



Frequently Asked Questions about Fats, Oils and Grease (FOG)

Where does FOG come from?

Does your facility cook meat? Serve soups, sauces or salad dressings? Use butter, margarine or oil in food preparation? Fats, oils and grease (FOG) are abundant in and on the foods we eat. When foods are prepared, oils and greases are cooked out of foods or are added as ingredients or non-stick remedies. The FOG ends up on cookware, dishware, kitchen equipment and even floors and floor-mats, all of which must be washed. When kitchen equipment and wares are cleaned, the FOG is washed off and enters the plumbing system. Shortly after this grease enters the drain, it begins to cool and separate from the dishwater. The separated FOG accumulates in private drains, sewer pipes, and sewer lift-stations. In time, this residue builds up, restricting and blocking sewer pipes, causing sewage backups and overflows, and creating headaches for the wastewater treatment plant. The effect is no different on the food service establishment's plumbing system. It is no coincidence that plumbing companies are frequently called to restaurants and other food service establishments to un-clog blocked lines.

Why is FOG a Problem?

Sewer capacity reduction, increased maintenance costs, shortened infrastructure lifespan, blockages, backups, overflows, fines, facility closures, vermin, treatment plant upsets, environmental damage, odor, human health hazards..... Quite an extensive list of potential problems from just a little grease.

FOG has a negative impact 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.

Large amounts of FOG in 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 be replaced sooner than otherwise expected.

FOG also hampers effective treatment at the wastewater treatment plant. In a liquefied form, FOG may not appear harmful. But, as the liquid cools, the grease congeals and creates thick grease mats on the surface of settling tanks, digesters, and other treatment structures at the wastewater treatment plant. FOG problems at the plant decrease treatment efficiency, increase

operating costs, and can potentially cause interference and pass-through events.

Problems caused by wastes from restaurants and other grease-producing establishments were the basis for a recent ordinance modifying Chapter 3 of the City Code as it pertains to regulations governing the discharge of Fats, Oils and Grease to the sanitary sewer system. The Minnesota Plumbing Code also requires installation of and maintenance of grease traps and interceptors on the sewer drains for facilities that have the potential do discharge FOG.

What is a grease interceptor and how does it work?

A grease interceptor is typically a concrete vault with a minimum capacity of 750 to 1000 gallons. It is built into the wastewater piping and located below ground outside of the food service establishment building. The capacity of the interceptor provides adequate hydraulic retention time so that the suspended FOG in the wastewater has time to congeal and rise to the surface. The vault includes a minimum of two compartments, and flow between each compartment is through a 90° fitting designed for grease retention. A service contractor will periodically pump the accumulated grease and other food waste out of the interceptor to maintain its removal efficiency and prevent FOG from reaching the sewer.

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. These small devices need to be cleaned frequently, from daily to weekly, and this duty is typically performed by restaurant staff. Some plumbing and septic hauling companies offer grease trap cleaning services.

Do I need a grease interceptor or trap?

Facilities that prepare and serve food produce FOG and need grease removal devices. Grease interceptors are the preferred grease removal device of the City of Red Wing for a number of reasons. They are larger, providing longer hydraulic retention time, which facilitates the separation of grease from high temperature dishwater, laden with detergents and emulsifying agents. Grease interceptors are located in outdoor areas and are less likely to create offensive odors and other undesirable effects inside the restaurant. In addition, interceptors only need maintenance every 30 to 90 days. This service is performed by a contractor, eliminating the need to constantly battle with staff to ensure grease traps are being cleaned.

Indoor grease traps can be effective in certain applications, but must be maintained frequently and can't be connected to certain common kitchen fixtures and equipment. For example, grease traps cannot be connected to food grinders or dishwashing machines. Grease traps are appropriate for small, low volume establishments with limited washing of dishes and kitchen equipment.

Can you recommend a Maintenance Schedule?

All grease interceptors should be cleaned at least four times each year. Some establishments will find it necessary to clean their interceptors once a month. Grease traps should be cleaned at least once a

week. Some need to be cleaned daily. If an establishment has to clean a grease trap too often, the owner should consider installing an interceptor.

What if I don't have a grease trap?

New facilities will need to have a suitable grease removal device installed and functional before a Certificate of Occupancy will be granted. Existing facilities that do not have a grease interceptor or grease trap will need to install one if it is apparent that they discharge excessive amounts of grease, as evidenced by sampling (greater than 150 mg/l), observed buildup of grease in downstream sewers and pumping facilities or increased collection system maintenance.

How will compliance be determined?

The City has contracted with a firm called Backflow Solutions, Inc (BSI) to assist with the notification and maintenance tracking. BSI will send each facility a letter identifying the minimum maintenance schedule and procedures. The compliance tracking will largely be through self-certification; however there will be scheduled and unannounced inspections that will include physical observation of the grease interceptor and log book.

What are the criteria for maintaining grease interceptors and traps?

Grease interceptors need to be inspected and cleaned at least every 90 days. Grease traps need to be inspected and cleaned every 30 days. If the accumulated grease and sediment is greater than 25% of the available capacity, the cleaning frequency needs to be increased. Maintenance and cleaning procedures are identified in the ordinance.

The Bottom Line

Many businesses find that taking steps to prevent FOG materials from entering the sewer system saves money. Keeping FOG out of your drains will reduce the likelihood of grease related plumbing problems. Fats, oils, and grease can often be recycled, reducing garbage costs.

Establishments that fail to comply with the grease waste management policies of the City of Red Wing and discharge FOG to the city sewer may be required to install additional grease-removal equipment, be fined or even have their utility services terminated.