Fats, Oil, and Grease

Best Management Practices Manual

Pollution Prevention and Compliance Information for Kitchens, Restaurants, and other Business Owners and Managers in the City of Port Angeles, Washington

This manual was developed from a BMP Manual originally published by the Oregon Association of Clean Water Agencies

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Important Telephone Numbers:

Sewer backups on city streets or alleys	(360) 417-0190 or (360) 461-0111 or (360) 460-3976
Water pollution or spill hotline	(360) 417-4745
Wastewater treatment plant	(360) 417-4845
City permit center	(360) 417-4817

Chapter 1
Introduction

Fats, oil, and grease — also called FOG in the wastewater business — 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 Port Angeles kitchen, restaurant and fast food business managers and owners — along with City of Port Angeles staff — 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 interceptors are properly installed — and most importantly, properly maintained — is more difficult. This manual focuses on proper maintenance of grease interceptors.

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

Chapter 2
Frequently Asked Questions about Fats, Oil, and Grease

Is grease a problem?

In the sewage collection and treatment business, 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 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 interceptors.

The City of Port Angeles adopted Ordinance No. 13.06.030(B) that regulates the discharge of FOG into the City's sewer system. The ordinance requires pretreatment devices in new construction and retrofit of existing facilities as necessary to comply with the City's FOG discharge limit.

What is a grease interceptor and how does it work?

A grease interceptor is a reservoir built into the wastewater piping downstream 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 Grease Interceptors Work* (Chapter 5) for a description of how the various components of grease interceptors function.

What types of grease interceptors exist?

A *hydro-mechanical* grease interceptor is a small (20 – 50 gallons) tank usually located inside a food service establishment, under a counter or sink. A *gravity* grease interceptor is a vault with a minimum capacity of 500 – 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 *gravity* grease interceptor provides adequate residence time so that the wastewater has time to cool, allowing any remaining grease not collected by any *hydro-mechanical* grease interceptors time to congeal and rise to the surface where it accumulates until it is cleaned. See *How Grease Interceptors Work* (Chapter 5) for a description of how the various components of a grease interceptor function.

How do I clean my grease interceptor?

Refer to *Maintenance of Grease Interceptors* (Chapter 6).

Can you recommend a grease interceptor maintenance schedule?

Hydro-mechanical grease interceptors (20 – 50 gallons), must be cleaned weekly. *Gravity* grease interceptors (500 + gallons) should be cleaned at least every 90 days. If the grease interceptor requires more frequent cleaning than these intervals to remain effective, the owner should consider installing a larger interceptor.

Do I have a grease interceptor?

If the establishment is uncertain whether it has a grease interceptor, the owner should contact the City of Port Angeles Wastewater Treatment Plant at (360) 417-4845 for a no-charge consultation and site visit.

Do I need a grease interceptor?

Per Sewer Use Ordinance No. 3397, Sections 13.06.032 and 13.06.033, all new and existing Food Service Establishments (FSEs) and Non-FSE FOG Dischargers (NFDs) shall be required to install and maintain a properly sized and functioning Grease Removal System (GRS).

Is my grease interceptor adequate?

The Uniform Plumbing Code (UPC) requires that no grease trap have a capacity less than 20 gallons per minute (GPM) or more than 55 GPM. The size of the interceptor depends upon the size, type, and number of fixtures connected to it. The size will also depend largely upon the maintenance schedule. If a grease 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 them. All grease interceptors need to have the grease cleaned out periodically and no one likes to do it- it's 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 way to reduce all costs.

What if I don't install a grease interceptor?

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 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. The City of Port Angeles ordinance gives the City the authority to recover costs for repairs to the City sewer system due to failure to comply with the City requirements. Blocking a sanitary sewer line is also a violation of the federal Clean Water Act.

Who determines if I need a grease interceptor?

When waste pretreatment is required by the City of Port Angeles, an approved grease interceptor shall be installed according to the currently adopted plumbing code. The City of Port Angeles prohibits the discharge of materials that can solidify and create blockages in the wastewater collection system or treatment plants. The Clallam County Health Department makes periodic inspections to see that no health problems exist due to improperly maintained grease interceptors. City of Port Angeles staff may periodically inspect to ensure proper grease interceptor maintenance. These rules will be enforced if a problem exists.

How can I get in compliance?

The establishment should contact the City of Port Angeles. The establishment will be asked to purchase a permit for the grease trap. This will enable the City of Port Angeles 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 interceptor or is installing a new one.

What are the criteria for inspecting grease interceptors?

All food service establishment grease interceptors will be inspected. In general, grease interceptors should not have more than ¼ (25%) of the tank depth filled with floating grease and/or settled solids (or a combination of them).

If the floating grease and/or settled solids level exceeds ¼ (25%) of the tank depth, the establishment is advised to keep an eye on the maintenance schedule. The cleaning frequency may need to be increased. If the sediment level exceeds ½ of the tank depth, the establishment may be issued a compliance order to have it cleaned immediately. The establishment may be required to contact the city within 30 days to verify that the grease interceptor has been properly cleaned.

Chapter 3
Best Management Practices

Fats, oil, and grease (FOG) can be managed effectively in the food service industry to minimize adverse impacts on municipal wastewater systems and the environment. Municipal pretreatment staff and food service industry workers have developed Best Management Practices (BMPs) that, when implemented, will minimize the adverse impacts of FOG. This chapter summarizes these BMPs, and other important information, including the reason for BMPs, the benefit of BMPs to the food service industry, and inspection tips for City of Port Angeles staff to determine if the BMPs are being implemented.

Train kitchen staff

BMP	Train kitchen staff and other employees about how they can help ensure BMPs are implemented.
Reason For	People are more willing to support an effort if they understand the basis for it.
Benefit to food service establishment	All of the subsequent benefits of BMPs will have a better chance of being implemented.
Pretreatment inspection tips	Talk to the establishment manager about the training program that he/she has implemented.

Post “No Grease” signs

BMP	Post “No Grease” signs above sinks and on the front of dishwashers.
Reason For	Sign serves as a constant reminder for staff working in kitchens.
Benefit to food service establishment	These reminders will help minimize grease discharge to the interceptors and reduce the cost of cleaning and disposal.
Pretreatment inspection tips	Check appropriate locations for “No Grease” signs.

Use water temperatures less than 140° F

BMP	Use water temperatures less than 140° F in all sinks, especially the pre-rinse sink before the mechanical dishwasher. The mechanical dishwasher requires a minimum temperature of 160° F, but the UPC prohibits discharging the dishwasher to grease interceptors.
Reason For	Temperatures in excess of 140° F will dissolve grease, but the grease can re-congeal or solidify in the sanitary sewer system as the water cools.
Benefit to food service establishment	The food service establishment will reduce its costs for the energy – gas or electric – to heat the water.
Pretreatment inspection tips	Check boiler or hot water heater discharge temperature. Measure the temperature of the hot water being discharged from the closest sink.

Use a three-sink dishwashing system

BMP	Use a three-sink dishwashing system, which includes sinks for washing, rinsing, and sanitizing in a 50 to 100-pip bleach solution. Water temperatures are less than 140° F.
Reason For	The three-sink system uses water temperatures less than 140° F where a mechanical dishwasher requires a minimum temperature of 160° F. Note: The UPC prohibits the discharge of mechanical dishwasher water to grease interceptors.
Benefit to food service establishment	The food service establishment will reduce its costs for the energy – gas or electric – to heat the water for the mechanical dishwasher and to run it.
Pretreatment inspection tips	Measure the temperature of the hot water at the three-sink system.

Recycle waste cooking oil

BMP	Recycle waste cooking oil.
Reason For	There are many waste oil recyclers throughout Washington. This is a cost recovery opportunity.
Benefit to food service establishment	The food service establishment may be paid for the waste material and will reduce the amount of garbage it must pay to have hauled away.
Pretreatment inspection tips	Obtain the name of the recycler used. Review recycling records. Confirm records with the recycler.

"Dry wipe" pots, pans, and dishware prior to dishwashing

BMP	"Dry wipe" pots, pans, and dishware prior to dishwashing.
Reason For	The grease and food that remains in pots, pans, and dishware will likely go to the landfill. By "dry wiping" and disposing in garbage receptacles, the material will not be sent to the grease interceptors.
Benefit to food service establishment	This will reduce the amount of material going to grease interceptors, which will require less frequent cleaning, reducing maintenance costs.
Pretreatment inspection tips	Observe dishwashing practices.

Don’t put food waste down the drains- recycle or trash it

BMP	Dispose of food waste by recycling and/or solid waste removal.
Reason For	Some recyclers will take food waste for animal feed. In the absence of such recyclers, the food waste can be disposed as solid waste in landfills by solid waste haulers.
Benefit to food service establishment	Recycling food wastes will reduce the cost of solid waste disposal. Solid waste disposal of food waste will reduce the frequency and cost of grease interceptor cleaning.
Pretreatment inspection tips	Inspect grease interceptors for food waste accumulation. Confirm the recycler or solid waste removal company with the establishment manager.

Witness all grease interceptor cleaning and maintenance

BMP	Witness all grease interceptor cleaning and maintenance activities to ensure that the device is properly operating.
Reason For	A *few* grease interceptor cleaners and recyclers may take shortcuts. If the establishment manager watches the cleaning operation and ensures it is consistent with the procedures in *Grease Interceptor Maintenance* (Chapter 6) they are more likely to get full value for their money.
Benefit to food service establishment	The establishment will ensure it is getting value for the cost of cleaning the grease trap or interceptor. Otherwise the establishment may be paying for cleaning more often than necessary.
Pretreatment inspection tips	None.

Keep a maintenance log

BMP	Keep a maintenance log of the grease interceptor.
Reason For	The maintenance log serves as a record of the frequency and volume of cleaning the interceptor. It is required by the City of Port Angeles to ensure that grease interceptor maintenance is performed on a regular basis.
Benefit to food service establishment	The maintenance log serves as a record of cleaning frequency and can help the establishment manager optimize cleaning frequency to reduce cost.
Pretreatment inspection tips	Inspect maintenance log. Provide the establishment with a sample maintenance log if it does not have one. Confirm the maintenance log with the grease hauler identified.

Clean hydro-mechanical grease interceptors weekly

BMP	Clean hydro-mechanical grease interceptors weekly. If grease interceptors are more than 25% full with grease and/or solids when cleaned weekly, the cleaning frequency needs to be increased.
Reason For	Hydro-mechanical grease interceptors have less volume than gravity grease interceptors. Weekly cleaning of hydro-mechanical grease interceptors by the establishment's own maintenance staff will reduce the cost of cleaning the establishment's gravity grease interceptor. If the establishment does not have a gravity grease interceptor, the hydro-mechanical grease interceptor is the only means of preventing grease from entering the sanitary sewer system. If the hydro-mechanical grease interceptor is not providing adequate protection, the local sewer agency may require installation of a gravity grease interceptor.
Benefit to food service establishment	This will extend the length of the cleaning cycle for any gravity grease interceptors that the establishment maintains.
Pretreatment inspection tips	Visually inspect the contents of the hydro-mechanical grease interceptor. Inspect cleaning records.

Pump and clean gravity grease interceptors routinely

BMP	Clean gravity grease interceptors at least every 90 days.
Reason For	Gravity grease interceptors must be cleaned routinely to ensure that grease accumulation does not cause the interceptor to operate poorly. The cleaning frequency is a function of the type of establishment, the size of the interceptor, and the volume of flow discharged by the establishment.
Benefit to food service establishment	Routine cleaning will prevent plugging of the sewer line between the food service establishment and the sanitary sewer system. If the line plugs, the sewer line may back up into the establishment, and the business will need to hire someone to unplug it.
Pretreatment inspection tips	No more than 25% of the total liquid depth should be grease, solids, or a combination of the two.

Cover outdoor grease and oil storage containers

BMP	Cover outdoor grease and oil storage containers.
Reason For	Uncovered grease and oil storage containers can collect rainwater. Since grease and oil float, the rainwater can cause an overflow onto the ground. Such an overflow will eventually reach the stormwater system and nearby streams. The discharge of grease and oil to the storm drain system will degrade the water quality of receiving waters by adding biological and chemical oxygen demand to the water.
Benefit to food service establishment	Establishment can avoid legal penalties or fines that might result from discharge of grease and oil to the storm drain.
Pretreatment inspection tips	Observe storage area for signs of oil and grease. Inspect containers for covers. Open covers to ensure containers have not overflowed and do not have excess water.

Locate grease dumpsters and storage containers away from storm drain catch basins

BMP	Locate grease dumpsters and storage containers away from storm drain catch basins. Be aware of oil and grease dripped on the ground while carrying waste to the dumpster, as well as oil and grease that may "ooze" from the dumpster
Reason For	The farther away from the catch basin, the more time someone has to clean up spills or drainage prior to it entering the storm drain system. The discharge of grease and oil to the storm drain system will degrade the water quality of receiving waters by adding biological and chemical oxygen demand to the water.
Benefit to food service establishment	Establishment can avoid legal penalties or fines that might result from discharge of grease and oil to the storm drain.
Pretreatment inspection tips	Observe storage area for signs of oil and grease. Inspect the closest catch basin for signs of accumulated grease and oil.

Use absorbent pads or other material in storm drain catch basins

BMP	Use absorbent pads or other material in the storm drain catch basins if grease dumpsters and containers must be located nearby. The City of Port Angeles stormwater engineer may assist in implementation of this BMP. Do not use free flowing absorbent materials such as “kitty litter” or sawdust.
Reason For	Absorbent pads and other materials can serve as an effective barrier to grease and oil entering the storm drain system. The discharge of grease and oil to the storm drain system will degrade the water quality of receiving waters by adding biological and chemical oxygen demand to the water.
Benefit to food service establishment	Establishment can avoid legal penalties or fines that might result from discharge of grease and oil to the storm drain.
Pretreatment inspection tips	Check the nearest catch basin and drainage paths for signs of grease and oil. Require absorbent pads if the basin is within 20 feet of grease dumpsters or containers, or if there are signs of grease in the catch basin at any distance. Do not permit the use of free flowing absorbent material such as “kitty litter” or sawdust.

Use absorbent pads or other material to clean up spilled material

BMP	Use absorbent pads or other material to clean up spilled material around outdoor equipment, containers or dumpsters. Do not use free flowing absorbent materials such as “kitty litter” or sawdust that can be discharged to the storm drain system.
Reason For	Absorbent pads or materials can help clean up grease and oil that is spilled on the ground and prevent it from flowing to the storm drain system. The discharge of grease and oil to the storm drain system will degrade the water quality of receiving waters by adding biological and chemical oxygen demand to the water.
Benefit to food service establishment	Establishment can avoid legal penalties or fines that might result from discharge of grease and oil to the storm drain.
Pretreatment inspection tips	If grease and oil are observed on the ground in the storage area, recommend the use of absorbents to minimize movement of the grease and oil. Do not permit the use of free flowing absorbent material such as “kitty litter” or sawdust.

Routinely clean kitchen exhaust system filters

BMP	Routinely clean kitchen exhaust system filters.
Reason For	If grease and oil escape through the kitchen exhaust system, it can accumulate on the roof of the establishment and eventually enter the storm drain system when it rains. The discharge of grease and oil to the storm drain system will degrade the water quality of receiving waters by adding biological and chemical oxygen demand to the water.
Benefit to food service establishment	Establishment can avoid legal penalties or fines that might result from discharge of grease and oil to the storm drain.
Pretreatment inspection tips	Inspect roof (if safely accessible) for signs of oil and grease. Require a maintenance schedule and records for cleaning exhaust filters. Cleaning is usually by washing, which will discharge the grease to the interceptor where it can be controlled.

Chapter 4
Prohibitions Relating to Discharge of Fats, Oil, and Grease

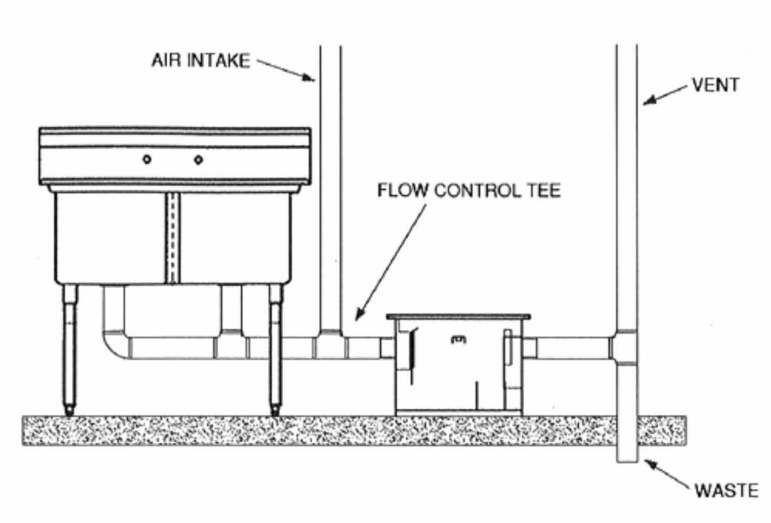
Certain activities relating to discharge of fats, oil, and grease are prohibited. These activities, if allowed, would interfere with the proper operation of grease interceptors and potentially have an immediate, negative effect on the municipal wastewater system or the environment. This chapter provides a list of prohibited activities and the basis for each prohibition.

Prohibitions	Basis
Do not discharge fats, oil, and grease in concentrations that will cause an obstruction to the flow in a sewer, or pass through or cause interference at a wastewater treatment facility.	Grease can solidify and trap other solid particles to completely plug the wastewater collection system.
Do not discharge grease, improperly shredded garbage, animal guts or tissues, paunch manure, bones, hide, hair, fleshings, or entrails.	These materials in combination or alone can cause blockages and other operations and maintenance problems in the wastewater collection and treatment system.
Do not discharge wastewater with temperatures in excess of 140° F to any hydro-mechanical grease interceptors. This includes water from mechanical dishwashers that have a minimum required temperature of 160° F.	Temperatures in excess of 140° F will dissolve grease, but the grease can re-congeal and cause blockages farther downstream in the sanitary sewer collection system as it cools. Note: High temperature water, such as from a mechanical dishwasher, is discharged to the remotely located gravity grease interceptor, if there is one. The remote location and the high volume of the gravity grease interceptor allows the water time to cool so that there is not a problem with dissolving grease and moving it farther downstream. The high volume also provides dilution of the detergents in the dishwasher waste.
Do not discharge waste from a food waste disposal unit to any grease interceptor.	The food waste will greatly reduce the capacity of the grease interceptor for retaining grease and can cause worse problems with blockages.

Prohibitions	Basis
Do not discharge caustics, acids, solvents, or other emulsifying agents.	Though emulsifying agents can dissolve solidified grease, the grease can re-congeal further downstream in the sanitary sewer collection system. Caustics, acids, and solvents can have other harmful effects on the wastewater treatment system and can be hazardous to those working in the wastewater collection system.
Do not discharge fats, wax, grease or oils containing substances that will become viscous between 32° F (0°C) and 150°F (65°C).	The temperatures shown are temperatures that can occur in the wastewater collection and treatment system. If these substances congeal, solidify, or become too viscous, they can cause blockages and other operations and maintenance problems.
Do not utilize biological agents for grease remediation without permission from the sewerage agency receiving the waste.	The biological agents may disrupt the biological treatment process at the wastewater treatment plant.
Do not clean equipment outdoors in an area where water can flow to the gutter, storm drain, or street.	Grease and dirt will be washed off the equipment and enter the storm drain system and flow to nearby streams.

Chapter 5
How Grease Interceptors Work

Understanding how treatment devices work improves operation and maintenance. The chapter uses a graphic of each device, with a description keyed to each element of the graphic. The description is designed to follow the flow of wastewater through the grease interceptor.



Typical installation of a hydro-mechanical grease interceptor.

What Size Grease Interceptor Does My Business Need?

The City of Port Angeles requires food service establishments and other affected businesses to size pretreatment devices in accordance with the currently adopted plumbing code and State-adopted amendments.

Essentially, the size of the grease interceptor is determined by the volume of water and other material that can be discharged to it at any one time, and the period of time required to drain the fixtures, equipment, and appliances that drain to the interceptor.

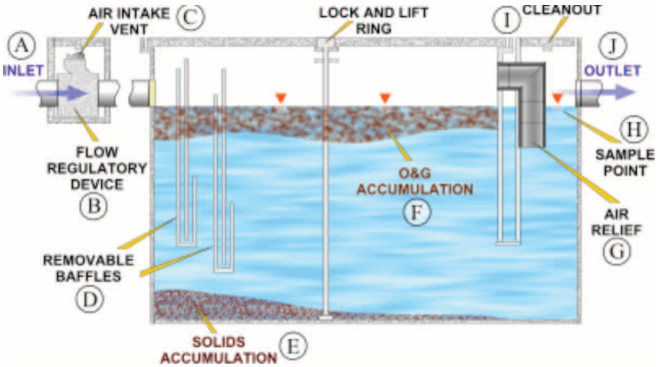
Grease interceptor sizes are expressed in terms of their incoming flow rate (in gallons per minute- GPM), or their rated capacity (in pounds- lbs.), which is twice the GPM. For example, a grease interceptor with a 25 GPM incoming flow rate has a rated capacity of 50 lbs. of grease storage.

To determine the proper permitting, sizing, and installation of your grease interceptor, consult with the Port Angeles Building Department @ (360) 417-4817, a licensed commercial plumber, and/or the currently adopted plumbing code and State-adopted amendments.

(In the 2009 Uniform Plumbing Code, refer to Tables 7-3, 7-5, 10-2, and 10-3, as well as Section 1014.0 Grease Interceptors. Please note these references may change in later-adopted or -revised versions of the plumbing code.)

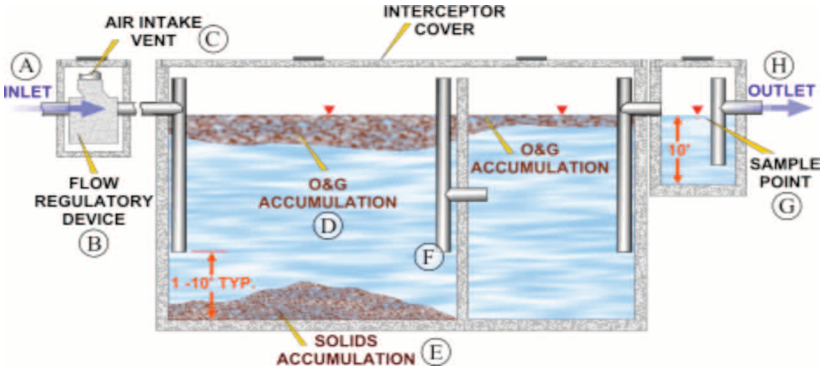
- A ***hydro-mechanical*** grease interceptor is a small (20 – 50 gallons) tank usually located inside a food service establishment, under a counter or sink.
- A ***gravity*** grease interceptor is a vault with a minimum capacity of 500 – 750 gallons that is located on the exterior of the building.

How Hydro-mechanical Grease Interceptors Work



Item	Description
A	Flow from four or fewer kitchen fixtures enters the hydro-mechanical grease interceptor.
B	An approved flow control or restricting device is installed to restrict flow to the grease interceptor to its rated intake capacity.
C	An air intake valve allows air into the open space of the grease interceptor to prevent siphoning and backpressure.
D	Baffles help to retain grease toward the upstream end of the grease interceptor since grease floats and will generally not go under the baffle. This helps to prevent grease from leaving the grease interceptor and moving farther downstream where it can create blockages.
E	Solids in the wastewater that do not float will be deposited on the bottom of the grease interceptor and will need to be removed during routine grease interceptor cleaning.
F	Oil and grease floats on the water surface and accumulates behind the baffles. The oil and grease will be removed during routine grease interceptor cleaning.
G	Air relief is provided to maintain proper air circulation within the grease interceptor.
H	Some grease interceptors have a sample point at the outlet end of the trap to sample the quality of the effluent.
I	A cleanout is provided at the outlet or just downstream of the outlet to provide access into the pipe to remove any blockages.
J	The water exits the grease interceptor through the outlet pipe and continues on to a gravity grease interceptor or the sanitary sewer system.

How Gravity Grease Interceptors Work



Item	Description
A	Flow from hydro-mechanical grease interceptors or directly from plumbing fixtures enters the gravity grease interceptor. The UPC requires that all flow entering the gravity grease interceptor enter through the inlet pipe.
B	An approved flow control or restricting device is installed to restrict the flow to the grease interceptor to its rated intake capacity.
C	An air intake valve allows air into the open space of the grease interceptor to prevent siphoning and backpressure.
D	Oil and grease floats on the water surface and accumulates behind the grease retaining fittings and the wall separating the compartments. The oil and grease will be removed during routine grease interceptor cleaning.
E	Solids in the wastewater that do not float will be deposited on the bottom of the grease interceptor and will need to be removed during routine grease interceptor cleaning.
F	Grease retaining fittings extend down into the water to within 12 inches of the bottom of the interceptor. Because grease floats, it generally does not enter the fitting and is not carried into the next compartment. The fittings also extend above the water surface to provide air relief.
G	Some grease interceptors have a sample box so that inspectors or employees of the establishment can periodically take effluent samples. Having a sample box is recommended by the UPC but not required.
H	Flow exits the grease interceptor through the outlet pipe and continues on to the sanitary sewer system.

Chapter 6
Grease Interceptor Maintenance

Grease interceptors must be cleaned on a regular basis to ensure that they work properly. Regular cleaning can improve their efficiency and effectiveness. This chapter describes step-by-step maintenance actions that can be used to clean these devices.

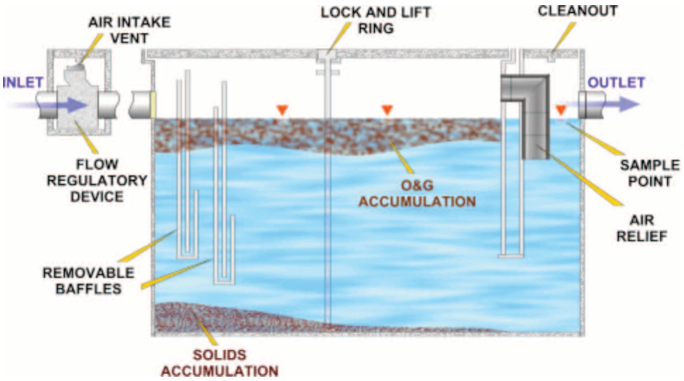
Maintenance staff, or other employees, usually perform hydro-mechanical grease interceptor maintenance. Gravity grease interceptor maintenance, which is usually performed by permitted haulers or recyclers (*See Fats, Oil, and Grease Haulers and Recyclers* (Chapter 7)), consists of removing the entire volume (liquids and solids) from the gravity grease interceptor and properly disposing of the material in accordance with all Federal, State, and/or local laws. When performed properly and at the appropriate frequency, grease interceptor maintenance can greatly reduce the discharge of FOG into the wastewater collection system.

The required maintenance frequency for grease interceptors depends greatly on the amount of FOG a facility generates as well as any BMPs implemented to reduce FOG discharges. In many cases, an establishment that implements BMPs may save money by extending their grease interceptor maintenance intervals. Refer to *Best Management Practices* (Chapter 3) for examples of BMPs that FOG generating establishments can implement.

WARNING!

Do not use hot water, acids, caustics, solvents, or emulsifying agents when cleaning grease traps and interceptors.

Hydro-mechanical Grease Interceptor Maintenance



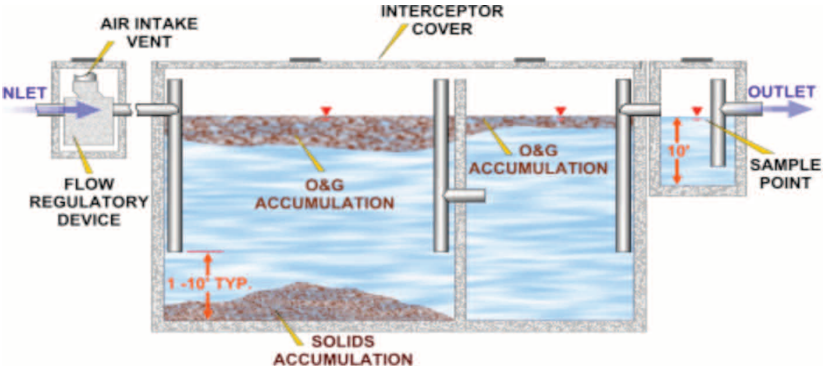
Item	Description
1	Dip the floating grease out of the interceptor and deposit in a watertight container.
2	Remove baffles if possible.
3	Bail out any water in the interceptor to facilitate cleaning. Store it in a separate container temporarily.
4	Scrape the sides, the lid, and the baffles with a putty knife to remove as much of the grease as possible. Add this grease and the settled solids to the grease in the watertight container.
5	Record the volume of grease and solids removed on the maintenance log.
6	Replace the baffles and refill the interceptor with clean cold water. Close the lid securely.
7	Dispose of the “dirty” water in a toilet, or upstream of the grease interceptor via a mop sink, but NEVER via a food preparation or hand washing sink.
8	Dispose of the grease and solids, in the closed container, with your solid waste.

Gravity Grease Interceptor Maintenance

Gravity grease interceptors, due to their size, are usually cleaned by grease haulers or recyclers. Licensed septic haulers can also pump out grease interceptors and haul the waste to the treatment plant. A proper maintenance procedure for a gravity grease interceptor is outlined below:

Since the establishment is liable for the condition of their pretreatment devices, the establishment owners/representatives should witness all cleaning/maintenance activities to verify that the interceptor is being fully cleaned and properly maintained.

SAFETY NOTE: Because of their large volume and limited access, some gravity grease interceptors could pose special confined space hazards (drowning, hazardous atmospheres). NEVER enter a confined space- contact a qualified professional.



Item	Description
1	Contact a grease hauler or recycler for cleaning. *See Fats, Oil, and Grease Haulers and Recyclers* (Chapter 7).
2	Ensure that all flow is stopped to the interceptor by shutting the isolation valve in the inlet piping to the interceptor.
3	Remove the lid and dip the accumulated grease out of the interceptor and deposit in a watertight container.
4	Remove baffles if possible.
5	Bail or pump out any water in the interceptor to facilitate cleaning. The water should be discharged to the sanitary sewer system.
6	Pump out the settled solids and any remaining liquids.
7	Scrape the sides, the lid, and the baffles to remove as much grease as possible, and deposit it into a watertight container.
8	Replace the baffles and the lid.
9.	Record the volume of grease removed on the maintenance log.

Grease Interceptor Cleaning Record

Facility Name: _____

Address: _____

Service Company used: _____

Date	Cleaned by	Witnessed by	Gallons pumped	Grease disposal site	Remarks

Chapter 7
Fats, Oil, and Grease Haulers and Recyclers

Regular cleaning of grease interceptors requires that the accumulated fats, oil, and grease be physically removed from the interceptor and properly disposed or recycled. This chapter provides a list of FOG hauling and recycling businesses that serve the North Olympic Peninsula. Phone numbers and acceptance criteria are provided for each business.

NOTE: Only Clallam County licensed septic haulers may pump grease interceptors in Port Angeles, so please check with Clallam County Environmental Health if your pumper does not appear on this list, which was updated in November 2012.

Septic Haulers	Phone number	Acceptance criteria
Acme Portable Toilets LLC Port Angeles, WA	360-457-8766	Pumps out grease interceptors.
Arrow Septic Port Angeles, WA	360-457-8481 360-683-3810	Pumps out grease interceptors.
Goodman Septic Services Port Angeles, WA	360-457-5596	Pumps out grease interceptors.
Good Man, Inc. Port Angeles, WA	360-385-7155 1-800-743-2515	Pumps out grease interceptors.
Northwest Cascade, Inc. Puyallup, WA	253-848-2371	Pumps out grease interceptors.
On-Site Monitoring and Inspections (O.M.I.) Port Angeles, WA	360-457-9438	Pumps out grease interceptors.
Peninsula Drain & Septic Port Angeles, WA	360-928-9583 360-457-5494	Pumps out grease interceptors.

Grease Recyclers	Phone number	Acceptance criteria
Baker Commodities	206-242-7387	Picks up and recycles cooking oil. Provides storage container for oil. Renders meat trimmings and "BBQ slop."
Darling International	800-524-2401	Picks up and recycles cooking oil. Provides storage container for oil.
Encore Oils (also known as SeQuential Pacific & Standard Biodiesel)	206-999-8501	Picks up and recycles cooking oil. Provides storage container for oil.
Evergreen Sanitation, Inc.	800-433-1678	Picks up and recycles cooking oil. Provides storage container for oil.
General Biodiesel	206-932-1600	Clear vegetable oils only. Provides storage container for oil.
Rainier Rendering	206-938-2061	USDA-approved scraps ONLY. No dead livestock or roadkill.

Acknowledgements

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Appendix A
Port Angeles Sewer Use Ordinance No. 3397
Sections 13.06.011, 13.06.012, & 13.06.030 through 13.06.039 (4/30/2010)

Chapter 13.06 – INDUSTRIAL WASTEWATER PRETREATMENT

13.06.011 - Definitions.

Unless a provision explicitly states otherwise, the following terms and phrases, as used in this chapter, shall have the meanings hereinafter designated:

A. *"Act"* - The Clean Water Act (33 U.S.C. 1251 et seq.), as amended.

B. *"Additive"* - Any material put into a grease removal system (GRS) or any drain lines or appurtenances discharging to a GRS intended in any way to modify the operation of the GRS.

C. *"AKART"* - All known available and reasonable treatment technology.

D. *"Applicable Pretreatment Standards"* - For any specified pollutant, the City's prohibitive discharge standard, the City's specific limitations on discharge, the State of Washington pretreatment standards, or the National Categorical Pretreatment Standards (when effective), whichever standard is most stringent.

E. *"Authorized or duly authorized representative of the user"* -

1. If the user is a corporation:

   a. The president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

   b. The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital

investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for control mechanism requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. If the user is a partnership or sole proprietorship: a general partner or proprietor, respectively.
3. If the user is a Federal, State, or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the regulated facility, or their designee.
4. The individuals described in paragraphs 1. through 3., above, may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the company, and the written authorization is submitted to the City.

F. *"Automatic grease removal system (AGRS)"* - A GRS that has provision to automatically remove separated FOG and/or settled solids from the tank and collect them for disposal.

G. *"Biochemical oxygen demand or BOD"* - The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures for five days at 20 degrees centigrade, usually expressed as a concentration (e.g., mg/l).

H. *"Best Management Practices or BMPs"* - means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in section 13.06.030.A. and B. [40 CFR 403.5(a)(1) and (b)]. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.

I. *"Categorical Pretreatment Standard or Categorical Standard"* - Any regulation containing pollutant discharge limits promulgated by EPA in accordance with Sections 307(b) and (c) of the Act (33 U.S.C. Section 1317) which apply to a specific category of users and which appear in 40 CFR Chapter I, Subchapter N, Parts 405-471.

J. *"Categorical Industrial User"* - An industrial user subject to a Categorical Pretreatment Standard or Categorical Standard.

K. *"City"* - City of Port Angeles, Washington.

L. *"Composite sample"* - A composite of several samples taken throughout the period of a day when a regulated discharge is occurring. Several brands of electric samplers, some with a refrigerated sample collection area, may be used. Approvable composite samplers may either use a flow paced or time paced algorithm.

M. *"Daily limit or daily maximum limit"* - The maximum allowable discharge of a pollutant over a calendar day or equivalent representative 24-hour period.

N. *"Director"* - The City of Port Angeles' Public Works and Utilities Director. The term also means a duly authorized representative of the Director. Whenever in this chapter the Director is given authority to establish limits, extend or shorten time, make a determination or finding, or make other decisions, he shall do so within the bounds of applicable local, state, and federal law and in accordance with BMPs.

O. *"Discharge authorization"* - A wastewater discharge permit authorizing users to discharge wastewater to the Port Angeles POTW. These permits would be for users other than minor industrial dischargers but still requiring a control mechanism.

P. *"Discharger"* - Any non-residential user who, by any means, discharges an effluent into a POTW.

Q. *"Environmental Protection Agency"* - The U.S. Environmental Protection Agency or, where appropriate, the Regional Water Management Division Director, the Regional Administrator, or other duly authorized official.

R. *"Existing source"* - Any source of discharge subject to Categorical Standards that does not meet the definition of a "new source."

S. *"Fats, oils, and grease (FOG)"* - The term fats, oils, and grease shall mean those components of wastewater amenable to measurement by the methods described in Standard Methods for the examination of water and wastewater, latest approved edition or other methods approved by 40 CFR136. For the purposes of this chapter, the term fats, oils and grease shall include polar fats, oils, and grease and other components extracted from wastewater by these methods, excluding the non-polar fraction.

T. "*Food service establishment (FSE)"* - Any establishment, commercial or noncommercial, primarily engaged in the preparing, serving, or otherwise making available for consumption foodstuffs in or on a receptacle that requires washing more than two days per week and that discharges to the POTW.

U. *"Grab sample"* - A sample which is taken from a wastestream without regard to the flow in the wastestream and over a period of time not to exceed 15 minutes.

V. *"Grease interceptor/interceptor/interceptor-style GRS"* - Any relatively large in- ground or above-ground tank, generally, but not always, of precast concrete, with internal plumbing and baffling intended to act as a GRS or AGRS to serve one or more fixtures and that is remotely located.

W. *"Grease removal system (GRS)"* - Any device designed for, and intended for, separating, collecting, and removing waterborne FOG and settleable solids prior to discharging to the POTW. This includes any AGRS.

X. *"Grease trap/trap/trap-style GRS"* - Any relatively small appurtenance, generally, but not always, of cast iron or fabricated steel, with internal configuration and internal or external flow control, intended to function as a GRS or AGRS. All trap-style grease removal systems must be PDI or IAPMO approved.

Y. *"Indirect discharge"* - The discharge or the introduction of pollutants into the POTW from any non-domestic source regulated under Section 307(b) (c) or (d) of the Act.

Z. *"Industrial waste"* - Solid, liquid or gaseous waste resulting from any industrial, manufacturing, trade or business process or from the development, recovery or processing of natural resources.

AA. *"Instantaneous maximum discharge limit"* or *"instantaneous limit"* - The maximum concentration of a pollutant allowed to be discharged at any time, determined from the analysis of a discrete sample. Where a user is required to take a grab sample for purposes of determining compliance with local limits, this standard is the same as the daily maximum standard. For pollutants for which users are required to take composite samples, (or for metals if no permit has been issued) the instantaneous limit shall be twice the daily limit.

BB. *"Interference"* - A discharge which causes (either by itself or in combination with other discharges) a violation of the City's NPDES permit or prevents the intended sewage sludge use or disposal by inhibiting or disrupting the POTW, including its collection systems, pump stations, and wastewater and sludge treatment processes. An example is a discharge from a user which causes a blockage resulting in a discharge at a point not authorized under the City's NPDES permit.

CC. *"Local limits"* - Effluent limitation developed for users by the director to specifically protect the POTW from the potential of pass through, interference, vapor toxicity, explosions, sewer corrosion, and contaminations of biosolids. Such limits shall be based on the POTW's site-specific flow and loading capacities, receiving water considerations, and reasonable treatment expectations for non-domestic wastewater.

DD. *"May"* - Is permissive (see "shall").

EE. *"Medical waste"* - Isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

FF. *"Minor industrial user (MIU)"* - A non-categorical industrial or commercial user of the POTW that does not qualify as a significant industrial user, but that operates facilities that:

1. Have some discharges of wastewater that could cause detectably elevated concentrations of metals or toxics in the pretreatment quarterly analysis; or
2. Have a discharge of small quantities of dangerous waste to the POTW which have been excluded from regulation under Chapter 173-303 WAC, or its successors, through the domestic sewage exclusion; or
3. Have a potential to discharge or spill chemicals to the POTW.

GG. *"Monthly average"* - The arithmetic mean of the effluent samples collected during a calendar month or specified 30-day period. Where the control authority has taken a sample during the period, it must be included in the monthly average if provided in time. However, where composite samples are required, grab samples taken for process control or by the control authority are not to be included in a monthly average.

HH. *"Monthly average limit"* - The limit to be applied to the monthly average to determine compliance with the requirements of this chapter (see section 13.06.045 for listing).

II. *"Natural outlet"* - Any outlet, including storm sewer overflows, into a watercourse, pond, ditch, lake or other body of surface or ground water.

JJ. *"New source"* -

1. Any building, structure, facility, or installation from which there is (or may be) a discharge of pollutants, the construction of which commenced after the publication of proposed pretreatment standards under Section 307(c), or its successors, of the Act which will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that:

   a. The building, structure, facility, or installation is constructed at a site at which no other source is located; or

   b. The building, structure, facility, or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or

c. The production or wastewater generating processes of the building, structure, facility, or installation are substantially independent of an existing source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant, and the extent to which the new facility is engaged in the same general type of activity as the existing source, should be considered.

2. Construction on a site at which an existing source is located results in a modification rather than a new source if the construction does not create a new building, structure, facility, or installation meeting the criteria of subsection (1)(b) or (c) above but otherwise alters, replaces, or adds to existing process or production equipment.

3. Construction of a new source has commenced if the owner or operator has:

a. Begun, or caused to begin, as part of a continuous onsite construction program:

i. Any placement, assembly, or installation of facilities or equipment; or

ii. Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

b. Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts that can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.

KK. *"Non-FSE FOG discharger (NFD)"* - Any establishment, such as a church, synagogue, worship hall, banquet facility, or meeting space, with a commercial-style kitchen that is used for preparing, serving, or otherwise making available for consumption foodstuffs in or on a receptacle that requires washing two days a week or less and that discharges to the POTW.

LL. *"NPDES"* - National Pollutant Discharge Elimination System Permit program as administered by the USEPA or State.

MM. *"O and M"* - Operation and maintenance.

NN. *"Other wastes"* - Decayed wood, sawdust, shavings, bark, lime, refuse, ashes, garbage, offal, oil, tar, chemicals and all other substances except sewage and industrial wastes.

OO. *"Pass through"* - A discharge that exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the [City]'s NPDES permit, including an increase in the magnitude or duration of a violation.

PP. *"Person"* - Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns. This definition includes all Federal, State, and local governmental entities.

QQ. *"pH"* - A measure of the acidity or alkalinity of a solution, expressed in standard units.

RR. *"POTW (public owned treatment works)"* - A treatment works, as defined by Section 212 of the Act (33 U.S.C. Section 1292), that is owned by the City. This definition includes any devices or systems used in the collection, storage, treatment, recycling, and reclamation of sewage or industrial wastes of a liquid nature and any conveyances, that convey wastewater to a treatment plant.

SS. *"Pollutant"* - Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, municipal, agricultural and industrial wastes, and certain characteristics of wastewater (e.g., pH, temperature, TSS, turbidity, color, BOD, carbonaceous oxygen demand, toxicity, or odor).

TT. *"Pretreatment"* - The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to, or in lieu of, introducing such pollutants into the POTW. This reduction or alteration can be obtained by physical, chemical, or biological processes; by process changes; or by other means, except by diluting the concentration of the pollutants unless allowed by an applicable pretreatment standard.

UU. *"Sewage"* - Water-carried human wastes or a combination of water-carried wastes from residence, business buildings, institutions and industrial establishments, together with such ground, surface, storm or other waters as may be present.

VV. *"Sewer"* - Any pipe, conduit, ditch or other device used to collect and transport sewage or storm water from the generating source.

WW. *"Shall"* Is mandatory.

XX. *"Significant industrial user (SIU)"* - Except as provided in paragraph (3) below, a significant industrial user is:

1. A user subject to categorical pretreatment standards; or
2. A user that:
    a. Discharges an average of 25,000 gpd or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blowdown wastewater);
    b. Contributes a process wastestream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or
    c. Is designated as such by the City on the basis that it has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.
3. Upon a finding that a user meeting the criteria in paragraph (2) above has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the City may at any time, on its own initiative or in response to a petition received from a user, and in accordance with procedures in 40 CFR 403.8(f) (6), or its successors, determine that such user should not be considered a significant industrial user.

YY. *"Slugload"* or *"slug discharge"* - Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge, which has a reasonable potential to cause interference or pass through, or in any other way violate the POTW's regulations, local limits or permit conditions. This includes discharges at a flow rate or concentration that could cause a violation of the prohibited discharge standards of section 13.06.030 of this chapter.

ZZ. *"Storm water"* - Any flow occurring during or following any form of natural precipitation, and resulting from such precipitation, including snowmelt.

AAA. *"Suspended solids"* - The total suspended matter that floats on the surface of, or is suspended in, water, wastewater, or other liquid, and that is removable by laboratory filtering.

BBB. *"Toxic pollutants"* - Those substances, and any other pollutant or combination of pollutants listed as toxic in regulations promulgated by the Administrator of the Environmental Protection Agency under Section 307, or its successors, of the Clean Water Act.

CCC. *"Upset"* - An exceptional incident in which a discharger unintentionally and temporarily is in a state of noncompliance with the standards set forth in this chapter due to factors beyond the reasonable control of the discharger, and excluding noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation thereof.

DDD. *"User or industrial user"* - A source of indirect discharge.

EEE. *"Wastewater"* - Industrial waste, or sewage or any other waste including that which may be combined with any ground water, surface water or storm water, that may be discharged to the POTW.

(Ord. 3397, 4/30/2010)

13.06.012 - Abbreviations.

A. AGRS - Automatic grease removal system.

B. BOD - Biochemical oxygen demand.

C. BMP - Best Management Practice.

D. CFR - Code of Federal Regulations.

E. CIU - Categorical Industrial User.

F. DOE - Department of Ecology.

G. EPA - U.S. Environmental Protection Agency.

H. FSE - Food Service Establishment.

I. FOG - Fats, oils and greases.

J. gpd - gallons per day.

K. GRS - Grease removal system.

L. mg/l - milligrams per liter.

M. MIU - Minor industrial user.

N. NFD - Non-FSE FOG discharger.

O. NPDES - National Pollutant Discharge Elimination System.

P. POTW - Publicly owned treatment works.

Q. RCRA - Resource Conservation and Recovery Act.

R. SIU - Significant industrial user.

S. TSS - Total suspended solids.

T. USC - United States Code.

(Ord. 3397, 4/30/2010)

13.06.030 - Discharge prohibitions.

A. No user shall introduce or cause to be introduced into the POTW any pollutant or wastewater that causes pass through or interference. These general prohibitions apply to all users of the POTW whether or not they are subject to Categorical Pretreatment Standards or any other National, State, or local pretreatment standards or requirements.

B. No user shall introduce or cause to be introduced into the POTW the following pollutants, substances, or wastewater:

1. Pollutants that either alone or by interaction may create a fire or explosive hazard in the POTW, a public nuisance or hazard to life, or prevent entry into the sewers for their maintenance and repair or are in any way injurious to the operation of the system or operating personnel. This includes waste streams with a closed-cup flashpoint of less than 140 degrees F (60 degrees C) using the test methods specified in 40 CFR 261.21, or its successors.
2. Any soluble waste or wastes having a pH lower than 5.0 or higher than 10.0 or having any other corrosive property that reasonably could be hazardous to structures, equipment, or personnel of the City, such as, but not limited to, battery or plating acids and wastes, copper sulfate, chromium salts and compounds, or salt brine.
3. Solid or viscous substances in amounts that may cause obstruction to the flow in the sewer or other interference with the operation of the system. In no case shall solids greater than one-quarter inch (0.64 cm) in any dimension be discharged.
4. Pollutants, including oxygen-demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration that, either singly or by interaction with other pollutants, will cause interference with the POTW.
5. Wastewater having a temperature that will interfere with the biological activity in the system, has detrimental effects on the collection system, or prevents entry into the sewer. In no case shall wastewater be discharged that causes the wastewater temperature at the treatment plant to exceed 104 degrees F (40 C).
6. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin, in amounts that will cause pass through or interference.
7. Pollutants that result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.
8. Trucked or hauled pollutants, except at discharge points designated by the Director in accordance with section 13.06.051 of this chapter.

C. The following classes of discharge are prohibited unless approved by the Director because of extraordinary circumstances, such as lack of direct discharge alternatives due to combined sewer service or need to augment sewage flows due to septic conditions:

1. Noncontact cooling water in significant volumes.
2. Stormwater, or other direct inflow sources.
3. Wastewaters significantly affecting system hydraulic loading that do not require treatment or would not be afforded a significant degree of treatment by the system.
4. New discharges of stormwater, surface water, ground water, artesian well water, roof runoff, subsurface drainage, condensate, deionized water, noncontact cooling water, and unpolluted wastewater, unless specifically authorized by the Director.

5. Sludges, screenings, or other residues from the pretreatment of industrial wastes, unless specifically authorized by the Director.

6. Medical wastes, except as specifically authorized by the Director in a wastewater discharge permit.

D. Noxious or malodorous liquids, gases, solids, or other wastewater that either singly or by interaction with other wastes, are sufficient to create a public nuisance or a hazard to life, or to prevent entry into the sewers for maintenance or repair.

E. Wastewater that imparts color that cannot be removed by the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions, that consequently imparts color to the treatment plant's effluent, thereby violating the City's NPDES permit.

F. Wastewater containing any radioactive wastes or isotopes except in compliance with applicable State or Federal regulations.

G. Wastewater causing, alone or in conjunction with other sources, the treatment plant's effluent to fail toxicity test.

H. Detergents, surface-active agents, or other substances that may cause excessive foaming in the POTW.

I. Wastewater causing two readings on an explosion hazard meter at the point of discharge into the POTW, or at any point in the POTW, of more than ten percent or any single reading over 20 percent of the lower explosive limit based on an explosivity meter reading.

J. Pollutants, substances, or wastewater prohibited by this section shall not be processed or stored in such a manner that an unintended discharge to the sanitary sewer or the storm sewer could occur.

(Ord. 3397, 4/30/2010)

13.06.031 - Fats, oil and grease (FOG).

A. No user shall discharge more than 100 mg/l of fats, oils or greases into the sewer system at any instant. The City may sample and inspect grease traps of commercial establishments to ensure they are being maintained to reduce buildup of grease in the sewer system. The City recognizes that preventative measures are necessary to control discharges containing FOG that might cause wastewater treatment plant interference. The City may require commercial establishments to initiate Best Management Practices (BMPs) to control and maintain grease interceptors or traps.

B. All FSEs and NFDs shall have an adequate grease removal system installed and exercise proper kitchen best management practices to ensure that excess concentrations of FOG are not discharged to the POTW. The property owner shall maintain all grease interceptors or traps in accordance with manufacturer recommendations.

C. In the event that the City cleans a sewer main blocked by FOG originating from a commercial establishment, the commercial establishment shall reimburse the City for those costs.

(Ord. 3397, 4/30/2010)

13.06.032 - New construction.

A. Prior to construction of a new FSE or NFD, a building permit shall be obtained from the appropriate jurisdiction. Plan submittals shall include kitchen fixture plan views and kitchen waste plans showing all potential grease discharging lines, all GRSs, and connecting piping. The application shall be routed to the Director or his designee for review and approval prior to connecting new construction to the POTW.

B. All new single occupancy food service establishment buildings shall be constructed with properly sized grease removal systems. All kitchen drains and any other drains that may carry grease-laden waste shall be connected to a GRS. A dishwasher shall not be connected to trap-style grease removal systems. If a trap-style GRS is installed, the kitchen may not have a garbage disposal/garbage grinder/macerator or similar unit connected to it.

C. All new construction, multiple occupancy, and food service establishment buildings, shall include a separate waste line for all leasable spaces that discharge to a common 2,000 gallon or larger interceptor. This waste line shall be permanently marked to identify it as required by the Director. When a space is leased, sold, or rented to a FSE or NFD, all kitchen drains and any other drains that may carry grease-laden waste shall be connected to this waste line; no domestic sewage may be connected to this line. The property owner shall be responsible for proper maintenance of this interceptor in accordance with the provisions of this chapter.

D. All new single occupancy non-FSE FOG discharger buildings shall install a properly sized GRS. Interceptor-style GRSs are recommended, but trap-style GRSs are permissible. All kitchen drains and any other drains that may carry grease-laden waste shall be connected to this GRS (except the dishwasher if a trap-style GRS is installed). If a trap-style GRS is installed, the kitchen may not have a garbage disposal/garbage grinder/macerator or similar unit installed.

E. Any FSE or NFD undertaking a substantial remodel will be considered to be new construction for the purposes of this chapter.

(Ord. 3397, 4/30/2010)

13.06.033 - Existing construction.

A. Every person owning or operating an FSE without a functional GRS shall be required to install a functional GRS. The type of GRS required will be determined by the Director, taking into account cost, available space and gradient, and any other pertinent information. Where feasible, all kitchen drains and any other drains that may carry grease-laden waste shall be connected to the GRS. Dishwashers shall not be connected to trap-style grease removal systems. If a trap-style GRS is installed, the kitchen may not have a garbage disposal/garbage grinder/macerator or similar unit installed.

B. Any existing NFD without a functional GRS may be required to install one. The type of GRS required will be determined by the Director, taking into account cost, available space and gradient, whether the user is in a grease impact area, and any other pertinent information. Where feasible, all kitchen drains and any other drains that may carry grease-laden waste shall be connected to this GRS (except the dishwasher if a trap-style GRS is installed). If a trap-style GRS is installed, the kitchen may not have a garbage disposal/garbage grinder/macerator or similar unit installed.

(Ord. 3397, 4/30/2010)

13.06.034 - Grease removal system maintenance.

A. All grease removal systems shall be maintained to ensure proper operation. At a minimum, interceptor-style GRSs shall be cleaned at least once every 90 days and trap-style GRSs cleaned at least once per week. These required frequencies may be extended with the approval of the Director. Grease removal systems must be cleaned whenever the combined thickness of the floating greases and settled solids is equal to, or greater than, 25 percent of the total liquid depth in the GRS.

B. When cleaned, an interceptor-style GRS must be completely pumped out, all solids removed, solidified grease scraped from the interior and the structure and all internal plumbing inspected for damage and corrosion. The GRS shall be refilled with water prior to being placed back into operation. If repairs are required, they shall be performed within seven days.

C. When cleaned, a trap must have surface grease and oil removed, settled solids removed, all sides scraped, removable parts removed and cleaned, be inspected for damage and corrosion, and be properly reassembled. If repairs are required, they shall be performed within seven days.

D. The material that is removed in the process of cleaning a GRS shall not be discharged back into the GRS, any part of the POTW, any private sewer, any drainage piping, or storm sewer system. All materials removed shall be handled and disposed of in accordance with Federal, State, County and Local laws, rules and regulations.

E. In addition to the maintenance required above, automatic grease removal systems shall be maintained in accordance with the manufacturers' guidelines.

(Ord. 3397, 4/30/2010)

13.06.035 - Grease removal system additives.

No additive may be introduced to the plumbing system that would reduce the effectiveness of the GRS.

(Ord. 3397, 4/30/2010)

13.06.036 - Solids interceptor.

If a garbage disposal/garbage grinder/macerator or similar unit is installed in a kitchen, it must discharge to the GRS through a solids interceptor plumbed immediately after the garbage disposal/garbage grinder/macerator or similar unit. The solids interceptor shall be maintained in proper operating condition at all times.

(Ord. 3397, 4/30/2010)

13.06.037 - Grease removal system sizing.

Trap-style grease removal systems shall be sized in accordance with the standards in the currently adopted Plumbing Code.

(Ord. 3397, 4/30/2010)

13.06.038 - Flow controls.

All trap-style grease removal systems shall have an internal or external flow control installed to ensure that wastewater flow through the trap does not exceed the manufacturer's design flow rating. This flow control shall be maintained in operating condition at all times.

(Ord. 3397, 4/30/2010)

13.06.039 - Record keeping.

Users subject to this chapter shall document all cleaning and maintenance activities performed on their GRS. These records shall be maintained for a minimum of three years and be available for inspection and copying by the Director or his representative. This period shall be automatically extended for the duration of any litigation concerning the user or the POTW, or where the user has been specifically notified of a longer retention period required by the Director.

(Ord. 3397, 4/30/2010)

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www.cityofpa.us/publicworks.htm