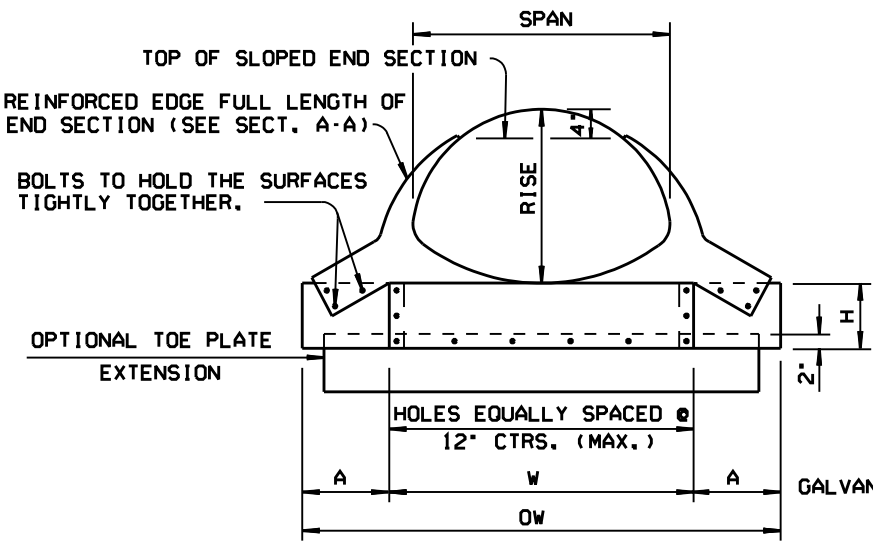
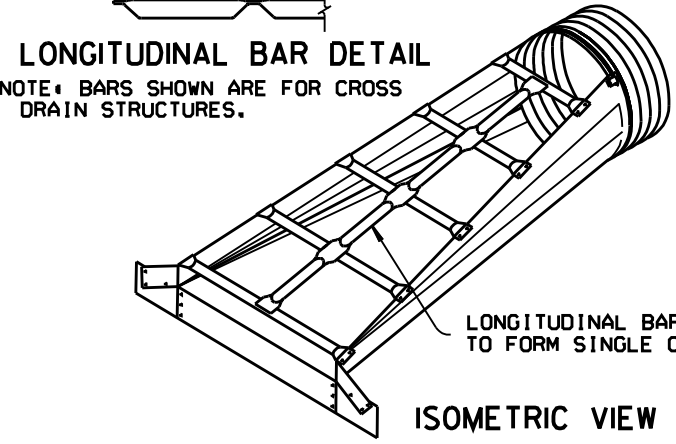


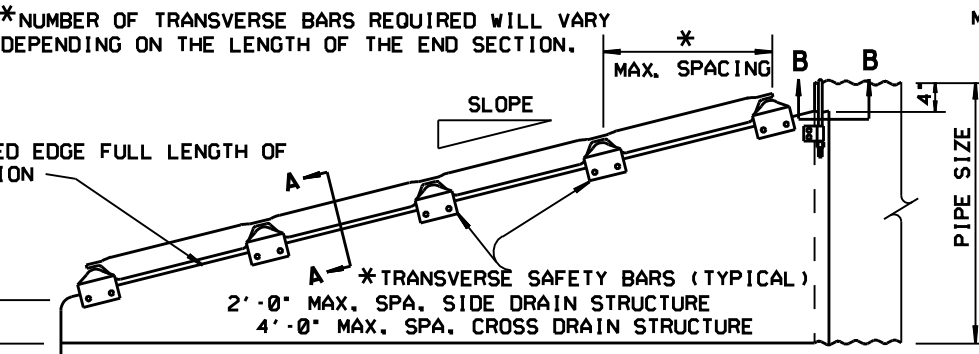
FRONT VIEW CIRCULAR PIPE



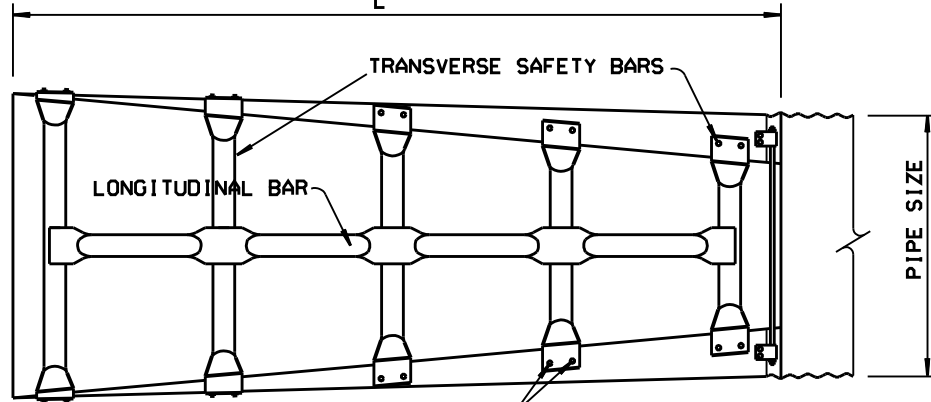
FRONT VIEW ARCH PIPE



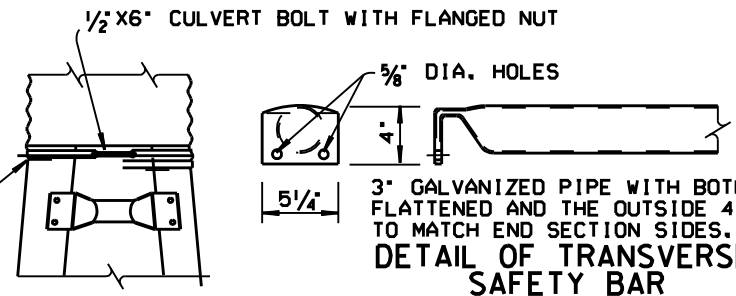
ISOMETRIC VIEW



SIDE ELEVATION CIRCULAR OR ARCH SECTION

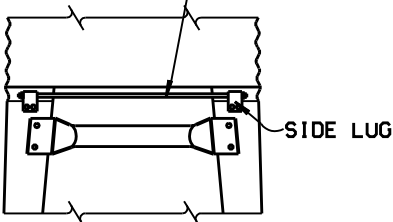


TOP VIEW CIRCULAR OR ARCH SECTION



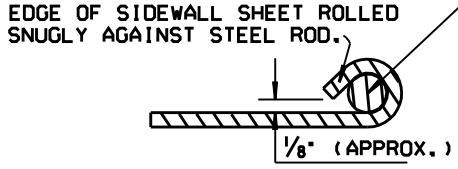
TYPE #1 CONNECTOR DETAIL FOR 15\"/>

1/2\"/>

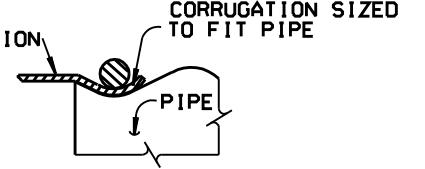


TYPE #2 CONNECTOR DETAIL FOR 30\"/>

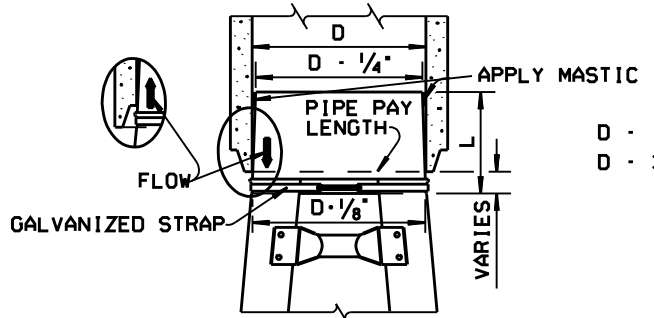
MINIMUM 1/8\"/>



SECTION A-A



SECTION B-B



NOTE: METAL END SECTION TO BE FIRMLY WEDGED INTO PIPE END BEFORE BACKFILLING PIPE. (TAPERED SLEEVE TO BE 12 GA. SMOOTH GALVANIZED STEEL IN ACCORDANCE WITH AASHTO M 218.)

STEEL END SECTION FOR CONCRETE PIPE (Alternate for Concrete End Section)

GENERAL NOTES

END SECTIONS SHALL BE FABRICATED FROM GALVANIZED STEEL MEETING THE REQUIREMENTS OF SUBSECTION 606.02(c)(11) OF THE STANDARD SPECIFICATIONS. WHEN SPECIFIED OPTIONAL TOE PLATE EXTENSION SHALL BE PUNCHED AND BOLTED TO END SECTION APRON LIP WITH 1/2\"/>

SAFETY END SECTIONS FOR ARCH PIPES										SAFETY END SECTIONS FOR CIRCULAR PIPES												
EQUIV. DIA.	NOM. W.W. AREA SQ FT	PIPE SPAN (IN.)	ARCH RISE (IN.)	MIN. GAUGE END SECT.	DIMENSIONS IN INCHES				SLOPE	L (IN.)	SLOPE	L (IN.)	PIPE DIA.	MIN. GAUGE ENDS	DIMENSIONS IN INCHES				L DIMENSIONS IN INCHES			
					A	H	W	OW							A	H	W	OW	SLOPE	L	SLOPE	L
18"	1.6	21	15	16	8	6	27	43	4:1	20	6:1	30	15"	16	8	6	21	37	4:1	20	6:1	30
21"	2.2	24	18	16	8	6	30	46	4:1	32	6:1	48	18"	16	8	6	24	40	4:1	32	6:1	48
24"	2.9	28	20	16	8	6	34	50	4:1	40	6:1	60	21"	16	8	6	27	43	4:1	44	6:1	66
30"	4.5	35	24	14	12	9	41	65	4:1	56	6:1	84	24"	16	8	6	30	46	4:1	56	6:1	84
36"	6.5	42	29	12	12	9	48	72	4:1	76	6:1	114	30"	12	12	9	36	60	4:1	80	6:1	120
42"	8.9	49	33	12	16	12	55	87	4:1	92	6:1	138	36"	12	12	9	42	66	4:1	104	6:1	156
48"	11.6	57	38	12	16	12	63	95	4:1	112	6:1	168	42"	12	16	12	48	80	4:1	128	6:1	192
54"	14.7	64	43	12	16	12	70	102	4:1	132	6:1	198	48"	12	16	12	54	86	4:1	152	6:1	228
60"	18.1	71	47	12	16	12	77	109	4:1	148	6:1	222	54"	12	16	12	60	92	4:1	176	6:1	264
72"	26.0	83	57	12	16	12	89	121	4:1	188	6:1	282	60"	12	16	12	66	98	4:1	200	6:1	300

10-18-90	REVISED ASTM REF. TO AASHTO	
8-15-91	DRAWN & ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION  
**SAFETY END SECTION FOR CIRCULAR AND ARCH PIPES**  
 STANDARD DRAWING SES-1