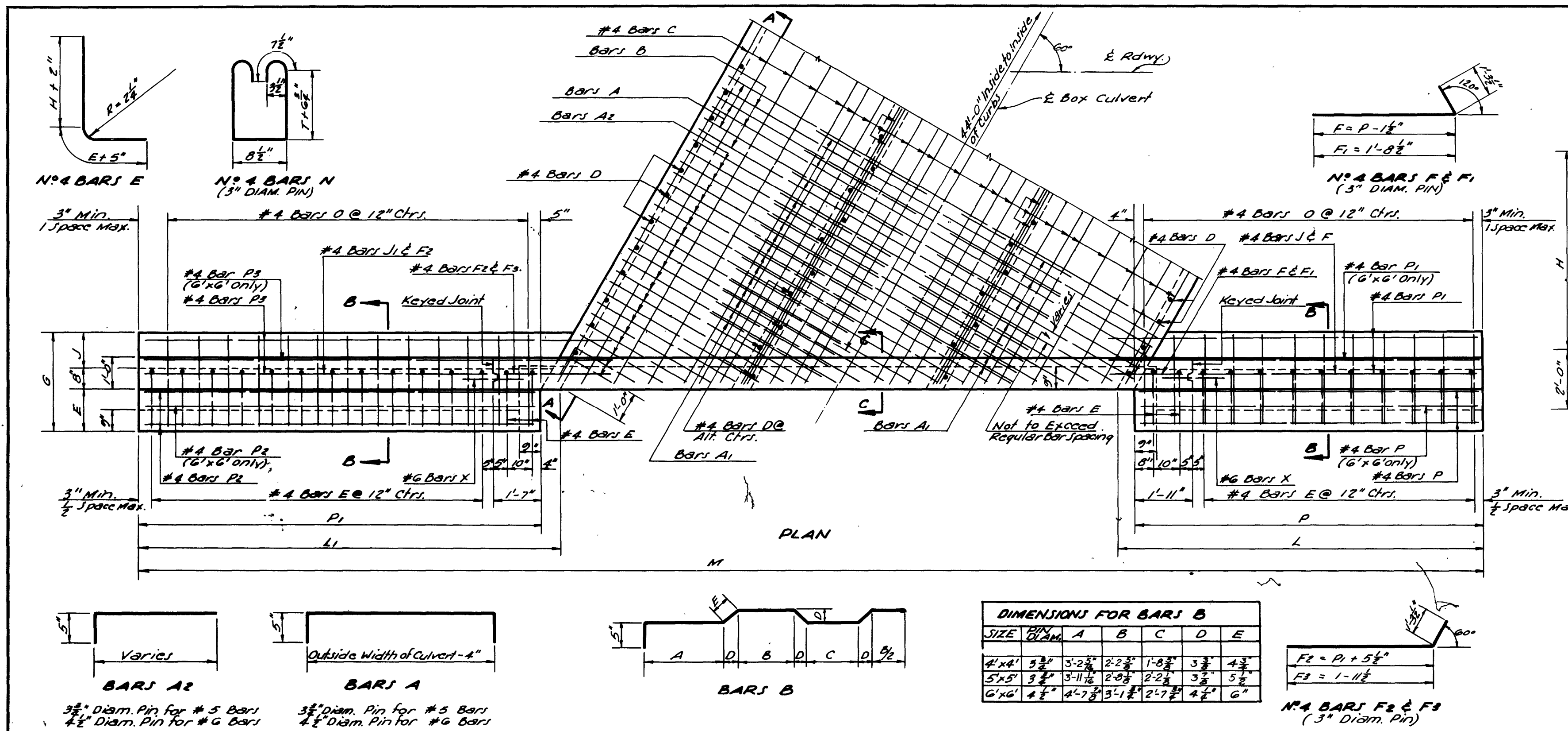
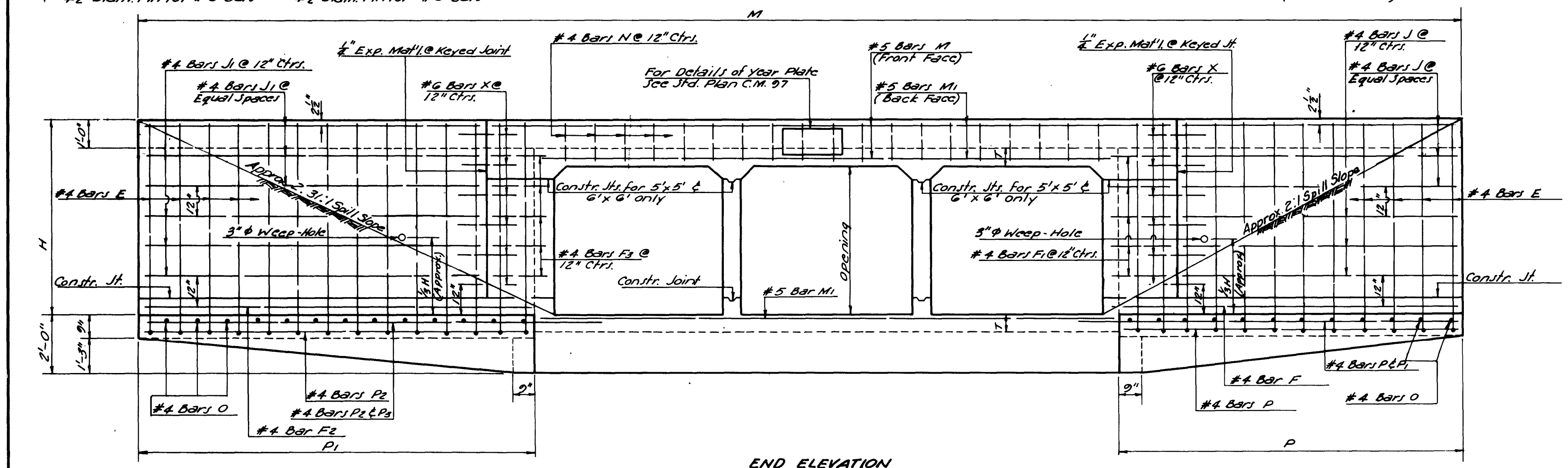
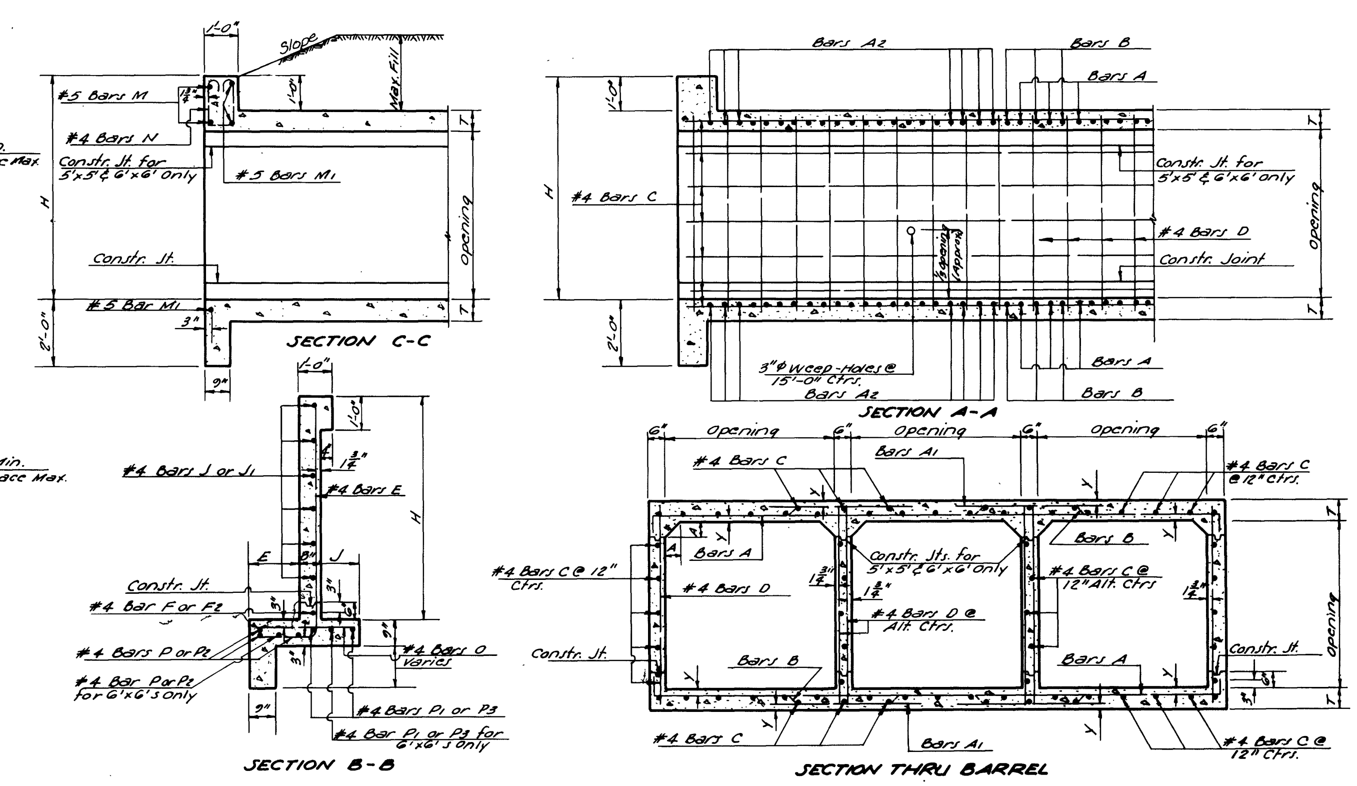


SIZE	PIN DIAM.	A	B	C	D	E
4'x4'	3⅜"	3'-2⅝"	2'-2⅝"	1'-8⅝"	3⅜"	4¾"
5'x5'	3⅜"	3'-11 11/16"	2'-8⅞"	2'-2⅞"	3⅞"	5½"
6'x6'	4½"	4'-7⅞"	3'-1⅞"	2'-7⅞"	4½"	6"





STATE PROJECT	PARISH	SHEET NO.

OPENINGS SIZE Ft.	N°	AREA Sq. Ft.	MAX. FILL SLAB Ft.	MAX. FILL WALLS Ft.	BARREL T In.	BARREL A In.	BARREL Y In.	E Ft-In.	J Ft-In.	G Ft-In.	H Ft-In.	L Ft-In.	L1 Ft-In.	P Ft-In.	P1 Ft-In.	M Ft-In.	PER LINEAR FOOT OF BARREL STEEL Pounds	PER LINEAR FOOT OF BARREL CONC. Cu. Yds.	44'-0" CULVERT STEEL Pounds	44'-0" CULVERT CONC. Cu. Yds.	OPENINGS N°	SIZE Ft.
4x4	2	32	25	13	7	4	1 13/16	1-3	0-10	2-9	5-7	10-1 15/16	11-9 15/16	9-7	11-3	31-9⅝	85.26	0.6409	4,818	41.75	2	4x4
	3	48	32													37-0	127.77	0.9136	6,907	55.17	3	
	4	64														42-2⅜	170.27	1.1862	9,046	68.59	4	
	5	80														47-4 9/16	212.77	1.4589	11,286	82.01	5	
	6	96														52-7 1/16	255.27	1.7315	13,470	95.43	6	
5x5	2	50	21	7	7½	5	1 13/16	1-5	1-2	3-3	6-7½	12-1 15/16	13-11 15/16	11-7	13-5	38-3⅜	113.52	0.8231	6,374	54.54	2	5x5
	3	75	27													44-7 9/16	170.56	1.1767	9,214	71.88	3	
	4	100														50-11¾	227.60	1.5303	12,142	89.21	4	
	5	125														57-4	284.64	1.8840	15,015	106.54	5	
	6	150														63-8 9/16	341.68	2.2377	18,085	123.87	6	
6x6	2	72	15	5	8	6	1⅞	1-7	1-6	3-9	7-8	14-3 15/16	16-9 15/16	13-9	16-5	45-7 1/16	137.72	1.0185	7,942	69.14	2	6x6
	3	108	20													53-1⅛	206.89	1.4599	11,368	90.69	3	
	4	144														60-7 3/16	276.06	1.9012	14,954	112.24	4	
	5	180														68-1¼	345.23	2.3426	18,528	133.79	5	
	6	216														75-7 3/16	414.40	2.7839	22,414	155.34	6	

BILL OF REINFORCING STEEL FOR 44'-0" CULVERT

BARREL REINFORCEMENT

OPENINGS SIZE Ft.	N°	BARS A Size	BARS A N°	BARS A Length Ft-In.	BARS A Spc. In.	BARS A1 Size	BARS A1 N°	BARS A1 Length Ft-In.	BARS A1 Spc. In.	BARS A2 Size	BARS A2 N°	BARS A2 Short Bar Ft-In.	BARS A2 Var. In.	BARS A2 Long Bar Ft-In.	BARS A2 Spc. In.	BARS B Size	BARS B N°	BARS B Length Ft-In.	BARS B Spc. In.	#4 BARS C ① N°	#4 BARS C ① Length Ft-In.	#4 BARS O N°	#4 BARS O Length Ft-In.	#4 BARS O Spc. In.
4x4	2	#5	82	10-0	12	#5	94	3-10	6/12	#5	36	2-2	10.3750	9-1	6	#5	82	10-2¾	12	38	47-5	138	4-10	12
	3	#5	76	14-6	12	#5	196	3-10	6/12	#5	56	2-2	10.3646	13-5	6	#5	78	14-11½	12	56	47-5	184	4-10	12
	4	#5	72	19-0	12	#5	312	3-10	6/12	#5	76	2-2	10.3889	17-9	6	#5	72	19-8¾	12	74	47-5	230	4-10	12
	5	#5	66	23-6	12	#5	444	3-10	6/12	#5	100	2-2	10.3750	22-11	6	#5	66	24-5	12	92	47-5	276	4-10	12
	6	#5	60	28-0	12	#5	572	3-10	6/12	#5	120	2-2	10.3783	27-3	6	#5	62	29-1⅜	12	110	47-5	322	4-10	12
5x5	2	#5	94	12-0	10	#5	114	4-4	5/10	#5	56	2-2	8.6458	11-6	5	#5	94	12-3¼	10	45	47-5	138	5-11	12
	3	#5	88	17-6	10	#5	244	4-4	5/10	#5	84	2-2	8.6500	16-7	5	#5	88	18-0½	10	66	47-5	184	5-11	12
	4	#5	80	23-0	10	#5	392	4-4	5/10	#5	116	2-2	8.6429	22-4	5	#5	80	23-9¾	10	87	47-5	230	5-11	12
	5	#5	72	28-6	10	#5	560	4-4	5/10	#5	144	2-2	8.6471	27-5	5	#5	74	29-7	10	108	47-5	276	5-11	12
	6	#5	64	34-0	10	#5	720	4-4	5/10	#5	176	2-2	8.6512	33-2	5	#5	66	35-4½	10	129	47-5	322	5-11	12
6x6	2	#6	66	14-0	14	#6	82	5-2	7/14	#6	48	2-2	12.0909	13-3	7	#6	66	14-3½	14	52	47-5	168	7-0	10
	3	#6	60	20-6	14	#6	176	5-2	7/14	#6	72	2-2	12.1176	19-4	7	#6	60	21-1	14	76	47-5	224	7-0	10
	4	#6	52	27-0	14	#6	288	5-2	7/14	#6	100	2-2	12.1250	26-5	7	#6	52	27-10½	14	100	47-5	280	7-0	10
	5	#6	46	33-6	14	#6	400	5-2	7/14	#6	124	2-2	12.1000	32-5	7	#6	48	34-8	14	124	47-5	336	7-0	10
	6	#6	40	40-0	14	#6	544	5-2	7/14	#6	152	2-2	12.1081	39-6	7	#6	40	41-5½	14	148	47-5	392	7-0	10

① Includes 1-1-6" Lap Splice. ② Includes 1-1-10" Lap Splice.

WING AND CURB REINFORCEMENT

OPENINGS SIZE Ft.	N°	#4 BARS E N°	#4 BARS E Length	#4 BARS F N°	#4 BARS F Length	#4 BARS F1 N°	#4 BARS F1 Length	#4 BARS F2 N°	#4 BARS F2 Length	#4 BARS F3 N°	#4 BARS F3 Length	#4 BARS J N°	#4 BARS J Length	#4 BARS J1 N°	#4 BARS J1 Length	#4 BARS O N°	#4 BARS O Length	#4 BARS P N°	#4 BARS P Length	#4 BARS P1 N°	#4 BARS P1 Length	#4 BARS P2 N°	#4 BARS P2 Length	#4 BARS P3 N°	#4 BARS P3 Length	#5 BARS M N°	#5 BARS M Length	#5 BARS M1 N°	#5 BARS M1 Length	#4 BARS N N°	#4 BARS N Length	#6 BARS X Ⓐ N°	#6 BARS X Ⓐ Length
4x4	2	44	7-5	2	10-9	8	3-0	2	13-0	8	3-3	10	7-4	10	9-4	42	2-4	6	9-3	4	10-8	6	10-11	4	13-4	4	13-11	6	10-7	22	4-3	20	2-0
	3																									4	19-1	6	15-9	32	4-3	20	2-0
	4																									4	24-4	6	21-0	42	4-3	20	2-0
	5																									4	29-6	6	26-2	52	4-3	20	2-0
	6																									4	34-8	6	31-4	62	4-3	20	2-0
5x5	2	52	8-7½	2	12-9	10	3-0	2	15-2	10	3-3	12	9-4	12	11-6	50	2-10	6	11-3	4	12-8	6	13-1	4	15-8	4	16-3	6	12-10	26	4-4	24	2-0
	3																									4	22-7	6	19-3	38	4-4	24	2-0
	4																									4	28-11	6	25-7	52	4-4	24	2-0
	5																									4	35-3	6	31-11	64	4-4	24	2-0
	6																									4	②43-5	6	38-5	76	4-4	24	2-0
6x6	2	62	9-10	2	14-11	12	3-0	2	18-0	12	3-3	14	11-6	14	14-4	60	3-4	8	13-5	6	14-10	8	15-11	6	18-8	4	18-6	6	15-2	30	4-5	28	2-0
	3																									4	26-0	6	22-8	46	4-5	28	2-0
	4																									4	33-6	6	30-2	60	4-5	28	2-0
	5																									4	②42-10	6	37-8	76	4-5	28	2-0
	6																									4	②50-5	6	②47-0	90	4-5	28	2-0

Ⓐ #6 Bars X to be ¾"⌀ Smooth and Greased for 1'-0" of Length

C·C·S·M·4-6·S·60°·1

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: Latest Approved La. Dept. of Highways Standard Specifications.
DESIGN SPECIFICATIONS: A.A.S.H.O. 1961 as Amended by Int. Spec. 1964
LIVE LOAD: HS 20-44, or Military Loading, Whichever is Greater.
All Concrete to be Class "A".
All Exposed Corners to have ¾" Chamfer, unless Otherwise noted.
Reinforcement Shall be Billet-Steel A.S.T.M. A 615 or Rail-Steel A.S.T.M. A 616 or Axle-Steel A.S.T.M. A 617.
Dimensions Relating to Reinforcing Steel are to Bar Centers.
A 1'-6" Square of Plastic Filter Cloth (See Qualified Products List) shall be placed in contact with Concrete behind each Weep Hole, in addition to approx. 2 Cu. Ft. of Concrete Sand.
For Detail of Joints, See Std. Plan C.M.-49.

APPROVED BY:
Original Signed by Chief Engineer
CHIEF ENGINEER DATE

DATE	DESCRIPTION	BY
1-11-78	Rev. Weep Hole Note	W.T.J.
2-20-75	Rev. Slope Intercept	W.T.J.
6-8-72	Rev. General Notes for Steel	W.E.M.
4-29-67	Added Axle Steel	W.E.M.
12-14-64	Rev. 4 & 5' Spans to Military	W.E.M.
	Loading & Deleted 3' Spans	
6-1-64	Rev. Dim. P for 6x6s	W.E.M.
4-3-64	DEFORMED DOWELS 'X' TO SMOOTH	W.E.M.

REVISIONS

STANDARD PLAN
MULTIPLE OPENINGS
REINFORCED CONCRETE BOX CULVERTS
STRAIGHT WINGS 60° CROSSING
2:1 SPILL SLOPE NORMAL TO CHANNEL
4'x4' TO 6'x6'
DATED Oct. 16 1962

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED	Q.A.H.	DETAILED	J.H.A.	TRACED	Z.C. [illegible]
CHECKED	M.Y.Y.	CHECKED	N.K. Brown	CHECKED	W.E. [illegible]