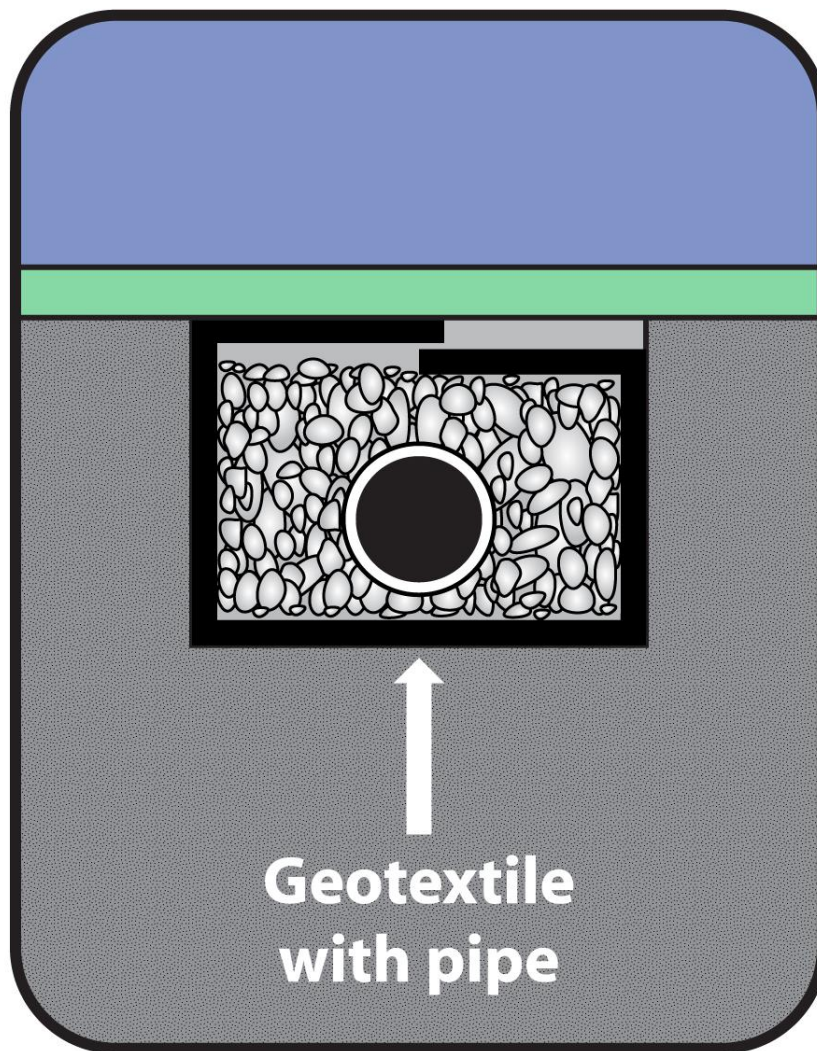




Construction Geosynthetics

Geotextile French Drain Installation Guide for Backyard

FRENCH DRAIN



1.0 General

- 1) This guideline covers general installation of nonwoven geotextile in a back yard French drain.
- 2) Where contradictions occur follow the instructions of the project engineer.

2.0 Equipment & Materials

- 1) Bobcat excavator (for larger projects)
- 2) Shovel, pick mattock, tamp and wheelbarrow
- 3) 4 inch diameter perforated PVC pipe (avoid cheaper pipe that can crush)
- 4) ¾ inch washed stone
- 5) Filtration geotextile

3.0 French Drain Dimensions

- 1) The minimum width of a French drain trench is a bit wider than the width of a shovel or about ten inches.
- 2) Backhoe trenches dug with a twelve inch bucket will end up about thirteen to fifteen inches wide.

4.0 Excavate

Keep in mind the trench must have at least a ½ % slope towards the discharge area.

5.0 Place Geotextile

- 1) Cut and place geotextile into the excavated trench.
- 2) Geotextile can be easily cut with a utility knife.
- 3) Leave enough excess fabric to completely overlap and surround the fill like a burrito.

6.0 Place Initial Gravel Layer

- 1) Fill trench with 4 inches of stone.
- 2) Level stone.

7.0 Place Pipe

- 1) Place a 4 inch perforated PVC pipe on top of the stone.
 - a) The perforated pipe is typically manufactured with two parallel rows of perforations on the down side of the pipe about 120 degrees apart.
 - i) The perforated pipe must be installed with the perforations down.
- 2) Connect the perforated pipe to a non-perforated drain pipe of same diameter and run downhill to storm sewer or other discharge outlet.

8.0 Place Remaining Gravel

- 1) Fill trench with $\frac{3}{4}$ inch washed stone to about 6 inches below grade.
- 2) Overlap geotextile at the top.

9.0 Backfill, Compact & Seed

- 1) Fill the final 6 inches with a decent soil.
- 2) Seed or place sod.

10.0 Storage

- 1) Filtration geotextile rolls are wrapped in a UV protective cover.
- 2) If stored outdoors for a prolonged period, elevate the geotextile from the ground and cover with a tarpaulin or opaque plastic.
 - a) Contractor must insure rolls are adequately protected from:
 - i) Moisture
 - ii) Ultraviolet radiation
 - iii) Chemicals that are strong acids or bases
 - iv) Temperatures in excess of 140°F
 - v) Animal destruction

This material is presented for general information only. Always verify the suitability for a specific application with the project engineer. Where contradictions occur, follow the instructions of the project engineer. There is no implied or expressed warranty regarding the installation procedures or the geosynthetic products in this guide. Installation procedure and product choice is the sole responsibility of the contractor and contractor assumes all liability.