TABLE OF DIMENSIONS

CULVERT HEIGHT	"J"	"LW1"	"LW2"	"N1"	"N2"	"P"	"R1"	"R2"	"U"	"W"	"Z"
4'	3'-10"	11'-6½"	14'-0 7/16"			1.035Q+0.99	0½"	3 9/16"	6"	Per Supplementary Drawing	11'-6"
5'	4'-6"	13'-6 5/8"	16'-5¾"			1.035Q+0.99	0½"	3 9/16"	6"		13'-6"
6'	5'-9"	17'-3 13/16"	21'-0 11/16"			1.035Q+1.15	0 5/8"	4⅛"	7"		17'-3"
8'	7'-4"	22'-1"	26'-10 5/16"			1.035Q+1.39	0¾"	5 1/16"	8½"		22'-0"
10'	8'-4"	25'-1⅛"	30'-6¼"	2'-11"	6'-6"	1.035Q+1.64	0⅞"	5 15/16"	10"		25'-0"
12'	9'-7"	28'-10 5/16"	35'-1 3/16"	3'-3"	7'-0"	1.035Q+1.81	0 15/16"	6 9/16"	11"		28'-9"

NOTE: Q For Single Cell Culvert = S (Clear Span)
Q For Double Cell Culvert = 2S + V

TABLE OF V BARS ~ #4

CULVERT HEIGHT	BARS V1 NO.	BARS V1 DIM. X	BARS VL1-VLn NO.	BARS VL1-VLn DIM. X	BARS VS1-VSn NO.	BARS VS1-VSn DIM. X
4'	Same As Basic Culvert Drawing	11'-6"	3	8'-6" To 3'-6"	3	7'-11" To 1'-11"
5'		13'-7"	4	10'-6" To 3'-1"	3	9'-11" To 3'-10"
6'		17'-6"	6	14'-6" To 2'-2"	5	14'-1" To 2'-0"
8'		22'-5"	8	19'-9" To 2'-5"	6	19'-5" To 4'-3"
10'		25'-6"	9	23'-2" To 3'-4"	7	22'-9" To 4'-7"
12'		29'-5"	11	27'-3" To 2'-6"	9	27'-0" To 2'-9"

TABLE OF T BARS ~ #4

CULVERT HEIGHT	BAR	NO.	LENGTH
4'	T1 To T11	1Ea.	P-4" To P+7'-7"
	T12	3	P+8'-5"
5'	T1 To T13	1Ea.	P-4" To P+9'-2"
	T14	3	P+9'-10"
6'	T1 To T17	1Ea.	P-4" To P+12'-1"
	T18	3	P+12'-9"
8'	T1 To T21	1Ea.	P-2" To P+15'-7"
	T22	3	P+16'-4"
10'	T1 To T24	1Ea.	P+2" To P+18'-3"
	T25	3	P+19'-0"
12'	T1 To T28	1Ea.	P To P+21'-3"
	T29	3	P+22'-0"

TABLE OF U BARS ~ #4

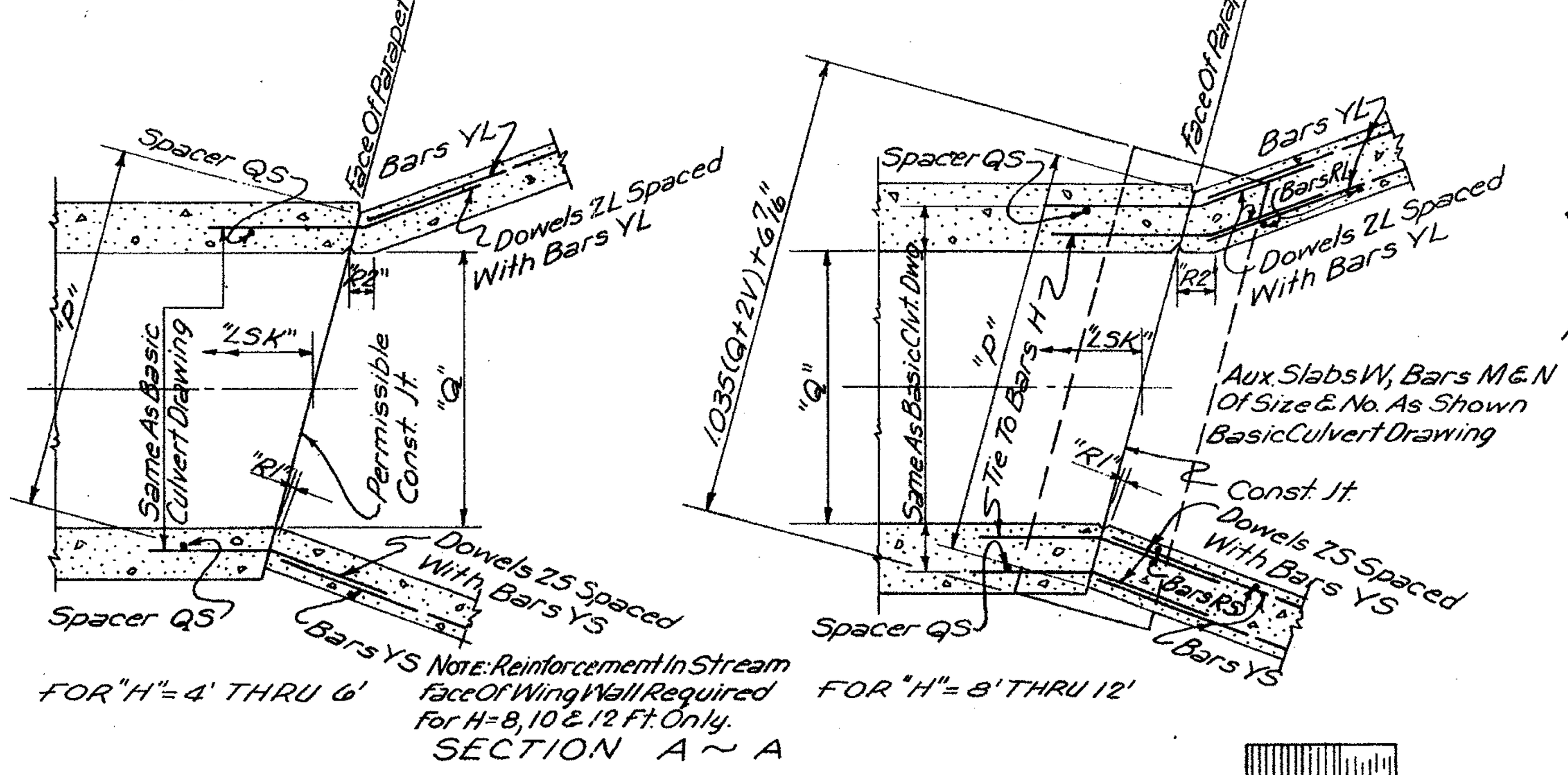
CULVERT HEIGHT	UL, NO. & LENGTH LONG WING	US, NO. & LENGTH SHORT WING
4'	2 @ 13'-8"	2 @ 11'-2"
5'	2 @ 16'-1"	2 @ 13'-2"
6'	3 @ 20'-8"	3 @ 16'-11"
8'	3 @ 26'-6"	3 @ 21'-9"
10'	3 @ 30'-2"	3 @ 24'-9"
12'	3 @ 34'-9"	3 @ 28'-6"

TABLE OF Y BARS ~ #4

CULVERT HEIGHT	BAR	NO.	YL-LENGTH LONG WING	YS-LENGTH SHORT WING
4'	Y1 To Y3	1Ea.	4'-4" To 11'-8"	3'-7 To 9'-7"
	Y4	1	13'-8"	11'-2"
5'	Y1 To Y3	1Ea.	5'-1" To 12'-4"	4'-0" To 10'-1"
	Y4	2	16'-1"	13'-2"
6'	Y1 To Y5	1Ea.	5'-7" To 20'-3"	4'-6" To 16'-7"
	Y6	1	20'-8"	16'-11"
8'	Y1 To Y6	2Ea.	5'-7" To 23'-11"	4'-6" To 19'-7"
	Y7	4	26'-6"	21'-9"
10'	Y1 To Y6	2Ea.	6'-2" To 29'-1"	5'-0" To 23'-10"
	Y7	4	30'-2"	24'-9"
12'	Y1 To Y7	2Ea.	6'-6" To 34'-0"	5'-3 To 27'-10"
	Y8	6	34'-9"	28'-6"

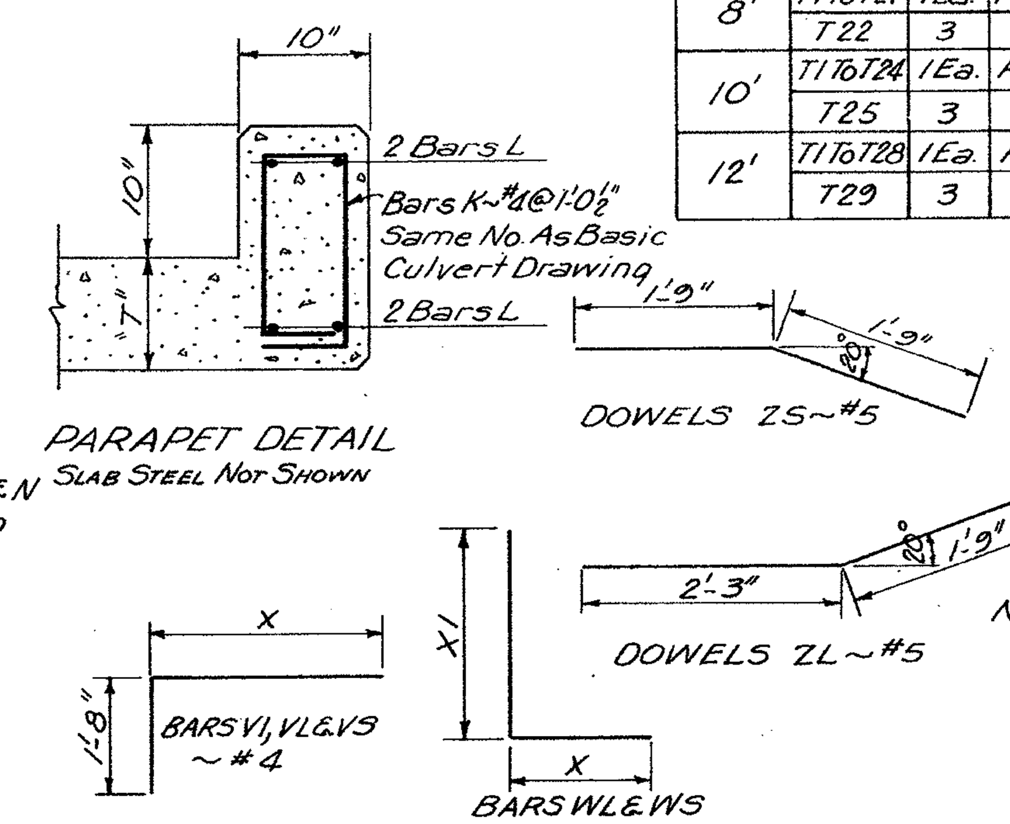
TABLE OF WL BARS

CULVERT HEIGHT	BAR	NO.	SIZE	LONG WING DIM. X	LONG WING DIM. X1
4'	W1 To W16	1Ea.	#4	2'-6" To 1'-7"	K+3'-8" To K
5'	W1 To W21	1Ea.	#4	3'-0" To 1'-9"	K+4'-4" To K
6'	W1 To W26	1Ea.	#4	4'-0" To 2'-0"	K+5'-7" To K
8'	W1 To W16	1Ea.	#5	4'-6" To 3'-3"	K+7'-2" To K+4'-4"
	W17 To W31	1Ea.	#4	3'-2" To 2'-0"	K+4'-1" To K
10'	W1 To W11	1Ea.	#6	5'-10" To 5'-3"	K+8'-1" To K+6'-6"
	W12 To W24	1Ea.	#5	5'-2" To 4'-4"	K+6'-4" To K+4'-1"
	W25 To W41	1Ea.	#4	4'-3" To 2'-8"	K+3'-11" To K
12'	W1 To W19	1Ea.	#7	6'-5" To 5'-3"	K+9'-4" To K+6'-1"
	W20 To W26	1Ea.	#6	5'-2" To 4'-7"	K+5'-10" To K+4'-4"
	W27 To W33	1Ea.	#5	4'-6" To 3'-10"	K+4'-1" To K+2'-5"
	W34 To W42	1Ea.	#4	3'-9" To 3'-0"	K+2'-2" To K



FOR "H" = 4' THRU 6'   NOTE: Reinforcement In Stream Face Of Wing Wall Required For H=8, 10 & 12 Ft. Only.   FOR "H" = 8' THRU 12'

SECTION A ~ A



PARAPET DETAIL
SLAB STEEL NOT SHOWN

DOWELS ZS ~ #5

DOWELS ZL ~ #5

BAR BENDING DETAILS
DIMENSIONS ARE OUT TO OUT.

TABLE OF L & M BARS

CULVERT HEIGHT	BARS L NO.	BARS L SIZE	BARS L LENGTH	BARS M NO.	BARS M SIZE	BARS M LENGTH
4'-6'	4	#6	P-4"			NONE
8'-12	4	#7	P-4"	2	#4	1.035(Q+2V)+2"

Bars K & N Per Basic Culvert Drawing Except Spacing Shall Be 1'-0½"

NOTE: Vertical Spacers QS And Dowels ZL And ZS Located Per Section A~A.

TABLE OF FL, FS, QS, ZL & ZS BARS

CULVERT HEIGHT	BARS FL~#4 NO.	BARS FL~#4 LGTH.	BARS FS~#4 NO.	BARS FS~#4 LGTH.	SPACERS QS~#4 NO.	SPACERS QS~#4 LGTH.	DOWELS ZL~#5 NO.	DOWELS ZL~#5 LGTH.	DOWELS ZS~#5 NO.	DOWELS ZS~#5 LGTH.
4'	2	14'-2"	2	11'-9"	2	3'-7"	5	4'-0"	5	3'-6"
5'	2	16'-9"	2	13'-11"	2	4'-7"	6	4'-0"	6	3'-6"
6'	2	21'-5"	2	17'-10"	2	5'-7"	7	4'-0"	7	3'-6"
8'	2	27'-6"	2	22'-11"	2	7'-7"	18	4'-0"	18	3'-6"
10'	2	31'-3"	2	26'-1"	2	9'-7"	18	4'-0"	18	3'-6"
12'	2	36'-0"	2	30'-0"	2	11'-7"	22	4'-0"	22	3'-6"

NOTE: The Number Of Bars Shown In The Tables Is The Number Required For One Complete Headwall Assembly At One End Of Culvert.

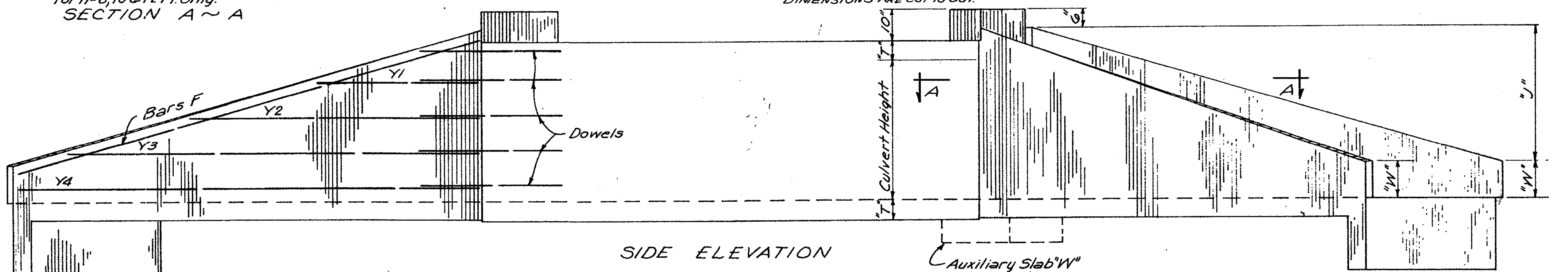
TABLE OF WS BARS

CULVERT HEIGHT	BAR	NO.	SIZE	SHORT WING DIM. X	SHORT WING DIM. X1
4'	W1 To W13	1Ea.	#4	2'-6" To 1'-7"	K+3'-8" To K
5'	W1 To W17	1Ea.	#4	3'-0" To 1'-9"	K+4'-4" To K
6'	W1 To W22	1Ea.	#4	4'-0" To 2'-0"	K+5'-6" To K
8'	W1 To W14	1Ea.	#5	4'-6" To 3'-4"	K+7'-2" To K+4'-0"
	W15 To W26	1Ea.	#4	3'-3" To 2'-0"	K+3'-8" To K
10'	W1 To W10	1Ea.	#6	5'-10" To 5'-1"	K+8'-1" To K+6'-1"
	W11 To W20	1Ea.	#5	5'-0" To 4'-3"	K+5'-11" To K+4'-10"
	W21 To W34	1Ea.	#4	4'-2" To 2'-8"	K+3'-9" To K
12'	W1 To W15	1Ea.	#7	6'-5" To 5'-3"	K+9'-4" To K+6'-2"
	W16 To W21	1Ea.	#6	5'-2" To 4'-7"	K+5'-10" To K+4'-3"
	W22 To W27	1Ea.	#5	4'-5" To 3'-10"	K+3'-11" To K+2'-3"
	W28 To W34	1Ea.	#4	3'-9" To 3'-0"	K+1'-11 To K

TABLE OF R BARS ~ #4

CULVERT HEIGHT	BAR	NO.	LENGTH
8'	RS1 To RS13	1Ea.	W+6'-7" To W+6"
	RL1 To RL16	1Ea.	W+6'-7" To W+5"
10'	RS1 To RS15	1Ea.	W+7'-6" To W+7"
	RL1 To RL18	1Ea.	W+7'-6" To W+7"
12'	RS1 To RS18	1Ea.	W+8'-10" To W+4"
	RL1 To RL22	1Ea.	W+8'-10" To W+4"

K=W+4" For H=4' & 5'
K=W+5" For H=6'
K=W+6" For H=8'
K=W+8" For H=10'
K=W+9" For H=12'



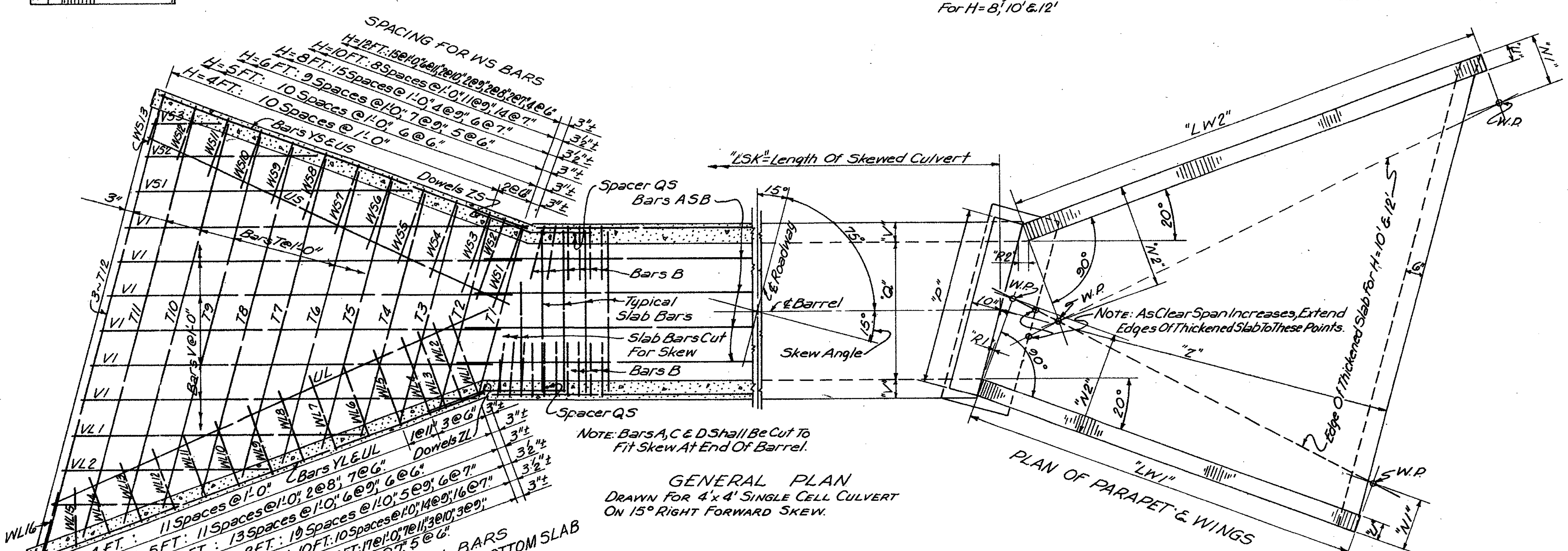
SIDE ELEVATION

GENERAL NOTES:

This Drawing Shows The General Details Necessary To Modify A Single Or Double Cell Culvert With Wings With 3:1 Slope For A 15° Skew.

All Governing Dimensions Reinforcement Details And General Requirements Of Basic Culvert Drawings, Drawings IWS-3 And IWD-3 And Or Drawings IBSM-3W And IBDM-3W Shall Apply Except As Specifically Modified Here on.

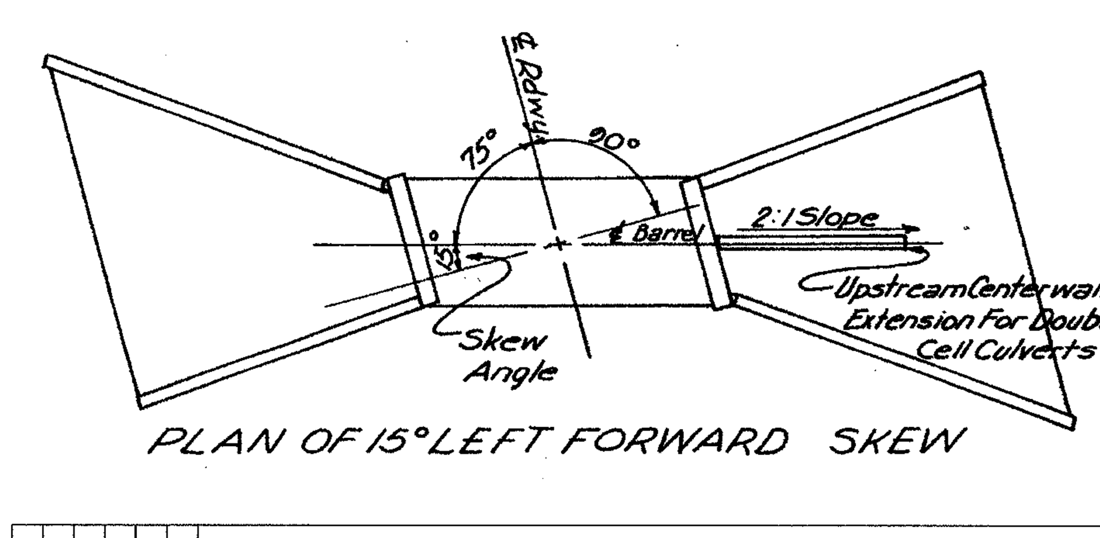
A Complete Placing Plan Showing All Governing Dimensions, Bar List And Bending Details Shall Be Submitted To The Project Engineer For Approval Prior To Fabrication Of The Reinforcing Steel.



NOTE: Bars A, C & D Shall Be Cut To Fit Skew At End Of Barrel.

GENERAL PLAN
DRAWN FOR 4'x4' SINGLE CELL CULVERT ON 15° RIGHT FORWARD SKEW.

PLAN OF PARAPET & WINGS



PLAN OF 15° LEFT FORWARD SKEW

BY	
REVISION	
DATE	

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BOX CULVERT DRAWING
15° SKEW DETAILS
WINGS WITH 3:1 SLOPE
SINGLE & DOUBLE CELL CULVERTS

WORKING NUMBER **SD-ISK-15-3W**
SHEET NUMBER

FILENAME: ____
DESIGN TEAM ____ CHECKED ____ DATE ____

COUNTY: **PROJECT NO.:**
DESIGN TEAM: **FILENAME:**