UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC 10 2014

CERTIFIED MAIL 7012 1010 0001 8097 0498
RETURN RECEIPT REQUESTED

Ms. Alice Cannella, P.E.
Director, Waste Resources Division
City of Chattanooga
455 Moccasin Bend Road
Chattanooga, Tennessee 37405

Re: Conditional Approval of the Fats, Oils and Grease Management Program
U.S. District Court Civil Action 1:12-cv-00245

Dear Ms. Cannella:

The U.S. Environmental Protection Agency Region 4 and the Tennessee Department of Environment and Conservation (TDEC) have reviewed the Fats, Oils and Grease Management Program (FOG Program) for the City of Chattanooga (the City) dated November 6, 2014, pursuant to Section VI.20.c of the subject Consent Decree above. The EPA and TDEC hereby approve the FOG Program pending the revision of the City's Sewer Use Ordinance (SUO) to include information, but not limited to, grease interceptor pumping requirements and frequencies, excessive FOG, and enforcement actions/penalties and noncompliance notifications. The City shall revise and approve the SUO within six months of receiving the EPA and TDEC's approval of the FOG Program. The City shall certify the status of the implementation of the FOG Program in the Semi-Annual or Annual Work Progress Report pursuant to Section IX of the subject Consent Decree.

Please contact Ms. Sara Janovitz at (404) 562-9870 or via email at janovitz.sara@epa.gov if you have any questions.

Sincerely,

Maurice L. Horsey, IV, Chief
Municipal & Industrial Enforcement Section
NPDES Permitting and Enforcement Branch

cc: See Attached List

Mailing List:

Mr. Karl Fingerhood
U.S. Department of Justice, Washington, D.C.

Mr. Phillip Hilliard
Office of the Attorney General

Ms. Jessica Murphy
Tennessee Department of Environment and Conservation

Mr. Donald L. Norris
City of Chattanooga, Tennessee

Mr. Wade Hinton
City of Chattanooga, Tennessee

Mr. Adam Sowatzka
King & Spalding LLP

Ms. Stephanie Matheny
Tennessee Clean Water Network

City of Chattanooga

Mayor Andy Berke

November 6, 2014

VIA CERTIFIED MAIL

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

Re: Review of the Gravity Line Preventive Maintenance Program U.S. District Court Civil Action 1:12-cv-00245

Dear Ms. Janovitz:

On behalf of the City of Chattanooga, Tennessee ("City"), and in accordance with the Consent Decree entered by the United States District Court for the Eastern District of Tennessee (Southern Division), on April 24, 2013, in the case styled the *United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245* ("Consent Decree"), we are submitting to both the Environmental Protection Agency ("EPA") and the Tennessee Department of Environment and Conservation ("TDEC") the Gravity Line Preventive Maintenance ("GLPM") Program response to comments from the EPA dated July 7, 2014.

The formal resubmittal of the FOG Management Program is being sent per your correspondence with the City over recent months. The comments received from the EPA and the responses to the GLPM Program are as follows:

1. EPA Comment Section 3.3: *Section IV.20.d.iv of the Consent Decree (CD) requires the City include procedures the City staff or contractors will follow to conduct Level 1 and 2 manhole inspections. Will all manholes throughout the Wastewater Collection and Transmission System (WCTS) be inspected? If so, how long will it take for all manholes to be inspected?*

   City of Chattanooga Response: Section 3.3 of the Gravity Line Preventive Maintenance Program provides methods and approaches and Section 3.4 provides procedures for conducting manhole inspections. The City will use NASSCO standards as guidelines for conducting Level 1 and Level 2 manhole inspections. Appendix B provides standard forms and specifications for completing manhole inspections.

The City's goal is to perform manhole inspections in priority areas on manholes that are susceptible to I/I. By prioritizing manhole inspections, the City plans to inspect 33% of the manholes in the system under the Gravity Line Preventive Maintenance Program by 2020. Therefore, if the City continues on this approach, all manholes in the system will be inspected under the term of the Consent Decree.

2. EPA Comment Section 3.6: Is there a maximum length of time allowed between Level 1 and Level 2 manhole inspections?

   City of Chattanooga Response: There is no limit on the length of time allowed between Level 1 and Level 2 inspections; however, the City will complete Level 2 inspections expeditiously to reach annual performance goals, as listed in Table 3-1.

3. EPA Comment Section 4.4: Section IV.20.d.i of the CD requires the City include procedures the City staff or contractors will follow to conduct hydraulic cleaning.

   Section 4.4 provides procedures for conducting preventive hydraulic cleaning. Items in Appendix C provide specifications and standard forms for use in conducting hydraulic cleaning.

4. EPA Comment Section 4.6: The annual hydraulic cleaning preventative maintenance goal is approximately 15% of the system—does the 1,000,000 linear foot goal count lines that were cleaned more than once in a year multiple times toward the goal? Or, is the goal 1,000,000 linear feet of distinct lines?

   City of Chattanooga Response: The goal of 1,000,000 linear feet does include sewer lines that were cleaned more than once. These lines would be included in the "hot spot" areas and may require repeated preventive hydraulic cleaning to reduce SSOs.

5. EPA Comment Section 5.3: Will the City handle preventative mechanical cleaning of pipes less than 14 inches in-house? Section IV.20.d.ii of the CD requires the City include procedures the City staff or contractors will follow to conduct preventative mechanical cleaning.

City of Chattanooga Response: The City does not expect to utilize mechanical cleaning as defined in the Gravity Line Preventive Maintenance Program for pipes less than 24 inches (Section 5.1); however, if mechanical cleaning is needed on small diameter pipelines, this work will be contracted out to third parties.

6. EPA Comment Section 6.6: Does the City have any idea how many linear feet throughout the WCTS need annual chemical root control?

   City of Chattanooga Response: The City cannot currently estimate how many linear feet of sewer need chemical root control, but as the City's sewer inspection efforts advance, it will become clearer how much chemical root control is needed.

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

We look forward to receiving EPA's and TDEC's approval of the GLPM Program. In the meantime, please let me know if you have any questions regarding our submittal.

Sincerely,

Alice L. Cannella

Alice L. Cannella, P.E.
Director, Waste Resources Division

cc: Karl Fingerhood, Esq., US DOJ
Chief, Environmental Enforcement Section, US DOJ
Chief, Clean Water Enforcement Branch, US EPA Region 4
Bill Bush, Esq., US EPA
Phillip Hilliard, Office of the Attorney General
Enforcement Coordinator, Water Pollution Control, TDEC
Stephanie Durman Matheny, Esq., TCWN
Mike Marino, PE, Jacobs
Adam Sowatzka, Esq., King & Spalding

Fats, Oils, and Grease (FOG) Management Program

Prepared for

United States Environmental Protection Agency and Tennessee Department of Environment and Conservation

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

Prepared by

City of Chattanooga
Waste Resources Division

Submitted by

JACOBS

Jacobs Engineering Group Inc.
Consent Decree Program Manager

Chattanooga, Tennessee

May 22, 2014
Revised November 6, 2014

Contents

1.0 Introduction 1

1.1 Purpose 1

1.2 Background 1

1.3 Re-Evaluation of Existing FOG Management Policy 1

1.4 Goals 2

1.5 Authority 2

2.0 Overview 3

2.1 Impacts of FOG 3

2.2 Description of Wastewater Collection and Transmission System 3

2.3 Key Elements of the FOG Management Plan 4

2.4 Definitions 4

2.5 Sources of FOG 7

2.5.1 FSEs 7

2.5.2 Residential Sewer Users 7

2.5.3 Industrial Waste Dischargers 7

2.6 Information Management System 7

3.0 Administration and Enforcement of the FOG Management Program 9

3.1 Administration 9

3.2 Identification and Location of FSEs 9

3.3 Permits and Administrative Fees 9

3.3.1 Permits 9

3.3.2 Administrative Fees 10

3.4 Inspection and Monitoring 10

3.4.1 Right of Entry 10

3.4.2 Frequency 10

3.4.3 Minimum Inspection Requirements 10

3.4.4 Additional Inspection and Monitoring Requirements 11

3.5 Enforcement 11

3.5.1 Enforcement Actions 11

3.5.2 Grease Control Noncompliance Notification....12
3.5.3 Enforcement Actions for FSEs in Hot Spot Areas....12
3.5.4 Enforcement Penalties....12
4.0 FSE Requirements....14
4.1 General....14
4.2 Grease Control Equipment (GCE)....14
4.2.1 Types of GCE....14
4.2.2 GCE General Classes and Sizes....14
4.2.3 Grease Interceptors....15
4.2.4 Grease Traps....15
4.2.5 Grease Recycling Containers....16
4.3 Best Management Practices for FSEs....16
5.0 Residential Sewer Users....18
5.1 General....18
5.2 Public Education....18
5.2.1 General....18
5.2.2 Strategy....18
5.2.3 Best Practices....19
5.2.4 Communication Tools....19
5.2.5 Performance Measures....20
6.0 Performance Measures....21
6.1 Performance Measures....21
7.0 Distribution and Maintenance of FOG Management Program....22
7.1 FOG Management Program Submittal and Availability....22
7.2 FOG Management Program Review and Update....22
7.3 Training....22
8.0 Implementation Schedule....24

Tables

1-1 FOG Management Program Deficient Areas and Recommendations 2

6-1 FOG Management Program Key Performance Indicators.....20

8-1 FOG Management Program Implementation Schedule 23

Appendices

A Waste Resources Division Organization Charts

B FOG Management Standard Operating Procedures

C Food Service Establishment Grease Control Inspection Form

D Grease Control Noncompliance Notification Form

E City of Chattanooga Fats, Oils & Grease (FOG) Management Enforcement Response Guide

F City of Chattanooga Specifications for Grease Interceptors

G City of Chattanooga Specifications for Grease Traps

H FSE Good Cleaning Practices Posters

I FOG Brochure

Acronyms **and Abbreviations**

BMP	Best Management Practice
CCTV	Closed-Circuit Television
CSOTF	Combined Sewer Overflow Treatment Facility
EPA	Environmental Protection Agency
FOG	Fats, Oils, and Grease
FSE	Food Service Establishment
Gal	Gallons
GCE	Grease Control Equipment
gpm	Gallons Per Minute
IMS	Information Management System
ISS	Interceptor Sewer System
KPI	Key Performance Indicator
min	Minutes
No.	Number
NPDES	National Pollutant Discharge Elimination System
NCN	Noncompliance Notification
POTW	Publicly Owned Treatment Works
SSO	Sanitary Sewer Overflow
TDEC	Tennessee Department of Environment and Conservation
WCTS	Wastewater Collection and Transmission System
WRD	Waste Resources Division
WWTP	Wastewater Treatment Plant

1.0 Introduction

1.1 Purpose

On April 24, 2013, the City of Chattanooga (City) entered into a consent decree with the United States and the State of Tennessee, in the case styled United States of America et. al. v. City of Chattanooga, No. 1:12-cv-00245 ("CD"). The City's Waste Resources Division (WRD) has prepared an updated Fats, Oils, and Grease (FOG) Management Program for review and approval by the United States Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC), pursuant to paragraph 20(c) of the CD.

The purpose of this FOG Management Program is to significantly limit fats, oils and greases from entering the wastewater collection and transmission system (WCTS), in order to reduce sanitary sewer overflows (SSOs) related to blockages caused by FOG.

This document will outline the City's FOG Management policies and will be used to train staff in implementing the Program. This document will also be used to educate the public on the City's FOG Management Program.

1.2 Background

In an effort to prevent the introduction of FOG into the WCTS, the City initiated a FOG management program for its Interceptor Sewer System (ISS) in June 2005. This effort included staff training, identification of food service establishments (FSEs), development of inspection procedures, initial inspections, and education of FSEs and waste haulers. The experience gained from developing the FOG Management Program led to the ISS FOG Management Policy, formalized in writing on November 16, 2009. This document is an expansion of the 2009 FOG Management Policy and provides additional guidance based upon requirements in the CD and the *EPA Region 4 Guide to Collection and Transmission System Management, Operation, and Maintenance Programs*.

1.3 Re-Evaluation of Existing FOG Management Policy

A re-evaluation of the City's existing FOG Management policies and practices has found the current program established in 2005 and formalized in 2009 to be sufficient in meeting the City's current FOG control goals. However, based on this re-evaluation, several key areas of the program have been identified as needing updating considering future growth of the City and the number of SSOs related to FOG. Table 1-1 below summarizes the recommended changes that have been added to this document.

Table 1-1
FOG Management Program Deficient Areas and Recommendations

Deficient Practice or Policy	Corrective Action
Training Component	Included a method of annually training staff in the FOG Management Program.
Performance Measures	Included measurable key performance indicators (KPIs) to track progress and success. KPIs should be updated annually.
Review Procedure	Included procedure and schedule for reviewing and updating program.
Public Education Program	Included several possible Public Education Strategies that will be evaluated for implementation. A minimum of one strategy should be implemented.
Method to Identify Persistent Sources	Included a written description of Hot Spot Areas and method for identifying such areas.
Information Management System	Identified current methods for tracking and using data gathered during inspections.

1.4 Goals

The goals of the FOG Management Program for the 2014 fiscal year are to reduce the number of SSOs caused by FOG, increase the number of identified FSEs, identify and reduce the number of hot spot areas in the WCTS, and develop and implement a Public Education campaign for residential sewer users.

1.5 Authority

The City's legal authority for the development and implementation of this FOG Management Program is derived from the following federal, state and local laws, ordinances and regulations:

- The U.S. Clean Water Act;
- Code of Federal Regulations, Title 40, Part 403 - "General Pretreatment Regulations for Existing and New Sources of Pollution;"
- National Pollutant Discharge Elimination System (NPDES) Permit Number TN0024210;
- Tennessee Water Quality Control Act;
- The CD; and
- City of Chattanooga Sewer Use Ordinance, City Code Chapter 31.

2.0 Overview

2.1 Impacts of FOG

This FOG Management Program will address fats, oils, and grease from animal and plant origins that are commonly found in such things as meat fats, lard, cooking oil, shortening, butter, margarine, food scraps, baked goods, sauces, soups, and dairy products. Residential sewer users as well as commercial sewer users generate these types of wastes.

FOG generated from petroleum and mineral sources comes from industrial sources. Industrial sewer users are permitted, monitored, and inspected through the City's industrial Pretreatment Program, as described in the City's Sewer Use Ordinance in Chapter 31, Article 3 of the City Code, and are not addressed under this FOG Management Program.

FOG that is discharged through residential or commercial sewer users' plumbing enters into the WCTS. FOG may congeal or solidify and may coat and adhere to the interior surface of the users' sewer pipes and the WCTS, causing obstructions, capacity reductions, and eventually blockages. Once these blockages are formed, they can cause SSOs, resulting in raw sewage entering streets, storm drains, streams, businesses, yards, and residential homes. SSOs pose a risk to public health, adversely affect aquatic life, and can be costly to clean up.

FOG can coat the walls, piping, and equipment at pump stations in the WCTS, reducing the capacity and requiring manual cleaning. At the wastewater treatment plant (WWTP), FOG can coat and clog the unit processes at the headworks and accumulate as floating scum on the primary clarifiers, interfering with treatment operations. These problems require additional manpower, equipment, and other resources to control and correct.

2.2 Description of Wastewater Collection and Transmission System

As a regional wastewater utility, the City of Chattanooga, a Municipal Corporation, owns, operates, maintains, and manages a network of pipes, manholes, pump stations, force mains, CSOTFs, and associated appurtenances that transport wastewater from homes, businesses, and industries to the Moccasin Bend Wastewater Treatment Plant (WWTP). All of this infrastructure is part of the Wastewater Collection and Transmission System (WCTS), as defined in the CD and herein, and managed by the Waste Resources Division (WRD). The City has historically classified the WRD, WWTP and the WCTS as part of the Interceptor Sewer System (ISS). With the advent of the CD and recent reorganizations within the City, the term ISS is not recognized by all stakeholders and therefore the City will refer to WCTS and WWTP as the infrastructure and WRD as the organization to manage this infrastructure going forward. However, for the purposes of this document, the term ISS may be used interchangeably with WRD and WWTP and WCTS when encountered. Property owners own the private service laterals from the served residential, commercial, and industrial structures to the public main line in the street or right-of-way, including the connection.

The City's WCTS currently serves approximately 170,000 people with approximately 61,000 customers within the City including 80 permitted industries. It also provides treatment for eight (8) regional or satellite users comprised of approximately 25,000 customers. The WCTS is composed of:

- 1,263 miles of gravity sewers (approximate), including 70 miles of combined sewers;
- 30,000 manholes (approximate);
- 70 pump stations;
- 53 miles of force main;
- Eight (8) CSOTFs;
- One (1) Combined Sewer Storage Facility;
- 192 (approximate) residential/grinder pumps; and
- One (1) Moccasin Bend WWTP

The 61,000 WCTS customers within the City include 1,200 FSEs. The Pretreatment Program is responsible for the permitting and monitoring of these industries and FSEs. An organization chart of the WRD is provided in Appendix A.

2.3 Key Elements of the FOG Management Plan

The key elements of the FOG Management Plan are addressed individually as follows:

- Section 3.0 ADMINISTRATION AND ENFORCEMENT OF FOG MANAGEMENT PROGRAM
- Section 4.0 FSE REQUIREMENTS
- Section 5.0 RESIDENTIAL SEWER USERS
- Section 6.0 PERFORMANCE MEASURES
- Section 7.0 DISTRIBUTION AND MAINTENANCE OF FOG PROGRAM

2.4 Definitions

Additives: Additives include, but are not limited to, products that contain solvents, emulsifiers, surfactants, caustics, acids, enzymes or bacteria and that are used for grease management or control. Some of these additives may break up FOG only to have FOG re-congeal and cause blockages further downstream. They may be harmful to the biological processes at the WWTP and personnel working on the WCTS. In most cases, the use of additives is prohibited.

Best Management Practices (BMPs): The widely accepted means and methods of preventing or reducing FOG from entering the WCTS are referred to as Best Management Practices.

Brown Grease: Brown grease is the collective term for fats, oils and grease that are discharged to the grease control equipment of a FSE as result of kitchen or food preparation.

City: The City of Chattanooga, Tennessee and its Department of Public Works, the Waste Resources Division, and the Interceptor Sewer System.

Director: The Director of Waste Resources Division is responsible for the oversight and management of the Waste Resources Division and the ISS of the Department of Public Works of the City.

Exemption: A release from the requirement to install grease control equipment.

Extensive Remodeling: Modifications made to an existing FSE sufficient to require issuance of a building or plumbing permit or the temporary closure of the FSE for building renovation.

Fats, Oils, & Grease (FOG): FOG may consist of organic polar compounds derived from animal and/or plant sources and may be referred to as “grease” in this section. FOG from industrial sewer users that consists of nonpolar compounds derived from petroleum or mineral sources is covered under the ISS Pretreatment Program.

Food Grinder: A kitchen appliance designed to grind food particles to a small enough size to dispose to a sink drain.

Food Service Establishment (FSE): Any establishment, business or facility engaged in preparing, serving, or making food available for consumption is identified as a Food Service Establishment. A single family residence is not classified as a FSE; however, a multi-unit residential facility may be considered a FSE at the discretion of the Director. FSEs will be classified into five classes as described below.

- ***Class 1:*** Delis engaged in the sale of cold cut and heated sandwiches or subs with no frying or grilling on site; ice cream shops and beverage bars as defined by NAICS 722515; Mobile Vendors as defined by NAICS 722330
- ***Class 2:*** Limited Service Restaurants (Fast Food Facilities) as defined by NAICS 722513; Caterers as defined by NAICS 722320
- ***Class 3:*** Full Service Restaurants as defined by NAICS 722511
- ***Class 4:*** Buffet and Cafeteria Facilities as defined by NAICS 722514
- ***Class 5:*** Institutions (Schools, Hospitals, Prisons, etc.) as defined by NAICS 722310, but not to exclude self-run operations.

Grease Control Equipment (GCE): A device that is designed, installed, and operated in accordance with the manufacturer's specifications for separating and retaining FOG prior to the wastewater exiting the FSE and entering the WCTS. GCE include grease interceptors, grease traps, grease recycling containers, or other devices approved by the Director.

Grease Interceptor: A grease interceptor is GCE identified as a large underground vault, usually 500 gallons to 2,000 gallons in capacity, which provides FOG control for a FSE. Grease interceptors shall be located outside the FSE, unless a variance request has been granted.

Grease Trap: A grease trap, or hydromechanical grease interceptor, is GCE identified as an “under the sink” reservoir, a small container with baffles, or a floor trap. For a FSE approved to

install a grease trap, the “minimum” size requirement is the equivalent of a 20-gallon per minute/40 pound capacity trap.

Grease Recycling Container: A grease recycling container is used for the storage of yellow grease so that it may be recycled.

Multi-Unit Facility: A multi-unit facility is a single building or facility with multiple separate but adjoining units, each with separate plumbing and possibly other utilities.

NAICS: North American Industry Classification System. The website is found at: (http ://www.census.gov/epcd/www/naics.html)

Pretreatment Supervisor: The Pretreatment Supervisor is designated by the Director to oversee, manage, implement, monitor, and enforce the City’s Industrial Wastewater Pretreatment Program and FOG Management Program.

Pretreatment Program: The City’s Industrial Wastewater Pretreatment Program under ISS is responsible for the permitting, monitoring, inspecting, and enforcing of the City’s Sewer Use Ordinance as it relates to industrial waste and FOG.

Publicly Owned Treatment Works (POTW): A publicly owned treatment works is a wastewater treatment facility and its entire infrastructure that is owned by a state or municipality.

Tee or “T” (Influent and Effluent): A T-shaped pipe extending from the ground surface below grade into the grease interceptor to a depth allowing recovery (discharge) of the water layer located under the layer of FOG. Influent and Effluent Tee’s are recommended to be made of PVC or equivalent material, and extend to within 12 inches to 15 inches of the bottom of the interceptor.

User: Any person that contributes, causes, or permits the contribution or introduction of wastewater or pollutants into the WCTS, whether intentional or unintentional, and whether direct or indirect.

Wastewater Collection and Transmission System (WCTS): The WCTS is the wastewater collection, retention, and transmission systems, including all gravity sewer lines, force mains, pump stations, manholes, and other related appurtenances designed to collect and convey domestic, commercial, industrial wastewaters and combined sewer to the WWTP or CSOTFs.

Waste Hauler: Waste haulers transfer waste from the site of a customer to an approved site for disposal or treatment. The waste hauler is responsible for assuring that all federal, state, and local regulations are followed regarding waste transport.

Waste Resources Division (WRD): The WRD is responsible for the planning, management, operation, and maintenance of the WCTS and WWTP for the City.

Yellow Grease: Yellow grease is the collective term for fats, oils and grease that have not been in contact or contaminated from other sources (water, wastewater, solid waste, etc.) and can be recycled. Cooking oil is the main source of yellow grease.

2.5 Sources of FOG

The three (3) significant contributors or sources of FOG into the WCTS are FSEs, residential sewer users, and industrial waste dischargers.

2.5.1 FSEs

FSEs are key contributors to the WCTS of significant quantities of organic polar FOG that is derived from animal and plant sources. There are about 1,200 FSEs identified within the WCTS.

As a result, it is important that the FSEs be required to control and capture the FOG generated by their operations for proper disposal. It is important that they properly install approved and adequately sized grease control equipment (GCE) as well as properly maintain it. Additionally, the FSEs must implement BMPs for controlling FOG. This FOG Management Program has been developed to address these requirements.

2.5.2 Residential Sewer Users

Residential sewer users can contribute FOG to the WCTS as a result of cooking in the home. While the amount of FOG generated by one residential customer may be small when compared to FSEs, the amount generated by multiple residential sewer users added together can have a significant impact on the WCTS especially in highly concentrated areas.

Because of the large number of customers, it would be difficult and impractical to install and monitor GCE at residential locations. A more practical way to combat this source of FOG is to develop and implement a public education and awareness campaign for dealing with residential FOG. Residential sewer users and public education strategies are discussed in Section 5.0 of this document.

2.5.3 Industrial Waste Dischargers

Industrial waste dischargers contribute to the WCTS non-polar FOG that is derived from petroleum and mineral sources. Industrial waste dischargers are permitted and monitored by the ISS Pretreatment Program, and as such are not intended to be covered under this FOG Management Program. Meat or food processing plants that discharge to the WCTS are not classified as FSEs. Such industries should be permitted and monitored under the ISS Pretreatment Program, and are thus not addressed as a part of this FOG Management Program.

2.6 Information Management System

The FOG Management Program receives input from existing Information Management Systems (IMS) in order to manage and track program performance. SSO information is one metric that is important to the FOG Management Program. SSO data related to FOG are provided to the Pretreatment Supervisor by the System Engineer and are used to identify areas of the WCTS that may require additional FOG Management. These areas are referred to as “Hot Spot” areas. Hot Spot areas will be defined as areas that are affected by persistent sources of FOG and will be used to identify and correct the persistent sources of FOG. Hot Spot areas may also be identified by repeat FSE violations, customer complaints, or pipeline inspection data. Once a

Hot Spot area has been identified, Pretreatment Technicians perform additional inspections at FSEs located in these areas. The Pretreatment Supervisor will share Hot Spot area information with the System Engineer to coordinate additional sewer inspections or preventive maintenance in these areas as necessary; however, sewer inspections and preventive maintenance are not covered under this FOG Program.

In addition to FOG-related SSOs, the FOG Management Program tracks FSE and inspection information electronically. Enforcement actions are also tracked electronically.

In order to track the amount of FOG prevented from entering the system, the Pretreatment Supervisor receives annual waste handling reports from two local FOG disposal facilities. This information is tracked electronically and recorded annually.

These IMSs allow the FOG Management Program to consistently track data used to measure program performance as outlined in Section 6.0 Performance Measures.

3.0 Administration and Enforcement of the FOG Management Program

3.1 Administration

The administration of the City's FOG Management Program is the responsibility of the ISS section of the Waste Resources Division of the Department of Public Works. The Director of Waste Resources Division is responsible for the oversight of the implementation of the program. The Director has delegated responsibility for the implementation and enforcement of this program to the ISS Pretreatment Supervisor.

The ISS Pretreatment Supervisor reports to the Manager of Laboratory Services and oversees the ISS's Pretreatment Program and the FOG Management Program. Pretreatment Inspectors and Pretreatment Technicians report to the Pretreatment Supervisor and are responsible for implementing and enforcing both programs.

While Pretreatment Inspectors are primarily responsible for industrial pretreatment activities, they may occasionally assist the FOG Management Program during enforcement actions. Under the FOG Management Program, Pretreatment Technicians' responsibilities include performing FSE inspections, issuing Noncompliance Notices, inspecting sewer lines around FSEs, and filling out inspection reports. Currently, two (2) Pretreatment Inspectors and four (4) Pretreatment Technicians are employed by the Waste Resources Division. The need for additional employees will be assessed annually based on the program's workload as measured in Section 6.0 Performance Measures.

3.2 Identification and Location of FSEs

FSEs are identified and located through the use of local business directories, windshield surveys of business areas, and building plumbing permits. The known list of FSEs is updated periodically based on information obtained from City building inspection department and pretreatment neighborhood canvassing.

3.3 Permits and Administrative Fees

3.3.1 Permits

At the present time, no permits are being issued directly by the ISS to FSEs relative to their discharge to the WCTS; however, ISS communicates on a regular basis with the City Engineering Department and the Land Development Office. Currently, the ISS Pretreatment Supervisor is included in the review and approval of building plans and permits for FSEs. This process aids in the identification of new and existing FSEs and circumvents the need for a direct permitting process.

The need for implementing a new permitting system will be assessed annually based upon the performance and workload of the program.

3.3.2 Administrative Fees

At the present time, no administrative fees are being assessed to cover the cost of implementing and administering the FOG Management Program. These costs are covered in the sewer service charge.

The City reserves the right to assess administrative fees in the future to ensure full cost recovery for inspection, monitoring, impact, and permitting associated with the FOG Management Program. The need for this assessment will be based upon review of the annual performance and budget of the FOG Management Program.

3.4 Inspection and Monitoring

Areas of the City are divided equally among Pretreatment Technicians by zip code. Pretreatment Technicians will inspect the FSEs located within their assigned zip codes and will canvas the area to observe and record new FSEs or changes to existing FSEs. New FSEs or existing FSEs with changes in ownership, menu or increase in food production will be inspected as soon as reasonably possible. When conducting FOG Management inspections of FSEs, ISS employees should observe Pretreatment Standard Operating Procedure #001, provided in Appendix B.

3.4.1 Right of Entry

The City's Sewer Use Ordinance provides the ISS and its authorized representatives the legal authority to enter the premises of FSEs to determine whether the FSE is complying with the requirements of this FOG Management Program and the City's Sewer Use Ordinance.

Upon presentation of proper credentials, FSEs shall allow the Pretreatment Technician, or the ISS's authorized representatives, full access to all parts of the premises for the purpose of inspection, monitoring, and records examination as described in this program. Unreasonable delays in allowing ISS personnel access to the FSE premises shall be a violation of this program and the City's Sewer Use Ordinance.

3.4.2 Frequency

The ISS will inspect all identified FSEs a minimum of one (1) time per year to determine whether each facility is complying with the FOG Management Program. Inspections may be more frequent in identified problem areas or as required by the individual circumstances at each FSE.

3.4.3 Minimum Inspection Requirements

The FSE's FOG control practices and the adequacy and maintenance of their GCE will be assessed for compliance with the FOG Management Program. Maintenance records of GCE will be reviewed.

Upon arrival of ISS personnel, it is the owner's responsibility to provide the ISS personnel or their representative access, to open the GCE for inspection and to close it upon completion of the inspection. Failure to open the GCE for inspection will result in a Noncompliance Notice from the ISS.

GCE maintenance records shall be available at the FSE premises so they can be provided to ISS Pretreatment personnel or their representative, and/or the Chattanooga-Hamilton County Health Department. The FSE shall maintain detailed records on-site reflecting all cleaning/maintenance activities carried out for each GCE for a minimum of three (3) years. At a minimum, such GCE maintenance records shall include:

- Date of cleaning/maintenance,
- Company and person conducting the cleaning/maintenance,
- Measured depths of FOG and solids inside the GCE,
- Condition or deficiencies of the GCE,
- Volume (in gallons) of wastewater removed,
- Location FOG waste was taken to for disposal, and
- Grease waste hauler's manifest showing completed work.

The ISS Food Service Establishment Grease Control Inspection Form is provided in Appendix C. Results of each inspection, including requirements for improvements and corrections, will be maintained by the ISS and made available to the FSE owner or authorized representative, for inspection.

3.4.4 Additional Inspection and Monitoring Requirements

FSEs that discharge their wastewater into sewers upstream of FOG hot spots may be identified as potential contributors to the FOG build-up. The ISS will inspect the GCE of all FSEs in the vicinity of FOG hot spots, making note of maintenance records, sizing, and condition of the GCE. FSEs in FOG hot spot areas may be required to pump grease interceptors more often than the minimum frequency to ensure protection of the WCTS.

The ISS may require that the FSE install monitoring or additional GCE deemed necessary for compliance with this FOG Management Program and/or the City's Sewer Use Ordinance.

3.5 Enforcement

Enforcement actions of the FOG Management Program are detailed in the FOG Management Enforcement Response Guide that is found in Appendix D. The City will be conducting a review of the enforcement provisions of the City's Sewer Use Ordinance, City Code Chapter 31. The City will conduct this review within six (6) months of the approval of this FOG Management Program and update the Sewer Use Ordinance, City Code Chapter 31, as needed.

3.5.1 Enforcement Actions

Reasons for enforcement actions against an FSE may include:

- Failure to install GCE;
- Failure to provide access for inspection or monitoring activities;
- Failure to clean or pump out GCE as required;

- Failure to maintain GCE, including properly functioning influent-Tees, effluent-Tees, and baffles;
- Failure to control FOG discharge from the FSE;
- Failure to maintain proper GCE maintenance records; and
- Use of prohibited additives.

FSEs with operations that cause or allow excessive FOG or solids to discharge or accumulate in the WCTS are liable for any and all costs associated with services and damages related to FOG accumulation in the WCTS. In such cases, the City may utilize CCTV pipeline inspections and FSE site inspections to identify, if possible, FOG management violations that may have contributed to the accumulation or discharge of excessive FOG or solids that are related to the costs and damages. Costs may include labor, materials, equipment and overhead expended to correct line blockages, SSOs, infrastructure damage, property damage, or environmental damage. Noncompliant FSEs may also be liable for any monetary fines incurred by the City as a result of FOG. Failure to pay all service-related charges may be grounds for sewer service discontinuance.

3.5.2 Grease Control Noncompliance Notification

If an FSE is found to be in violation of the requirements of the FOG Management Program or the City's Sewer Use Ordinance, a Grease Control Noncompliance Notification (NCN) will be issued to the FSE immediately following the inspection. The NCN will alert the FSE of a deficiency, practice, action, or wastewater discharge that is noncompliant with regulations or policies. The NCN also informs the FSE that an action is required of the FSE to rectify the noncompliance. If the FSE does not comply within the specified time period associated with the violation, enforcement actions may be escalated. Once corrective action has been taken by the FSE, a follow-up inspection will be performed. The Grease Control Noncompliance Notification form can be found in Appendix E.

3.5.3 Enforcement Actions for FSEs in Hot Spot Areas

FSEs in FOG problem or hot spot areas may be required to pump GCE more often than the minimum frequency required by the manufacturer to ensure protection of the WCTS.

FSEs that are not successful in achieving compliance with the FOG Management Program through improved implementation of BMPs and increased maintenance and pumping out of the existing GCE may be required to install the necessary additional GCE to bring the FSE into compliance. The ISS will allow for a reasonably appropriate amount of time to schedule and comply with this requirement.

The City may require any FSE to upgrade existing GCE or install larger GCE if it is determined that existing GCE is not sufficient to remove FOG.

3.5.4 Enforcement Penalties

Failure to comply with the requirements of the FOG Management Program will result in the assessment of penalties. Five penalty categories have been developed for the various types of

violations. These categories and the penalties associated with them are discussed in further detail in Appendix D.

4.0 FSE Requirements

4.1 General

An FSE is any establishment, business, or facility engaged in preparing, serving or making food available for consumption. Single family residences are not considered to be an FSE; however, multi-unit residential facilities may be considered FSEs at the discretion of the Director. A key element of the ISS FOG Management Program is for FSEs to control, capture, and properly dispose of the FOG generated by their operation.

All proposed, existing, and newly remodeled FSEs are required to have GCE installed, maintained and operating properly, in accordance with this FOG Management Program and City Code Section 31-13. The City reserves the right to require additional control measures if existing GCE is shown to be insufficient to protect the WCTS or does not meet the sizing requirements established in the FOG Management Program.

Owners of Commercial Property will be held responsible for wastewater discharges from leaseholders on their property.

This section of the FOG Management Program is to focus on the GCE requirements including their proper sizing, installation, and maintenance.

4.2 Grease Control Equipment (GCE)

4.2.1 Types of GCE

There are three (3) types of GCE used to control and collect FOG from FSEs. These include:

- Grease interceptors,
- Grease traps, and
- Grease recycling containers.

4.2.2 GCE General Classes and Sizes

GCE will vary in size and type for each class of FSE. The minimum acceptable size of GCE for each FSE Classification is as follows:

- Class 1: Deli, Ice Cream Shops, Beverage Bars, Mobile Food Vendors – 20 gallon per minute/40 Pound Grease Trap.
- Class 2: Limited Service Restaurants/Caterers – 500 gallon Grease Interceptor.
- Class 3: Full Service Restaurants – 1,000 gallon Grease Interceptor.
- Class 4: Buffet and Cafeteria Facilities – 1,500 gallon Grease Interceptor.
- Class 5: Institutions (Schools, Hospitals, Prisons, etc.) 2,000 gallon Grease Interceptor

A more detailed description of the FSE Classes may be found in Appendix F. All classes of FSEs producing yellow grease are required to use grease recycling containers to avoid discharge to the WCTS.

4.2.3 Grease Interceptors

The City requires grease interceptors in the sewer lines of restaurants and other food preparation facilities in an effort to reduce the amount of grease that would enter the POTW. The interceptors are basic in design and require periodic maintenance. Grease interceptor maintenance consists of removing the entire contents (liquids and solids) from the GCE and properly disposing of the material in accordance with this program by a waste hauler.

A grease interceptor is a passive GCE device that accumulates, or intercepts, brown grease before it reaches the WCTS. Brown grease is the FOG that is discharged to the GCE from kitchen or food prep areas of the FSE. As a passive device, the GCE retains FOG-bearing wastewater long enough to allow the FOG in the liquid to cool, coagulate, float, accumulate, and separate before the wastewater enters the WCTS.

The grease interceptor is utilized to provide sufficient retention time, typically no less than 30 minutes, to allow FOG to separate from the wastewater and float and accumulate. It should be sized large enough to manage the higher volumes that may be discharged from the FSE.

The grease interceptor is generally a large tank ranging from 500 gallons to 2,000 gallons in capacity and is typically constructed of concrete, fiberglass, steel or other durable materials. It is generally located below ground and outside of the FSE, unless a variance request has been granted.

The City reserves the right to evaluate sizing of grease interceptors on an individual basis for facilities with special conditions, such as highly variable flows, high levels of grease discharge, or other unusual situations that are not adequately addressed by the sizing formula.

Requirements and specifications for grease interceptors are found in Appendix G.

4.2.4 Grease Traps

Grease traps, or hydromechanical grease interceptors, are plumbing devices used to reduce the amount of FOG that may enter the WCTS. Grease traps use gravity separation aided by vented flow control to remove FOG from kitchen wastewater. Grease traps are typically found indoors and are relatively small compared to grease interceptors. Each kitchen fixture should be attached directly to one or more grease traps.

Grease traps are constructed from a variety of materials, including stainless steel, PVC, and cast iron. Grease traps are available in an assortment of sizes, varying by flow rate (rate of water flow through the grease trap measured in gallons per minute) and grease retention capacity (amount of grease the trap can hold measured in pounds). The designed capacity should always be twice the flow rate, and they must always be installed so that there is easy access to the cover for removal and cleaning.

Grease trap maintenance is usually performed by maintenance staff or other employees of the FSE. During cleaning of the grease trap, the flow restrictor shall be checked to ensure it is

attached and operational. Grease Traps shall be cleaned of complete FOG and food solids at a minimum of once per week. If the FOG and food solids content of the grease trap are greater than 25%, then the grease trap must be cleaned as frequently as needed to prevent 25% of capacity being taken from FOG and food solids. Removal of FOG is usually accomplished by hand-dipping or scooping the collected material from the trap.

Grease Traps that are significantly large as to require professional cleaning may be cleaned once every thirty (30) days at the discretion of the Director.

Requirements and specifications for grease traps are found in Appendix H.

4.2.5 Grease Recycling Containers

All FSEs are required to properly store yellow grease in an approved and secured container, where contents will not be discharged to any stormwater grate, drain, or conveyance. Yellow grease, or any oils or grease, poured or discharged into the FSE sewer lines or WCTS is a violation of this program and the City's Sewer Use Ordinance.

Yellow grease consists of FOG that have not been in contact or contaminated from other sources (water, wastewater, solid waste, etc.) and can be recycled. It is the easiest of the FOG products to collect and prevent from entering the WCTS. Typically, yellow grease is collected as cooking oil from fryers located in FSEs and is usually in liquid form. The collecting and recycling of yellow grease prevents a significant volume of FOG from being discharged to the WCTS.

Yellow grease must be collected separately in sealed containers and disposed of in solid waste dumpsters and sent to the landfill. However, it can be recycled and is a potentially valuable resource – it can be used in variety of products, including biodiesel, animal feeds, cosmetics, soaps, fertilizer, and munitions. The used yellow grease may be drained from the fryers after its useful life in easily transported containers and stored in grease recycling containers either inside or outside of the FSE. These containers are normally supplied by yellow grease recycling companies who retrieve the yellow grease on a regularly scheduled basis to collect the material and transport it to a recycling plant for further processing.

4.3 Best Management Practices for FSEs

FSEs shall observe BMPs for controlling the discharge of FOG from their facility. Examples of BMPs are provided in the list below.

A. Educate and train all employees regularly on proper FOG control and disposal.

B. DO NOT pour any grease into sinks, floor drains, or mop sinks.

C. Remind employees of proper grease disposal methods by posting the multi-lingual, "Good Cleaning Practices" signs available from ISS above all kitchen sinks, floor drains, and mop sinks. Examples of these signs are available in Appendix I.

D. Segregate, collect, and recycle waste cooking oil, grill scrapings, and pan drippings from cooking equipment and dispose into a designated grease recycling container without spilling.

E. Prior to washing, use paper towels to “dry wipe” pots, pans, and plates and scrape into garbage bags or containers as much food and grease residue as possible.

F. No automatic dishwasher shall be connected to an under-the-sink grease trap or floor grease trap.

G. The minimum amount of detergent should be used for dishwashing. Detergent surfactants can have negative impact on grease control by dissolving or emulsifying grease, only to have it congeal or solidify again in the POTW or downstream of GCE.

H. The use of food grinders is prohibited. Food grinders cause increase build-up of solids in grease traps and grease interceptors, which reduces the efficiency of the GCE and increases the frequency of required GCE cleaning and maintenance.

I. Strainers should be used in sink drains and floor drains to collect and prevent large food particles and debris from entering GCE. Properly dispose of collected material into garbage.

J. “Dry” clean kitchen floor by sweeping and damp mopping instead of spraying or washing down floors with water or chemicals.

K. If an oil or grease spill occurs, clean up using dry, oil absorbent material, or use ice to make grease solidify. Scoop up and dispose of the grease into a garbage bag or other container. DO NOT use soaps, detergents, or other additives which may emulsify and wash FOG into floor drains.

L. Dry absorption products should be stocked in conspicuous areas located in the kitchen to ensure and promote the use of the materials to clean under fryer baskets and other locations where grease may be spilled or dripped.

M. Kitchen exhaust filters should be maintained by cleaning as frequently as necessary to keep filters in good operating condition. If FOG escapes through the exhaust system, it can accumulate on the roof of the FSE and enter the storm sewers during rain or become a fire hazard.

N. Contract cleaning of grease interceptors should be observed to ensure complete removal of interceptor contents. Waste haulers may take shortcuts and only partially remove contents.

O. These BMPs and any other applicable grease management information materials should be posted conspicuously in all FSE kitchens for all FSE staff to see.

5.0 Residential Sewer Users

5.1 General

Residential sewer users can contribute FOG to the WCTS as a result of cooking in the home. While the amount of FOG generated by one residential customer may be small when compared to FSEs, the amount generated by multiple residential sewer users can have a significant impact on the WCTS especially in highly concentrated areas.

Because of the large number of customers, it would be difficult and impractical to install and monitor GCE at residential locations. A more practical way to combat this source of FOG is to develop and implement a public education and awareness campaign for dealing with residential FOG.

5.2 Public Education

5.2.1 General

The residential public education program is composed of four elements:

- Strategy
- Best Practices
- Communication Tools
- Performance Measures

5.2.2 Strategy

In order to increase the effectiveness of the public education program, a targeted outreach effort will be employed as well as a broader community campaign to educate residential customers on best practices.

Targeted areas will be those residential sources that tend to generate a greater volume of FOG because of cooking practices and other uses. These target areas may be determined based on frequent customer complaints of sewer line backups in a particular neighborhood or residential area, frequently required maintenance of pump stations located downstream of a particular residential area, CCTV grease observations in a particular neighborhood or residential area, and input from sewer cleaning contractors.

Neighborhoods and residential areas deemed to be potential contributors of higher than average FOG to the sewer system will be the focus of specific outreach. This will be accomplished by seeking partnerships with existing resources within those communities, such as the Chattanooga Housing Authority, homeowner or rental community associations, and other civic groups, to assist in conveying the best practices with messages tailored to that community.

The City will target two key areas of particular concern during the first year of implementation, and will adjust the public education program for increased effectiveness in subsequent years as additional areas are identified and targeted.

For the broader community campaign, best practices will be communicated using the tools identified in Section 5.2.4.

5.2.3 Best Practices

Residential FOG best practices to be conveyed through the public education program include:

- Don't wash food scraps (solid or liquid) down the drain, don't dump them in the toilet, and don't grind them up in the garbage disposal.
- Use mesh drain strainers to catch solid food scraps for disposal in a trash can instead of washing them down the drain.
- Pour liquid food scraps such as sauces into a container and place in the trash can.
- Don't use water to "pre-wash" plates - scrape plates over the trash can or dry wipe with a paper towel.
- Don't pour used oil down the drain. Instead, pour used oil into a container with a top (the original if available) so it can be reused, recycled, or placed in the trash can for disposal.
- Don't pour hot grease (including poultry skimming) down the drain. Instead, pour cooled grease into a grease can or other container for disposal or wait until the grease cools and absorb it with paper towels or newspaper that can be thrown in the trash.

5.2.4 Communication Tools

The following communication tools will be used to support both the targeted outreach and the broader community education campaign. Written communication related to FOG will be available in both English and Spanish.

Website content

Public-friendly content specific to educating residential customers about FOG will be included on the City's website. Content may include:

- Explanations and sources of residential FOG using visual aids;
- Problems caused by FOG, including in private sewer laterals and the WCTS;
- Public health impacts of FOG;
- Description of homeowner responsibility for maintenance of private laterals;
- Frequently asked questions (FAQ) about FOG;
- Best management practices for residential users;
- Contact information for FOG related questions or concerns;
- Links to other FOG information such as EPA's website.

Brochures

Public-friendly brochures based on the website content will be developed for distribution through various channels including homeowner or civic groups in targeted areas, in plumbing

supply/repair point-of-sale retail establishments such as home improvement stores, at local libraries, in the Chattanooga-Hamilton County Health Department offices, at Hamilton County Extension offices, City offices where public business is conducted, and other relevant locations.

Presentations

A PowerPoint presentation based on the website content will be developed for use at public gatherings such as homeowner association meetings and other events. In areas deemed targeted for specific outreach, speaking opportunities will be sought to reach key audiences.

5.2.5 Performance Measures

The City will identify at least two targeted areas with residential sources that tend to generate a greater volume of FOG because of cooking practices and other uses. As referenced in the earlier section, these target areas may be determined based on frequent customer complaints of sewer line backups in a particular neighborhood or residential area, frequently required maintenance of pump stations located downstream of a particular residential area, CCTV grease observations in a particular neighborhood or residential area, and input from sewer cleaning contractors.

To determine a quantifiable measure of improvement, the City will first determine the baseline for the targeted area with regard to FOG related incidents.

This may be the number of work orders issued for pump station maintenance due to FOG, the number of work orders issued for on-site sewer backups at residential properties, or other measures.

Once the baseline is determined, measurable improvement will be attained by a 25% decrease in the baseline data over a 12-month period following the first three months of the targeted public education campaign in that area.

6.0 Performance Measures

6.1 Performance Measures

In order to evaluate the annual performance of the FOG Management Program, key performance indicators (KPIs) related to the reduction and elimination of grease from the WCTS have been identified. The KPIs will be used to improve the FOG Management Program and adjust the Program as needed to meet the established goals. KPIs will be updated annually.

Table 6-1
FOG Management Program Key Performance Indicators

Key Performance Indicator	Purpose	Goal/Target
Number of FOG-related SSOs	Measure Program Success	Yearly Reduction
Number of FSEs added annually	Measure Program Progress	Have every existing FSE included in Program, so that only new ones are added.
Number of annual inspections versus the total number of FSEs	Measure Program workload	100%
Number of annual Noncompliance Notifications versus the total inspections	Evaluate the effectiveness of Program enforcement	Below 15%
Annual quantities of FOG collected and processed by local FOG recyclers	Measure Program Progress	N/A
FOG Hot Spots	Identify and Reduce the amount of sewer that is classified as a FOG hot spot area.	Reduce linear footage by 10%
Annual FOG Management Program update completed on time	Evaluate the effectiveness of FOG Program and identify new goals and KPIs	Complete annually
Cost of Regulatory Fines for SSOs due to FOG	Measure Program value	$0.00
Number of Pretreatment Program employees trained on FOG Management Program	Training	100%

7.0 Distribution and Maintenance of FOG Management Program

7.1 FOG Management Program Submittal and Availability

Copies of the FOG Management Program and amendments will be distributed to the following WRD sections and/or functional positions:

- Director;
- Deputy Director;
- Laboratory Manager;
- Pretreatment Supervisor;
- Pretreatment Inspectors; and
- Pretreatment Technicians.

Other personnel who may become incidentally involved in responding to FOG related issues should also review and become familiar with the FOG Management Program.

7.2 FOG Management Program Review and Update

The FOG Management Program will be reviewed annually and amended as appropriate. The FOG Management Program will also be reviewed and updated as necessary. The ISS will also update the FOG Management Program with the issuance of a revised or new NPDES permit or Sewer Use Ordinance. During each review, the distribution list will be reviewed and updated as needed to include additional personnel.

Personnel involved in the review may include:

- Laboratory Manager,
- Pretreatment Supervisor,
- Pretreatment Inspectors,
- Pretreatment Technicians, and
- Chief Plumbing Inspector.

7.3 Training

The ISS Pretreatment Supervisor will conduct annual training for the ISS Pretreatment Personnel, and ISS support staff to ensure the proper implementation of this FOG Management Program. New ISS employees involved with the FOG Management Program will be trained upon hiring. Training sessions should generally:

- Occur annually in August;
- Be led by the Pretreatment Supervisor;
- Review the latest version of the FOG Management Program;
- Review all forms, reports and other pertinent materials;
- Include an indoor session lasting a minimum of one (1) hour;
- Include onsite, hands-on field training for field personnel, and;
- Include all Pretreatment personnel.

Onsite field training should include a review of FSE inspection SOPs and an evaluation of employee performance by the Pretreatment Supervisor.

The Pretreatment Supervisor will oversee the FOG Management Program implementation and field operations so that established procedures will be followed consistently and efficiently and to make recommendations to adjust training methods or schedule if necessary.

8.0 Implementation Schedule

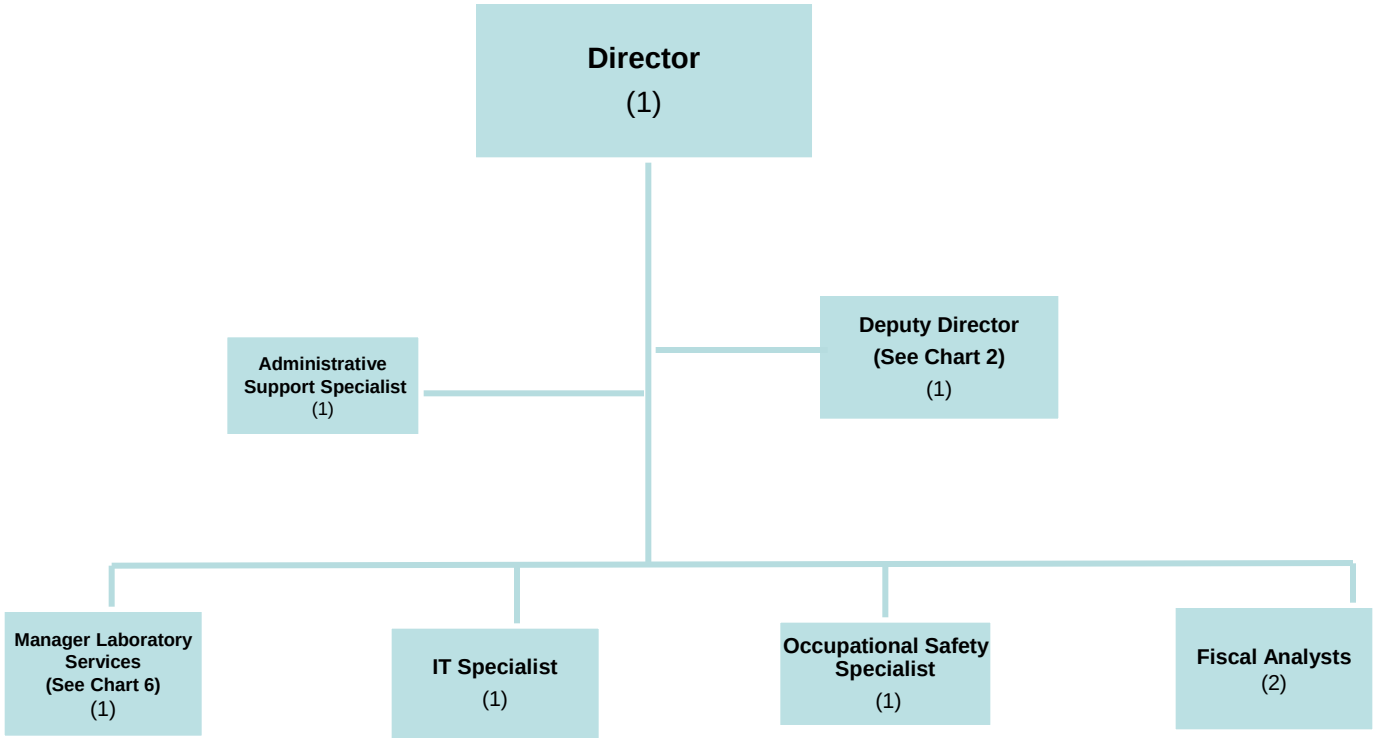
This FOG Management Program is an expansion of the existing FOG Management Policy, and as such, the schedule for implementation does not describe actions already being performed. The schedule provided below shows the recommended start dates for newly described processes and the frequency with which they should be repeated. This schedule is intended for the initial implementation of the Program, and may be updated or replaced with an annual schedule in subsequent years.

Table 8-1
FOG Management Implementation Schedule

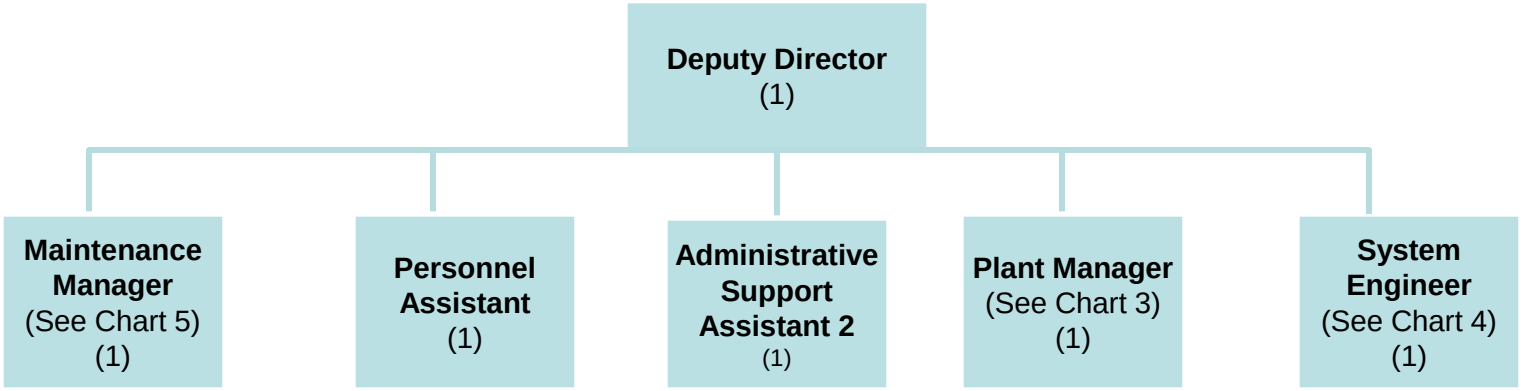
Task	Timing	Frequency/Schedule
FSE Inspections	Ongoing	Continuous
City FOG Plan Review and Approval	Every 12 months following EPA and TDEC approval of the FOG Management Program	Annually
Staff Training	3 months following EPA and TDEC approval of the FOG Management Program	Annually
Identify Hot Spot Areas and Persistent Sources of FOG	Every 6 months following EPA and TDEC approval of the FOG Management Program	Semi-Annually
Select and Implement Public Education Strategy	6 months following EPA and TDEC approval of the FOG Management Program	Annually
Review Performance using KPIs	Every 12 months following EPA and TDEC approval of the FOG Management Program	Annually
Review enforcement provision of Sewer Use Ordinance, City Code Chapter 31	Complete within 6 months of EPA and TDEC approval of the FOG Management Program	Once

Appendix A
Waste Resources Division Organizational Chart

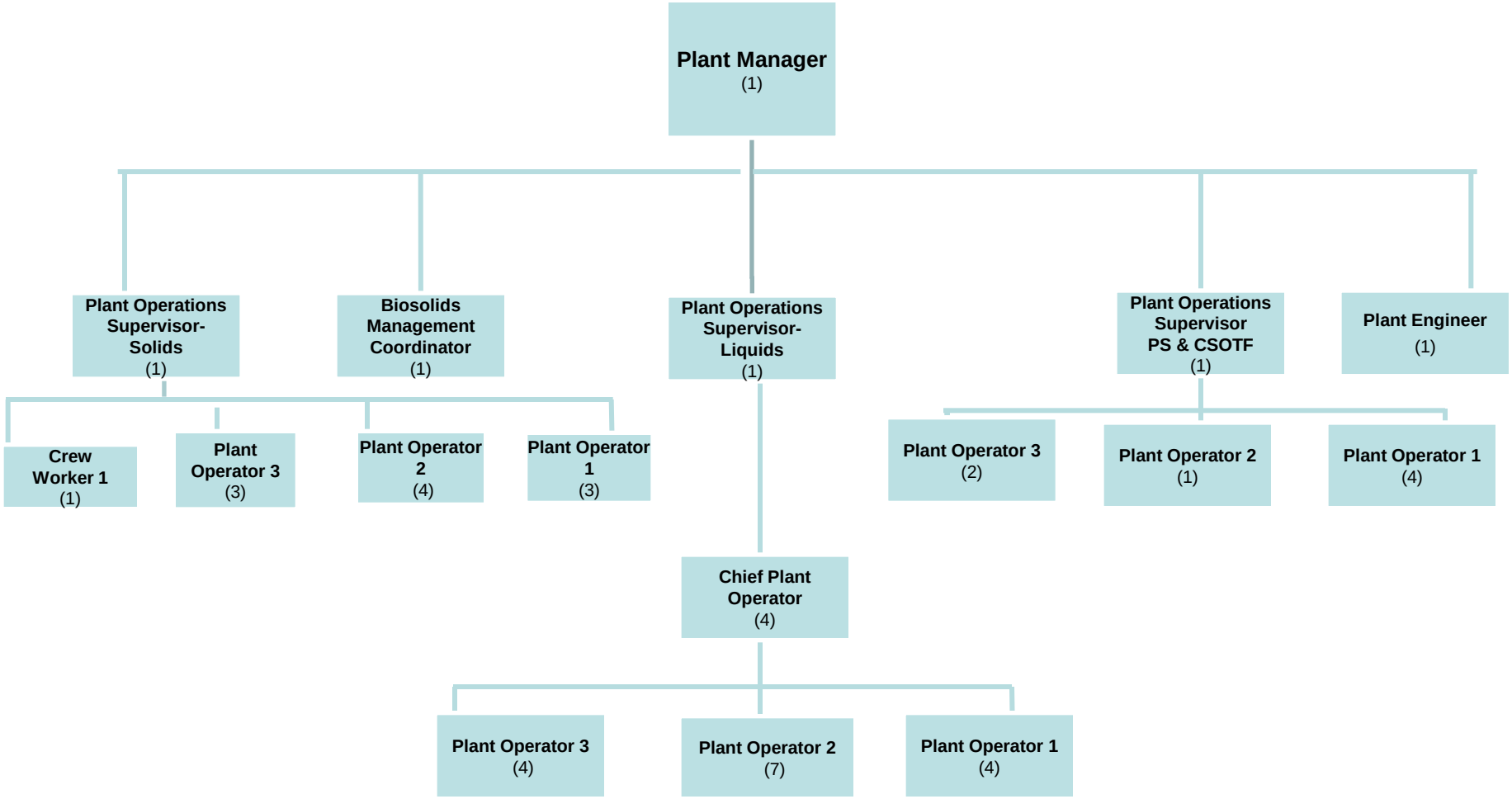
WASTE RESOURCES DIVISION
ORGANIZATIONAL CHART
(September, 2014)



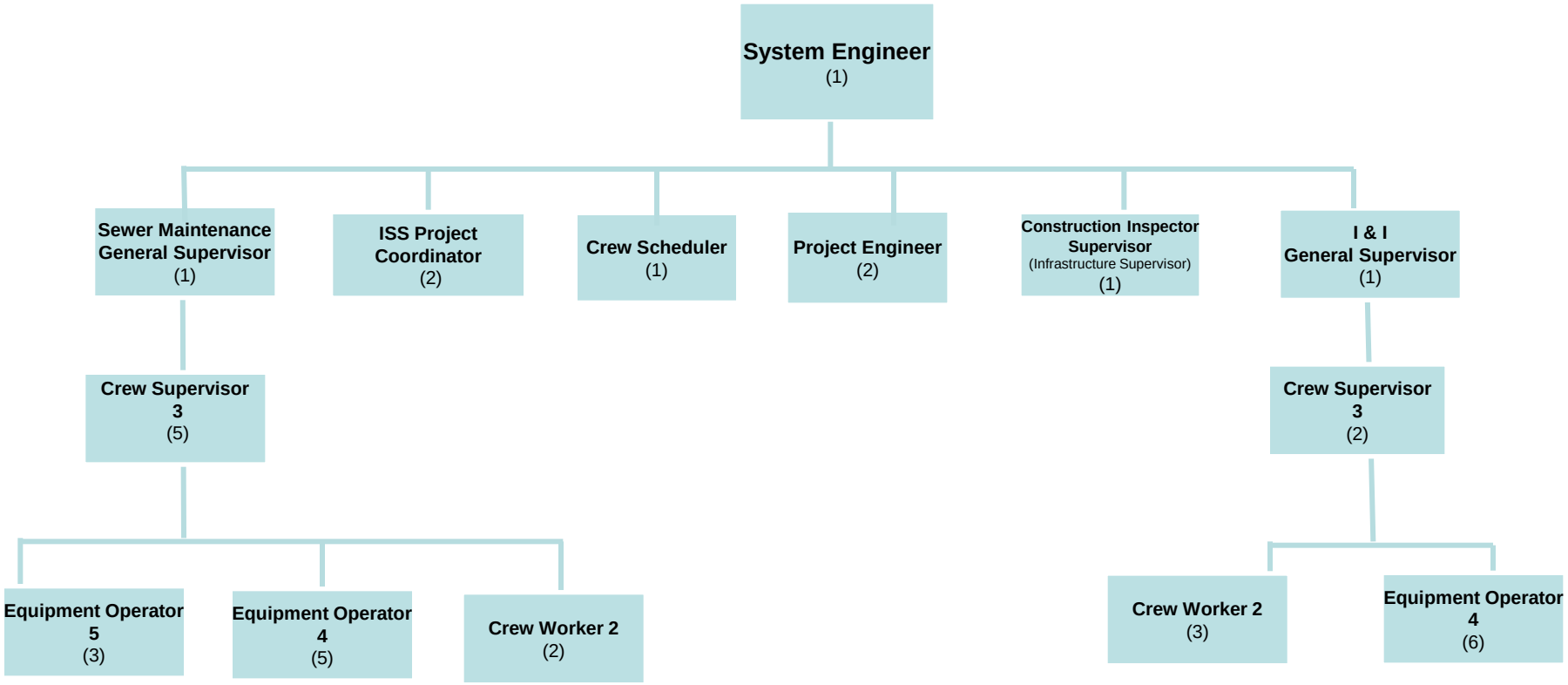
WASTE RESOURCES DIVISION
ORGANIZATIONAL CHART
Chart 2
(September, 2014)



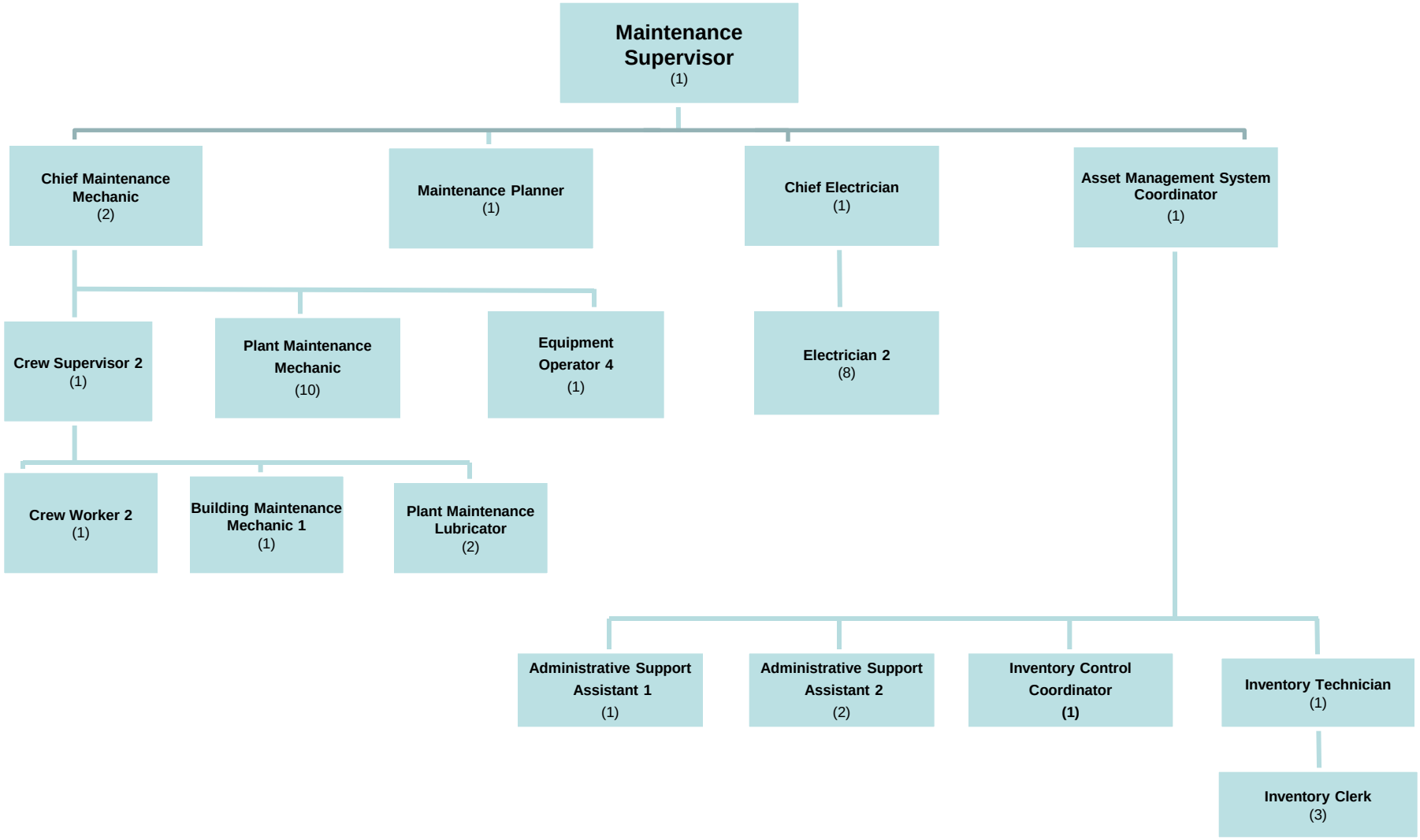
WASTE RESOURCES DIVISION
ORGANIZATIONAL CHART
Chart 3
(September, 2014)



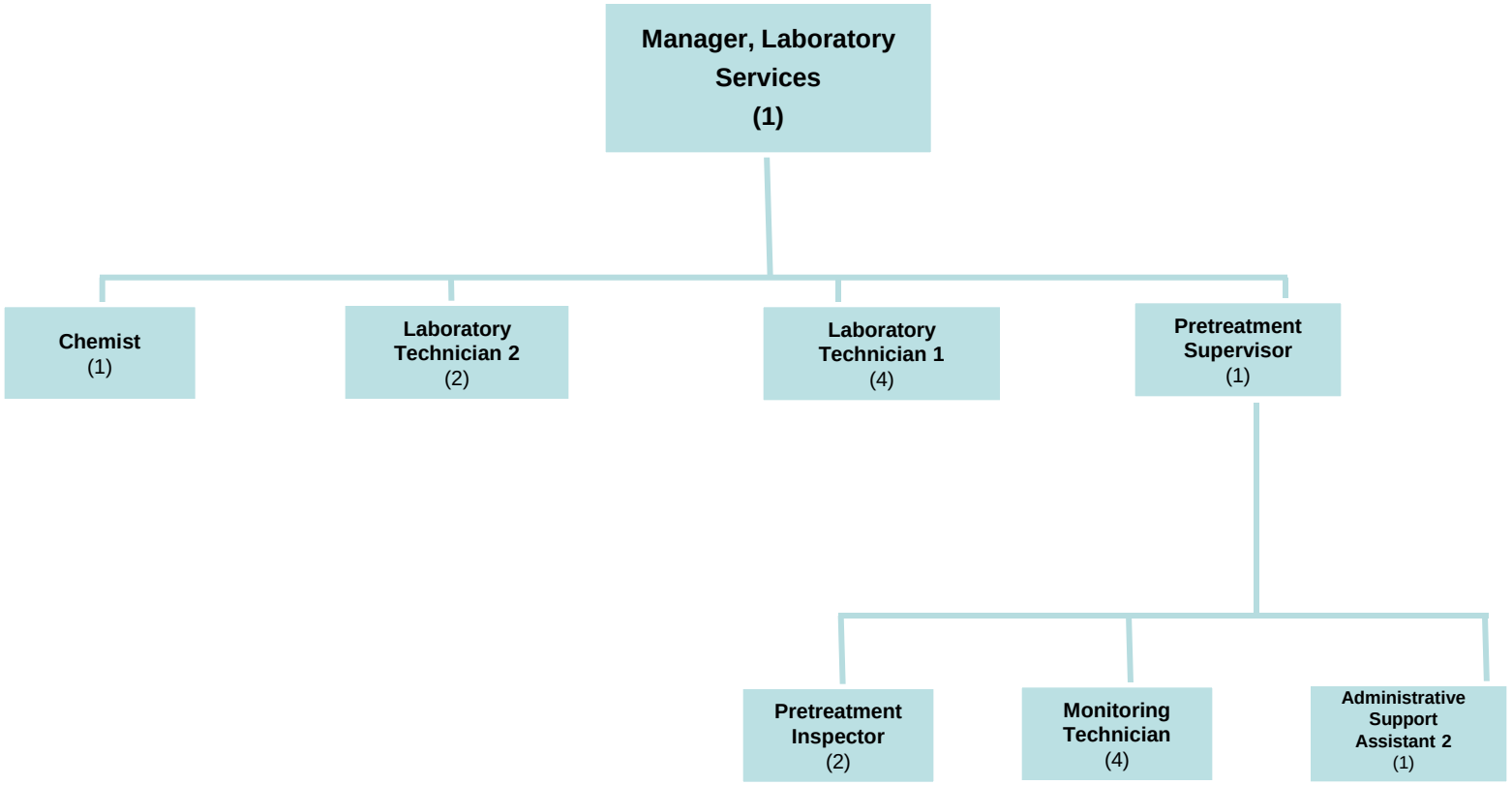
WASTE RESOURCES DIVISION
ORGANIZATIONAL CHART
Chart 4
(September, 2014)



WASTE RESOURCES DIVISION
ORGANIZATIONAL CHART
Chart 5
(September, 2014)



WASTE RESOURCES DIVISION
ORGANIZATIONAL CHART
Chart 6
(September, 2014)



Appendix B
FOG Management Standard Operating Procedures

CITY OF CHATTANOOGA – WASTE RESOURCES DIVISION
Moccasin Bend Wastewater Treatment Plant

Pretreatment Program

Title: Fats, Oils & Grease (FOG) Inspections				
SOP Number **PRE 001**	Revision Number **01**	Approval Signature	Effective Date **05/13/08**	Date of Last Review **12/12/13**

Scope: Covers the Fats, Oils & Grease (FOG) inspection program for food service establishments (FSE).

Purpose: To define the procedures associated with inspecting FSE's to provide education on proper grease removal procedures and to ensure no FOG is discharged into the sanitary sewer system.

Responsibility: FSE's for providing grease traps, interceptors of proper design to remove FOG. Also, maintain grease re-cycle containers for re-cycling of FOG.

MBWWTP Pretreatment/FOG Supervisor for administering the FOG program and initiating enforcement action when needed.

MBWWTP Monitoring Technican for conducting thorough inspections at FSE's.

Frequency: Inspections conducted annually, or more often as needed in designated "hot spot" areas.

Emergency Contacts:
Management personnel at FSE's
MBWWTP Pretreatment Supervisor
MBWWTP Monitoring Technican.

General Information:

FSE's have the potential to discharge excessive amounts of FOG to the sanitary sewer system. Sizes of "under the sink" or "floor" grease traps can range from 5 gallons per minute/10 pounds to 50 gallons per minute/100 pounds. Larger outside in-ground interceptors can range from 500 gallons to 3,000 gallons.

Procedure:

1. Prior to conducting the FOG inspection, review past inspection forms for the facility (if available) to determine previous compliance status.

2. Review GIS computer sewer mapping system in the office and/or in the field (lap top computer) to determine sewer line(s) that serve the FSE.

3. Open manhole(s) to observe sewer line(s) that serves the facility to look for evidence of FOG.
   Take photographs of manhole(s), grease trap/interceptor and other note-worthy items to be kept on file.

4. Upon arrival at FSE, contact the manager and explain the FOG inspection.

5. Walk through kitchen area to inspect "under the sink" trap and/or "floor trap", and look to see if food grinder is present.

6. Inspect outside in-ground interceptor and above ground grease re-cycle bin.

7. Verify that influent and effluent T's are installed in interceptor. Also, inspect the general integrity of the interceptor's interior.

8. Evaluate interceptor to determine if a single manhole lid is acceptable, or if a second lid is required.

9. Review "pump records" on site to verify that trap and/or interceptor is being cleaned/pumped as required.

10. Check all sewer cleanout covers on site to ensure they are not missing or damaged.

11. Provide FSE manager with brochures listing Best Management Practices (BMP) to prevent blockages in plumbing system and to prevent negative impacts to the City sewer system. The brochures also include the do's and don'ts of proper FOG removal, and contact information of City personnel involved with the program.

12. Provide FSE manager with an 8.5" x 14" laminated sign (English, Spanish, Mandarin) to post in kitchen area as a reminder for good cleaning practices and managing FOG.

13. Complete the standard inspection form, discuss findings with FSE manager, and issue a copy of final report for the FSE's record.

14. Issue a "Noncompliance Notification" to FSE (if required) for deficiencies found during inspection.

15. Above procedures repeated for all FOG inspections.

Appendix C
Food Service Establishment
Grease Control Inspection Form

City of Chattanooga Department of Public Works, Waste Resources Division

FOOD SERVICE ESTABLISHMENT GREASE CONTROL INSPECTION FORM

Inspection Date: _____

Facility Name: _____

Facility Representative: Mr. / Ms. _____ **Title:** _____

Phone: _____ **Owner/Regional Manager Name:** _____

Facility Address: _____ Email Address: _____

_____ Mail Address: _____
(if different)

_____

Sewer Map ID: _____ **Sewer Plat ID:** _____ **GPS ID:** _____

1. Grease Interceptor? __Yes __No
(For #1, if "NO" then go to #14)

2. Interceptor Size (gallons) __500 __750 __1000 __1500 __2000 __ 3000 __Two Interceptors in Series Other: _____

3. Manhole Access to Interceptor: __1 __2 __3 __4

4. Estimated Grease Layer Depth: _____

5. Inlet T Attached & in Good Condition? __ Yes __No __Unknown
(can see the T)

6. Outlet T Attached & in Good Condition? __Yes __No __Unknown
(can see the T)

7. Grease Interceptor Hauler Used: _____

8. Bacteria/Enzymes Used: __Yes __No

9. Product Name : _____

10. Frequency Interceptor Cleaned?: _____ **11.** Complete Contents Pumped? : __Yes __No

12. Records of Maintenance/Cleaning Available?: __Yes __No **13.** Last Date Cleaned?: _____

Grease Trap

14. Grease Trap?: __Yes __No
(For #14, if "NO" then go to #20)

15. Location?: __Under Sink __Floor Trap __Outside "Floor" Trap __Other Location (describe) _____

16. Grease Trap Flow-Through Rating / Grease Capacity Estimate: __5 gpm/10lb __10 gpm/20lb __15 gpm/30lb __20 gpm/40lb __35 gpm/70lb __50 gpm/100lb __Other: _____

17. Frequency Trap is Cleaned: _____ **18. Maintenance/Cleaning Records? :** __Yes __No

19. Grease Trap Comments/Location of Disposed Waste: _____

BMPs & Outside Conditions Other Than Grease Interceptor or Trap

20. Best Management Practices Implemented?: __Yes __No

21. Grease Recycle Bin?: __Yes __No

22. Cleanout Covers Missing or Damaged?: __Yes __No (# Cleanout covers missing:_____ damaged:_____)
(Facility needs to repair missing or damaged cleanout covers immediately)

23. FOG Impact at Dumpster or Around Recycle Bin?: __Yes __No (If "Yes" give explanation below)

24. DOWNSTREAM MANHOLE: Evidence of Grease in Manhole (__ none __slight __moderate __heavy)

Comments: _____

25. SAMPLE POINT Access?: __Yes __No Effluent Temp: _____ Effluent pH: _____

26. Sample Point ID: __Interceptor Effluent T __Downstream MH __Cleanout __Sample Drop Box

27. Picture ID: _____//_____of Interceptor __of Downstream MH __Other: _____

Visual Inspection Results/Comments: _____

_____

_____

City Representative (Print): _____ Signature: _____

Facility Representive Signature: _____

Inspection form copy provided to facility? _____Yes _____No

Appendix D
Grease Control Noncompliance Notification Form

Name of Person Receiving Noncompliance Notification: _____

Department of Public Works, Waste Resources Division

Grease Control Noncompliance Notification

DATE ISSUED: _____ ISSUED BY: _____ DATE RESPONSE DUE: _____

Facility: _____ **Address:** _____

The following marked box(es) ☒ indicate deficiencies or areas of concern that need to be addressed.

☐ Grease Interceptor influent/effluent T not attached or not acceptable, allowing fats, oils and grease to be discharged. *(Replace T and make sure length of T is adequate and is made of non-flexible material {i.e. PVC schedule 40 strength.})*

☐ Grease Interceptor influent/effluent T not visible or accessible for inspection. *(Need to verify during pumping of interceptor if T is attached and in good condition, or will have to take action to install access opening over T to ensure it is attached to prevent fats, oils and grease from being discharged. Also, you need access to inlet and outlet compartments so it can be cleaned properly.)*

☐ Grease Interceptor mid baffle wall or side walls indicates deterioration of concrete. *(Inspect grease interceptor at the time the grease interceptor is completly pumped, check to make sure the deterioration of concrete is not going to cause the mid baffle wall or outside walls to collapse or cause tank contents to leak out of the interceptor. Normally, the concrete thickness on most interceptors is 4", it is recommended that if deterioration of concrete is greater than 50%, then the interceptor needs to be repaired or replaced.)*

☐ Grease Interceptor fats, oils and grease layer and food solids layer are greater than 25% of the capacity of the interceptor tank. *(Interceptor needs to be pumped immediately, provide record of pumping to City of Chattanooga, get interceptor on regular schedule to be pumped, minimum of every 3 months but some larger facilities may have to pump monthly to ensure grease does not cause problems.)*

☐ Fats, oils and grease evident in downstream manhole from facility, immediate action needs to be taken. *(This could include installing new grease interceptor, controlling flows through the interceptor to prevent washout of grease to the sewer, implementing strict BMPs for all personnel to control grease discharges.)*

☐ Facility has no grease control equipment installed. *(If large facility, you will need to install an appropriate sized interceptor, refer to City of Chattanooga's policy on size of grease control equipment.)*

☐ No records of interceptor or trap maintenance at the facility for inspection review. *(Keep copy of all grease waste hauler manifests and records at the facility location, if the traps are cleaned by facility personnel then keep written record onsite of cleaning date, person doing cleaning and location the grease and food waste was disposed.)*

☐ Sewer cleanout covers need to be replaced, allowing rainfall inflow to sewer system.

☐ Fats, oils and grease on ground around recycle bin or dumpster, causing stormwater impact.

☐ Other _____

RESPONSE FROM FACILITY (attach additional information if necessary); Mail Response to:
Moccasin Bend WWTP, ATTN: FOG Program, 455 Moccasin Bend Rd., Chattanooga, TN 37405

_____

_____

_____

Facility Contact Name furnishing response: _____ Title: _____

White Copy: City Yellow Copy: Facility to submit with response Pink Copy: For Facility's Records

Appendix E
City of Chattanooga Fats, Oils & Grease (FOG) Management Enforcement Response Guide

CITY OF CHATTANOOGA
WASTE RESOURCES DIVISION

Fats, Oils & Grease (FOG) Management
Enforcement Response Guide

Authorization Date:

November 16, 2009

This Enforcement Response Guide was developed to ensure a consistent response to all food service establishments, and other non-residential facilities where food is prepared or served, that cause, or have the potential to cause, interference, obstruction, sanitary sewer overflows, bypasses, or stormwater inflow to the City of Chattanooga's collection system and Wastewater Treatment Plant (WWTP). Food Service Establishments (FSEs) are nondomestic users and are monitored by the City of Chattanooga's Waste Resources Pretreatment Division. This guide is intended to be used for food service establishments only, including other non-residential facilities where food is prepared or served. Refer to the City of Chattanooga's Fats, Oils & Grease (FOG) Management Program for additional information on the FOG management program.

SIGNIFICANT NONCOMPLIANCE OF WASTEWATER DISCHARGE LIMITS

The E.P.A. has defined “significant noncompliance” as violations that meet one or more of the following criteria:

(1) Chronic violations of wastewater discharge limits, defined here as those in which sixty-six (66%) percent or more of all of measurements taken during a six month period exceed (by any magnitude) the daily maximum limit or the average limit for the same pollutant parameter;

(2) Technical Review Criteria (TRC) violations, defined here as those in which thirty three (33%) percent or more of all of the measurements for each pollutant parameter taken during a six month period equal or exceed the product of the daily average maximum limit, or the average limit multiplied by the applicable TRC (TRC = 1.4 for Biochemical Oxygen Demand 5 (BOD5), Total Suspended Solids (TSS), and Fats, Oil, and Grease (FOG), and 1.2 for all other pollutants except pH). The following compatible pollutants are exempt from TRC consideration if they exceed the surcharge level but do not exceed upper ceiling: BOD, TSS, and/or FOG;

(3) Any other violations of a pretreatment effluent limit (daily maximum or long term average) that the Control Authority determines has caused, alone or in combination with other discharges, interference or pass through (including endangered the health of Publicly Owned Treatment Works (POTW) personnel or the general public);

(4) Any discharge of a pollutant that has caused imminent endangerment to human health, welfare or to the environment or has resulted in the POTW’s exercise of its emergency authority to halt or prevent such a discharge.

(5) Failure to meet within 90 days after the schedule date a compliance schedule milestones contained in a local control mechanism or enforcement order for starting construction, completing construction, and attaining final compliance;

(6) Failure to provide, within 30 days after the due date, required reports, such as baseline monitoring reports, 90 day compliance reports, periodic self-monitoring reports, and reports on compliance with compliance schedules;

(7) Failure to accurately report noncompliance;

(8) Any other violation or group of violations that the Control Authority determines will adversely affect the operation or implementation of the local pretreatment program.

Generally, an isolated instance of noncompliance or a Category 0 violation can be met with an informal response or a Notice of Violation (NOV). Any Category 1 to Category 4 violations should be responded to with an enforceable order that requires a return to compliance by a specific deadline.

NONCOMPLIANCE NOTIFICATION (NCN)

The Noncompliance Notification (NCN) is a notification to the user that a practice, an action, or wastewater discharge is noncompliant with Department regulations or policies. A NCN informs the user that an action is required of the user within a specified time period designated by the Department, or their designee, or the noncompliance will require the Department to escalate enforcement action against the user.

NOTICE OF VIOLATION (NOV)

The Notice of Violation (NOV) is an official communication from the Department to the noncompliant user that informs the user that the pretreatment violation has occurred. The NOV is issued for relatively minor or infrequent violations of pretreatment standards and requirements and should be issued within five (5) working days of the identification of a violation. A NOV does not contain assessment of penalties or cost recovery. The NOV provides the user with an opportunity to correct the noncompliance on its own initiative rather than according to a schedule of actions determined by the Department. The NOV documents the initial attempts of the Department to resolve the noncompliance. Authenticated copies of NOV's may serve as evidence in judicial proceedings.

SCHEDULE OF COMPLIANCE

A Schedule of Compliance is a detailed list of steps to be taken by a noncompliant user whereby compliance with all pretreatment regulations will be achieved. This schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the User to meet the applicable Pretreatment Standards (e.g. hiring an engineer, completing preliminary plans, executing contracts for components, commencing construction, etc.).

ADMINISTRATIVE PENALTIES

An administrative penalty is a monetary penalty assessed by the Department for violations of pretreatment standards and requirements. Administrative penalties are to be used as an escalated enforcement action and are punitive in nature and are not related to a specific cost born by the Department. Instead, the amount of the penalty should recapture any economic benefit gained by noncompliance and/or deter future violations. An Administrative Order is to be used to assess an administrative penalty.

ADMINISTRATIVE ORDERS

Administrative Orders (AO) are to be issued by the Director or the Director's designee. Administrative Orders are enforcement documents that direct users to undertake and/or to cease specified activities. Administrative Orders are to be used as the first formal response to significant noncompliance, and may incorporate compliance schedules, administrative penalties, assessments for costs incurred during investigation and/or enforcement, attorney's fees, assessments for damages and termination of service. The Department has adopted four (4) general types of AOs: Compliance Orders, Show Cause Orders, Cease and Desist Orders, and Agreed Orders.

Compliance Order - A Compliance Order directs the User to achieve or restore compliance by a specified date and is the primary means of assessing penalties and costs. The Compliance Order will document the noncompliance and state required actions to be accomplished by specific dates and is issued by the Director.

Show Cause Order - An Order to Show Cause directs the User to appear before the Department, explain its noncompliance, and show cause why more severe enforcement action should not be pursued. The hearing is open to the public and may be formal (i.e. conducted according to the rules of evidence, with verbatim transcripts and cross examination of

witnesses) or informal. The results of all hearings, along with any data and testimony (recorded by tape machine or stenographer) submitted as evidence, are available to the public and may serve as evidentiary support for future enforcement actions.

Cease and Desist Order - A Cease and Desist Order directs the noncompliant User to cease illegal or unauthorized discharge immediately or to terminate discharge altogether. To preserve the usefulness of this order in emergency situations, penalties should not be assessed in this document. A Cease and Desist Order will be used in situations where the discharge is causing interference, pass through, environmental harm, or otherwise creating an emergency situation. The order may be issued immediately upon discovery of an emergency situation or following a hearing. In an emergency, the order to cease and desist may be given by telephone with a subsequent written order to be served by the Department before the close of business on the next working day. If the User fails to comply with the order, the Department may take independent action to halt the discharge.

Agreed Order - The Agreed Order is an agreement between the Department and the User. The Agreed Order normally contains three elements: (1) compliance schedules with specific milestone dates; (2) stipulated penalties, damages, and/or remedial actions; and (3) signature by the Director and the User representative. An Agreed Order is appropriate when the User assumes the responsibility for its noncompliance and is willing (in good faith) to correct the causes.

PENALTY ASSESSMENT

The City of Chattanooga has categorized the various types of violations, and assigned a penalty range to each category. Penalty categories are determined by using the Enforcement Response Guide (attached). All penalty assessments will be approved and signed by the Director or the Director's designee. Penalty amounts determined are considered to be an economic deterrent to the noncompliance being addressed. Penalty ranges have been designed to recover any economic benefit gained by the violation through noncompliance.

CATEGORY 0=	NO PENALTY
CATEGORY 1=	$200.00 TO $500.00
CATEGORY 2=	$500.00 TO $1,000.00
CATEGORY 3=	$1,000.00 TO $10,000.00
CATEGORY 4=	DIRECT LEGAL ACTION*

*Any penalties and/or costs at the maximum penalty allowable by applicable law and included as part of the legal action.

Assessments for damages or destruction of the facilities of the POTW, and any penalties, costs, and attorney's fees incurred by the pretreatment agency as the result of the illegal activity, as well as the expenses involved in enforcement, are not part of this penalty assessment procedure.

City of Chattanooga's Food Service Establishment Enforcement Response Guide

Incident	Category Level	Action Taken
1. Grease Interceptor structural failure (baffle wall collapsed, walls deteriorated, tank leaking, infiltration/inflow in tank).		
A. Initial Notification.	0	NCN detailing violation and requiring correction within 30 days.
B. Second Notification – Failure to comply with NCN.	2	NOV requiring compliance within 30 additional days. Penalties may be assessed.
C. Third Notification – Failure to comply with NOV.	3	Significant Noncompliance: May be subject to daily penalties.
2. Failure to install Grease Control Equipment		
A. Initial Notification – Notification in writing by POTW of no treatment system.	0	NCN detailing violation and requiring correction within 30 days.
B. Second Notification – Failure to comply with NCN.	2	NOV requiring compliance within 30 additional days. Penalties may be assessed.
C. Third Notification – Failure to comply with NOV.	3	Significant Noncompliance: May be subject to daily penalties.
3. Failure of new facility, or an existing facility that upgrades their facility, to notify City, or submit *Grease Control Equipment Inquiry* Information.	0	Issue NCN and require GCE Inquiry Information.
4. Failure to install influent and/or effluent Tee on interceptor within 30 days after notification.	1	Significant Noncompliance; May be subject to penalties.
5. Grease Control Equipment not maintained (pumped or cleaned) as required.		
A. 1 incident within 24 month period	0	NCN detailing noncompliance and requiring correction within 30 days
B. 2 incidents within 24 month period	1	NOV requiring compliance within 30 additional days.

City of Chattanooga's Food Service Establishment Enforcement Response Guide

Incident	Category Level	Action Taken
		Penalties may be assessed.
C. 3 incidents within 24 month period	2	2nd NOV requiring compliance within 30 additional days. Penalties may be assessed.
D. 4 incidents within 24 month period	3	Significant Noncompliance; Penalties may be assessed.
6. Failure to respond to any notification letter within 30 days.		Escalation of Enforcement
7. No record of grease control equipment maintenance or cleaning at facility.		
A. 1 incident within 24 month period	0	NCN detailing noncompliance and requiring correction within 30 days.
B. 2 incidents within 24 month period	1	NOV requiring compliance within 30 additional days. Penalties may be assessed.
C. 3 incidents within 24 month period	2	2nd NOV requiring compliance within 30 additional days. Penalties may be assessed.
D. 4 incidents within 24 month period	3	Significant Noncompliance; Penalties may be assessed.
8. Failure to allow access for City personnel to adequately assess grease control equipment.		Significant Noncompliance; Penalties may be assessed.
9. Safety hazard at grease control equipment area (i.e. missing manhole cover, manhole cover damaged or not made of material of suitable strength).		Requires immediate correction.
10. Facility using additives or chemicals that emulsify or otherwise cause FOG to be discharged to City of Chattanooga sewer system.		Significant Noncompliance.

Abbreviations:

AO: Administrative Order
FOG: Fats, Oils and Grease
FSE: Food Service Establishment

Appendix F
City of Chattanooga Specifications for Grease Interceptors

City of Chattanooga
Specifications
For
Grease Interceptors

Part 1 General

1.01 Scope

A. The scope of this specification includes the requirements for design and sizing, for furnishing, for installation and maintenance of grease interceptors as described herein.

B. All applicable products and work supplied shall be in accordance with applicable American Society for Testing and material (ASTM), American National Standard Institute (ANSI), International Association of Plumbing and Mechanical Officials (IAPMO), International Plumbing Code (IPC), and American Association of State Highway and Transportation Officials (AASHTO).

1.02 General Requirements

The following general requirements shall be applicable to all new or existing FSEs.

A. Removal of the FOG from the wastewater routed to a public or private sanitary system shall be the responsibility of the FSE user/owner.

B. FSEs shall provide such facilities and institute such procedures as are reasonably necessary to prevent or minimize the potential for the discharge or accidental discharge of fats, oils and grease into the sewage collection system. This includes implementation of “Best Management Practices” protocols.

C. Any new FSE, upgrading of an existing FSE or change of ownership of existing FSE shall be required to install and maintain a grease interceptor.

D. FSEs shall submit a Grease Trap/Interceptor Application with a FOG plan to the City of Chattanooga Plumbing Inspection Section for review and approval. The FOG plan shall include identification of all cooking and food preparation equipment (i.e. fryers, grills, woks, etc…); the number and size of dishwashers, sinks, floor drains, and other plumbing fixtures; type of food to be served; plumbing and riser diagrams: and plans for the grease interceptor dimensions and location.

E. City Plumbing Inspection section shall approve application before construction or installation can proceed.

F. All grease interceptors shall be designed, installed and located in accordance with this specification to allow for complete access for inspection and maintenance.

G. All grease interceptors shall be installed with “grab sample” capability.

H. FSE shall have a single grease interceptor installation. Multiple FSEs shall not be allowed manifold into one (1) grease interceptor.

I. FSEs shall prevent solid food waste products from disposal to grease interceptor and shall be disposed through normal solid waste /garbage disposal procedures.

J. Garbage grinders shall not be allowed to connect to grease interceptors..

K. Commercial dishwasher shall be allowed to connect to properly sized grease interceptors to handle the discharge of hot water and soaps to minimize melting of FOG collected in the interceptor.

L. FSEs shall have separate sanitary and grease waste lines. The grease waste lines shall be plumbed to an appropriately sized grease interceptor. No sanitary wastewater or storm water shall be plumbed to the grease interceptor.

M. New strip malls or strip centers shall have two (2) separate sewer line connections at each unit within the strip mall or strip center.

1. One (1) sewer line shall be for sanitary wastewater and one (1) sewer line shall be for the kitchen area or potential kitchen area for each unit.

2. The kitchen area, or potential area, sewer line shall be connected to floor drains in the specified kitchen area, and shall connect, or be able to connect, to other food service establishment kitchen fixtures, such as 3-compartment sink, 2-compartment sink, pre-rinse sink, mop sink, and hand wash sink.

3. New multi-unit facility, or new strip mall facility owners shall contact the City of Chattanooga prior to conducting private plumbing work at the multi-unit facility site.

4. Multi-unit facility owners or their designated contractor shall have plans for separate private wastewater lines for kitchen and sanitary wastewater for each “individual” unit.

5. The plans shall identify “stub-out” locations to accommodate a minimum 1,000 gallon grease interceptor for each unit of the multi-unit facility.

6. New multi-unit facility or new “strip mall” facility owners shall consider suitable physical property space and sewer gradient that will be conductive to the installation of an exterior, in-ground grease interceptor when determining the building location.

N. FSEs located in a new multi-unit facility shall have a minimum of a 1,000 gallon grease interceptor installed, unless that FSE is approved to have a grease trap, or if it is determined by the City that no GCE is required.

O. FSEs located in facilities undergoing extensive remodeling and modifications sufficient to require issuance of a building or plumbing permit, or the temporary closure of the FSE for building renovation may be required to provide a new grease interceptor or update the existing grease interceptor.

P. Sanitary wastewater or black water cannot be connected to any GCE.

Q. At the discretion of the Director and after the submittal and review of detailed documentation, some FSEs may receive a variance from the required installation of a grease interceptor.

Part 2 Products

2.01 Design and Sizing

A. The volumetric capacity criteria for grease interceptors shall be in accordance with Environmental Protection Agency (EPA) Guidance Document, "On-site Wastewater Treatment and Disposal Systems," Chapter 8.

B. **Minimum** acceptable size of grease control equipment for each FSE Classification shall be as follows:

- ***Class 1:*** Deli, Ice Cream Shops, Beverage Bars, Mobil Food Vendors – 20 gpm/40 Pound Grease Trap
- ***Class 2:*** Limited Service Restaurants/Caterers – 500 gallon Grease Interceptor
- ***Class 3:*** Full Service Restaurants – 1,000 gallon Grease Interceptor
- ***Class 4:*** Buffet and Cafeteria Facilities – 1,500 gallon Grease Interceptor
- ***Class5:*** Institutions (Schools, Hospitals, Prisons, etc.) - 2,000 gallon Grease Interceptor

C. To calculate the appropriate size grease interceptor, the following EPA design formula may be used:

1. Restaurants (EPA Formula No.1)

   (D) x (GL) x (ST) x (HR/2) x (LF) = Size of Grease Interceptor, gallons, where:

   D = Number of seats in dining area
   GL = Gallons of wastewater per meal, normally 5 gallons
   ST = Storage capacity factor --- minimum of 1.7
   HR = Number of hours open

LF = Loading factor --------- 1.25 interstate freeways

1.0 other freeways

1.0 recreational areas
0.8 main highways

0.5 other highways

2. Hospitals, nursing homes, other type commercial kitchens with varied seating capacity (EPA Formula No. 2) :

   (M) x (GL) x (ST) x (LF) = Size of Grease Interceptor gallons, where:

   M = Meals per day
   GL = Gallons of wastewater per meal, normally 4.5 gallons
   ST = Storage capacity factor ---- minimum of 1.7
   LF = Loading factor----- 1.25 garbage disposal & dishwasher

   1.0 w/o garbage disposal

   0.75 w/o dishwashing

   0.5 w/o dishwashing and garbage disposal

D. Retention time through the grease interceptor shall be at least 30 minutes to one (1) hour.

E. The City Plumbing Inspection section and Pretreatment Supervisor shall review grease interceptor sizing information received from the FSE's engineer, architect, or contractor.

F. The City Plumbing Inspection section and Pretreatment Supervisor shall make a decision to approve or require additional grease interceptor volume, based on the type of FSE, the number of fixture units, and additional calculations.

G. Grease interceptor minimum size shall be 1,000 gallon capacity and maximum size shall be 2,000 gallon capacity.

H. In the event that the grease interceptor calculated capacity needs to exceed 2,000 gallons, the FSE shall install an additional interceptor of the appropriate size in series.

I. Grease interceptors that are installed in series shall be installed in such a manner to ensure positive flow between the interceptors at all times. The interceptors shall be installed so that the inlet invert of each successive interceptor shall be a minimum of two (2) inches below the effluent invert of the preceding interceptor.

2.02 Grease interceptor

A. Grease Interceptors shall be constructed of sound durable materials and not be subject to excessive corrosion or decay.

B. Grease interceptors shall be water and gas tight.

C. Each interceptor shall be structurally designed to withstand any anticipated load to be placed on the interceptor (i.e. vehicular traffic in parking or driving areas).

D. Concrete materials and other grease interceptor materials shall meet the American National Standards Institute, Inc. (ANSI) and International Association of Plumbing and Mechanical Officials (IAPMO) standards.

E. Precast concrete grease interceptors shall be constructed to be watertight. A 24-hour static water test shall be conducted by the installer and timed so as to permit verification through visual inspection and certification by the City Plumbing Inspection Section.

F. Grease interceptors shall be installed and connected to provide easy accessibility for inspection, cleaning and removal of the intercepted grease at any time. They shall be located close to the fixture(s) discharging the grease waste stream.

G. Grease Interceptors shall not be installed in “drive-thru” lanes or a parking area when possible.

H. Grease Interceptor manhole covers shall not be paved over or covered with dirt or any other material and/or object that would prevent access to the interceptor.

I. Grease Interceptor shall not be installed in any part of a building unless approved by the City Plumbing Inspection section and Pretreatment Supervisor.

J. Prefabricated gravity grease interceptors shall be permanently and legibly marked with the following:

- Manufacturer’s name or trademark, or both
- Model number
- Capacity
- Month and year of manufacture
- Load limits and maximum recommended depth of earth cover in feet; and inlet and outlet.

2.03 Piping

A. The influent and effluent piping to the grease interceptor shall have 2-way cleanout tees installed.

B. The influent pipe shall enter the receiving chamber 2 ½ inches above the invert of the effluent piping.

C. On the influent piping, inside the receiving chamber, a sanitary tee of the same size pipe in the vertical position with the top unplugged shall be provided as a turndown.

D. To provide air circulation and to prevent “air lock”, a pipe (nipple) installed in the top tee shall extend to a minimum of six (6) inches of clearance from the grease interceptor ceiling, but not less than the influent pipe diameter. A pipe installed in the bottom of the tee shall extend to a point of 2/3 the depth of the tank.

E. The influent and effluent piping shall be made of Schedule 40 PVC or equivalent material.

F. The effluent piping shall be no smaller than the influent piping, but in no case smaller than four (4) inches ID.

G. The effluent piping shall extend to 12 inches above the floor of the grease interceptor and shall be made of non-collapsible material. The minimum acceptable material for the effluent piping is Schedule 40 PVC.

H. The effluent piping shall contain a tee installed vertically with a pipe (nipple) installed in the top of the tee to extend to a minimum of six (6) inches clearance from the grease interceptor ceiling, but not less than the pipe diameter, with the top open. The minimum acceptable material for the outlet tee is Schedule 40 PVC.

2.04 Baffles

A. The grease interceptor shall have a non-flexing (i.e. concrete, steel, etc.) baffle the full width of the interceptor, sealed to the walls and the floor, and extend from the floor to within six (6) inches of the ceiling.

B. The baffle shall have an inverted 90 degree sweep fitting at least equal in diameter size to the influent piping, but in no case less than six (6) inches ID.

C. The bottom of the sweep shall be placed in the vertical position in the inlet compartment 12 inches above the floor. The sweep shall rise to the horizontal portion, which shall extend through the baffle into the outlet compartment. The baffle wall shall be sealed to the sweep. ***See illustration.***

D. The inlet compartment of the grease interceptor shall be 2/3 of the total liquid capacity. The outlet compartment shall be 1/3 of the total liquid capacity of the grease interceptor.

2.05 Access Openings (Manholes)

A. Grease interceptors shall have access manholes located over both the Influent tee piping and effluent tee piping to provide for inspection and to allow efficient cleaning/maintenance.

B. Access manholes shall be provided for all separate compartments of interceptors for complete cleaning (i.e. interceptor with two (2) main baffles or three (3) compartments shall have access manholes at each compartment).

C. Access manholes shall be provided with minimum 24-inch diameter dimensions.

D. Access manholes shall terminate one (1) inch above finished grade with cast iron frame and cover.

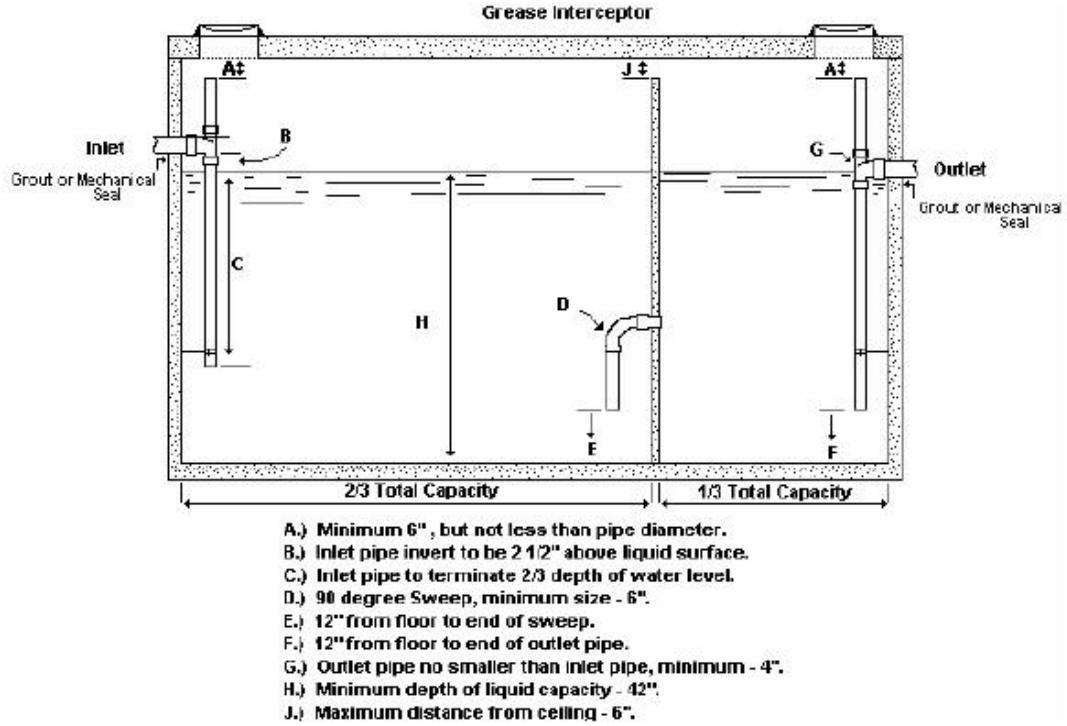
E. An eight (8) inch thick concrete pad extending a minimum of 12 inches beyond the outside dimension of the manhole frame shall be provided.

F. A minimum of 24 inches of clear opening above each manhole access shall be maintained to facilitate maintenance, cleaning, pumping, and inspections.

G. Access manholes shall be mechanically sealed and gas tight to contain odors and bacteria and to exclude vermin and groundwater in a manner that permits regular reuses.

H. Access manholes shall be accessible for inspection by ISS and City Plumbing Inspection section personnel.

I. Single below ground grease interceptors, and those installed in series, shall be directly accessible from the surface. The owner shall provide personnel to open/close the grease interceptor for inspection.



Part 3 Execution

3.01 Installation

A. All grease interceptors shall be installed by properly licensed plumbing contractors approved by the City.

B. FSEs shall contact the City Plumbing Inspection section and Pretreatment Supervisor for onsite inspection and final approval of the grease interceptor.

C. The completed grease interceptor installation shall be inspected and approved by the before a Certificate of Occupancy is granted.

D. Failure of the FSE to contact the City Plumbing Inspection section and Pretreatment Supervisor to conduct the inspection of the new grease interceptor shall result in escalation of enforcement action.

3.02 Grease Interceptor Cleaning/Maintenance Requirements

A. Upon arrival of ISS personnel, it is the FSE owner’s responsibility to provide personnel to access and open the grease interceptor for inspection and to close it upon completion of the inspection. Failure to open the grease interceptor for inspection results in an unsatisfactory inspection rating.

B. Grease interceptors shall be pumped in full when the total accumulations of surface FOG (including floating solids) and settled solids reach twenty-five percent (25%) of the grease interceptor's overall liquid depth (25 Percent Rule) or not to exceed three (3) months.

C. The cleaning frequency shall not exceed three (3) months unless approved by the Director. Approval will be granted on a case by case situation with submittal by the FSE documenting proof demonstrating to the ISS that the pumping frequency can be extended past the three (3) month period without any carryover of FOG being discharged to the sanitary sewer system.

D. The grease interceptor influent tees and effluent tees shall be inspected during cleaning and maintenance. Their condition noted by the grease waste hauler's company or individual conducting the maintenance. Influent tees and effluent tees that are loose, defective, or not attached shall be repaired or replaced immediately.

E. Skimming and/or pumping of grease interceptor contents shall be prohibited.

F. Decanting or discharging of removed waste back into a grease interceptor from which it was previously removed, or into any other grease interceptor for the purpose of reducing the volume to be disposed, shall be prohibited. This practice is classified as an unpermitted discharge of a pollutant into the Publicly Owned Treatment Works (POTW) and, is a violation of the City of Chattanooga's Sewer Use Ordinance and federal Clean Water Act.

G. In no way shall the pumped waste from the grease interceptor be returned to any private or public portion of the sanitary sewer system.

H. The use of additives for maintenance or grease interceptors shall be limited to case by case approval. Additives include, but are not limited to, products that contain solvents, emulsifiers, surfactants, caustics, acids, enzymes, and bacteria

I. If the City of Chattanooga identifies a FSE that is using "additives" and is contributing FOG to the sanitary sewer system, or has caused any interference to the sanitary sewer system, the FSE shall immediately stop use of the "additive".

J. At no time shall additives be used just prior to under the sink traps or floor grease traps or grease interceptors.

K. The use of additives is prohibited with the following exceptions:

1. Additives may be used to clean the FSE drain lines, but only in such quantities that it will not cause fats, oils and grease to be discharged from the grease control equipment to the sanitary sewer system or cause temporary breakdown of FOG that will later re-congeal in the downstream sanitary sewer system.

2. If the product used can be proven to contain 100% bacteria, with no other additives, approval of the use of the product shall come from the Director. FSE shall submit a full disclosure MSDS and certified sample results from the manufacturer of the product.

3. The use of approved additives shall in no way be considered as a substitution to the maintenance procedures (cleaning/pumping) required herein.

Appendix G
City of Chattanooga Specifications for Grease Traps

City of Chattanooga
Specifications
For
Grease Traps

Part 1 General

1.01 Scope

A. The scope of this specification includes the requirements for design and sizing, for furnishing, for installation and maintenance of grease traps as described herein.

B. All applicable products and work supplied shall be in accordance with applicable American Society for Testing and material (ASTM), American National Standard Institute (ANSI), International Association of Plumbing and Mechanical Officials (IAPMO), International Plumbing Code (IPC), and American Association of State Highway and Transportation Officials (AASHTO).

1.02 General Requirements

The following general requirements shall be applicable to all new or existing FSEs.

A. Removal of the Fats, Oil, and Grease (FOG) from the wastewater routed to a public or private sanitary system shall be the responsibility of the FSE user/owner.

B. FSEs shall provide such facilities and institute such procedures as are reasonably necessary to prevent or minimize the potential for the discharge or accidental discharge of FOG into the WCTS. This includes implementation of “Best Management Practices” protocols.

C. Any new FSE, upgrading of an existing FSE, or changing of ownership of existing FSE shall be required to install and maintain Grease Control Equipment, including grease traps and grease interceptors.

D. FSEs shall submit a Grease Trap/Interceptor Application with a FOG plan to the City of Chattanooga Plumbing Inspection Section for review and approval. The FOG plan shall include identification of all cooking and food preparation equipment (i.e. fryers, grills, woks, etc…); the number and size of dishwashers, sinks, floor drains, and other plumbing fixtures; type of food to be served; plumbing and riser diagrams: and plans for the grease trap dimensions and location.

E. City Plumbing Inspection section and Pretreatment Supervisor shall approve the Grease Trap/Interceptor application before construction or installation can proceed.

F. All grease traps shall be designed, installed and located in accordance with this specification to allow for complete access for inspection and maintenance.

G. FSE shall have a single grease trap installation for each application. Multiple applications shall not be allowed manifold into one (1) grease trap unless approved by the Director.

H. FSEs shall prevent solid food waste products from disposal to grease trap and shall be disposed through normal solid waste /garbage disposal procedures.

I. Garbage grinders shall not be allowed to connect to the grease trap.

J. FSEs shall have separate sanitary and grease waste lines. The grease waste lines shall be plumbed to an appropriately sized grease trap. No sanitary wastewater or storm water shall be plumbed to the grease trap.

K. Grease traps shall be located as close to the source of the grease generating fixture as physically possible and shall be accessible for maintenance.

L. No dishwasher, steamer unit, other high temperature source, or garbage grinder shall be piped directly to grease traps.

M. Solids separation shall be required on all grease traps less than 500 gallons total volume.

N. All grease traps shall have a flow control restrictor and be vented.

O. Grease Traps shall have the Plumbing Drainage Institute certification and be installed as per manufacturer's specifications.

P. No automatic drip or feed system of additives shall be allowed prior to entering the grease trap.

Q. A single grease trap device shall be installed for each significant kitchen fixture unit (I.e. each 3-compartment sink). The City Plumbing Inspection section shall approve the number of grease traps and connections to each the grease trap.

R. Grease Trap waste should be sealed or placed in a container to prevent leachate from leaking, and then disposed or hauled offsite by a grease waste hauler to an approved disposal site.

S. Grease Trap waste should not be mixed with yellow grease in the grease recycle container unless approved.

Part 2 Products

2.01 Design and Sizing

A. Grease trap design shall meet City of Chattanooga Plumbing Code.

B. Minimum acceptable size of grease trap for the appropriate FSE Classification shall be a 20 gpm, 40 pound grease trap.

C. The City Plumbing Inspection section and Pretreatment Supervisor shall review grease trap sizing information provided by the FSE's engineer, architect, or contractor.

D. The City Plumbing Inspection section and Pretreatment Supervisor shall make a decision to approve or require additional grease trap volume, based on the type of FSE, the number of fixture units, and additional calculations.

E. Under-the-Counter or On-the-Floor grease traps shall be only permissible for Class 1 FSEs.

2.02 Grease Traps

A. Grease Traps shall be constructed of sound durable materials, not subject to excessive corrosion or decay.

B. Grease traps materials shall meet the American National Standards Institute, Inc. (ANSI) and International Association of Plumbing and Mechanical Officials (IAPMO) standards.

C. Grease traps shall be installed and connected to provide easy accessibility for inspection, cleaning, and removal of the collected FOG at any time. They should be located close to the fixture(s) discharging the FOG waste stream.

D. Grease traps shall have a properly sized flow control restrictor and be vented.

Part 3 Execution

3.01 Installation

A. All grease traps shall be installed by properly licensed plumbing contractors approved by the City.

B. FSEs shall contact the City Plumbing Inspection and Pretreatment Supervisor section for onsite inspection and final approval of the grease trap.

C. The completed grease trap installation shall be inspected and approved by the before a Certificate of Occupancy is granted

D. Failure of the FSE to contact the City Plumbing Inspection section to conduct the inspection of the new grease trap shall result in escalation of enforcement action.

3.02 Grease Trap Cleaning/Maintenance Requirements

A. Skimming and/or pumping of grease trap contents shall be prohibited.

B. Decanting or discharging of removed waste back into a grease trap from which it was previously removed, or into any other grease trap for the purpose of reducing the volume to be disposed, shall be prohibited. This practice is classified as an unpermitted discharge of a pollutant into the Publicly Owned Treatment Works (POTW) and, is a violation of the City of Chattanooga's Sewer Use Ordinance and federal Clean Water Act.

C. In no way shall the pumpage be returned to any private or public portion of the WCTS except at discharge points designated by the ISS.

D. Grease Traps shall be cleaned of complete fats, oils and grease and food solids at a minimum of one (1) time per week. If the FOG and food solids content of the grease trap are greater than 25%, then the grease trap must be cleaned as frequently as needed to prevent 25% of capacity being taken from FOG and food solids. Removal of FOG is usually accomplished by hand-dipping or scooping the collected material from the trap.

E. During cleaning of the grease trap, the flow restrictor and vent shall be checked to ensure it is attached and operational.

F. Grease Trap waste shall be sealed or placed in a container to prevent leachate from leaking, and then disposed or hauled offsite by a grease waste hauler to an approved disposal site.

G. Grease Trap waste shall not be mixed with yellow grease in the grease recycle container unless approved.

Appendix H
FSE Good Cleaning Practices Posters

GOOD CLEANING PRACTICES

Managing FATS, OIL and GREASE

POST IN CLEANUP/WORK AREA

THE RIGHT WAY

1 Wipe pots, pans, and work areas prior to washing.

2 Dispose of food waste directly into the trash.

3 Collect waste oil and store for recycling.

4 Clean mats inside over a utility sink. Use dry clean up for spills.

THE WRONG WAY

1 Do not pour cooking residue directly into the drain.

2 Avoid using the garbage disposal. Place greasy food in the trash.

3 Do not pour waste oil directly into the drain, parking lot or street.

4 Do not wash floor mats outside where water will run off directly into the storm drain.
Do not rinse spills into the street.

For more information call **Moccasin Bend Wastewater Plant (Industrial Waste Section)** 423-757-5026 or **www.chattanooga.gov**

Courtesy of
SANITATION DISTRICTS OF LOS ANGELES COUNTY
www.lacsd.org

Buenas Prácticas de Limpieza

Manejando MANTECA, ACEITE y GRASA

Mantenga Letrero en el Área de Limpieza/Trabajo

LA FORMA CORRECTA

1 Limpie con una toalla las ollas, sarténes, y áreas de trabajo antes de que sean lavadas.

2 Deseche los desperdicios de comida en el bote de basura.

3 Junte el aceite usado y guardelo para que sea reciclado.

4 Limpie los tapetes de piso adentro, en una tina o fregadero. Limpie derrames con productos en seco.

LA FORMA INCORRECTA

1 No ponga residuos de cocinar directamente en el desagüe.

2 Evite utilizar el triturador de comida. Ponga los desperdicios de comida grasosa en el bote de basura.

3 No ponga aceite usado en el desagüe, estacionamiento o en la calle.

4 No lave los tapetes de piso afuera donde el agua corra hacia la alcantarilla. No enjuague derrames en la calle.

For more information call **Moccasin Bend Wastewater Plant (Industrial Waste Section)** 423-757-5026 or **www.chattanooga.gov**

Courtesy of

SANITATION DISTRICTS OF LOS ANGELES COUNTY

www.lacsd.org

如何正確處理
廢油膏、污油和廢油脂
請貼於清理及工作的地方

正確的做法

1 先將鍋，盆和工作地方擦淨後才進行沖洗。

2 將食物餘渣直接倒入垃圾桶。

3 將污油收集儲存以便回收。

4 將地板墊子放進洗滌槽內洗涮。用抹乾的方法清理濺出的污物。

錯誤的做法

1 不要把烹調的剩餘物直接倒入排水槽。

2 避免使用廚房廢物絞碎機。將餘渣倒入垃圾桶。

3 不要將污油直接倒入排水槽，停車場和街道上。

4 不要在戶外涮洗地板墊子，以免污水流入防洪渠中。不要將濺出的污物沖洗至街道上。

For more information call **Moccasin Bend Wastewater Plant (Industrial Waste Section)** 423-757-5026 or **www.chattanooga.gov**

Courtesy of
SANITATION DISTRICTS OF LOS ANGELES COUNTY
www.lacsd.org

Appendix I
FOG Brochure

Fats, oils, and grease aren't just bad for arteries and waistlines; they're bad for sewers, too.

Sewer overflows and backups can cause health hazards, damage home interiors, and threaten the environment. A common cause of overflows is sewer pipes blocked by grease. Grease gets into the sewer from household drains, as well as from poorly maintained grease traps in restaurants and other businesses.

Caution: Grease traps or interceptors at restaurants, large buildings, and other commercial establishments must be properly designed to handle the amount of grease that is expected, be installed correctly, and be cleaned and serviced on a frequent basis.

Las grasas y los aceites no sólo son perjudiciales para las arterias y para la figura; también son dañinos para las alcantarillas.

Los derrames y desbordamientos de aguas residuales pueden ser peligrosos para la salud, dañar el interior de los hogares, y amenazar el medio ambiente. Una causa cada vez más común de derrames es las alcantarillas obstruidas por grasa. La grasa llega a las alcantarillas desde los desagües domésticos y trampas de grasa mal mantenidas en restaurantes y otros negocios.

Advertencia: Las trampas de grasa o interceptores en los restaurantes, edificios grandes y otros establecimientos comerciales deben estar diseñados correctamente de modo que puedan manejar la cantidad de grasa esperada, deben estar bien instalados y deben limpiarse y dárseles servicio con frecuencia.

This brochure was prepared under Cooperative Agreement Assistance CX824505-01-0 between the Water Environment Federation and the U.S. Environmental Protection Agency. For more information, contact your local sewer system authority or the

Water Environment Federation®
the water quality people®

601 Wythe Street
Alexandria, Virginia
22314-1994 USA
Tel. 1-800-666-0206
Fax. 1-703-684-2492
www.wef.org

Este panfleto fue elaborado de acuerdo con la Asistencia del acuerdo de cooperación CX824505-01-0 entre la Water Environment Federation y la Agencia de protección ambiental de EE.UU. Si desea obtener más información, comuníquese con su autoridad local del sistema de alcantarillas o con la WEF.

HP1902 10/2012

Fat-Free Sewers

Prevent Fats, Oils, and Greases from Damaging Your Home and the Environment

ALCANTARILLAS SIN GRASA

Evite que las grasas y los aceites dañen su hogar y el medio ambiente

Water Environment Federation®
the water quality people®

Helping To Prevent Sewer Overflows and Backups Is Easy.

Where Does the Grease Come From?

Grease is a byproduct of cooking from meat fats, lard, oils, shortening, butter, margarine, food scraps, baked goods, sauces, and dairy products. When washed down the sink, grease sticks to the insides of sewer pipes (both on your property and under the street). Over time, it can build up and block entire portions of your home's plumbing system.

Caution: Home garbage disposals do not keep grease out of the plumbing system. Moreover, hot water and products such as detergents that claim to dissolve grease only pass it down the line and cause problems elsewhere.

The results can be:

- Raw sewage overflowing into your home or the house next door.
- An expensive and unpleasant cleanup often required to be paid for by you, the home or business owner.
- Raw sewage overflowing into parks, yards, streets, and streams.
- Potential contact with disease-causing organisms.
- An increase in operation and maintenance costs for local sewer departments, which causes higher sewer bills for customers.

Es fácil prevenir los derrames y desbordamientos de aguas residuales.

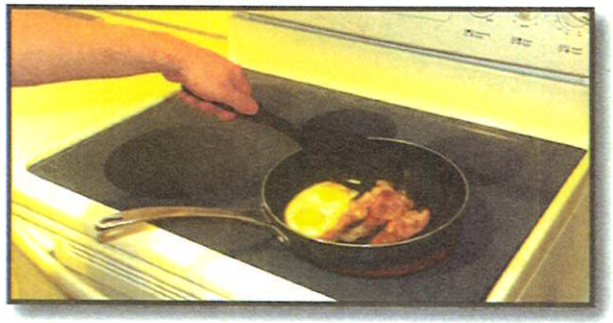
¿De dónde proviene la grasa?

La grasa, uno de los productos derivados de la preparación de comida, está presente en la carne, manteca animal, aceite vegetal, manteca vegetal, mantequilla, margarina, sobras de comida, productos horneados, salsas, productos lácteos. Cuando entra por el desagüe, la grasa se pega al interior de las tuberías de alcantarillado (tanto las de su propiedad como las de la calle) y con el tiempo, puede acumularse al punto de bloquear la tubería por completo.

Advertencia: Los trituradores de basura domésticos no impiden la entrada de grasa al sistema de cañerías. Es más, el agua caliente y los productos como los detergentes que alegan ser capaces de disolver la grasa, pueden trasladarla por las cañerías y causar problemas en otras zonas.

Esto puede traer las siguientes consecuencias:

- Desbordamientos de aguas residuales en el interior de su hogar o el de su vecino.
- Necesidad de una limpieza costosa y desagradable que casi siempre es responsabilidad de usted, el propietario de la casa o el negocio.
- Desbordamiento de aguas residuales hacia parques, jardines y calles.
- Posible contacto con organismos causantes de enfermedades.
- Crecientes costos de operación y mantenimiento para los departamentos locales de alcantarillado y, en consecuencia, facturas más altas para los consumidores.



You Can Help!

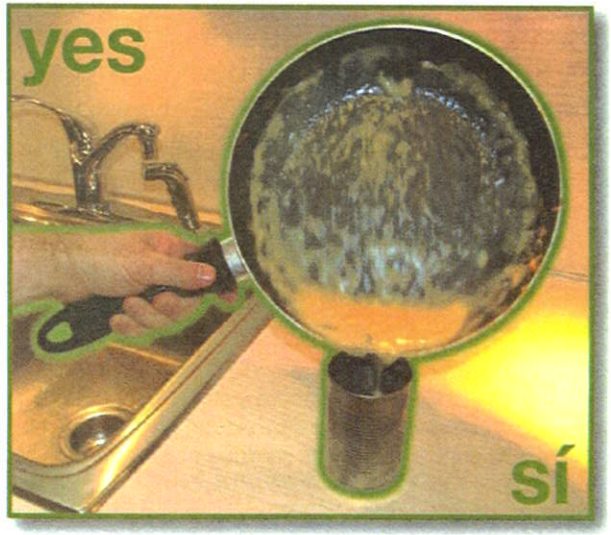
Help prevent sewer overflows by:

- Never pouring grease or oils down sink drains or into toilets.
- Scraping grease and food scraps into a can or the trash for disposal (or recycling where available).
- Putting baskets/strainers in sink drains to catch food scraps and other solids, and then emptying them into the trash.
- Speaking with your friends and neighbors about how to keep grease out of sewers.

¡Usted puede ayudar!

Ayude a evitar derrames en las alcantarillas de las siguientes maneras:

- No vierta nunca grasa por el desagüe del fregadero ni en inodoros.
- Raspe la grasa y las sobras de comida y colóquelas en una lata o en la basura para desecharlas (o reciclarlas, si dispone de esta opción).
- Ponga filtros o coladores en los desagües de los fregaderos para atrapar las sobras de comida y otros sólidos, y deseche su contenido en la basura.
- Hable con sus amigos y vecinos sobre cómo impedir que la grasa llegue a las alcantarillas.



STORMWATER...
MINIMIZE YOUR RESTAURANT'S
STORMWATER IMPACTS

1. **Maintain clean area around the grease recycle bin.** Make employees aware to be careful not to spill any fats, oils and grease. If there is a spill, clean it up immediately.

Stormwater impact from recycle bin spill

2. **Do NOT pour oils or grease down storm grates, storm drains, sewer drains or on the ground.**

Grease evidence at storm grate. Grease was discharged into stream. Enforcement action was taken.

3. **Clean vent hoods regularly** to prevent fats, oils and grease discharge to the roof of your facility or on ground near your facility.
4. Design and locate dumpsters and outdoor wash areas to minimize stormwater impacts.

For more information on the City of Chattanooga's Grease Management & Control Program contact:

Moccasin Bend Wastewater Treatment Plant
Industrial Monitoring Section
455 Moccasin Bend Rd.
Chattanooga, TN 37405
Mr. Rick Tate (757-0058)
tate_rick@chattanooga.gov.

BEST MANAGEMENT PRACTICES

BMPs

Following these BMPs will help prevent blockages in your plumbing system and prevent negative impacts to the Chattanooga Sewer System.

1. Recycle waste cooking oil. Buildup of oil & grease on pots & pans should be scraped off into a waste grease container before washing pots and pans.
2. Make sure you have grease control equipment installed, maintained & operating properly.
3. Post "NO GREASE" signs above sinks,
4. Remove all non-permitted "garbage" grinders used for plastic, paper products, food preparation waste, inert materials or garden refuse — these "garbage" grinders are not allowed as per Chattanooga City Code, except by permit. These will contribute to grease discharge and will decrease efficiency of interceptors and traps.
5. "Dry wipe" all pots, pans, plates prior to dishwashing. As much food and grease particles as possible need to be wiped off into approved recycle or solid waste containers.
6. Use strainers in sink drains to catch food scraps & other solids, and empty drain strainers into the trash.
7. Train & educate kitchen staff that grease control is important and inform them how they can work to provide a positive impact on the environment and your plumbing system.

Food Service Establishments

FATS, OILS & GREASE CONTROL

City of Chattanooga Public Works Department Waste Resources Division along with Codes & Inspections

Hamilton County Health Department

All Restaurants and Food Service Establishments need to control fats, oils & grease discharges from their facility as per Chattanooga City Code.

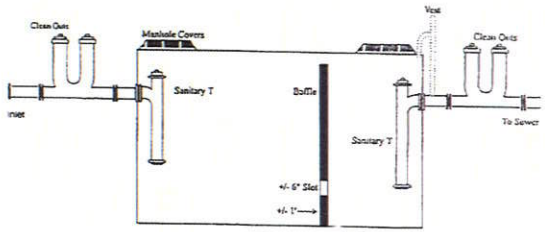
FATS, OILS & GREASE . . . the #1 cause of sewer backups

What problems are caused by fats, oils & grease? Raw sewage overflows, rancid odors, expensive cleanup, repair & replacement of damaged property, potential contact with microorganisms that can cause diseases such as hepatitis & gastroenteritis.

Why should food service facilities care? The City of Chattanooga's Waste Resources Division will be conducting fats, oils, & grease control inspections, also the Hamilton County Health Dept. will be asking about grease control equipment & maintenance. Failure to cooperate can result in a notice of violation and other enforcement action.

GREASE CONTROL EQUIPMENT

GREASE INTERCEPTOR: an underground tank with usual capacity of 1000 to 2000 gallons. Interceptors need to be cleaned (pumped out) of complete contents at a minimum of every 90 days. Some larger facilities will need to pump interceptors more frequently (i.e. monthly).



GREASE TRAP: an indoor, "under the sink" unit with usual capacity of 5 to 50 gallons. The minimum sizing requirements for a grease trap is 20 gallons per minute/40 lbs. grease. Grease Traps should be cleaned at least once a week to prevent grease discharges from your facility. Grease traps must have a flow device attached.

RESTAURANTS & FOOD SERVICE ESTABLISHMENTS: Need to make sure they:

1. **have GREASE CONTROL EQUIPMENT** (a grease interceptor or a grease trap) **INSTALLED,**
2. **maintain** (routinely clean, or pump out) grease control equipment,
3. **keep records** on-site of grease control equipment pumping / cleaning and maintenance to provide City of Chattanooga Inspectors.
4. **implement** BEST MANAGEMENT PRACTICES (BMPs) - *list is provided in this brochure.*