Lamont Public Utility District
Fats, Oil, and Grease
Commercial Sewer Discharger Manual

Fats, oil and grease - - also called FOG in the wastewater industry - - can have negative impacts on wastewater collection and treatment systems. Most 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 can usually be 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 is written to provide municipal pretreatment staff - - along with 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 inspection checklists for municipal pretreatment inspectors.

Manual contents includes:

- **Frequently Asked Questions (FAQs)**
- **Best Management Practices (BMPs)**
- **Prohibitions**
- **Maintenance**
- **How It Works**
- **Compliance Inspection and Installation Checklists**

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

Frequently Asked Questions About Grease:

Is grease a problem?
What is a grease trap and how does it work?
What is a grease interceptor?
How do I clean my grease trap?
Can you recommend a maintenance schedule?
Do I have a grease trap?
Do I need a grease trap?
Is the grease trap I have adequate?
What if I don't install a grease trap?
Who determines if I need a grease trap or interceptor?
How can I get in compliance?
What are the criteria for inspecting grease traps?

Is grease a problem?

In the sewage collection and treatment industry, 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 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 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 It Works* for a description of how the various components of a grease trap function.

What is a grease interceptor?

An interceptor is a vault with a minimum capacity of between 500 and 750 gallons that is located on the exterior of the building. The vault includes a minimum of two compartments, and flow between each compartment is through a 90° fitting 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 It 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*.

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 more often. If the establishment is having 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 LPUD for further information.

Do I need a grease trap?

Any establishment that introduces grease or oil into the drainage and sewage system in quantities large enough to cause line blockages or hinder sewage treatment is required to install a grease trap or interceptor.

Interceptors are usually 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) and medium volume (full menu establishments

operating 8-16 hrs/day and/or serving 100-400 meals/day) 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 Uniform Plumbing Code requires that no grease trap have a capacity less than 20 gallons per minute (gpm) or more than 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:

Total number of fixtures connected	Required rate of flow, gpm	Grease retention capacity, lbs
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 down stream. 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 the 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 a violation of the federal Clean Water Act.

Who determines if I need a grease trap or interceptor?

When waste pretreatment is required by administrative authority, as in the LPUD Sewer Ordinance No. 103, an approved grease trap or interceptor shall be installed according to the Uniform Plumbing Code. The rules of the Kern County Health Department and the LPUD will also assist the establishment in

determining if a grease trap or interceptor is required. All administrative authorities prohibit the discharge of materials that can solidify and create blockages in the wastewater collection system or treatment plants.

How can I get in compliance?

The establishment should contact its local jurisdiction. The establishment will be asked to purchase a permit for the grease trap. This will enable the proper jurisdiction to assist the establishment in cleaning schedules and advise them of a problem showing up in the wastewater collection system. A grease interceptor permit is required regardless of whether the establishment has an existing trap or is installing a new one.

What are the criteria for inspecting grease traps?

All food service establishments suspected of causing problems to the collection system or treatment facilities will be inspected. The following universal criteria are used to inspect grease traps:

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

If the trap is in FAIR condition, the establishment will be 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 then be required to contact the issuing authority within 30 days to verify that the grease interceptor has been properly cleaned.