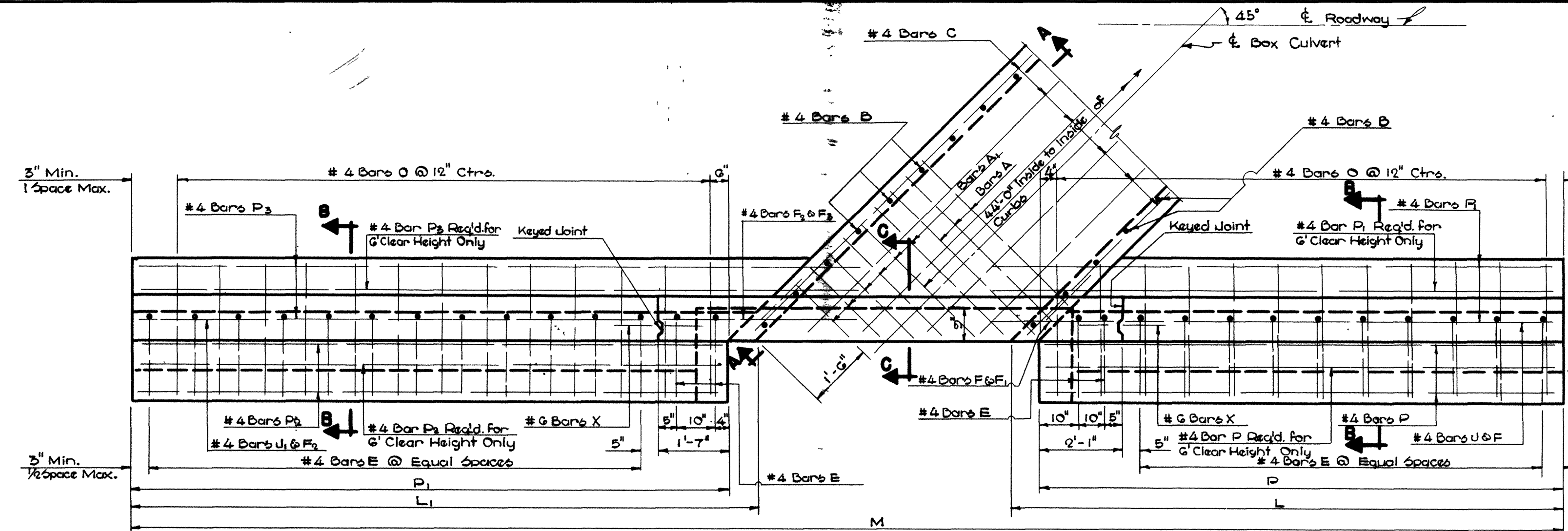
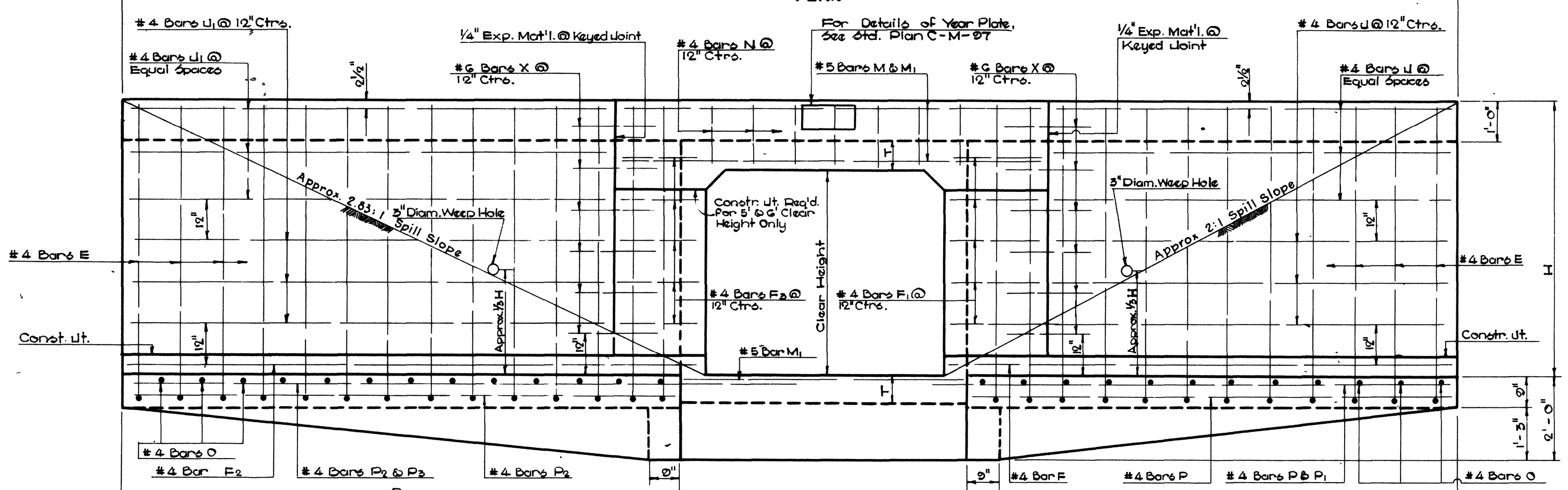
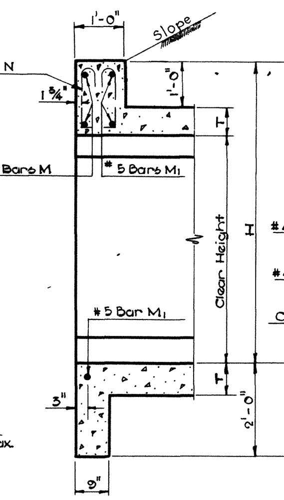


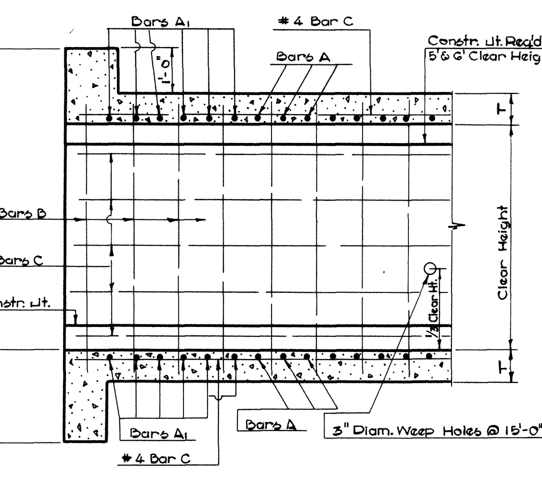
PLAN



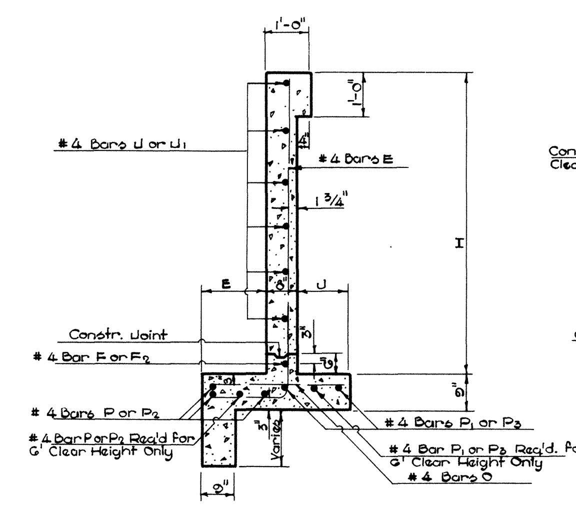
END ELEVATION



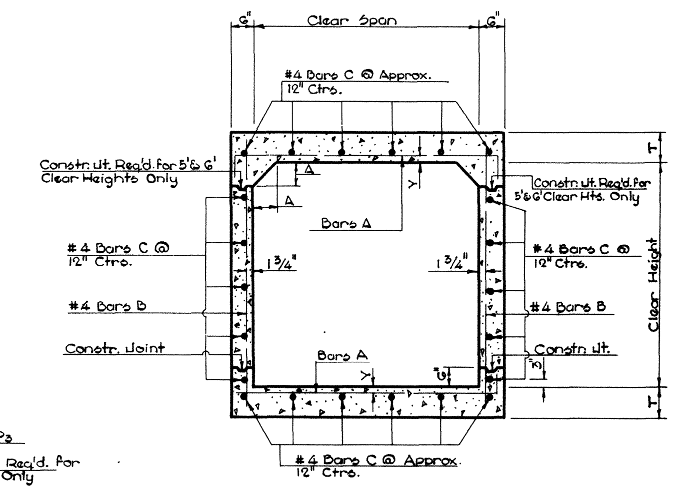
SECTION C-C



SECTION A-A



SECTION B-B



SECTION THRU BARREL

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LA. DEPT. OF HIGHWAY STANDARD SPECIFICATIONS.
DESIGN SPECIFICATIONS: A.A.S.H.O. 1961 AS AMENDED BY INT. SPEC. 1964
LIVE LOAD HS20-44 OR MILITARY LOADING, WHICHEVER IS GREATER
ALL CONCRETE TO BE CLASS "A"
ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER UNLESS OTHERWISE NOTED.
REINFORCEMENT SHALL BE BILLET-STEEL A.S.T.M. A615 OR RAIL-STEEL A.S.T.M. A616 OR AXLE-STEEL A.S.T.M. A617.
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.

STATE PROJECT	PARISH	SHEET NO.

DIMENSIONS

Openings Clear Span (FT.)	Openings Clear Height (FT.)	Area (SQ. FT.)	Max. Fill Slab (FT.)	Max. Fill Wall (FT.)	Barrel A (IN.)	Barrel T (IN.)	Barrel Y (IN.)	Wings and Curbs E (FT.-IN.)	U (FT.-IN.)	G (FT.-IN.)	H (FT.-IN.)	L (FT.-IN.)	L1 (FT.-IN.)	P (FT.-IN.)	P1 (FT.-IN.)	M (FT.-IN.)
3	3															
4	3	12	28	23	4	7½	1 13/16	1-0	0-8	2-4	4-7½	8-5½	11-11½	7-9	11-3	26-0 7/8
4	4	16	28	13	4	7½	1 13/16	1-3	0-10	2-9	5-7½	10-5½	14-2½	9-9	13-6	30-3 7/8
5	3	15	22	23	5	8	1 7/8	1-0	0-8	2-4	4-8	8-5½	11-11½	7-9	11-3	27-5 13/16
5	4	20	22	12	5	8	1 7/8	1-3	0-10	2-9	5-8	10-5½	14-2½	9-9	13-6	31-8 13/16
5	5	25	21	7	5	8	1 7/8	1-5	1-2	3-3	6-8	12-5½	17-2½	11-9	16-6	36-8 13/16
6	3	18	17	22	6	8½	1 7/8	1-0	0-8	2-4	4-8½	8-5½	11-11½	7-9	11-3	28-10 13/16
6	4	24	17	12	6	8½	1 7/8	1-3	0-10	2-9	5-8½	10-5½	14-11½	9-9	14-3	33-10 13/16
6	5	30	17	7	6	8½	1 7/8	1-5	1-2	3-3	6-8½	12-5½	17-2½	11-9	16-6	38-1 13/16
6	6	36	17	5	6	8½	1 7/8	1-7	1-7	3-10	7-8½	14-5½	20-2½	13-9	19-6	43-1 13/16

① Includes 1-1'-6" Lap Splice

BILL OF REINFORCING STEEL FOR 44'-0" CULVERT

Barrel Reinforcement

Clear Span (FT.)	Clear Height (FT.)	Bars A Size	Bars A No.	Bars A Lgth. (FT.-IN.)	Bars A Spac. (IN.)	Bars A1 Size	Bars A1 No.	Bars A1 Short Bar (FT.-IN.)	Bars A1 Var. (IN.)	Bars A1 Long Bar (FT.-IN.)	Bars A1 Spac. (IN.)	#4 Bars B No.	#4 Bars B Lgth. (FT.-IN.)	#4 Bars B Spac. (IN.)	#4 Bars C No.	#4 Bars C ①Lgth. (FT.-IN.)
3	3															
4	3	#5	222	5-6	4½	#5	36	2-0	4.5000	5-0	4½	94	3-11	12	16	47-10
4	4	#5	222	5-6	4½	#5	36	2-0	4.5000	5-0	4½	94	4-11	12	18	47-10
5	3	#6	180	6-6	5½	#6	36	2-0	5.5000	5-8	5½	94	4-0	12	18	47-10
5	4	#6	180	6-6	5½	#6	36	2-0	5.5000	5-8	5½	94	5-0	12	20	47-10
5	5	#6	180	6-6	5½	#6	36	2-0	5.5000	5-8	5½	94	6-0	12	22	47-10
6	3	#6	172	7-6	5½	#6	48	2-0	5.4545	7-0	5½	94	4-1	12	20	47-10
6	4	#6	172	7-6	5½	#6	48	2-0	5.4545	7-0	5½	94	5-1	12	22	47-10
6	5	#6	172	7-6	5½	#6	48	2-0	5.4545	7-0	5½	94	6-1	12	24	47-10
6	6	#6	172	7-6	5½	#6	48	2-0	5.4545	7-0	5½	112	7-1	10	26	47-10

Wings and Curb Reinforcement

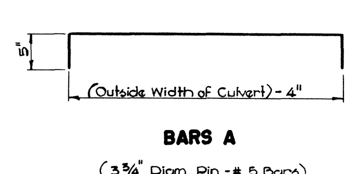
Clear Span (FT.)	Clear Height (FT.)	#4 Bars E No.	#4 Bars E Lgth. (FT.-IN.)	#4 Bars E Spac. (IN.)	#4 Bars F No.	#4 Bars F Lgth. (FT.-IN.)	#4 Bars F1 No.	#4 Bars F1 Lgth. (FT.-IN.)	#4 Bars F2 No.	#4 Bars F2 Lgth. (FT.-IN.)	#4 Bars F3 No.	#4 Bars F3 Lgth. (FT.-IN.)	#4 Bars U No.	#4 Bars U Lgth. (FT.-IN.)	#4 Bars U1 No.	#4 Bars U1 Lgth. (FT.-IN.)	#4 Bars N No.	#4 Bars N Lgth. (FT.-IN.)	#4 Bars O No.	#4 Bars O Lgth. (FT.-IN.)
3	3																			
4	3	40	6-2½	12	2	8-9	6	3-0	2	13-3	6	3-6	8	5-4	8	9-4	14	4-4	38	1-11
4	4	48	7-5½	12	2	10-9	8	3-0	2	15-6	8	3-6	10	7-4	10	11-7	14	4-4	46	2-4
5	3	40	6-3	12	2	8-9	6	3-0	2	13-3	6	3-6	8	5-4	8	9-4	16	4-5	38	1-11
5	4	48	7-6	12	2	10-9	8	3-0	2	15-6	8	3-6	10	7-4	10	11-7	16	4-5	46	2-4
5	5	58	8-8	12	2	12-9	10	3-0	2	18-6	10	3-6	12	9-4	12	14-7	16	4-5	56	2-10
6	3	40	6-3½	12	2	8-9	6	3-0	2	13-3	6	3-6	8	5-4	8	9-4	20	4-6	38	1-11
6	4	50	7-6½	12	2	10-9	8	3-0	2	16-3	8	3-6	10	7-4	10	12-4	20	4-6	48	2-4
6	5	58	8-8½	12	2	12-9	10	3-0	2	18-6	10	3-6	12	9-4	12	14-7	20	4-6	56	2-10
6	6	68	9-10½	12	2	14-9	12	3-0	2	21-6	12	3-6	14	11-4	14	17-7	20	4-6	66	3-5

Clear Span (FT.)	Clear Height (FT.)	#4 Bars P No.	#4 Bars P Lgth. (FT.-IN.)	#4 Bars P1 No.	#4 Bars P1 Lgth. (FT.-IN.)	#4 Bars P2 No.	#4 Bars P2 Lgth. (FT.-IN.)	#4 Bars P3 No.	#4 Bars P3 Lgth. (FT.-IN.)	#5 Bars M No.	#5 Bars M Lgth. (FT.-IN.)	#5 Bars M1 No.	#5 Bars M1 Lgth. (FT.-IN.)	Ⓐ #6 Bars X No.	#6 Bars X Lgth. (FT.-IN.)
3	3														
4	3	6	7-5	4	8-7	6	10-11	4	13-8	4	10-2	6	6-7	16	2-0
4	4	6	9-5	4	10-7	6	13-2	4	16-1	4	10-2	6	6-7	20	2-0
5	3	6	7-5	4	8-7	6	10-11	4	13-8	4	11-7	6	8-0	16	2-0
5	4	6	9-5	4	10-7	6	13-2	4	16-1	4	11-7	6	8-0	20	2-0
5	5	6	11-5	4	12-7	6	16-2	4	19-5	4	11-7	6	8-0	24	2-0
6	3	6	7-5	4	8-7	6	10-11	4	13-8	4	13-0	6	9-5	16	2-0
6	4	6	9-5	4	10-7	6	13-11	4	16-10	4	13-0	6	9-5	20	2-0
6	5	6	11-5	4	12-7	6	16-2	4	19-5	4	13-0	6	9-5	24	2-0
6	6	8	13-5	6	14-7	8	19-2	6	22-10	4	13-0	6	9-5	28	2-0

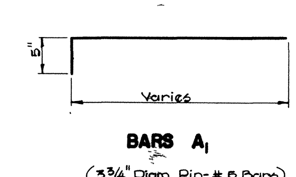
Quantities

Openings Clear Span (FT.-IN.)	Openings Clear Height (FT.-IN.)	Per Linear Ft. of Barrel Steel (LBS.)	Per Linear Ft. of Barrel Conc. (CU. YDS.)	44'-0" Culvert Steel (LBS.)	44'-0" Culvert Conc. (CU. YDS.)
3	3				
4	3	46.52	0.3467	2816	25.42
4	4	49.19	0.3887	3142	30.65
5	3	59.97	0.4138	3467	28.80
5	4	62.64	0.4509	3794	34.04
5	5	65.31	0.4879	4177	40.43
6	3	67.97	0.4877	3862	32.48
6	4	70.64	0.5247	4213	38.10
6	5	73.32	0.5617	4573	44.14
6	6	77.88	0.5988	5174	51.47

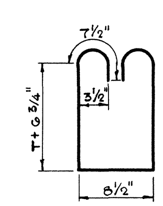
Ⓐ #6 Bars X to be 3/4" diam. smooth and greased for one foot of length



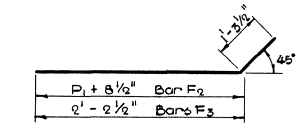
BARS A
(3 3/4" Diam. Pin - # 5 Bars)
(4 1/2" Diam. Pin - # 6 Bars)



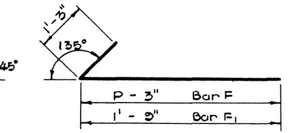
BARS A1
(3 3/4" Diam. Pin - # 5 Bars)
(4 1/2" Diam. Pin - # 6 Bars)



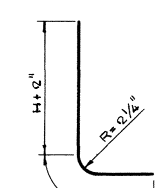
4 BARS N
(3" Diam. Pin)



#4 BARS F2 & F3
(3" Diam. Pin)



#4 BARS F & F1
(3" Diam. Pin)



#4 BARS E

APPROVED BY:
Original Signed by Chief Engineer
CHIEF ENGINEER DATE

DATE	DESCRIPTION	BY
1-11-78	Rev. Weep Hole Note	W.T.J.
5-30-75	Revised Spill Slope	W.T.J.
6-8-72	Rev. General Notes for Steel	W.E.M.
5-2-67	Added Axle Steel	W.E.M.
12-14-64	Rev. 4' & 5' Spans for Military Loading & 3' Span Deleted	W.E.M.

REVISIONS

STANDARD PLAN
REINFORCED CONCRETE BOX CULVERTS
STRAIGHT WINGS 45° CROSSING
2:1 SPILL SLOPE NORMAL TO CHANNEL
3' THRU 6' HEIGHTS 4' THRU 6' SPANS
DATED 8-11-1964

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED M. YOSHII	DETAILED J. L. ARCENEAUX	TRACED T. WILLIAMS
CHECKED G. HESTER	CHECKED N.K. BROWN	CHECKED W.C. Marcum
IN CHARGE OF		

C·C·S·S·4-6·RS-45°-1

C·C·S·S·4-6·RS-45°-1