Best Management Practices (BMPs)

Prevent Blockages in the Sanitary Sewer System
Properly Maintain Grease Traps and Interceptors
Prevent Fats, Oil, and Grease From Impacting Groundwater

Prevent Blockages in the Sanitary Sewer System

BMP	Reason	Benefits to Food Service Establishment	Pretreatment Inspection Tips
Train kitchen staff and other employees about how they can help ensure BMPs are implemented.	People are more willing to support an effort if they understand the basis for it.	All of the subsequent benefits of BMPs will have a better chance of being implemented.	Talk to the establishment manager about the training program that he/she has implemented
Post "No Grease" signs above sinks and on the front of dishwashers.	Signs serve as a constant reminder for staff working in kitchens.	These reminders will help minimize grease discharge to the traps and interceptors and reduce the cost of cleaning and disposal.	Check appropriate locations of "No Grease" signs.
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 Uniform Plumbing Code (UPC) prohibits discharging the dishwasher to grease traps.	Temperatures in excess of 140° F will dissolve grease, but the grease can recongeal or solidify in the sanitary sewer collection system as the water cools.	The food service establishment will reduce its costs for the energy – gas or electric – for heating the water.	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, which includes sinks for washing, rinsing, and sanitizing in a 50-100 ppm bleach solution. Water temperatures are less than 140° F. (See above)	The three-sink system uses water temperatures less than 140° F where a mechanical dishwasher requires a minimum temperature of 160° F. (See above) Note: The Uniform Plumbing Code (UPC) prohibits the discharge of dishwasher water to grease traps.	The food service establishment will reduce its costs for the energy - gas or electric - for heating the water for the mechanical dishwasher and for operating the dishwasher.	Measure temperature of the hot water at the three-sink system.

BMP	Reason	Benefits to Food Service Establishment	Pretreatment Inspection Tips
Recycle waste cooking oil.	There are many waste oil recyclers throughout California. This is a cost recovery opportunity.	The food service establishment will be paid for the waste material and will reduce the amount of garbage it must pay to have hauled away.	Obtain name of recycler used. Review recycling records. Confirm records with recycler.
"Dry wipe" pots, pans, and dishware prior to dishwashing.	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 traps and interceptors.	This will reduce the amount of material going to grease traps and interceptors, which will require less frequent cleaning, reducing maintenance costs.	Observe dishwashing practices.
Dispose of food waste by recycling and/or solid waste removal.	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.	Recycling of food wastes will reduce the cost of solid waste disposal. Solid waste disposal of food waste will reduce the frequency and cost of grease trap and interceptor cleaning.	Inspect greas e traps and interceptors for food waste accumulation. Confirm the recycler or solid waste removal company with the establishment manager.

Properly Maintain Grease Traps and Interceptors to Prevent Introduction into the Sanitary Sewer System

BMP	Reason	Benefits to Food Service Establishment	Pretreatment Inspection Tips
Witness all grease trap or Interceptor cleaning/ maintenance activities to ensure the device is properly operating.	Grease trap/interceptor pumpers may take shortcuts. If the establishment manager inspects the cleaning operation and ensures it is consistent with the procedures in the section on *Grease Trap and Interceptor Maintenance* they are more assured of getting full value for their money.	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.	None.

BMP	Reason	Benefits to Food Service Establishment	Pretreatment Inspection Tips
Clean undersink grease traps weekly. If grease traps are more than 50% full when cleaned weekly, the cleaning frequency needs to be increased.	Undersink grease traps have less volume than grease interceptors Weekly cleaning of undersink grease traps by the establishment's own maintenance staff will reduce the cost of cleaning the grease interceptor. If the establishment does not have a grease interceptor, the undersink grease trap is the only means of preventing grease from entering the sanitary sewer system. If the grease trap is not providing adequate protection, the local sewer agency may require installation of a grease interceptor.	This will extend the length of the cleaning cycle for grease interceptors that the establishment maintains.	Visually inspect the contents of the undersink grease trap. Inspect cleaning records.
Clean grease interceptors routinely.	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.	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.	Interceptor should have no more than 1/3 the depth as grease, **and,** Interceptor should have no more than 1/4 the depth as sediment, **and** No more than 25% of the depth should be a combination of grease (top) and sediment (bottom).
Keep a *maintenance log*.	The maintenance log serves as a record of the frequency and volume of cleaning the interceptor. It is required by the pretreatment program to ensure that grease trap/interceptor maintenance is performed on a regular basis.	The maintenance log serves as a record of cleaning frequency and can help the establishment manager optimize cleaning frequency to reduce cost.	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.

Prevent Fats, Oil, and Grease From Degrading Groundwater

BMP	Reason	Benefits to Food Service Establishment	Pretreatment Inspection Tips
Cover outdoor grease and oil storage containers.	The Regional Water Quality Control Board has BMPs in place for stormwater. 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 groundwater.	The discharge of grease and oil may degrade water quality by adding biological and chemical oxygen demand. Discharge of grease and oil might also result in legal penalties or fines.	Observe storage area for signs of oil and grease. Inspect containers for covers. Remove 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.	The farther away from the catch basin, the more time someone has to clean up spills or drainage prior to entering the stormdrain system. 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.	The discharge of grease and oil may degrade water quality by adding biological and chemical oxygen demand. Discharge of grease and oil might also result in legal penalties or fines.	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 the storm drain catch basins if grease dumpsters and containers must be located nearby. Do not use free flowing absorbent materials such as "kitty litter" or sawdust.	Absorbent pads and other materials can serve as an effective barrier to grease and oil from degrading groundwater quality.	The discharge of grease and oil may degrade water quality by adding biological and chemical oxygen demand. Discharge of grease and oil might also result in legal penalties or fines.	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."

BMP	Reason	Benefits to Food Service Establishment	Pretreatment Inspection Tips
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.	Absorbent pads or materials can help clean up grease and oil that is spilled on the ground.	The discharge of grease and oil may degrade water quality by adding biological and chemical oxy gen demand. Discharge of grease and oil might also result in legal penalties or fines.	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."
Routinely clean kitchen exhaust system filters.	If grease and oil escape through the kitchen exhaust system, it can accumulate on the roof of the establishment and eventually enter the ground when it rains.	The discharge of grease and oil may degrade water quality by adding biological and chemical oxygen demand to the stream. Discharge of grease and oil might also result in legal penalties or fines.	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.

Prohibitions Relating to Discharge of Fats, Oil, and Grease

DO NOT …	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 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 grease traps. 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 further downstream in the sanitary sewer collection system as the water cools. Note: High temperature water, such as from a dishwasher, is discharged to the remotely-located grease interceptor, if there is one. The remote location and the high volume of the interceptor allows the water time to cool so that there is not a problem with dissolving grease and moving it further 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 traps	The food waste will greatly reduce the capacity of the grease trap for retaining grease and can cause worse problems with blockages.
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 a hazard to employees 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 sanitary 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.

Grease Trap and Interceptor Maintenance

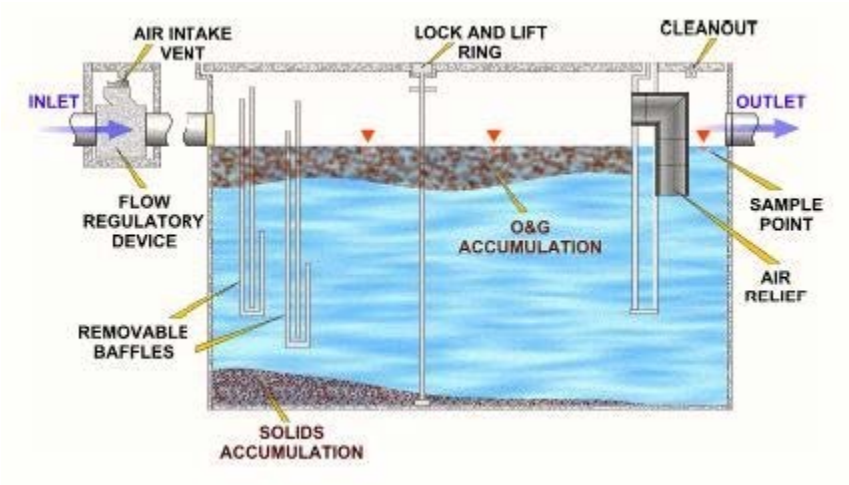
Grease trap maintenance is usually performed by maintenance staff, or other employees of the establishment. Grease interceptor (GI) maintenance, which is usually performed by permitted haulers or recyclers (See *Fats, Oil and Grease Haulers and Recyclers*), consists of removing the entire volume (liquids and solids) from the GI 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 and trap maintenance can greatly reduce the discharge of fats, oil, and grease (FOG) into the wastewater collection system.

The required maintenance frequency for grease interceptors and traps depends greatly on the amount of FOG a facility generates as well as any best management practices (BMPs) that the establishment implements to reduce the FOG discharged into its sanitary sewer system. In many cases, an establishment that implements BMPs will realize financial benefit through a reduction in their required grease interceptor and trap maintenance frequency. Refer to *Best Management Practices* for examples of BMPs that FOG generating establishments should implement.

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

Grease Trap Maintenance

A proper maintenance procedure for a grease trap is outlined below:

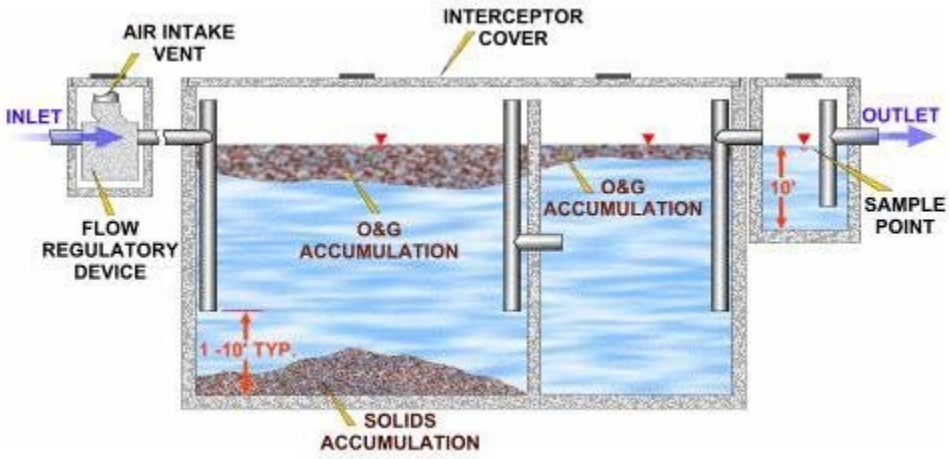


1. **Bail out any water in the trap or interceptor to facilitate cleaning. The water should be discharged to the sanitary sewer system.**
2. **Remove baffles if possible.**
3. **Dip the accumulated grease out of the interceptor and deposit in a watertight container.**
4. **Scrape the sides, the lid, and the baffles with a putty knife to remove as much of the grease as possible, and deposit the grease into a watertight container.**
5. **Contact a hauler or recycler for grease pick-up.**
6. **Replace the baffle and the lid.**
7. **Record the volume of grease removed on the *maintenance log*.**

Grease Interceptor Maintenance

Grease interceptors, due to their size, will usually be cleaned by grease haulers or recyclers. Licensed septic haulers can also pump out grease interceptors and haul the waste to the treatment plant. The hauler must notify DEQ when hauling grease. A proper maintenance procedure for a grease interceptor is outlined below:

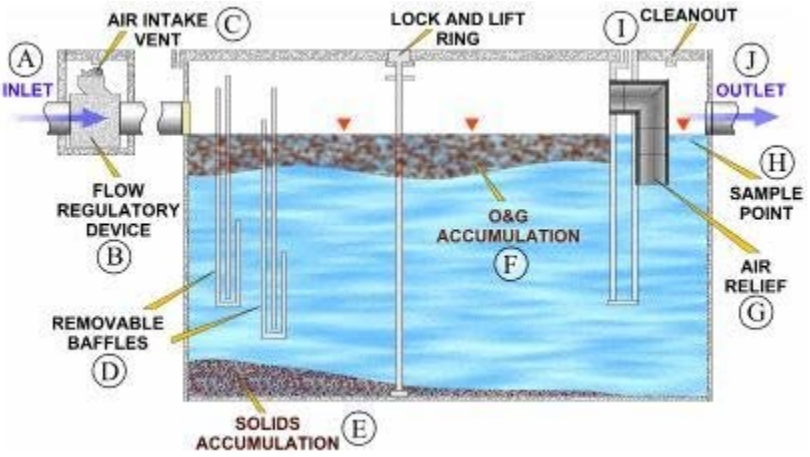
NOTE: Since the establishment is liable for the condition of their pretreatment devices, the establishment owners/representatives should witness all cleaning/maintenance activities to verify that the interceptor is being fully cleaned and properly maintained.



1. **Contact a grease hauler or recycler for cleaning. See *Fats, Oil and Grease Haulers and Recyclers*.**
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 bail out any water in the tr ap or interceptor to facilitate cleaning. The water should be discharged to the sanitary sewer system.**
4. **Remove baffles if possible.**
5. **Dip the accumulated grease out of the interceptor and deposit in a watertight container.**
6. **Pump out the settled solids and then the remaining liquids.**
7. **Scrape the sides, the lid, and the baffles with a putty knife to remove as much of the grease aspossible, and deposit the grease into a watertight container.**
8. **Replace the baffle and the lid.**
9. **Record the volume of grease removed on the *maintenance log*.**

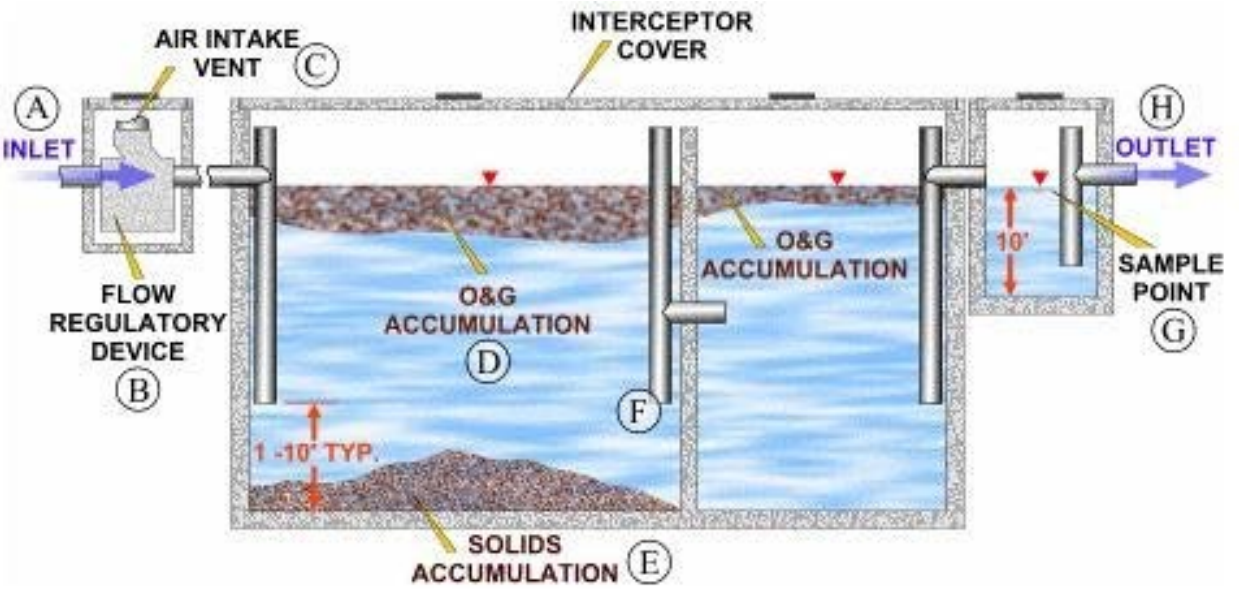
How it Works

Grease Trap



A. Flow from four or fewer kitchen fixtures enters the grease trap.
B. An approved flow control or restricting device is installed to restrict the flow to the grease trap to the rated capacity of the trap.
C. An air intake valve allows air into the open space of the grease trap to prevent siphonage and back-pressure.
D. The baffles help to retain grease toward the upstream end of the grease trap since grease floats and will generally not go under the baffle. This helps to prevent grease from leaving the grease trap and moving further downstream where it can cause blockage problems.
E. Solids in the wastewater that do not float will be deposited on the bottom of the grease trap and will need to be removed during routine grease trap 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 trap cleaning.
G. Air relief is provided to maintain proper air circulation within the grease trap.
H. Some grease traps have a sample point at the outlet end of the trap to sample the quality of the grease trap 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 trap through the outlet pipe and continues on to the grease interceptor or to the sanitary sewer system.

Grease Interceptor



A. Flow from undersink grease traps or directly from plumbing fixtures enters the grease interceptor. The UPC requires that all flow entering the interceptor must enter through the inlet pipe
B. An approved flow control or restricting device is installed to restrict the flow to the grease interceptor to therated capacity of the interceptor.
C. An air intake valve allows air into the open space of the grease interceptor to prevent siphonage 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 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 interceptor through the outlet pipe and continues on to the sanitary sewer system.

Inspection Checklist

Item	Item Description	Field Data (where appropriate)	Compliance Status[1]
1.	The establishment has implemented a training program to ensure that the BMPs are followed.		
2.	"No Grease" signs are posted in appropriate locations.		
3.	The establishment recycles waste cooking oil and can provide records of this.		
4.	Water temperatures at all sinks, especially the pre-rinse sink before the mechanical dishwasher or the sinks in the three-sink system are less than 140° F. Measure and record temperature.		
5.	The establishment "dry wipes" pots, pans, and dishware prior to rinsing and washing.		
6.	Food waste is disposed of by recycling or solid waste removal and is not discharged to the grease traps or interceptors.		
7.	Grease trap(s) is cleaned regularly. Note and record the frequency of cleaning.		
8.	Grease trap cleaning frequency is documented on a maintenance log (obtain a copy of the document).		
9.	Grease interceptor does not contain greater than 1/3 the depth in grease accumulation. Estimate and record amount of grease in interceptor.		
10.	Grease interceptor does not contain greater than 1/4 the depth in sediment accumulation. Estimate and record amount of sediment in interceptor if possible.		
11.	Grease interceptor is cleaned and maintained regularly. Note and record frequency of cleaning.		
12.	Grease interceptor cleaning and maintenance frequency is documented on a maintenance log (obtain a copy of the document).		
13.	Outdoor grease and oil storage containers are covered and do not show signs of overflowing.		
14.	Grease and oil storage containers are protected from discharge to storm drains.		
15.	Absorbent pads or other materials (not free flowing material such as cat litter) are used to clean up any spills or leakages that could reach the storm drain.		
16.	Storm drain catch basins show no signs of grease or oil.		
17.	The roof shows no signs of grease and oil from the exhaust system.		
18.	Exhaust system filters are cleaned regularly, which is documented by cleaning records. Note and record frequency of cleaning.		
NOTES			

Inspector:_____ Establishment:_____
Signature:_____ Address:_____
Date:_____ Contact Name:_____
Time Inspection Started:_____ Phone:_____
Time Inspection Completed:_____

Installation Checklist

Item	Item Description	Compliance Status[1]
1.	Each grease trap serves not more than four single compartment sinks of the same depth. Grease trap is sized based upon the number of fixtures discharging to it. See *FAQs*.	
2.	Grease traps has a water seal of not less than two inches in depth or the diameter of its outlet, whichever is greater.	
3.	No food waste disposal unit or dishwasher is connected to or discharges into any grease trap.	
4.	Waste from toilets and urinals does not discharge to the grease interceptor.	
5.	Waste in excess of 140° F is not discharged to any grease trap. (Dishwasher with a min. temperature of 160° F is not discharged to any grease trap.)	
6.	The vertical distance between the fixture outlets and grease trap weirs is as short as practical.	
7.	Grease interceptor is as close as practical to the fixtures served.	
8.	Each fixture connected to a grease trap is provided with an approved type flow control or restricting device installed in a readily accessible and visible location. Devices shall be designed so that the flow through the device or devices at no time exceeds the rated capacity of the grease trap or interceptor.	
9.	Each fixture discharging into a grease trap or interceptor is individually trapped and vented in an approved manner.	
10.	Each grease trap and interceptor is properly vented to allow air circulation throughout the entire drain system.	
11.	No water jacketed grease trap or interceptor is installed.	
12.	Grease interceptor is easily accessible for inspection and cleaning and access does not require the use of ladders or the removal of bulky equipment.	
13.	There is a minimum of one access point into each compartment of the interceptor and no access points are greater than 10 feet apart. Each access opening is leak-resistant and cannot slide, rotate, or flip.	
14.	Location of grease interceptor is shown on approved building plans. Drawings of interceptor are complete and show all dimensions, capacities, reinforcing and structural design calculations.	
15.	Grease interceptor is not installed in any part of a building where food is handled. Location shall meet the approval of the Administrative Authority.	
16.	Grease interceptor serves a single business establishment.	
17.	Grease interceptor has a minimum of two compartments and 3-inch diameter fittings designed for grease retention. The compartments shall be separated by partitions or baffles that extend at least 6 inches above the water level. The inlet compartment shall be 2/3 of the total interceptor capacity and shall have a minimum liquid volume of 333 gallons. The length of the inlet compartment shall be longer than the inside width of the interceptor.	
18.	The inlet and outlet fittings shall be a baffle tee (or similar flow device) that extends at least 4 inches above the water level to within 12 inches of the bottom of the interceptor. The outlet tee out of a sample box shall extend at least 6 inches below the water surface. Flow between the separate compartments is through a baffle tee or bend that extends down to within 12 inches of the bottom of the interceptor.	
19.	The liquid depth shall be greater than or equal to 2'-6" and less than 6'-0".	
20.	There shall be a minimum of 9 inches of open vent space above the water level to the top of the interceptor. The airspace has a minimum capacity equal to 12-1/2% of the grease interceptors liquid volume.	
21.	The grease interceptor has at least one square foot of surface area for every 45 gallons of liquid capacity.	
22.	All waste enters the interceptor through the inlet pipe.	

23.	Grease interceptor cover is gastight and has a minimum opening of 20 inches in diameter.	
24.	Grease interceptors located in areas of pedestrian or vehicle travel are adequately designed to support the imposed loads. Review of structural calculations may be required to verify adequacy.	
25.	Redwood baffles are not installed in grease interceptor.	
26.	A sample box is provided on the outlet side of the grease interceptor. This is recommended and may be required by the UPC so that the Administrative Authority can periodically sample the effluent quality.	
27.	Grease interceptor is permanently and legibly marked with the manufacturer's name of trademark, model number, UPC certification mark and registration (if product is listed by the International Association of Plumbing and Mechanical Officials), and any other markings required by law.	
NOTES		

Instructions for form:

1. Completely fill out general information.
2. For items that require some measurement of field data, the inspector should obtain the necessary data or information and record it under the column titled, "Field Data."
3. For all items marked in violation, note the fact that the establishment contact was notified of theviolation and the contact's response.

[1]An entry should be made for each item using the following codes:

- "C" – Compliance with the item
- "V" – Violation of the item (provide explanation in the notes)
- "NA" – Not applicable (provide explanation in the notes)
- "NC" – Not checked (provide explanation in the notes)