

Wastewater Installers

Sand Filter Beds

A deep-type sand filter bed is another alternative for the secondary treatment of septic tank effluent. **The sand filter bed should remain aerobic throughout the treatment process.** For aesthetic purposes, the cover of clean, washed, coarse gravel, not to exceed 6 inches in depth over the bed, is permitted. This form of secondary treatment can provide a high level of reduction for effluent nutrients. They are good alternatives for sites with high water tables or that are close to water bodies.

Design

A perforated pipe is placed across the top of the sand filter bed and receives water from the septic tank. The septic tank provides the primary treatment, while the sand filter bed acts as the secondary treatment in lieu of field lines. Effluent is distributed

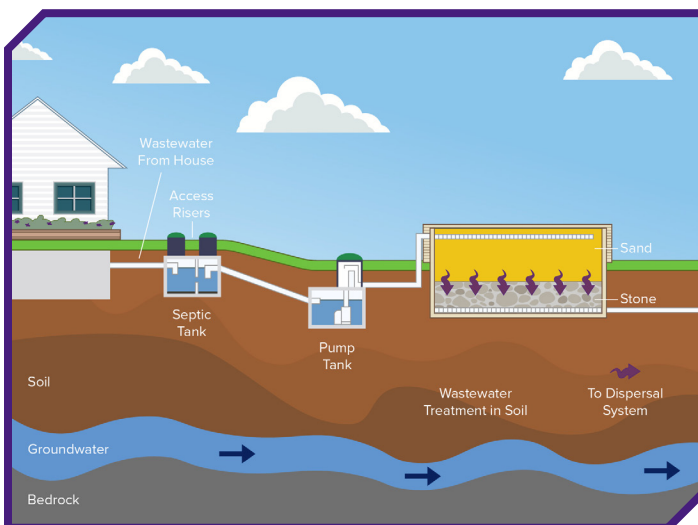
through the top perforated pipe and seeps slowly down to the bottom layer of gravel to be carried away in the underdrain line. The underdrain line is a perforated pipe near the bottom of a rectangular area in a layer of gravel covered by a layer of coarse sand 24 inches deep. To prevent sand infiltration into the underdrain, a layer of graded gravel must be placed over the underdrain line and the entire bottom of the filter bed.

Dimension Requirements

The sand filter bed must have a minimum width of 12 feet and length of 25 feet. This minimum size filter bed is adequately sized for design flows of up to 400 gallons per day (GPD). By increasing the length of the bed by 8 feet, an additional capacity of 150 GPD can be added to the system. The bed must be built to drain completely to treat the effluent. This may require the bed to be raised above ground in saturated conditions.

Specification for Piping

Underdrain pipe materials are the same as those for the distribution pipe. The typical materials are perforated nonmetallic pipe, but 20-inch-long farm (or drain) tile and 2-3-foot lengths of vitrified clay bell-and-spigot sewer pipe laid with open joints are also approved materials. The underdrain slope must be no less than 4 inches per 100 feet. At least two distribution lines that are sloped 2-3 inches per 100 feet must be provided. The distribution lines must be 4 inches in diameter and be half closed on the ends.



Sand Filter Septic System

Additional Requirements

- The filter bed must be appropriately protected from surface runoff water. This is an added benefit of the raised sand filter bed. Make sure all gutter, downspouts or paved surfaces drain away from the sand filter bed to avoid saturation.
- The location of the filter bed shall comply with minimum distance requirements from water wells, water lines, etc., as contained in Part XII of the Public Health – Sanitary Code. This includes being located no less than 10 feet from the property line.

References

- <https://www.doa.la.gov/media/j3hnpfdy/51.pdf>
- <https://ldh.la.gov/assets/oph/Center-EH/sanitarian/onsitewastewater/454.pdf>
- <https://ldh.la.gov/page/wastewater>

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