

lines leaving the distribution box. Distribution boxes are highly recommended for situations when more than two trenches are installed and gravity flow is desired. Figure 3-4 provides an overhead view of this distribution setup on a level site. Figure 3-5 provides an overhead view of a distribution box setup on a sloped site.

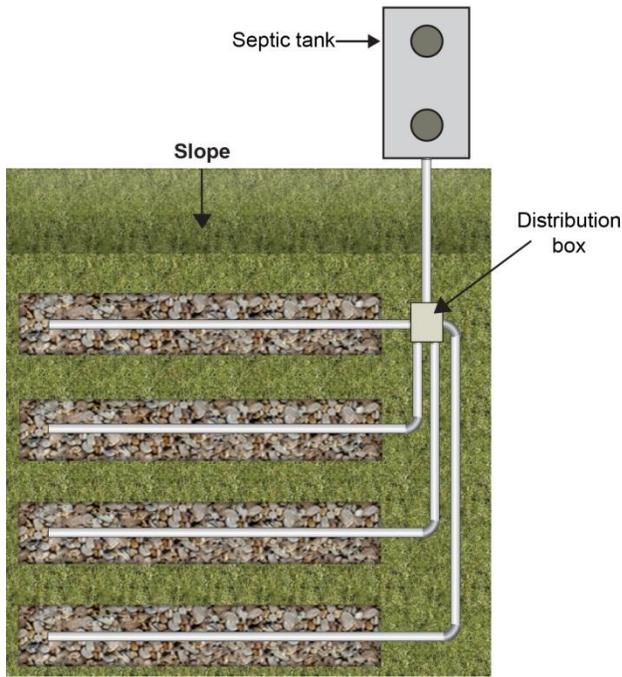


Figure 3-5. Overhead view of a distribution box layout on a sloped site.

3.2.6 Serial Distribution

Serial distribution allows each trench to load and completely flood with effluent before effluent flows to the next trench in series. Serial distribution is typically used on sites with slopes in excess of 20%. With this distribution method, trenches do not need to be constructed at the same length, but each trench must maintain a level installation by following an elevation contour. Serial distribution is accomplished either by installing relief lines or drop boxes between successive trenches. DEQ strongly recommends that serial distribution be accomplished by using drop boxes due to control and access aspects of the system design.

3.2.6.1 Relief Lines

Relief lines are overflow lines that connect one trench to the adjacent lower trench in series. Relief lines are constructed of solid-wall piping and may be placed at opposite ends of successive trenches or anywhere within the trench line. If relief lines are installed in the middle of trenches, successive relief lines should be offset by a minimum of 5 feet to avoid short-circuiting the distribution system. Exercise care in excavating the relief line between trenches. Bleeding of effluent down this excavation is a common cause of surfacing effluent in serial distribution systems. The excavation of the connecting trench to the next downslope trench should be just deep enough to accept the solid connector pipe. Figure 3-6 shows for an overhead view of a relief line installation system network. Figure 3-7 shows a cutaway view of relief line connections between trenches.

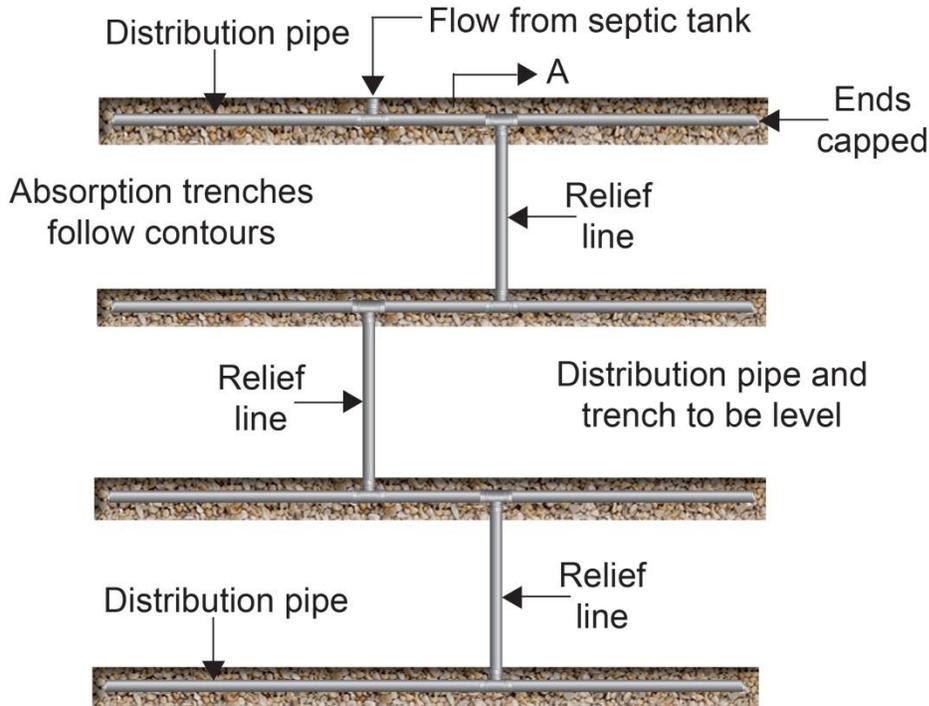


Figure 3-6. Overhead view of a relief line system network.

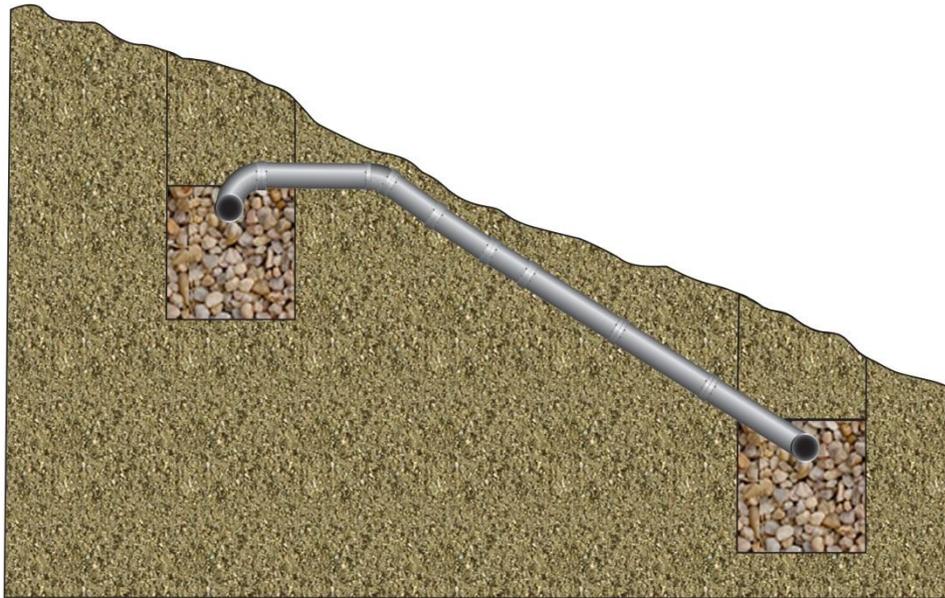


Figure 3-7. Side view of relief line installation between trenches.

3.2.6.2 Drop Boxes

Serial distribution may also be accomplished through the use of drop boxes. This method is commonly referred to as sequential distribution. Distribution boxes should not be substituted for drop boxes in this system design. The drop boxes are constructed so that each trench is completely flooded before the effluent flow runs to the next downslope trench in series. The drop

box consists of an inlet from the septic tank or uphill drop box and an outlet to the downhill drop box offset roughly 1 inch from the invert of the inlet from the septic tank or uphill drop box to the invert of the outlet to the downhill drop box. There are an additional two outlets to the drainfield trenches at the same height that should be a minimum of 2 inches from the invert of the outlet to the next drop box to the top of the outlet ports for the drainfield trenches at this location. The trench outlets from the drop box should be set level with the distribution pipes in the disposal trench connected to the drop box. Use a solid-wall pipe between drop boxes. Figure 3-8 shows the detail of a drop box and the associated distribution system. Figure 3-9 shows an overhead view of a drop box installation using multiple trenches with one drop box.

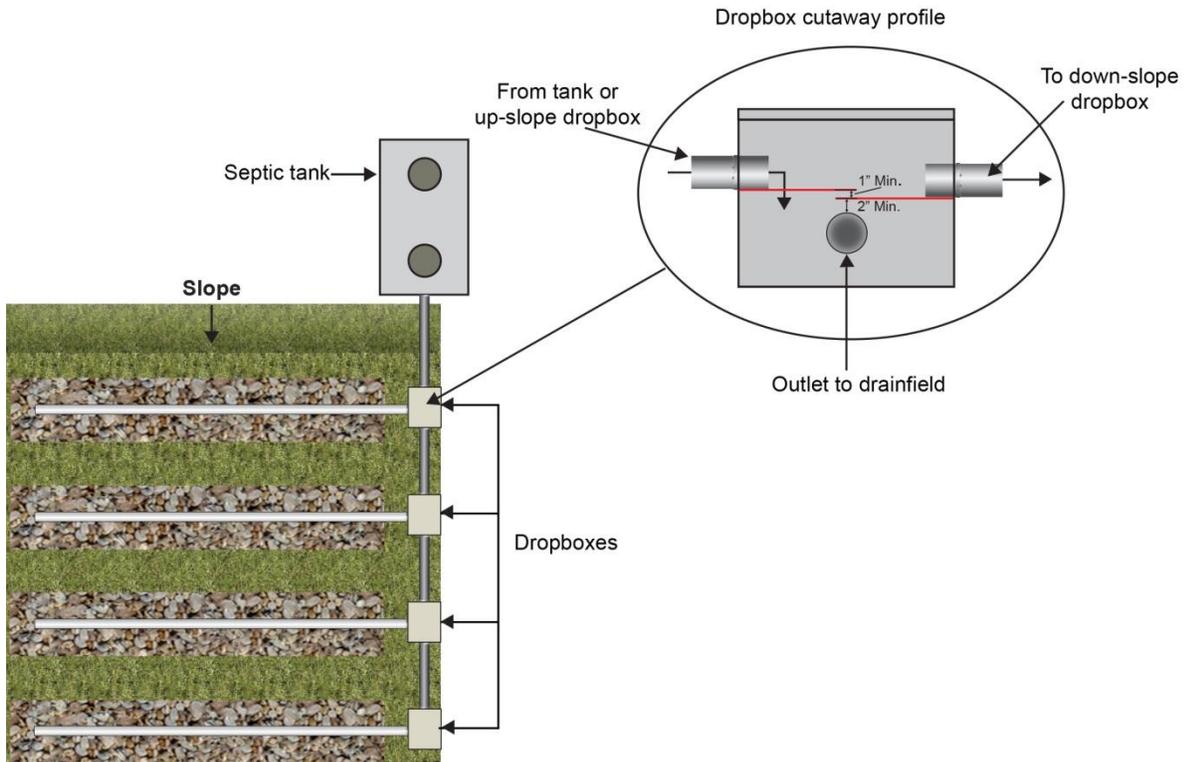


Figure 3-8. Drop box and sequential distribution details.

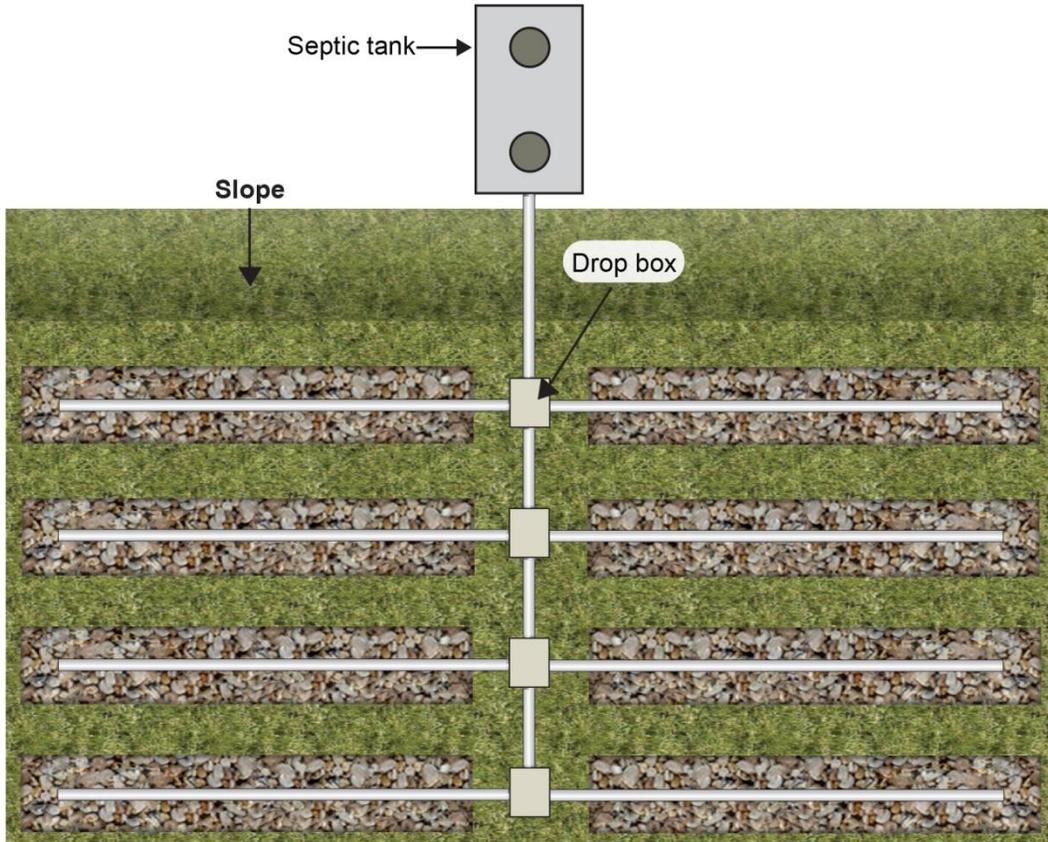


Figure 3-9. Overhead view of drop box installation using multiple trenches with sequential distribution.

3.2.7 Drainfield Cover

Although straw and untreated building paper may be used to cover drainrock, geotextiles of greater than 1 ounce per square yard weight are recommended. These materials are particularly recommended in soils that may flow when wet, such as uniform fine sands or silts and in pressure distribution systems.