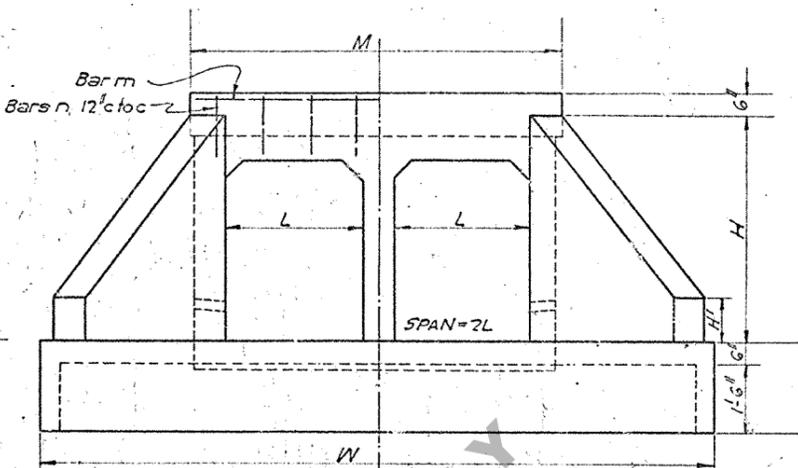
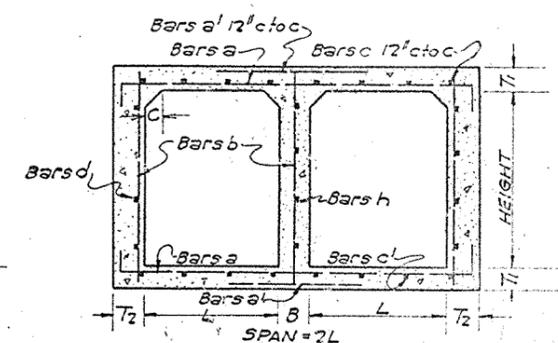


HALF LONGITUDINAL SECTION HALF SIDE ELEVATION



END VIEW

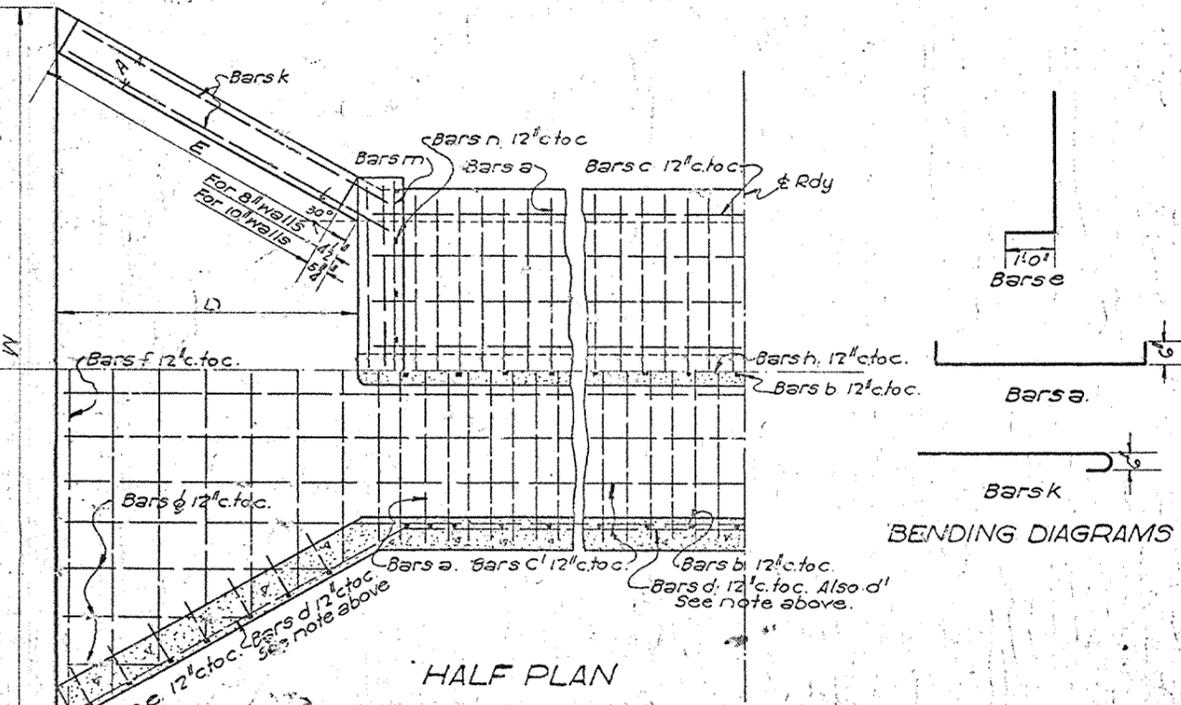


SECTION OF BARREL

STEEL SCHEDULE FOR 24' 0" CULVERT

OPENING CLEAR SPAN (+2L) FT.	CLEAR HEIGHT FT.-IN.	BARREL REINFORCEMENT - All 1/2" bars (except 3" 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 f		Bars g		Bars h		Bars i		Bars j										
No.	Size	Length	Spec.	No.	Length	No.	Length	No.	Length	No.	Length	Short Bar	Vari-ation	Long Bar	No.	Length	Short Bar	Vari-ation	Long Bar	No.	Length	Short Bar	Vari-ation	Long Bar	No.	Length										
8	2'-0"	10	10.5	6	50	2'-0"	75	3'-0"	10	25'-9"	10	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	10'-8"	11'-2"	13'-0"	2	11'-9"	3'-0"	4	8	5'-6"	2	10'-0"	22	1'-4"	2	25'-0"
	2'-6"	10	10.5	6	50	2'-0"	75	3'-0"	10	25'-9"	10	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	10'-8"	11'-2"	13'-0"	2	11'-9"	3'-0"	4	8	5'-6"	2	10'-0"	22	1'-4"	2	25'-0"
	3'-0"	10	10.5	6	50	2'-0"	75	3'-0"	10	25'-9"	10	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	10'-8"	11'-2"	13'-0"	2	11'-9"	3'-0"	4	8	5'-6"	2	10'-0"	22	1'-4"	3	25'-0"
	4'-0"	10	10.5	6	50	2'-0"	75	3'-0"	10	25'-9"	10	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	10'-8"	11'-2"	13'-0"	2	11'-9"	3'-0"	4	8	5'-6"	2	10'-0"	22	1'-4"	4	25'-0"
10	2'-0"	10	12.5	6	50	5'-0"	75	3'-0"	12	25'-9"	12	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	12'-8"	13'-2"	15'-0"	2	13'-9"	3'-0"	4	8	5'-6"	2	12'-0"	26	1'-4"	2	25'-0"
	2'-6"	10	12.5	6	50	5'-0"	75	3'-0"	12	25'-9"	12	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	12'-8"	13'-2"	15'-0"	2	13'-9"	3'-0"	4	8	5'-6"	2	12'-0"	26	1'-4"	2	25'-0"
	3'-0"	10	12.5	6	50	5'-0"	75	3'-0"	12	25'-9"	12	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	12'-8"	13'-2"	15'-0"	2	13'-9"	3'-0"	4	8	5'-6"	2	12'-0"	26	1'-4"	3	25'-0"
	4'-0"	10	12.5	6	50	5'-0"	75	3'-0"	12	25'-9"	12	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	12'-8"	13'-2"	15'-0"	2	13'-9"	3'-0"	4	8	5'-6"	2	12'-0"	26	1'-4"	4	25'-0"
12	2'-0"	12	14.5	6	50	6'-0"	75	3'-0"	14	25'-9"	14	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	14'-8"	15'-2"	17'-0"	2	15'-9"	3'-0"	4	8	5'-6"	2	14'-0"	30	1'-4"	2	25'-0"
	2'-6"	12	14.5	6	50	6'-0"	75	3'-0"	14	25'-9"	14	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	14'-8"	15'-2"	17'-0"	2	15'-9"	3'-0"	4	8	5'-6"	2	14'-0"	30	1'-4"	2	25'-0"
	3'-0"	12	14.5	6	50	6'-0"	75	3'-0"	14	25'-9"	14	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	14'-8"	15'-2"	17'-0"	2	15'-9"	3'-0"	4	8	5'-6"	2	14'-0"	30	1'-4"	3	25'-0"
	4'-0"	12	14.5	6	50	6'-0"	75	3'-0"	14	25'-9"	14	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	14'-8"	15'-2"	17'-0"	2	15'-9"	3'-0"	4	8	5'-6"	2	14'-0"	30	1'-4"	4	25'-0"
16	2'-0"	10	18.5	6	50	8'-0"	75	3'-0"	18	25'-9"	18	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	18'-8"	19'-2"	21'-0"	2	19'-9"	3'-0"	4	8	5'-6"	2	18'-0"	36	1'-4"	2	25'-0"
	2'-6"	10	18.5	6	50	8'-0"	75	3'-0"	18	25'-9"	18	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	18'-8"	19'-2"	21'-0"	2	19'-9"	3'-0"	4	8	5'-6"	2	18'-0"	36	1'-4"	2	25'-0"
	3'-0"	10	18.5	6	50	8'-0"	75	3'-0"	18	25'-9"	18	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	18'-8"	19'-2"	21'-0"	2	19'-9"	3'-0"	4	8	5'-6"	2	18'-0"	36	1'-4"	3	25'-0"
	4'-0"	10	18.5	6	50	8'-0"	75	3'-0"	18	25'-9"	18	37'-6"	31'-6"	3'-0"	2	2	33'-4"	2'-4"	7	4'-10"	4	18'-8"	19'-2"	21'-0"	2	19'-9"	3'-0"	4	8	5'-6"	2	18'-0"	36	1'-4"	4	25'-0"

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.



HALF PLAN

BENDING DIAGRAMS

**GENERAL NOTES & DESIGN DATA.**  
 General Specifications - La. State Highway Dept. Spec.  
 Concrete - all Class 'A', 1:1:2 Mix  
 Steel - all 1/2" deformed bars (Bars a for 16' span are 3/4")  
 All exposed corners to be chamfered 3/8"  
 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.

DIMENSIONS & QUANTITIES FOR 24' 0" CULVERT

OPENING CLEAR SPAN (+2L) FT.	CLEAR HEIGHT FT.-IN.	AREA SQ. FT.	BARREL										WINGS & FLOOR										PER LIN. FT. STEEL LBS.	TOTAL QUANTITIES STEEL LBS.	CONC. CY'S	TOTAL QUANTITIES CONC. CY'S
			T1	T2	B	C	M	H	H'	E	A	W	D	X	B	C	M	H	H'	E	A	W				
8	2'-0"	160	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	215.5	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	214.5	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								
10	2'-0"	200	7	6	8	4	12.2	3.1	1.0	4.1	8	16.3	3.6	5	81.0	672	247.7	22.4								
	2'-6"	250	7	6	8	4	12.2	3.7	1.2	4.7	8	16.9	4.0	5	85.0	702	253.7	23.7								
	3'-0"	300	7	6	8	4	12.2	4.1	1.4	5.2	8	17.4	4.4	5	89.0	733	260.7	25.2								
	4'-0"	400	7	8	10	6	12.9	5.1	1.8	6.5	10	19.2	5.7	5	96.0	902	304.7	31.3								
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	24.1								
	2'-6"	300	8	8	8	6	14.2	3.8	1.2	4.8	8	18.11	4.1	4	108.0	895	313.5	25.5								
	3'-0"	360	8	8	8	6	14.2	4.2	1.4	5.2	8	18.6	4.7	4	112.0	932	323.5	27.1								
	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								
16	2'-0"	320	8	8	10	6	18.2	3.3	1.0	4.5	8	22.7	3.9	4	171.0	1222	432.9	38.7								
	2'-6"	400	8	8	10	6	18.2	3.9	1.2	5.0	8	23.2	4.3	4	172.0	1259	437.4	40.4								
	3'-0"	480	8	8	10	6	18.2	4.3	1.4	5.7	8	23.9	4.9	4	176.0	1296	508.9	42.7								
	4'-0"	640	8	8	10	6	18.9	5.3	1.8	7.0	10	25.7	5.10	4	182.0	1401	573.3	47.7								

Designed - A.F.G. 8/31/71  
 Drawn & Traced - A.F.G. 8/31/71  
 Checked -  
 Revised -

DOUBLE CONCRETE BOX CULVERTS  
 FLARING WING WALLS  
 8 FT. TO 16 FT. SPANS

LOUISIANA HIGHWAY COMMISSION

NEW ORLEANS, LA. SCALE 3/4" = 1 FT. JANUARY 1972

APPROVED: [Signature]  
 CIVIL ENGINEER