

Capping Fill Drainfield

Capping Fill systems (cap/fill) are standard systems with the trenches installed shallower than a standard trench would be allowed. Soil must be brought in to be mixed and then added over the drainfield to allow for adequate cover. These shallow drainfields are used to maintain the Oregon Department of Environmental Quality (DEQ) required setbacks between the bottom of the drainfield trench and either:

- An impermeable layer,
- A rapidly draining layer (sand or gravel) or
- A water table.

The Capping fill concept sounds easy but they can be tricky to install. The trench depths (maximum and minimum) allow for little variation in elevation difference: the trenches have to follow the exact contour of the slope. Scarifying, and then adding the cap without compacting the soil can be difficult also.

The cap/fill drainfield uses a septic tank to settle out the solids and pass only liquid black water to the absorption drainfield. The liquid passes out of the septic tank and is delivered to the drainfield through the effluent sewer. This pipe must have a minimum of 8 inches of fall between the tank and the distribution box. From the distribution box, the black water flows into the perforated pipe of the cap/fill drainfield. Elevations are very critical when designing your capping fill installation. The top of the tank outlet must be a minimum of 18 inches above the maximum trench depth as designated on your permit or site evaluation report.

The area of the drainfield installation is first scarified to remove all vegetation. The drainfield trenches are dug very shallow (12-22 inches depending on permit) in the native soil. The gravel and perforated pipe (perf. pipe) are installed and covered with filter fabric. After the pre-cover inspection, the drainfield is covered with capping material. The capping material is either taken from somewhere else on the lot, or brought in after being inspected. The cap must be installed over the entire drainfield area to a depth of 14 to 16 inches over the gravel layer, and feathered out 10 feet beyond the drainfield trenches.

Rules for Construction and Inspection

DO NOT install a capping fill (cap/fill) drainfield when the approved area is wet or frozen!!! Construction of cap/fill drainfields shall occur between June 1st and October 1st unless authorized by the agent/sanitarian. The upper 18 inches of the natural soil must not be moist enough to cause loss of soil structure and/or porosity when worked. (Soil is too moist when a handful is squeezed several times and the sample looks wet or shiny on the surface. Call sanitarian for verification.)

The drainfield area (including the 10 foot cap perimeter) and the borrow site (if applicable) shall be scarified. This is the removal of all the vegetation and one to two inches of the soil in the drainfield area. This will eliminate any waxy layer (pine needles, sage wood ...) and assure a good contact layer between the native soil and the cap material. The top six (6) inches of the native soil shall be tilled or worked so as to easily mix with the cap material. Remove as little soil as possible but achieve thorough removal of all vegetation.