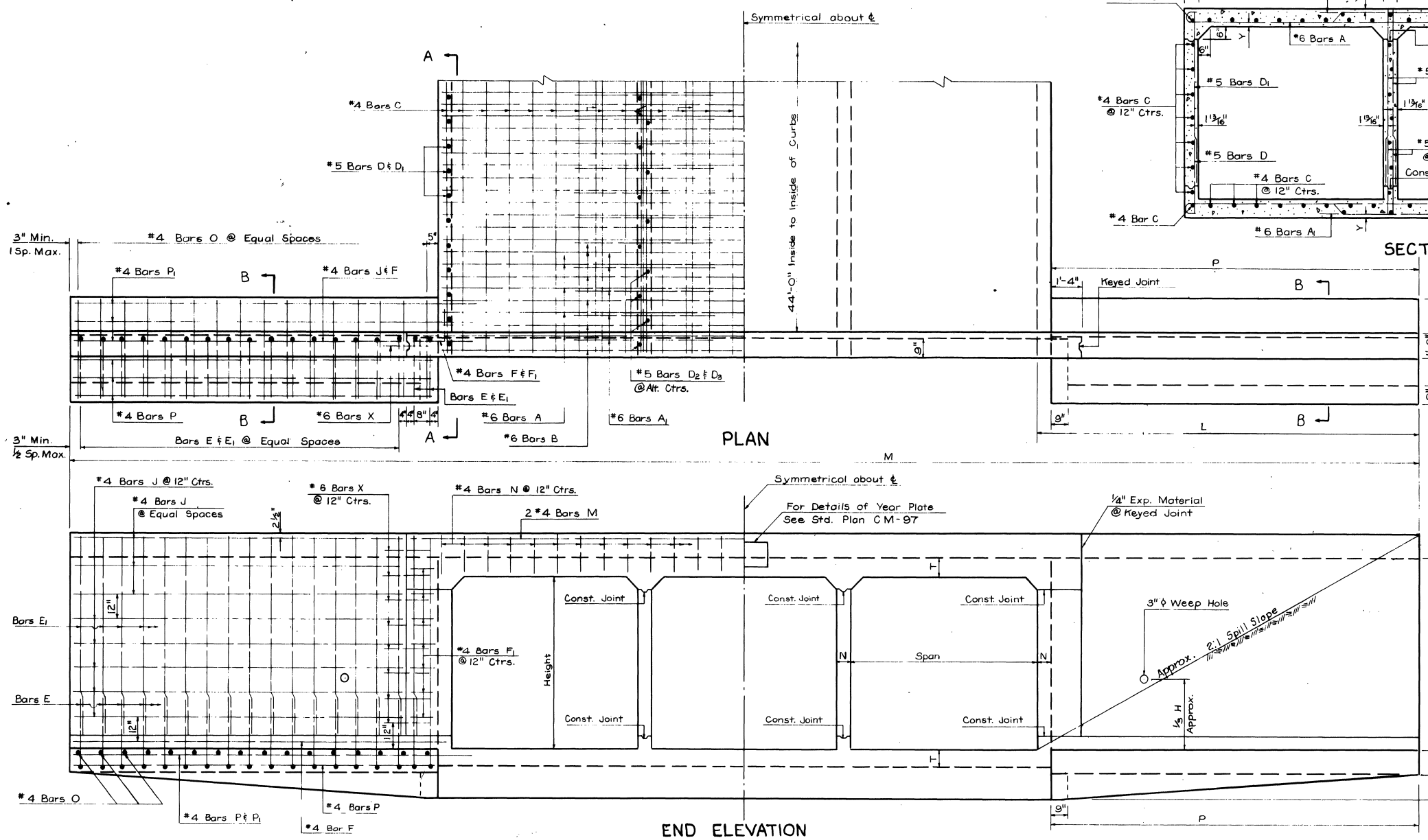
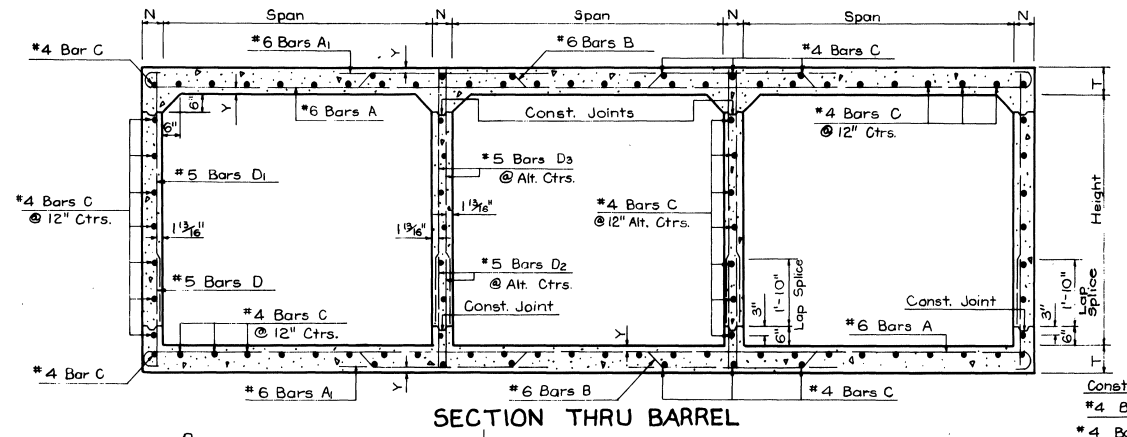
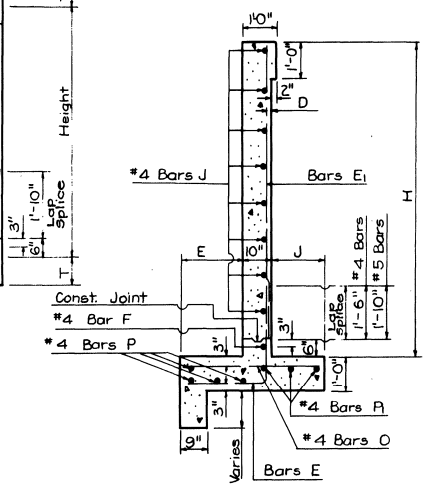
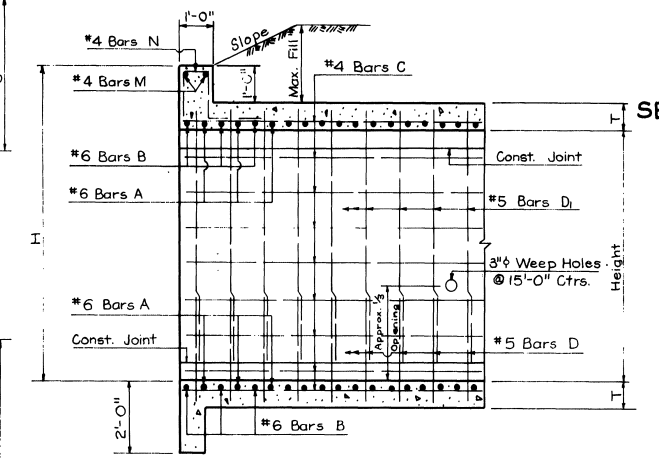
STATE PROJECT	PARISH	SHEET NO.









GENERAL NOTES:

Construction Specifications: Latest Approved La. Dept. of Hwy. Std. Specifications.
Design Specifications: A.A.S.H.O. 1965.
Live Load: H S 20-44, 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., A 615 or Rail Steel A.S.T.M., A 616 or Axle Steel A.S.T.M. A 617.
Dimensions Relating to Reinf. Steel are to Bar Centers
For Details of Joints, See Std. Plan C.M.-49
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.

APPROVED BY:
Original Signed by Chief Engineer
CHIEF ENGINEER
DATE

DIMENSIONS

OPENINGS SIZE (Ft.)	NO.	AREA Sq. Ft.	MAX. FILL SLAB Ft.	MAX. FILL WALLS Ft.	BARREL T In.	BARREL N In.	BARREL Y In.	WINGS AND CURBS D In.	E Ft.-In.	J Ft.-In.	G Ft.-In.	H Ft.-In.	L Ft.-In.	P Ft.-In.	M Ft.-In.
8x7	2	112	9	6	9	7	1 7/8	1 3/4	1-10	1-7	4-3	8-9	16-5	15-10	49-5
	3	168													58-0
	4	224	13												66-7
	5	280													75-2
	6	336													83-9
9x7	2	126	8	8	9 1/2	8	1 7/8	1 3/4	1-10	1-7	4-3	8-9 1/2	16-6	15-10	51-8
	3	189													61-4
	4	252	12												71-0
	5	315													80-8
9x8	2	144	8	5	9 1/2	8	1 7/8	1 13/16	2-0	2-0	4-10	9-9 1/2	18-7	17-11	55-10
	3	216													65-6
	4	288	12												75-2
	5	360													84-10

BILL OF REINFORCING STEEL FOR 44'-0" CULVERT

BARREL REINFORCEMENT

Size	Bars A No.	Bars A Length Ft.-In.	Bars A Spac. In.	Bars A1 Size	Bars A1 No.	Bars A1 Length Ft.-In.	Bars A1 Spac. In.	Bars B Size	Bars B No.	Bars B Length Ft.-In.	Bars B Spac. In.	#4 Bars C No.	#4 Bars C Length Ft.-In.	#5 Bars D & D1 No.	#5 Bars D & D1 Length Bars D Ft.-In.	#5 Bars D & D1 Length Bars D1 Ft.-In.	#5 Bars D & D1 Spac. In.	#5 Bars D2 & D3 No.	#5 Bars D2 & D3 Length Bars D2 Ft.-In.	#5 Bars D2 & D3 Length Bars D3 Ft.-In.	#5 Bars D2 & D3 Spac. In.
8x7	#6	92	18-9 1/2	12	#6	92	6-2	12	#6	92	19-1 3/4	12	63	47-2	92	2-11	7-1	12	46	2-11	7-1	12
	#6	92	27-4 1/2	12	#6	184	6-2	12	#6	92	28-1	12	92	47-2	92	2-11	7-1	12	92	2-11	7-1	12
	#6	92	35-11 1/2	12	#6	276	6-2	12	#6	92	37-0 1/4	12	121	47-2	92	2-11	7-1	12	138	2-11	7-1	12
	#6	92	②46-8 1/2	12	#6	368	6-2	12	#6	92	②48-1 1/2	12	150	47-2	92	2-11	7-1	12	184	2-11	7-1	12
	#6	92	②55-3 1/2	12	#6	460	6-2	12	#6	92	②57-0 3/4	12	179	47-2	92	2-11	7-1	12	230	2-11	7-1	12
9x7	#6	100	21-0 1/2	11	#6	100	6-9	11	#6	102	21-5 1/4	11	67	47-2	92	2-11	7-1	12	46	2-11	7-1	12
	#6	100	30-8 1/2	11	#6	200	6-9	11	#6	102	31-6	11	98	47-2	92	2-11	7-1	12	92	2-11	7-1	12
	#6	100	40-4 1/2	11	#6	300	6-9	11	#6	102	41-6 3/4	11	129	47-2	92	2-11	7-1	12	138	2-11	7-1	12
	#6	100	②52-2 1/2	11	#6	400	6-9	11	#6	102	②53-9 1/2	11	160	47-2	92	2-11	7-1	12	184	2-11	7-1	12
9x8	#6	100	21-0 1/2	11	#6	100	6-9	11	#6	102	21-5 1/4	11	70	47-2	92	2-11	8-1	12	46	2-11	8-1	12
	#6	100	30-8 1/2	11	#6	200	6-9	11	#6	102	31-6	11	102	47-2	92	2-11	8-1	12	92	2-11	8-1	12
	#6	100	40-4 1/2	11	#6	300	6-9	11	#6	102	41-6 3/4	11	134	47-2	92	2-11	8-1	12	138	2-11	8-1	12
	#6	100	②52-2 1/2	11	#6	400	6-9	11	#6	102	②53-9 1/2	11	166	47-2	92	2-11	8-1	12	184	2-11	8-1	12

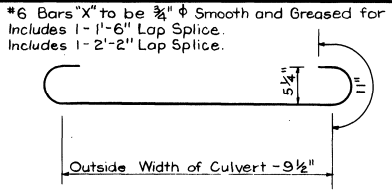
WINGS AND CURBS REINFORCEMENT

Size	Bars E No.	Bars E Length Ft.-In.	Bars E Spac. In.	Bars E1 Size	Bars E1 No.	Bars E1 Length Ft.-In.	Bars E1 Spac. In.	#4 Bars F No.	#4 Bars F Lengrn Ft.-In.	#4 Bars F1 No.	#4 Bars F1 Length Ft.-In.	#4 Bars J No.	#4 Bars J Length Ft.-In.	Bars O Size	Bars O No.	Bars O Length Ft.-In.	Bars O Spac. In.	#4 Bars P No.	#4 Bars P Length Ft.-In.	#4 Bars R No.	#4 Bars R Length Ft.-In.	#4 Bars N No.	#4 Bars N Length Ft.-In.	#4 Bars M No.	#4 Bars M Length Ft.-In.	#6 Bars X ③ No.	#6 Bars X ③ Length Ft.-In.
8x7	#4	72	5-0	11	#4	72	8-1	11	4	17-4	28	2-9	32	14-2	#4	64	3-10	12	16	15-6	12	17-2	36	5-1	4	19-10	32
																							54	5-1	4	28-5	32
																							70	5-1	4	37-0	32
																							88	5-1	4	①47-1	32
																							104	5-1	4	①55-8	32
9x7	#4	72	5-0	11	#4	72	8-1	11	4	17-5	28	2-10	32	14-2	#4	64	3-10	12	16	15-6	12	17-2	40	5-2	4	22-1	32
																							60	5-2	4	31-9	32
																							80	5-2	4	①42-11	32
																							98	5-2	4	①52-7	32
9x8	#5	88	5-6	10	#4	88	9-1	10	4	19-6	32	2-10	36	16-3	#4	72	4-5	12	16	17-7	12	19-3	40	5-2	4	22-1	36
																							60	5-2	4	31-9	36
																							80	5-2	4	①42-11	36
																							98	5-2	4	①52-7	36

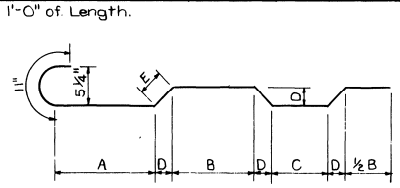
QUANTITIES

OPENINGS SIZE (Ft.)	NO.	PER LINEAR FOOT OF BARREL REINF. STEEL Lbs.	PER LINEAR FOOT OF BARREL CONC. Cu. Yds.	44'-0" CULVERT REINF. STEEL Lbs.	44'-0" CULVERT CONC. Cu. Yds.
8x7	2	205.86	1.4583	11 287	98.22
	3	306.82	2.0957	16 038	128.77
	4	407.78	2.7330	20 782	159.32
	5	521.76	3.3704	26 136	189.87
	6	622.72	4.0077	30 880	220.42
9x7	2	237.37	1.7099	12 801	110.15
	3	355.29	2.4588	18 360	145.97
	4	473.20	3.2078	23 922	181.78
	5	605.31	3.9568	30 132	217.60
9x8	2	242.51	1.7840	13 649	121.08
	3	362.13	2.5576	19 288	158.03
	4	481.75	3.3313	24 930	194.98
	5	615.58	4.1049	31 219	231.94

③ #6 Bars "X" to be 3/4" ϕ Smooth and Greased for 1'-0" of Length.
① Includes 1-1'-6" Lap Splice.
② Includes 1-2'-2" Lap Splice.



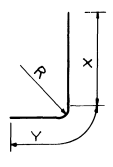
#6 BARS A



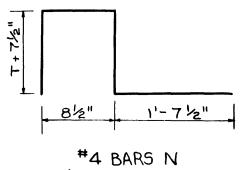
#6 BARS B

DIMENSIONS FOR BARS B						
SIZE	PIN. DIAM.	A	B	C	D	E
8'x7'	4 1/2"	5'-11 5/8"	4'-1 3/8"	3'-6 3/8"	5 1/4"	7 3/8"
9'x7'	4 1/2"	6'-9 3/8"	4'-8 1/8"	4'-0 1/4"	5 3/4"	8 1/8"
9'x8'	4 1/2"	6'-9 3/8"	4'-8 1/8"	4'-0 1/8"	5 3/4"	8 1/8"

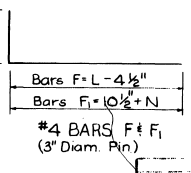
DIMENSIONS FOR BARS E				
SIZE	BAR SIZE	R	X	Y
8'x7'	#4	2 1/4"	2'-7"	2'-5"
9'x7'	#4	2 1/4"	2'-7"	2'-5"
9'x8'	#5	2 13/16"	2'-10 3/8"	2'-7 1/4"



BARS E



#4 BARS N
(3" Diam. Pin)



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

DATE	DESCRIPTION	BY
1-11-78	Rev. Weep Hole Note	W.T.J.
1-28-75	Rev. Slope Intercept	W.T.J.
6-8-72	Rev. General Notes For Steel	W.E.M.

REVISIONS

STANDARD PLAN
MULTIPLE OPENINGS
REINF. CONCRETE BOX CULVERT
STRAIGHT HDWLS. 2:1 SPILL SLOPE
8'x7' 9'x7' 9'x8'
DATED Dec. 19 1969

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED W.E.M.	DETAILED J.R.	TRACED M.B.R.	
CHECKED N.K.B.	CHECKED C.D.J.	CHECKED W.E. Marvin	
IN CHARGE OF			

C·C·S·M·8-9·R·90°-1

Dietzgen N. O. 135 "Imperial"

C·C·S·M·8-9·R·90°-1