CULVERT DIMENSIONS						ESTIMATED QUANTITIES					
						CULVERT (L=150')		PER LIN. FT. BARREL		1 AUX. SLAB "J"	
CLEAR SPAN	MAX. COVER	T	V	W	Y	CONC. CU. YD.	REINF. STEEL LB.	CONC. CU. YD.	REINF. STEEL LB.	CONC. CU. YD.	REINF. STEEL LB.
5'	16'	7½"	6"	1'-5½"	20'-5⅜"	134.44	17,192	0.8205	106.55	0.57	34
6'	13'	8"	6½"	1'-6"	22'-5⅜"	160.42	19,985	0.9860	124.81	0.67	39
8'	9'	9"	6½"	1'-7"	26'-5⅜"	209.18	25,476	1.2966	160.13	0.87	51
10'	7'	10"	7"	1'-8"	30'-6⅜"	270.04	33,647	1.6873	212.95	1.07	62
12'	6'	11½"	7½"	1'-9½"	34'-6⅜"	350.54	41,520	2.2088	264.02	1.28	73
14'	6'	1'-1"	8"	1'-11"	38'-7⅜"	442.48	52,249	2.8066	334.12	1.48	85

BAR LIST FOR BARREL (L=150') PARAPETS & 2 AUXILIARY SLABS "J"

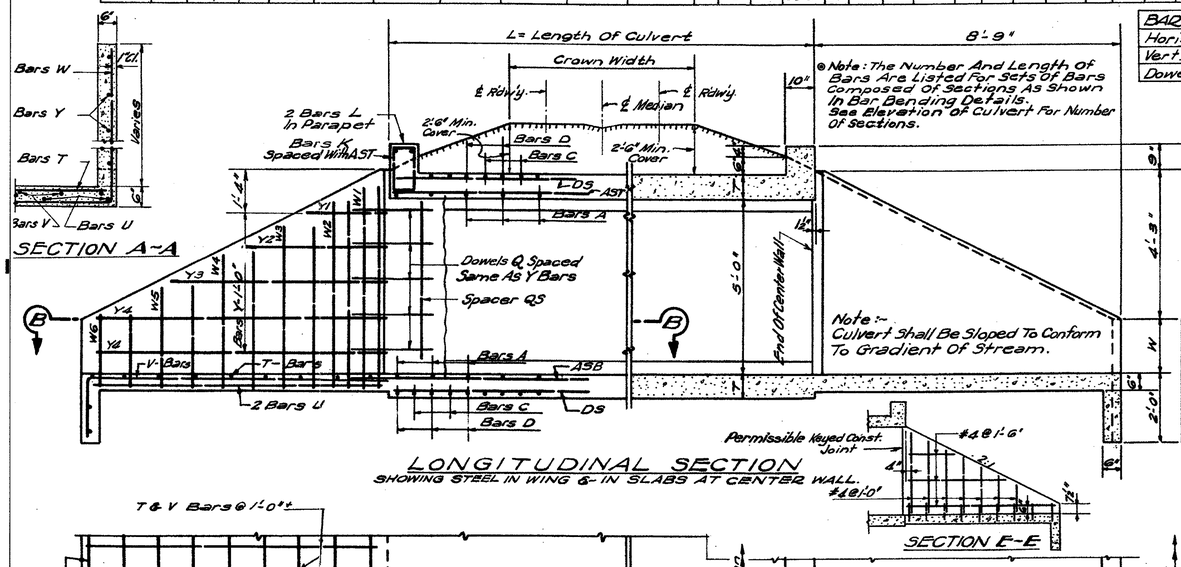
BARS "A"				BARS "B"				BARS "C"				BARS "D"				DOWELS Q-#4		SPACERS QS-#4		SETS OF BARS AST @ #4		SETS OF BARS ASB @ #4		SETS OF BARS BS @ #4		SETS OF BARS DS @ #4		BARS "E" #4		SETS OF BARS ES @ #4		BARS "K" #4		BARS "L" #4		BARS "M" #4		BARS "N" #4	
NO.	SIZE	SPAC.	LGTH.	NO.	SIZE	SPAC.	LGTH.	NO.	SIZE	SPAC.	LGTH.	NO.	SIZE	SPAC.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.
258	#4	1'-2"	11'-3"	900	#4	8"	5'-6"	258	#5	1'-1"	10'-10"	258	#6	1'-2"	4'-6"	20	2'-6"	4	4'-7"	10	152'-9"	10	155'-7"	18	152'-9"	8	152'-9"	204	5'-11"	7	152'-6"	20	4'-1"	4	11'-2"	4	11'-2"	26	2'-2"
276	#4	1'-1"	13'-4"	900	#4	8"	5'-10"	276	#5	1'-1"	13'-0"	276	#6	1'-1"	5'-0"	20	2'-6"	4	4'-7"	12	152'-9"	12	155'-7"	22	152'-9"	10	152'-9"	204	6'-0"	7	152'-6"	24	4'-2"	4	13'-2"	4	13'-3"	30	2'-2"
312	#4	11½"	17'-4"	900	#4	8"	6'-5"	312	#5	11½"	17'-1"	312	#6	11½"	6'-0"	20	2'-6"	4	4'-7"	16	152'-9"	16	155'-7"	22	152'-9"	12	152'-9"	204	6'-2"	7	152'-6"	32	4'-4"	4	17'-2"	4	17'-3"	38	2'-2"
360	#4	10"	21'-6"	1200	#4	6"	7'-1"	360	#5	10"	21'-2"	360	#6	10"	7'-0"	20	2'-6"	4	4'-7"	20	152'-9"	20	155'-7"	26	152'-9"	12	152'-9"	204	6'-4"	7	152'-6"	40	4'-6"	4	21'-3"	4	21'-5"	46	2'-2"
360	#4	10"	25'-7"	1440	#4	5"	7'-9"	360	#5	10"	25'-4"	360	#7	10"	8'-0"	20	2'-6"	4	4'-7"	24	152'-9"	24	155'-7"	26	152'-9"	16	152'-9"	204	6'-7"	7	152'-6"	48	4'-9"	4	25'-3"	4	25'-6"	54	2'-2"
300	#5	1'-0"	29'-9"	960	#5	7½"	8'-6"	300	#6	1'-0"	29'-5"	300	#8	1'-0"	9'-0"	20	2'-6"	4	4'-7"	28	152'-9"	28	155'-7"	30	152'-9"	16	152'-9"	204	6'-10"	7	152'-6"	56	5'-0"	4	29'-4"	4	29'-8"	62	2'-2"

BAR LIST FOR WINGS & APRONS

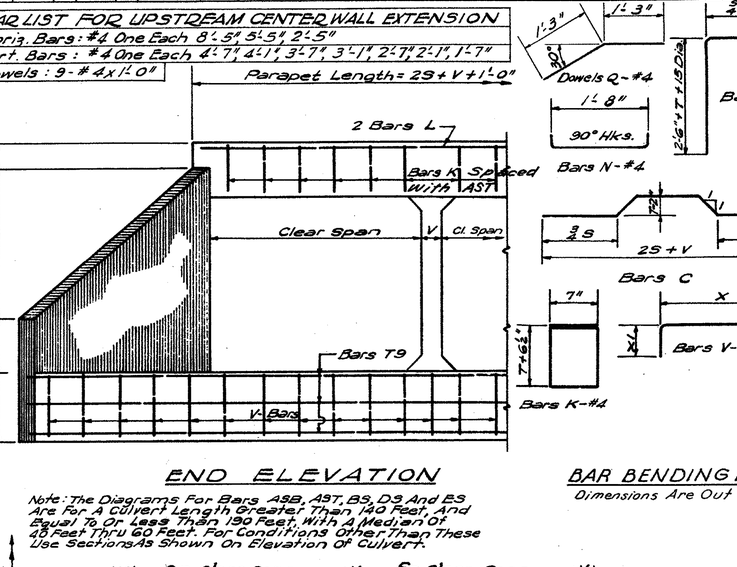
BAR	SIZE	NO. REQUIRED SPAN 5'	6'	8'	10'	12'	14'	DIM. X	DIM. X1	LENGTH
T1	#4	2	2	2	2	2	2			2S+1'-7"
T2	#4	2	2	2	2	2	2			2S+2'-9"
T3	#4	2	2	2	2	2	2			2S+3'-11"
T4	#4	2	2	2	2	2	2			2S+5'-1"
T5	#4	2	2	2	2	2	2			2S+6'-3"
T6	#4	2	2	2	2	2	2			2S+7'-5"
T7	#4	2	2	2	2	2	2			2S+8'-7"
T8	#4	2	2	2	2	2	2			2S+9'-9"
T9	#4	6	6	6	6	6	6			2S+10'-9"
U	#4	8	8	8	8	8	8			9'-6"
V1	#4	28	30	38	46	54	62	8'-5"	1'-8"	10'-1"
V2	#4	4	4	4	4	4	4	6'-6"	1'-8"	8'-2"
V3	#4	4	4	4	4	4	4	4'-9"	1'-8"	6'-5"
V4	#4	4	4	4	4	4	4	3'-1"	1'-8"	4'-9"
V5	#4	4	4	4	4	4	4	1'-5"	1'-8"	3'-1"
W1	#4	8	8	8	8	8	8	3'-0"	W+4'-1"	W+7'-1"
W2	#4	8	8	8	8	8	8	2'-10"	W+3'-8"	W+6'-6"
W3	#4	8	8	8	8	8	8	2'-7"	W+2'-11"	W+5'-6"
W4	#4	8	8	8	8	8	8	2'-3"	W+2'-1"	W+4'-4"
W5	#4	8	8	8	8	8	8	2'-0"	W+1'-3"	W+3'-3"
W6	#4	8	8	8	8	8	8	1'-9"	W+4"	W+2'-1"
Y1	#4	4	4	4	4	4	4			2'-7"
Y2	#4	4	4	4	4	4	4			4'-11"
Y3	#4	4	4	4	4	4	4			7'-2"
Y4	#4	8	8	8	8	8	8			9'-6"

BAR LIST FOR UPSTREAM CENTER WALL EXTENSION

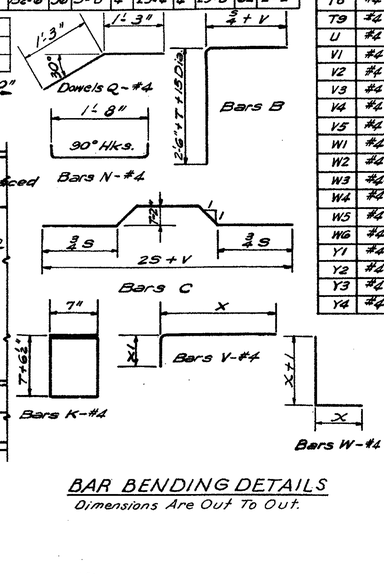
Horiz. Bars: #4 One Each 8'-5" 5'-5" 2'-5"
Vert. Bars: #4 One Each 4'-7" 4'-1" 3'-7" 3'-1" 2'-7" 2'-1" 1'-7"
Dowels: 9-#4 x 1'-0"



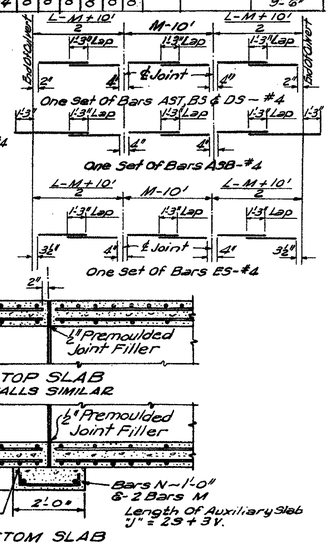
LONGITUDINAL SECTION
SHOWING STEEL IN WING & IN SLABS AT CENTER WALL.



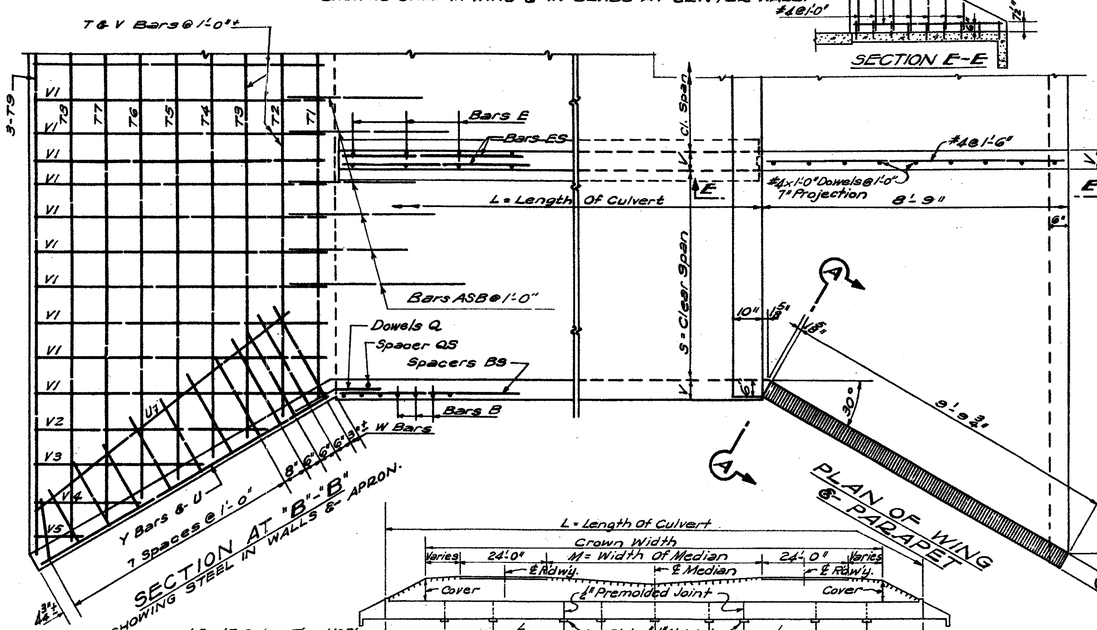
Note: The Diagrams For Bars ASB, AST, BS, DS And ES Are For A Culvert Length Greater Than 140 Feet, And Equal To Or Less Than 190 Feet, With A Median Of 48 Feet Thru 60 Feet. For Conditions Other Than These Use Sections As Shown On Elevation Of Culvert.

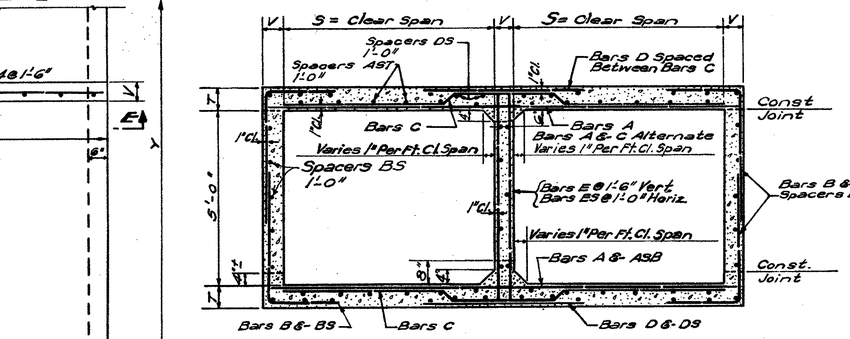


BAR BENDING DETAILS
Dimensions Are Out To Out.

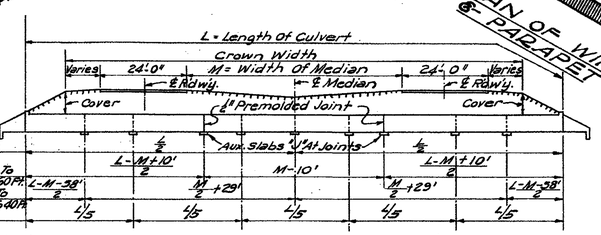


DETAILS OF BARREL JOINT & AUXILIARY SLAB "J"





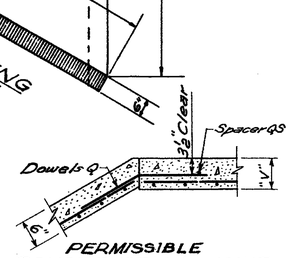
CROSS SECTION
Bars AST Tie To Bars A In Top Slab.
Bars ASB Tie To Bars A In Bottom Slab.
Bars BS Tie To B, DS Tie To D, ES Tie To E.



Note: Joints Shall Not Be Located Closer Than 5 Feet Outside Of Pavement. For Cover Of 8 Ft. Or Less Except In Cases Where Median Is Less Than 10 Feet. Where Cover Exceeds 8 Feet, Joints May Be Located Without Regards To Pavement Edge.

Note: Where Cover Is 8 Feet Or Less And A Joint Occurs Within The Limits Of 5 Feet Beyond Each Edge Of Pavement, Use Complete Collar At Joints Per Dwg. 1CJ-1 Or 1CJS-1.

SIDE ELEVATION OF CULVERT
Showing 1" Joints And Auxiliary Slabs "J" Drawn For L=150 Ft. M=60 Ft.



PERMISSIBLE CONSTRUCTION JOINT AT WING

GENERAL NOTES:-
Specifications: Mississippi State Highway Department.
All Concrete Shall Be Class "B".
Concrete Surfaces Shall Be Finished In Accordance With Subsection 804.24.
All Exposed Corners Shall Be Chamfered ¾ Inch.
Reinforcing Steel Shall Be Placed 1" Clear Minimum From The Surface Of The Concrete, And Shall Be Adequately Supported From The Forms.
All Bars Shall Be Accurately Spaced And Securely Wired At Each Intersection Before Placing Concrete.
Horizontal Construction Joints Shall Be Placed Only At The Locations Shown, And The Concrete Shall Be Allowed To Set A Minimum Period Of Two Hours Before Continuing The Pour.
The Quantities Shown Will Be Used As The Basis For Final Payment Unless This Drawing Is Modified.

NOTE: See Drawing 1BJL-1 For Additional Joint Locations.

DESIGN DATA
Specifications: A.A.S.H.O. 1969
Live Load: HS20-44 Mod. For 2-24,000# Axles.
Unit Stresses: fs = 20,000#/□", fc = 1,200#/□", n = 10.

DATE	REVISION	BY

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BASIC CULVERT DRAWING
DOUBLE CELL

HEIGHT 5 FT.
TOTAL SPAN 10–28 FT.

WORKING NUMBER SD-IBD-5-2W
SHEET NUMBER

FILENAME:
DESIGN TEAM CHECKED DATE

COUNTY:
DESIGN TEAM:
PROJECT NO.:
FILENAME: