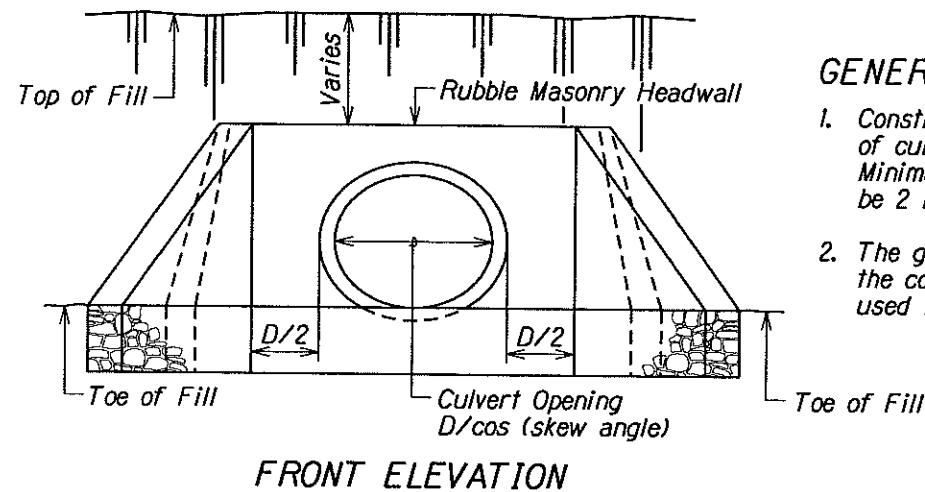
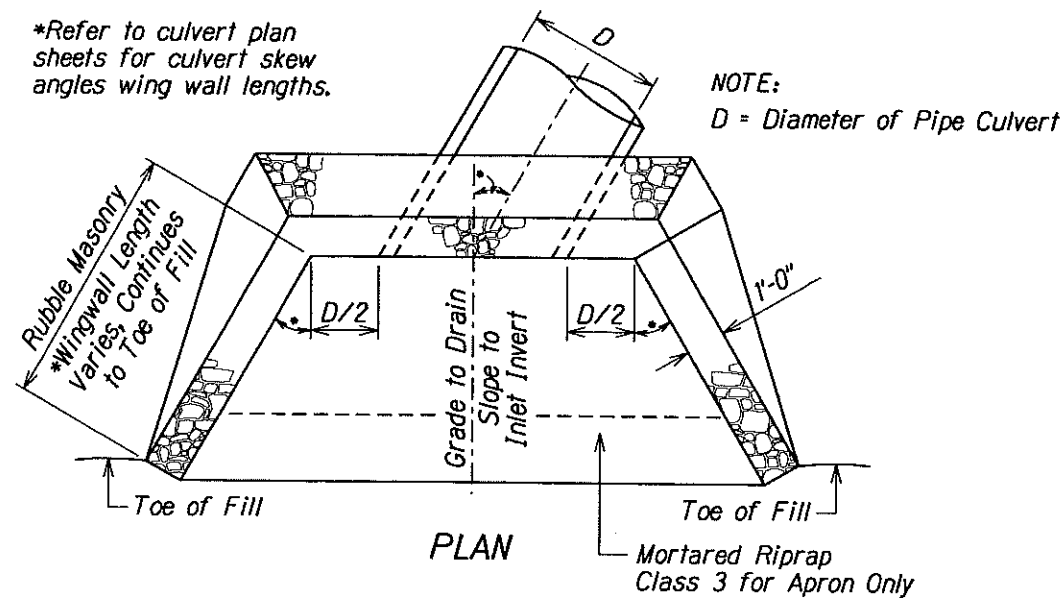
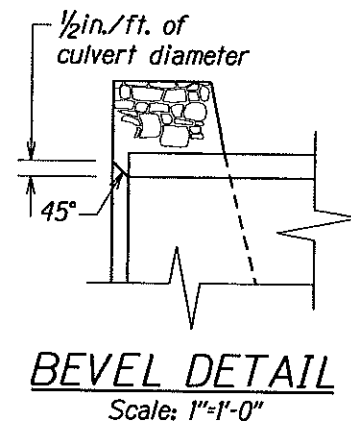
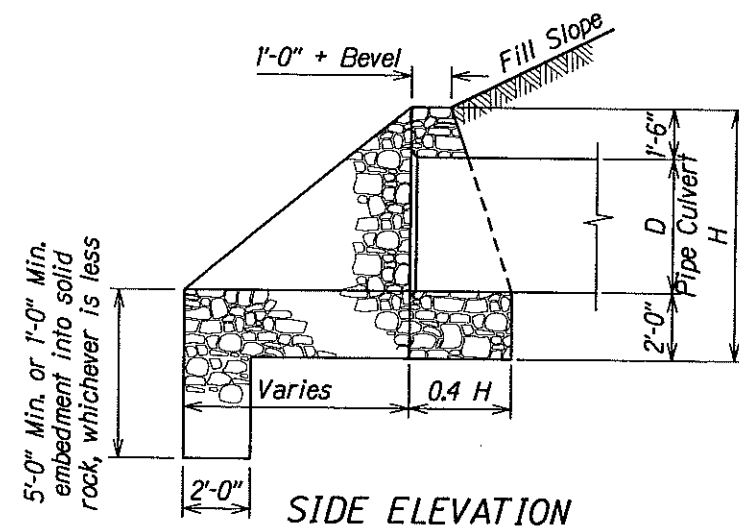


*Refer to culvert plan sheets for culvert skew angles wing wall lengths.



GENERAL NOTES:

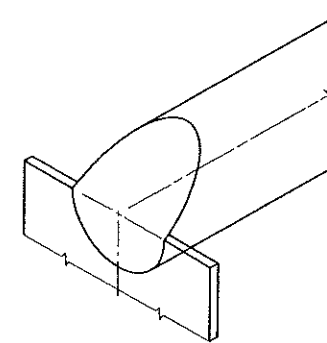
1. Construct bevels $\frac{1}{2}$ in./ft. of culvert diameter or rise. Minimum bevel size shall be 2 inches.
2. The groove or bell end of the concrete culvert may be used in place of the bevel.



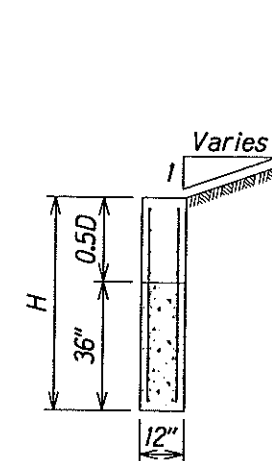
**RUBBLE MASONRY,
COURSE POINTED FINISH
CULVERT END TREATMENT**

HEADWALL FOR MULTIPLE PIPE CULVERT DIMENSIONS, REINFORCING STEEL, AND CONCRETE TABLE OF QUANTITIES

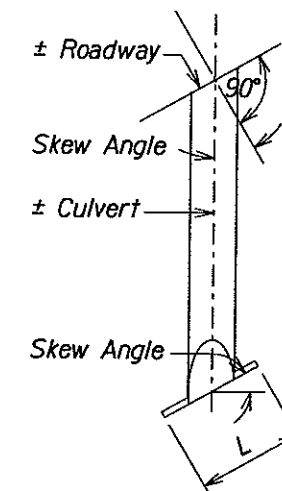
NO.	STATION	SKEW ANGLE	D (in)	H (ft)	A (ft)	B (ft)	L (ft)	CONC. (ft ³)	STEEL (lb)
9	138+44	10°	30(2)	4.25	2.63	5.26	10.51	39.78	137.88
14	175+00	37°	24(2)	4.00	2.50	5.00	10.00	36.86	127.75



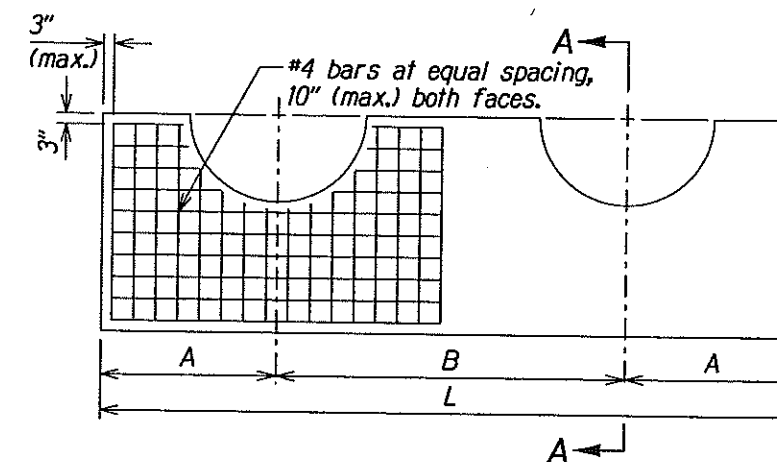
ISOMETRIC VIEW



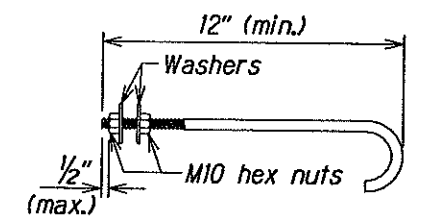
SECTION A-A



TYPICAL HALF PLAN



MULTIPLE PIPE CULVERT
HALF HEADWALL



M10 HOOK BOLT DETAILS

NOTES:

1. Concrete conforms to Section 601. Pour concrete monolithically. Chamfer all exposed edges $\frac{3}{4}$ " and finish all exposed surfaces with a Class 1 ordinary finish.
2. Clearance for reinforcing steel is 2" unless otherwise noted.
3. Headwall dimension "H" may be reduced in solid rock provided the wall is keyed into the rock at least 12". Excavate and backfill according to Section 209.
4. Set hook bolts on nominal 18" centers around pipe perimeter at center of headwall. Hook bolts conform to ASTM A307. Galvanize according to ASTM A153.
5. Final quantities will be determined by using the table on this standard or as necessary if field adjusting.
6. Do not order materials until the length, skew angle, and slope bevel in the field have been approved.

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	L9	L19

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

**RUBBLE MASONRY STRUCTURE
HALF HEADWALL**

Scale: N.T.S. Date: October 15, 2004

SHEET No. 1 OF 1