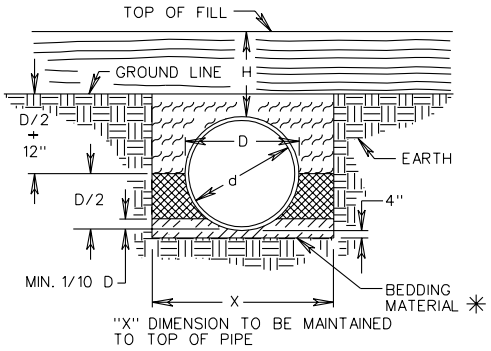
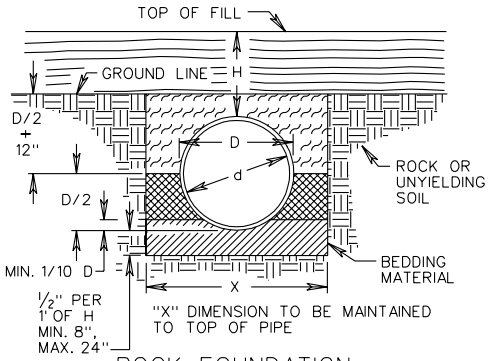
REVISED ON 1-04

PB-1

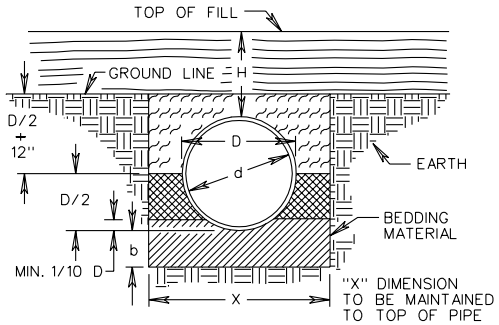
NO PROJECTION OF PIPE ABOVE GROUND LINE



NORMAL EARTH FOUNDATION

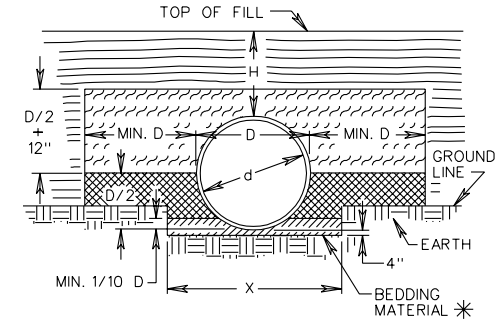


ROCK FOUNDATION

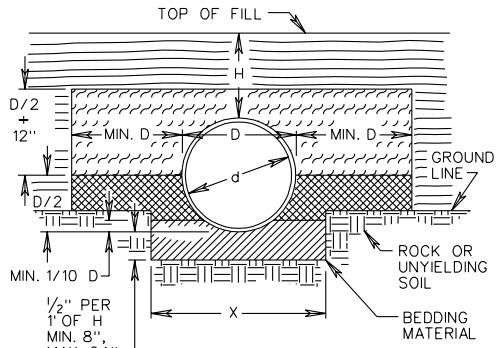


FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

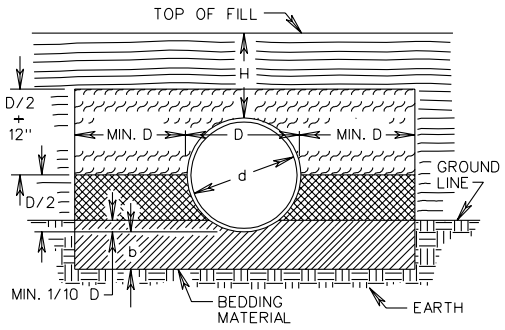
PIPE PROJECTION ABOVE GROUND LINE



NORMAL EARTH FOUNDATION



ROCK FOUNDATION



FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

CULVERTS LESS THAN d = 36"
X = D + 24"

CULVERTS WHERE d = 36" AND OVER
X = D + 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 EXCEPT FOR PLASTIC PIPE INSTALLATIONS, WHERE DIRECTED BY THE ENGINEER.

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

D = OUTSIDE DIAMETER OF PIPE.

d = INSIDE DIAMETER OF PIPE.

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

✳✳ FOR PLASTIC PIPE INSTALLATIONS, CLASS I BACKFILL MATERIAL SHALL BE USED IN LIEU OF CLASS II.

BEDDING MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

CLASS I BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

CLASS II BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS. ✳✳

EMBANKMENT

SHEET 1 OF 4

SPECIFICATION REFERENCE
302
303

INSTALLATION OF PIPE CULVERTS AND STORM SEWERS
CIRCULAR PIPE BEDDING AND BACKFILL - METHOD "A"

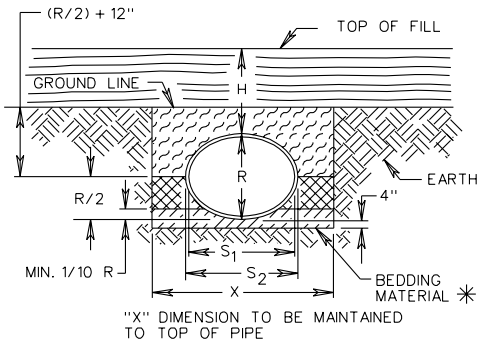
VIRGINIA DEPARTMENT OF TRANSPORTATION

107.01

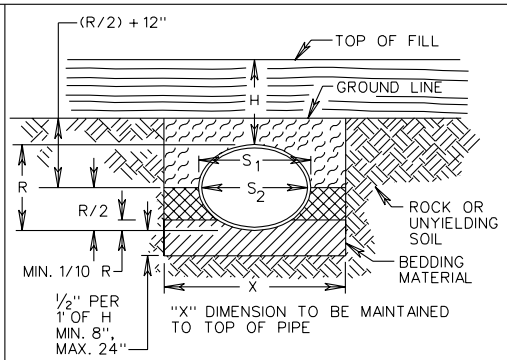
REVISED ON 1-04

PB-1

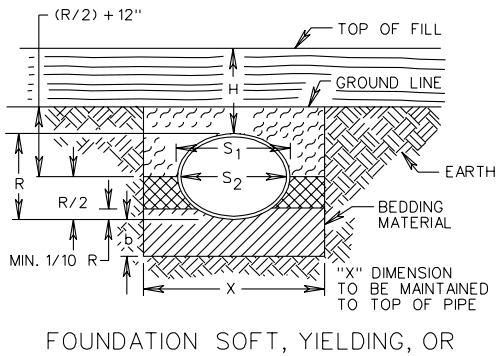
NO PROJECTION OF PIPE ABOVE GROUND LINE



NORMAL EARTH FOUNDATION

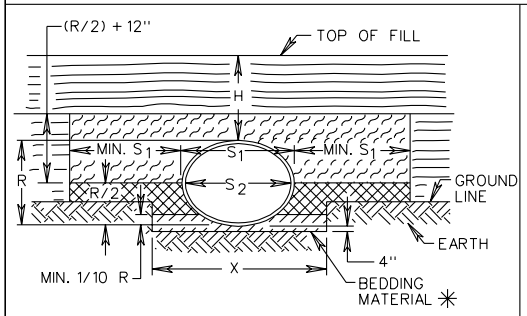


ROCK FOUNDATION

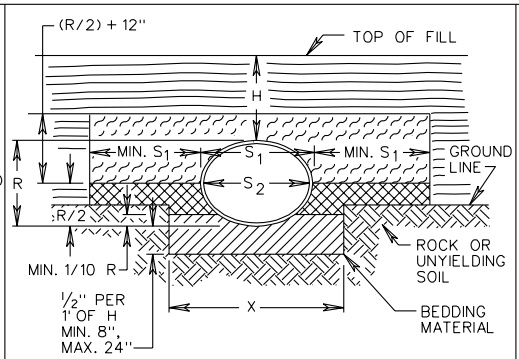


FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

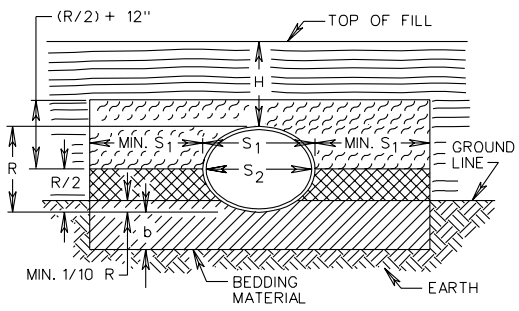
PIPE PROJECTION ABOVE GROUND LINE



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 ENGINEER.

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.

BEDDING MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

CLASS I BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

CLASS II BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

EMBANKMENT

INSTALLATION OF PIPE CULVERTS AND STORM SEWERS
ELLIPTICAL PIPE BEDDING AND BACKFILL - METHOD "A"

VIRGINIA DEPARTMENT OF TRANSPORTATION

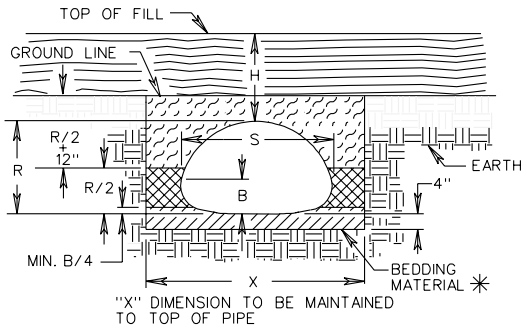
SPECIFICATION REFERENCE
302
303

107.02

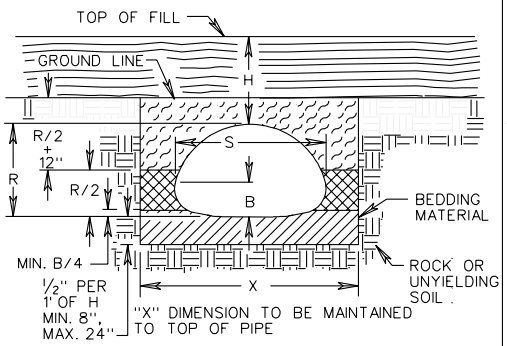
REVISED ON 1-04

PB-1

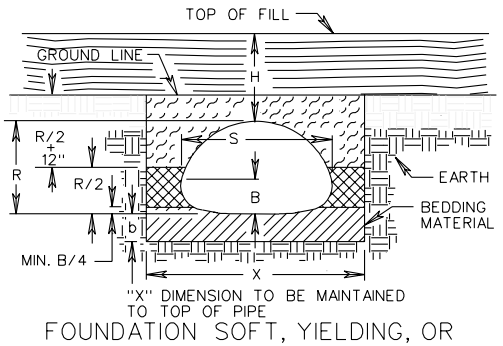
NO PROJECTION OF PIPE ARCH ABOVE GROUND LINE



NORMAL EARTH FOUNDATION

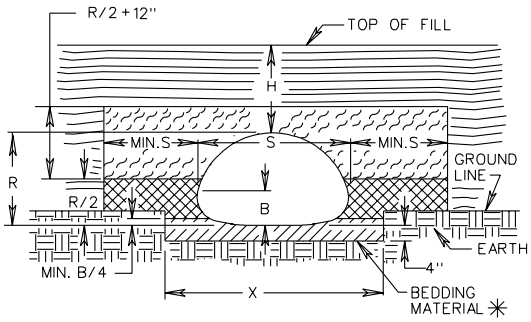


ROCK FOUNDATION

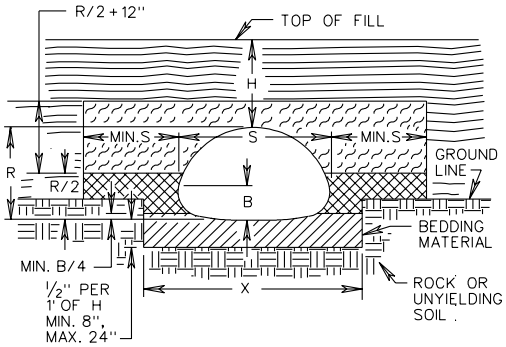


FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

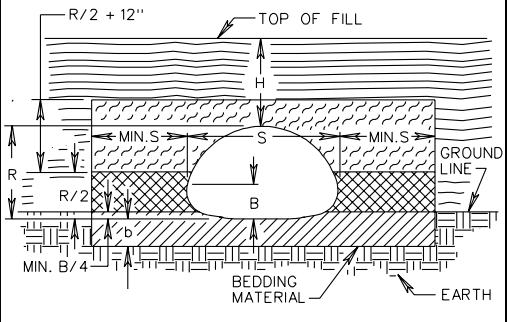
PIPE ARCH PROJECTION ABOVE GROUND LINE



NORMAL EARTH FOUNDATION



ROCK FOUNDATION



FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

SPANS (S) LESS THAN 36"
X = S + 24"
SPANS (S) GREATER THAN 36"
X = S + 36"

✳ MAY BE ELIMINATED UNDER ENTRANCE PIPE WHERE DIRECTED BY THE ENGINEER.

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

S = SPAN

R = RISE

B = SEE STANDARD PC-1 FOR SPECIFIC PIPE MATERIAL.

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

BEDDING MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

CLASS I BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

CLASS II BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

EMBANKMENT

SPECIFICATION REFERENCE
302
303

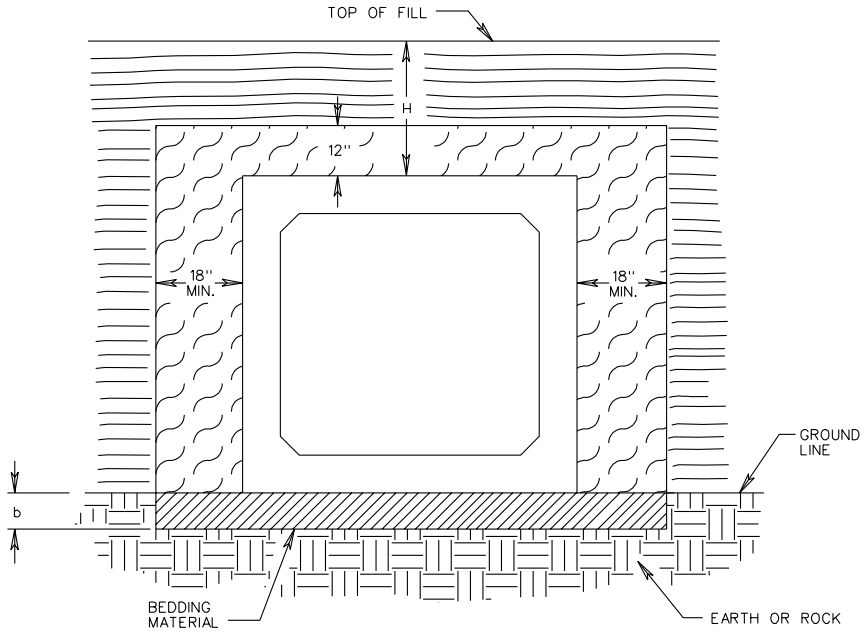
INSTALLATION OF PIPE CULVERTS AND STORM SEWERS
PIPE ARCH BEDDING AND BACKFILL

VIRGINIA DEPARTMENT OF TRANSPORTATION

107.03

REVISED ON 1-04

PB-1



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

FOR NORMAL EARTH FOUNDATION:
FOR PRECAST AND CAST IN PLACE BOX CULVERT b = 6"

FOR ROCK FOUNDATION:
FOR PRECAST BOX CULVERT b = ½" PER 1 FOOT OF H - 8" MIN., 24" MAX.
FOR CAST IN PLACE BOX CULVERT NO BEDDING REQUIRED
BOTTOM SLAB TO BE KEYED INTO ROCK FOUNDATION.

FOR SOFT, YIELDING OR OTHERWISE UNSUITABLE FOUNDATION:
FOR PRECAST AND CAST IN PLACE BOX CULVERT
b = DEPTH AS SHOWN ON PLANS OR TO FIRM BEARING SOIL.

BEDDING MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

CLASS II BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

EMBANKMENT

SHEET 4 OF 4

INSTALLATION OF BOX CULVERTS
BEDDING AND BACKFILL - METHOD "A"

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
302
303

107.04