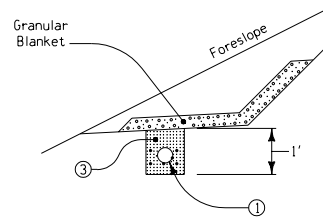
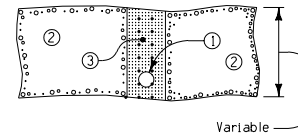


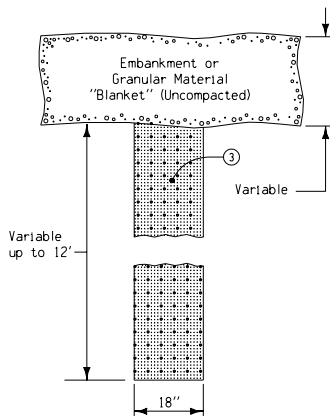
PLAN VIEW OF TYPICAL STANDARD SUBDRAIN INSTALLATIONS



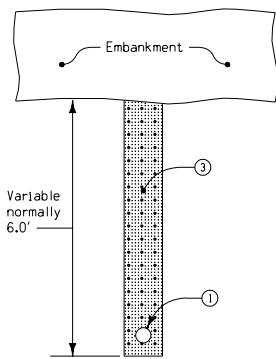
TYPE 1 INSTALLATION
BENCH DRAIN
SECTION A-A



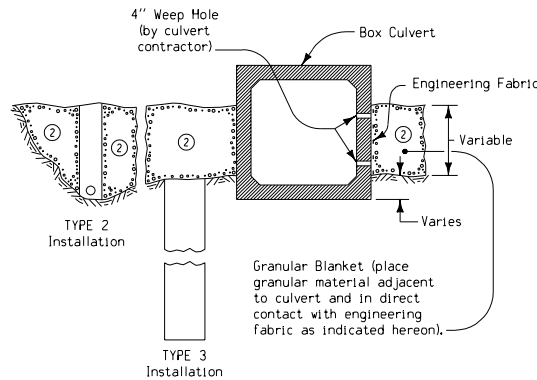
TYPE 2 INSTALLATION
SUBDRAIN
SECTION B-B



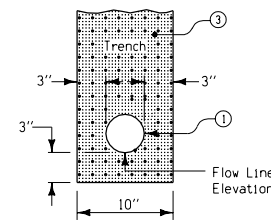
TYPE 3 INSTALLATION
TRENCH DRAIN
SECTION C-C



TYPE 4 INSTALLATION
SUBDRAIN
SECTION D-D



SECTION E-E
SUBSOIL DRAINAGE



TUBING PLACEMENT DETAIL
ALL TYPES

GENERAL NOTES:

The RF-19A shows the methods of installing fill or foundation drains under the roadway fill.

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Specific information for individual locations will be found on the detail project plans, soils survey sheets, and tabulations of subdrains.

Material excavated from trenches for subdrain shall be disposed of as directed by the Engineer. No extra compensation will be made for such disposal.

Blind ends of subdrains shall be capped with a metal cap or by other methods approved by the Engineer. All perforated pipe shall be installed with the perforations centered on flowline of the bottom side of the subdrain.

"Granular Material for Blankets" shall be placed as indicated on the plans. Method of measurement and basis of payment shall be as provided in current Standard and Supplemental Specifications.

Price bid per linear foot for "Trench Drain" shall be considered full compensation for excavating and backfilling a trench as indicated hereon (Type 3 Installation).

Price bid for "Standard Subdrain" per linear foot, and "Subdrain Outlet CMP" per unit, shall include trenching, all necessary elbows, tees, connections, porous backfill, and any other items not specifically listed, which are necessary, to construct subdrain as described hereon and as shown in detail project plans (Types 2 and 4 installations).

- ① 4" Perforated Subdrain (Polyethylene, Corrugated Tubing)
- ② Granular Material for Blanket (Uncompacted).
- ③ Porous Backfill (Uncompacted).
- ④ For Subdrain outlet construction details, see Standard Road Plans RF-19E and RF-19F.

Iowa Department of Transportation Project Development Division	
STANDARD ROAD PLAN	RF-19A
REVISION: Correct "Blanket" bid item; add reference to RF-19F in note 4.	REVISION NO. 6
<i>David P. Keith</i> APPROVED BY DESIGN METHODS ENGINEER	03-14-97 REVISION DATE 07-15-97
SUBDRAINS FOR FILL OR FOUNDATION DRAINAGE (STANDARD)	