

This outline was prepared by Victor Faggella for an ASHI educational seminar. The final course materials can be found at [http://InspectAPedia.com/septic/Septic\\_Systems\\_Class\\_DF\\_VF.pdf](http://InspectAPedia.com/septic/Septic_Systems_Class_DF_VF.pdf) - click \*within\* this box to see that septic inspection course

## ON-SITE WASTE DISPOSAL SYSTEMS

NY Metro Annual Seminar-Two Hours

September 11, 2010

by Daniel Friedman, Approved NYS Instructor

### I. Basic theory:

#### A. Cesspool-dug lined pit

1. Only liquids permeate soil
2. Solids require frequent removal
3. Periodic relocation required

#### B. Septic system-tank and effluent disposal area

1. Solids settle out and are partially decomposed
2. Liquid effluent discharged into disposal area
3. Fields can be restored
4. Periodic pumping of tank required

### II. Typical gravity Septic system:

#### A. Tanks

1. Single compartment or tank
2. Multiple tanks or compartments

#### B. Tank materials

1. Steel
2. Poured concrete
3. Concrete blocks
4. Fiberglass or plastic

#### C. Junction/distribution or drop boxes

1. Junction box-connects discharge line to disposal lines
2. Drop box-for individual fields
3. Distribution box-for multiple fields (fan type)

#### D. Leach/drainage/seepage or disposal fields or pits

1. Laterals-cascade type
2. Fan type
3. Pits for small areas: pre-cast rings and cap

### III. Alternative systems:

#### A. Low pressure dosing system used for

1. Uphill sites
2. Mounded systems

#### B. Advantages over gravity system

1. Longer field life due to resting periods
2. Allows system on otherwise unuseable sites

#### C. Disadvantages

1. More expensive to install and maintain
2. Requires electrical power

#### D. Additional components

1. Lift pump

2. Alarm
3. Secondary tank or compartment

E. Other types of dosing systems

1. Dipping or tipping system
2. Bell and siphon system

F. Subsurface drip system:

1. Used when there is lack of earth surface over bedrock
2. Landscaping concerns
3. Small perforated tubing slowly emits wastewater through a system of electronics and valves through small disposal tubing
4. Provides water for lawns and plants
5. Requires annual pumping and filter cleaning to prevent clogging of tubing perforations.

IV. Experimental interwoven, alternate use, field system:

- A. Used when field area is limited with no room for expansion
- B. Field life is prolonged due to resting periods
- C. May be either gravity fed or a dosing system
- D. Required diverter valve may be either manual or automatic

V. Inspecting/testing::

- A. Walk field area and check for;
  1. Excessive grass growth
  2. Wet or “boggy” areas
  3. “Collapsing” fields
  2. Odor
- B. Dye test-not recommended by some septic specialists
  1. Check that all waste lines connect to main drain and not to a drywell
  2. Avoid “flooding” system. 100 gallons per bedroom, maximum 300 gallons.
  3. Check for dye in other than field area; house to tank; above tank
  4. Check field area for effluent.
  5. Probe suspect areas
- C. Check alarm on lift pump systems
- D. Open tank inspection. Not part of home inspection. Performed by specialist.
  1. Most reliable
  2. Allows for visual inspection of tank and baffles
  3. Can check for rate of effluent flow

VI. Maintenance recommended to client:

- A. Only digested solids and grey water into disposal system
  1. No grease; garbage disposal refuse; sanitary napkins; baby wipes; cigarette butts; etc.
  2. No solvents; paints; chemicals; etc.
  3. No additives
- B. Don't flood system

1. Repair all leaks
  2. Prevent over-usage
    - 2.a. Multiple laundry loads
    - 2.b. Large parties
- C. Periodic pumping of tank-frequency depends on tank size and number of occupants
- D. Keep disposal area clear and uncovered
1. Tree roots can clog fields
  2. Covering with asphalt, pool, etc. interferes with “living earth”