

CONCRETE ENDWALL FOR PIPE CULVERT WITH STRAIGHT WINGS

DIMENSIONS & QUANTITIES FOR STRAIGHT ENDWALL

OPENING D	DIMENSIONS					CONC. IN 1 ENDWALL				REF. STEEL IN ONE ENDWALL LBS.	
	AREA SQ.FT.	G	H	B	E	WALL CU.FT.	FOOTG CU.FT.	TOTAL CU.FT.	TOTAL CU.YD.		
15"	1.2	5'-0"	2'-3"	1'-2"	1'-10"	1'-2"	9.0	10.7	19.7	.73	15.
18"	1.8	6'-0"	2'-6"	1'-3"	1'-11"	1'-3"	12.3	14.4	26.7	.99	17.
24"	3.1	8'-0"	3'-0"	1'-4"	2'-0"	1'-4"	20.3	21.3	41.6	1.54	21.
30"	4.9	10'-0"	3'-6"	1'-6"	2'-2"	1'-6"	31.4	32.5	63.9	2.37	25.
36"	7.1	12'-0"	4'-0"	1'-8"	2'-4"	1'-8"	45.7	46.7	92.4	3.42	29.
42"	9.6	14'-0"	4'-6"	1'-10"	2'-6"	1'-10"	63.5	64.2	127.7	4.73	35.

DIMENSIONS

OPENING D	WALL G	H	B	E	F	WALL CU.FT.	FOOTG CU.FT.	TOTAL CU.FT.	TOTAL CU.YD.		
12"	0.78	2'-0"	2'-0"	1'-0"	1'-8"	1'-0"	10.0	10.4	20.4	.76	15.
15"	1.29	2'-6"	2'-3"	1'-2"	1'-10"	1'-2"	14.4	16.2	30.6	1.13	18.
18"	1.80	3'-0"	2'-6"	1'-3"	1'-11"	1'-3"	19.1	21.0	40.1	1.49	21.
24"	3.10	4'-0"	3'-0"	1'-4"	2'-0"	1'-4"	29.6	29.5	59.1	2.19	25.
30"	4.90	5'-0"	3'-6"	1'-5"	2'-1"	1'-5"	42.7	39.6	82.3	3.05	30.
36"	7.07	6'-0"	4'-0"	1'-6"	2'-2"	1'-6"	59.1	51.3	110.4	4.09	34.
42"	9.62	7'-0"	4'-6"	1'-7"	2'-3"	1'-7"	78.2	64.4	142.6	5.28	39.

The City of End
401 West 1st St., Room 1000
Tulsa, Oklahoma 74103
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Contacts:
Robert Hill, Director of Engineering Services, Ext. 344
Joan Bivens, Civil Engineer, Ext. 348

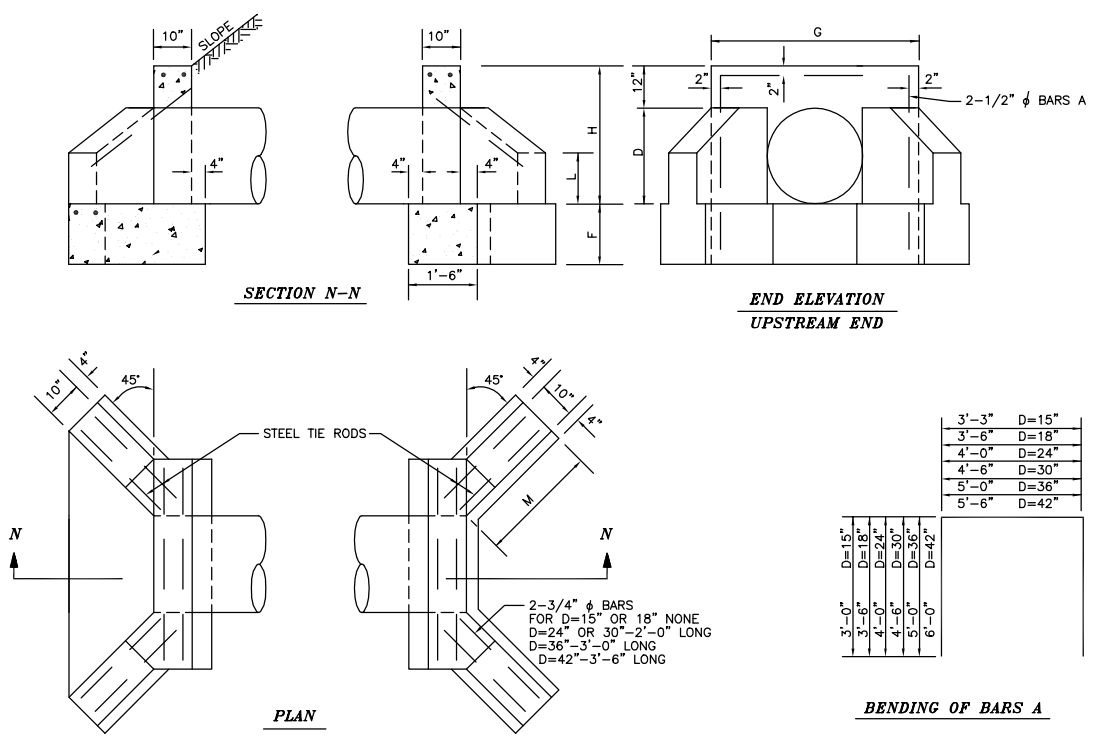
REVISIONS

Number	Date	Description

Project Number:
Project Location:
Sheet Title: STANDARD PIPE CULVERTS CONCRETE ENDWALLS
DD - 4 SHT. 1

Engr. Seal:
REGISTERED PROFESSIONAL ENGINEER
ROBERT S. HITT
13111
OKLAHOMA

Date: 6/1/00
Scale: NO SCALE
Cod File: G:\DATA\SPEC\DD4
Drawn By: P.B./C.L.H.
Designed By: R.H.
Approved By: R.H.
Sheet: of

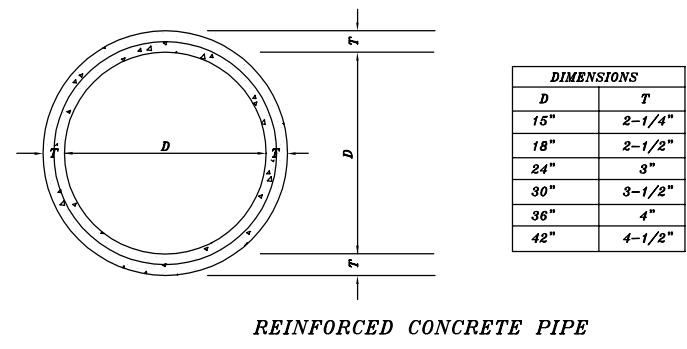


CONCRETE ENDWALLS FOR PIPE CULVERT WITH 45° WINGS

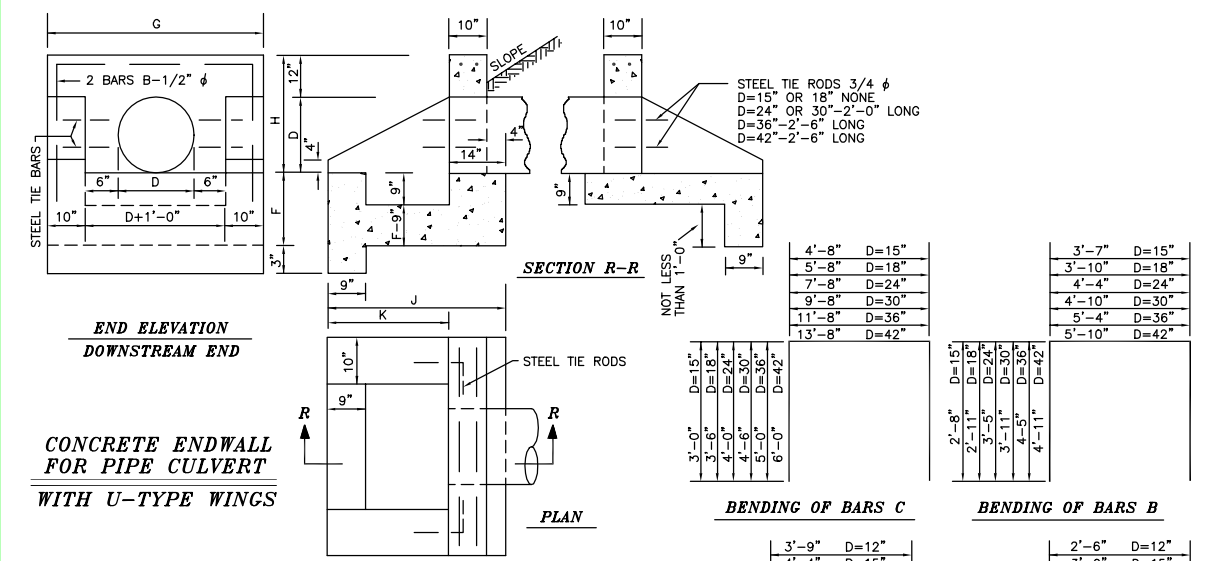
TABLE OF DIMENSIONS & QUANTITIES FOR ENDWALLS WITH 45° WINGS

OPENING D	DIMENSIONS					QUANTITIES IN ONE ENDWALL				ADDITIONAL MATERIAL REQUIRED FOR APRON		
	AREA SQ.FT.	H	G	L	M	WALL CU.FT.	FOOTG CU.FT.	TOTAL CU.FT.	TOTAL CU.YD.		REINF. STEEL LBS.	
15"	1.2	2'-3"	3'-7"	1'-0"	1'-1"	1'-2"	6.3	7.7	14.0	.52	13.	.02CU.YD.
18"	1.8	2'-6"	3'-10"	1'-2"	1'-7"	1'-3"	8.3	10.6	18.9	.70	14.	.07 "
24"	3.1	3'-0"	4'-4"	1'-5"	2'-1"	1'-4"	11.7	14.3	26.0	.96	28.	.16 "
30"	4.9	3'-6"	4'-10"	1'-9"	2'-5"	1'-6"	15.2	18.7	33.9	1.25	30.	.27 "
36"	7.1	4'-0"	5'-4"	2'-0"	2'-11"	1'-8"	19.7	24.6	44.3	1.64	38.	.47 "
42"	9.6	4'-6"	5'-10"	2'-3"	3'-6"	1'-10"	25.3	31.6	56.9	2.11	45.	.77 "

GENERAL NOTES
CHAMFER ALL EXPOSED EDGES 3/4".
ALL CONSTRUCTION AND MATERIALS REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
MINIMUM DEPTH OF FILL OVER CULVERTS SHALL BE 1'-0".
UNLESS OTHERWISE SPECIFIED, ALL EXPOSED CONCRETE SURFACES SHALL HAVE A FINISH IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.



Note: See Storm Sewer Pipe Coupler Detail DD-19, Sht. 1.



CONCRETE ENDWALL FOR PIPE CULVERT WITH U-TYPE WINGS

TABLE OF DIMENSIONS & QUANTITIES FOR ENDWALL WITH U-TYPE WINGS

OPENING D	DIMENSIONS					QUANTITIES IN ONE ENDWALL				ADDITIONAL MATERIAL REQUIRED FOR CATCH BASIN		
	AREA SQ.FT.	G	H	K	F	WALL CU.FT.	FOOTG CU.FT.	TOTAL CU.FT.	TOTAL CU.YD.		REINF. STEEL LBS.	
15"	1.2	3'-11"	2'-3"	1'-6"	1'-3"	2'-8"	7.6	10.8	18.4	.68	12.	NONE
18"	1.8	4'-2"	2'-6"	1'-9"	1'-3"	2'-11"	8.9	12.3	21.2	.78	13.	NONE
24"	3.1	4'-8"	3'-0"	2'-6"	1'-6"	3'-8"	12.4	16.3	28.7	1.06	27.	.29 CU.YD.
30"	4.9	5'-2"	3'-6"	3'-3"	1'-6"	4'-5"	16.5	21.0	37.5	1.39	29.	.34 "
36"	7.1	5'-8"	4'-0"	4'-0"	1'-9"	5'-2"	21.2	26.2	47.4	1.76	34.	.67 "
42"	9.6	6'-2"	4'-6"	4'-9"	1'-9"	5'-11"	26.5	32.0	58.5	2.17	36.	.79 "

BENDING OF BARS C

3'-9"	D=12"
4'-4"	D=15"
5'-0"	D=18"
6'-3"	D=24"
7'-6"	D=30"
8'-9"	D=36"
10'-0"	D=42"

BENDING OF BARS D

2'-6"	D=12"
3'-0"	D=15"
3'-6"	D=18"
4'-0"	D=24"
4'-6"	D=30"
5'-0"	D=36"
5'-9"	D=42"

BENDING OF BARS B

2'-8"	D=15"
2'-11"	D=18"
3'-5"	D=24"
3'-11"	D=30"
4'-5"	D=36"
4'-11"	D=42"

BENDING OF BARS E

2'-6"	D=12"
3'-0"	D=15"
3'-6"	D=18"
4'-0"	D=24"
4'-6"	D=30"
5'-0"	D=36"
5'-9"	D=42"

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SEE SHEET NO. 2 FOR GENERAL NOTES