



**NOTES:**

1. WHEN THE LONGITUDINAL PIPE CONNECTS DIRECTLY INTO A DRAINAGE STRUCTURE (DROP INLET, MANHOLE, ECT.), NON-PERFORATED OUTLET PIPES ARE NOT REQUIRED.
2. INVERT ELEVATION AT OUTLET END OF OUTLET PIPE TO BE A MINIMUM OF 1'-0" ABOVE INVERT ELEVATION OF RECEIVING DRAINAGE DITCH OR STRUCTURE.
3. ALL CONNECTIONS (ELBOWS, WYES, ETC.) WITHIN PAY LIMITS FOR OUTLET PIPE ARE TO BE OF THE SAME CRUSHING STRENGTH AS THE OUTLET PIPE.
4. OUTLET PIPE ARE TO BE INSTALLED ON 2% MIN. (3% DESIRABLE) GRADE.
5. THE NORMAL DEPTH OF UNDERDRAIN IS TO BE 4'-0" BELOW THE NEAR EDGE OF PAVEMENT AS SHOWN. THE LONGITUDINAL GRADE OF THE UNDERDRAIN SHALL FOLLOW THAT OF THE ROADWAY WITH A MINIMUM GRADE OF 0.2%.
6. WHERE THE BOTTOM OF SELECT MATERIAL IS GREATER THAN 4'-0" BELOW THE PAVEMENT, THE BOTTOM OF THE UNDERDRAIN IS TO BE COINCIDENT WITH THE BOTTOM OF SELECT MATERIAL AND THE TRENCH DEPTH AND BACKFILL QUANTITY INCREASED ACCORDINGLY.
7. WHEN USED WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES OUT TO THE DEPTH OF THE PAVEMENT.
8. OUTLET PIPE TO BE SECURELY CONNECTED TO EW-12 OR OTHER DRAINAGE STRUCTURE.
9. ▼ DENOTES WATER TABLE.
10. OUTLET PIPE CONFIGURATION TO PROVIDE FOR PASSAGE OF INSPECTION CAMERA WITH 2 1/2" I. D. HEAD.

**LONGITUDINAL PERFORATED PIPE**

TYPE OF PIPE	CRUSHING STRENGTH	
	W.T.	6" NOMINAL DIAMETER
SMOOTH WALL PVC	.153	
CORRUGATED PE		AASHTO M-252

**NON-PERFORATED OUTLET PIPE**

TYPE OF PIPE	CRUSHING STRENGTH	
	W.T.	6" NOMINAL DIAMETER
SMOOTH WALL PVC	.153	
SMOOTH WALL PE		70 PSI ***

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

SPECIFICATION REFERENCE
240 501 701

**STANDARD GROUNDWATER UNDERDRAIN**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT ROAD AND BRIDGE STANDARDS	
REVISION DATE	SHEET 1 OF 1
	108.01