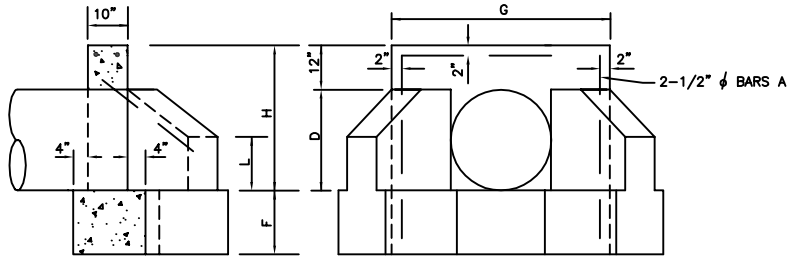
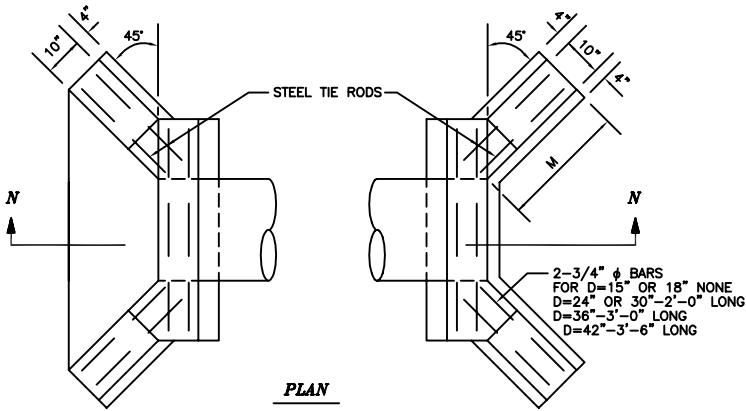


SECTION N-N



END ELEVATION
UPSTREAM END



PLAN

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

BENDING OF BARS A

**CONCRETE ENDWALLS
FOR PIPE CULVERT
WITH 45° WINGS**

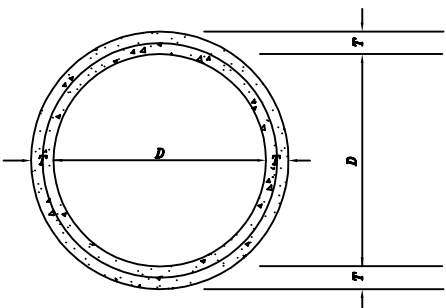
TABLE OF DIMENSIONS & QUANTITIES FOR ENDWALLS WITH 45° WINGS

OPENING D	DIMENSIONS						QUANTITIES IN ONE ENDWALL					ADDITIONAL MATERIAL REQUIRED FOR APRON
	AREA SQ.FT.	WALL		FOOTING		CLASS A CONCRETE			REIN. STEEL LBS.			
		H	G	L	M	F	WALL CU.FT.	FOOTG CU.FT.	TOTAL CU.FT.	TOTAL CU.YD.		
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.



REINFORCED CONCRETE PIPE

DIMENSIONS	
D	T
15"	2-1/4"
18"	2-1/2"
24"	3"
30"	3-1/2"
36"	4"
42"	4-1/2"

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

The City Of End
401 West Owen L. Condit Road
End, Oklahoma 73022
Telephone: (800) 334-0000 Fax: (800) 234-0848

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The City Of End, Oklahoma

REVISIONS

Number Date Description

Project Number:

Project Location:

Sheet Title:

Project Title:

STANDARD
CONCRETE PIPE CULVERTS
CONCRETE ENDWALLS

DD - 4 SHT. 2

Engr. Seal:



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