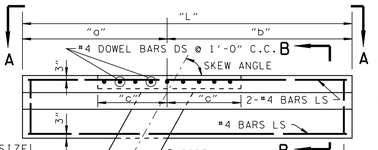
REV. 5-27-01: SEPARATED OLD DRAWING D-PE-6 INTO NEW DRAWINGS D-PE-6 AND D-PE-6A.

REV. 7-1-72: CHANGED DEPARTMENT NAME

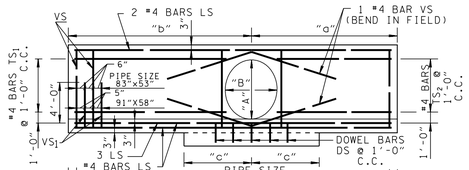
REV. 1-1-76: CHANGED DWG. FROM H-5-107 TO D-PE-6.



PIPE SIZE "A"	PIPE SIZE "B"				SKEW
23"	14"	#4 BARS HS	9 SPA. @	12" C.C.	75°
23"	14"		9	12" C.C.	60°
23"	14"		10	12" C.C.	45°
30"	19"		11	12" C.C.	75°
30"	19"		12	12" C.C.	60°
30"	19"		13	12" C.C.	45°
34"	22"		13	12" C.C.	75°
34"	22"		13	12" C.C.	60°
34"	22"		15	12" C.C.	45°
38"	24"		14	12" C.C.	75°
38"	24"		15	12" C.C.	60°
38"	24"		17	12" C.C.	45°
45"	29"		17	12" C.C.	75°
45"	29"		18	12" C.C.	60°
45"	29"		20	12" C.C.	45°
53"	34"		20	12" C.C.	75°
53"	34"		21	12" C.C.	60°
53"	34"		23	12" C.C.	45°
60"	38"		27	10" C.C.	75°
60"	38"		28	10" C.C.	60°
60"	38"		32	10" C.C.	45°
68"	43"		33	9" C.C.	75°
68"	43"		35	9" C.C.	60°
68"	43"		39	9" C.C.	45°
76"	48"		42	8" C.C.	75°
76"	48"		44	8" C.C.	60°
76"	48"		50	8" C.C.	45°
83"	53"		45	8" C.C.	75°
83"	53"		48	8" C.C.	60°
83"	53"		55	8" C.C.	45°
91"	58"		57	7" C.C.	75°
91"	58"		60	7" C.C.	60°
91"	58"	#4 BARS HS	67 SPA. @	7" C.C.	45°

PLAN - LEFT SKEW

SHOWING REINFORCEMENT IN FOOTING FOR ALL PIPE SIZE & ALL SKEWS EXCEPT 90° SEE PIPE LAYOUT SKETCH

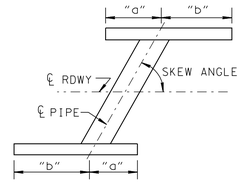


PIPE SIZE "A"	PIPE SIZE "B"							SKEW
		#4 BARS VS			#4 BARS VS			
4"	3 SPA. @	12" C.C.		23"	14"	3 SPA. @	12" C.C.	4" 75°
4"	4	12" C.C.		23"	14"	3	12" C.C.	4" 60°
4"	5	12" C.C.		23"	14"	2	12" C.C.	4" 45°
4"	4	12" C.C.		30"	19"	4	12" C.C.	4" 75°
4"	5	12" C.C.		30"	19"	4	12" C.C.	4" 60°
4"	6	12" C.C.		30"	19"	3	12" C.C.	4" 45°
4"	5	12" C.C.		34"	22"	5	12" C.C.	4" 75°
4"	6	12" C.C.		34"	22"	4	12" C.C.	4" 60°
4"	7	12" C.C.		34"	22"	4	12" C.C.	4" 45°
4"	5	12" C.C.		38"	24"	5	12" C.C.	4" 75°
4"	5	12" C.C.		38"	24"	5	12" C.C.	4" 60°
4"	8	12" C.C.		38"	24"	5	12" C.C.	4" 45°
4"	6	12" C.C.		45"	29"	6	12" C.C.	4" 75°
4"	7	12" C.C.		45"	29"	6	12" C.C.	4" 60°
4"	9	12" C.C.		45"	29"	5	12" C.C.	4" 45°
4"	8	12" C.C.		53"	34"	7	12" C.C.	4" 75°
4"	9	12" C.C.		53"	34"	7	12" C.C.	4" 60°
4"	11	12" C.C.		53"	34"	6	12" C.C.	4" 45°
4"	11	10" C.C.		60"	38"	10	10" C.C.	4" 75°
4"	12	10" C.C.		60"	38"	10	10" C.C.	4" 60°
4"	15	10" C.C.		60"	38"	9	10" C.C.	4" 45°
4"	15	8" C.C.		68"	43"	14	8" C.C.	4" 75°
4"	17	8" C.C.		68"	43"	13	8" C.C.	4" 60°
4"	21	8" C.C.		68"	43"	11	8" C.C.	4" 45°
4"	22	6" C.C.		76"	48"	21	6" C.C.	4" 75°
4"	25	6" C.C.		76"	48"	20	6" C.C.	4" 60°
4"	32 SPA. @	6" C.C.		76"	48"	19 SPA. @	6" C.C.	4" 45°
4"	#4 VS BARS - 25 SPA. @ 6" C.C.			83"	53"	#4 VS BARS - 23 SPA. @ 6" C.C.		4" 75°
4"	28	6" C.C.		83"	53"	22	6" C.C.	4" 60°
4"	35	6" C.C.		83"	53"	21	6" C.C.	4" 45°
4"	32	5" C.C.		91"	58"	31	5" C.C.	4" 75°
4"	37	5" C.C.		91"	58"	29	5" C.C.	4" 60°
4"	#4 VS BARS - 45 SPA. @ 5" C.C.			91"	58"	#4 VS BARS - 28 SPA. @ 5" C.C		4" 45°

NOTE: BEND BARS VS & VS_1 INTO TOE.

ELEVATION A-A

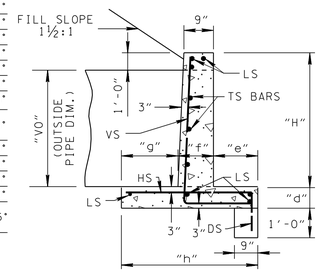
NOTE:OMIT CUT-OFF WALL ON PIPE SIZES 23" x 14" & 30" x 19"



SKETCH OF PIPE LAYOUT

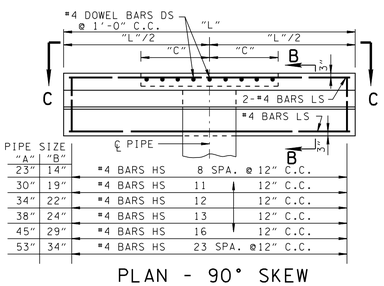
LEFT SKEW

NOTE:RIGHT SKEW SAME BUT OPPOSITE HAND.



SECTION B-B

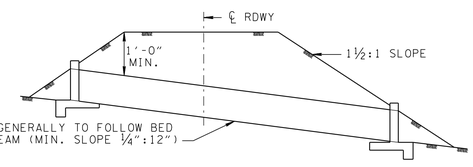
TYPICAL FOR ALL SKEWS FOR STRAIGHT WALLS



PIPE SIZE "A"	PIPE SIZE "B"			
23"	14"	#4 BARS HS	8 SPA. @	12" C.C.
30"	19"	#4 BARS HS	11	12" C.C.
34"	22"	#4 BARS HS	12	12" C.C.
38"	24"	#4 BARS HS	13	12" C.C.
45"	29"	#4 BARS HS	16	12" C.C.
53"	34"	#4 BARS HS	23 SPA. @	12" C.C.

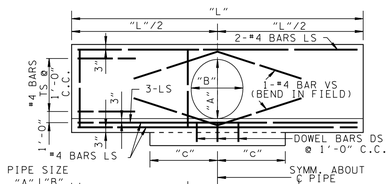
PLAN - 90° SKEW

SHOWING REINFORCING IN FOOTING



SKETCH OF SECTION THRU ROADWAY

SHOWING PIPE PLACEMENT



PIPE SIZE "A"	PIPE SIZE "B"				
23"	14"	4"	#4 BARS VS- 3 SPA. @	12" C.C.	
30"	19"	4"	#4 BARS VS- 4	12" C.C.	
34"	22"	4"	#4 BARS VS- 5	12" C.C.	
38"	24"	4"	#4 BARS VS- 5	12" C.C.	
45"	29"	4"	#4 BARS VS- 6	12" C.C.	
53"	34"	4"	#4 BARS VS- 9 SPA. @	10" C.C.	

NOTE: BEND BARS VS INTO TOE.

ELEVATION C-C - 90° SKEW

NOTE: OMIT CUT-OFF WALL ON PIPE SIZES 23" x 14" & 30" x 19"

GENERAL NOTES

(A) FORMULA FOR WALL LENGTH "L" FOR INTERMEDIATE SKEW ANGLES BETWEEN 75° & 60°:

(1) WALL LENGTH PORTION "a" REMAINS SAME AS SHOWN FOR 75° SKEW FOR RESPECTIVE PIPE SIZES.

(2) WALL LENGTH PORTION "b" EQUALS WALL LENGTH "a" (AS SHOWN FOR 75° SKEW FOR RESPECTIVE PIPE SIZES) DIVIDED BY SINE OF REQUIRED SKEW ANGLE,

(3) OR, "L"="a"+"a"/SINE OF REQUIRED SKEW ANGLE.

(B) FOR INTERMEDIATE SKEW ANGLES LESS THAN 60°:

(1) WALL PORTION "a"="a" AS SHOWN IN (1) ABOVE PLUS "X" AS SHOWN IN TABLE,

(2) WALL PORTION "b" SAME AS SHOWN IN (2) ABOVE,

(3) OR, "L"="a"+"X"+"a"/SINE OF REQUIRED SKEW ANGLE.

(C) FOR WALL LENGTH FOR SKEWS 75°-85°, USE WALL LENGTHS AS SHOWN FOR 75° FOR RESPECTIVE PIPE SIZES.

(D) FOR CUT-OFF WALL LENGTHS FOR SKEWS LESS THAN 75°, DIVIDE TWICE THE LENGTH OF "c" (SHOWN FOR RESPECTIVE PIPE SIZES) BY THE SINE OF THE REQUIRED SKEW ANGLE.

STRAIGHT WALLS

(FOR ALL PIPE SIZES ON 15°-85° SKEW & PIPE SIZES 23" x 14" & 53" x 34" ON 90° SKEW)

TABLE OF DIMENSIONS & REINFORCEMENT - 75° SKEW - (ONE WALL)

OPENING PIPE SIZE* "A"	"B"	AREA SQ.FT	EQ. ROUND PIPE DIA.	DIMENSIONS WALL "L"	"H"	"VO"	"a"	"b"	FOOTING & CUT-OFF WALL "c"	"d"	"e"	"f"	"g"	"h"	REINFORCEMENT BARS VS #4 NO.	LGTH.	BARS VS_1 #4 NO.	LGTH.	BARS LS #4 NO.	LGTH.	BARS DS #4 NO.	LGTH.	BARS TS_1 #4 NO.	LGTH.	BARS TS_2 #4 NO.	LGTH.	BARS HS #4 NO.	LGTH.
23"	14"	1.8	18"	9'-6"	3'-4½"	2'-4½"	4'-9"	4'-9"	—	1'-0"	4"	9"	8"	1'-9"	10	4'-3"	—	—	6	9'-0"	—	—	3	3'-6"	3	3'-3"	10	1'-3"
30"	19"	3.3	24"	12'-0"	4'-0½"	3'-0½"	6'-0"	6'-0"	—	1'-0"	6"	9"	1'-0"	2'-3"	12	5'-0"	—	—	6	11'-6"	—	—	3	4'-7"	3	4'-0"	12	1'-9"
34"	22"	4.1	27"	13'-6"	4'-5"	3'-5"	6'-9"	6'-9"	4'-0"	1'-0"	7"	9"	1'-1"	2'-5"	14	5'-6"	—	—	6	13'-0"	7	1'-6"	4	5'-0"	4	5'-0"	14	2'-0"
38"	24"	5.1	30"	14'-6"	4'-9½"	3'-9½"	7'-3"	7'-3"	4'-0"	1'-0"	8"	9"	1'-3"	2'-8"	14	6'-0"	—	—	6	14'-0"	7	1'-6"	4	5'-3"	4	5'-0"	15	2'-3"
45"	29"	7.4	36"	17'-6"	5'-6"	4'-6"	8'-9"	8'-9"	4'-6"	1'-0"	9"	9"	1'-6"	3'-0"	16	6'-9"	—	—	6	17'-0"	8	1'-6"	5	6'-9"	5	6'-3"	18	2'-6"
53"	34"	10.2	42"	20'-6"	6'-3"	5'-3"	10'-3"	10'-3"	5'-0"	1'-0"	11"	10"	1'-9"	3'-6"	19	7'-9"	—	—	6	20'-0"	9	1'-6"	5	8'-0"	5	7'-9"	21	3'-0"
60"	38"	12.9	48"	23'-0"	6'-11"	5'-11"	11'-6"	11'-6"	5'-0"	1'-0"	11'-0"	11"	1'-11"	3'-10"	25	8'-6"	—	—	6	22'-6"	9	1'-6"	6	9'-0"	6	8'-9"	28	3'-6"
68"	43"	16.6	54"	25'-6"	7'-8"	6'-8"	12'-9"	12'-9"	6'-0"	1'-0"	1'-2"	1'-0"	2'-1"	4'-3"	33	9'-6"	—	—	6	25'-0"	11	1'-6"	7	10'-0"	7	9'-6"	34	3'-9"
76"	48"	20.5	60"	28'-6"	8'-5"	7'-5"	14'-3"	14'-3"	6'-0"	1'-1"	1'-3"	1'-1"	2'-2"	4'-6"	47	10'-6"	—	—	6	28'-0"	11	1'-6"	8	11'-3"	8	10'-9"	43	4'-0"
83"	53"	24.8	66"	31'-0"	9'-1"	8'-1"	15'-6"	15'-6"	7'-0"	1'-2"	1'-4"	1'-2"	2'-6"	5'-0"	29	11'-6"	25	5'-6"	6	30'-6"	13	1'-6"	8	12'-3"	8	11'-9"	46	4'-6"
91"	58"	29.5	72"	34'-0"	9'-10"	8'-10"	17'-0"	17'-0"	8'-0"	1'-3"	1'-6"	1'-3"	2'-9"	5'-6"	36	12'-6"	33	5'-9"	6	33'-6"	15	1'-6"	9	13'-0"	9	13'-0"	58	5'-0"

TABLE OF DIMENSIONS & REINFORCEMENT - 60° SKEW - (ONE WALL)

OPENING PIPE SIZE* "A"	"B"	AREA SQ.FT	EQ. ROUND PIPE DIA.	DIMENSIONS WALL "L"	"H"	"VO"	"a"	"b"	FOOTING & CUT-OFF WALL "c"	"d"	"e"	"f"	"g"	"h"	REINFORCEMENT BARS VS #4 NO.	LGTH.	BARS VS_1 #4 NO.	LGTH.	BARS LS #4 NO.	LGTH.	BARS DS #4 NO.	LGTH.	BARS TS_1 #4 NO.	LGTH.	BARS TS_2 #4 NO.	LGTH.	BARS HS #4 NO.	LGTH.
23"	14"	1.8	18"	10'-0"	3'-4½"	2'-4½"	4'-9"	5'-3"	—	1'-0"	4"	9"	8"	1'-9"	11	4'-3"	—	—	6	9'-6"	—	—	3	4'-0"	3	3'-0"	10	1'-3"
30"	19"	3.3	24"	12'-6"	4'-0½"	3'-0½"	6'-0"	6'-6"	—	1'-0"	6"	9"	1'-0"	2'-3"	13	5'-0"	—	—	6	12'-0"	—	—	3	5'-0"	3	4'-0"	13	1'-9"
34"	22"	4.1	27"	14'-3"	4'-5"	3'-5"	6'-9"	7'-6"	4'-0"	1'-0"	7"	9"	1'-1"	2'-5"	14	5'-6"	—	—	6	13'-9"	7	1'-6"	4	6'-0"	4	4'-7"	14	2'-0"
38"	24"	5.1	30"	15'-6"	4'-9½"	3'-9"	7'-3"	8'-3"	4'-6"	1'-0"	8"	9"	1'-3"	2'-8"	14	6'-0"	—	—	6	15'-0"	8	1'-6"	4	6'-3"	4	5'-0"	16	2'-3"
45"	29"	7.4	36"	18'-6"	5'-6"	4'-6"	8'-9"	9'-9"	5'-0"	1'-0"	9"	9"	1'-6"	3'-0"	17	6'-9"	—	—	6	18'-0"	9	1'-6"	5	7'-6"	5	6'-0"	19	2'-6"
53"	34"	10.2	42"	21'-6"	6'-3"	5'-3"	10'-3"	11'-3"	5'-0"	1'-0"	11"	10"	1'-9"	3'-6"	20	7'-9"	—	—	6	21'-0"	9	1'-6"	5	9'-0"	5	7'-3"	22	3'-0"
60"	38"	12.9	48"	24'-3"	6'-11"	5'-11"	11'-6"	12'-9"	5'-6"	1'-0"	11'-0"	11"	1'-11"	3'-10"	26	8'-6"	—	—	6	23'-9"	10	1'-6"	6	10'-3"	6	8'-3"	29	3'-6"
68"	43"	16.6	54"	27'-0"	7'-8"	6'-8"	12'-9"	14'-3"	6'-6"	1'-0"	1'-2"	1'-0"	2'-1"	4'-3"	34	9'-6"	—	—	6	26'-6"	12	1'-6"	7	11'-6"	7	9'-0"	36	3'-9"
76"	48"	20.5	60"	30'-0"	8'-5"	7'-5"	14'-3"	15'-9"	6'-6"	1'-1"	1'-3"	1'-1"	2'-2"	4'-6"	49	10'-6"	—	—	6	29'-6"	12	1'-6"	8	12'-9"	8	10'-3"	45	4'-0"
83"	53"	24.8	66"	32'-9"	9'-1"	8'-1"	15'-6"	17'-3"	8'-6"	1'-2"	1'-4"	1'-2"	2'-6"	5'-0"	29	11'-6"	27	5'-6"	6	32'-3"	16	1'-6"	8	14'-0"	8	11'-0"	49	4'-6"
91"	58"	29.5	72"	36'-0"	9'-10"	8'-10"	17'-0"	19'-0"	9'-0"	1'-3"	1'-6"	1'-3"	2'-9"	5'-6"	36	12'-6"	34	5'-9"	6	35'-6"	17	1'-6"	9	15'-6"	9	12'-3"	61	5'-0"

TABLE OF DIMENSIONS & REINFORCEMENT - 45° SKEW - (ONE WALL)

* DIMENSIONS SHOWN ARE INSIDE DIMENSIONS - SEE DETAIL SHEET.

OPENING PIPE SIZE* "A"	"B"	AREA SQ.FT	EQ. ROUND PIPE DIA.	DIMENSIONS WALL "L"	"H"	"VO"	"a"	"b"	FOOTING & CUT-OFF WALL "c"	"d"	"e"	"f"	"g"	"h"	REINFORCEMENT BARS VS #4 NO.	LGTH.	BARS VS_1 #4 NO.	LGTH.	BARS LS #4 NO.	LGTH.	BARS DS #4 NO.	LGTH.	BARS TS_1 #4 NO.	LGTH.	BARS TS_2 #4 NO.	LGTH.	BARS HS #4 NO.	LGTH.
23"	14"	1.8	18"	11'-0"	3'-4½"	2'-4½"	4'-9"	6'-3"	—	1'-0"	4"	9"	8"	1'-9"	11	4'-3"	—	—	6	10'-6"	—	—	3	5'-0"	3	2'-6"	11	1'-3"
30"	19"	3.3	24"	14'-3"	4'-0½"	3'-0½"	6'-3"	8'-0"	—	1'-0"	6"	9"	1'-0"	2'-3"	13	5'-0"	—	—	6	13'-9"	—	—	3	6'-3"	3	3'-9"	14	1'-9"
34"	22"	4.1	27"	16'-0"	4'-5"	3'-5"	7'-0"	9'-0"	4'-6"	1'-0"	7"	9"	1'-1"	2'-5"	15	5'-6"	—	—	6	15'-6"	8	1'-6"	4	7'-3"	4	4'-3"	16	2'-0"
38"	24"	5.1	30"	17'-9"	4'-9½"	3'-9"	7'-9"	10'-0"	4'-6"	1'-0"	8"	9"	1'-3"	2'-8"	17	6'-0"	—	—	6	17'-3"	8	1'-6"	4	8'-0"	4	5'-0"	18	2'-3"
45"	29"	7.4	36"	21'-0"	5'-6"	4'-6"	9'-0"	12'-0"	5'-0"	1'-0"	9"	9"	1'-6"	3'-0"	18	6'-9"	—	—	6	20'-6"	9	1'-6"	5	9'-9"	5	5'-9"	21	2'-6"
53"	34"	10.2	42"	24'-3"	6'-3"	5'-3"	10'-6"	13'-9"	5'-6"	1'-0"	11"	10"	1'-9"	3'-6"	21	7'-9"	—	—	6	23'-9"	10	1'-6"	5	11'-0"	5	6'-9"	24	3'-0"
60"	38"	12.9	48"	27'-3"	6'-11"	5'-11"	11'-9"	15'-6"	6'-6"	1'-0"	11'-0"	11"	1'-11"	3'-10"	28	8'-6"	—	—	6	26'-9"	12	1'-6"	6	12'-9"	6	7'-6"	33	3'-6"
68"	43"	16.6	54"	29'-9"	7'-8"	6'-8"	12'-3"	17'-6"	7'-0"	1'-0"	1'-2"	1'-0"	2'-1"	4'-3"	36	9'-6"	—	—	6	29'-3"	13	1'-6"	7	14'-3"	7	7'-9"	40	3'-9"
76"	48"	20.5	60"	34'-3"	8'-5"	7'-5"	14'-9"	19'-6"	7'-6"	1'-1"	1'-3"	1'-1"	2'-2"	4'-6"	55	10'-6"	—	—	6	33'-9"	14	1'-6"	8	16'-0"	8	9'-9"	51	4'-0"
83"	53"	24.8	66"	37'-3"	9'-1"	8'-1"	16'-0"	21'-3"	8'-6"	1'-2"	1'-4"	1'-2"	2'-6"	5'-0"	33	11'-6"	29	5'-6"	6	36'-9"	16	1'-6"	8	17'-6"	8	10'-6"	56	4'-6"
91"	58"	29.5	72"	40'-9"	9'-10"	8'-10"	17'-9"	23'-0"	9'-6"	1'-3"	1'-6"	1'-3"	2'-9"	5'-6"	41	12'-6"	38	5'-9"	6	40'-3"	18	1'-6"	9	19'-0"	9	11'-9"	68	5'-0"

TABLE OF DIMENSIONS & REINFORCEMENT - 90° SKEW - (ONE WALL)

* FOR PIPE SIZES 23" X 14" THRU 53" X 34"

OPENING PIPE SIZE* "A"	"B"	AREA SQ.FT.	EQ. ROUND PIPE DIA.	DIMENSIONS WALL "L"	"H"	"VO"	"C"	FOOTING & CUT-OFF WALL "d"	"e"	"f"	"g"	"h"	REINFORCEMENT BARS VS #4 NO.	LGTH.	BARS LS #4 NO.	LGTH.	BARS DS #4 NO.	LGTH.	BARS TS #4 NO.	LGTH.	BARS HS #4 NO.	LGTH.
23"	14"	1.8	18"	8'-9"	3'-4½"	2'-4½"	—	1'-0"	4"	9"	8"	1'-9"	10	4'-6"	6	8'-3"	—	—	6	3'-0"	9	1'-3"
30"	19"	3.3	24"	11'-3"	4'-0½"	3'-0½"	—	1'-0"	6"	9"	1'-0"	2'-3"	12	5'-3"	6	10'-9"	—	—	6	4'-0"	12	1'-9"
34"	22"	4.1	27"	12'-9"	4'-5"	3'-5"	4'-0"	1'-0"	7"	9"	1'-1"	2'-5"	14	6'-0"	6	12'-3"	7	1'-6"	8	5'-0"	13	2'-0"
38"	24"	5.1	30"	14'-0"	4'-9½"	3'-9½"	4'-0"	1'-0"	8"	9"	1'-3"	2'-8"	14	6'-3"	6	13'-6"	7	1'-6"	8	5'-3"	14	2'-3"
45"	29"	7.4	36"	16'-9"	5'-6"	4'-6"	4'-6"	1'-0"	9"	9"	1'-6"	3'-0"	16	7'-0"	6	16'-3"	8	1'-6"	10	6'-0"	17	2'-6"
53"	34"	10.2	42"	19'-6"	6'-3"	5'-3"	5'-0"	1'-0"	11"	10"	1'-9"	3'-6"	22	8'-0"	6	19'-0"	9	1'-6"	10	7'-6"	24	3'-0"

TABLE OF DIMENSION "X"

PIPE SIZE "A"	"B"	59°-46° "X"	44°-36° "X"	35°-26° "X"	25°-15° "X"
23"	14"	4"	6"	1'-0"	2'-3"
30"	19"	6"	9"	1'-4"	3'-0"
34"	22"	6"	9"	1'-6"	3'-6"
38"	24"	6"	1'-0"	1'-9"	3'-9"
45"	29"	8"	1'-0"	2'-0"	4'-6"
53"	34"	9"	1'-3"	2'-3"	5'-3"
60"	38"	9"	1'-6"	2'-6"	5'-9"
68"	43"	1'-0"	1'-6"	3'-0"	6'-6"
76"	48"	1'-0"	1'-9"	3'-3"	7'-3"
83"	53"	1'-3"	2'-0"	3'-6"	8'-0"
91"	58"	1'-3"	2'-0"	4'-0"	8'-6"

ESTIMATED QUANTITIES - ONE WALL - ALL SKEWS

PIPE SIZE "A"	"B"	CONC.-TOTAL CU.YDS.(3) SKEWS 90°	75°	60°	45°	CONC. PER FT. CU.YDS.	REINF.-TOTAL LBS(3) SKEWS 90°	75°	60°	45°	REINF. PER FT. LBS.
23"	14"	1.3	1.4	1.5	1.6	0.159	83	87	92	98	9.672
30"	19"	2.0	2.2	2.3	2.6	0.196	116	118	125	135	10.505
34"	22"	2.8	2.9	3.0	3.4	0.213	157	156	160	178	11.672
38"	24"	3.2	3.3	3.6	4.0	0.231	169	170	179	208	12.173
45"	29"	4.4	4.5	4.8	5.3	0.264	205	222	235	260	13.507
53"	34"	5.9	6.3	6.5	7.2	0.313	302	283	296	322	14.507
60"	38"	—	7.8	8.3	9.2	0.354	—	379	396	438	17.609
68"	43"	—	9.8	10.3	11.2	0.404	—	498	522	563	20.424
76"	48"	—	12.6	13.1	15.0	0.467	—	687	719	811	27.347
83"	53"	—	15.8	16.7	18.8	0.540	—	719	750	844	25.179
91"	58"	—	19.7	20.8	23.3	0.619	—	932	964	1083	30.328

(3) INCLUDES CUT-OFF WALL

NOTE: CUT-OFF WALL PER FOOT SAME FOR ALL SKEWS & PIPE SIZES EQUALS 0.03 CU. YDS. & 1.0 LBS. REINFORCING STEEL.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD
STRAIGHT ENDWALLS
VERTICAL OVAL
CONCRETE PIPES

D-PE-6