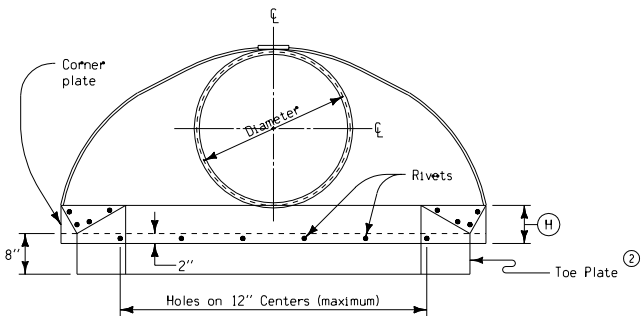
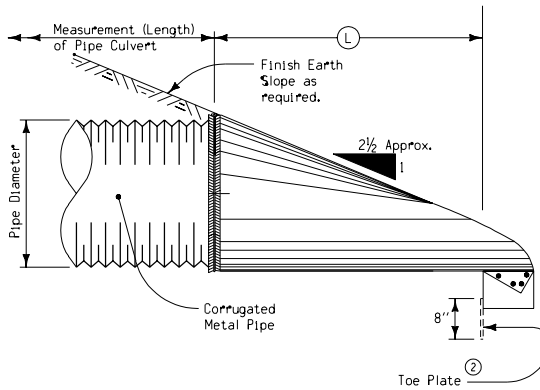


PLAN VIEW

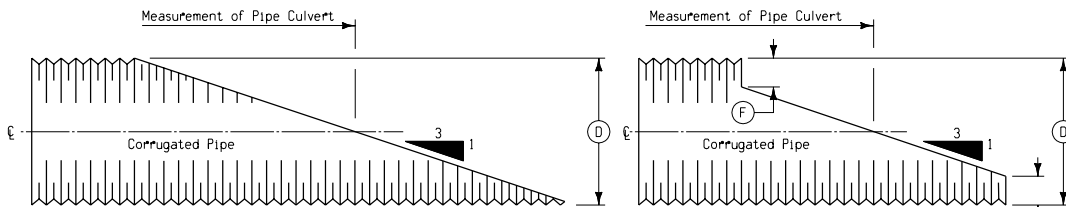
DIMENSIONS					
PIPE DIAM.	A	B	H	L	W
(±1")	(±1")	(±1")	(±1")	(±1 1/2")	(±2")
6"	4 1/2"	1"	3"	8 3/4"	12"
8"	5 1/2"	3"	4"	14 1/4"	16"
10"	7 1/2"	6"	6"	21"	24"
12"	4 3/4"	6"	6"	21"	24"
15"	6"	8"	6"	26"	30"
18"	7"	9"	6"	31"	36"
21"	8 1/4"	11"	6"	36"	42"
24"	9 1/2"	12"	6"	42"	48"
30"	12"	15"	7 1/2"	52 1/2"	60"
36"	14"	18"	9"	63"	72"
42"	16"	21"	10 1/2"	73 1/2"	84"
48"	18"	27"	12"	84"	90"
54"	18"	30"	12"	84"	102"
60"	18"	33"	12"	87"	114"
66"	18"	36"	12"	87"	120"
72"	18"	39"	12"	87"	126"
78"	18"	42"	12"	87"	132"
84"	18"	45"	12"	87"	138"
90"	24"	37"	11"	87"	144"
96"	25"	35"	12"	87"	150"



END VIEW



SIDE VIEW



FULL
STEP
BEVELED ENDS FOR CORRUGATED METAL PIPE

BEVEL 3:1	
(D)	(F)
54"	3"
60"	6"
66"	9"
72"	12"
78"	15"
84"	18"
90"	21"
96"	24"

NOTE:

When specifically required as part of detail project plans, ends of pipe culvert may be provided with beveled ends as shown.

Either Full Bevel or Step Bevel may be used unless one type is specified. Unless specified otherwise, the slope of the bevel shall be 3:1.

Beveled ends will not be paid for separately but, when required, shall be considered incidental to the price bid for the culvert.

GENERAL NOTES:

Metal pipe aprons and hardware shall be constructed of galvanized steel in conformance with the requirements of the current Standard and Supplemental Specifications for Corrugated Culverts and essentially as indicated hereon. Refer to other appropriate Standards Road Plans as well as project plans for additional details of individual culvert installations. Alternate design details may be submitted to the Engineer for approval.

Aprons may be attached to culvert pipe as follows:

- A. If normal culvert is of circumferential corrugation type use an approved bolt or clamp to fasten apron directly to culvert.
- B. If normal culvert is of helical corrugation type:
 1. Use an approved sizing ring securely fastened to inside diameter of apron to connect to the culvert pipe using special dimple band connector.
 2. "Dimple" bands are not allowed when a positive joint is specified.

See Materials I.M. 441 for Approved Coupling Devices and specific requirements.

Any damage to spelter Coat resulting from installation of culvert shall be repaired as directed by the Engineer.

Price bid for "Metal Aprons" shall be considered full compensation for fabrication and installation of the metal apron as detailed hereon.

- ① On sizes 60" and larger, the reinforced edge should be supplemented with a galvanized stiffener angle attached with bolts.
- ② Galvanized Toe Plate (Same gage metal as apron) shall be installed on all aprons 24" diameter and larger.

Iowa Department of Transportation Project Development Division	
STANDARD ROAD PLAN	RF-5
REVISION: Delete M Distance APPROVED BY: <i>[Signature]</i> 06-07-00 DESIGN METHODS ENGINEER	REVISION NO. 7 REVISION DATE 10-03-00
METAL PIPE APRONS AND BEVELED ENDS	