



Fayetteville Public Utilities

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Operational Division Policy

Fayetteville, TN Fats, Oils & Grease (FOG) Management Policy

Fayetteville Public Utilities will implement the Fats, Oils & Grease (FOG) Management Policy as part of its Sewer Use Ordinance.

Effective Date: 3/4/2015

Pretreatment Coordinator:  Date: 2/24/15

CEO/General Manager:  Date: 3/4/2015

1. Fayetteville Public Utilities needs to prevent sewer system blockages and obstruction in its sewer system caused by the collection of fats, oils and greases (FOG).
2. The management of an effective FOG program with the food service establishments, commercial facilities, and industrial facilities will prevent sewer system overflows and reduce the operational costs of Fayetteville Public Utilities.
3. The Tennessee Department of Environment and Conservation's Agreed Order Case No. 05-0628, issued January 25, 2006, requires Fayetteville Public Utilities to prevent sanitary sewer overflows and implement CMOM (Capacity, Management, Operations and Maintenance) activities.

Fats, Oils & Grease Management Policy

Scope & Purpose:

To prevent sanitary and combined sewer system blockages, obstructions and overflows due to the contribution and accumulation of fats, oils and grease from food service establishments, commercial facilities and industrial facilities.

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DEFINITIONS

1. **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.
2. **Fayetteville Public Utilities**: referred to as FPU
3. **Food Service Establishment (FSE)**: Any establishment, business or facility engaged in preparing, serving or making food available for consumption. Single family residences are not a FSE, however, multi residential facilities may be considered a FSE at the discretion of FPU.
4. **Brown Grease**: Fats, oils and grease that is discharged to the grease control equipment.
5. **Yellow Grease**: Fats, oils and grease that has not been in contact or contaminated from other sources and can be recycled.
6. **Grease Control Equipment (GCE)**: A device for separating and retaining wastewater FOG prior to wastewater exiting the FSE and entering the FPU sewer system. Devices include grease interceptors, grease traps, or other devices approved by FPU.
7. **Grease Interceptor**: Grease Control Equipment identified as a large tank, 1,500 gallon to 2,500 gallon capacity, which provides FOG control for a FSE. Grease interceptors will be located outside the FSE, unless a variance request has been granted.
8. **Grease Trap**: Grease Control Equipment identified as an “under the sink” trap, a small container with baffles, or a floor trap. For a FSE to be approved to install a grease trap, the minimum size requirement is the equivalent of a 20-gallon per minute/40 pound capacity. Smaller units may be used only when approved by FPU. All grease traps will have flow control restrictor and venting.
9. **Grease Recycle Container**: Container used for the storage of yellow grease.
10. **NAICS**: North American Industry Classification System. NAICS provides comparable industry and service industry classifications. FSE’s shall be classified by NAICS codes for the purpose of requiring comparable FOG control. The website is found at: (<http://www.census.gov/eos/www/naics/>)
11. **Series (Grease Interceptors Installed in Series)**: Grease interceptor tanks are installed one after another in a row and are connected by plumbing pipe.
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 from 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

15. Best Management Practices (BMP'S): Schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the introduction of FOG to the sewer system.
16. Change in Operations: Any change in the ownership, menu items, hours of operation, an increase in production or sales volume or operational procedures that have a potential to increase the amount of FOG generated and/or discharged by Food Service Establishments in an amount that alone or collectively cause or creates a potential for Sanitary Sewer Overflows.
17. Remodeling: A physical change which may cause generation of an amount of FOG that exceeds the current amount of FOG discharge to the sewer system by the FSE in an amount that may cause or create a potential for a Sanitary Sewer Overflow (SSO) to occur. A change in operations may include but not be limited to a change in hours of operation, increased sales or change in menu. A physical change includes any one of the following:
 - a. A change to any part of the building or premises requiring a building permit
 - b. Under slab plumbing in the food processing area
 - c. An increase in the net public seating area
 - d. An increase in the size of the kitchen area
 - e. A change in the size or type of food preparation equipment

GENERAL REQUIREMENTS

1. All FSEs will be required to maintain records of cleaning and maintenance of GCE. GCE maintenance records should include the date of cleaning/maintenance, company or person conducting the cleaning/maintenance, volume (in gallons) of grease wastewater removed and final disposal location. A grease waste hauler completed manifest, that includes all the minimum information mentioned above, will meet this requirement.
2. GCE maintenance records will be available at the FSE premises so they can be provided to FPU or its representative, and/or the Health Department. The FSE shall maintain GCE maintenance records for three (3) years.
3. No FSE will discharge oil and/or grease in concentrations that exceed the Fayetteville Sewer Use Ordinance limit for oil and grease (100 mg/L).
4. Owners of Commercial Property will be held responsible for wastewater discharges from leaseholder on their property.
5. FSEs shall observe Best Management Practices (BMPs) for controlling the discharge of FOG from their facility. Best Management Practices include but are not limited to:

- a. Recycle waste cooking oil; dispose in grease recycle bin or container. Do NOT pour any grease into sinks, floor drains or mop sinks.
 - b. Post “NO GREASE” signs above all kitchen sinks to remind employees.
 - c. “Dry Wipe” and scrape into a trash container as much food particles and grease residue from pots, pans, and plates as possible.
 - d. Use strainers in sink drains and floor drains to prevent large food particles and containers from going into the sewer line.
 - e. 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 into a trash container. Do not wash oil or grease into drains.
 - f. Dispose of food items in the trash. Food grinder use is discouraged due to buildup of solids in the GCE which causes decreased efficiency and need to increase pumping frequency of the GCE.
 - g. Educate and train all employees on grease control and preventing sewer pipe clogs and sewer overflows.
6. FSEs shall dispose of yellow grease in an approved container, or recycle container, and the contents shall not be discharged to any sanitary sewer line, storm water grate, drain or conveyance. Yellow grease, or oils or grease, poured or discharged into the FSE sewer lines or FPU’s sewer system is a violation of the Fayetteville Sewer Use Ordinance.
 7. It shall be a violation of the Fayetteville Sewer Use Ordinance to push or flush the non-water portion of GCE into the public sewer.

GREASE CONTROL EQUIPMENT INSTALLATION REQUIREMENTS

All new food service establishments, remodeling of an existing establishment or change of ownership of existing establishment will be required to install and maintain a grease interceptor. A FOG plan must be submitted by all FSEs to FPU for approval. The FOG plan should include identification of all cooking and food preparation equipment, the number and size of dishwashers, sinks, floor drains, and other plumbing fixtures, type of food to be served, grease interceptor dimensions and location plans. FPU will review the FOG plan and grease interceptor sizing for approval or require changes as necessary to aid in the protection of a FOG discharge. All new FSEs and existing FSEs that have upgraded their facilities must contact FPU for final approval of the grease control equipment; this will include an onsite inspection. Failure of the FSE to contact FPU to conduct the inspection will result in escalation of enforcement action.

New construction of FSEs shall have separate sanitary (restroom) and kitchen process lines. The kitchen process lines shall be plumbed to appropriately sized GCE. No sanitary wastewater or storm water shall be plumbed to the GCE.

All of the FSE's internal plumbing shall be constructed to separate sanitary flow from kitchen process flow. Sanitary flow and kitchen process discharges shall be approved separately by FPU and shall discharge from the building separately. The kitchen process line(s) shall be plumbed to an appropriately sized GCE. Kitchen process lines and sanitary lines may combine prior to entering the public sewer; however the lines cannot be combined until after the GCE.

1. **New Multi-Unit Facilities:** New strip malls must have two separate sewer line connections at each unit. One sewer line will be for sanitary wastewater and one sewer line will be for the kitchen area, or potential kitchen area, of each unit. The kitchen sewer line will be connected to floor drains in the specified kitchen area and will connect, or be able to connect, to other food service establishment kitchen fixtures. New multi-unit facility owners shall contact FPU prior to conducting private plumbing work at the multi-unit facility site. Multi-unit facility owners, or their designated contractor, shall have plans for separate private wastewater lines for kitchen and sanitary wastewater for each unit. In addition, the plans shall identify "stub-out" locations to accommodate a minimum 1,500 gallon grease interceptor for each unit of the multi-unit facility. New multi-unit facility owners shall consider suitable physical property space and sewer gradient that will be conducive to the installation of an exterior, in-ground GI when determining the building location. FSEs located in a new multi-unit facility shall have a minimum of a 1,500 gallon grease interceptor installed unless plans are approved by FPU. Sanitary wastewater, or black water, shall not be connected to the GCE.
2. **Multi-Dwelling Units/Apartments:** Any multi-dwelling unit or apartment building that discharges FOG which contributes to a sanitary sewer overflow or sewer line obstruction shall be subject to enforcement action. The enforcement response plan for multi-dwelling units that cause grease related overflows or obstructions is contained in the Fayetteville Public Utilities' FSE Enforcement Response Guide.
3. **Variance to Grease Interceptor Installation:** At the discretion of FPU, some FSEs may receive a variance if FSE can demonstrate that it is impossible or impracticable to install, operate or maintain a grease interceptor. The applicant shall bear the burden of demonstrating that the alternative method of disposal is at least equally effective. A variance may be revoked at any time when any of the terms and conditions for its issuance is not satisfied or if the conditions upon which it was based change.
4. **Grease Control Equipment Sizing:** To calculate the appropriate size GCE, the FSE's engineer, architect or contractor should use a formula that considers fixture units, storage capacity, and type of facility and a retention time of at least 30 minutes. FPU will review GCE sizing information received from the FOG plan or the FSE's engineer, architect or contractor. FPU will 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. Grease interceptor capacity should not exceed 2,500 gallons for each interceptor tank. In the event that the grease interceptor calculated capacity needs to exceed 2,500 gallons, the FSE shall install an additional interceptor of the appropriate size. If additional interceptors are required, they shall be installed in series. Grease interceptors that are installed in series shall be installed in such a manner to ensure positive flow between the tanks at all times. Therefore, tanks shall be installed so that the inlet invert of each successive tank shall be a minimum of 2 inches below the outlet invert of the preceding tank.

5. Grease Interceptor Design and Installation

a. Piping Design

- I. The inlet and outlet piping shall have 2-way cleanout tees installed
- II. The inlet piping shall enter the receiving chamber 2 1/2" above the invert of the outlet piping.
- III. 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. The inlet T should be made of Schedule 40 PVC or equivalent material. *See illustration page 9.*
- IV. The outlet piping shall be no smaller than the inlet piping, but in no case smaller than 4" ID.
- V. The outlet piping shall extend to 12" above the floor of the interceptor and shall be made of a non-collapsing material. Minimum requirement for outlet piping is Schedule 40 PVC.
- VI. 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. Minimum requirement for the outlet tee is Schedule 40 PVC. *See illustration page 9.*

b. Baffles

- I. The grease interceptor shall have a nonflexible (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 page 9.*
- II. The inlet compartment shall be 2/3 of the total liquid capacity with the outlet compartment at 1/3 liquid capacity of the interceptor.

c. Access Openings (Manholes)

- I. Access to grease interceptors shall be provided by a minimum of 1 manhole

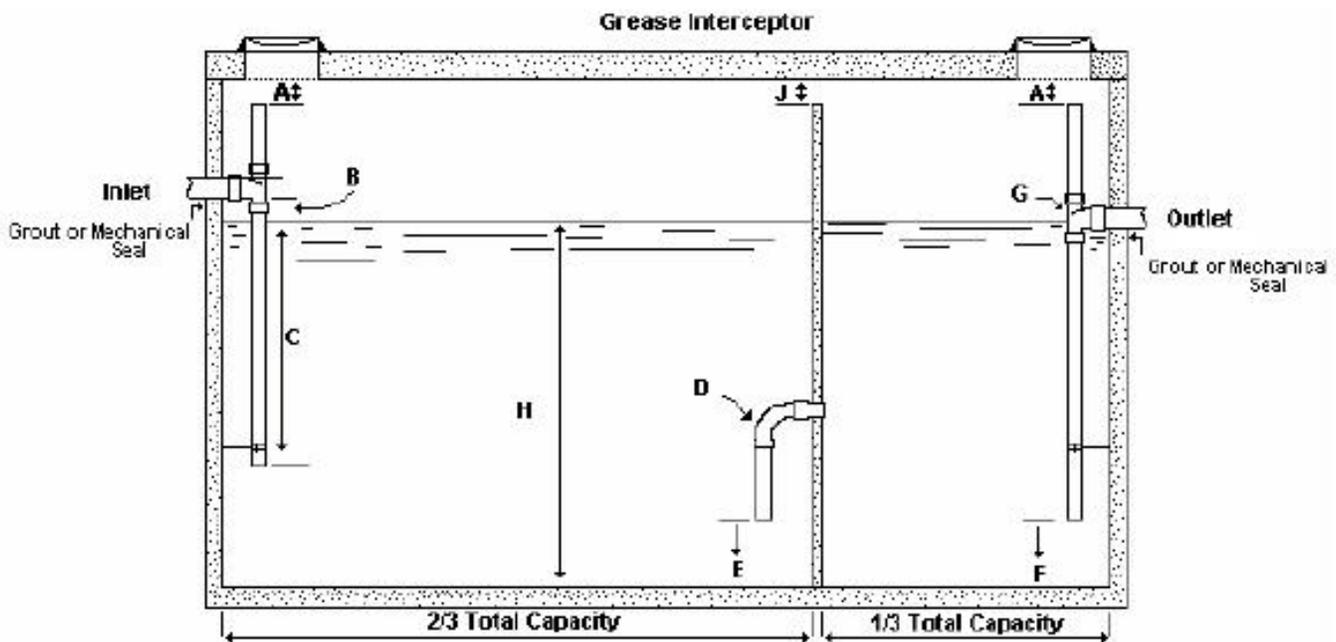
per interceptor division (baffle chamber) and a 24” minimum dimension terminating 1” above finished grade with cast iron frame and cover. An 8” thick concrete pad extending a minimum of 12” beyond the outside dimension of the manhole frame shall be provided. One manhole shall be located above the inlet 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.

II. 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 reuses.

III. The manholes are to be accessible for inspection by FPU.

- d. **Water Tight:** Precast concrete grease interceptors shall be constructed to be water tight. 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) 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 FOG Program Coordinator prior to final approval of grease control equipment.
- e. **Location:** Grease Interceptors 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 waste stream. If possible, Grease Interceptors should not be installed in “drive-thru” lanes or a parking area. Grease Interceptor access manholes shall never be paved over.
- f. **Cleaning:** Grease interceptors shall be cleaned at a frequency of not less than once every 180 days unless approved by FPU. Approval will be granted on a case by case basis with submittal by the FSE documenting proof of proposed frequency. Grease interceptors must be pumped in full when the total accumulations of surface FOG, including floating solids, and settled solids reach 25% of the grease interceptor’s overall liquid depth. Some FSEs may have to pump their grease interceptors on a 30 day or 60 day schedule to meet the 25% requirement.
- g. **Responsibility:** Removal of the grease from the wastewater routed to a public or private sanitary system, is the responsibility of the user/owner.
- h. **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 such as vehicular traffic in parking or driving areas.
- i. **Marking and Identification:** Prefabricated gravity grease interceptors shall be permanently and legibly marked with the following:
 - I. Manufacturer's name or trademark, or both

- II. Model number
- III. Capacity
- IV. Month and year of manufacture
- V. Load limits and maximum recommended depth of earth cover in feet
- VI. Inlet and outlet



- A.) Minimum 6", but not less than pipe diameter
- B.) Inlet pipe invert to be 2-1/2" above liquid surface
- C.) Inlet pipe to terminate 2/3 depth of water level
- D.) 90 degree sweep, minimum size 6"
- E.) 12" from floor to end of sweep
- F.) 12" from floor to end of outlet pipe
- G.) Outlet pipe no smaller than inlet pipe, minimum -4"
- H.) Minimum depth of liquid capacity -42"
- J.) Maximum distance from ceiling -6"

GREASE INTERCEPTOR CLEANING/MAINTENANCE REQUIREMENTS

1. Grease Interceptor minimum size will be 1,500 gallon capacity, 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, and pursuant to Fayetteville Sewer Use Ordinance and the Code of Federal Regulations (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 completely 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.. At no time, shall the cleaning frequency exceed 180 days unless approved by FPU. Approval will be granted on a case by case basis with submittal by the FSE documenting proof of proposed frequency.
4. The 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 SIZING, INSTALLATION, CLEANING & MAINTENANCE REQUIREMENTS

1. *All* grease traps will have a flow control restrictor and be vented. Failure to have the flow restrictor and venting will be considered a violation.
2. All new FSEs that are allowed to install grease traps must have FPU approval prior to starting operations.
3. Grease Trap minimum size requirement is a **20 gallon per minute / 40 pound capacity trap**.
4. Grease Traps must have the Plumbing Drainage Institute certification, and be installed as per manufacturer’s specifications.
5. No automatic dishwasher shall be connected to an under-the-sink grease trap or floor grease trap. Dishwashers will cause hydraulic overload of the grease trap.
6. No automatic drip or feed system additives are allowed prior to entering the grease trap.

7. A single grease trap device shall be installed for each significant kitchen fixture unit (i.e. each 3 compartment sink). FPU must approve the number of grease traps and connections to the grease trap.
8. During cleaning of the grease trap, the flow restrictor shall be checked to ensure it is attached and operational.
9. Grease Traps will be cleaned of complete fats, oils, grease and food solids at a minimum of every two (2) weeks. If the FOG and food solid content of the grease trap is greater than 25%, then the grease trap must be cleaned every week, or as frequently as needed to prevent 25% of capacity being taken from FOG and food solids.
10. Grease Trap waste should be sealed or placed in a container to prevent leakage, and then disposed, or hauled offsite by a grease waste hauler or plumber to an approved disposal location.
11. Grease Trap waste should not be mixed with yellow grease in the grease recycle container.

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

“Additives” Prohibition for use as Grease Management and Control:

1. Additives include but are not limited to products that contain solvents, emulsifiers, surfactants, caustics, acids, enzymes and bacteria.
2. This FOG management policy prohibits the use of enzymes, hot water, emulsifiers or other additives to cause oil or grease to pass through the user's grease trap or grease interceptor designed to remove oil and grease. If FPU identifies FOG in the downstream sewer system from a FSE that is using an additive, then FPU may require the FSE to discontinue use of the additive.
3. Additive use will not be a substitute for regular, required cleaning or pumping of grease control equipment.

Right of Entry – Inspection and Monitoring: FPU, or their authorized representative, shall have the right to enter the premises of FSEs to determine whether the FSE is complying with the requirements of this policy and/or the Fayetteville Sewer Use Ordinance. FSEs shall allow FPU upon presentation of proper credentials, full access to all parts of the premises for the purpose of inspection, monitoring, and/or records examination. Unreasonable delays in allowing FPU personnel access to the FSE premises shall be a violation of this policy and the Fayetteville Sewer Use Ordinance.

Fayetteville Public Utilities may require that the FSE install monitoring or additional pretreatment equipment deemed necessary for compliance with this policy and/or the Fayetteville Sewer Use Ordinance.

Fee Option: FPU may charge inspection, monitoring, assessment, impact, and permit fees to the FSE to get reimbursement for the FOG program costs.

FOG Treatment, Disposal and Resource Recovery Plan: FPU, at the discretion of the CEO, may implement a FOG Treatment, Disposal and Resource Recovery Plan. The plan will include a Request for Proposal (RFP) for the treatment and disposal of FOG waste generated from the Fayetteville Public Utilities' area. The RFP will include that the successful respondent provide some form of beneficial reuse of the FOG waste that is treated. Also, the RFP may include a cost estimate for maintenance and certification of the grease control equipment of all Fayetteville Public Utilities' area grease interceptors and grease traps. The results of the RFP may provide a single source for GCE pumping, GCE certification, FOG treatment, FOG disposal, and reporting to FPU. FPU will implement quality control practices to ensure that the successful RFP respondent meets all requirements. In addition, the total cost of the GCE pumping, and FOG treatment and disposal should be the same price or at a lower price than the average market cost of GCE maintenance.

Enforcement Action: Enforcement Action against the FSE may be a result of, but is not limited to, failure to clean or pump grease control equipment, failure to maintain grease control equipment, failure to install grease control equipment, failure to control FOG discharge from the FSE, and use of additives.

1. FOG related blockages and interference with the operations of the sewer pump stations, or the sewer plant, will be investigated. Should the FSE source of the FOG be identified, that food service establishment shall reimburse FPU for all labor, equipment, supplies and disposal costs incurred to clean the interference or blockage. The charges will be added to the FSEs water/wastewater bill. Failure to reimburse FPU may result in termination of water service.
2. If a FSE fails to pump, clean or maintain their GCE after a Notice of Violation (NOV) due date, FPU will resort to an escalation of enforcement. A failure of the GCE will be considered a violation of the Fayetteville Sewer Use Ordinance which pertains to the construction and maintenance of pretreatment facilities and subject to penalties of up to \$1,000 / day for each day in violation.
3. Penalties may be issued as per the Fayetteville Sewer Use Ordinance or the Fayetteville Public Utilities' Food Service Establishment Enforcement Response Guide.