Design Standard

Grease Trap & Interceptors

PART 1 GENERAL

1.01 Installation of a grease trap / interceptor is required at all commercial, institutional, and industrial facilities that contain businesses, classes, or occupations that generate fats, oils, and grease (hereafter referred to as FOG), grit, silt, or clay. Samples of FOG generating entities and businesses are restaurants, cafeterias, bars, hotels, motels, hospitals, manufacturing facilities, laboratories, assisted living facilities, prisons, private and public schools, car and truck washes, and automotive repair.

PART 2 TANK SIZING

2.01 Sizing methods described herein are intended as guide in determining grease trap / interceptor sizes that will afford the University’s sanitary sewer system a minimum degree of protection against grease and other obstructing materials. Sizing determinations should be based on operational data provided by business owners or their contractors and certified and sealed by a Registered Professional Engineer, licensed in the State of Texas. In approving a customer’s plumbing or grease interceptor design, the University does not accept liability for the failure of a system to adequately treat wastewater to achieve effluent quality requirements specified by TCEQ. It is the responsibility of the generating business and/or contractors to insure the appropriate level of treatment necessary for compliance with environmental and wastewater regulations. Minimum acceptable grease trap / interceptor sizing shall be accomplished as follows:

2.02 Method 1: Uniform Plumbing Code, Appendix H

A. Number of meals per hour (1) x waste flow rate (2) x retention time (3) x storage factor (4) = Size Requirement (liquid capacity)

B. Factors:

1. Number of meals served at peak operating hour (Seating Capacity) x Peak Factor
   a. Where Peak Factor for Fast Food Restaurant is……..1.33
   b. And, Peak Factor for all other food service types is….1.00

2. Waste Flow Rate:
   a. With Dishwasher…………………………. 6 gallon flow
   b. Without Dishwasher………………………. 5 gallon flow
   c. Single Service kitchen………………….…. 2 gallon flow
   d. Food waste disposer…………………….. 1 gallon flow
3. Retention Times
   a. Commercial kitchen waste/dishwasher……. 2.5 hours
   b. Single service kitchen/single serving……… 1.5 hours
      e.g. (Kitchens that have a three compartment sink, hand sink and mop
      sink and use disposable cups, plates, forks, knives and spoons.)

4. Storage Factors
   a. Fully equipped commercial kitchen… 8 hr. operation… 1
   b. ................................................. 16 hr. operation… 2
   c. ................................................. 24 hr. operation… 3
   d. Single Service Kitchen................................. 1.5

The Uniform Plumbing code includes a built-in safety factor that can yield very large
 grease trap size specifications. At this time, the University is not requiring traps
 larger than 4,000 gallons. Any decision to use a trap smaller than that specified by
 the formula and calculations above is to be addressed in the plan submission.

2.03 Method 2: Alternative Method by a Registered Professional Engineer licensed in the State
 of Texas
   A. Must include all calculations with specific site on submitted plans.
   B. Sealed plans must be submitted to the University by a Registered Professional
      Engineer licensed in the State of Texas.
   C. Must show all calculations with recommended size.
   D. Plans must be submitted to the University for review and approval.
   E. Failure to include all of the above will result in the use of the UPC size criteria.

These formulas have been demonstrated as industry standards capable of achieving the
 University’s discharge criteria when systems are maintained in proper condition.

PART 3 INSTALLATION

3.01 The grease interceptor shall be constructed with a minimum of two baffled chambers.
   Each manhole access shall be minimum 20” diameter clear opening. Manhole covers
   shall be placed at grade elevation by using concrete extension rings or 24” RCP. Inlet
   and outlet risers are required and shall be factory installed or installed by contractor.

3.02 Grease traps shall be installed at a minimum distance of 10 ft. from sinks and dishwashers
   to allow for adequate cooling of the wastewater. Water temperatures must be less than
   120 degrees prior to entering grease trap. If commercial dishwashers are discharged
   through a grease interceptor, care must be taken in system design. Dishwashers use
detergents and elevated water temperatures that will melt grease. If the interceptor is
either too small or too close to the commercial dishwasher, grease may pass through the
interceptor and into the collection system.
3.03 All grease bearing waste streams should be routed through an appropriate grease trap/interceptor, including: three-compartment sinks, pot/pan sinks, soup kettles, hand-washing sinks, automatic dishwashers, mop sinks and floor drains. All drains that receive “clear waste” only, such as from ice machines, condensate from coils and drink stations, located in food preparation areas must be plumbed to the oil & grease interceptor. Any exceptions for by-pass must be submitted in writing to the UES – Tech Services Division.

3.04 Kitchens that utilize Garbage Disposals shall be required to use an interceptor twice the calculated base size.

3.05 All exterior or recessed Grease Traps and Interceptors are to be installed with an Effluent Sampling Well, equivalent to: a. Parks Equipment Services Sample Well SWB-1; or b. PW Eagle Sample Well. Sample wells will have a minimum 12” diameter access cover.

PART 4 MAINTENANCE

4.01 The grease traps must be serviced (pumped, cleaned, and inspected) by a permitted waste hauler, at a minimum frequency of every 90 days or more often as necessary, to ensure proper function. Records of maintenance are required and are to be maintained on site for five (5) years. (90 day maintenance frequency assumes proper sizing and installation).

4.02 Enzymes, solvents, and emulsifiers are not permitted. Biological treatment systems must be designed and sealed by a Registered Professional Engineer licensed in the State of Texas and be pre-approved by the University. These systems will not alleviate the necessity for inspection and proper maintenance.

PART 5 OTHER TYPES OF INTERCEPTORS AND SIZING REQUIREMENTS

5.01 Interceptors are required for oil, grease, sand and other substances harmful or hazardous to the building drainage system, the public sewer or sewage treatment plant. Design, size, and location of pretreatment devices must be sealed and submitted by a Registered Professional Engineer licensed in the State of Texas for review and approval.
APPENDIX A
GREASE TRAP EXAMPLE