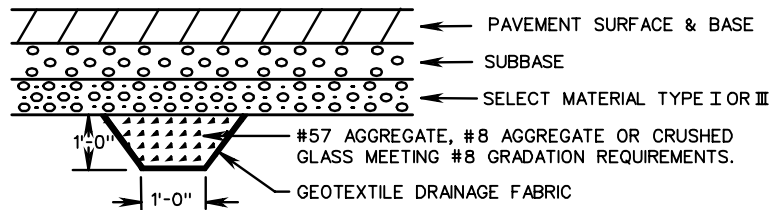
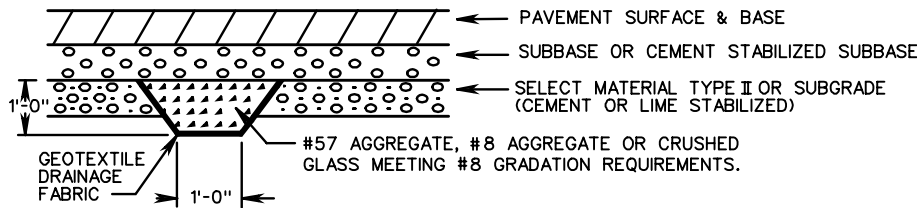


**COMBINATION UNDERDRAIN CD-1 AT LOWER END OF CUTS  
CENTER LINE SECTION  
(WITH TYPE 1 SELECT MATERIAL)**

**TRENCH PLACEMENT**



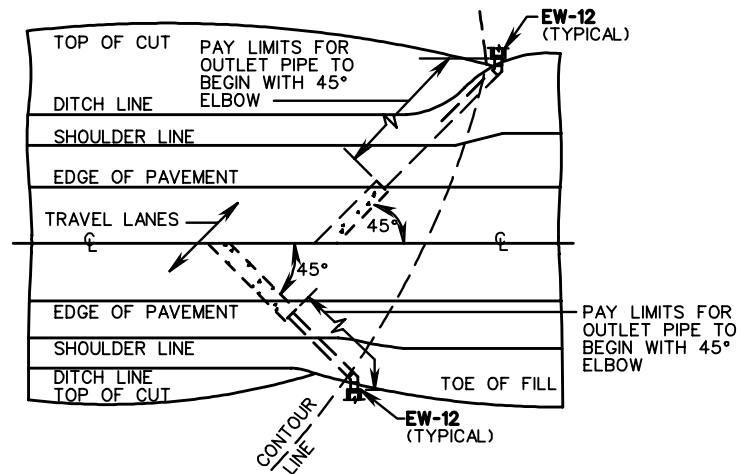
OR



**NON-PERFORATED OUTLET PIPE**

TYPE OF PIPE	CRUSHING STRENGTH	
	W.T. 4" NOM. DIAMETER	W.T. 6" NOM. DIAMETER
SMOOTH WALL PVC	.103	0.153
SMOOTH WALL PE	70 PSI ***	70 PSI ***

※ WALL THICKNESS (MIN) - INCHES  
 ※※※ TESTED ACCORDING TO ASTM D-2412 AT 5% DEFLECTION.



**PLAN VIEW  
(PLACEMENT OF CD-1 COMBINATION UNDERDRAIN)**

**GENERAL NOTES**

- UNLESS SPECIFICALLY INDICATED, COMBINATION UNDERDRAIN WILL NOT BE LOCATED AT THIS POINT WHEN BOTH SUBBASE AND SUBGRADE ARE STABILIZED.
- TRENCH SHALL BE FILLED WITH AGGREGATE AND THOROUGHLY HAND TAMPED TO INSURE COMPACTNESS.
- OUTLET PIPE SHALL BEGIN AT THE EDGE OF THE TRAVEL LANE PAVEMENT AND SHALL BE PLACED ON A GRADE PARALLEL TO THE SHOULDER (SLOPE 2% MIN. (3% DESIRABLE) GRADE).
- ON CURB AND GUTTER SECTIONS, WHERE IT IS IMPOSSIBLE TO OTHERWISE PROVIDE OUTLETS FOR UNDERDRAINS, THEY ARE TO BE LOCATED SO AS TO DRAIN INTO DROP INLETS OR MANHOLES.
- ON SUPERELEVATED SECTIONS, TRENCH IS TO BE UNDER ENTIRE PAVEMENT AREA WITH OUTLET PIPE ON LOW SIDE ONLY.
- INVERT ELEVATION AT OUTLET END OF OUTLET PIPE TO BE A MINIMUM OF 1'-0" ABOVE INVERT ELEVATION OF RECEIVING DRAINAGE DITCH OR STRUCTURE.
- ALL CONNECTIONS (ELBOWS, WYES, ETC.) WITHIN PAY LIMITS FOR OUTLET PIPE ARE TO BE OF THE SAME CRUSHING STRENGTH AS THE OUTLET PIPE.
- OUTLET PIPE TO BE SECURELY CONNECTED TO EW-12 OR OTHER DRAINAGE STRUCTURE.

**STANDARD COMBINATION UNDERDRAIN  
(AT LOWER END OF CUTS)**

SPECIFICATION  
REFERENCE

232  
501  
701