

Section XXI

SAND, OIL AND GREASE INTERCEPTOR

This section includes guidelines for design and installing a sand, oil and grease interceptor.

All design criteria, materials, and construction shall be in accordance with DHEC regulations, AWWA, and ASTM standards.

A. SAND, OIL AND GREASE INTERCEPTOR

1. Provide precast concrete vault.
 - a. 4000 psi concrete.
2. See Detail XXII-1

B. CAPACITY DESIGN

1. Minimum interceptor size: 1500 gallons.
2. Size interceptor based on the following criteria:
 - a. Volume of throughput.
 - b. Solids retention capacity, in pounds, equal to twice the flow rate, in gallons per minute.
 - c. Retain 90% of the oil and grease.
 - d. Retain 100% of the sand.
 - e. Detention time based on peak flow to interceptor.
3. Restaurants:

- a. Size of interceptor = (D) x (GL) x (SC) x (HR/2) x (LF) where:

D = Number of seats in dining area.

GL = Gallons of wastewater per meal, normally 5 gallons.

SC = Storage capacity factor; 1.7 minimum.

HR = Number of hours open.

LF = Loading factor.

- b. Loading factor:
 - 1) Recreational areas = 1.0.
 - 2) Main highways = 0.8.
 - 3) Other highways = 0.5.

4. Hospitals, nursing homes, and other commercial kitchens:

- a. Size of interceptor = (M) x (GL) x (SC) x (2.5) x (LF) where:

M = Meals per day.

GL = Gallons of wastewater per meal, normally 4.5 gallons.

SC = Storage capacity factor; 1.7 minimum.

LF = Loading factor.

- b. Loading factor:
 - 1) Garbage disposal and dishwasher = 1.25.
 - 2) Without garbage disposal = 1.0.
 - 3) Without dishwasher = 0.75.
 - 4) Without dishwasher and garbage disposal = 0.5.

5. Minimum line size: 4".

C. LOCATING

- 1. Easily accessible for cleaning and solids removal.
 - a. Remove solids when approximately 75% of the interceptors capacity is reached.

D. MANHOLE FRAMES AND COVER

- 1. Provide gray iron castings, ASTM A48, Class 30 iron.
- 2. Machine all bearing surfaces.
- 3. Coat frames and covers with two shop coats of bitumastic paint.
- 4. Provide watertight covers, where indicated, conforming to above requirements and with frame tapped for four bolts, countersunk in cover.

- a. Provide rubber gasket between frame and cover.
5. Acceptable manufacturers: Sumter Machinery Company Model MC-18 and MF-11 or US Foundry Model 680.