

## Lamont Public Utility District

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## Fats, Oils and Grease Educational Outreach Material

### PREVENTING SEWER BACKUPS AT YOUR BUSINESS

Grease blockages and root intrusion from trees and other vegetation are the most common reasons for sewer backups. When Fats, Oils, and Grease (FOG) are disposed of down the drain, over time they build up inside the pipe that connects your building to the public sewer, eventually plugging it completely. When trees and other root-invasive shrubs are planted on top of or near sewer lines, roots can grow and enter sewer pipes through joints or maintenance structures. Eventually the roots can create an impenetrable obstruction, stopping flow.

If your business discharges fats, oils, and grease, you are required by the Lamont Public Utility District (District) to pre-treat your sewer discharges containing these materials. Operating a good grease abatement program makes good business sense. A grease blockage can shut a business down for several days and cost thousands of dollars in lost profits and cleanup expenses. A little preventative maintenance will ensure that you comply with District requirements and potentially avoid this costly problem.

- ☞ Keep your "grey" and "black" water drains separate. Grey water lines are drain lines for disposal of grease-laden kitchen waste. Black water lines are drain lines for restrooms.
- ☞ Always scrape all plates, pots and pans into the garbage, and drain grease into a recycling container for pickup by a grease rendering company.
- ☞ The District requires that all commercial food preparation businesses and restaurants install and maintain a grease pre-treatment system. Pre-treatment systems can include interior grease traps, exterior grease interceptors or bio-treatment, or a combination of these systems.

# FATS, OILS & GREASE BEST MANAGEMENT PRACTICES MANUAL

## CONTENTS

- ⑩ [Frequently Asked Questions About Grease \(FAQ's\)](#)
- ⑩ [Best Management Practices \(BMP's\)](#)
- ⑩ [Haulers and Recyclers](#)
- ⑩ [Prohibitions](#)
- ⑩ [Maintenance](#)
- ⑩ [How the System Works](#)
- ⑩ [Installation Checklist and Maintenance Log](#)

Fats, oils and grease, also called FOG, can have negative impacts on wastewater collection and treatment systems. A large percentage of wastewater collection system blockages can be traced to FOG. Blockages in the wastewater collection system are serious, causing sewage spills, manhole overflows, or sewage backups in homes and businesses.

Two types of FOG pollutants are common to wastewater systems. Petroleum-based oil and grease (non-polar concentrations) occur at businesses using oil and grease, and are identified and regulated by municipalities through local limits and associated pretreatment permit conditions. Animal and vegetable-based oil and grease (polar concentrations) are more difficult to regulate due to the large number of restaurants and fast-food outlets in every community.

This manual provides restaurant and fast food 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 fast-food restaurant chains participate in FOG recycling programs. Ensuring that grease trap 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 and includes answers to many of the commonly asked questions related to grease pretreatment.

Knowledgeable District staff, working with business owners, can effectively prevent oil and grease buildup, and associated problems, for both the District and the restaurant owner.

## **FATS, OILS & GREASE - FAQ'S**

### **Is grease a problem?**

In the sewage collection and treatment business, the answer is an emphatic YES! Grease is singled out for special attention because of its poor solubility in water and its tendency to separate from the liquid solution.

Large amounts of oil and grease in the wastewater cause trouble in the collection system pipes. It decreases pipe capacity and, therefore, requires that piping systems be cleaned more often and/or some piping to be replaced sooner than otherwise expected. 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 and causes nauseous mats on 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 the difference between a grease interceptor and a grease trap?**

According to the Uniform Plumbing Code, the difference between a grease interceptor and a grease trap is the wastewater flowrate. Grease interceptors have a flow rate of more than 50 gallons per minute while traps have a flow rate of less than 50 gpm. The two plumbing fixtures work identically, otherwise.

### **What is a grease trap and how does it work?**

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 properly. See *How the System Works* for a description of how the various components of a grease trap function and to see illustrations.

### **What is a grease interceptor?**

An interceptor is a vault located on the exterior of the building. The vault includes a minimum of two compartments, and flow between each compartment is designed for grease retention. The capacity of the interceptor provides adequate residence time so that the wastewater has time to cool, allowing any remaining grease not collected by the traps time to congeal and rise to the surface where it accumulates until the interceptor is cleaned. See *How the System Works* for a description of how the various components of a grease interceptor function.

### **How do I clean my grease trap?**

Refer to Grease Trap and Interceptor Maintenance (Page 17 of this manual)

### **Can you recommend a maintenance schedule?**

All grease interceptors should be cleaned at least twice each year. Some establishments will find it necessary to clean their traps a lot more often, depending on their grease load and discharge characteristics. If the establishment has to clean it too often, the owner should consider installing a larger trap or interceptor.

### **Do I have a grease trap?**

If the establishment is uncertain whether it has a grease trap, the owner should contact the District at 661-845-1213 for assistance.

### **Do I need a grease trap?**

Any establishment that introduces grease or oil into the drainage and sewage system is required to install a grease trap or interceptor. Interceptors are required for high volume restaurants (full menu establishments operating 16 hrs/day and/or serving 500+ meals per day) and large commercial establishments such as hotels, hospitals, factories, or school kitchens. Grease traps are required for small volume (fast food or take-out restaurants with limited menus, minimum dishwashing, and/or minimal seating capacity). 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 Uniform Plumbing Code requires a grease trap have a capacity between 20 gallons per minute (gpm) to 55 gpm. The size of the trap depends upon the number of fixtures connected to it. The following table provides criteria for sizing grease traps:

<b>Total number of fixtures connected</b>	<b>Required rate of flow, gpm</b>	<b>Grease retention capacity, lbs</b>
1	20	40
2	25	50
3	35	70
4	50	100

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 establishment should work out a specific cleaning schedule that is right for the establishment. All grease traps need to have the grease cleaned out periodically and no one likes to do the job. It is a dirty job.

Running extremely hot water down the drain only moves the problem downstream. It does not go away. Catch the grease at the source! This is the most economical means to reduce all costs.

**What if I don't install a grease trap?**

If your establishment uses grease and oil in food preparation and you discharge to the District sewer, you are not in conformance with District, State and local regulations. If your establishment uses grease and oil 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 establishment. Someone will have to pay for removing the blockage. 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.

**Who determines if I need a grease trap or interceptor?**

When waste pretreatment is required by the District, an approved grease trap or interceptor shall be installed according to the Uniform Plumbing Code. The District will assist in determining if a grease trap or interceptor is required. The District prohibits the discharge of materials that can solidify and create blockages in the wastewater collection system or at the wastewater treatment plant. The District performs periodic inspections to verify that no health problems exist due to improperly maintained grease interceptors. These rules will be enforced if a problem exists.

**How can I get in compliance?**

The business should contact the District at (661) 845-1213. If a grease trap or interceptor is needed, the establishment will be required to obtain a building permit from the County of Kern and install the required grease trap or interceptor.

**What are the criteria for inspecting grease traps?**

All food service establishments suspected of causing problems to the collection system or wastewater treatment facilities may be inspected by the District. The District uses the following criteria to inspect grease traps:

<b>Percent of Trap Filled</b>	<b>Trap Condition</b>
25	Good
25 – 50	Fair
>50	Poor

If the trap is in FAIR condition, the establishment is advised to keep an eye on the maintenance schedule. The cleaning frequency may need to be increased. If the trap is in POOR condition, the establishment will be issued a compliance order to have it cleaned immediately. The establishment will be required to contact the District within 30 days to verify that the grease trap has been properly cleaned.

## FATS, OILS & GREASE - BMP's

Best Management Practices (BMPs) Tables are listed below:

- Ⓞ Prevent blockages in the Sanitary Sewer System
- Ⓞ Properly Maintain Grease Traps and Interceptors to Prevent Introduction into the Sanitary Sewer System
- Ⓞ Prevent Fats, Oil, and Grease From Entering Creeks and Streams Through the Storm Drain System

<b>Prevent Blockages in the Sanitary Sewer System</b>			
<b>BMP</b>	<b>Reason For</b>	<b>Benefits to Food Service Establishment</b>	<b>Pretreatment Inspection Tips</b>
<b>Train kitchen staff and other employees about how they can help ensure BMPs are implemented.</b>	People are more willing to support an effort if they understand the basis for it.	All of the subsequent benefits of BMPs will have a better chance of being implemented.	Talk to the establishment manager about the training program that he/she has implemented.
<b>Post "No Grease" signs above sinks and on the front of dishwashers.</b>	Signs serve as a constant reminder for staff working in kitchens.	These reminders will help minimize grease discharge to the traps and interceptors and reduce the cost of cleaning and disposal.	Check appropriate locations of "No Grease" signs.
<b>Use water temperatures less than 140° F in all sinks, especially the pre-rinse sink before the mechanical dishwasher.</b>  <b>The mechanical dishwasher requires a minimum temperature of 160° F, but the Uniform Plumbing Code (UPC) prohibits discharging the dishwasher to grease traps.</b>	Temperatures in excess of 140° F will dissolve grease, but the grease can re-congeal or solidify in the sanitary sewer collection system as the water cools.	The food service establishment will reduce its costs for the energy, gas or electric for heating the water.	Check boiler or hot water heater discharge temperature.  Measure the temperature of the hot water being discharged from the closest sink.
<b>Use a three-sink dishwashing system, which includes sinks for washing, rinsing, and sanitizing in a 50-100 ppm bleach solution. Water temperatures are less than 140° F. (See above)</b>	The three-sink system uses water temperatures less than 140° F where a mechanical dishwasher requires a minimum temperature of 160° F. (See above)  Note: The Uniform Plumbing Code (UPC) prohibits the discharge of dishwasher water to grease traps.	The food service establishment will reduce its costs for the energy - gas or electric for heating the water for the mechanical dishwasher and for operating the dishwasher.	Measure temperature of the hot water at the three-sink system.

<b>Recycle waste cooking oil.</b>	There are many waste oil recyclers throughout King County. This is a cost recovery opportunity. See <i>Haulers and Recyclers</i> .	The food service establishment may be paid for the waste material and will reduce the amount of garbage it must pay to have hauled away.	Obtain name of recycler used.  Review recycling records.  Confirm records with recycler.
<b>"Dry wipe" pots, pans, and dishware prior to dishwashing.</b>	The grease and food that remains in pots, pans, and dishware will likely go to the landfill. By "dry wiping" and disposing in garbage receptacles, the material will not be sent to the grease traps and interceptors.	This will reduce the amount of material going to grease traps and interceptors, which will require less frequent cleaning, reducing maintenance costs.	Observe dishwashing practices.
<b>Dispose of food waste by recycling and/or solid waste removal.</b>	Some recyclers will take food waste for animal feed. In the absence of such recyclers, the food waste can be disposed as solid waste in landfills by solid waste haulers.	Recycling of food wastes will reduce the cost of solid waste disposal.  Solid waste disposal of food waste will reduce the frequency and cost of grease trap and interceptor cleaning.	Inspect grease traps and interceptors for food waste accumulation.  Confirm the recycler or solid waste removal company with the establishment manager.



## Properly Maintain Grease Traps and Interceptors to Prevent Introduction into the Sanitary Sewer System

BMP	Reason For	Benefits to Food Service Establishment	Pretreatment Inspection Tips
<p><b>Witness all grease trap or interceptor cleaning/maintenance activities to ensure the device is properly operating.</b></p>	<p>Grease trap/interceptor pumpers may take shortcuts. If the establishment manager inspects the cleaning operation and ensures it is consistent with the procedures in the section on <i>Grease Trap and Interceptor Maintenance</i> they are more assured of getting full value for their money.</p>	<p>The establishment will ensure it is getting value for the cost of cleaning the grease trap or interceptor. Otherwise the establishment may be paying for cleaning more often than necessary.</p>	<p>None.</p>
<p><b>Clean undersink grease traps weekly.</b></p> <p><b>If grease traps are more than 50% full when cleaned weekly, the cleaning frequency needs to be increased.</b></p>	<p>Undersink grease traps have less volume than grease interceptors.</p> <p>Weekly cleaning of undersink grease traps by the establishment's maintenance staff will reduce the cost of cleaning the grease interceptor.</p> <p>If the establishment does not have a grease interceptor, the undersink grease trap is the only means of preventing grease from entering the sanitary sewer system. If the grease trap is not providing adequate protection, the local sewer agency may require installation of a grease interceptor.</p>	<p>This will extend the length of the cleaning cycle for grease interceptors that the establishment maintains.</p>	<p>Visually inspect the contents of the undersink grease trap.</p> <p>Inspect cleaning records.</p>
<p><b>Clean grease interceptors routinely.</b></p>	<p>Grease interceptors must be cleaned routinely to ensure that grease accumulation does not cause the interceptor to operate poorly.</p> <p>The cleaning frequency is a function of the type of establishment, the size of the interceptor, and the volume of flow discharged by the establishment.</p>	<p>Routine cleaning will prevent plugging of the sewer line between the food service establishment and the sanitary sewer system. If the line plugs, the sewer line may back up into the establishment, and the business will need to hire someone to unplug it.</p>	<p>Interceptor should have no more than 1/3 the depth as grease, and,</p> <p>Interceptor should have no more than 1/4 the depth as sediment, and</p> <p>No more than 25% of the depth should be a combination of grease (top) and sediment (bottom).</p>

<b>Keep a <i>maintenance log</i></b>	The maintenance log serves as a record of the frequency and volume of cleaning the interceptor. It is required by the pretreatment program to ensure that grease trap/interceptor maintenance is performed on a regular basis.	The maintenance log serves as a record of cleaning frequency and can help the establishment manager optimize cleaning frequency to reduce cost.	Inspect maintenance log.  Provide the establishment with a sample maintenance log if it does not have one.  Confirm the maintenance log with the grease hauler identified.
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**Prevent Fats, Oil, and Grease From Entering Creeks and Streams Through the Storm Drain System**

<b>BMP</b>	<b>Reason For</b>	<b>Benefits to Food Service Establishment</b>	<b>Pretreatment Inspection Tips</b>
<p><b>Cover outdoor grease and oil storage containers.</b></p> <p><b>Some local jurisdictions will have BMPs in place for stormwater also.</b></p>	Uncovered grease and oil storage containers can collect rainwater. Since grease and oil float, the rainwater can cause an overflow onto the ground. Such an overflow will eventually reach the stormwater system and nearby streams.	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream.</p> <p>Discharging grease and oil into the storm drain is prohibited by LPUD and State regulations. Failure to prevent the discharge of grease and oil into the storm drainage system may result in legal penalties, fines, and/or structural connection to the sanitary sewer.</p>	<p>Observe storage area for signs of oil and grease.</p> <p>Inspect containers for covers.</p> <p>Remove covers to ensure containers have not overflowed and do not have excess water.</p>

<p><b>Locate grease dumpsters and storage containers away from storm drain catch basins.</b></p>	<p>The farther away from the catch basin, the more time someone has to clean up spills or drainage prior to entering the storm drain system.</p> <p>Be aware of oil and grease dripped on the ground while carrying waste to the dumpster, as well as oil and grease that may "ooze" from the dumpster.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream.</p> <p>Discharging grease and oil into the storm drain is prohibited by LPUD and State regulations. Failure to prevent the discharge of grease and oil into the storm drainage system may result in legal penalties, fines, and/or structural connection to the sanitary sewer.</p>	<p>Observe storage area for signs of oil and grease.</p> <p>Inspect the closest catch basin for signs of accumulated grease and oil.</p>
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<p><b>Install spill controls (AKA drop 90's or "elbows") in catch basins if grease dumpsters and containers must be located nearby.</b></p>	<p>Spill controls extend below the water surface and trap floatable materials like oil and grease, preventing them from traveling further downstream.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream.</p> <p>Discharging grease and oil into the storm drain is prohibited by LPUD and State regulations. Failure to prevent the discharge of grease and oil into the storm drainage system may result in legal penalties, fines, and/or structural connection to the sanitary sewer.</p>	<p>Check the nearest catch basin and drainage paths for signs of oil and grease. Require spill controls if the basin is within 20 feet of grease dumpsters or containers, or if there are signs of grease in the catch basin at any distance.</p>
<p><b>Use absorbent pads or other material in the storm drain catch basins if grease dumpsters and containers must be located nearby.</b></p> <p><b>Do not use free flowing absorbent materials such as "kitty litter" or sawdust.</b></p>	<p>Absorbent pads and other materials can serve as an effective barrier to grease and oil entering the storm drain system.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream.</p> <p>Discharging grease and oil into the storm drain is prohibited by LPUD and State regulations. Failure to prevent the discharge of grease and oil into the storm drainage system may result in legal penalties, fines, and/or structural connection to the sanitary sewer.</p>	<p>Check the nearest catch basin and drainage paths for signs of grease and oil.</p> <p>Require absorbent pads if the basin is within 20 feet of grease dumpsters or containers, or if there are signs of grease in the catch basin at any distance.</p> <p>Do not permit the use of free flowing absorbent material such as "kitty litter."</p>
<p><b>Use absorbent pads or other material to clean up spilled material around outdoor equipment, containers or dumpsters.</b></p> <p><b>Do not use free flowing absorbent materials such as "kitty litter" or sawdust that can be discharges to the storm drain system.</b></p>	<p>Absorbent pads or materials can help clean up grease and oil that is spilled on the ground and prevent it from flowing to the storm drain system.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream.</p> <p>Discharging grease and oil into the storm drain is prohibited by LPUD and State regulations. Failure to prevent the discharge of grease and oil into the storm drainage system may result in legal penalties, fines, and/or structural connection to the sanitary sewer.</p>	<p>If grease and oil are observed on the ground in the storage area, recommend the use of absorbents to minimize movement of the grease and oil.</p> <p>Do not permit the use of free flowing absorbent material such as "kitty litter."</p>

<p><b>Routinely clean kitchen exhaust system filters.</b></p>	<p>If grease and oil escape through the kitchen exhaust system, it can accumulate on the roof of the establishment and eventually enter the storm drain system when it rains.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream.</p> <p>Discharging grease and oil into the storm drain is prohibited by LPUD and State regulations. Failure to prevent the discharge of grease and oil into the storm drainage system may result in legal penalties, fines, and/or structural connection to the sanitary sewer.</p>
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## **FATS, OIL & GREASE - HAULERS AND RECYCLERS**

### **1. CHOOSING A GREASE HAULER**

When selecting a grease hauler, be aware that services and prices can vary. Minimum services should include:

- Complete pumping and cleaning of the interceptor and sample box, rather than just skimming the grease layer.
- Deodorizing and thorough cleaning of affected areas, as necessary.
- Disposal/reclamation at an approved location.
- Notes concerning the condition of the interceptor
- Complete pumping and cleaning record.

You and your hauler should agree on an adequate cleaning frequency to avoid blockage of the line.

2. **USE YOUR TRASH CAN** for food scraps rather than the pre-rinse sink. Spatulas work well for this. Solid waste can accommodate 20 percent liquid so even your gravies and other oily sauces can be sent to the dumpster. Handle solid waste wisely for health safety: secure trash bags, dump daily, and keep the dumpster lid secured.
3. **"NO GREASE"** signs will remind your staff not to pour used fry grease, hood-vent grease, or any other used fats and oils down the sink drain. Contrary to popular belief, adding hot water, detergent, or even commercial degreasers does not liquefy the grease long enough to escape your drains. Posting signs will remind employees to use the recycle barrel.
4. **CLEAN OUT YOUR GREASE TRAPS** on a regularly scheduled basis. Traps (inside) and interceptors (outside) are limited in the amount of grease they hold. The accumulated grease must be properly disposed of. Use a certified sewer service company to pump out and recycle your grease trap/interceptor waste:
5. **INSTALL PRE-TREATMENT** if you are unable to eliminate the discharge of grease to your drain. Retention of kitchen waste in the grease traps and interceptors allows the grease to separate from the wastewater before it enters the city sewer mainline.

## FATS, OILS & GREASE MANUAL - PROHIBITIONS

	<b>DO NOT...</b>	<b>Basis</b>
<b>A</b>	Do not discharge fats, oil, and grease in concentrations that will cause an obstruction to the flow in a sewer, or pass through or interference at a wastewater treatment facility.	Grease can solidify and trap other solid particles to completely plug the wastewater collection system.
<b>B</b>	Do not discharge grease, improperly shredded garbage, animal guts or tissues, paunch manure, bones, hide, hair, fleshings, or entrails.	These materials in combination or alone can cause blockages and other operations and maintenance problems in the wastewater collection and treatment system.
<b>C</b>	Do not discharge wastewater with temperatures in excess of 140 deg F to any grease traps. This includes water from mechanical dishwashers that have a minimum required temperature of 160 deg F.	<p>Temperatures in excess of 140° F will dissolve grease, but the grease can re-congeal and cause blockages further downstream in the sanitary sewer collection system as the water cools.</p> <p>Note: High temperature water, such as from a dishwasher, is discharged to the remotely located grease interceptor, if there is one. The remote location and the high volume of the interceptor allows the water time to cool so that there is not a problem with dissolving grease and moving it further downstream. The high volume also provides dilution of the detergents in the dishwasher waste.</p>
<b>D</b>	Do not discharge waste from a food waste disposal unit to any grease traps.	The food waste will greatly reduce the capacity of the grease trap for retaining grease and can cause worse problems with blockages.
<b>E</b>	Do not discharge caustics, acids, solvents, or other emulsifying agents.	<p>Though emulsifying agents can dissolve solidified grease, the grease can re-congeal further downstream in the sanitary sewer collection system.</p> <p>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.</p>
<b>F</b>	Do not discharge fats, wax, grease or oils containing substances that will become viscous between 32 deg F (0 deg C) and 150 deg F (65 deg C).	The temperatures shown are temperatures that can occur in the wastewater collection and treatment system. If these substances congeal, solidify, or become too viscous, they can cause blockages and other operations and maintenance problems.
<b>G</b>	Do not clean equipment outdoors in an area where water can flow to the gutter, storm drain, or street.	Grease and dirt will be washed off the equipment and enter the storm drain system and flow to nearby streams.

## FATS, OILS & GREASE - HOW A GREASE TRAP WORKS

Point of Use Grease Trap Operations are as follows (see diagram following table). Also, see Grease Interceptor Operations.

<b>A</b>	Flow from four or fewer kitchen fixtures enters the grease trap
<b>B</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
<b>C</b>	An air intake valve allows air into the open space of the grease trap to prevent siphonage and back-pressure
<b>D</b>	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
<b>E</b>	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
<b>F</b>	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
<b>G</b>	Air relief is provided to maintain proper air circulation within the grease trap
<b>H</b>	Some grease traps have a sample point at the outlet end of the trap to sample the quality of the grease trap effluent
<b>I</b>	A cleanout is provided at the outlet or just downstream of the outlet to provide access into the pipe to remove any blockages
<b>J</b>	The water exits the grease trap through the outlet pipe and continues on to the grease interceptor or to the sanitary sewer system

## FATS, OILS & GREASES - GREASE TRAP MAINTENANCE

Grease trap maintenance is usually performed by maintenance staff, or other employees of the business or establishment. [Grease interceptor \(GI\) maintenance](#), which is usually performed by permitted haulers or recyclers (See *Fats, Oils, Grease Haulers and Recyclers*, consists of removing the entire volume (liquids and solids) from the GI and properly disposing of the material in accordance with all Federal, State, and/or local laws. When performed properly and at the appropriate frequency, grease interceptor and trap maintenance can greatly reduce the discharge of fats, oil, and grease (FOG) into the wastewater collection system.

The required maintenance frequency for grease interceptors and traps depends greatly on the amount of FOG a facility generates as well as any best management practices (BMPs) that the establishment implements to reduce the FOG discharged into its sanitary sewer system. In many cases, an establishment that implements BMPs will realize financial benefit through a reduction in their required grease interceptor and trap maintenance frequency. Refer to [Best Management Practices](#) for examples of BMPs that FOG generating establishments should implement.

**WARNING! Do not use hot water, acids, caustics, solvents, or emulsifying agents when cleaning grease traps and interceptors.**

**Grease Trap Maintenance is outlined below with a table and diagram. See also Grease Interceptor Maintenance.**

### Proper maintenance procedure for a grease trap.

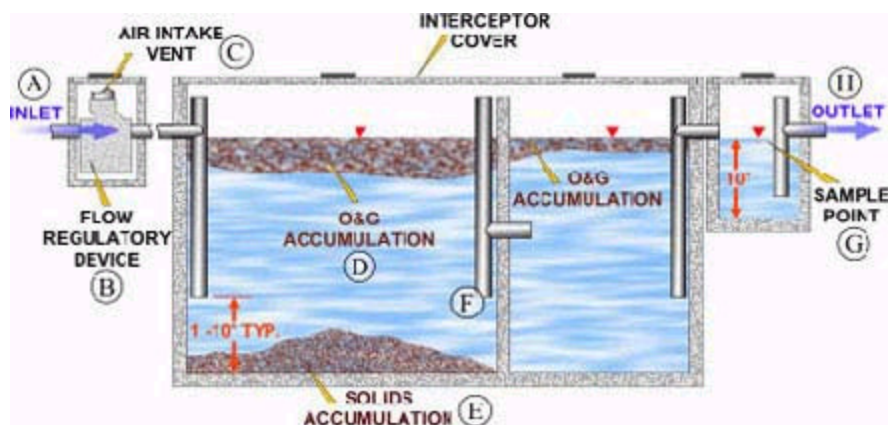
Step	Action
1.	Bail out any water in the trap or interceptor to facilitate cleaning. The water should be discharged to the sanitary sewer system.
2.	Remove baffles if possible.
3.	Dip the accumulated grease out of the interceptor and deposit in a watertight container.
4.	Scrape the sides, the lid, and 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.
6.	Replace the baffle and the lid.
7.	Record the volume of grease removed on the <a href="#">maintenance log</a> .



## FATS, OILS & GREASE MANUAL - HOW A GREASE INTERCEPTOR WORKS

### Exterior Grease Interceptor Operations (see also diagram following table).

<b>A</b>	Flow from undersink grease traps or directly from plumbing fixtures enters the grease interceptor. The UPC requires that all flow entering the interceptor must enter through the inlet pipe
<b>B</b>	An approved flow control or restricting device is installed to restrict the flow to the grease interceptor to the rated capacity of the interceptor
<b>C</b>	An air intake valve allows air into the open space of the grease interceptor to prevent siphonage and back-pressure
<b>D</b>	Oil and grease floats on the water surface and accumulates behind the grease retaining fittings and the wall separating the compartments. The oil and grease will be removed during routine grease interceptor cleaning
<b>E</b>	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
<b>F</b>	Grease retaining fittings extend down into the water to within 12 inches of the bottom of the interceptor. Because grease floats, it generally does not enter the fitting and is not carried into the next compartment. The fittings also extend above the water surface to provide air relief
<b>G</b>	Some interceptors have a sample box so that inspectors or employees of the establishment can periodically take effluent samples. Having a sample box is recommended by the UPC but not required
<b>H</b>	Flow exits the interceptor through the outlet pipe and continues on to the sanitary sewer system.



## FATS, OILS, AND GREASE - GREASE INTERCEPTOR MAINTENANCE

Grease interceptors, due to their size, will usually be cleaned by grease haulers or recyclers. Licensed septic haulers may also pump out grease interceptors and haul the waste to the treatment plant. A proper maintenance procedure for a grease interceptor is outlined below. NOTE: Since the establishment is liable for the condition of their pretreatment devices, it is advised that the establishment owners/representatives witness all cleaning/maintenance activities to verify that the interceptor is being fully cleaned and properly maintained.

Step	Action
1.	Contact a grease hauler or recycler for cleaning. See <a href="#">Fats, Oil and Grease Haulers and Recyclers</a> .
2.	Ensure that all flow is stopped to the interceptor by shutting the isolation valve in the inlet piping to the interceptor.
3.	Remove the lid and bail out any water in the trap or interceptor to facilitate cleaning. The water should be discharged to the sanitary sewer system.
4.	Remove baffles if possible.
5.	Dip the accumulated grease out of the interceptor and deposit in a watertight container.
6.	Pump out the settled solids and then the remaining liquids.
7.	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.
8.	Replace the baffle and the lid.
9.	Record the volume of grease removed on the <a href="#">maintenance log</a> .

## FATS, OILS & GREASE MANUAL - CHECKLIST AND MAINTENANCE LOG

### *Installation Checklist*

Number	Item Description
1.	Point of use grease trap serves not more than four separate fixtures. Grease trap is sized based upon the number of fixtures discharging to it. See <a href="#">FAQ's</a> .
2.	Grease traps has a water seal of not less than two inches in depth or the diameter of its outlet, whichever is greater.
3.	No food waste disposal unit or dishwasher is connected to or discharges into any grease trap. Food waste disposal units or dishwasher may discharge to exterior grease interceptor.
4.	Waste from toilets and urinals does not discharge to the grease interceptor.
5.	Waste in excess of 140degF is not discharged to any grease trap. (Dishwasher with a min. temperature of 160 deg F is not discharged to any grease trap.)
6.	The vertical distance between the fixture outlets and grease trap weirs is as short as practical.
7.	Grease interceptor is as close as practical to the fixtures served.
8.	Each fixture connected to a grease trap is provided with an approved type flow control or restricting device installed in a readily accessible and visible location. Devices shall be designed so that the flow through the device or devices at no time exceeds the rated capacity of the grease trap or interceptor.
9.	Each fixture discharging into a grease trap or interceptor is individually trapped and vented in an approved manner.
10.	Water jacketed grease trap or interceptor is installed.
11.	Grease interceptor is easily accessible for inspection and cleaning and access does not require the use of ladders or the removal of bulky equipment.
12.	There is a minimum of one access point into each compartment of the interceptor and no access points are greater than 10 feet apart. Each access opening is leak-resistant and cannot slide, rotate, or flip.
13.	Location of grease interceptor is shown on approved building plans. Drawings of interceptor are complete and show all dimensions, capacities, reinforcing and structural design calculations.
14.	Grease interceptor is not installed in any part of a building where food is handled. Location shall meet the approval of the Administrative Authority.
15.	The inlet and outlet fittings shall be a baffle tee (or similar flow device) that extends at least 4 inches above the water level to within 12 inches of the bottom of the interceptor. The outlet tee out of a sample box shall extend at least 6 inches below the water surface. Flow between the separate compartments is through a baffle tee or bend that extends down to within 12 inches of the bottom of the interceptor.
16.	The liquid depth shall be greater than or equal to 2'-6" and less than 6'-0".
17.	There shall be a minimum of 9 inches of open vent space above the water level to the top of the interceptor. The airspace has a minimum capacity equal to 12-1/2% of the grease interceptors liquid volume.
18.	The grease interceptor has at least one square foot of surface area for every 45 gallons of liquid capacity.
19.	All waste enters the interceptor through the inlet pipe.
20.	Grease interceptor cover is gastight and has a minimum opening of 20 inches in diameter.
21.	Grease interceptors located in areas of pedestrian or vehicle travel are adequately designed to support the imposed loads. Review of structural calculations may be required to verify adequacy.
22.	Redwood baffles are not installed in grease interceptor.
23.	A sample box is provided on the outlet side of the grease interceptor. This is recommended and may be required by the UPC so that the Administrative Authority can periodically sample the effluent quality.
24.	Grease interceptor is permanently and legibly marked with the manufacturer's name or trademark, model number, UPC certification mark and registration (if product is listed by the International Association of Plumbing and Mechanical Officials), and any other markings required by law.

