

Grease 101

Grease is “hydrophobic,” meaning it floats on top of water, and adheres to other material such as sewer pipes. All too often, grease is washed into the plumbing system, usually through the kitchen sink. Grease sticks to the insides of sewer pipes (both in the private lines and the public lines). Over time, the grease can build up and block large portions of the sewer line. Large amounts of oil and grease in the waste water can cause sewer lift station failures, wastewater treatment plant problems and environmental concerns. As grease continues to build up sometimes large masses of grease break off and create a plug downstream. Grease is one waste that the sewer system cannot handle and therefore needs to be kept out of the system.



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Why is Grease a Problem?

A byproduct of cooking, grease comes from meat fats, lard, oil, shortening, butter, margarine, food scraps, baking goods, sauces, and dairy products. When washed down the sink, grease sticks to the insides of sewer pipes (both on your property and in the streets). Over time, it can build up and block the entire pipe.

Caution: Home garbage disposals do not keep grease out of the plumbing system. These units only shred solid material into smaller pieces and do not prevent grease from going down the drain. Commercial additives, including detergents, claiming to dissolve grease may pass grease down the line and cause problems in other areas. The results can be:

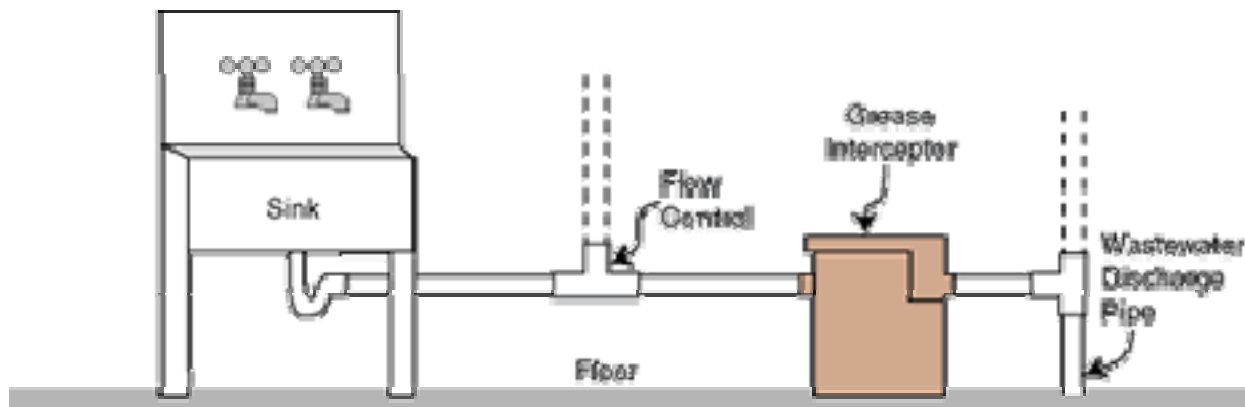
- Raw sewage overflowing in your home, your neighbor's home, or business;
- An expensive and unpleasant cleanup that often must be paid for by you, the home or business owner;
- Raw sewage overflowing into parks, yards, and streets;
- Potential contact with disease-causing organisms; and
- An increase in operation and maintenance costs for local sewer departments, which causes higher sewer bills for customers.
- Rancid odors.

Most problems result from poor house keeping or improper and insufficient grease trap and drain line maintenance. A partial or total blockage can cause floor drains, sinks, and dishwashers to back up and become inoperative. A grease trap or main line that is not proactively maintained will eventually clog, disrupting service and ultimately shutting down your facility. If buildup of grease blocks the public sewer, the City must perform expensive repairs. Grease related blockages have served as the basis for regulations governing the discharge of grease to the sanitary sewer system. Irving enforces the regulations and inspects grease trap installation for food service operations.

What is a Grease Trap Interceptor?

Most food service operations have two systems to serve their wastewater disposal needs: a sanitary systems for toilets, sinks, and a kitchen system for floor drains, dishwashers, and prep sinks. The systems normally use 2-4" pipe to carry the flow of the wastewater away from the building to the sewer system. Floor drains allow drainage from the floor into the sewer system. P-traps provide a liquid seal against sewer gases and odors in drainage pipes to escape to the outside.... And then there are grease traps interceptors.

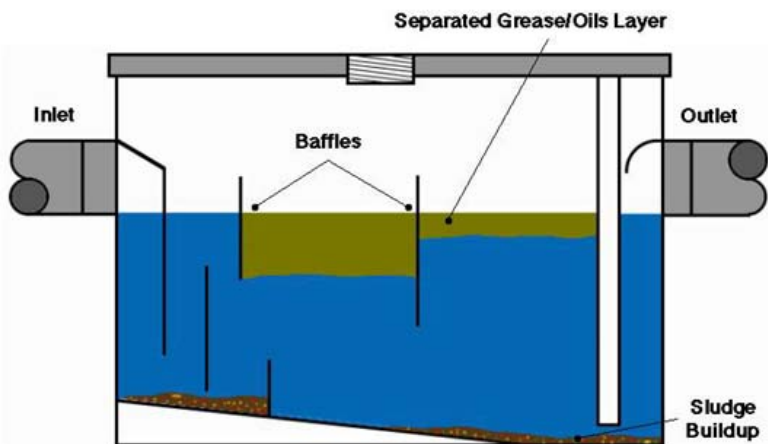
Every business that disposes of grease, fats or oil (e.g. restaurants, food handling operations, hospitals, schools, and senior centers), should have a grease trap interceptor to prevent these materials from entering and clogging sewer lines.



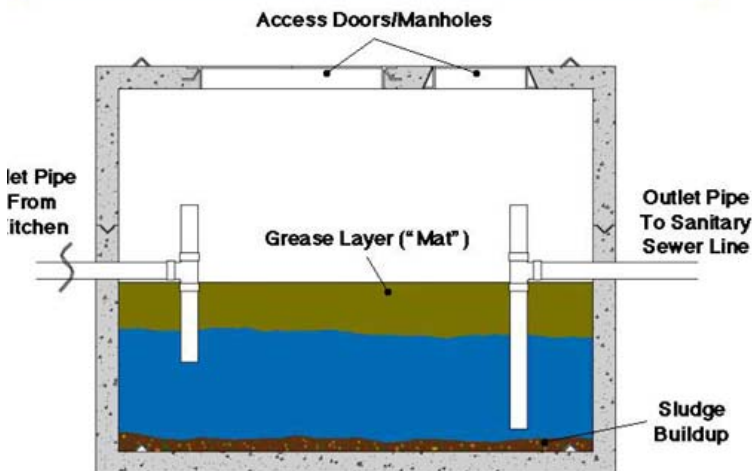
This equipment works by separating the grease and oils from wastewater. Greasy wastewater entering the interceptor passes through a vented flow control fitting that regulates the flow of the wastewater. The wastewater then passes over a series of separator baffles, or regulating devices within the interceptor, that separates grease, fat and oil. The grease then floats to the top of the interceptor and accumulates until manually removed. The wastewater continues to flow through the interceptor, into a discharge pipe, and then to the City's sewer system.

Small indoor grease traps are usually located in the floor near a sink or rear exit. These traps require frequent maintenance and are typically ineffective. Larger outside grease traps interceptors are usually located a few feet from the building exterior area. Outdoor grease traps are more effective, require periodic inspection and cleaning.

Typical Passive Grease Trap



Typical Pre-Cast Concrete Trap



If a grease trap interceptor is not properly installed or maintained it will not do its job! For your own assurance, only licensed plumbers should install grease interceptors. These interceptors must be the proper size to work correctly. A licensed plumber can determine the correct size.

Every interceptor should be cleaned as frequently as necessary to avoid exceeding its rated capacity. Grease should be collected by a liquid waste transporter. Check with Irving Water Utilities for a list of permitted Liquid Waste Transporters.

To work correctly, grease trap interceptors must be properly:

1. Designed ~ Grease traps and interceptors must be sized to handle the amount of grease expected.
2. Installed ~ Grease traps and interceptors must be level and vented.
3. Maintained ~ Grease traps and interceptors must be cleaned and serviced regularly according to your maintenance schedule.

Do I Need a Grease Trap Interceptor?

Any business or institution with a commercial kitchen has to deal with fats, oils, and grease (FOG). Commercial kitchens are found in restaurants, hospitals, churches, hotels, nursing homes, mobile food preparation facilities, etc. Using best management practices can:

- Lessen the likelihood of losing revenue to emergency shutdowns caused by sewage backups and expensive bills for plumbing and property repairs.
- Lessen the likelihood of lawsuits by nearby businesses over sewer problems caused by your negligence.
- Lessen the likelihood of lawsuits from workers or the public exposed to raw sewage during a backup.
- Reduce the number of times you have to pump and clean your grease trap interceptor .
- Lessen the likelihood of surcharges from the Water Utility, or charges for repairs to sewer pipes attributable to your FOG.
- Lessen the likelihood of enforcement action by local authorities due to violations of ordinances .

The size of a grease trap depends largely on the type of business and how much waste is produced. The more waste produced usually means the bigger the grease trap will need to be. Consider the following in sizing a grease trap:

- Type of food being prepared
- Seating capacity
- Retention time needed for efficient removal of grease
- Frequency of maintenance
- Accessibility of trap
- What equipment will be connected to the trap?

Maintaining Grease Trap Interceptors

Maintenance is essential if the grease trap is to function properly. Maintenance starts in the kitchen with housekeeping, simple actions such as discarding solid waste in the garbage can instead of washing into the sink, scraping dishes before washing, and assuring employees properly dispose waste cooking oil into specifically designated waste cooking oil containers. Waste oil should never be discharged into any drain.

Maintenance includes cleaning the trap as often as necessary to assure the efficient removal of grease. State and local regulations require "total evacuation" of the contents of the trap, that is, the grease, water and solids are removed by a licensed and permitted transporter and no materials are returned to the trap. The trap should be inspected each time it is cleaned.

Grease traps of a design approved by the City of Irving plumbing inspector shall be installed by the property owner for every sewer connection into which food waste, fats, grease and oils is discharged from any business, commercial, or institutional food service, preparation, or disposal operation.

Cleaning your grease trap is a requirement. Grease traps shall be cleaned every ninety (90) days in accordance with the **Irving's Code of Ordinance**. Proof of cleaning shall be kept on site for two (2) years. The City of Irving must be notified within thirty (30) days that such cleaning has been completed by a permitted liquid waste transporter.

For indoor grease traps and outdoor grease interceptors to be effective, these units must be properly sized, constructed, and installed in a location to provide easy access for cleaning and an adequate retention time for settling and accumulation of FOG. If units are installed too close to the FOG discharge and/or do not have enough volume to allow accumulation of the FOG, the emulsified oils will pass through the device without being captured.

Think of used oil as a valuable commodity and consider recycling. When using deep fat fryers, simply collect the used oil and contain it in a holding tank. Then, recycle the collected oil through a local bio diesel recycling companies. This is the preferred method of disposal for food service establishments that produce any volume of food waste.

Remember

- Know your sewer system.
- Inspect system components periodically.
- Clean drain lines regularly.
- Properly dispose of grease and oil.
- Clean the trap frequently to reduce grease volume and cleaning time.

Don't

- Obstruct grease trap.
- Use hot water to flush sewer lines.
- Rely on drain cleaners, enzymes or bacteria agents.

Best Management Practices (BMPs) for Food Establishments

Food service establishments can reduce the waste that goes down the drain by using best management practices (BMPs). "Best Management Practices" or "BMPs" are guidelines of activities, maintenance procedures, prohibitions and other management practices that prevent or reduce pollution in the sewer system. BMPs could help extend the cleaning and pumping frequency of the grease removal system, and prevent unnecessary and expensive repairs or closures. Every food establishment should follow and train their employees how to follow BMPs.

Handling Fats, Oils, and Grease: Keep as much grease as possible from going down the drain! Train employees about the problem. It will provide a long term benefit to your business and our community.

Document when employees have been trained on BMPs for handling oil and grease. Training should include:

- Discussing the nature of grease and the results of improper grease handling.
- Discussing the effects of grease on the environment.
- Discussing the cost of treating grease and its relationship to higher operating costs.
- Recommended disposal practices.
- Recommended house keeping practices.
- Explaining the proper periodic maintenance and inspection schedules.
- Posting “No Grease” signs above the sinks and on the front of dishwashers.

Kitchen practices should include:

- Never pour grease down sink drains or into toilets.
- Scrape grease material and food scraps from all cookware and dishware into the trash. Avoid using the garbage disposal.
- Place all oil and grease from pots, pans, etc. into a “waste grease bucket.” Liquid oil and grease from the waste bucket or other devices must be taken to the grease dumpster. Do not put any oil or grease down a drain.
- Spillage around the dumpster usually occurs due to overfilling the water bucket, height of the dumpster or a leaking dumpster. Note: If necessary, take more than one trip to the dumpster to prevent any spillage. Contain any oil and grease spill. Absorb it with dry material such as cat litter. Place material in a plastic bag, and discard with the regular trash.
- Wipe cookware and dishes before washing. Pre wash plates, pots, etc., by spraying them off with cold water over a small mesh catch basin placed over a drain. This catch basin should be cleaned into a garbage can as needed.
- Use strainers in sink drains to catch food scraps and other solids, and empty the drain strainers into the trash.
- Use a three sink dishwashing system, which includes sinks for washing, rinsing, and sanitizing in a 1:2 part bleach solution.
- Clean kitchen exhaust system filters routinely.
- Recycle cooking oil and food waste.
- Boil out deep fryers only when necessary.
- Avoid the use of microbial and enzymatic cleaners.
- Dump mop water only through drains connected to your grease interceptor.
- Clean your grease interceptor or trap frequently.
- Call Irving Water Utilities 24hrs 972.721.2281, if you have any questions about sewer system operations and maintenance.

Let's Tackle the Grease in This Kitchen Poster

This poster is available in English and Spanish for commercial kitchens.

[View the poster \(PDF\)](#) or [order it](#) free of charge in two-color, 11" × 14¼" format (request publication no. GI-290). Call the Texas Commission on Environmental Quality (TCEQ) at 512.239.0028 to order.

Best Management Practices in Your Home or Apartment

Cooking oil and grease are wastes that the City's sewer system cannot handle and should not be discarded down the drain. City of Irving needs the help of all of its residents to keep our sewer system running properly. Following these *dos* and *don'ts* will help you and your neighbors avoid expensive sewer backups, plumbing emergencies, and rate increases to cover sewer maintenance and repairs, while helping protect water quality in your community.

DO

- Recycle used cooking oil or properly dispose of it by pouring it into a sealable container and placing the sealed container in the trash. To recycle large amounts, such as what's left over from a catfish fry or frying a turkey, contact the City of Irving at 972.721.2281.
- You can also use cat litter, a little at a time, to absorb the oil. When all the oil has been absorbed, pour the cat litter into a trash bag, seal the bag, then dispose of it in your regular trash.
- Scrape food scraps into the trash, not the sink.
- Wipe pots, pans, and dishes with dry paper towels before rinsing or washing them. Then throw away the paper towels.
- Place a catch basket or screen over the sink drain when rinsing dishware, or when peeling or trimming food, to catch small scraps that would otherwise be washed down the drain. Throw the scraps in the trash.
- Rinse dishes and pans with cold water before putting them in the dishwasher. Hot water melts the fats, oils, and grease (FOG) off the dishes and into the sewer pipes. Later on in the sewer, the hot water will cool and the FOG will clog the pipes.



DO place cooled cooking oil, poultry and meat fats in sealed non-recyclable containers and discard with your regular garbage.

DO use paper towels to wipe residual grease or oil off of dishes, pots and pans prior to washing them.

DO use a grease can. Never pour grease or cooking oil down the sink drain or into the toilet. Instead, pour grease and oil into a can. You can store the can in the freezer until it is full. Then, just toss it in the trash. Opened soup or vegetable cans work well for storage purposes.



DO put used oil in a sturdy clear container, such as a plastic milk jug, and call the City of Irving at 972.721.2232 to have the special waste picked up.

DON'T

- Don't use a garbage disposal or food grinder. Grinding food up before rinsing it down the drain does not remove FOG; it just makes the pieces smaller. Even non-greasy food scraps can plug your home's sewer lines. So don't put food of any kind down the drain.
- Don't pour cooking oil, pan drippings, bacon grease, salad dressings, or sauces down the sink or toilet, or into street gutters or storm drains.
- Don't use cloth towels or rags to scrape plates or clean greasy or oily dishware. When you wash them, the grease will end up in the sewer.
- Don't run water over dishes, pans, fryers, and griddles to wash oil and grease down the drain.



DO NOT dump cooking oil, poultry fat and grease into the kitchen sink or the toilet bowl.

DO NOT use hot water and soap to wash grease down the drain, because it will cool and harden in your pipes or in the sewer down the line.



DO NOT dump used fryer oil or motor oil into street or house drains. When poured down house or storm drains, oil may travel to your local stream, bay, or harbor, where it can harm underwater vegetation and aquatic life.

Grease Myths Debunked

We've all heard them. We may even believe them. Grease myths are as common as urban legends. Here are a few of the most common myths about grease and drains.

It's ok to pour grease down the drain as long as . . .

Myth. The truth is the best way to dispose of cooking oil and grease is to pour it into a heat-safe container and store it in the freezer. On trash day, throw the hardened grease away. If you use very little oil while cooking, simply wipe the cooled pan clean with paper towels.

. . . I use the garbage disposal.

Myth. The garbage disposal only grinds up items before passing them into your sewer pipes.

. . . I chase it down with a dose of dish soap.

Myth. It's true that soap breaks up grease. You see it happen every time you wash your dishes. But what you don't see is what happens in your sewer pipes. Eventually, soap loses its effectiveness and grease solidifies and congeals on pipe walls.

. . . I run hot water.

Myth. This myth is similar in logic to chasing grease down the drain with soap. Eventually, the water will cool, and the grease will solidify.

. . . it is a liquid at room temperature.

Myth. Liquid cooking oils like canola and olive oil float on wastewater and easily adhere to sewer pipes. The oily film can collect food particles and other solids and

begin to create a blockage.

You've Fried the Turkey--Now What Do You Do with the Oil?

The use of turkey fryers grows in popularity every year. But knowing what to do with all that used oil—the average fryer uses 5 gallons—has remained somewhat of a mystery. Turkey frying oil is just like any other fat, oil, or grease—there is just more of it.

Once the oil has completely cooled, use a funnel to pour the oil into a container and apply a tight fitting lid. If you are not planning to reuse the oil, call the City of Irving at 972.721.2232 and special waste vehicle will collect and recycle the oil at no charge. Never pour oil down your home's plumbing or into the storm drain.



When oil is poured down the drain, it clings to pipe walls and solidifies. Chunks of fat, oil, and grease can stick to pipe walls and completely block the pipe. About 75 percent of the city's blocked pipes are caused by fat. When a pipe becomes blocked, wastewater may overflow into homes or the street. Overflows expose people and the environment to bacteria and other contaminants. Repairs mean added costs for individual homeowners, businesses, and the city.