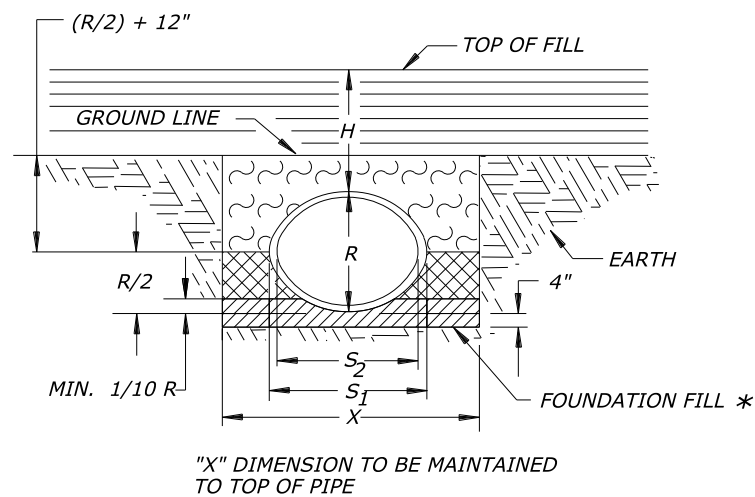
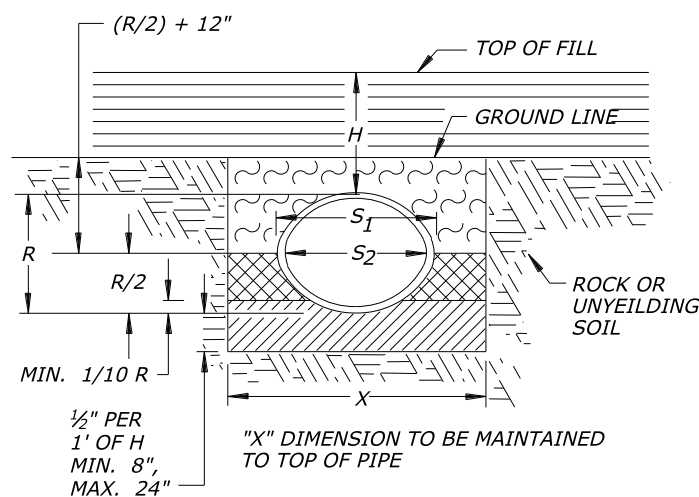


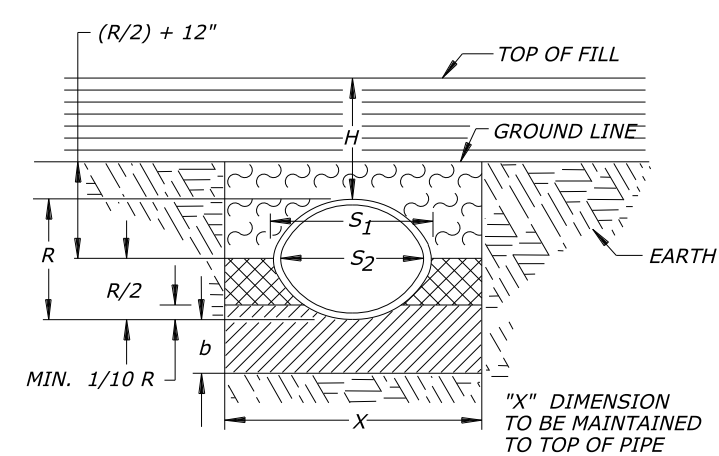
**NO PROJECTION OF PIPE ABOVE GROUND LINE**



**NORMAL EARTH FOUNDATION**

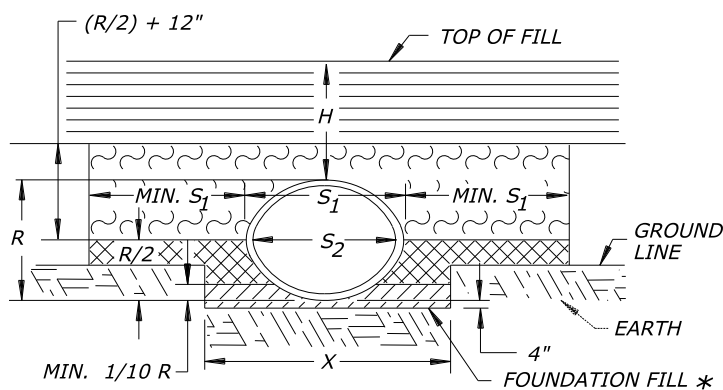


**ROCK FOUNDATION**

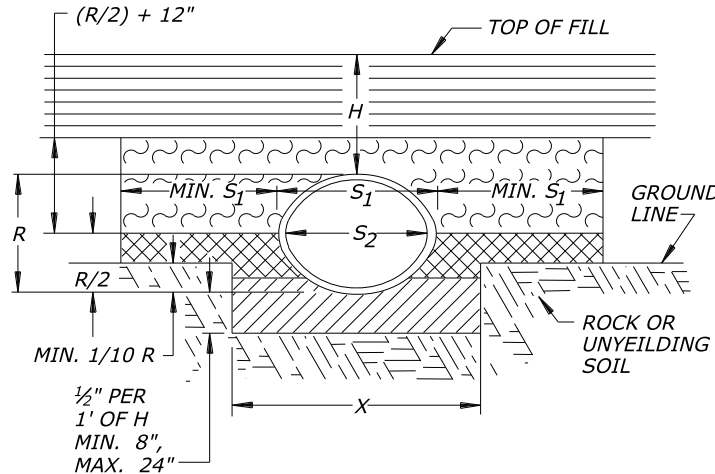


**FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL**

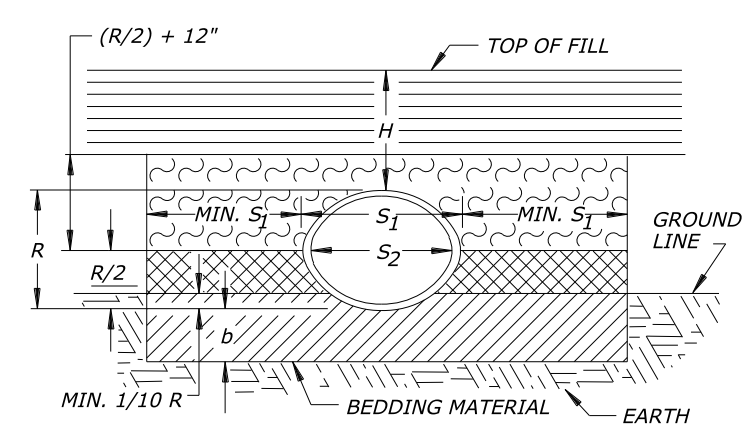
**PIPE PROJECTION ABOVE GROUND LINE**



**NORMAL EARTH FOUNDATION**



**ROCK FOUNDATION**



**FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL**

CULVERTS LESS THAN  $S_1 = 36"$   
 $X = S_2 + 24"$

CULVERTS WHERE  $S_1 = 36"$  AND OVER  
 $X = S_2 + 36"$

METHOD "A" PIPE BEDDING SHALL BE USED AS FOLLOWS UNLESS OTHERWISE NOTED ON PLANS:

RIGID PIPE  
 WHEN H IS LESS THAN OR EQUAL TO 30'

FLEXIBLE PIPE  
 AS SHOWN ON TABLES

\* MAY BE ELIMINATED UNDER ENTRANCE PIPE WHERE DIRECTED BY THE CO.

H = HEIGHT OF COVER MEASURED FROM TOP OF DRAINAGE STRUCTURE TO FINISHED GRADE.

$S_1$  = OUTSIDE SPAN OF PIPE.

$S_2$  = INSIDE SPAN OF PIPE.

R = OUTSIDE RISE OF PIPE.

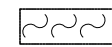
b = DEPTH AS SHOWN ON PLANS OR TO FIRM BEARING SOIL.



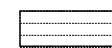
FOUNDATION FILL MATERIAL IN ACCORDANCE WITH SUBSECTIONS 209 AND 704.01



BACKFILL MATERIAL IN ACCORDANCE WITH SUBSECTIONS 209.09 AND 704.03



SUITABLE ROADWAY EXCAVATION OR UNCLASSIFIED BORROW MATERIAL IN ACCORDANCE WITH SUBSECTION 209.09



EMBANKMENT

NO SCALE

ADOPTED FROM:  
 VIRGINIA DEPARTMENT OF TRANSPORTATION  
 STANDARD PB-1, PAGE 107.02

U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION  
 EASTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

**ELLIPTICAL CONCRETE PIPE  
 CULVERT INSTALLATION**

DETAIL APPROVED FOR USE  
 APPROVED : MAY 2011

DETAIL  
 E602-09