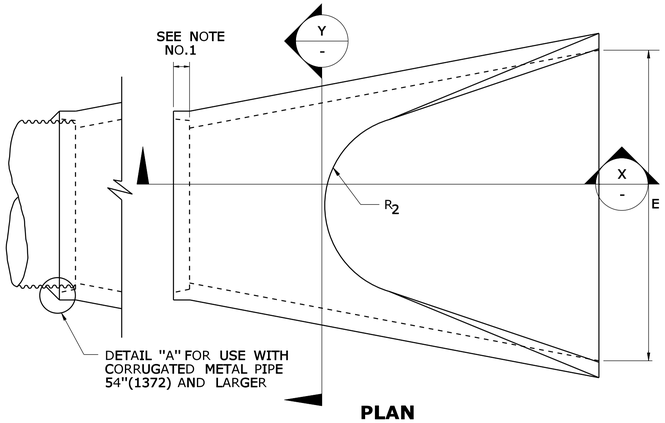
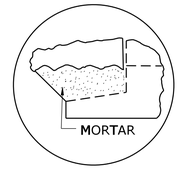
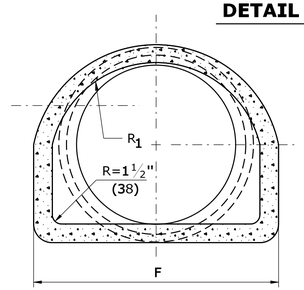


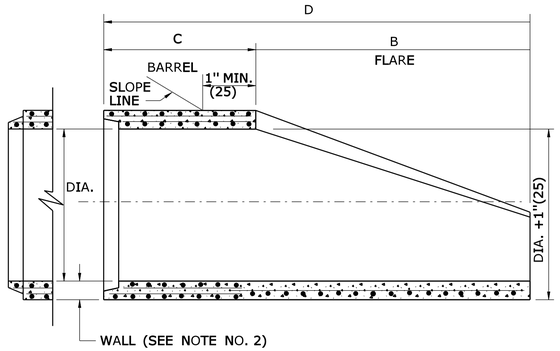
PLAN



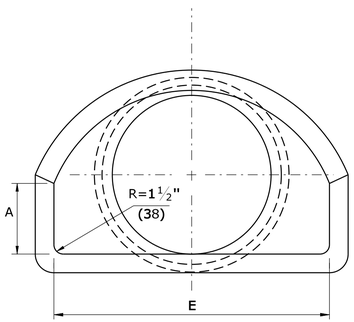
DETAIL "A"



SECTION Y / -

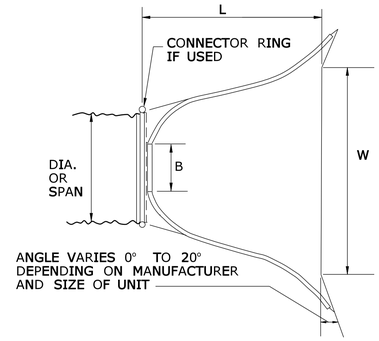


SECTION X / -

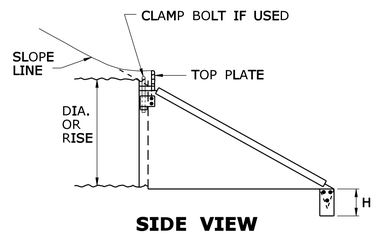


END VIEW

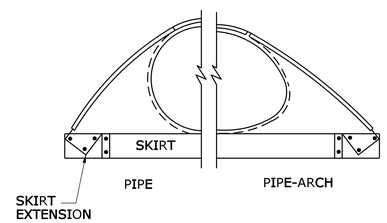
REINFORCED CONCRETE CULVERT END



PLAN



SIDE VIEW

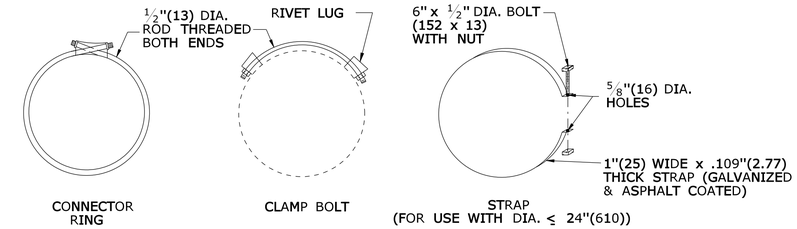


END VIEW

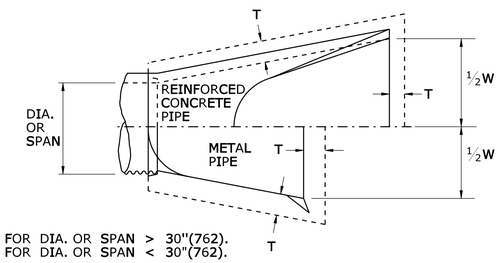
METAL CULVERT END

GENERAL NOTES:

1. JOINTS SHALL BE TONGUE AND GROOVE OR BELL AND SPIGOT AS REQUIRED TO CONFORM TO PIPE INSTALLED.
2. WALL THICKNESS SHALL CONFORM TO PIPE THICKNESS.

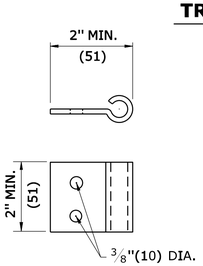


ATTACHMETNT SYSTEMS

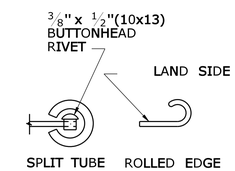


NOTE:
T = 18"(457) FOR DIA. OR SPAN > 30"(762).
T = 12"(305) FOR DIA. OR SPAN < 30"(762).

HORIZONTAL PAY LIMITS FOR TRENCH EXCAVATION-CULVERT ENDS



RIVET LUG



EDGE REINFORCEMENT

DIMENSIONS FOR REINFORCED CONCRETE CULVERT END									FLARE REINFORCEMENT ONE LAYER ONLY IN CENTER OF WALL	
DIA.	A	B	C	D	E	F	R_1	R_2	MIN. AREA OF LONGITUDINAL STEEL SQ. IN. PER FT.	MIN. AREA OF TRANSVERSE STEEL SQ. IN. PER FT.
12"(305)	4"(102)	2'-0"(610)	4'-0⅜"(1241)	6'-0⅜"(1851)	2'-0"(610)	1'-7 15/16"(506)	10¼"(260)	9"(229)	0.048	0.048
15"(381)	6"(152)	2'-3"(686)	3'-10"(1168)	6'-1"(1854)	2'-6"(762)	2'-0 5/16"(618)	1'-0½"(318)	11"(279)	0.054	0.054
18"(457)	9"(229)	2'-3"(686)	3'-10"(1168)	6'-1"(1854)	3'-0"(914)	2'-5"(737)	1'-3½"(394)	1'-0"(305)	0.060	0.060
21"(533)	9"(229)	2'-11"(889)	3'-2"(965)	6'-1"(1854)	3'-6"(1067)	2'-7½"(800)	1'-4"(406)	1'-1"(330)	0.066	0.066
24"(610)	9½"(241)	3'-7½"(1105)	2'-6"(762)	6'-1½"(1867)	4'-0"(1219)	2'-9 3/16"(843)	1'-4 13/16"(427)	1'-2"(356)	0.072	0.072
30"(762)	1'-0"(305)	4'-6"(1371)	1'-7¾"(502)	6'-1¾"(1873)	5'-0"(1524)	3'-1"(940)	1'-6½"(470)	1'-3"(381)	0.084	0.084
36"(914)	1'-3"(381)	5'-3"(1600)	2'-10¾"(883)	8'-1¾"(2483)	6'-0"(1829)	3'-11 13/16"(1214)	2'-0 5/16"(618)	1'-8"(508)	0.096	0.096
42"(1067)	1'-9"(534)	5'-3"(1600)	2'-11"(889)	8'-2"(2489)	6'-6"(1981)	4'-5⅞"(1368)	2'-3½"(699)	1'-10"(559)	0.108	0.108
48"(1219)	2'-0"(610)	6'-0"(1829)	2'-2"(660)	8'-2"(2489)	7'-0"(2134)	4'-8½"(1435)	2'-4½"(724)	1'-10"(559)	0.120	0.120
54"(1372)	2'-3"(686)	5'-5"(1651)	2'-11"(889)	8'-4"(2540)	7'-6"(2286)	5'-5½"(1664)	2'-9⅛"(841)	2'-0"(610)	0.132	0.132
60"(1524)	2'-9"(838)	5'-0"(1524)	3'-3"(991)	8'-3"(2515)	8'-0"(2438)	6'-0½"(1842)	3'-0 11/16"(932)	2'-0"(610)	0.144	0.144

PIPE DIA.	DIMENSIONS FOR METAL CULVERT END				THICKNESS INS.(mm)
	B (MAX.)	H±1" (±25)	L±1½" (±35)	W±2" (±50)	
12"(305)	6"(152)	6"(152)	21"(533)	24"(610)	.064(1.63)
15"(381)	8"(203)	6"(152)	26"(660)	30"(762)	.064(1.63)
18"(457)	10"(254)	6"(152)	31"(787)	36"(914)	.064(1.63)
21"(533)	12"(305)	6"(152)	36"(914)	42"(1067)	.064(1.63)
24"(610)	13"(330)	6"(152)	41"(1041)	48"(1219)	.064(1.63)
30"(762)	16"(406)	8"(203)	51"(1295)	60"(1524)	.079(2.01)
36"(914)	19"(483)	9"(229)	60"(1524)	72"(1829)	.079(2.01)
42"(1067)	22"(559)	11"(279)	69"(1753)	84"(2134)	.109(2.77)
48"(1219)	27"(686)	12"(305)	78"(1981)	90"(2286)	.109(2.77)
54"(1372)	30"(762)	12"(305)	84"(2134)	102"(2591)	.109(2.77)
60"(1524)	33"(838)	12"(305)	87"(2210)	114"(2896)	.109(2.77)
66"(1676)	36"(914)	12"(305)	87"(2210)	120"(3048)	.109(2.77)
72"(1829)	39"(991)	12"(305)	87"(2210)	126"(3200)	.109(2.77)
78"(1981)	42"(1067)	12"(305)	87"(2210)	132"(3353)	.109(2.77)
84"(2134)	45"(1143)	12"(305)	87"(2210)	138"(3450)	.109(2.77)

PIPE ARCH SIZE		DIMENSIONS FOR METAL CULVERT END				
SPAN	RISE	B (MAX.)	H±1" (±25)	L±1½" (±35)	W±2" (±50)	THICKNESS INS.(mm)
17"(432)	13"(330)	9"(229)	6"(152)	19"(483)	30"(762)	.064(1.63)
21"(533)	15"(381)	10"(254)	6"(152)	23"(584)	36"(914)	.064(1.63)
24"(610)	18"(457)	12"(305)	6"(152)	28"(711)	42"(1067)	.064(1.63)
28"(711)	20"(508)	14"(356)	6"(152)	32"(813)	48"1219)	.064(1.63)
35"(889)	24"(610)	16"(406)	6"(152)	39"(991)	60"(1524)	.079(2.01)
42"(1067)	29"(737)	18"(457)	8"(203)	46"(1168)	75"(1905)	.079(2.01)
49"(1245)	33"(838)	21"(533)	9"(229)	53"(1346)	85"(2159)	.109(2.77)
57"(1448)	38"(965)	26"(660)	12"(305)	63"(1600)	90"(2286)	.109(2.77)
64"(1626)	43"(1092)	30"(762)	12"(305)	70"(1778)	102"(2591)	.109(2.77)
71"(1803)	47"(1194)	33"(838)	12"(305)	77"(1956)	114"(2896)	.109(2.77)

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/21/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD.dgn Model: HW-652_01

SUBMITTED BY: NAME/DATE/TIME: Timothy M. Wilson 2009.09.21 15:17:43 -04'00'

APPROVED BY: NAME/DATE/TIME: James H. Norman 2009.10.14 12:49:33 -04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE: CULVERT ENDS

STANDARD SHEET NO.: HW-652_01