

## INTRODUCTION

The oil and grease discharge program was established to eliminate or control the discharge of animal/vegetable oil and grease from non-residential users.

Oil and grease are singled out for special attention because of their poor solubility in water and tendency to separate from the liquid solution. Large amounts of oil and grease in the wastewater cause trouble in the collection system pipes. It decreases pipe capacity and, therefore, requires that piping systems be cleaned more often and/or some piping to be replaced sooner than otherwise expected.

Oil and grease also hamper effective treatment at the wastewater treatment plant. Grease in a warm liquid may not appear harmful. But, as the liquid cools, the grease or fat congeal and cause nauseous mats on the surface of settling tanks, digesters, and the interior of pipes and other surfaces which may cause a shutdown of wastewater treatment units.

## PROGRAM POLICY FOR REGULATING OIL AND GREASE

Marion Utilities has the authority, under City Ordinance 36-1998, to take the necessary action to ensure the protection of the sewage collection/treatment system. To that end, Marion Utilities will monitor the discharge of oil and grease from restaurants and other food service establishments according to the following policy:

- The Sewer Maintenance Department will provide a listing of sewer lines with a high degree of maintenance required as a result of oil and grease accumulation to the Pretreatment Department.
- The Pretreatment Department will submit questionnaires and inspect all restaurants and other establishments contributing to the line upstream of the problem.
- Contributing establishments will be inspected for the presence or lack of grease traps or interceptors.
  - Where grease traps are not present, an order may be issued to the establishment to install a grease trap or interceptor suitable for removing oil and grease from the waste stream.
  - Where a grease trap or interceptor is present, maintenance records will be checked and evaluated based upon visual inspection and condition of the grease trap/interceptor.
- Permits will be issued to all contributing establishments to control the ongoing discharge of oil and grease.

## RESPONSIBILITIES OF THE FOOD SERVICE ESTABLISHMENT

The food service establishment shall (1) complete an Oil and Grease Discharge Permit questionnaire, (2) operate using Best Management Practices, and (3) allow the Board, and/or its representatives, access to all parts of the premises for the purposes of inspection, sampling, and records examination. If the establishment has a grease trap or interceptor, then the establishment shall maintain the integrity of its system and periodically remove all its contents. If the establishment does not have a grease trap or interceptor, but monitoring indicates the establishment discharges sufficient oil and grease to cause obstruction in the sewer system, then a grease trap or interceptor shall be installed and maintained. All new establishments and existing facilities being remodeled shall install a grease interceptor or trap.

## OIL AND GREASE DISCHARGE PERMIT QUESTIONNAIRE

A copy of the Oil and Grease Discharge Permit questionnaire is included in Attachment 1 of this guidance.

### BEST MANAGEMENT PRACTICES

The best way to manage oil and grease is to keep the material out of the sewer system. The following are suggestions for proper oil and grease management.

- Train kitchen staff and other employees about how they can help ensure these practices are implemented. Document that employees have been informed.
- Use water temperatures less than 140° F in all sinks, especially the pre-rinse sink before the mechanical dishwasher. Also, consider a low-temperature sanitizing rinse dishwasher to reduce emulsified oils.
- Use a 3-compartment sink for ware washing. Make sure all drain screens are installed and lines are trapped. Begin with a hot water (<140° F) ONLY (no detergent) pre-rinse that is trapped to remove non-emulsified oils and greases from ware washing. Follow with wash and rinse steps. Use proper concentrations of cleaners and disinfectants and use detergents that promote rapid oil/water separation.
- Practice dry cleanup. Remove food waste with “dry” methods such as scraping, wiping, or sweeping before using “wet” methods. Use food grade paper to soak up oil and grease under fryer baskets and use paper towels to wipe down work areas. Cloth towels will accumulate grease that will eventually end up in your drains from towel washing/rinsing.
- Prevent spills and reduce the amount of oil and grease requiring clean up. Empty containers before they are full. Use a cover to transport grease trap contents to the rendering barrel. Provide employees with the proper tools to transport materials without spilling.
- Contract with a management company to professionally clean large hood filters. Hand-clean small hoods with spray detergents and wipe down with cloths for cleaning. Hood filters can be effectively cleaned by routinely spraying with hot water with little or no detergents over the mop sink that should be connected to a grease trap. After hot water rinse (separately trapped), filter panels can go into the dishwasher.
- Collect fryer oil in an oil-rendering tank for disposal. **Do not discharge oil into a grease interceptor.**

### GREASE TRAP/INTERCEPTOR GENERAL GUIDANCE

- The size of the trap or interceptor depends on the type of business and the amount of waste produced. Generally, grease traps are sufficient for most small volume establishments. Interceptors are usually necessary for medium and high volume restaurants and large commercial establishments such as hotels, hospitals, factories, or school kitchens. The interceptor/trap shall be approved by the Board.
- Each interceptor or trap shall be installed and connected so that, at all times, it is easily accessible for inspection, cleaning and removal of grease and other material. Interceptors or traps installed outside of the building shall be constructed in such a manner so as to exclude the entrance of surface water and storm water.
- The interceptor or trap shall be situated on the premises of the food service establishment.
- All grease-bearing drains shall discharge to the grease trap or interceptor. These may include mop sinks, woks, wash sinks, prep sinks, utility sinks, pre-rinse sinks, can washes, and floor drains in food preparation areas such as those near a fryer or tilt/steam kettle. Toilets, urinals, and other similar fixtures shall not drain through the interceptor/trap. Waste in excess of 140° F shall not discharge into a grease trap.

### GREASE TRAP/INTERCEPTOR GENERAL GUIDANCE (Continued)

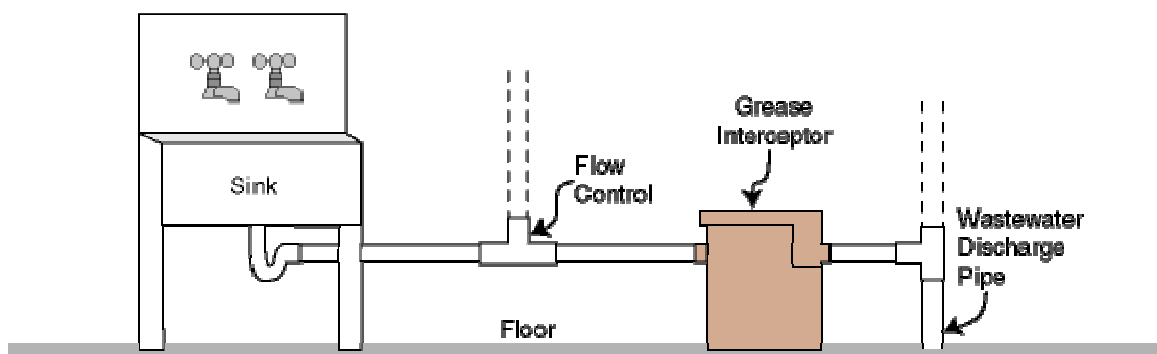
- Interceptors/traps shall be maintained in efficient operating condition. If a grease trap/interceptor is not maintained regularly, it will not provide the necessary grease removal. A specific cleaning schedule shall be established as deemed necessary by the Board.
- The use of chemicals, bacteria or other agents to dissolve grease or otherwise clean grease interceptors/traps is specifically prohibited.

### THE GREASE TRAP

A grease trap is a small reservoir built into the wastewater piping a short distance (sometimes under the sink) from the grease producing area. Baffles in the reservoir retain the wastewater long enough for the grease to congeal and rise to the surface. The grease can then be removed and disposed properly. These traps should only be used where oil and grease waste are minimal.

- **Sizing:** The size of the grease trap is measured in grease retention capacity (lbs.) and is dependent on the flow rate of the fixture(s). The size will also depend upon the maintenance schedule. See Attachment 2 for Sizing a Grease Trap.
- **Installation:** Each grease trap shall have a vented flow control device so that the water flow does not exceed the rated flow of the grease trap. The vent is important because the air introduced through the vent (air in-take) becomes entrained with the water and increases separation efficiency.
- Automatic dishwashers and garbage grinders may not be connected to grease traps, unless specifically permitted by local ordinance.
- **Maintenance:** All grease traps need to have the grease and solids removed periodically (daily to once a month). A cleaning schedule may be determined by measuring (in gallons) how much grease has been trapped over a period of time and calculating when the rated capacity for the grease trap is reached. (Grease will weigh about 7 pounds per gallon.) If the grease trap is more than 50% full when cleaned, then the cleaning frequency needs to be increased. The trap is maintained by removing the accumulated grease and other material. Accumulated grease shall be either placed into an establishments tallow drums or deposited in a plastic garbage bag, tied shut, and then placed in a plastic bucket with a tight sealing lid for disposal into the garbage dumpster. Don't pour boiling water down the sinks to clean the grease trap.
- **Records:** A log of grease trap cleaning (Attachment 4) must be maintained, made available for inspection, and submitted to the Utility as required by the discharge permit. If a grease trap cleaning service is used, dated receipts must be available for inspection.

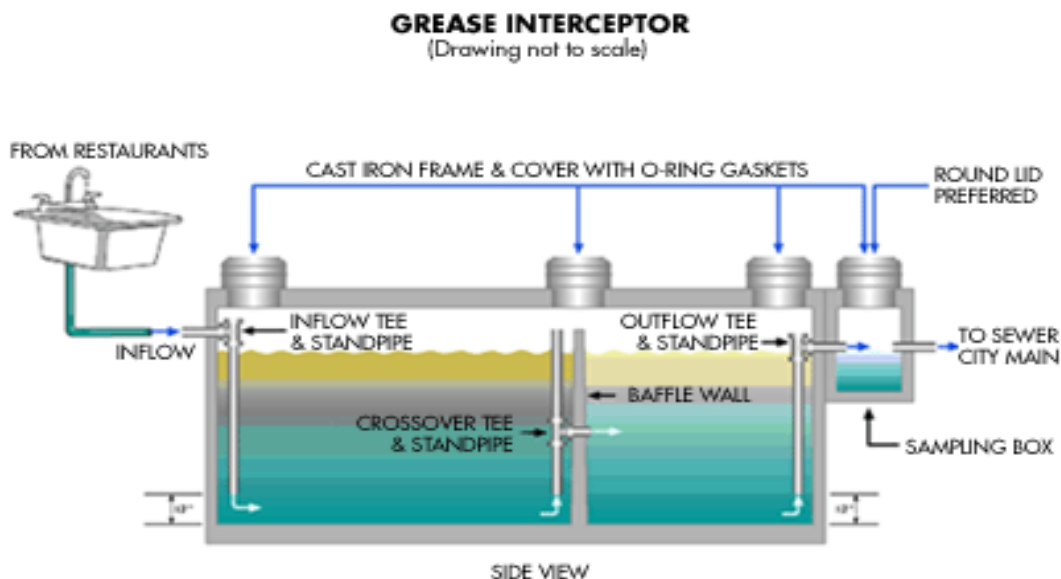
**GREASE TRAP**  
(Drawing not to scale)



## THE GREASE INTERCEPTOR

A grease interceptor is a vault that is located on the exterior of the building. The vault includes a minimum of two compartments. Flow between each compartment is through a 90° fitting designed for grease retention. The capacity of the interceptor provides adequate residence time so that the wastewater has time to cool, allowing any remaining grease not collected by the traps time to congeal and rise to the surface where it accumulates until the interceptor is cleaned. Interceptors are more effective than traps and require periodic inspection and cleaning.

- **Sizing:** Design calculations for determining grease interceptor sizing is included in Attachment 3 of this guidance. The parameters for sizing a grease interceptor are hydraulic loading and grease storage capacity, for one or more fixtures.
- **Installation:** Installation of large tanks requires experienced licensed contractors to perform excavation work and placement of the tank. According to the Indiana Plumbing Code, dishwashers and food waste disposal units may not be connected through interceptors unless permitted by local ordinance.
- **Maintenance:** The depth of grease accumulated in the interceptor should be checked once per month. The interceptor requires pumping when more than 1/3 the depth is grease, or more than 1/4 the depth is sediment, or more than 1/4 the depth is a combination of grease and sediment. Contact an interceptor tank pumping service to clean the interceptor. Witness all interceptor cleaning/maintenance activities to ensure the device is properly operating. Be sure that the contractor scrapes all sides and that all of the tank contents are removed. When emptied, the units should be thoroughly washed and all interior plumbing connections inspected for completeness and integrity.
- **Records:** A log of grease interceptor cleaning (Attachment 4) and dated receipts of interceptor pumping must be maintained for twelve (12) months, be available for inspection, and be submitted as required by the discharge permit.
- **Sample Collection:** Large capacity concrete type interceptors shall have a suitable sample box to provide access for collection of wastewater samples



REFERENCE SOURCES

Indiana Plumbing Code, 1999 Edition (675 IAC 16)  
Fire Prevention and Building Safety Commission

Uniform Plumbing Code, 1997 Edition  
International Association of Plumbing and Mechanical Officials

Onsite Wastewater Treatment and Disposal Systems  
EPA 625/1-80-012.

Standard PDI-G101 Standard – Testing and Rating Procedure for Grease Interceptors  
Plumbing and Drainage Institute

Guide to Grease Interceptors – Eliminating the Mystery  
Plumbing and Drainage Institute

2000 National Standard Plumbing Code Illustrated  
Plumbing-Heating-Cooling Contractors Association

National Plumbing Code / 1993  
Building Officials and Code Administrators International, Inc.