Grease Traps and Interceptors: Matters of Design, Installation and Maintenance

March 14th, 2016 29TH ANNUAL GSDI SPRING SEPTIC SYSTEM CONFERENCE & EXPO

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FOG in Wastewater Systems

Interference

Pass-through

Butter, shortening, margarine
Peanut butter
Meat trimmings
Unbooked poultry skin
Dairy: Cheeses, milk, cream, sour cream, ice cream

Vegetable oil
Canola oil
Olive oil
Corn oil
Salad dressings
Cooking oils

Gravy
Mayonnaise
Melted meat fat
Bacon and sausage
Boiled poultry skin
Salad dressing
FOG in Septic Systems

Fats can form a mass at the top of the septic tank and interfere with the biological activities taking place.
Grease Trap Removes

- 50-60% of oil and grease
- 50-80% of BOD and TSS
Solids, grease, and smaller particulates that are allowed to leave the septic tank can build up a bio-mat of viscous slime over the years. This can clog soil pores and render the leach field inoperable for percolation.

Grease clogged drainfields make it impossible for soil to absorb and treat liquids. May require a new drainfield.
The Solution Required by Law

Grease Interceptor 
OR
Grease Trap

Regulations

• International Plumbing Code for NH

• If on Septic System
  – NH - Env-Wq 1000 Rules

• Local Sewer Use Ordinance - Sewer
NH DES – Subsurface Rules

• ENV-Wq1000 – Subdivision and Individual Sewage Disposal Systems Design (ISDS)

Applies when not on a public system

Grease Trap Definition

• A tank or series of tanks into which wastewater that contains grease is discharged, where grease floats to the water’s surface and is retained while water below is discharged.

Note: Not consistent with State Plumbing Code “Grease Interceptor”
“Grease Interceptor”
Env-Wq 1012 GREASE TRAPS …

• Env-Wq 1012.01 Grease Traps Required. A grease trap shall be used in the ISDS serving:
  • (a) Any commercial facility in which any food handling and preparation occurs; and
  • (b) Any dwelling where food handling and preparation is undertaken for any business purpose.

Env-Wq 1012.02 Grease Trap Size.

• The grease trap size shall be based on a minimum hydraulic detention time of 36 hours; and
• Minimum tank size of 1,000 gallons.
• The outlet shall be protected with a baffle that extends downward and terminates 6 inches from the inside bottom of the grease trap.
Grease trap is an essential Component of Septic System Design.

State Performs Review and Inspection.
Proposed Grease Trap Rules

- Neighboring States
- ASTM C1613-10
- Plumbing Codes
  - International
  - Uniform
- NPCA
- Inspectors

Proposed Rules

Env-Wq 1000 Subdivisions; Individual Sewage Disposal Systems

DEADLINE FOR FILING
- WRITTEN COMMENT: Friday, March 25, 2016 (4:00 PM)
- CONTACT: Rob Tardif (Robert.Tardif@des.nh.gov), CE V, SSB
NH DES – Subsurface Rules

Env-Wq 1012.02 Grease Trap Size.

- The grease trap size shall be based on a minimum hydraulic detention time of 36 hours; and
- Minimum tank size of 1,000 gallons.
- The outlet shall be protected with a baffle that extends downward and terminates 6 to 12 inches from the inside bottom of the grease trap.

- 1000 gallon interceptor is approximately 8’x 4’x 4’

![Diagram of a grease trap](image)
Water-tight - Env-Wq 1010.03.

Water-Tightness of Septic Tanks.
Water-Tightness of Septic Tanks.

Access to Interior of Grease Trap
Access to Interior of Grease Trap

• to each compartment
• to each baffle
Access to Interior of Grease Trap

(b) Access by at least one removable cover

(1) Directly on the grease trap or on a riser
(2) cover that can’t Fall into the grease trap or riser.
Access to Interior of Grease Trap

Cover protected against inadvertent opening

- locking closed
- mechanically fastened
- cast-iron or equal in weight
This 3 year old fell into this grease trap.

Access to Interior of Grease Trap

Bottom of the grease trap shall not be more than 15 feet below the grade of the area where the grease pumping truck will park when the grease trap needs to be pumped out.
Access to Interior of Grease Trap

125 feet of the nearest road or driveway.
Backfill and Bedding For Grease Traps

Backfill and Bedding For Grease Traps
Grease Trap Inspection and Pumping

Grease Haulers

Permit Required
Just like the Septic System they must be pumped Regularly to continue to function as designed.
Neglected septic tank, never pumped.

How it Works

Env-Wq 1023.02 Grease Trap Inspection and Pumping
Why 25%?

- Reduced removal efficiency
- Short circuiting

- Food solids layer will be 1x to 2x the FOG layer
- Unless the FSE cooks/prepares chicken, fish, or rice, then the food layer may be 3x to 4x the FOG layer.
- Thus, some FSEs may need to pump more often than others.
Disposal of Grease - Prohibited

Grease shall not be flushed or otherwise introduced into an ISDS that does not have a grease trap
Proposed Rules

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