Calgary

Fats, oils and grease (FOG) program

Wastewater compliance and best management practices

Food service establishments

Cooking fats, oils and grease are regular waste products from food service establishments. Follow this simple guide to better understand how to help protect your kitchen plumbing, our wastewater treatment plants and the environment.

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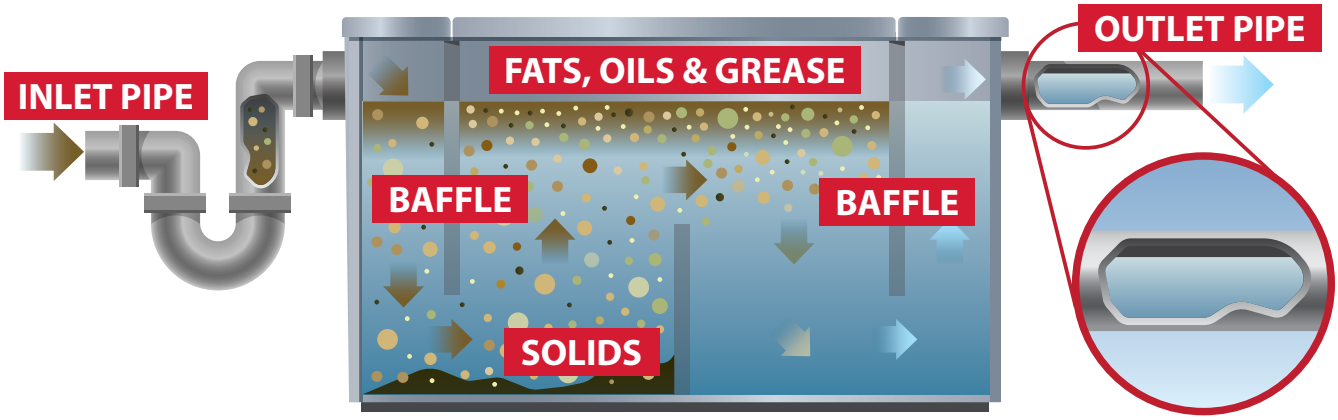
Best management practices for FOG at food service establishments (FSEs)

- Properly dispose of FOG, food waste, and grease interceptor contents. Talk to your service provider or contact 311 for more information regarding disposal.
- Before washing dishes and cookware, manually wipe/scrape off FOG and food waste into the appropriate bin.
- Recycle used deep fryer oil using a service provider and keep bin areas clean from spills.
- Ensure FOG is not disposed of into the environment or stormwater system.
- Install, clean and maintain a grease interceptor pre-treatment system.
- Ensure additional agents (enzymes, bacteria, chemicals) aren't being added to grease interceptors.

How does a grease interceptor work?

Grease interceptors slow the flow of wastewater, allowing fats, oils and grease to float to the top while solids settle at the bottom. This removes most FOG and solids from continuing through to the wastewater system.

Figure 1: Cross section of a properly functioning grease interceptor



Why is proper FOG management important?

- Protects your plumbing
- Protects City of Calgary infrastructure
- Protects Calgary's environment

What is the right size grease interceptor?

Grease interceptors must be sized appropriately to effectively remove FOG, and installed in an easy to access location for effective cleaning.

This is based on a variety of factors such as the type of cuisine or size, drainage rates and use for each sink.

For grease interceptor sizing calculations, see Appendix 1 or visit **calgary.ca/IMG**

Where are grease interceptors required?

As per the Wastewater Bylaw (14M2012), grease interceptors are required at any drain where FOG may be released.

How often do grease interceptors need to be cleaned?

At least once every four weeks OR more often if FOG and solids exceed 25 per cent volume of the grease interceptor.

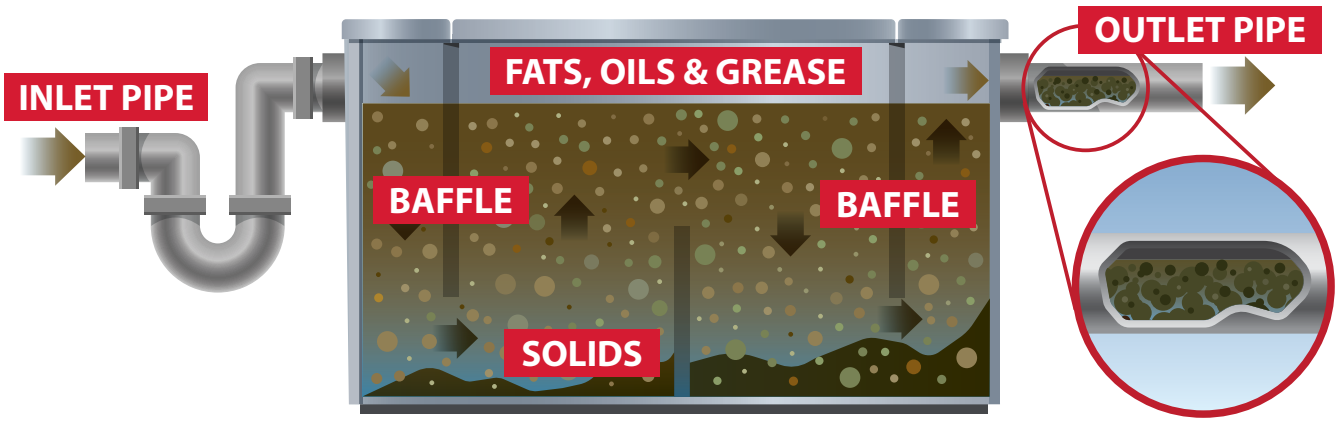
How do I clean a grease interceptor?

Professional grease interceptor cleaning services are highly recommended and are a great option for consistent and effective grease interceptor maintenance.

FSEs are permitted to clean grease interceptors themselves if desired, but must do so properly to be in compliance with the Wastewater Bylaw.

For grease interceptor cleaning instructions see Appendix 1 of visit **calgary.ca/IMG**

Figure 2: Cross section of a neglected and poorly functioning grease interceptor.



Incorrect sizing, irregular maintenance and/or improper grease interceptors cleaning can result in:

- Clogged pipes
- Reduced drainage flow
- Odours
- Sewer backups
- Costly plumbing repairs
- Fines due to non-compliance with the bylaw

Managing FOG spills

Indoor spills

If a small amount of FOG is spilled inside your FSE, no reporting is required. Simply clean it up, ensuring that as little FOG as possible ends up in the wastewater system. Large indoor spills must be reported to The City of Calgary through 311 if it enters any drains or the wastewater system.

Outdoor spills

If FOG is spilled outside, it should be cleaned up immediately. If the spill is absorbed into the ground or enters the stormwater system it must be reported to Alberta Environment and Parks (AEP) and The City of Calgary via 311. This includes FOG spills around used oil containers.

Regulatory requirements

Along with several federal and provincial regulations, there are some conditions under the Wastewater Bylaw 14M2012 related to proper FOG management. Failure to follow these conditions can result in fines for your food service establishment (FSE).

Section	Description of offence	Specified penalty
27(1)(a)	Failing to install a FOG interceptor.	$2,000
27(1)(b)	Failing to properly maintain and clean FOG interceptors.	$1,500
26(4)(b)	Failing to follow a FOG interceptor maintenance schedule and keep relevant records for the past two years.	$500
27(4)	Using any agent, product or hot water to facilitate the passage of FOG through an interceptor.	$1,000
43(6)	Failing to comply with a remedial order.	$1,000

Appendix 1

Grease interceptor sizing calculation

1. Determine all of the fixtures that connect to each interceptor in your facility. For this example, we have two sinks connected to one interceptor.

   Note: if a dishwasher is used at the facility it may be required to be connected to its own dedicated grease interceptor.

2. Next, calculate the peak flow rates for each fixture by measuring the size. Sink One is 0.4 metres deep x 0.4 metres high x 0.4 metres wide and Sink Two is 0.3 meters deep x 0.3 meters high x 0.3 metres wide.
3. Convert cubic meters to litres by multiplying by 1,000.
4. Once you have the volume of both sinks, calculate 75 per cent of those volumes by multiplying by 0.75.

   Note: see chart below for steps 2-4

Plastic grease interceptor

Example	Sink One	Sink Two
Calculating sink volume	**2.** 0.4 m x 0.4 m x 0.4 m **3.** = 0.064 cubic metres (m^3) x 1,000 = 64 litres (L) **4.** 64 x 0.75 = 48 L	**2.** 0.3 m x 0.3 m x 0.3 m **3.** = 0.027 cubic metres (m^3) x 1,000 = 27 litres (L) **4.** 27 x 0.75 = 20.25 L
Combined volume	48 litres + 20.25 litres = 68.25 litres.	

5. Assuming a drain down time of one minute, (meaning it takes the sink one minute to completely drain from full), the peak flow rate for the two sinks is 68.25 litres/minute. Therefore, an interceptor rated above 68.25 litres/minute should be adequate for this kitchen's needs if proper best management practices are consistently followed and cleaning and maintenance are completed regularly.

If the baseline interceptor sizing requirements are met and the business is still having problems controlling FOG, you can also investigate the following solutions to attain compliance:

- Change best management practices to reduce the amount of FOG entering the interceptor, such as wiping and scraping dishes and equipment before soaking or washing.
- Increase the interceptor cleaning frequency.
- Install a hydro-mechanical grease interceptor.
- Make changes to the interceptor (e.g. fix, increase size, install an additional one).

Monitoring grease interceptor FOG levels

1. Remove the lid from the grease interceptor.
2. Break through the FOG layer on the top and determine the depth of water layer.
3. If the FOG layer is two inches thick or more, it is time to clean your grease interceptor.
4. If the FOG layer is solidified or hard to break through, the grease interceptor needs to be cleaned more often to prevent potential sewer back-ups.

Cleaning your grease interceptor

1. Open the grease interceptor and scoop out the layer of FOG on the top for disposal (see below for disposal instructions).
2. Use a wet-dry vacuum to suction out the liquid layer, leaving solids at the bottom of the interceptor
3. Scrape the sides of the interceptor and the baffles (if detachable, remove the baffles for cleaning).
4. Scoop out the solids and scraped material from the bottom of the interceptor for disposal.
5. Using fresh water and a scraping tool or brush, thoroughly clean the entire inside of the interceptor and suction out the remaining waste material.
6. Rinse the grease interceptor with clean water and suction out one last time.
7. Ensure that the inlet, outlet and air relief ports are clean and clear of obstructions.
8. Inspect all components for any corrosion or damage and ensure that all components are working properly. If required, contact a grease interceptor cleaning company or plumber for repairs.
9. Properly reinstall any removed seals or baffles.
10. Securely fasten the cover and fill the grease interceptor with clean water to ensure maximum efficiency and to reduce odors.
11. Open the wet-dry vacuum and scoop out any additional material that has separated for disposal. Remove any solids for disposal and pour the remaining water back into the sink.
12. Completely disinfect the sink, as per Alberta Health Services requirements.
13. Document the cleaning for your records, which must be kept for a minimum of two years. Download a **grease interceptor service record template**.

Disposal options for grease interceptor contents

The FOG (top layer) and solids (bottom layer) should be placed in either your green bin (organics) or in the black bin (garbage), double bagged or contained in a way it will not leak and is puncture proof.

- Contact your organics service provider before sorting contents to determine if they will accept grease interceptor waste.
- Grease interceptor contents **cannot** be disposed of into the environment or stormwater system.

Fats, oils and grease interceptor service record

A written record of all maintenance, cleaning and inspection of your fats, oils and grease (FOG) interceptor must be kept on file for two years. This form is available on calgary.ca/IMG under the Food Service Establishment's section.

Business name: _____ Business Address: _____

Date	Work Order or Invoice #	FOG layer* (%)	Solids layer* (%)	Repair or replace (Y/N)	Comments	Name of person or company who cleaned/inspected	Signature

*Interceptors must be cleaned every 4 weeks or more often as required. The combined total of the Grease layer + solids layer should NOT be more than 25%.

Disclaimer