205-248-0002

Fats Oils Grease Program



Tuscaloosa
Wastewater
Management

1 

**Fats
Oils
Grease
Program**

2  **Introduction**

- ⦿ A leading cause of sewer blockages across the U.S. is the Fats, Oil, and Grease (FOG) build-up in the sanitary sewers. FOG buildup is usually found in conjunction with the tree root growth and the accumulation of other sediment and debris.
- ⦿
- ⦿ Grease deposits are responsible for creating bottlenecks in the sewer collection system in the form of partial or complete pipe blockages.
- ⦿
- ⦿
- ⦿
- ⦿
- ⦿
- ⦿ The blockages may cause or contribute to Sanitary Sewer Overflows (SSOs) into local waterways and backups into homes and businesses.
- ⦿
- ⦿ Thus, grease blockages can cause significant damage to properties and be a risk to public health and the environment.

3  **Introduction**

- ⦿ Municipalities experience a direct cost burden for responding to blockages, relieving the blockage, cleaning damage done, or paying regulatory fines and penalties for violating their NPDES Permits because of FOG related problems.
- ⦿
- ⦿ SSOs and basement backups also present various levels of public health hazards and pollution of the environment.
- ⦿
- ⦿ In addition, there are potentially adverse impacts from FOG on the performance of the wastewater treatment plants (WWTPs).
- ⦿
- ⦿ The maintenance costs associated with the blockages and adverse performance are ultimately passed along to sewer rate payers.

4  **Introduction**

- ⦿ The City of Tuscaloosa has been implementing grease pollution prevention measures for over five years by requiring large commercial or public kitchens to install, and properly maintain, Grease Removal Devices (GRDs) in drain lines.
- ⦿
- ⦿ A comprehensive FOG program has been formulated and was initiated in 2012.

-
- State and local regulating agencies include FOG management programs as a key activity in their regulatory toolbox.
-
- This presentation details the FOG Management Program that has been developed to avoid potential conveyance and treatment performance problems.

5  **FOG Program Purpose**

The Fats, Oil, and Grease (FOG) Management Program is a formal program by the City of Tuscaloosa that incorporates applicable guidance, policies, and regulations. These measures govern FOG generators and haulers in order to manage grease waste generated by customers that discharge to the City’s sanitary sewer system or treatment system.

- The primary purpose of the Tuscaloosa FOG Management Program is to prevent grease related pipe blockages and subsequent overflows from happening and thus avoid property damages, environmental problems in nearby surface waters, and public health hazards.
- By controlling the discharge of FOG to the wastewater collection system, FOG buildup in sewer lines and lift stations will be lessened, thereby increasing the wastewater collection system’s operating efficiency and minimizing system maintenance expenditures.
- In addition, an effective FOG Management Program will minimize potential revenue losses associated with enforcement FOG related actions.

6  **FOG Program Purpose**

- Another important purpose of the program is to prevent FOG discharges at the City’s wastewater treatment plan (WWTP) from containing concentrations of pollutants or pollutant properties. These might interfere with the operation of the plant or cause the treatment plant to exceed the NPDES permit effluent limits or cause pass-through of pollutants to receiving streams or atmosphere.

7  **FOG Program Goals**

GOALS of the FOG Management Program are to:

- REDUCE SANITARY SEWER OVERFLOWS (SSOs),
- PROTECT THE ENVIRONMENT AND THE PUBLIC HEALTH and
- REDUCE FOG RELATED EXPENDITURES

These goals will be achieved by:

- ☉Minimizing FOG entering the City's sanitary sewer infrastructure, and keeping it in concentrations or rates allowed,

▪ and also,

- ☉Establishing control over FOG discharges at the City's wastewater treatment plant, and keeping discharged FOG in concentrations within allowed limits.

8  **FOG Program Implementation
City's Responsibility**

The responsibility to achieve the goals of the City's FOG Management Program will be shared between the City of Tuscaloosa, Tuscaloosa Food Service Establishments, Tuscaloosa area FOG Haulers and the Citizens of Tuscaloosa.

The City of Tuscaloosa's responsibilities will be the following:

- ☉Public FOG Education and Outreach
 - ☉
- ☉Training to Food Service Establishments (FSEs)
 - ☉
- ☉Achieving Compliance from FSEs
 - ☉
- ☉FSE Inspections
 - ☉
- ☉Internal Training within the City about FOG Program

9  **FOG Program Implementation
City's Responsibility**

Achieving Compliance from FSEs

In order to achieve compliance with the FOG Management Program from all FSEs, while maintaining good public relations, compliance enforcement consequences are designed to directly vary with the degree of the FSE compliance cooperation and resolutions:

- ☉Educate FSEs about the program and requirements through training provided at the program onset.
- ☉Perform FSE inspections periodically for checking compliance with the program.
- ☉Encourage compliance through notices of non-compliance and warnings of potential fines and stringent enforcement measures that would follow for persistent non-compliance.

10  **FOG Program Implementation**

City's Responsibility

Achieving Compliance from FSEs

In order to achieve compliance with the FOG Management Program from all FSEs while maintaining good public relations, the following compliance enforcement consequences are designed to directly vary with the degree of the FSE compliance cooperation and resolutions:

- ☉ Verbal warning – the first disciplinary measure for BMPs where a FSE is told by the SSO/FOG Investigator that the BMPs implementation by the FSE does not comply with the City's standards and must be improved. Verbal warning may or may not stipulate a follow up inspection.
- ☉ Courtesy letter – a standard letter issued by the City which specifies BMP or/and GRD deficiencies identified during the FSE inspection. The courtesy letter stipulates that a follow up inspection will be performed typically within five working days for GRD deficiencies and within two weeks for BMP deficiencies.
- ☉ Certified letter – a standard letter which specifies BMP and/or GRD deficiencies identified during the inspection. The certified letter is the final warning to the FSE to correct deficiencies within a specified time frame, typically within five working days, and is followed by the FSE re-inspection. Failure to comply with FOG facility standards shall result in the issuance of a summons.
- ☉ Issue non-compliance summons following determination that the FSE is in a violation, and pursue as a Municipal Code violation in Municipal Court.
- ☉ Terminate water and sewer service to the FSE if all other measures have been tried and proved unsuccessful.

11 **FOG Program Implementation** **City's Responsibility**

Training to FSEs

Educating FSE owners and managers about the FOG Maintenance Program, specifically in implementing Best Management Practices (BMPs) and performing proper GRDs maintenance, is essential for achieving their compliance with the program.

The SSO/FOG Investigators are the principal means for delivering the FOG Management Program requirements and necessary education to the FSE community.

At the onset of the FOG program, FSE's knowledge and awareness of the program may vary greatly.

The SSO/FOG Investigator will visit the facility and provide training to instruct the FSE owner/manager (who will instruct all other employees) of how the FOG program should be implemented and how it affects their business.



12 **FOG Program Implementation**

City's Responsibility

Training to FSEs

During the visit, the SSO/FOG Investigator gives the following forms to the FSE owner/manager:

- ☉ Initial Training Checklist - This form is listing other forms that the FOG inspector will show and explain to the FSE owner/manager during this initial visit. The form must be kept in the FSE as a record of completed initial training.

- ☉

- ☉ Training Development Form - This form is instructing the FSE owner/manager how to develop a FOG training program for the employees of the FSE.

▶

13 FOG Program Implementation City's Responsibility

Training to FSEs

▶

The FSE owner/manager is also instructed about other forms that the FSE is required to use, which all will remain in the FSE and be shown to the SSO/FOG Investigator during future FSE inspections upon request:

- ☉ Tracking of Employee Training forms will list employees working at the FSE and show the dates when they received the training in kitchen BMPs.

- ☉ Tracking of GRD Maintenance Training forms will list selected employees that received training in GRD inspection/cleaning and the dates when they were trained.

- ☉ Inspection Forms for Grease Interceptors will be used to keep record of how often grease interceptors are inspected by the FSE personnel.

- ☉ Inspection/Cleaning Forms for Grease Traps will be used to keep record of how often grease traps are inspected and cleaned by the FSE personnel.

14 FOG Program Implementation City's Responsibility

Training to FSEs

▶

The FSE owner/manager is also instructed about other forms that the FSE is required to use, which all will remain in the FSE and be shown to the SSO/FOG Investigator during future FSE inspections upon request:

- ☉ Standard Operating Procedure (SOP) for "25% Rule" Forms explain the procedure for checking grease and solids accumulation in GRDs (both grease traps and grease interceptors). Each employee of the FSE who will be trained to inspect the GRDs will be shown this SOP and will be given all necessary explanations.

- ☉ FOG Hauler Manifest Forms will be used to document the cleaning of GRDs (mainly grease interceptors) performed by the professional FOG haulers.

- ☉ Checklist for Hauler Monitoring forms will be used by FSE personnel to monitor grease interceptor pump outs to ensure proper cleaning and maintenance procedures are followed and that the FOG hauler does not take any shortcuts.



15 **FSE's Responsibility**

Commercial Food Service Establishments (FSEs)

All commercial food service establishments (FSEs) doing business in Tuscaloosa require a business license issued by the City. One of requirements for FSEs in obtaining the Code Compliance Certificate is to have a grease removal device (GRD) installed and approved by the City.

The requirement is based on the City Ordinance No. 2255, Sec. 16-55, which specifies that all FSEs must install, operate and maintain grease control devices on the premises of the establishment which prevent the discharge into the sanitary sewer of solid or viscous substances in amounts which may cause obstruction to the flow in a sewer collection system or other interference with the operation of the WWTP.

This City Ordinance also says that the City, ADEM, and EPA have a right of entry to all properties for inspection, observation, measurement, sampling and testing in accordance with the provisions of this division, and may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required, inspect sources of wastewater, treatment facilities, and sample any effluents which the owner or operator is required to sample.

The regulations require that the amount of FOG in the wastewater discharged to the sewer system be less than 100 mg/L (ppm) (see 2.3.1 about City Ord. No. 2255, Sec. 16-42, General discharge prohibitions). FSEs that implement BMPs described in this section and properly maintain Grease Removal Devices (GRDs) should be able to satisfy the limit prescribed in the Ordinance.

16 **FSE's Responsibility**

FOG Best Management Practices (BMPs) for FSEs

Proper FOG handling at FSEs will reduce the amount of FOG that enters the sewer system. Kitchen Best Management Practices (BMPs) include kitchen's daily activities and measures to keep FOG from being discharged to the sanitary sewer. Proper GRDs maintenance practices relate to their cleaning frequencies, effective cleaning methods, and retaining pump-out records for a specified amount of time.

These BMPs include the following:

- ☉ Proper Equipment and Plumbing
- ☉ Proper Dishwashing Practices
- ☉ Kitchen Cleaning Practices
- ☉ Spills Prevention and Cleanup

17  **FSE's Responsibility**

FOG Best Management Practices (BMPs) for FSEs

Proper FOG handling at FSEs will reduce the amount of FOG that enters the sewer system. Kitchen Best Management Practices (BMPs) include kitchen's daily activities and measures to keep FOG from being discharged to the sanitary sewer. Proper GRDs maintenance practices relate to their cleaning frequencies, effective cleaning methods, and retaining pump-out records for a specified amount of time.

These BMPs include the following:

- Kitchen Signage
- FOG Collecting and Proper Storage
- Prohibitions Related to FOG Discharges



18  **FSE's Responsibility**

FOG Best Management Practices (BMPs) for FSEs

Proper FOG handling at FSEs will reduce the amount of FOG that enters the sewer system. Kitchen Best Management Practices (BMPs) include kitchen's daily activities and measures to keep FOG from being discharged to the sanitary sewer. Proper GRDs maintenance practices relate to their cleaning frequencies, effective cleaning methods, and retaining pump-out records for a specified amount of time.

These BMPs include the following:



- Grease Removal Devices (GRD) Maintenance
- Compliance with FOG Management Program
- Employee Training

19  **Documentation Associated with the FOG Program**

The following is a list of the forms associated with the documentation of the FOG Program:

- Initial Training Checklist Form
- Training Development Form
- Tracking of Employee Training Form
- Tracking of GRD Maintenance Training Form
- Inspection Form for Grease Interceptors Pages 1 & 2
- Inspection/Cleaning Form for Grease Traps Pages 1 & 2
- Standard Operating Procedure (SOP) for "25% Rule"

- FOG Hauler Manifest Form (Including Instructions for completing Manifest)
- Checklist for Hauler Monitoring
-
-
- 20  **Initial Training of FSE Owners/Managers Form**
 - ▶
 - Initial Training Checklist – This form is listing other forms that the FOG inspector will show and explain to the FSE owner/manager during this initial visit. The form must be kept in the FSE as a record of completed initial training.
 - ▶
- 21  **Training Development Form**
 - ▶
 - Training Development Form – This form is instructing the FSE owner/manager how to develop a FOG training program for the employees of the FSE.
 - ▶
- 22  **Training Development Form Page 2**
 - ▶
 - Training Development Form Page 2 – This form is a quiz designed to assist with instructing the FSE owner/manager how to develop a FOG training program for the employees of the FSE.
 - ▶
- 23  **Tracking of Employee Training Form**
 - ▶
 - Tracking of Employee Training – This form will list employees working at the FSE and show the dates when they received the training in kitchen BMPs.
- 24  **Tracking of GRD Maintenance Training Form**
 - ▶
 - Tracking of GRD Maintenance Training – This form will list selected employees that received training in GRD inspection/cleaning and the dates when they were trained.
- 25  **Inspection Form for Grease Interceptors**
 - ▶
 - Inspection Form for Grease Interceptors – This form will be used to keep record of how often grease interceptors are inspected by the FSE personnel.
- 26  **Inspection Form for Grease Interceptors Page 2**
 - Inspection Form for Grease Interceptors Page 2 – This form will be used to assist keeping records of how often grease interceptors are inspected by the FSE personnel.
 - This form also list FOG Discharge Prohibitions
- 27  **Inspection/Cleaning Form for Grease Traps**
 -
 - Inspection/Cleaning Form for Grease Traps – This form will be used to keep record

of how often grease traps are inspected and cleaned by the FSE personnel.

28  **Inspection/Cleaning Form for Grease Traps Page 2**



- Inspection/Cleaning Form for Grease Traps Page 2 – This form will be used to assist keeping records of how often grease traps are inspected and cleaned by the FSE personnel.

29  **Standard Operating Procedure for 25% Rule**



- Standard Operating Procedure (SOP) for “25% Rule” Form – This form explains the procedure for checking grease and solids accumulation in GRDs (both grease traps and grease interceptors). Each employee of the FSE who will be trained to inspect the GRDs will be shown this SOP and will be given all necessary explanations.

30  **FOG Haulers Manifest Form**



- FOG Hauler Manifest Form – This form will be used to document the cleaning of GRDs (mainly grease interceptors) performed by the professional FOG haulers.

31  **Instructions for Completing FOG Haulers Manifest**

- Instructions for completing FOG Hauler Manifest– This form explains the procedure for completing the FOG Hauler Manifest with instructions for FSE Representatives, instructions for FOG Haulers and instructions for City of Tuscaloosa Personnel.

32  **FOG Haulers Manifest**

FOG Hauler Manifest

The form has three parts that are filled in as follows:

- Top portion is filled in by the FSE representative who signs and dates the form when the waste is removed, specifies the number of GRDs cleaned and estimates quantity of FOG removed in gallons.
- Middle portion is filled in by the FOG hauler who before leaving the FSE fills in details about hauler business, driver and truck’s Access Pass Card (City’s truck permit), and after discharging FOG at the plant dates the form to indicate date of discharge.
- Bottom portion is filled in by the City’s Database Specialists after entering information into the database.
- The Manifest is printed on a carbonless white/canary/pink form.

33  **FOG Hauler’s Responsibility**

FOG Hauler Manifest

The steps in filling and processing the Manifest are shown in Figure 50. (Instructions how to fill in the form are written on the back page of the form, Appendix D.9).

34  **FOG Haulers Manifest**

FOG Hauler Manifest

FOG Hauler Manifest

The steps in filling and processing the Manifest are shown in Figure 50. (Instructions how to fill in the form are written on the back page of the form, Appendix D.9).



- The FSE keeps the PINK copy of this manifest after the hauler has accepted the waste.
- After collecting FOG loads from one or more FSEs, the FOG driver will discharge the FOG load at the WWTP (the procedure described in Section 9.3). At that time, the driver dates the forms from each FSE and leaves the original WHITE copy in the drop box at the WWTP plant and retains the CANARY copy for company records.
- The original form is forwarded to the City's Database Specialists who enters the information into the City's database and retains original copies of the manifests for a period of 1 year.
- It is the FSE's responsibility to keep the PINK copy of the manifest at the FSE and make it available to the SSO/FOG Investigator upon request at inspection.
- It is the FOG Hauler's responsibility to keep the CANARY copy of the manifest at the Hauler's place of business and make it available upon request.

35 **Checklist for Haulers Monitoring**



- Checklist for Hauler Monitoring – This form will be used by FSE personnel to monitor grease interceptor pump outs to ensure proper cleaning and maintenance procedures are followed and that the FOG hauler does not take any shortcuts.

36 **What will I as a FSE Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

In order to get in compliance with the FOG Management Program the FSE must implement Best Management Practices, FSEs may use the provided checklist for implementing BMPS.

The FSE must also install, operate and maintain a properly sized Grease Removal Device, FSEs may use the provided checklist for requirements of the FOG Management Program related to condition and performance of GRDs.

The FOG Management Program also includes requirements to keep proper documentation about employee training and GRD maintenance, FSE's will use the provided checklist.

37 **What will I as a FSE Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

In order to get in compliance with the FOG Management Program, FSEs may use the following checklist for implementing BMPS:

- ☉ Make sure drain screens are installed in all FOG bearing sink and floor drains.
- ☉ Make sure employees scrape solid food from pots, pans, fryers, utensils, and dishes into a trash container and that there is no waste food in the sink.
- ☉ Make sure employees dry wipe pots and utensils prior to washing.
- ☉ Make sure employees sweep the floor before mopping and they don't attempt to remove floor drains to sweep in debris from the sweeping floors.
- ☉ Make sure employees promptly clean any grease spills on the floor using towels and absorbent material and using wet mops only to remove trace residues.
- ☉ Make sure proper spill cleanup kits are available in the facility.
- ☉ Make sure small grease waste containers are available and used for collecting used oil and grease, and that these containers have lids.
- ☉ Place proper signage about grease control and listing of BMPs on the wall.

38  **What will I as a FSE Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

In order to get in compliance with the FOG Management Program, In facility outside areas, FSEs should apply the following measures:

- ☉ Make sure outside grease containers are covered and closed.
- ☉ Make sure there are no grease spills on the pavement or other surfaces from transporting grease to outside containers.
- ☉ Make sure that outside grease containers are not leaking and replace any damaged one promptly.
- ☉ Make sure that employees do not dump oil and grease into storm sewer.
- ☉ Make sure that employees do not clean equipment (degrease) outside. The equipment should be scraped and dry wiped indoors and any washing done in utility sinks connected to a GRD.
- ☉ Make sure that employees do not wash mats outdoors. The mats should be vacuumed and washed in utility sinks connected to a GRD.

39  **What will I as a FSE Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

FSEs may use the following checklist for requirements of the FOG Management Program related to condition and performance of GRDs:

- ☉ Make sure that a GRD functions. The device should contain wastewater with grease layer floating on the top and be filled below the invert of the outlet pipe.
- ☉ Make sure that the 25% rule is met, i.e., that the thickness of the layer of floating grease and solids combined does not exceed 25% of the operating depth of the device (depth between the invert of the outlet pipe and the bottom of the device).
- ☉ Make sure that the inlet pipe of the GRD is visible during inspection.

- ⦿ Make sure that the outlet pipe of the GRD is visible during inspection.
- ⦿ Make sure that there are no roots growing in the interceptor and have them cleaned if necessary.
- ⦿ Make sure that there is no corrosion damage to the GRD. If metal traps are corroded replace with new ones and consider grease traps made of plastic. Make sure to repair corrosion damage to the interceptor promptly and do not wait for severe damage to develop (for example, rebar to get exposed in a concrete grease interceptor).
- ⦿ Make sure to correct any broken parts or replace missing parts, especially missing outlet T.

40  **What will I as a FSE Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

The FOG Management Program also includes requirements to keep proper documentation about employee training and GRD maintenance. The FSE's checklist continues as follows:

- ⦿ Make sure that the employee training log is complete, i.e. that employees get training about proper FOG handling and learn requirements of the FOG Management Program (see 8.4). Keep training log current and provide training to new employees, as well as periodically do refreshment training to already trained employees.
- ⦿ Make sure that the GRD inspection/cleaning log is complete. Employees in charge of inspection and cleaning of grease traps and grease interceptors need to do these assignments regularly and keep the GRDs in good operating condition. Learn the required frequency of inspection and cleaning of a GRD in the facility and adopt the routine to inspect and clean accordingly.
- ⦿ Make sure that the FOG Hauler manifests are complete.
- ⦿

41  **What will I as a FSE Need to do to Get In Compliance with the FOG Management Program? (Bottom Line)**

The following is a list of the forms associated with the documentation of the FOG Program:

- Initial Training Checklist Form
- Training Development Form
- Tracking of Employee Training Form
- Tracking of GRD Maintenance Training Form
- Inspection Form for Grease Interceptors Pages 1 & 2
- Inspection/Cleaning Form for Grease Traps Pages 1 & 2
- Standard Operating Procedure (SOP) for "25% Rule"
- FOG Hauler Manifest Form (Including Instructions for completing Manifest)

- Checklist for Hauler Monitoring



42  **Website Links**

For the information below and other resources please visit:

<http://www.tuscaloosa.com/fog>

- Video of Presentation
- FOG Program Management Report
- Sample Signage (Public Outreach PDF)
- Each Form
 - ADHP Application for Grease Trap /Interceptor Permit
 - Initial Training Checklist Form
 - Training Development Form
 - Tracking of Employee Training Form
 - Tracking of GRD Maintenance Training Form
 - Inspection Form for Grease Interceptors Pages 1 & 2
 - Inspection/Cleaning Form for Grease Traps Pages 1 & 2
 - Standard Operating Procedure (SOP) for "25% Rule"
 - FOG Hauler Manifest Form (Including Instructions for completing FOG Hauler Manifest)
 - Checklist for Hauler Monitoring
 - Education /Outreach Materials



43 

44 

45 

Fats Oils Grease Program



FSE Training Sign-In Sheet 4:00PM Thursday 06/06/2013

Name Printed	Company Name	Company Address	Contact Phone or Email
✓ Blake O. Miles	Stelton State Com College	3401 MLK Jr Blvd. 35476	205-391-2623
✓ Hui Pam	Swen Chinese Restaurant	1130 University Blvd B2 35401	2053919936
✓ Robert Perkins	Auntie Anne's Pretzels	University Mall 1701 McFarland Blvd E.	205-553-4200
✓ LISA HATLEY	BOZANGLES #886	4309 Veterans Mon Pkwy	553-2889
✓ PAMELA BEADLE	BOZANGLES #886	SAME ↗	SAME ↑
✓ RICK LEE	FAST+EASY #3	3590 JACK WARNER PKWY.	205-657-9789
✓ YACHUN CHEN	Lai Lai Restaurant, LLC	1223 McFarland Blvd NE	205-345-2472
✓ Melissa Walford	NUCOR Steel Tuscaloosa	1700 Holt Rd	205-562-1174
✓ ALAN PARKS	Guthries chicken finger	205 15th Str.	205-349-2222
✓ JOSIE ABRAMS	J+R Soul Cafe	2032 4ST. E. TUS. ALA	205-556-2522
✓ David Charbonneau	Outback Steakhouse	5001 Oscar Baxter Drive	205-886-5626
✓ Anthony Foster	Baumhauer's Restaurant	500 Harper Lee Drive Tusc. AL ^{PS145}	205-558-5658

Fats Oils Grease Program



FSE Training Sign-In Sheet 5:00PM Tuesday 06/11/2013

Name Printed

Company Name

Company Address

Contact Phone or Email

✓ Michael Beck
 ✓ Greg Aldridge
 ✓ Loy McMillan
 ✓ Jonathan Coker
 ✓ Shelli Solos
 ✓ Scott O'Brien

Fast and Easy Inc.
NorthRiver Village
Leland Hayes
Yeast Mountain
Arbys
Captain D's

All Stores
5810 Rice Mine Rd.
1125 26th Ave. East
1800 McFarland Blvd. E
DSCS 2 Brentwood
3517 McFarland

mbeck16238@aatt.net
(205) 361-4108
205-522-2665
205-553-3467
205-342-1484
344-5701
553-9131

Fats Oils Grease Program



FSE Training Sign-In Sheet 6:00PM Thursday 06/13/2013

Name Printed	Company Name	Company Address	Contact Phone or Email
✓ CHEE SUM LIEW Alexandria Riggs "	PEARL GARDEN Big Daddy's Café "	2719 Lurleen Wallace Blvd Northport AL 35476	(205)339-0880
✓ Lt. Jackson Steven Satterberg Kevin Holder	Tuscaloosa County Jail Chick-fil-A Chick-fil-A	514 Greensboro Ave. 1600 26 th Ave Truss AL 4900 Old Greensboro Rd 4900 Old Greensboro Rd	(205)759-9925 (205)464-8771 805 444-4064 205-534-1442
✓ Darrel Semiger	Arby's	211 University Blvd E	205-345-1916
✓ Kerri Owens	HCSG	1411 Ruby Tyler Parkway	205-462-4893
✓ Megan Harvin	HCSG	1411 Ruby Tyler Parkway	205-462-4893
✓ Paulette Snyder	Fig	1351 McFarland Blvd N.E	345-8888

Fats Oils Grease Program



FSE Training Sign-In Sheet 6:00PM Thursday 06/13/2013

Name Printed

Company Name

Company Address

Contact Phone or Email

✓ Tomika Branch
 ✓ LARRY ROCKWELL
 ✓ DIARA ROCKWELL
 ✓ Ken Vidovic
 ✓ Tim FOSTER

Church's Chicken
 Checkers
 Checkers
 Five BAR
 THE SOUTHLAND RESTAURANT

1801 Greensboro Ave
 POB 71235 Tusc. AL
 POB 71235
 2324 6th Street
 5388 SKYLAND BLVD E ^{COTTONDALE} 35453

(205) 752-9351
 205 366 0099
 205 366 0099
 (205) 345-6089
 (205) 556-3070

1 Year Creek Crossings

7/30/2013

3:01 PM

Assets

<u>Seq #</u>	<u>Asset Rec #</u>	<u>Object Type</u>	<u>USMH</u>	<u>DSMH</u>	<u>Description</u>
1	1064	Sewer Pipe	301	1872	
2	5925	Sewer Pipe	609	612	
3	5844	Sewer Pipe	610	605	
4	8861	Sewer Pipe	898	883	
5	9473	Sewer Pipe	1001	991	
6	56	Sewer Pipe	9108	1010	
7	84	Sewer Pipe	1026	1033	
8	1161	Sewer Pipe	1967	1958	
9	5075	Sewer Pipe	5387	5385	
10	6343	Sewer Pipe	6520	6511	
11	7365	Sewer Pipe	7439	7430	
12	7678	Sewer Pipe	7717	7713	
13	8292	Sewer Pipe	8252	8261	
14	11802	Sewer Pipe	9835	8656	
15	12387	Sewer Pipe	10394	10393	
16	12386	Sewer Pipe	10395	10394	
17	12444	Sewer Pipe	10564	10574	
18	12489	Sewer Pipe	10593	5907	
19	12646	Sewer Pipe	10655	5830	
20	127	Sewer Pipe	1072	1073	
21	8990	Sewer Pipe	1123	9094	
22	186	Sewer Pipe	1128	1123	
23	13120	Sewer Pipe	11303	4857	
24	13121	Sewer Pipe	11311	11312	
25	13855	Sewer Pipe	11915	5741	
26	13868	Sewer Pipe	11927	11928	
27	13869	Sewer Pipe	11928	9093	
28	14048	Sewer Pipe	12081	12082	
29	493	Sewer Pipe	1403	1397	
30	2614	Sewer Pipe	18023	3230	
31	1089	Sewer Pipe	1874	1896	
32	1126	Sewer Pipe	1925	1929	
33	9934	Sewer Pipe	1963	1993	
34	1161	Sewer Pipe	1967	1958	
35	9882	Sewer Pipe	1993	2002	
36	9880	Sewer Pipe	2065	2078	
37	2509	Sewer Pipe	3164	3138	
38	2584	Sewer Pipe	3205	3204	
39	2651	Sewer Pipe	3250	3262	
40	2663	Sewer Pipe	3268	3274	
41	2650	Sewer Pipe	3274	3262	
42	2661	Sewer Pipe	3276	3271	
43	2664	Sewer Pipe	3295	3274	
44	2739	Sewer Pipe	3346	3336	
45	9008	Sewer Pipe	3350	9111	
46	2757	Sewer Pipe	3384	3350	
47	2819	Sewer Pipe	3416	3403	
48	4332	Sewer Pipe	4723	4733	
49	4499	Sewer Pipe	481	488	
50	5075	Sewer Pipe	5387	5385	
51	5408	Sewer Pipe	5645	5649	
52	5492	Sewer Pipe	5729	5728	
53	5556	Sewer Pipe	5806	5781	
54	10659	Sewer Pipe	5871	5871A	
55	5728	Sewer Pipe	5908	5942	
56	6007	Sewer Pipe	615	619	
57	6191	Sewer Pipe	628	636	
58	6261	Sewer Pipe	6453	6432	

1 Year Creek Crossings

7/30/2013

3:01 PM

59	6304	Sewer Pipe	6485	6477
60	6314	Sewer Pipe	6486	6485
61	6315	Sewer Pipe	6487	6486
62	6316	Sewer Pipe	6489	6487
63	10346	Sewer Pipe	6534	7908a
64	6464	Sewer Pipe	6609	6617
65	6451	Sewer Pipe	6612	6608
66	6458	Sewer Pipe	6617	6612
67	6470	Sewer Pipe	6619	6621
68	6465	Sewer Pipe	6621	6617
69	13800	Sewer Pipe	7073	11875
70	7241	Sewer Pipe	7343	7326
71	7265	Sewer Pipe	7347	7343
72	7259	Sewer Pipe	7348	7338
73	7270	Sewer Pipe	7360	7348
74	7352	Sewer Pipe	7430	7421
75	7351	Sewer Pipe	7443	7421
76	12548	Sewer Pipe	7462	10637
77	7412	Sewer Pipe	7480	7471
78	9149	Sewer Pipe	7545	9226
79	7518	Sewer Pipe	7592	7569
80	7510	Sewer Pipe	7594	7563
81	7542	Sewer Pipe	7606	7592
82	7677	Sewer Pipe	7715	7713
83	7788	Sewer Pipe	7806	7812
84	7852	Sewer Pipe	7866	7865
85	8220	Sewer Pipe	794	820
86	8282	Sewer Pipe	8254	8253
87	8274	Sewer Pipe	8258	8248
88	8289	Sewer Pipe	8266	8259
89	8437	Sewer Pipe	8381	8390
90	8542	Sewer Pipe	8481	8484
91	8575	Sewer Pipe	850	850A
92	8621	Sewer Pipe	8551	8545
93	8966	Sewer Pipe	9072	9073
94	1265	Sewer Pipe	9083	2057
95	2832	Sewer Pipe	9120	3416
96	5626	Sewer Pipe	9217	5852
97	7540	Sewer Pipe	9224	7588
98	8962	Sewer Pipe	928	907
99	11567	Sewer Pipe	9613	6348
100	11590	Sewer Pipe	9632	8545
101	11801	Sewer Pipe	9833	9835
102	11821	Sewer Pipe	9841	PS14
103	11821	Sewer Pipe	9841	PS14
104	11810	Sewer Pipe	9850	9848
105	11897	Sewer Pipe	9924	820
106	7788	Sewer Pipe	7806	7812
107	976	Sewer Pipe	3269	18023
108	11182	Sewer Pipe	7883b	7883

5 Year Creek Crossings

7/30/2013

3:02 PM

Assets

<u>Seq #</u>	<u>Asset Rec #</u>	<u>Object Type</u>	<u>USMH</u>	<u>DSMH</u>	<u>Description</u>
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2	2580	Sewer Pipe	3204	3201	
3	5594	Sewer Pipe	5822	5824	
4	6281	Sewer Pipe	6452	6453	
5	11709	Sewer Pipe	9753	8225	
6	79	Sewer Pipe	1027	1030	
7	12261	Sewer Pipe	10319	10320	
8	12388	Sewer Pipe	10393	10392	
9	12370	Sewer Pipe	10411	10410	
10	12437	Sewer Pipe	10561	10560	
11	12419	Sewer Pipe	10566	10562	
12	12440	Sewer Pipe	10563	10562	
13	12443	Sewer Pipe	10565	10564	
14	12442	Sewer Pipe	10566	10565	
15	12450	Sewer Pipe	10569	10568	
16	12447	Sewer Pipe	10572	10571	
17	12446	Sewer Pipe	10573	10572	
18	12445	Sewer Pipe	10574	10573	
19	12549	Sewer Pipe	10637	7454	
20	12551	Sewer Pipe	10639	10637	
21	12645	Sewer Pipe	10654	10655	
22	13866	Sewer Pipe	1080	11926	
23	13995	Sewer Pipe	11297	10363	
24	13653	Sewer Pipe	11763	11764	
25	13654	Sewer Pipe	11764	1005	
26	13867	Sewer Pipe	11926	11927	
27	1152	Sewer Pipe	1929	1949	
28	9007	Sewer Pipe	3178	9109	
29	2585	Sewer Pipe	3230	3205	
30	2657	Sewer Pipe	3271	3268	
31	2692	Sewer Pipe	3314	3295	
32	2715	Sewer Pipe	3336	3314	
33	2800	Sewer Pipe	3401	3385	
34	9375	Sewer Pipe	450	9412	
35	4083	Sewer Pipe	463	450	
36	4341	Sewer Pipe	4733	4740	
37	4425	Sewer Pipe	493	481	
38	4563	Sewer Pipe	4953	4928	
39	10935	Sewer Pipe	496a	495	
40	4852	Sewer Pipe	5177	5176	
41	4857	Sewer Pipe	5188	5182	
42	5066	Sewer Pipe	5385	5379	
43	9897	Sewer Pipe	5403	5385	
44	5100	Sewer Pipe	5408	5409	
45	5255	Sewer Pipe	5526	5531	
46	5223	Sewer Pipe	5528	5507	
47	5258	Sewer Pipe	5531	5534	
48	5257	Sewer Pipe	5534	5533	
49	5522	Sewer Pipe	5763	5753	
50	5537	Sewer Pipe	5781	5766	
51	10039	Sewer Pipe	5800	5781	
52	5590	Sewer Pipe	5850	5819	
53	5637	Sewer Pipe	5859	5862	
54	5657	Sewer Pipe	5882	5881	
55	5651	Sewer Pipe	5883	5877	
56	5694	Sewer Pipe	5953	5913	
57	5762	Sewer Pipe	5984	5973	
58	5925	Sewer Pipe	609	612	

5 Year Creek Crossings

7/30/2013

3:02 PM

59	6070	Sewer Pipe	619	625
60	6107	Sewer Pipe	625	628
61	6281	Sewer Pipe	6452	6453
62	6299	Sewer Pipe	6477	6470
63	6318	Sewer Pipe	6490	6489
64	7074	Sewer Pipe	7180	7178
65	7143	Sewer Pipe	7256	7241
66	7179	Sewer Pipe	7279	7271
67	7369	Sewer Pipe	7435	7434
68	7365	Sewer Pipe	7439	7430
69	9898	Sewer Pipe	7442	7450
70	7381	Sewer Pipe	7454	7443
71	7384	Sewer Pipe	7456	7447
72	7396	Sewer Pipe	7471	7456
73	7489	Sewer Pipe	750	754
74	7577	Sewer Pipe	754	762
75	11273	Sewer Pipe	7544a	7544b
76	11109	Sewer Pipe	7544b	7544c
77	7597	Sewer Pipe	762	764
78	7614	Sewer Pipe	7666	7654
79	9900	Sewer Pipe	8220	9219
80	8292	Sewer Pipe	8252	8261
81	8293	Sewer Pipe	8261	8262
82	8497	Sewer Pipe	8453	8443
83	8497	Sewer Pipe	8453	8443
84	10431	Sewer Pipe	8471	9262
85	8556	Sewer Pipe	8502	8497
86	8598	Sewer Pipe	8506	8528
87	8572	Sewer Pipe	8511	8508
88	8620	Sewer Pipe	8543	8545
89	6948	Sewer Pipe	8947	7056
90	2751	Sewer Pipe	9111	3346
91	9382	Sewer Pipe	9415	9416
92	11850	Sewer Pipe	9881	782

Permanent Flow Meters

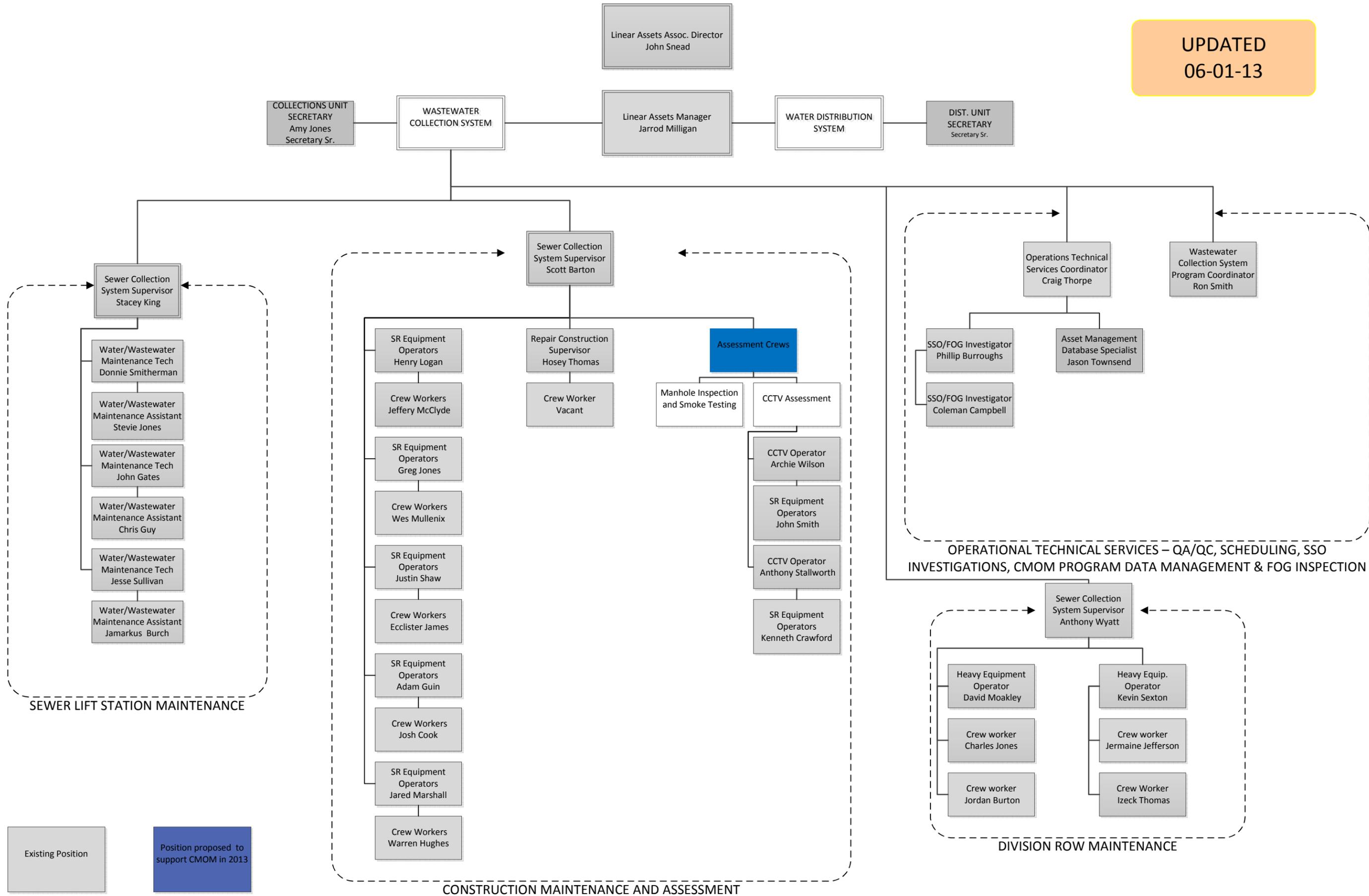
■ Permanent Flow Meters

0 350 700 1,400 2,100 2,800
Feet

N



UPDATED
06-01-13



Date	Type of Training Event	Location	Employee	Position Title
2/8/2012	Con Sheild Biotech Armor for Concrete Manholes	Tuscaloosa	Jarrold Milligan	Linear Asset Manager
2/15/2012	TTL Wastewater Sminar	Montgomery, AL	Scott Barton	Collection System Supervisor
2/15/2013	TTL Wastewater Sminar	Montgomery, AL	Phillip Burroughs	SSO/FOG Technical Investigator
3/29/2012	NPDES Pollutant and Water Quality Flow Seminar	Tuscaloosa	Jarrold Milligan	Linear Asset Manager
4/16-18/2012	2012 AWEA Conference	Orange Beach AL	Jarrold Milligan	Linear Asset Manager
4/16-18/2012	2012 AWEA Conference	Orange Beach AL	Ron Smith	Program Coordinator
6/21/2012	Inserts for Sewer Odor and Corrosion Control	Tuscaloosa, AL	Jarrold Milligan	Linear Asset Manager
6/21/2012	Inserts for Sewer Odor and Corrosion Control	Tuscaloosa, AL	Stacey King	Collection System Supervisor
6/21/2012	Inserts for Sewer Odor and Corrosion Control	Tuscaloosa, AL	Scott Barton	Collection System Supervisor
7/18/2012	Anticipating Public Question During a Water Emergency	Tucaloosa, AL	Jarrold Milligan	Linear Asset Manager
8/26-28/2012	Peer Review at Sanitation District 1 Norther Kentucky	Florence, KY	Jarrold Milligan	Linear Asset Manager
8/26-28/2012	Peer Review at Sanitation District 1 Norther Kentucky	Florence, KY	Scott Barton	Collection System Supervisor
9/13-14/2012	Introduction to Crystal Reports 11 Training	Tuscaloosa, AL	Jason Townsend	Database Specialist
10/1-2/2012	Intermediate Crystal Reports Training	Tuscaloosa, AL	Jason Townsend	Database Specialist
10/9/2012	TEAM Insert Valves for Force Mains	Tuscaloosa, AL	Scott Barton	Collection System Supervisor
10/9/2012	TEAM Insert Valves for Force Mains	Tuscaloosa, AL	Stacey King	Collection System Supervisor
10/9/2012	TEAM Insert Valves for Force Mains	Tuscaloosa, AL	Jarrold Milligan	Linear Asset Manager
11/8/2012	IED Counterterrorism Training	Montgomery, AL	Scott Barton	Collection System Supervisor
11/8/2012	IED Counterterrorism Training	Montgomery, AL	Anthony Wyatt	Collection System Supervisor
11/16/2012	WEF Sponsored Asset Management: Translating Data to Information	Tuscaloosa, AL	Jarrold Milligan	Linear Asset Manager
12/5/2012	Crucial Conversations	Tucaloosa, AL	Scott Barton	Collection System Supervisor
1/7/2013	Temporary Traffic Control	Montgomery, AL	Jarrold Milligan	Linear Asset Manager
1/24/2013	CIP Lateral Lining Seminar	Tuscaloosa, AL	Jarrold Milligan	Linear Asset Manager
1/24/2013	CIP Lateral Lining Seminar	Tuscaloosa, AL	Ron Smith	Program Coordinator
1/24/2013	CIP Lateral Lining Seminar	Tuscaloosa, AL	Scott Barton	Collection System Supervisor
1/24/2013	CIP Lateral Lining Seminar	Tuscaloosa, AL	Stacey King	Collection System Supervisor
3/12/2013	Crucial Conversations	Tuscaloosa, AL	Stacey King	Collection System Supervisor
3/12/2013	Crucial Conversations	Tuscaloosa, AL	Craig Thorpe	OTS Supervisor
4/8-9/2013	2013 AWEA Conference	Orange Beach AL	Jarrold Milligan	Linear Asset Manager
4/18/2013	Lucity User Group Conference	Atlanta, GA	Jarrold Milligan	Linear Asset Manager
4/18/2013	Lucity User Group Conference	Atlanta, GA	Craig Thorpe	OTS Supervisor
4/18/2013	Lucity User Group Conference	Atlanta, GA	Marc Courville	GIS Specialist

4/18/2013	Lucity User Group Conference	Atlanta, GA	Darryl Shaw	supervisor
5/17/2012	E-1 Grinder Pump Training and Troubleshooting	Cullman, AL	Anthony Wyatt	Collection System Supervisor
5/17/2013	E-1 Grinder Pump Training and Troubleshooting	Cullman, AL	Phillip Burroughs	SSO/FOG Technical Investigator
5/17/2013	E-1 Grinder Pump Training and Troubleshooting	Cullman, AL	John Gates	Lift Station Maintenance Tech
5/21/2013	Loctite MRO workshop	Tuscaloosa, AL	Stacey King	Collection System Supervisor
5/21/2013	Loctite MRO workshop	Tuscaloosa, AL	John Gates	Lift Station Maintenance Tech
5/21/2013	Loctite MRO workshop	Tuscaloosa, AL	Donald Smitherman	Lift Station Maintenance Tech
5/21/2013	Flagger Training	Pelham, AL	Scott Barton	Collection System Supervisor
5/22/2013	Construction Inspection for Trenchless Rehabilitation	Tuscaloosa, AL	Scott Barton	Collection System Supervisor
5/22/2013	Construction Inspection for Trenchless Rehabilitation	Tuscaloosa, AL	Stacey King	Collection System Supervisor
5/22/2013	Construction Inspection for Trenchless Rehabilitation	Tuscaloosa, AL	Anthony Wyatt	Collection System Supervisor
5/22/2013	Construction Inspection for Trenchless Rehabilitation	Tuscaloosa, AL	Ron Smith	Program Coordinator
5/22/2013	Construction Inspection for Trenchless Rehabilitation	Tuscaloosa, AL	Phillip Burroughs	SSO/FOG Technical Investigator
5/22/2013	Construction Inspection for Trenchless Rehabilitation	Tuscaloosa, AL	John Gates	Lift Station Maintenance Tech
5/22/2013	Construction Inspection for Trenchless Rehabilitation	Tuscaloosa, AL	Donald Smitherman	Lift Station Maintenance Tech
5/22/2013	Construction Inspection for Trenchless Rehabilitation	Tuscaloosa, AL	Craig Thorpe	OTS Supervisor
5/28-30/2013	Peer Review at Sanitation District 1 Norther Kentucky	Florence, KY	Craig Thorpe	OTS Supervisor
5/28-30/2013	Peer Review at Sanitation District 1 Norther Kentucky	Florence, KY	Jarrod Milligan	Linear Asset Manager
5/28-30/2013	Peer Review at Sanitation District 1 Norther Kentucky	Florence, KY	Scott Barton	Collection System Supervisor
5/28-30/2013	Peer Review at Sanitation District 1 Norther Kentucky	Florence, KY	Archie Wilson	CCTV Operator
6/18/2013	Peer Review at Montgomery Water Works	Montgomery, AL	Donald Smitherman	Lift Station Maintenance Tech
6/18/2013	Peer Review at Montgomery Water Works	Montgomery, AL	Stacey King	Collection System Supervisor
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Jarrod Milligan	Linear Asset Manager
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Ron Smith	Program Coordinator
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Jared Marshall	Equipment Operator Senoir
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Donald Smitherman	Lift Station Maintenance Tech
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	John Gates	Lift Station Maintenance Tech
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Anthony Wyatt	Collection System Supervisor

6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Stacey King	Collection System Supervisor
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Scott Barton	Collection System Supervisor
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Phillip Burroughs	SSO/FOG Technical Investigator
6/19/2013	Flushable or Not? Dispersing the Non-Dispersible Problem	Tuscaloosa, AL	Jesse Sullivan	Lift Station Maintenance Tech
6/24/2013	Peer Review at Daphne Utility	Daphne, AL	Stacey King	Collection System Supervisor
6/24/2013	Peer Review at Daphne Utility	Daphne, AL	Anthony Wyatt	Collection System Supervisor
6/25/2013	AWEA CES for Collection Systems Operators	Daphne, AL	Anthony Wyatt	Collection System Supervisor
6/25/2013	AWEA CES for Collection Systems Operators	Daphne, AL	Stacey King	Collection System Supervisor
6/25/2013	Gilbert Pump	Tuscaloosa, AL	Jesse Sullivan	Lift Station Maintenance Tech
6/25/2013	Gilbert Pump	Tuscaloosa, AL	Scott Barton	Collection System Supervisor
6/25/2013	Gilbert Pump	Tuscaloosa, AL	Donald Smitherman	Lift Station Maintenance Tech
6/25/2013	Gilbert Pump	Tuscaloosa, AL	John Gates	Lift Station Maintenance Tech
7/16-17/2013	Crucial Conversations	Tuscaloosa, AL	Phillip Burroughs	SSO/FOG Technical Investigator
7/18/2013	Red Zone Robotics	Tuscaloosa, AL	Ron Smith	Program Coordinator
7/18/2013	Red Zone Robotics	Tuscaloosa, AL	Archie Wilson	CCTV Operator
7/18/2013	Red Zone Robotics	Tuscaloosa, AL	Craig Thorpe	OTS Supervisor
7/18/2013	Red Zone Robotics	Tuscaloosa, AL	Jarrold Milligan	Linear Asset Manager

COUNCIL

Harrison Taylor
President Pro-Tem
District 2

Bobby E. Howard
District 1

Cynthia Lee Almond
District 3

City of Tuscaloosa

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WALTER MADDOX
Mayor

Jimmy W. Junkin, Director

COUNCIL

Lee Garrison
District 4

Kip Tyner
District 5

Robert Lundell
District 6

William Tinker III
District 7

September 1, 2013

VIA CERTIFIED MAIL

**Ms. Glenda Dean, Chief
Water Division
Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, AL 36110-2400**

**RE: Consent Order 09-104-CWP
Semiannual Progress Report
Due Date: March 8, 2012
NPDES Permit No. AL0022713
Tuscaloosa WWTP
Tuscaloosa County (125)**

Dear Ms. Dean:

This letter and attached Capacity, Management, Operations and Maintenance (CMOM) Report has been prepared to serve as the Semiannual Progress Report required by the Consent Order 09-104-CWP issued September 8, 2009. The Tuscaloosa Water and Sewer Department (TWSD) continues to make sustainable progress toward effectively managing the department's wastewater collection system in a manner that is CMOM compliant.

The TWSD submitted the Engineering Report and Compliance Plan on December 15, 2009. As requested by EPA, on November 22, 2011, we submitted a supplement to the Engineering Report and Compliance Plan. The Supplement includes the following three items:

- Fats Oils and Grease (FOG) Specific Program Development
- Capacity, Management, Operations, and Maintenance (CMOM) Program Development – Gravity Line Preventative Maintenance Plan
- Sanitary Sewer Overflow Response Plan (SORP)

Stephen Daly
Deputy Director,
Process Assets

John S. Snead
Associate Director,
Linear Assets

LaDonnah S. Roberts
Assistant Director,
Financial Affairs & Customer
Service

Scott Sanderford
Lakes
Manager

This Semiannual Progress Report provides a status update for each item in the Compliance Plan and Supplemental Items, as listed in Table 1.

Additional details are provided after Table 1 for each item completed within this reporting period.

TABLE 1
Compliance Plan

Item	Description	Target Completion Date / Status
1	Plan, schedule, and complete refresher training for sewer operations personnel on proper SSO reporting procedures.	March 2010 / Completed February 26, 2010
2	Enroll in ADEM's Electronic Environmental DMR Reporting System Program.	Completed September 2009
3	Demonstrate measures taken to help ensure future permit renewal applications will be submitted in a timely manner.	February 2010 / Completed February 23, 2010
4	Update the Spill Response Protocol document and ensure that all pertinent personnel are properly trained to apply the protocol.	Completed September 2009
5	Create a centralized filing system for all SSO documentation.	April 2010/Completed February 26, 2010
6	Implement a policy where contractors working for TWSD are required to submit a wastewater containment plan for construction activities involving wastewater infrastructure.	June 2010 / Completed June 29, 2010
7	Continue the manhole inspection, repair, and rehabilitation program.	December 2010 / Completed November 2010
8	Develop and implement a program to identify and address areas where blockages are recurrent.	July 2010 / Completed April 6, 2010
9	Develop and implement quality control procedures for regulatory reporting tasks (collection system).	March 2010 / Completed February 26, 2010
10	Develop a plan to reduce I/I upstream of Lift Station 55.	August 2010 / Completed August 2010
11	Implement plan from Item 10 above.	December 2011/ Completed
12	Continue TWSD's creek crossing inspection program.	December 2010 / Completed December 2010
13	Continue program to locate and address areas with significant root intrusion.	December 2010 / Completed December 2010
14	Continue preventive maintenance work for lift stations.	February 2010 / Completed January 4, 2010
15	Develop FOG Specific Program	November 26, 2012 Completed November 15, 2012
16	Implementation of FOG Specific Program	December 26, 2012 Ongoing

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TABLE 1
Compliance Plan

Item	Description	Target Completion Date / Status
17	Develop GLPM Program	June 30, 2013/ Completed November 2012
18	Implement GLPM Program	December 30, 2013/In Progress
19	Develop SORP	November 26, 2012/Completed November 15, 2012
20	Implementation of SORP	December 26, 2012/Ongoing

Notes:

SSO = sanitary sewer overflow

ADEM = Alabama Department of Environmental Management

DMR = discharge monitoring report

I/I = infiltration/inflow

TWSD = Tuscaloosa Water and Sewer Department

Our progress to date shows that the City of Tuscaloosa, Water and Sewer Department is taking the necessary steps to meet the requirements and intent of the Consent Order. We are committed to continue our efforts to implement the identified improvements.

If you have any questions, please contact me at your convenience.

Sincerely,

CITY OF TUSCALOOSA, WATER & SEWER DEPARTMENT



Jimmy Junkin
Director

cc: Olivia H. Rowell, ADEM General Council
James H. Carlson, ADEM
Daphne Smart, ADEM Head of Municipal & Industrial
Nick Caraway, ADEM Enforcement Area Engineer

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