

U.S. DEPARTMENT OF AGRICULTURE  
Soil Conservation Service

Technical Guide  
Section IV  
Rev. April 1991

### SUBSURFACE DRAIN SPECIFICATIONS

#### Placement

All subsurface drains shall be laid to line and grade and covered with approved blinding, envelope, or filter material to a depth of not less than 3 inches. If an impervious sheet is used over the drain, at least 3 inches of blinding material must cover the sheet.

If the conduit is to be laid in a rock trench or if rock is exposed at the bottom of the trench, the rock shall be removed below grade so that the trench can be backfilled, compacted, and bedded. When completed, the conduit shall be not less than 2 inches from rock.

Joints between drain tile shall not exceed 1/8 inch except in sandy soils, where the closest possible fit must be obtained, and in organic soil where some of the more fibrous types makes it desirable to slightly increase the space between tile.

Flexible conduits, such as plastic pipe or tubing and bituminized fiber pipe, shall be installed according to the requirements of ASTM-F-449, "Standard Recommended Practice for Subsurface Installation of Corrugated Thermoplastic Tubing for Agricultural Drains or Water Table Control."

Earth backfill material shall be placed in the trench in a manner to insure that the conduit does not become displaced and so that the filter and bedding material, after backfilling, meet the requirements of the plans and specifications.

If a filter is required, all openings in the subsurface drain shall be protected by the filter, or the bottom and sides of the conduit shall be protected by the filter and the top of the conduit. Part of the side filter material shall be covered by a sheet of impervious plastic. If a filter is needed, no part of the conduit containing openings shall be left exposed.

If sand-gravel filter material is used, it shall be a mixture of sand and gravel within the gradation required by the base material in the trench. The trench shall be over excavated 3 inches and backfilled to grade with filter material. After the conduit is placed on the filter material, additional filter material shall be placed over the conduit to fill the trench to a depth of 3 inches over the conduit. A plastic sheet and friable soil may be used as the backfill over the subsurface drain if specified.

**General**

The installing contractor shall certify that the installation complies with the requirements of these specifications. He shall also name the source of materials used.