



CITY OF GOLDEN

DEPARTMENT OF PUBLIC WORKS, ENVIRONMENTAL SERVICES DIVISION

Grease, So What's the Problem?

Does your facility produce grease? All commercial cooking facilities generate Fats, Oil, and Grease (FOG). FOG any solid or viscous substance including grease, which will or may cause a blockage in the City sewer system or interfere with the operation of the wastewater treatment plant. These wastes will also block kitchen and building waste pipes.

Grease causes odors, sewer back-ups, and expensive maintenance to the City sewer system. FOG can impact a food service facility in several ways. Foul odors are usually the first impact noticed by an establishment. Foul odors lead to **loss** of business. Grease also causes problems with the drain pipes. Eventually a pipe will become completely blocked, similar to hardening of the arteries, causing the system to back-up. This usually results in expensive maintenance to the City sewer system and sometime causes damage to near by businesses. Worst of all a sewer backup can also result in the restaurant's closure by the health department

The City of Golden can help with reliable information. These guidance documents have been created to provide information about Fats, Oil and Grease (FOG). This packet contains information discussing proper maintenance of grease traps and interceptors, as well as tips and techniques to minimize the amount of grease discharged to the sewer.

So, How Will This Packet Help My Business?

- Helps prevent and control odor problems.
- Helps prevent sewer back-ups at your facility.
- Minimizes liability and potential expense of damages to city sewer and other facilities.
- Best Management Practices (BMPs) help lower costs.
- Continued compliance with applicable city, state, and federal laws.
- Continues to maintain the environmental quality of Golden.

Questions and Answers

What is FOG?

FOG stands for Fats, Oil, and Grease. FOG is defined as any solid or viscous substance, including grease, which may cause obstruction to the flow in a wastewater collection system, or otherwise interfere with the normal operation of the wastewater treatment plant.

Why should I care about FOG?

Sewer Blockages put the health and safety of the public at risk. Such blockages can result in the temporary closing of a restaurant by the health department. Additionally a food service facility may have to the cost of the clean up.

Is grease really a problem?

YES! It is the nature of grease that causes it to attract so much attention. Grease tends to separate from water. Warm, liquid grease doesn't seem excessively harmful, but when the grease cools, it causes significant problems. It will stick to the walls of the pipe and decrease pipe capacity as well as requiring the pipe to be cleaned more often. Eventually grease will cause a pipe to become blocked completely, causing the sewer to back up and overflow into nearby homes or businesses and possibly even into the street. Grease also causes operational problems at wastewater treatment facilities.

What is a grease interceptor?

A grease interceptor is a large concrete box, usually with two or three compartments and a minimum capacity of about 750 gallons. It is located outside of the facility under the ground. Wastewater flows between the compartments allowing the water to cool and the grease to be collected at the surface of the water before the water exits the interceptor.

Do I need a grease interceptor?

Any food service facility that generates fats, oil, and grease that could enter into the sewer system is required to have a grease interceptor.

Will adding Bacteria to my device replace pumping?

Bacteria will **NEVER** replace pumping of the interceptor. Even if bacteria consumes all the grease, there will still be solids in the device that will need to be removed to help control odor problems and keep the trap or interceptor operating efficiently.

I am having odor problems at my restaurant. What can I do to try to solve this problem?

First try pumping your grease trap and having the pipes in the system cleaned using a hydrojetter. Many times odors come from the interceptors through the hole in the manhole cover or from the vent pipes on the roof.

I tried pumping and cleaning my system, and my restaurant still smells. What else can I do?

If the odors persist, the problem is likely to be with in the building itself. Hire a consultant to evaluate the problem and propose solutions. The City of Golden is not responsible for maintenance of private sewer systems or connections to the sewer main.

How can I get in compliance?

There are several things that can be done. First, schedule a time with a pumper to come and pump out the device. Observe all work performed on the interceptor and drain system to ensure that the work is completed properly. Next, implement as many of the listed best management practices as possible. Additionally, monitoring the interceptor by checking the depth of the grease mat will help to optimize the pumping frequency. A good estimate is if the third compartment has accumulated a grease mat the device needs to be serviced soon. Once the pumping frequency is determined, continue monitoring the device. The amount of grease can vary with changes in the menu, staff or even the size of the establishment.

My question still has not been answered, now what?

Please contact us with any questions. We will be happy to address any issues that are of concern regarding grease traps, grease interceptors, or grease in the sewer system. We can be reached at:

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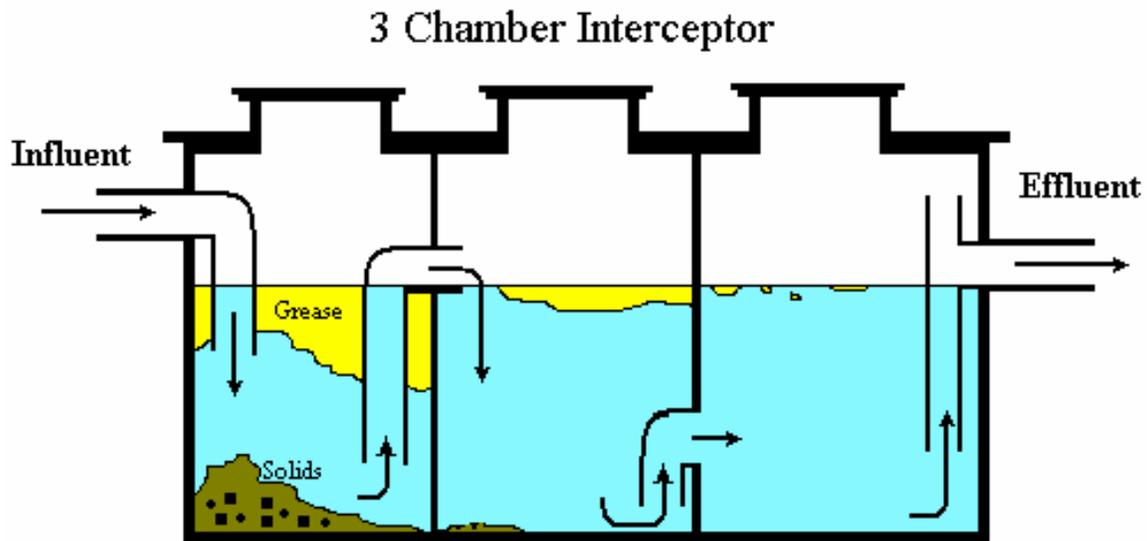
Grease Traps and Grease Interceptors

How it Works

Grease can be trapped after it cools and floats to the surface. Oil and grease, when given a chance, will float on water. Just like when a shaken bottle of salad dressing is allowed to sit still. Grease traps and grease interceptors are designed such that the water is slowed down and allowed to cool before it exits the device. This allows the oil and grease to collect as a thick mat on the surface inside the interceptor.

The differences between grease traps and grease interceptors are the size of the device. **Grease traps are small enough to fit under a sink or in the floor in the kitchen.** Grease traps are rated in gallons per minute for the maximum flow the device is designed to handle.

Interceptors are much larger and located outside the restaurant. Grease interceptors are rated in gallons for the volume of water they hold. Interceptors range in size from as small as 750 gallons to over 10,000 gallons. Interceptors have two or three compartments that the water must pass through before entering the sewer system.



Continued On Other Side

Grease Traps and Interceptors (Con't)

Proper Maintenance

To keep a grease interceptor operating properly it must be cleaned regularly. Once the last chamber of the grease interceptor has accumulated a mat of grease, it is time to have it pumped out again.

- A 5 step wash method works the best.
 1. Pump the grease mat out first.
 2. Pump the solids off the bottom.
 3. Scrape and wash all four sides of the interceptor.
 4. Scrape and wash the floor.
 5. Pump out the wash water.
- Periodically a high-pressure wash may be necessary to remove excessive buildup of scum on the walls.
- The inlets, outlets, and compartment pass through fittings should be checked for damage and obstructions. If they are obstructed or broken, they should be cleaned or repaired immediately.

Finally the interceptor should be refilled with fresh water. Gray water from the pumping truck should never be pumped back into the interceptor. This water contains suspended FOG from sloshing around in the tank while driving.

Best Management Practices

Best Management Practice	Reason for BMP	Benefits to Food Service Establishment
Frequently train kitchen staff and other employees about how they can help ensure BMPs are implemented.	Employees will be more willing to help out if they understand the reasoning for the program.	Efforts to keep grease out of the sewer will be a team effort.
Hang "NO GREASE" signs around the kitchen using multiple languages if necessary.;	Signs will constantly remind staff to properly dispose of oil and grease.	Will help reduce costs of interceptor maintenance.
Use lowest allowable water temperature in all sinks.	Temperatures in excess of 108 °F will emulsify grease and decrease the efficiency of the grease trap or interceptor.	Grease trap or interceptor will be able to operate more efficiently and energy costs might improve.
Use a three sink dishwashing system utilizing the lowest allowable water temperature.	Lower water temperatures minimize the amount of grease emulsified and allowed to pass through the grease trap or interceptor.	This will likely help reduce energy costs as well as reducing the overall temperature of the grease interceptor.
Wipe out pots, pans, and dishware before rinsing or dishwashing.	By wiping with a disposable towel, grease will not enter the interceptor.	This will help to reduce interceptor maintenance costs.
Dispose of all food scraps in the garbage.	Eliminates use of a food grinder and helps keep solids out of the interceptor.	Helps to control odors as well as reducing maintenance costs.
Witness all maintenance performed on the grease trap or interceptor.	Helps to prevent pumpers from taking short cuts, while also observing that the device is cleaned correctly and operating properly.	Ensures that owner/manager is getting full value for the money spent on maintenance. Helps prevent unnecessary cleaning.
Clean undersink grease traps weekly.	Grease traps are designed to be serviced daily.	Weekly cleaning of undersink grease traps by the establishment's own staff reduces costs of maintenance.
Clean grease interceptor at regular intervals	Interceptors must be cleaned routinely to restore the operating efficiency of the interceptor	Routine cleaning will help to prevent the failure of the interceptor as well as blockages in the sanitary sewer system.
Discontinue the use of the food grinder	Food grinders are typically not connected to the grease interceptor. Solids from food grinders will make grease and odor problems much worse.	Limits amount of solids entering the system that can cause blockages and odors.
Keep a maintenance log.	A maintenance log serves as a record of the frequency of maintenance.	Helps to optimize the cleaning frequency of the interceptor and reduce costs.

Continued On Other Side

Best Management Practices (Con't)

Best Management Practice	Reason for BMP	Benefits to Food Service Establishment
Routinely inspect grease traps or interceptors.	To monitor grease accumulation and device operations.	Optimizes pumping frequency and helps to control maintenance costs.
Periodically have the building sewer system hydro-jetted and vactored.	Helps keep pipes clean and unblocked.	Helps to keep the system operating efficiently.
Do not remove Strainers from sinks.	This will help to prevent solids from entering the grease interceptor and the sewer system.	Will help prevent costly sewer line blockages and unnecessary interceptor maintenance.
Chain a scraper to the garbage can.	The scraper can be used to squeegee dishware over the garbage plus it will not be easily thrown away if it is attached to the garbage can.	Will help reduce the total amount of grease and solids entering the interceptor, which will help reduce cleaning and maintenance costs.
Follow 30% Rule.	When 30% of the volume of the trap or interceptor is filled with any combination of grease and/or solids it is time to have it pumped.	This will help to optimize the pumping frequency and reduce costs of pumping.
Reduce amounts of detergents, sanitizers, and degreasers to the minimum amounts needed to achieve required sanitization.	Soaps, sanitizers and degreasers will significantly lower the operating efficiency of the grease interceptor.	Minimizes the impact the chemicals have on the interceptor and helps to reduce the costs of supplies and prevent unnecessary cleaning.
When using a commercial dishwasher, use a sanitizer combined with water that is less than 160°F to sanitize dishes.	Extremely hot water will melt or emulsify grease in the interceptor thus letting it pass through the device.	This practice will help to reduce energy costs as well as allowing the interceptor to operate at peak efficiency.

Prohibitions

Do Not:	Why?
Discharge fats, oil, and grease in concentrations that will cause obstruction to the flow in a sewer, or that will interfere with wastewater treatment plant operations.	Grease will solidify and trap other solids to completely plug the wastewater collection system.
Discharge excessive quantities of soaps, detergents, sanitizers or other chemicals to the grease interceptor and sewer system.	They will dissolve or emulsify the grease and cause it to exit the trap or interceptor and create a problem downstream.
Flush grease traps or interceptors with extremely hot water.	This causes grease to dissolve or emulsify and exit the grease trap or interceptor only to be deposited in the pipe down the line.
Discharge flammable substances to the sewer system	Flammable substances create hazardous work conditions for City of Golden employees that work in and around the wastewater collection system.
Discharge fats, wax, grease, or oils containing substances that will become viscous between 32°F and 150°F.	If these substances congeal, solidify, or become too viscous, they can cause blockages and other operational and maintenance problems.
Use Acids or Caustics to maintain building drain lines.	Very strong chemicals can create hazardous conditions for City of Golden crews as well as causing operational problems for the wastewater treatment plants.
Refill grease interceptor with gray water from the pumping truck.	This water still has quite a bit of suspended FOG in it that will pass through the interceptor and into the sewer system.