

Limestone County Water & Sewer Authority

DESCRIPTION: Fats, Oils, & Grease Policy

POLICY NO.: 2009-

EFFECTIVE:

APPROVED:

This Limestone County Water and Sewer Authority Fats, Oils & Grease (FOG) Policy is based on the Limestone County Water and Sewer Authority Sewer Use Regulation Policy (2007-07) and United States Environmental Protection Agency (Region IV) Capacity, Management, Operation and Maintenance Policy.

Purpose

The purpose of this policy is to prevent sanitary and combined sewer system blockages, obstructions and overflows due to the contribution and accumulation of fats, oils and grease (FOG) from food service establishments, commercial facilities and industrial facilities.

This policy, upon its enactment, shall become effective immediately and shall apply to all Food Service Establishments, as defined herein, whether now existing and in operation, existing but not in operation such as being under renovation or remodel, existing but not in operation pending a change in ownership, or to hereafter exist and/or come into operation.

Definitions

1. Authority: The Limestone Co. Water and Sewer Authority
2. Fats, Oils, & Grease (FOG): Organic polar compounds derived from animal and/or plant sources. FOG may be referred to as “grease” or “greases” in this section.
3. Food Service Establishment (FSE): Any establishment, business or facility engaged in preparing, serving or making food available for consumption including such facilities as restaurants, cafeterias, markets, grocery stores, hospitals, nursing homes, retirement centers, multi-residential facilities, prisons, schools, churches, camps, caterers, and manufacturers. Single family residences shall not be considered a FSE for the purpose of this policy.
4. Food Service Establishments will be classified as follows:
 - Class 1**: Deli – engaged in the sale of cold-cut and microwaved sandwiches/subs with no frying or grilling on site, Ice Cream shops and beverage bars as defined by NAICS 445210 or 722213, Mobile Food Vendors as defined by NAICS 722330
 - Class 2**: Limited-Service Restaurants (a.k.a. Fast Food Facilities) as defined by NAICS 722211 and Caterers as defined by NAICS 722320
 - Class 3**: Full Service Restaurants as defined by NAICS 722110

Class 4: Buffet and Cafeteria Facilities as defined by NAICS 722212

Class 5: Institutions (Schools, Hospitals, Prisons, etc) as defined by NAICS 722310 but not to exclude self-run operations.

5. Brown Grease: Fats, oils and grease that is discharged to the grease control equipment, or is from kitchen or food prep wastewater.
6. Yellow Grease: Fats, oils and grease that has not been in contact, contaminated, or cross-contaminated from other sources such as water, wastewater, solid waste, or the like and is capable of being recycled.
7. Grease Control Equipment (GCE): A device for separating and retaining wastewater FOG prior to wastewater exiting the FSE and entering the Limestone County Water and Sewer Authority sewer system. The GCE is so constructed as to separate and trap or hold fats, oils and grease substances from entering the Limestone County Water and Sewer Authority sewer system. Devices include grease interceptors, grease traps, or other devices approved by the Authority.
8. Grease Interceptor: Grease Control Equipment identified as a large tank or container with a defined gallon capacity and having proper inlet and outlet Ts, that provides FOG control for a FSE. Grease interceptors shall be located outside the FSE unless a variance request has been granted.
9. Grease Trap: Grease Control Equipment identified as an “under the sink” trap, a small container with baffles, or a floor trap and having a minimum size of 20-gallons per minute/40 pound capacity trap and having a flow control restrictor and a vent pipe.
10. Grease Recycle Container: Container used for the storage of yellow grease.
11. NAICS - North American Industry Classification System. The website is found at: (<http://www.census.gov/epcd/www/naics.html>)
12. Tee or T (Influent & 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 & Effluent T’s are recommended to be made of PVC or equivalent material, and extend to within 12” to 15” of the bottom of the interceptor.
13. Black Water: Wastewater containing human waste, from sanitary fixtures such as toilets and urinals.
14. Gray Water: Refers to all other wastewater other than black water as defined in this section

General Requirements

1. Except as may be otherwise provided for in Section 11 of this article, all FSEs shall have grease control equipment (GCE) installed, maintained and operating properly.
2. All FSEs shall submit a “FOG Plan” to the Authority for approval, and for multiple FSEs owned by a single owner, a FOG plan shall be submitted for each FSE.
3. Any FOG Plan required by this policy shall state and include, at a minimum, FSE classification; identification of all cooking and food preparation equipment (such as fryers, grills, woks, and the like from which FOG may be generated); number and size/capacity of all plumbing fixtures such as dishwashers, sinks, toilets, urinals, floor drains, and other such plumbing fixtures; itemization of food(s) to be prepared for consumption and/or distribution; and, grease interceptor dimensions and location(s).. The Authority will review the FOG Plan and grease interceptor size. If not approved, the Authority shall require or make changes to the proposed FOG plan as necessary until the FOG Plan is approved.
4. All FSEs shall maintain complete records of cleaning and maintenance of GCE which such maintenance records shall include, at a minimum, the date of cleaning/maintenance, the company or person conducting the cleaning/maintenance, and the amount or volume of grease wastewater removed. A grease waste hauler completed manifest shall meet this requirement.
5. All GCE maintenance records shall be maintained at the FSE premises for a period of three years from the date of cleaning/maintenance and during said time such maintenance records shall be made available upon request to the Authority, its personnel or other representative, and/or the state or local Health Department to review.
6. No FSE shall discharge oil and grease in concentrations that exceed the Limestone County Water and Sewer Authority instantaneous grab limit for oil and grease.
7. Yellow grease shall be disposed of in a container approved by the Authority.
8. No yellow grease shall be disposed of by discharge into any storm water grate, drain or conveyance.
9. Discharge of yellow grease, or any oils or grease, into the FSE sewer lines or the Authority’s sewer system shall be a violation of this policy.
10. Property owners shall be responsible for wastewater discharges from or upon their property.
11. Existing and operating FSEs shall be phased into compliance by obtaining a FSE permit and pursuant to the Compliance Schedule, which schedule shall be determined by the Authority. All existing and operating FSEs shall be in compliance with this policy no later than January 1, 2010.
12. Any variance to a grease interceptor installation shall be at the sole discretion and determination of the Authority.

Grease Control Equipment Sizing

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 gallons per minute/40 pound Grease Trap

Class 2: Limited-Service Restaurants / Caterers – 1,000 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

To calculate the appropriate size GCE, the following formula will be used:

Fixture Units (total) x Facility type multiplier x 36 (retention time) = Size of Interceptor (gals.)

Should the size of the interceptor calculate to 499 gallons or less with the formula above:
Size of interceptor (gals.) x 0.75 (max. cap. of sink) = Flow (gpm) x hours (work day) = Acceptable Flow rate with retention time

Grease Control Equipment Specifications

Grease Control Equipment must remove fats, oils, & grease at or below the Limestone County Water and Sewer Authority Sewer Use Regulation Policy Limit for Oil and Grease. Failure to comply will require enforcement action in accordance with the Limestone County Water and Sewer Authority Food Service Establishment Enforcement Response Guide.

Grease traps must have the Plumbing Drainage Institute certification. The minimum acceptable size is rated at 20 gpm / 40lbs. All grease traps will be installed as per manufacturer specifications, which include the flow restrictor and venting prior to the discharge entering the grease trap.

Grease Interceptors Specifications

Piping Design Requirements

1. The inlet and outlet piping shall have 2-way cleanout tees installed
2. The inlet piping shall enter the receiving chamber 2 ½” above the invert of the outlet piping.
3. On the inlet pipe, 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. To provide air circulation and to prevent “air lock”, a pipe (nipple) installed in the top tee shall extend to a minimum of 6” clearance from the interceptor ceiling, but not less than the inlet pipe diameter. A pipe installed in the bottom of the tee shall extend to a point of 2/3 the depth of the tank. *See illustration.*
4. The outlet piping shall be no smaller than the inlet piping, but in no case smaller than 4” ID.
5. The outlet piping shall extend to 12” above the floor of the interceptor and shall be made of a non-collapsible material.
6. The outlet piping shall contain a tee installed vertically with a pipe (nipple) installed in the top of the tee to extend to a minimum of 6” clearance from the interceptor ceiling, but not less than the pipe diameter, with the top open. *See illustration.*

Baffle Requirements

1. 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 6” of the ceiling. The baffle shall have an inverted 90 degree sweep fitting at least equal in diameter size to the inlet piping, but in no case less than 6” ID. The bottom of the sweep shall be placed in the vertical position in the inlet compartment 12” 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.*

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

Access Openings (Manholes) Requirements

1. Access to grease interceptors shall be provided by a minimum of 1 manhole per interceptor division (baffle chamber) and of 24-inch minimum dimensions terminating 1 inch above finished grade with cast iron frame and cover. An 8” thick concrete pad extending a minimum of 12” beyond the outside dimension of the manhole frame shall be provided. One manhole shall be located above the inlet tee hatch and the other manhole shall be located above the outlet tee hatch. A minimum of 24” of clear opening above each manhole access shall be maintained to facilitate maintenance, cleaning, pumping, and inspections.
2. Access openings shall be mechanically sealed and gas tight to contain odors and bacteria and to exclude vermin and ground water, in a manner that permits regular re-uses.
3. The manholes are to be accessible for inspection by the Authority.

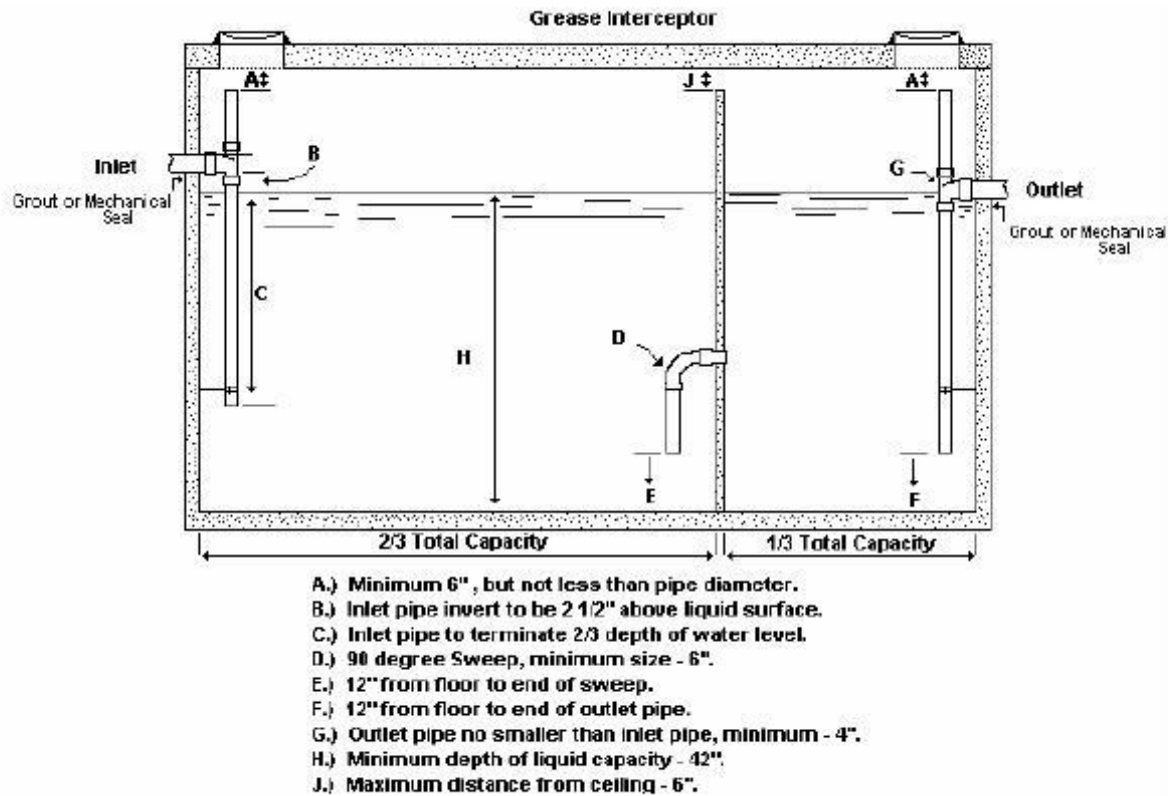
Additional Grease Interceptor Requirements

Water Tight – Precast concrete grease interceptors shall be constructed to be watertight. A static water test shall be conducted by the installer and timed so as to permit verification through visual inspection by regulatory agent. The water test shall consist of plugging the outlet (and the inlet if necessary) and filling the tank(s) with water to the tank top a minimum of 24 hours before the inspection. The tank shall not lose water during this test period. Certification by the plumbing contractor shall be supplied to the Limestone County Water and Sewer Authority prior to final approval of grease control equipment.

Location – Grease Control Equipment shall be located so as to be readily accessible for cleaning, maintenance, and inspections. They should be located close to the fixture(s) discharging the greasy wastestream.

Responsibility – Removal of the grease from the wastewater routed to a public or private sanitary system is the responsibility of the user/owner.

Construction Material – Grease Interceptors shall be constructed of sound durable materials, not subject to excessive corrosion or decay, and shall be water and gas tight. 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).



Grease Interceptor Cleaning/Maintenance Requirements

1. Grease Interceptor minimum size will be 750 gallons, and maximum size will be 2,500 gallon capacity. If the FSE needs additional capacity, then grease interceptors will be installed in series.
2. Partial pump of interceptor contents or on-site pump & treatment of interceptor contents will **not** be allowed due to reintroduction of fats, oils and grease to the interceptor and pursuant to the Code Federal Regulation (CFR) § 403.5 (b) (8), which states "*Specific prohibitions*. In addition, the following pollutants shall not be introduced into a POTW: Any trucked or hauled pollutants, except at discharge points designated by the POTW".
3. Grease interceptors must be pumped-in-full when the total accumulations of surface FOG (including floating solids) and settled solids reaches twenty-five percent (25%) of the grease interceptor's overall liquid depth. This criterion is referred to as the "25 Percent Rule". At no time, shall the cleaning frequency exceed 90 days unless approved by the Limestone County Water and Sewer Authority. Approval will be granted on a case by case situation with submittal by the FSE documenting proof of proposed frequency. Some existing FSEs in Class 2 through 5 will need to consider monthly pumping to meet this requirement.

4. Grease interceptor effluent-T will be inspected during cleaning and maintenance and the condition noted by the grease waste hauler's company or individual conducting the maintenance. Effluent-T's that are loose, defective, or not attached must be repaired or replaced immediately.
5. Grease interceptors must have access manholes over the influent-T and effluent-T for inspection and ease of cleaning/maintenance. Access manholes will be provided for all separate compartments of interceptors for complete cleaning (i.e. interceptor with two main baffles or three compartments will have access manholes at each compartment).

Grease Trap Cleaning / Maintenance Requirements

1. *All* grease traps will have flow control restrictor and vented. Failure to have flow restrictor and venting will be considered a violation.
2. Grease Trap minimum size requirement is a 20 gallon per minute / 40 pound capacity trap.
3. Grease Traps will be cleaned of complete fats, oils, and grease and food solids at a minimum of every two (2) weeks, unless less cleaning frequency is authorized by the Authority. If the combination of FOG and food solids content of the grease trap is greater than 50%, then the grease trap must be cleaned every week, or as frequently as needed to prevent 50% of capacity being taken from FOG and food solids.
4. Grease Trap waste should be sealed or placed in a container to prevent leachate from leaking, and then disposed.
5. Grease Trap waste should not be mixed with yellow grease in the grease recycle container.

Food Service Establishment FOG Permits and Inspections

The Authority may issue FOG permits to food service establishments to control FOG discharges to the LCWSA sewer system, prevent obstruction and interference to the POTW, and prevent sanitary sewer overflows. Also, the Authority, or their authorized representative, will conduct inspections of food service establishments for grease control equipment installation and maintenance, types of food served and preparation of food, impact to the Authority sewer system, and review of best management practices. The Authority, or their authorized representative, has the right to enter the food service establishments' premises to determine impacts to the Authority sewer system. The Limestone County Water and Sewer Authority will conduct any additional monitoring of the food service establishment to determine compliance with the FOG management policy and the LCWSA Sewer Use Regulation Policy.

Fees

The Authority may charge FOG permit, inspection or monitoring fees to the food service establishments to get reimbursement for the FOG program costs. The basis for fees is Limestone County Water and Sewer Authority Sewer Use Regulation Policy.

“Additives” Prohibited

1. Additives shall be prohibited as a means of grease management and control. Additives shall in no way be considered as a substitution to the maintenance procedures required herein.
2. Additives shall include but are not limited to products that contain solvents, emulsifiers, surfactants, caustics, acids, enzymes and bacteria.
3. At no time will additives be used just prior to under the sink or floor grease traps.
4. The use of additives is prohibited with the following exceptions:
 - a. 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 sewer system, or cause temporary breakdown of FOG that will later re-congeal in the downstream sewer system.
 - b. If the product used can be proven to contain 100% bacteria, with no other additives. Approval of the use of the product must come from the Authority and FSE must submit a full disclosure MSDS and certified sample results from the manufacturer of the product.
4. The use of approved additives will in no way be considered as a substitution to the maintenance procedures required herein.

Enforcement Action

The Authority may enforce this policy against a FSE, but not limited to, a failure to clean or pump grease control equipment, a failure to maintain grease control equipment including inspection and installation of properly functioning effluent-T and baffles, a failure to install grease control equipment, a failure to control FOG discharge from the FSE, contributing to a sewer line blockage or obstruction, contributing to a Sanitary Sewer Overflow, or the use of additives in such quantities so that FOG is pushed downstream of the FSE.

1. Fats, Oils and Grease blockage in downstream manhole from FSE:

If FSE inspections and field investigations by the Authority, or their authorized representative, determine that any fats, oils and grease interference or blockage in the sewer system, a sewage pumping station, or the wastewater treatment plant is caused by a particular food service establishment, then that food service establishment shall reimburse the Authority for all labor, equipment, supplies and disposal costs incurred by the Authority to clean the interference or blockage. The charges will be added to the FSEs water/wastewater bill. Failure to reimburse the Authority will result in termination of water service.

2. FSE failure to maintain GCE after Notification or NOV due date:

If a FSE fails to pump, clean or maintain their GCE after a Noncompliance Notification or Notice of Violation due date, the Authority may chose to pump/clean the GCE to

prevent additional FOG problems downstream. The FSE will be charged for the cost of pumping and maintaining the FSE's GCE at a rate of 1.5 times the cost to the Limestone County Water and Sewer Authority. Mechanical failure of the GCE will be considered a violation of the Limestone County Water and Sewer Authority Sewer Use Regulation Policy which pertains to the construction and maintenance of pretreatment facilities and subject to penalties of up to \$10,000 / day for each day in violation.

3. Penalties

In addition to any penalty expressly provided for herein, penalties for violations of this policy shall be issued pursuant to the Authority, Enforcement Response Guide.