

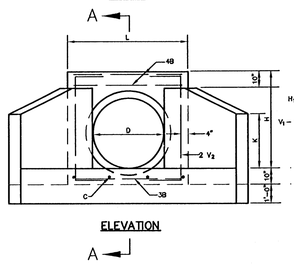
PLAN

D	A1
15"	1'-0"
18"	1'-2"
24"	1'-8"
30"	2'-2"
36"	2'-8"
42"	3'-3"

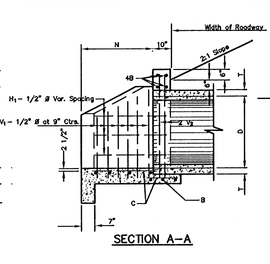
BENDING FOR V_1 – BARS

D	A2
15"	2'-10"
18"	3'-1"
24"	3'-8"
30"	4'-2"
36"	4'-9"
42"	5'-3"

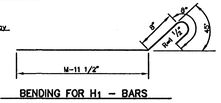
BENDING FOR V_2 – BARS



ELEVATION



SECTION A–A

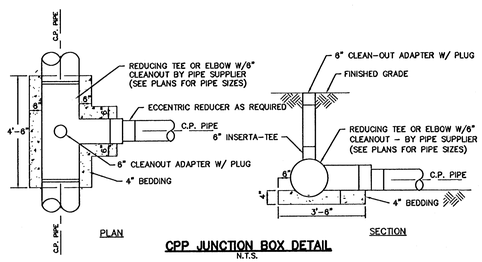


BENDING FOR H_1 – BARS

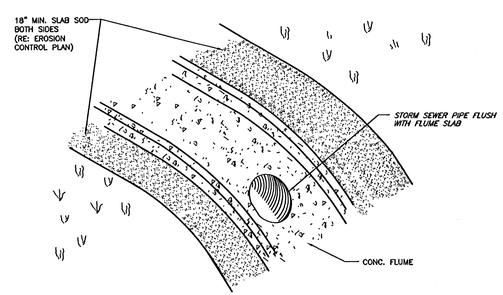
* FOR ONE HEADWALL

DIMENSIONS & QUANTITIES FOR HEADWALLS WITH 45° WINGS

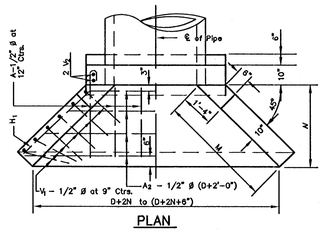
DIMENSIONS								REINFORCING STEEL														QUANTITIES*	
D	AREA SQ.FT.	T	H	K	L	M	N	A_1 – 1/2" ø		A_2 – 1/2" ø		B – 1/2" ø		C – 1/2" ø		H_1 – 1/2" ø		V_1 – 1/2" ø		V_2 – 1/2" ø		CLASS "A" CONC. C.Y.	REINF. STEEL LBS.
								NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		
15"	1.23	2 1/4"	2'-5 1/4"	1'-5"	3'-7"	1'-9"	1'-3"	4	1'-0"	2	3'-9" Av.	7	3'-3"	3	1'-5"	4	2'-1"	4	3'- 5" Av.	4	5'-10"	.74	57
18"	1.77	2 1/2"	2'-8 1/2"	1'-7"	3'-10"	2'-1 1/2"	1'-5"	4	1'-2"	2	4'-3" Av.	7	3'-6"	3	1'-5"	4	2'-6"	4	3'- 8" Av.	4	6'-1"	.91	61
24"	3.14	3"	3'-3"	1'-10 1/2"	4'-6"	2'-10"	2'-0"	5	1'-8"	3	5'-3" Av.	7	4'-0"	3	1'-5"	6	3'-2"	6	4'- 1" Av.	4	6'-8"	1.37	85
30"	4.91	3 1/2"	3'-9 1/2"	2'-2"	4'-10"	3'-6 1/2"	2'-6"	5	2'-2"	3	6'-3" Av.	7	4'-6"	4	1'-5"	6	3'-11"	8	4'- 6" Av.	4	7'-2"	1.77	104
36"	7.07	4"	4'-4"	2'-5 1/2"	5'-6"	4'-3"	3'-0"	6	2'-8"	4	7'-3" Av.	7	5'-0"	4	1'-5"	6	4'-7"	10	4'-11" Av.	4	7'-9"	2.29	130
42"	9.62	4 1/2"	4'-10 1/2"	2'-9"	5'-10"	4'-11 1/2"	3'-6"	6	3'-2"	4	8'-3" Av.	7	5'-6"	4	1'-5"	6	5'-6"	12	5'- 4" Av.	4	8'-3"	2.89	161



CPP JUNCTION BOX DETAIL
N.T.S.



CONC. CURB FLUME W/ STORM SEWER
N.T.S.



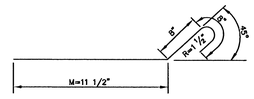
PLAN

D	A2
48" (3'-10" to 5'-2")	
54" (4'-2" to 5'-8")	
60" (4'-6" to 6'-2")	
66" (4'-10" to 6'-8")	
72" (5'-2" to 7'-4")	

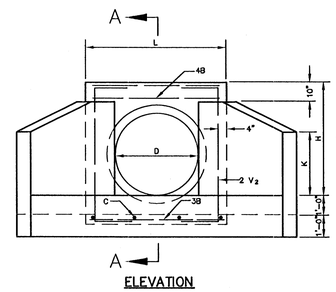
BENDING FOR V_1 – BARS

D	A2
48"	6'-5"
54"	7'-0"
60"	7'-7"
66"	8'-2"
72"	8'-9"

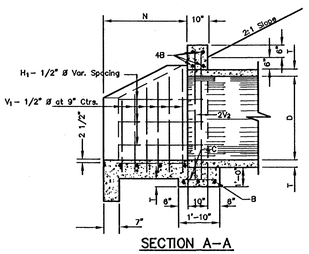
BENDING FOR V_2 – BARS



BENDING FOR H_1 – BARS



ELEVATION

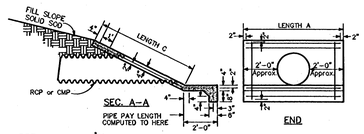


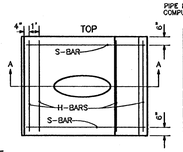
SECTION A–A

* FOR ONE HEADWALL

DIMENSIONS & QUANTITIES FOR HEADWALLS WITH 45° WINGS

DIMENSIONS								REINFORCING STEEL														QUANTITIES*	
D	AREA SQ.FT.	T	H	K	L	M	N	A_1 – 1/2" ø		A_2 – 1/2" ø		B – 1/2" ø		C – 1/2" ø		H_1 – 1/2" ø		V_1 – 1/2" ø		V_2 – 1/2" ø		CLASS "A" CONC. C.Y.	REINF. STEEL, LBS.
								NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		
48"	12.57	5"	5'-5"	3'-2"	6'-4"	5'-3 1/2"	3'-9"	7	3'-5"	4	9'-0" Av.	7	6'-0"	5	1'-6"	8	5'-8"	12	6'-8" Av.	4	10'-5"	3.81	184
54"	15.90	5 1/2"	5'-11 1/2"	3'-8"	6'-10"	5'-10 1/2"	4'-2"	7	3'-10"	5	9'-11" Av.	7	6'-8"	5	1'-6"	8	6'-3"	14	6'-11" Av.	4	11'-0"	4.54	214
60"	19.63	6"	6'-6"	3'-10"	7'-4"	6'-5 1/2"	4'-7"	8	4'-3"	5	10'-10" Av.	7	7'-0"	5	1'-6"	10	6'-10"	16	7'-4" Av.	4	11'-7"	5.33	253
66"	23.76	6 1/2"	7'-0 1/2"	4'-2"	7'-10"	7'-1"	5'-0"	8	4'-8"	5	11'-9" Av.	7	7'-8"	6	1'-6"	10	7'-5"	18	7'-9" Av.	4	12'-2"	6.20	281
72"	28.27	7"	7'-7"	4'-6"	8'-4"	7'-9 1/2"	5'-6"	9	5'-2"	6	12'-9" Av.	7	8'-0"	6	1'-6"	10	8'-2"	20	8'-3" Av.	4	12'-9"	7.22	325





NOTE:
1. SLOPE OF PIPE SHALL BE SHOP CUT. TWO COATS OF COLD GALVANIZED WILL BE APPLIED TO CUT EDGES OF STEEL PIPE. COSTS OF CUTTING AND GALVANIZED SHALL BE INCLUDED IN PRICE BID FOR PIPE.
2. REINFORCED STEEL SHALL BE NO. 4 DEFORMED BARS. COST OF STEEL SHALL BE INCLUDED IN PRICE BID FOR CLASS "A" CONCRETE.
3. QUANTITIES SHOWN IN TABLES ARE FOR END ONLY.
4. ALL PIPES ARE TO BE CUT ON A 2:1 SLOPE THRU 30° ROUND OR IT EQUIVALENT ARCH.
5. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OR SUPPLEMENTAL SPECIFICATIONS.

SLOPE WALL–SINGLE ROUND PIPE

PIPE SIZE	LENGTH A	LENGTH C	CONC. C.Y.	STEEL LENGTH H-BARS	STEEL LENGTH S-BARS
12"	5'-0"	6'-6"	0.57	4'-8"	8'-9"
18"	5'-6"	8'-6"	0.71	5'-2"	10'-9"
24"	6'-0"	10'-6"	0.86	5'-8"	12'-9"
30"	6'-6"	12'-6"	1.02	6'-2"	14'-9"
36"	7'-0"	9'-0"	0.87	6'-8"	11'-3"
42"	7'-6"	10'-0"	0.97	7'-2"	12'-3"
48"	8'-0"	11'-0"	1.08	7'-8"	13'-3"
54"	8'-6"	12'-0"	1.19	8'-2"	14'-3"

CLASS "A" CONCRETE
SLOPE WALL DETAIL
N.T.S.

GENERAL NOTES

1. All Construction shall be in accordance with City Standard Specifications.
2. All Exposed Concrete Surfaces shall have a Carborundum Finish.
3. All Exposed Concrete Edges shall have a 3/4" Chamfer.
4. Reinforced Concrete Pipe shall conform to the Requirements of AASHO M-179 (ASTM C-76)
5. Minimum Depth of Fill over Culverts shall be 1'-0".
6. Wall Thickness (Dimension "T") of Pipes shown, are taken from "Wall B" Column of ASTM and AASHO Tables.

TERENCE L. HAYNES LICENSED 14583 KANSAS PROFESSIONAL ENGINEER
NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK

MISCELLANEOUS STORM SEWER DETAILS

WAL–MART SUPERCENTER #4321–00

NW 53rd ST. NORTH & N. MERIDIAN
WICHITA, KANSAS

SMC Consulting Engineers, P.C.
815 West Main – Oklahoma City, OK 73106
PH: 405-232-7715 Fax: 405-232-7859
KANSAS CERTIFICATE OF AUTHORIZATION NO. E-335 EXP. DEC. 2008

No.	Revision	By	Date
1	Per City comments	MDS	03/23/07

DATE: 12/12/06
DRAWN BY: TN
PROJECT NO.: 4344.00
SCALE: NTS
ENGINEER: TERENCE L. HAYNES, P.E. #14583

SHEET NO. C–8.15

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