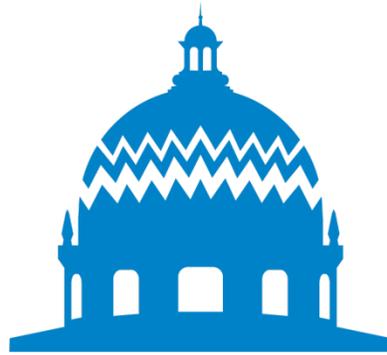


Article XIV

Grease Management Program



PIMA COUNTY

WASTEWATER RECLAMATION

ARTICLE XIV GREASE MANAGEMENT PROGRAM

13.36.400 Statement of Policy

The Pima County Regional Wastewater Reclamation Department's Industrial Wastewater Control Section is authorized to determine the compliance status of Food Service Facilities (FSF) where fats, oils and grease (FOG) of vegetable or animal origin are Discharged directly or indirectly to the POTW. These Discharges can contribute to line blockages or Sanitary Sewer Overflows.

For the purpose of this Ordinance and Pretreatment requirement determination, FSF's are defined as those facilities the Pima County Health Department requires to install and utilize a manual ware-washing three compartment sink.

The purpose of these rules is to set forth uniform requirements for all Food Service Facilities that Discharge into any public or private collection system connected to the POTW. Any new FSF or existing facility making a modification requiring the submittal of plans for construction or tenant improvements must meet the requirements of this Grease Management Program. Facilities without Pretreatment, or whose grease-bearing wastestreams are not connected to a Pretreatment device, must upgrade their system to the requirements of this Ordinance or obtain an Industrial Wastewater Discharge Permit.

Existing facilities that were built to previously adopted Plumbing Codes' standards need not bring current their Pretreatment system unless they are found to have caused or contributed to grease accumulation in the line or odor generated by grease accumulation.

13.36.410 Operation and Maintenance of Pretreatment Devices

All Pretreatment devices shall be maintained in efficient operation at all times by the Owner or Operator at their expense.

Food Service Facilities are required to have a suitable and adequate Pretreatment device, and must regularly inspect, clean and maintain such device in accordance with this Article or the manufacturers' recommendations.

In maintaining these Pretreatment devices, the Owner/Operator shall be responsible for the proper removal and disposal of the captured material. Records shall be maintained of the dates, name of person/company, and the amount of material removed.

Pretreatment device maintenance performed by liquid waste haulers shall consist of removing the FOG, solids and water from the device and properly disposing of the material in accordance with all Federal, State and local laws. Proper maintenance practices include evacuating the entire contents in the following manner:

- Remove floatable FOG material;
- Remove settled solids;
- Remove and scrape baffles, baffle slots, interior walls and other detachable components;
- Remove remaining FOG, solid material and water (“pump-in-full” – no “skimming”); and
- Reinstall all components removed during the cleaning process.

Under no circumstances shall any liquid removed from any Pretreatment device be placed back into any Pretreatment device.

13.36.420 Hydromechanical and Gravity Grease Interceptor and Other Alternative Pretreatment Device Design Criteria

Pretreatment devices shall be designed and installed in accordance with the sizing criteria found in this Section. A sampling port/box/T, which will accommodate the collection of a valid oil and grease sample, shall be included on all Pretreatment device installations.

- A. Hydromechanical Grease Interceptors (HGI), which are generally installed inside, may be used when there are four or fewer fixtures. The minimum size HGI installed shall be rated no less than 25 gallon per minute with a 50 pound grease retention capacity. A flow control device shall be installed so that the flow through the device shall at no time be greater than the rated flow. **If a dishwasher or food waste disposal unit is used in the facility, an HGI cannot be used** and an appropriately sized GGI or alternative Pretreatment device capable of accepting these wastes must be installed.

Hydromechanical grease interceptors must be cleaned at least monthly. An HGI located indoors should be cleaned during non-business hours to prevent objectionable odors/germs from being released into the facility.

- B. A Gravity Grease Interceptor (GGI) is typically installed outside and in the ground when a FSF has greater than four fixtures, or when dishwasher or food waste disposal units are used in the facility. The minimum sized GGI to be installed shall be 300 gallons. Gravity grease interceptors shall be installed such that they are easily accessible for inspection, cleaning and the removal of FOG and solid material. A GGI shall meet the following minimum criteria: no obstruction to prevent the proper access and cleaning of the GGI; access covers located such that the influent and effluent sanitary “T” and compartment transition points (if applicable) are accessible for proper cleaning and inspection; and an access cover for each chamber and constructed with the appropriate traffic rating.

The GGI must be pumped-in-full at least every six months or when the total accumulation of surface FOG (including floating solids) and settled solids reaches 25 percent of the GGI's overall depth.

C. Gravity Grease Interceptor Sizing Criteria:

$$V(\text{min}) = F \times R \times S$$

Where:

V(min)= Minimum Gravity Grease Interceptor Operating Volume, gallons
F = Flow Rate (maximum), gallons per minute
R = Retention Time = 30 minutes
S = Storage Factor = 25 percent

Thus: $V(\text{min}) = F \times 30 \times 1.25$

To calculate flow rate (F), use Drainage Fixture Units (DFU) values found in the tables below.

The flow rate shall be determined based on the total flow rate from all equipment and plumbing fixtures connected to the gravity grease interceptor using one of the following equations:

1. Drainage Fixture Units less than or equal to 40:

$$F = (0.8 \times \text{DFU})$$

2. Drainage Fixture Units greater than 40:

$$F = (0.3 \times \text{DFU}) + 20$$

Where:

DFU = Drainage Fixture Units, defined by the Tables below.

The below fixture counts are for determining the size of a Gravity Grease Interceptor.	
Drainage Fixture Units for Food Service Facilities.	
Fixture Type	Drainage Fixture Unit (DFU) Value
2-Compartment Sink	2
3-Compartment Sink	3
Automatic Dishwasher greater than 2 inch Drain	6
Automatic Dishwasher less than 2 inch Drain	3
Food Prep Sink	2
Food Waste Grinder	4
Hand Sink	1
Mop Sink/Mop Basin	2
Pre-Rinse Sink	3
Pre-Rinse Sink w/Food Waste	4
Rotisserie w/Drain	3
Tilt Soup Kettle	3
Wok Stove	4
For Fixtures not listed above use Table 709.2 below of the 2012 International Plumbing Code.	

Drainage Fixture Units for Fixture Drains or Traps	
Fixture Drain or Trap Size (inches)	Drainage Fixture Unit (DFU) Value
1 ½ inches	1
1 ½ Inches	2
2 inches	3
2 ½ inches	4
3 inches	5
4 inches	6

GGI sizing is summarized below.	
Gravity Grease Interceptor Sizing	Minimum Size (gallons)
Up to 10 DFUs	300
11-16 DFUs	500
17-25 DFUs	750
26-33 DFUs	1000
34-44 DFUs	1250
45-66 DFUs	1500
67-111 DFUs	2000
Greater than 112 DFUs Contact IWC.	

Retention Time:

The minimum retention time of 30 minutes is based on Wastewater Engineering, Treatment, Disposal and Reuse, Third Edition, Metcalf and Eddy, Inc., McGraw-Hill, Inc., page 1028.

Storage Factor:

A minimum of 25% storage is required for fats, oils, grease and settled solids for gravity grease interceptors.

Providing additional interceptor capacity may reduce an interceptor's maintenance frequency. However, solids accumulation and low flows in an interceptor may, over an extended period of time, produce a corrosive environment which can damage the structural integrity of the interceptor. An oversized interceptor can also generate odor problems.

- D. If an alternative Pretreatment device is used instead of an HGI or GGI, the design must be submitted to the Director for prior approval. The information submitted to the Director must include, but not be limited to, the number of DFUs the device is going to service, and the manufacturer's recommended sizing criteria.
- E. The introduction of emulsifying agents such as chemicals, solvents or enzymes, either directly or indirectly into the Pretreatment device, other than what is considered typical business operational practices such as dishwashing or sanitation, is strictly prohibited.

Products which reduce FOG, such as bacteria, may be used in the Pretreatment device, in addition to the regular maintenance program, but shall not be a consideration in determining sizing or maintenance frequency.

13.36.430 Fats, Oils and Grease Sources

- A. All fixtures, equipment and drain lines located in a facility's food preparation or clean-up areas, which are sources of FOG, shall be connected to a Pretreatment device except as outlined in 13.36.400 of this Article. Dishwashers or other fixtures discharging emulsifying agents, such as detergents, should be located such that their potential to adversely impact the operation is minimized. All wastestreams containing FOG within FSF shall be directed to a Pretreatment device.
- B. The following types of equipment or fixtures have been identified as sources of FOG and shall be connected to a Pretreatment device:
- pre-rinse and or pre-wash sinks;
 - two, three or four compartment sinks;
 - meat prep sinks;
 - wok stoves;
 - kitchen floor drains;
 - floor sinks;
 - mop sinks¹;
 - food prep sinks;
 - hand sinks²;
 - dishwashers;
 - self cleaning ventilation /exhaust hood and
 - food waste disposal units³.

¹Depending on use, the requirement to drain through a Pretreatment device may be appealed to the Director as outlined in 13.36.075.

²A hand wash sink located in the kitchen area shall either Discharge through a Pretreatment device or have a sign posted above it stating clearly in all applicable languages: "HANDWASH SINK ONLY! NO FOOD PREPARATION OR DISHWASHING ALLOWED."

³Discharges from food waste disposal units must drain through a minimum 3/8 inch screen or solids separator prior to the Pretreatment device.

13.36.440 Best Management Practice Requirements

Best Management Practices (BMPs) are policies, practices, or procedures implemented to mitigate the adverse effects of FOG.

All FSFs must develop and implement BMPs which, at minimum, shall include the following:

- Pouring all grease and oil from pots and pans into a waste grease container stored in close proximity to the pot washing sink and not down the drain;
- Scraping off of all solids or FOG on plates, pots and pans into the garbage can;

- Pre-washing plates with cold water over a small screened catch basin positioned over the drain and disposing the contents of the catch basin in a garbage can;
- Disconnecting all food waste disposal devices, unless the Discharge is screened or goes through a solids separator prior to Discharge;
- The posting of signs above vegetable prep sinks not protected by a grease Pretreatment device, stating clearly in all applicable languages: “NO WASHING OF POTS, PANS, DISHES OR UTENSILS – VEGETABLE PREP SINK ONLY”;
- Periodic training of current and new employees regarding the effective use of the BMPs.

13.36.450 Record-Keeping Requirements

All Pretreatment device maintenance, compliance reports and related correspondence must be retained on-site by the User for a minimum of three years. A separate maintenance log shall be maintained on-site for each device. Maintenance logs shall include the following information: device location and volume; maintenance dates; volume removed in gallons; name of company and person(s) performing maintenance; and disposal location (facility where the material was disposed).

Records associated with waste cooking oil collection and disposal shall also be kept on-site by the User for a minimum of three years. Waste cooking oil collection logs shall include the following information: collection date; volume collected in gallons; name of company and person(s) performing collection; and disposal methods.

Records of compliance with BMP training shall be maintained by each FSF.