



**Department Of Community Development  
Commercial Plan Submittal Guidelines**

## **Grease Interceptors**

### ***1. Where Required***

Every food serving, food preparing, food catering, or meat cutting establishment; fish fowl and animal slaughter house or packing or curing establishment; soap factory; fat rendering or hide curing establishment; or any other establishment from which considerable amounts of grease are likely to be discharged into the sewer system, in quantities that could effect line stoppage or hinder sewage treatment, shall be connected to and discharge into an approved grease interceptor. Grease interceptors shall not be required for private residences.

### ***2. Definitions***

**General:** For the purpose of this standard, the following terms shall have the meaning indicated in this section.

**A. Full Service Restaurants:** Any food preparing or food serving establishment where food is regularly served and consumed on the premises and eating utensils, such as silverware, plates, glasses, etc., are not disposable and are normally washed and re-used.

**B. Single Service Restaurants:** Any food preparing, food serving, or food catering establishment where food is not necessarily served or consumed on the premises and eating utensils, such as silverware, plates, glasses, etc., are disposable and are not normally re-used.

**C. Grease Interceptor:** A facility of at least 750-gallon capacity, which is normally remotely, located outside of the establishment it serves.

### ***3. Approval***

The Building Division, in accordance with this standard shall approve the size, type and location of each grease interceptor. The Architect/Engineer shall furnish structural design criteria; hydraulic loading, volume and retention time calculations; and detailed plans and specifications for all interceptors to the Building Division for approval prior to construction. The location of all interceptors shall be shown on a separate site plan, 8-1/2" x 11" in size, which must be submitted with the building plans. Except where otherwise specifically permitted no wastes other than those requiring pretreatment or separation shall be discharged into any grease interceptor. All drains from the kitchen, food preparation, and dishwashing areas shall be connected to the grease interceptor. Waste in excess of 140 degrees F shall not discharge into a grease interceptor.

#### **4. Design**

All grease interceptors shall be constructed of reinforced concrete, and shall be installed in accordance with the details on page 5. All grease interceptors shall have two compartments, the smallest or secondary of which shall have at least one-third the capacity of the entire interceptor. Interceptors shall have gas tight covers and shall be so designed that they will not become air bound. Interceptors shall be properly vented in accordance with the International Plumbing Code.

#### **5. Location**

All interceptors shall be located outside the building on private property and as close as possible to the fixtures it serves. Interceptors shall be readily accessible at all times for maintenance and inspection. The use of ladders or the removal of equipment in order to service or inspect interceptors shall constitute a violation of accessibility. No grease interceptor shall serve more than one business establishment.

#### **6. Sizing**

**A. Full Service Restaurants:** The minimum size of interceptors for full service restaurants shall be based on the maximum number of meals served during any meal period (breakfast, lunch, or dinner). The interceptor volume, in gallons, shall be 2-1/2 (gallons) multiplied by the maximum number of meals served. The maximum number of meals served shall be determined by multiplying the seating capacity by a full capacity factor of .9 and a turnover rate of 2.2.

**B. Single Service Restaurants:** The minimum size of interceptors for single service restaurants shall be based on the maximum rate of flow into the interceptor from various pieces of kitchen equipment and plumbing fixtures. The interceptor volume, in gallons, shall be the maximum rate of flow of all fixtures discharging into the interceptor multiplied by a retention factor of 8 minutes. Table A on page 4 establishes the maximum rate of flow, in G.P.M., for various pieces of kitchen equipment and plumbing fixtures which may require connection to the interceptor.

**C. 10% Rule:** If the required volumetric capacity of the interceptor, as calculated in either A. or B. above, is within 10% of the volumetric capacity of a smaller, standard "shelf-size" interceptor, the smaller interceptor will be acceptable.

#### **7. Garbage Disposals:**

**A.** Garbage disposals shall be discharged into a grease interceptor unless specifically approved by the Building Division.

**B.** Garbage disposals installed in sinks used for food preparation or located in food preparation areas shall be discharged into a grease interceptor or grease trap.

**C.** Garbage disposals installed in sinks used exclusively for washing pots, pans, plates, cooking and eating utensils, etc., shall be discharged into a grease interceptor and the interceptor shall be sized for the additional load.

**D.** In Full Service Restaurants, as defined herein, the required interceptor capacity shall be increased by 10% for every garbage disposal discharging therein.

**E.** For Single Service Restaurants, as defined herein, refer to Table A for the G. P. M. rating to be added for each garbage disposal discharging into the interceptor.

## **8. Grease Traps**

**A. General:** When, in judgment of the Chief Building Official, it would be impractical or unnecessary to install a full-size grease interceptor outside the building due to the nature or relative size of a food establishment, the installation of an in-line grease trap may be approved. Expense shall not be considered sufficient reason to waive the requirements for full-size grease interceptors.

**B. Approval:** Complete plans indicating the size and rating of the unit, pipe sizing, venting, location of the unit, and location of flow control devices shall be submitted to the Building Division for approval prior to construction.

**C. Design:** Each grease trap shall be so installed and connected that it will be readily accessible for cleaning and inspection at all times. Grease traps shall be constructed of durable materials satisfactory to the Building Official and shall have a full size gas tight cover, which can be readily removed. Each grease trap shall have a water seal of not less than 2" in depth or the diameter of its outlet, whichever is greater. No single in-line grease trap shall serve more than two separate fixtures. Grease traps shall be installed and vented in accordance with the International Plumbing Code.

**D. Sizing:** The minimum size of grease traps shall be based on the maximum rate of flow of all fixtures discharging into the grease trap multiplied by a retention factor of 1.5 minutes. Table A on page 4 establishes the maximum rate of flow, in G.P.M. for various pieces of kitchen equipment and plumbing fixtures which may require connection to the grease trap. No grease trap shall be installed with an approved rate of flow less than 20 gallons per minute or a retention capacity of less than 40 lbs. Unless specifically required or permitted by the Building Division, no garbage disposal or dishwasher shall be connected to or discharged into any grease trap.

## Table A

TYPE OF FIXTURE	TRAP & TRAP ARM SIZE	RATE OF FLOW IN G.P.M.
<b>Floor Drains:</b>		
- discharging into interceptors for grease, oil, solids, etc.	2"	15
	3"	20
- discharging into non-vehicle wash sand & oil interceptors	2"	20
	3" or 4"	45
- discharging into vehicle wash sand & oil interceptors	3" or 4"	60
<b>Sinks:</b>		
- commercial bar sinks	1-1/2"	15
- restaurant kitchen sinks (single compartment)	1-1/2"	20
- restaurant kitchen sinks (three compartment)	1-1/2"	40
- restaurant hand sinks	1-1/2"	15
- service sinks (mop sinks)	2"	20
<b>Dishwashers:</b>		
- up to 50 gal. capacity	-	20
- over 50 gal. capacity	-	40
<b>Garbage Disposals:</b>	-	35

### Receptors:

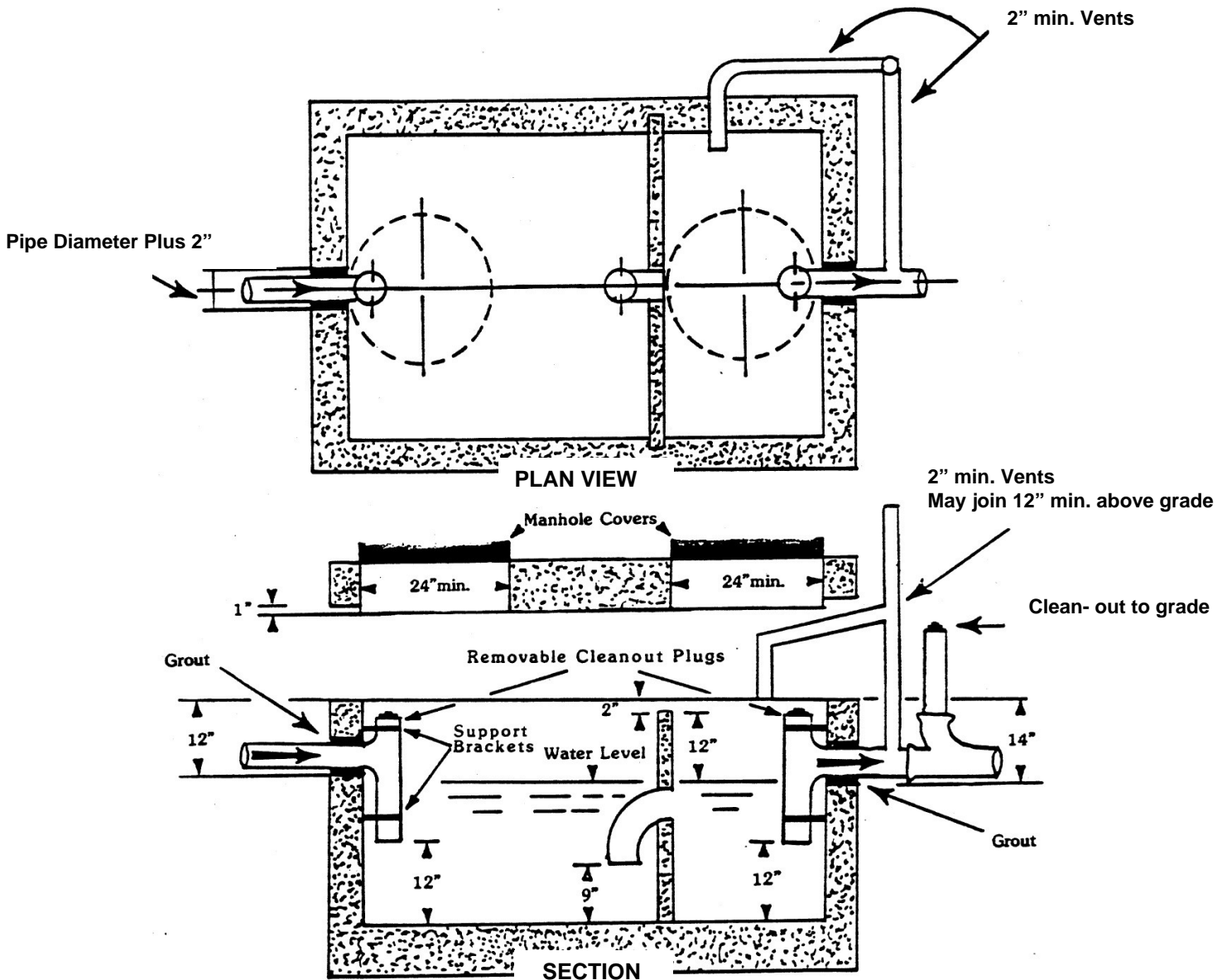
- the size and discharge rating of each indirect waste receptor shall be based on the total rated discharge capacity of all fixtures, equipment, or appliances discharging therein.

### Note:

The discharge capacity of fixtures or devices not shown in Table A shall be actual rated discharge capacity of the fixture or device.

# TYPICAL GREASE INTERCEPTOR

WATER CAPACITY 300-3500 GALLONS



## General Notes:

1. These details are only intended to show conceptual / standard requirements for grease interceptors and are not intended to be used for construction. Design criteria and detailed construction drawings, stamped and signed by a Colorado Registered Architect or Engineer, must be submitted to the Building Division for approval.
2. All pipe and fittings must be approved soil pipe, 3" minimum in diameter, unless noted otherwise.
3. Walls, bottom, and top of interceptor must be reinforced throughout with additional reinforcement around access openings as specified by architect or engineer. All reinforcement shall have 1-1/2" min. cover to face of concrete.
4. The architect or engineer must specify the thickness of walls, bottom, and top slab.
5. Outlet pipe invert must be 2" lower than inlet.
6. The Utilities Department must approve bolt down covers.
7. Support brackets and clean-out plugs must be brass.
8. Vent pipes may be joined 12" above grade minimum.