

# **TEXTILE FILTER ON-SITE SEPTIC SYSTEM**

## **General**

Wastewater exiting the residence is directed into the inlet compartment of the septic tank for primary treatment and clarification of solids. Effluent leaving the primary septic tank enters the pump tank, or dosing chamber, which contains a screened pump vault, pump, and level control float switches. Effluent is pumped from the dosing chamber to a textile filter for secondary treatment. After repeated circulation through the textile filter, the treated wastewater flows to a pump chamber for distribution to the disposal field.

## **Dosing System**

To insure uniform distribution of effluent to the disposal field, an effluent pump is employed to transfer effluent to the disposal field. The pump is mounted in a screened vault suspended in the outlet compartment of the dosing tank, and discharge of effluent is carried out via Schedule 40 PVC pipe to the disposal field. The electrical panel controlling the various pumps doses the wastewater on a regular, predetermined basis. A high level alarm is installed into the pump chamber, with the alarm panel attached to the outside of the house or in the garage. This alarm will sound if the effluent in the tank reaches elevated levels and may indicate that the pump is not functioning properly. The tank's access manholes are fitted with water-tight, gas-tight risers and lids which extend above finished grade to allow access for periodic maintenance.

## **Textile Filter Bed**

The textile filter(s) consist of a pre-fabricated unit set in close proximity to the pump tank. These filters utilize microbial action to digest the various components of the wastewater prior to distribution to the disposal field.

The product manufacturer requires the homeowner to conduct routine maintenance of the filter via a maintenance contract with a certified maintenance operator. Please contact the system designer or the product manufacturer for more information.

## **At-Grade Bed Configuration**

The disposal trenches are constructed on contour, parallel to the slope. The bed is constructed by deposition of clean, washed 3/4" crushed rock directly onto the prepared ground surface. Within the gravel is placed a distribution lateral through which the effluent is pumped from the pump chamber. Small diameter (@ 1/8") holes are drilled into the distribution laterals to allow for the dispersal of effluent. At the ends of the laterals and rising through the soil cover over the bed, is a cleanout assembly which consists of a short section of pipe attached by an elbow to the distribution lateral. This section of pipe terminates with a threaded adapter that may be unscrewed for periodic cleaning.

A layer of earth backfill is usually mounded over the entire disposal field so that it extends a minimum of 12" deep over the gravel bed.

## Inspection Ports

A number of inspection ports are installed into the system to allow for observation of water levels. Inspection ports are located within the drip disposal and down-slope of the disposal field.

## On-Site Septic System Inspection

### Septic Tank

The septic tank should be inspected by the homeowner or a professional septic tank pumping contractor approximately once per year for sludge accumulation and should be pumped as necessary to prevent sludge from entering the disposal trenches. The tank should be pumped when the sludge accumulates to within 12-18" of the bottom of the inlet structure (TEE). The septic tank will require less frequent pumping if the amount of solid material introduced into the septic tank is minimized.

Solid materials such as food scraps and vegetable trimmings should be disposed in the garbage or a compost pile. Grease should not be poured down the drain, but rather collected and disposed in the garbage. Paper products such as disposable diapers, kleenex, sanitary napkins and paper towels are also harmful and should be disposed in the garbage. Garbage disposal units are strongly discouraged.

For more information concerning septic tanks and pumping procedures, contact the designer or a qualified septic tank pumping contractor. Failure to pump the tank when necessary may result in clogging and/or premature failure of the textile filter bed and disposal field.

### Distribution Laterals

The distribution laterals, located in the textile filter bed and manifold of the disposal field, should be flushed once annually to remove accumulated debris. This task may be accomplished simply by removing the caps from one of the risers, located at the end of the textile filter, cycling the pump for a short period of time. This procedure will allow any debris to flow out of the end of the lateral. By removing each of the riser caps in turn, all of the laterals can be cleaned.

### Mechanical Components

This septic system includes a variety of mechanical and electrical components such as pumps, valves, float switches and alarms. The alarms, which should be mounted in the living/user quarters of the dwelling (garage is acceptable), are installed for the protection of the homeowner. In the event of power or pump failure, the alarm will sound, indicating that the liquid level in the dosing chamber or textile filter has risen above its normal level. If this should occur and it can be determined that electrical power to the pump(s) has not been interrupted, the

homeowner should contact a local contractor which specializes in pump system repair and/or replacement. The designer may be contacted for a recommended contractor if necessary.

## Inspection Pipe and Monitoring Well Observations

The system's monitoring wells (four wells, located down-slope from the disposal field) and inspection pipes (located within the grade bed) should be inspected at least twice per year by the homeowner, once during February or March and once during August or September. During each inspection the date and depth of water should be noted.

Signs of septic system failure include discharge of sewage to the ground surface and saturated upper soils horizons during periods of dry weather. If the system is clearly failing, the designer and the local building department should be notified immediately.

Water levels in the inspection pipes or monitoring wells which are very near the ground surface may indicate potential problems, but do not alone constitute failure. In such cases, the system should be monitored more frequently for clear signs of failure, perhaps once per week, until a clear pattern is developed.

## Site Improvement Restrictions

The following are some common site improvements which may have a potentially negative impact on the proper operation of the septic system (tank and disposal field):

- ★ Any grading within the area containing the septic system, or the area down-slope of the disposal field
- ★ Operating or parking vehicles and/or heavy equipment on any portion of the septic system
- ★ Livestock (cattle, horses, swine, llamas, etc.) on the disposal field or the area immediately down-slope from the disposal field
- ★ Diversion of surface runoff (including house downspouts) onto the disposal field
- ★ Construction of any structures (including above-ground pools) or storage facilities on the disposal area
- ★ Paving with concrete or asphalt