



# Onsite wastewater guidelines for Food Service Facilities

## Wastewater Treatment Capacity

Facilities located outside the West Bay Beach Sewage collection area are served by onsite wastewater treatment systems. Onsite systems include septic tanks and aerobic treatment units (ATUs), also referred to as "package plants". The treatment capacity of onsite wastewater treatment systems is fixed upon installation; therefore, it is critical to consider whether an existing system has adequate capacity to accommodate a commercial food service. **Food service facilities are considered high-water use and may therefore require an upgrade or replacement of an existing onsite treatment system, in addition to requirements for a grease interceptor installation.** Developers of new commercial developments who want the flexibility to accommodate a food service facility, now or in the future, should install an onsite wastewater treatment system and in-the-ground grease interceptor sized to accommodate it, as after-the-fact upgrades are more difficult, disruptive and costly.

## Grease Interceptors

### WHERE REQUIRED

Commercial and institutional food service facilities (restaurants, cafes, schools, hospitals, etc.), which generate high concentrations of oil and grease in their wastewater, are required to install and maintain grease interceptors. Grease interceptors are not required for private residences.

### DESIGN & SIZING CRITERIA

Design and sizing criteria are found in Appendix III on the following pages.

### EXCEPTIONS

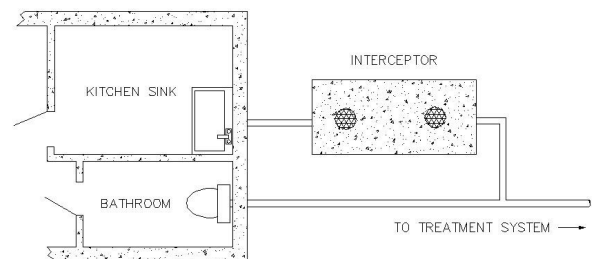
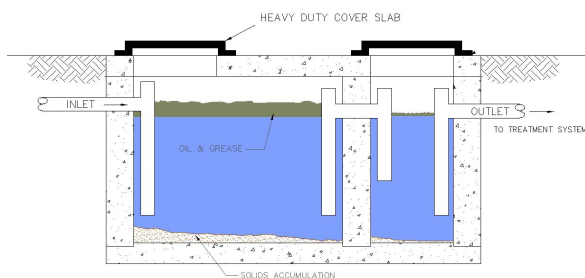
- Proposals for "under-the-sink" or "prefabricated" grease interceptors will only be considered for change-of-use proposals in developments constructed before August 2001 (prior to exclusion of "under-sink" interceptors).
- Application for conditional exemption from the grease interceptor requirement will only be considered for facilities where menu and equipment is limited to that which neither requires nor renders excessive amounts of oil or grease, and where service ware is limited to single use (disposable or consumable).

## What is a Grease Interceptor?

A grease interceptor is a specially designed tank that "intercepts", or holds back, grease and solids contained in wastewater from kitchen sinks and dishwashers. A properly sized and maintained grease interceptor minimizes :

- ⊗ Inconvenient, unsanitary backups caused by plugged wastewater lines or fouled pumping equipment
- ⊗ Expensive emergency service calls, and ⊗ Smelly treatment systems fouled by grease

Follow [Best Management Practices for Grease Interceptors](#) to minimize odours, back-ups and emergency service calls.



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The Water Authority was established in 1983 as a statutory body responsible for supplying wholesome and affordable drinking water to the people of the Cayman Islands. The Water Authority is also responsible for the proper treatment of wastewater and for the protection of the fresh groundwater lenses that exist throughout our islands.

# Guidelines for Onsite Wastewater Treatment

## APPENDIX III: GREASE INTERCEPTORS

### SIZING CRITERIA

The design capacity of a grease interceptor shall be as specified by the Water Authority- Cayman, based on review of plans submitted through the Planning Department. The minimum volume of any grease interceptor shall be 600 US gallons and a maximum volume of a single grease interceptor shall be 1500 US gallons. When the required effective capacity of the grease interceptor is greater than 1500 US gallons, installation of grease interceptors in series is required, up to a maximum of (2) 1500 US gallon interceptors in series (if two tanks in series of unequal volume, larger tank shall precede smaller tank.)

**Restaurants: The required effective capacity of grease interceptor in US gallons shall be equal to the total floor area in square foot (SF) of the dining area, including bar and patio. For take-out restaurants, the requirement can be based on square footage of the facility.**

$$\text{Liquid Volume} = (\text{SF}) \times (1 \text{ gal/SF})$$

### DESIGN CRITERIA

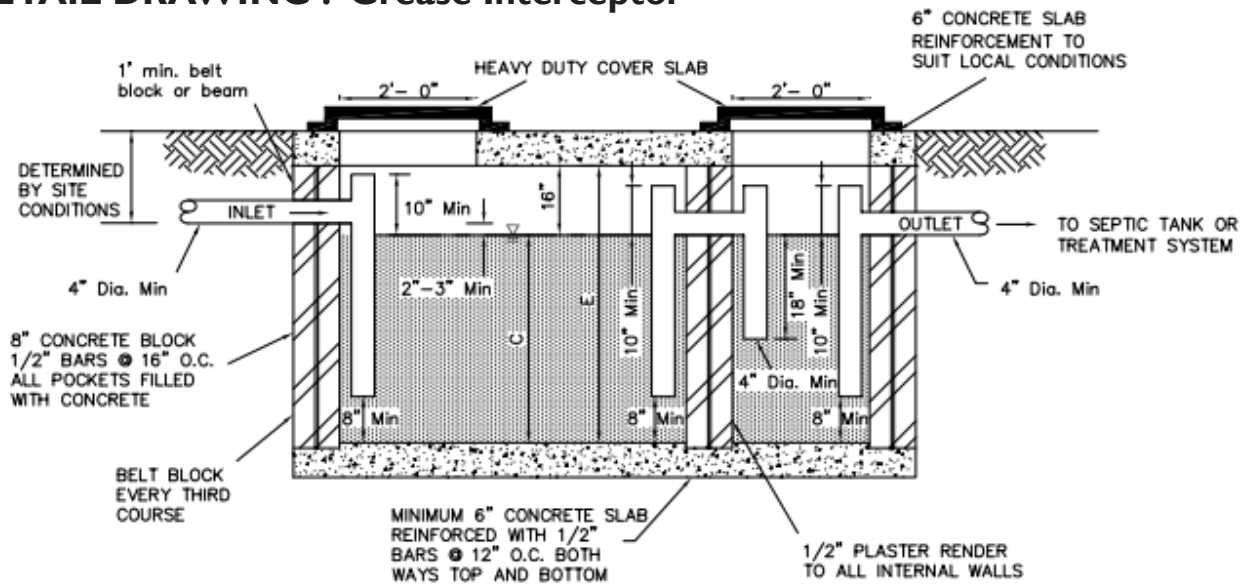
1. Grease interceptors shall be watertight and have at least 2 compartments to achieve the required liquid capacity. The first chamber shall have a minimum effective liquid capacity of at least 2/3 of the total required liquid capacity. Additional chambers shall have a minimum effective capacity equal to or greater than one-half of the liquid capacity of the first.
2. The grease interceptor's length shall not be less than two times the width. The minimum inside width of the interceptor shall not be less than forty-two (42) inches.
3. The grease interceptor total inside depth shall not be less than fifty-two (52) inches. The liquid depth of compartments shall be at least thirty-six (36) inches.
4. A minimum freeboard of airspace of sixteen (16) inches between the liquid level and the underside of the cover slab shall be provided.
5. The dimensions for the required grease interceptor capacity are shown on the standard detail drawing.
6. Interceptors must be located so as to provide easy access for routine inspection, cleaning and maintenance. Each compartment shall have access provided by a twenty-four (24) inch wide square opening manhole or a twenty-four (24) inch diameter circular opening manhole. These manholes shall be located over the inlet and outlet of each interceptor and brought to finished grade.
7. A minimum four (4) inch diameter vented inlet tee invert shall enter the tank two (2) to three (3) inches above the liquid level of the tank and shall extend below the liquid surface up to eight (8) inches from the interceptor bottom. The inlet tee shall extend at least ten (10) inches above the liquid level.
8. A minimum three inch diameter vented outlet tee shall extend below the liquid level up to eight (8) inches from the interceptor bottom, and shall extend at least ten (10) inches above the liquid level. The outlet tee shall be two (2) to three (3) inches below the invert of the inlet tee.
9. The inlet and outlet devices shall be located on opposite ends of the tank so as to be separated by the maximum distance possible and shall be attached in a watertight manner.
10. The first and second chamber shall be interconnected utilizing a tee with maximum diameter of four (4) inches. The bottom of the tee shall extend below the liquid surface up to eight (8) inches from the interceptor bottom, and shall extend at least ten (10) inches above the liquid level.
11. Where a grease interceptor is required, kitchen wastewater shall first pass through the interceptor and then be discharged into the main wastewater line leading to the approved wastewater treatment system.



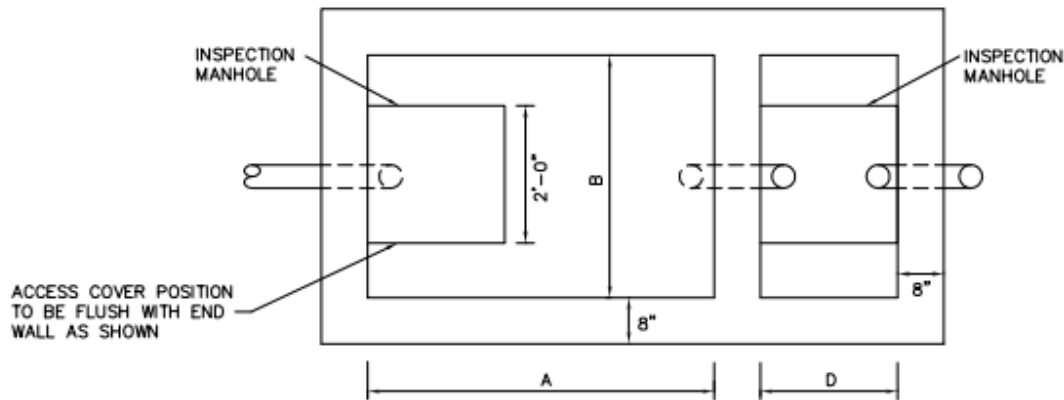
# Guidelines for Onsite Wastewater Treatment

## APPENDIX III: GREASE INTERCEPTOR

### DETAIL DRAWING : Grease Interceptor



NOT TO SCALE



| COMMERCIAL GREASE INTERCEPTOR |      |      |      |      |       |
|-------------------------------|------|------|------|------|-------|
| Normal Dimensions             |      |      |      |      |       |
| Gal.                          | A    | B    | C    | D    | E     |
| 600                           | 5'6" | 3'6" | 3'0" | 3'0" | 2'8"  |
| 750                           | 6'0" | 3'6" | 3'6" | 3'0" | 4'10" |
| 1000                          | 6'0" | 4'0" | 4'0" | 3'0" | 5'4"  |
| 1250                          | 6'6" | 4'0" | 4'6" | 3'6" | 5'10" |
| 1500                          | 7'0" | 4'6" | 4'6" | 3'6" | 5'6"  |

Date :Feb 2013



Water Authority-Cayman