

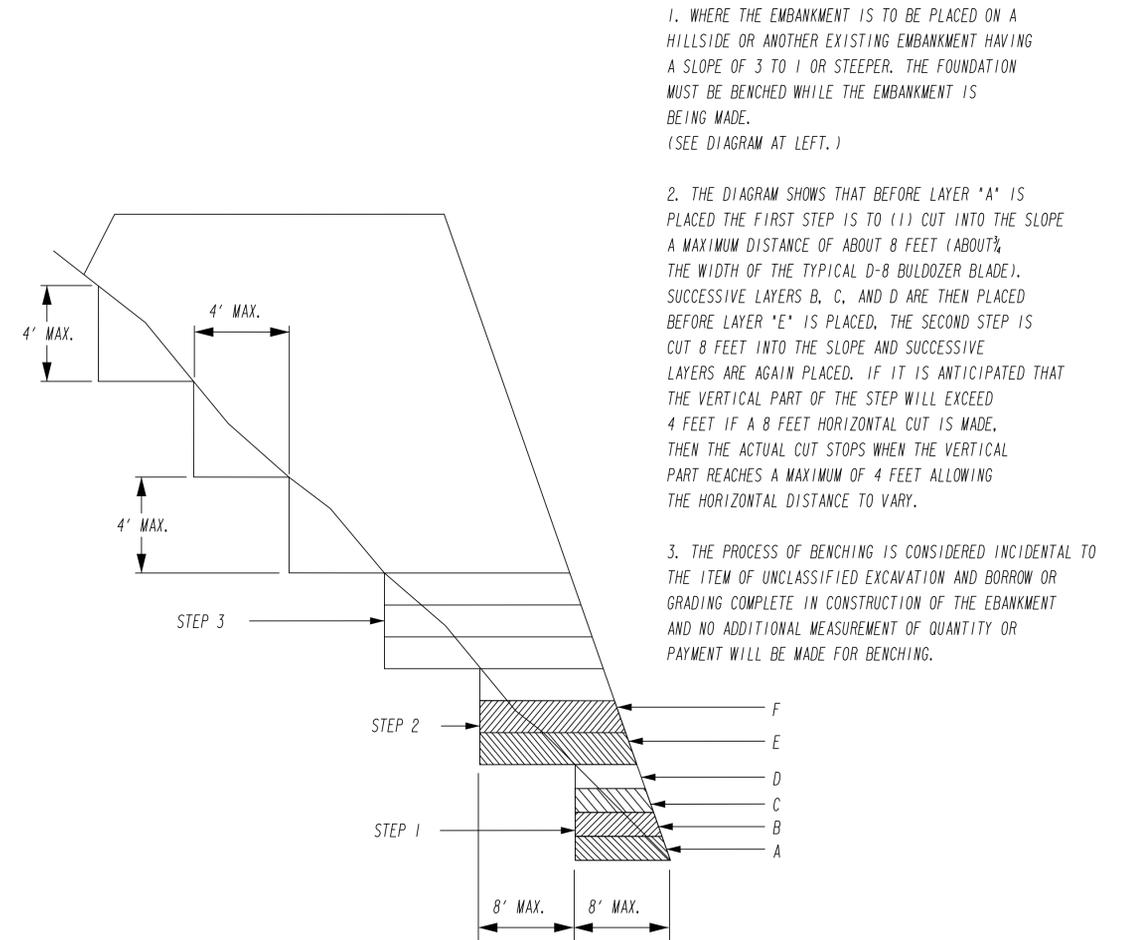
**Pipe Culvert Material Alternates
For Piedmont/Blue Ridge Region**

TYPE OF PIPE INSTALLATION	CONCRETE	CORRUGATED STEEL AASHTO M-36		CORRUGATED ALUMINUM AASHTO M-196	PLASTIC			
		ALUMINUM COATED (TYPE 2) CORR. STEEL	PLAIN ZINC COATED	PLAIN UNCOATED ALUMINUM	CORR. POLY-ETHYLENE AASHTO M-252	CORR. POLY-ETHYLENE SMOOTHED LINED AASHTO M-294 TYPE 'S'	POLY VINYL CHLORIDE (PVC) PROFILE WALL AASHTO M-304	POLY VINYL CHLORIDE (PVC) CORRUGATED SMOOTH INTERIOR ASTM F-949
LONGITUDINAL INTERSTATE AND TRAVEL BEARING	X							
LONGITUDINAL NON-INTERSTATE AND NON-TRAVEL BEARING	X					X	X	X
STORM DRAINS GRADE ≤ 10%	ADT < 250	X				X	X	X
	250 < ADT < 1,500	X	*			X	X	X
	1,500 < ADT < 15,000	X				X	X	X
	ADT > 15,000	X						
GRADE > 10%	ADT < 250					X	X	X
	ADT > 250					X	X	X
SIDE DRAIN	X					X	X	X
PERMANENT SLOPE DRAIN		X	X	X		X	X	X
PERFORATED UNDERDRAIN		X	X	X	X	X		X

* This type pipe can be used if the addition of Type 'B' Coating (AASHTO M-190, Half Bituminous Coated with Paved Invert) is utilized.

NOTES:

- Allowable materials are indicated by an 'X'.
 - Structural requirements of storm drain pipe will be in accordance with Georgia Standard 1030-D or 1030-P, whichever is applicable, and the Standard Specifications.
 - Graded aggregate backfill shall be used in cross drain applications for all plastic pipes (AASHTO M-294, HDPE pipe; AASHTO M-304, PVC pipe; ASTM F-949, PVC pipe).
 - The Contractor shall provide additional storm sewer capacity calculations if a pipe material other than concrete is selected.
 - Pipe used under mechanically stabilized earth (MSE) walls, within MSE wall backfill, or within five feet of an MSE wall face shall be Class V Concrete Pipe.
 - Project specific pH and Resistivity values are entered into the respective boxes above to determine allowable pipe materials.
- Rev. 03-22-10



BENCHING DETAIL

Revised 9/29/08 4.5.28 NO SCALE



DISTRICT 3

REVISION DATES

NO.	DATE	DESCRIPTION

GENERAL NOTES

SR 49 OVER NORFOLK SOUTHERN RR

CHECKED:	DATE:	DRAWING No. 04-0002
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	