
GLOBAL WATER RESOURCES (GWR)**CODE OF PRACTICE****GWR-CP-EX-002****FOOD SERVICE OPERATIONS****APPLICATION**

This code of practice for Food Service operations defines the requirements for managing waste discharged directly or indirectly into a sewer connected to a sewage facility from restaurants, or other facilities employing food service as a primary or secondary business operation.

This code of practice applies to:

- a. operators of a food services operation that adds kitchen equipment that has the potential to discharge oil and grease;
- b. operators of a food services operation that discharges non-domestic waste to sewer that exceeds any of the restricted waste criteria specified in GWR-CP-EX-DEF; or
- c. any food service operation, as determined by the GWR.

Definitions are included in GWR-CP-EX-DEF.

DISCHARGE REGULATIONS

An operator of a Food Service Operation must not discharge waste, which at the point of discharge into a sewer, contains:

- a. oil and grease in a concentration that is in excess of 100 milligrams per liter as analyzed in a grab sample;
- b. suspended solids in a concentration that is in excess of 350 milligrams per liter as analyzed in a grab sample;
- c. 5-day biochemical oxygen demand (BOD5) in a concentration that is in excess of 350 milligrams per liter in a grab sample;
- d. exceeds the limits established in GWR-CP-EX-DEF for restricted wastes;
- e. includes prohibited waste, special waste, stormwater, or uncontaminated water; or
- f. Sanitary wastes are not allowed to be connected to sewer lines intended for grease interceptor service.

GREASE INTERCEPTORS/GREASE TRAPS

Grease interceptors/grease traps are required to be installed and maintained by the Owner/Operator of food service operations within the collection system of GWR facilities. Grease interceptor installations and grease traps shall conform to the requirements of this Code of Practice.

Design

The rated flow capacity of each grease interceptor and/or grease trap installed in food services establishments shall not be less than the maximum discharge flow from all plumbing fixtures connected to the grease interceptor/grease trap that will discharge simultaneously.

The rated flow capacity of each grease interceptor/grease trap must be established using the *Plumbing and Drainage Institute standard PDI-G101* or equivalent test as approved by GWR's engineer.

Each grease interceptor/grease trap must have either:

- a. an internal flow control fitting, or
- b. a flow control fitting installed on the inlet line¹.

All grease interceptors/grease traps must be labeled with information containing the rated flow capacity of the unit. The label shall be permanently affixed and visible following installation. Where a permanently affixed and visible label is not possible or practical, manufacturer and installation drawings of the grease interceptor/grease trap shall be maintained at the site and shall be available for inspection by GWR staff on request.

Access manholes, with a minimum diameter of 24 inches, shall be provided over each grease interceptor chamber and sanitary tee. The access manholes shall extend to finished grade and be designed and maintained to prevent water inflow or infiltration. The manholes shall also have readily removable covers to facilitate inspection, grease removal, and wastewater sampling activities. Design Flow Rates

The operator of a food services operation must calculate the maximum discharge flowrate to a grease interceptor by adding together the flowrates from each fixture that will discharge simultaneously using the following method to estimate the flowrate from each fixture:

- a. for sinks, calculate the total volume of each sink and assign a drain time of one minute;
- b. for exhaust hoods with an automatic cleaning cycle, measure the discharge flowrate or use the manufacturers estimate of peak discharge flowrate during the automatic wash cycle;
- c. for floor drains, estimate the flowrate using the following table:

GREASE INTERCEPTOR SIZING

Floor Drain Diameter (Inches)	Drain Rate (GPM)
2	22
3	37.5
4	45

- d. for drains on other equipment, use the table in Section (c) or if the drain size is less than 2 inches in diameter either:
 - I. measure the discharge flowrate, or
 - II. refer to manufacturers estimated peak discharge flowrate, or
 - III. use a minimum of 22 GPM; and

¹ The flow control fitting must be sized to limit the flow to a rate that is no more than the rated flow capacity of the grease interceptor.

GREASE TRAP SIZING (INTERNAL)

Fixture Outlet or Trap Size (Inch)	Drainage Fixture	GPM	PDI Size grease Trap
1 ¼	1	7.5	10
1 ½	2	15	15
2	3	22	25
2 ½	4	30	35
3	5	37.5	50
4	6	45	50

Where the rated flow capacity of a grease interceptor/grease trap is exceeded by the maximum discharge flow rate from all plumbing fixtures that will be discharged simultaneously to the grease interceptor/grease trap, the operator of a food services operation must:

- a. install a grease interceptor/grease trap that has a rated flow capacity equal to or greater than the maximum discharge flowrate from all plumbing fixtures connected to the grease interceptor/grease trap that will discharge simultaneously; or
- b. install additional grease interceptors/grease traps so that the maximum discharge flowrate from fixtures connected to each grease interceptor/grease trap that will discharge simultaneously does not exceed the rated flow capacity of the grease interceptor; or
- c. have a plan approved by GWR's engineer showing how the discharge of waste will be managed.

Installation
GREASE INTERCEPTORS

A grease interceptor must be located so that it is readily and easily accessible for inspection and maintenance. A sampling point shall be installed as follows:

- a. a sampling tee shall be located either at the outlet of the grease interceptor or downstream of the grease interceptor at a location upstream of any discharge of other waste;
- b. the sampling tee shall be not less than 4 inches in diameter, and shall be installed so that it opens in a direction at right angles to and vertically above the flow of the sewer pipe; and
- c. the sampling tee shall be readily and easily accessible at all times for inspection.

GREASE TRAPS

A grease trap must be installed as close as possible to the FOG laden water. It must be installed so maintenance can be easily performed. The cover must be removed periodically to remove the FOG, so the grease trap must be installed to provide this access.

Automatic Grease Recovery Units (AGRU)

This equipment automatically separate and remove grease, fat, and oil from drain water flow. The device allows incidental food solids and other debris found in the entering water to be separated from the grease and pumped out of the solids retention area to the drain. The entire process is controlled automatically by a timer.

- a. Enough clearance should be available to be able to remove and service the internal baffling.
- b. The Flow Control Fitting furnished with a PDI Certified Interceptor must be installed in the waste line ahead of the interceptor.
- c. It should be located beyond the last connection from the fixture and as close as possible to the underside of the lowest fixture to minimize the effects of head pressure.
- d. All installation recommendations are subject to the approval of the local plumbing code authority

Maintenance

An operator of a food services operation shall maintain all grease interceptors/grease trap installed in connection with the food services operation in accordance with the manufacturer's recommendations so that the grease interceptors function properly.

An operator of a food services operation must not permit oil and grease to accumulate in a grease interceptor/grease trap in excess of the lesser of six inches or 25% of the wetted height of the grease interceptor/grease trap.

An operator of a food services operation shall not dispose of oil and grease from a grease interceptor/grease trap to a sewer. All cleaning or grease removal shall be accomplished by employing vacor trucks or other means to preclude any grease from entering the collection system.

An operator of a food services operation must not use or permit the use of chemical agents, enzymes, bacteria, solvents, hot water or other agents to facilitate the passage of oil and grease through a grease interceptor without the express written consent of GWR.

Connections to Grease Interceptors/Grease trap

An operator of a food services operation shall have the following fixtures connected to the grease intercept/trap system:

- a. sinks used for washing pots, pans, dishes, cutlery and kitchen utensils;
- b. drains serving self-cleaning exhaust hoods installed over commercial cooking equipment;
- c. drains serving commercial cooking equipment that discharges oil and grease;
- d. drains serving a garbage compactor used to compact waste that may contain, or be contaminated with, food waste; or
- e. other fixtures that discharge wastewater containing oil and grease.

The following fixtures shall not be connected to a grease interceptor/grease trap:

- a. garburators, potato peelers and similar equipment discharging solids;
- b. toilets, urinals and hand sinks;
- c. automatic dishwashers²

² An automatic dishwasher may be connected to a grease interceptor/grease trap provided that there are no other fixtures connected to the grease interceptor/grease trap and the grease interceptor/grease trap is sized to accept the maximum discharge flowrate specified by the dishwasher manufacturer.

