

Fats, Oil and Grease **Best Management Practices Manual**



Information, Pollution Prevention, and Compliance
Information For Food Service Facilities



Pinellas County Utilities
Water Quality Management Division
Grease Management Program

Introduction

This manual is written to provide municipal pretreatment staff, along with food service facility business managers and owners, with information about animal and vegetable-based oil and grease pollution prevention techniques focused on their businesses, effective in both reducing maintenance costs for business owners, and preventing oil and grease discharges to the sewer system.

Many of the nation's food service facilities participate in Fats, Oils, and Grease (FOG) recycling programs. Ensuring that grease traps and grease interceptors are properly installed and most importantly, properly maintained is more difficult. This manual focuses on proper maintenance of grease traps and interceptors.



Is grease a problem?



Large amounts of oil and grease in the wastewater system cause problems in the collection system pipes. Grease is a major contributor to sewer system overflows (SSOs). Every year SSOs discharge millions of gallons of waste water to the environment and surrounding bodies of water. Fats, oils and grease decreases pipe capacity and, therefore, requires that piping systems be cleaned more often and/or some piping to be replaced sooner than otherwise expected. Grease leads to stoppages and backups into residential and commercial properties. Oil and grease also hamper effective treatment at the wastewater treatment plant.

Grease in a warm liquid may not appear harmful.

But, as the liquid cools, the grease or fat congeals on the surface of settling tanks, digesters, and the interior of pipes and other surfaces which may cause a shutdown of wastewater treatment units.

Problems caused by wastes from restaurants and other grease-producing establishments have served as the basis for ordinances and regulations governing the discharge of grease materials to the sanitary sewer system. This type of waste has forced the requirement of the installation of preliminary treatment facilities, commonly known as grease traps or interceptors.

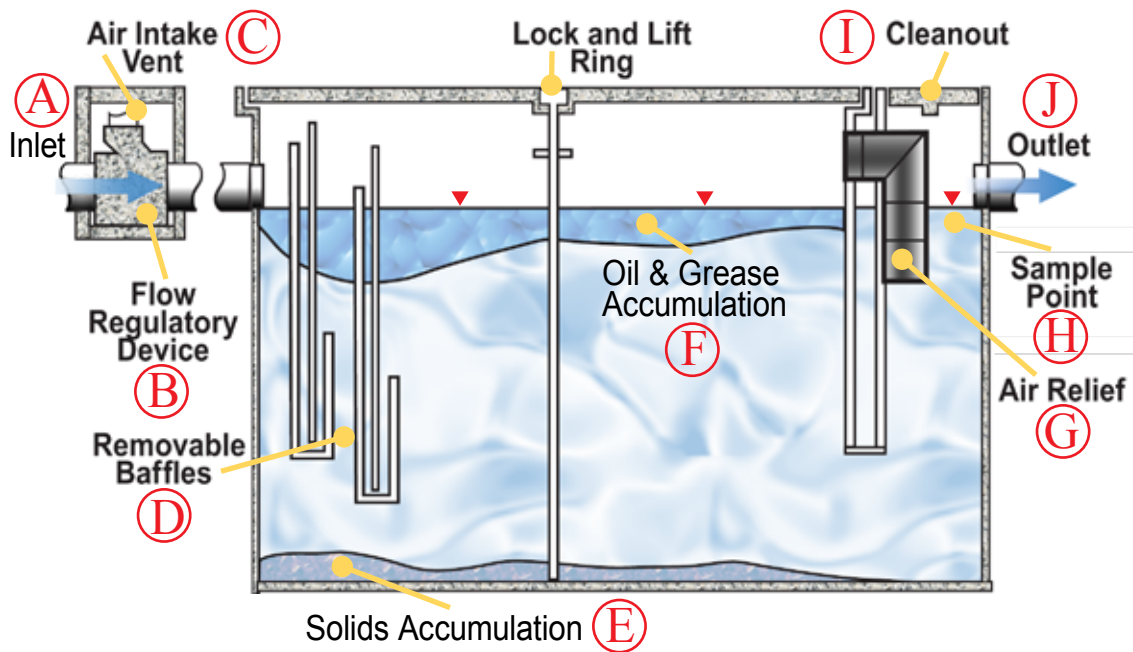


What is a grease trap?



A trap is a small reservoir built into the wastewater piping a short distance from the grease producing area. Baffles in the reservoir retain the wastewater long enough for the grease to congeal and rise to the surface. The grease can then be removed and disposed of properly.





Grease Trap

- A** Flow from kitchen fixtures enters the grease trap.
- B** An approved flow control or restricting device is installed to restrict the flow to the grease trap to the rated capacity of the trap.
- C** An air intake valve allows air into the open space of the grease trap to prevent siphonage and back-pressure.
- D** The baffles help to retain grease toward the upstream end of the grease trap since grease floats and will generally not go under the baffle. This helps to prevent grease from leaving the grease trap and moving further downstream where it can cause blockage problems.
- E** Solids in the wastewater that do not float will be deposited on the bottom of the grease trap and will need to be removed during routine grease trap cleaning.
- F** Oil and grease floats on the water surface and accumulates behind the baffles. The oil and grease will be removed during routine grease trap cleaning.
- G** Air relief is provided to maintain proper air circulation within the grease trap.
- H** Some grease traps have a sample point at the outlet end of the trap to sample the quality of the grease trap effluent.
- I** A cleanout is provided at the outlet or just downstream of the outlet to provide access into the pipe to remove any blockages.
- J** The water exits the grease trap through the outlet pipe and continues on to the grease interceptor or to the sanitary sewer system.



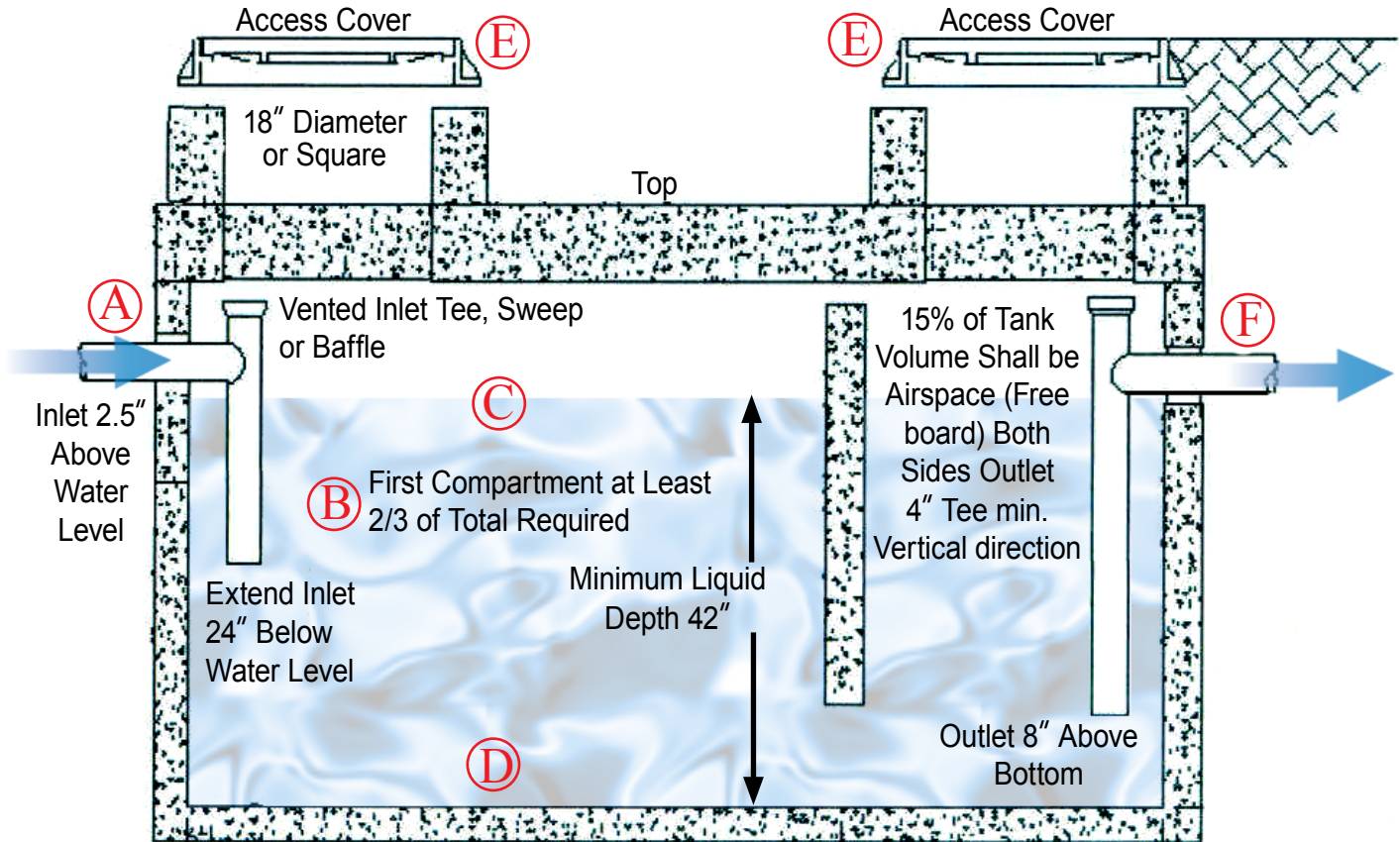
Don't Pour Fats, Oils, or Grease Down the Drain

What is a grease interceptor?

An interceptor is a vault with a minimum capacity of 750 gallons and a maximum capacity of 1250 gallons that is located on the exterior of the building. The capacity of the interceptor provides adequate residence time so that the wastewater has time to cool, allowing any grease time to congeal and rise to the surface where it accumulates until the interceptor is cleaned.

750 Gallons minimum/1250 gallons maximum volume located outside.

Two-way cleanout tee at inlet and outlet required.



Grease Interceptor

- A** Flow directly from plumbing fixtures enters the grease interceptor.
- B** The inlet pipe extends 24 inches below the water level and allows air into the open space of the grease interceptor to prevent siphonage and back-pressure.
- C** Oil and grease floats on the water surface and accumulates behind baffle wall separating the compartments. The oil and grease will be removed during routine grease interceptor cleaning.
- D** Solids in the wastewater that do not float will be deposited on the bottom of the grease interceptor and will need to be removed during routine grease interceptor cleaning.
- E** Access covers are required to be gas tight load bearing manholes over the inlet and outlet sides of the interceptor.
- F** Flow exits the interceptor through the outlet pipe which extends to within 8 inches from the bottom of the interceptor floor and continues on to the sanitary sewer system.



Best Management Practices

Prevent Blockages in the Wastewater Collection System

1. Train kitchen staff and other employees about how they can help ensure Best Management Practices (BMPs) are implemented. People are more willing to support an effort if they understand the basis for it.
2. Post “No Grease” signs above sinks and on the front of dishwashers. Signs serve as a constant reminder for staff working in kitchens.
3. “Dry wipe” pots, pans, and dishware prior to dishwashing. This will reduce the amount of material going to grease traps and interceptors, which will require less frequent cleaning, reducing maintenance costs.
4. Disposing of food wastes into the trash will reduce the frequency and cost of grease trap and interceptor cleaning. The use of garbage disposals or food grinders can cause the increase in grease trap and interceptor cleaning.
5. Use water temperatures less than 140° F in all sinks, especially the pre-rinse sink before the mechanical dishwasher. Temperatures in excess of 140° F will dissolve grease, but the grease can re-congeal or solidify in the sanitary sewer collection system as water cools. The food service establishment will reduce its costs for the energy, gas or electric for heating the water.
6. Do not discharge caustics, acids, solvents, or other emulsifying agents. Caustics, acids, and solvents can have other harmful effects on the wastewater treatment system and can be a hazard to employees working in the wastewater collection system.
7. Do not utilize biological agents for grease remediation without permission from the sanitary agency receiving the waste.



Properly Maintain Grease Traps and Interceptors to Prevent Introduction of Grease into the Wastewater Collection System

1. Clean under sink grease traps weekly. If grease traps are more than 50% full when cleaned weekly, the cleaning frequency needs to be increased. If the grease trap is not providing adequate protection, the local sewer agency may require installation of a grease interceptor.
2. Clean grease interceptors routinely. Grease interceptors must be cleaned routinely to ensure that grease accumulation does not cause the interceptor to operate poorly. Grease interceptors cleaning and maintenance shall include pumping the interceptor until empty every 30 days; however a facility may apply for an alternate pumping frequency by applying for a variance. A variance will range in frequency from 60 days to 180 days. Grease interceptors must be cleaned at least twice each year.
3. Witness all grease trap or interceptor cleaning/maintenance activities to ensure the device is properly operating. This practice will ensure the food service facility is getting value for the cost of cleaning the grease trap or interceptor and not paying for unnecessary cleanings.
4. Keep a maintenance log. The maintenance log serves as a record of the frequency and volume of cleaning the interceptor. It is required by the grease management program to ensure that grease trap/interceptor maintenance is performed on a regular basis.



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Maintenance Log:

- a. Date of Grease Interceptor Cleaning
- b. Method of Disposal
- c. Managers Signature

Prevent Grease from Entering Surface Waters through the Storm Drain System



1. Cover outdoor oil and grease storage containers. Since oil and grease float, the rainwater can cause an overflow onto the ground. Such an overflow can adversely impact local water bodies.
2. Locate grease dumpsters and storage containers away from storm drain catch basins.
3. Use absorbent pads or other material to clean up spilled material around outdoor equipment, containers or dumpsters. Do not use free flowing absorbent materials such as “kitty litter” or sawdust that can be discharged to the storm-drain system.

Grease Trap Maintenance

Grease trap maintenance is usually performed by the maintenance staff, or other employees of a food service facility. Food services facilities are not required to contract with a grease hauler to maintain grease traps; however, grease trap(s) must be cleaned weekly.

1. Bail out any water in the trap or interceptor to facilitate cleaning. The water should be discharged to the sanitary sewer system.
2. Remove baffles if possible.
3. Dip the accumulated grease and solids out of the interceptor and deposit in a watertight container.
4. Scrape the sides, the lid, and the baffles with a putty knife to remove as much of the grease as possible, and deposit the grease into a watertight container.
5. Contact a hauler or recycler for grease pick-up or discard waste into the trash.
6. Replace the baffle and the lid.
7. Record the cleaning in the maintenance log.
 - a. Date of Grease Trap Cleaning
 - b. Grease Hauler/ Method of Disposal
 - c. Managers Signature



Best Management Practices Manual

Frequently Asked Questions

Can you recommend a maintenance schedule?

All grease interceptors should be cleaned every month, however a food service facility may apply for a variance or alternate cleaning schedule. Grease interceptors must be cleaned at least twice each year. Some establishments will find it necessary to clean their interceptors more often than once per month. If the establishment has to clean it too often, the owner should consider installing a second interceptor in series.

Grease traps are required to be cleaned on a weekly basis. Some establishments may have to clean the grease traps more frequently; however, the food service facility is not required to have a contractor or grease hauler clean the grease trap.

Do I have a grease trap or a grease interceptor?

If the establishment is uncertain whether it has a grease trap or grease interceptor, the owner or manager should contact the grease management program for assistance.

Do I need a grease removal device?

Any food service facility that introduces oil or grease into the sewage system is required to install a grease trap or interceptor. Interceptors are usually required for high volume restaurants and large commercial establishments. Grease traps are required for small volume establishments. Medium volume establishments may be required to install an interceptor depending upon the size of the establishment.

Is the grease trap I have adequate?

The Florida Plumbing Code requires that the maximum capacity for a grease trap is no greater than 50 gallons per minute (gpm). The size of the trap depends upon the number of fixtures connected to it and the volume of those fixtures. If the volume of the fixtures is greater than 50 gallons the food service facility is required to install a minimum of a 750 gallon grease interceptor or a maximum of 1250 gallon grease interceptor. If the facility needs an interceptor greater than 1250 gallons, a second or third interceptor may be required to be installed in series. The size will also depend largely upon the maintenance schedule. If a grease trap or interceptor is not maintained regularly it will not provide the necessary grease removal. The food service facility should work out a specific cleaning schedule that is right for the establishment.

What if I don't install a grease trap?

If the establishment uses oil and grease in food preparation, it will eventually encounter a maintenance problem with a plugged building sewer line. The blockage can create a sewer backup situation and ultimately a potential health problem in the food service facility. If the problem is in the building sewer line, then the establishment has direct responsibility for paying for the maintenance. If the blockage or restriction is in the public sewer main and it can be proven that the establishment is the cause of the blockage, then the establishment may have to pay for the public sewer to be maintained. Blocking a sanitary sewer line is also a violation of the federal Clean Water Act.



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Who determines if I need a grease trap or interceptor?

The grease management program will determine if a food service facility is required to have a grease trap or interceptor. An approved grease trap or interceptor shall be installed according to the Florida Plumbing Code. The grease management program prohibits the discharge of fats, oils and grease that can solidify and create blockages in the wastewater collection system or treatment plants.

How can I get in compliance?

The food service facility should contact the grease management program. The establishment will be asked to submit an application and a pre-permit inspection will be set up with the facility. This will enable the grease management program to assist the establishment in developing a cleaning schedule, suggestions of how to upgrade the grease removal device and advise them if there is problem showing up in the wastewater collection system. A grease management permit is required regardless of whether the establishment has an existing grease trap/interceptor or is installing a new one.

If you have any questions regarding the information in this document please contact:

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