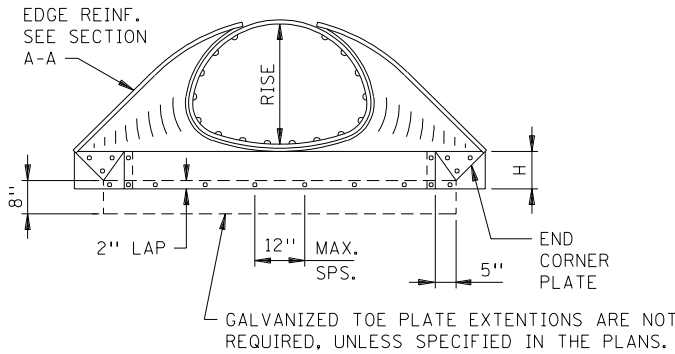
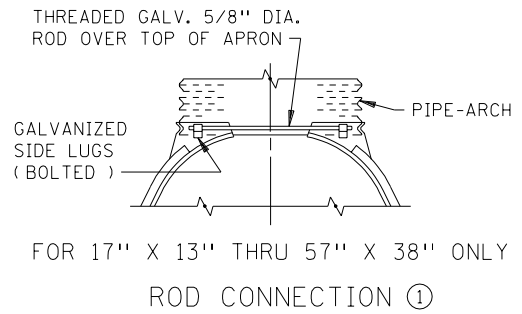


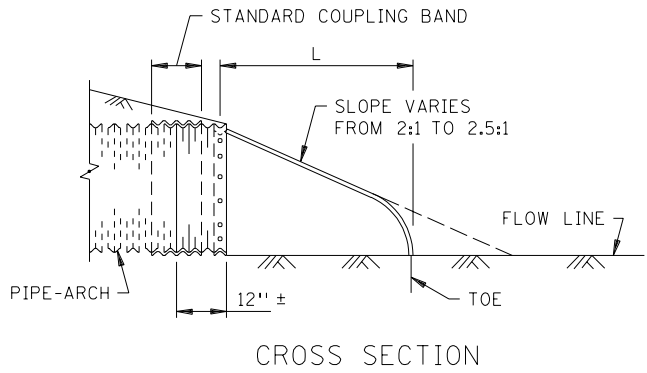
TOP VIEW



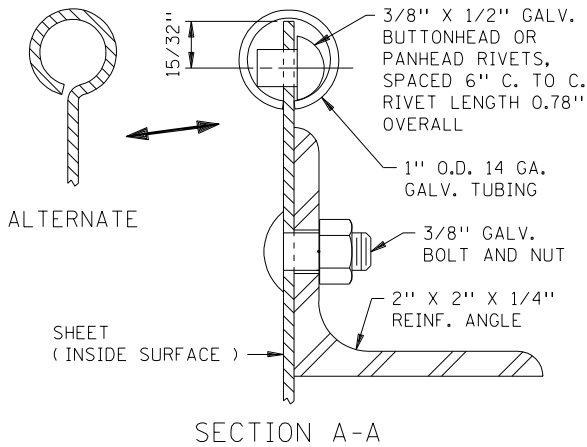
ELEVATION



FOR 17" X 13" THRU 57" X 38" ONLY
ROD CONNECTION ①



CROSS SECTION



SECTION A-A

EQUIVALENT DIA. (IN.)	PIPE-ARCH SIZE (IN.)		GAUGE	DIMENSIONS					REMARKS
	④			A	B	H	L	W	
	SPAN	RISE		1" ± (IN.)	MAX. (IN.)	1" ± (IN.)	1-1/2" ± (IN.)	2" ± (IN.)	
15	17	13	16	7	9	6	19	30	1 PIECE
18	21	15	16	7	10	6	23	36	"
21	24	18	16	8	12	6	28	42	"
24	28	20	16	9	14	6	32	48	"
30	35	24	14	10	16	6	39	60	"
36	42	29	14	12	18	8	46	75	"
42	49	33	12	13	21	9	53	85	2 PIECES, ② SPLICE
② 48	57	38	12	18	26	12	63	90	" "
② 54	64	43	12	18	30	12	70	102	" "
③ 60	71	47	12	18	33	12	77	114	3 PIECES, 2 SPLICES
③ 66	77	52	12	18	36	12	77	126	" "
③ 72	83	57	12	18	39	12	77	138	" "

NOTES:

FOR OTHER APPROVED CONNECTIONS, SEE STANDARD PLATE 3124.

THE TOP EDGE OF ALL APRONS SHALL HAVE TUBING REINFORCING (SEE SECTION A-A). THE TUBING SHALL BE SUPPLEMENTED WITH GALVANIZED ANGLE FOR 77" X 52" AND 83" X 57" SIZES. ALTERNATE ROLLED TOP EDGE DESIGNS APPROVED BY THE MN/DOT MATERIALS SECTION MAY BE USED.

- ① FOR 18" THRU 29" SPAN PIPE-ARCHES, A FLAT STRAP CONNECTOR MAY BE USED IN PLACE OF THE ROD CONNECTION. STRAP CONNECTOR SHALL BE 1" WIDE, 12 GA. STRAP WITH STANDARD 6" LONG X 1/2" DIA. BAND BOLT AND NUT.
- ② A 3 PIECE APRON WITH 2 SPLICES MAY BE USED IN LIEU OF A 2 PIECE APRON. THE 3 PIECE BODIES SHALL BE MADE OF 3 EQUAL SECTIONS OF 12 GA. MATERIAL.

- ③ 3 PIECE BODIES SHALL HAVE 12 GA. SIDES AND 10 GA. CENTER PANELS. WIDTH OF CENTER PANEL SHALL EXCEED 20% OF PIPES PERIPHERY. MULTIPLE PANEL BODIES SHALL HAVE 2" MIN. LAP SEAMS WHICH ARE TO BE JOINED BY 3/8" DIA. RIVETS OR BOLTS (GALVANIZED) SPACED AT 6" MAX. C. TO C. NUTS TO BE TIGHTENED TO 25 LB. ± TORQUE. ANGLE REINFORCEMENT SHALL BE PLACED UNDER THE CENTER PANEL SEAMS ON 77" X 52" AND 83" X 57" SIZES.
- ④ PIPE-ARCH DIMENSIONS ARE FOR 2-2/3" X 1/2" CORRUGATIONS.

APPROVED **Nov. 13, 1986**

 Director
 Materials, Research and Standards

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 METAL APRON FOR
 C.M. PIPE-ARCH CULVERT

SPECIFICATION REFERENCE
 2501
 STANDARD PLATE NO.
 3122K