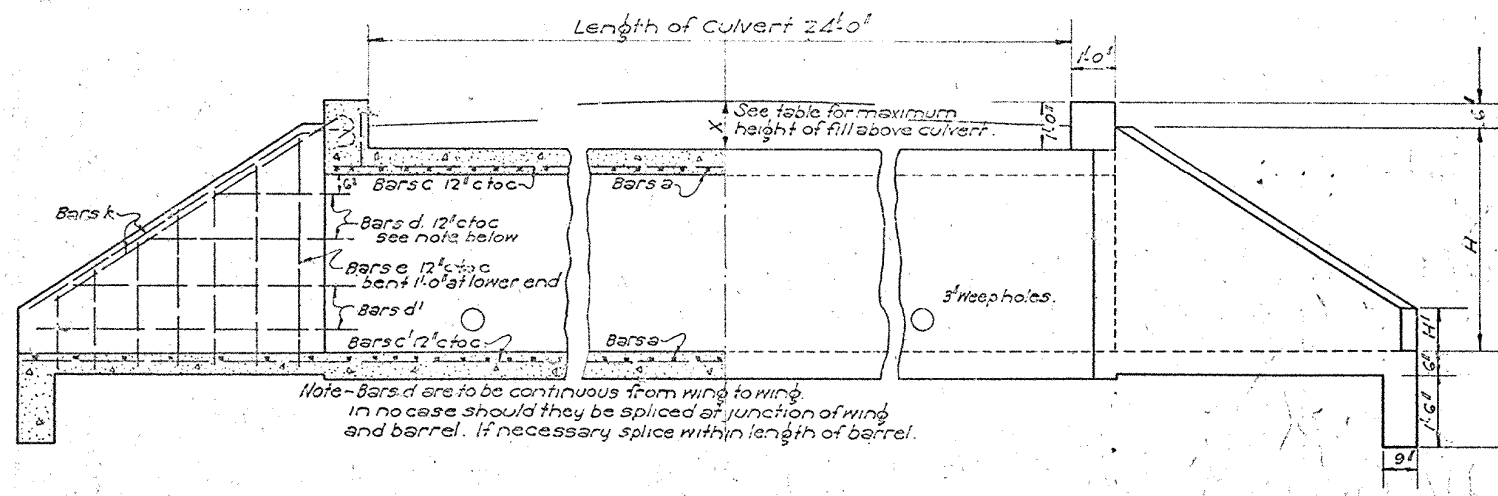
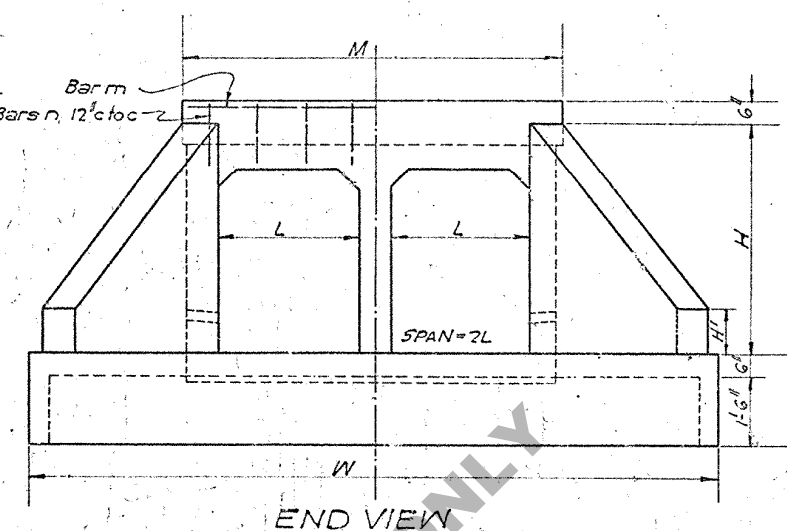
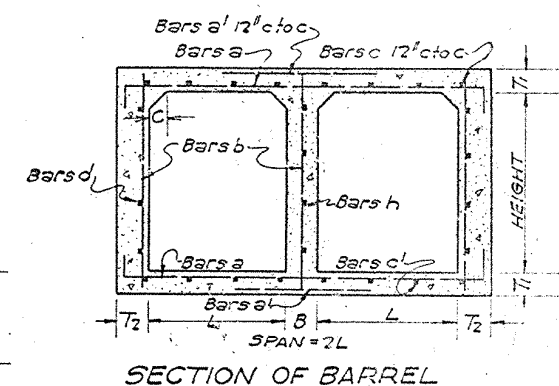




HALF LONGITUDINAL SECTION HALF SIDE ELEVATION



END VIEW



SECTION OF BARREL

STEEL SCHEDULE FOR 24'-0" CULVERT

OPENING	CLEAR SPAN (2L)	CLEAR HEIGHT	BARREL REINFORCEMENT - All 1/2" bars (except a for 16' span)										WING WALL & FLOOR REINFORCEMENT - All 1/2" bars											
			Bars a	Bars a'	Bars b	Bars c	Bars c'	Bars d	Bars d'	Bars e	Bars e'	Bars f	Bars f'	Bars g	Bars g'	Bars h	Bars h'	Bars i	Bars i'	Bars j	Bars j'	Bars k	Bars k'	Bars l
8'	2'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2'-6"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	3'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	4'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
10'	2'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2'-6"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	3'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	4'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
12'	2'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2'-6"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	3'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	4'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
16'	2'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	2'-6"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	3'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	4'-0"	10'-4"	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

* Note - To obtain lengths of intermediate bars, use variation as an increment between short and long bars. Number of bars for each length is also given.

DIMENSIONS & QUANTITIES FOR 24'-0" CULVERT

OPENING			BARREL				WINGS & FLOOR												PER LIN. FT.		TOTAL	
CLEAR SPAN (FT.)	CLEAR HEIGHT	AREA	T ₁	T ₂	B	C	M	H	H'	E	A	W	D	X	BARREL	QUANTITIES	STEEL	CONC.	STEEL	CONC.		
FT.	FT.-IN.	SQ. FT.	IN	IN	IN	IN	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	IN	FT.-IN.	FT.-IN.	FT.	LBS.	C.YDS.	LBS.	C.YDS.	LBS.	C.YDS.		
8	2'-0	162	7	6	8	4	10.2	3-1	1-0	4-0	8	14-2	3-5	9	71.5	548	211.5	18.6				
	2'-6	200	7	6	8	4	10.2	3-7	1-2	4-6	8	14-8	3-11	9	73.0	579	218.5	19.9				
	3'-0	240	7	6	8	4	10.2	4-1	1-4	5-1	8	15-3	4-5	9	76.5	610	234.5	21.3				
	4'-0	320	7	8	10	6	10.9	5-1	1-8	6-4	10	17-1	5-6	9	83.5	780	263.7	27.9				
	5'-0	400	7	8	10	6	10.9	6-1	1-10	7-10	10	18-7	6-9	9	88.5	861	292.1	32.1				
10	2'-0	200	7½	6	8	4	12.2	3½	1-0	4-1	8	16-3	3-6	5	84.0	672	264.7	27.4				
	2'-6	250	7½	6	8	4	12.2	3½	1-2	4-7	8	16-9	4-0	5	85.0	702	257.7	23.7				
	3'-0	300	7½	6	8	4	12.2	4½	1-4	5-2	8	17-4	4-6	5	89.0	733	216.2	25.2				
	4'-0	400	7½	8	10	6	12.9	5½	1-8	6-5	10	19.2	5-7	5	96.0	902	300.4	31.8				
	5'-0	500	7½	8	10	6	12.9	6½	1-10	7-11	10	20.0	6-10	5	101.0	982	329.4	36.5				
12	2'-0	240	8	8	8	6	14.2	3-2	1-0	4-2	8	18-4	3-7	4	107.0	858	307.0	28.1				
	2'-6	300	8	8	8	6	14.2	3-8	1-2	4-5	8	18-11	4-1	4	108.0	895	314.5	29.5				
	3'-0	360	8	8	8	6	14.2	4-2	1-4	5-2	8	19-6	4-7	4	112.0	932	333.5	31.1				
	4'-0	480	8	8	10	6	14.9	5-2	1-8	6-7	10	21-4	6-8	4	117.5	1039	361.3	36.4				
	5'-0	600	8	8	10	6	14.9	6-2	1-10	8-0	10	22.9	6-11	4	124.0	1119	341.6	40.7				
16	2'-0	320	9½	8	5	6	18.2	3-3½	1-0	4-5	8	22-7	3-9	4	171.0	1222	432.9	38.7				
	2'-6	400	9½	8	5	6	18.2	3-9½	1-2	5-0	8	23.2	4-3	4	172.0	1259	434.9	40.4				
	3'-0	480	9½	8	5	6	18.2	4-3½	1-4	5-7	8	23.9	4-9	4	176.0	1296	408.8	42.2				
	4'-0	640	9½	8	10	6	18.9	5-3½	1-8	6-10	10	25.7	5-10	4	181.0	1401	539.3	47.7				
	5'-0	800	9½	8	10	6	18.9	6-3½	1-10	7-13	10	27.0	7-1	4	187.0	1481	595.3	52.5				

GENERAL NOTES & DESIGN DATA

General Specifications - La. State Highway Dept. Spec.

Concrete - all class 'A', 1:2:4 Mix

Steel - all 1/2" deformed bars. (Bars a for 16' span are 3/4")

All exposed corners to be chamfered 3"

All exposed surfaces to be given a smooth finish.

Design Loads -

Concentrated load - 15 ton typical truck, with 30% impact

allowance distributed as specified in general specifications

Entire fill above culvert assumed as acting on culvert.

Horizontal component of earth pressure taken as 30# per sq. ft.

Steel in tension - 16,000 lbs. Concrete in compression - 650 lbs.

Fill above slab of culvert is not to exceed the maximum

height X as given in table.

All dimensions relating to bars are to centers of bars.

Bars at splices are to be lapped 2'-0" and separated 2"

Reinf. bars should be wired at intersections and properly secured

against displacement during depositing of concrete.

Designed - Z.F.G. 8/31/21

Drawn & Traced - Z.F.G. 8/31/21

checked -

Revised - 1/12/19 - 5 bars under curb & Quantities

DOUBLE
CONCRETE BOX CULVERTS

FLARING WING WALLS

8 FT. TO 16 FT. SPANS

LOUISIANA HIGHWAY COMMISSION

NEW ORLEANS

SCALE 3/4" = 1 FT.

JANUARY 1922

APPROVED

ST. LOUIS HIGHWAY ENGINEER