



Quantities shown for reinforcing steel are based on 1 1/2% (0.015) lb. capacity with 1/2" dia. bars per foot for reinforcing steel.

CROSS SECTION OF BARREL

HALF SECTION ABOVE FLOOR

HALF PLAN

SECTION THRU APRON

GENERAL NOTES

DESIGN NO.	WATERWAY										BARREL OF CULVERT										TWO WINGS AND ONE APRON										TWO CURBS										TOTAL QUANTITIES		DESIGN NO.
	Clear Span	Clear Height	Area of Opening	DIMENSIONS				REINFORCING STEEL				QUANTITIES		DIMENSIONS				REINFORCING STEEL				QUANTITIES		Reinf. Bars Same Size as A Bars	QUANTS.		Class A Reinf. Concrete Cu. Yds.	Steel Lbs.															
				T1	T2	V	P	Size and Spacing	Length	Length	Length	Length	Steel per Lin. Ft. Lbs.	Concrete per Lin. Ft. Cu. Yds.	H	K	M	N	W	X	Y	Z	No.		Length	No.			Length	No.	Length	No.	Length	No.	Length	Steel Lbs.	Concrete Cu. Yds.						
1	2	2'-0"	4'-0"	6"	6"	3'-0"	3'-0"	1/2" φ-6"	2'-8"	8	1934	0.185	2'-10"	1'-8"	3'-2"	5'-6"	2'-9"	9'-9 1/2"	4'-9 1/2"	2'-9 1/2"	1'-7"	4	3'-2"	3	2'-10"	3	2	4'-8"	2	7'-6"	4	7	77	1.25	6'-1"	3'-5"	28	0.41	0.242	1023	399	1	

This work shall be constructed according to Oklahoma Standard Specifications. All exposed concrete surfaces are to have a carborundum finish and this shall be included in the price bid per cu. yd. for concrete. All exposed edges shall have a 3/4" chamfer. All reinforcing steel shall be deformed round bars. The design and tables are based upon net areas as follows: 1/2" φ = 0.1963 sq. in., 3/8" φ = 0.3068 sq. in., 3/4" φ = 0.442 sq. in. Other sizes may be used provided they are spaced so as to give as much net sectional area per foot width of slab. Plans showing such changed sizes and spacing must be approved. When necessary bars shall be lapped 50 diameters.

DESIGN DATA
 Concrete slab LL.M. = 909 x 40 = 36,360 in. lbs.
 G span 8 1/2" = 106 lbs I = 30 3/4 LL.M = 10,910 " "
 Dirt Fill 100 DL.M = 1/2 WLE
 Paving 7" 87 = 1/8 x 233 x 66 7/8 x 12 = 9,550
 Total DL 293 66,820

OKLAHOMA STATE HIGHWAY COMMISSION
 STANDARD CONC. BOX CULVERTS
 SKEWED 60° LEFT FORWARD
 SPANS 2 TO 10 FT.
 FOR FILLS NOT OVER 3 FT.

Drawn by G.M. August, 1933
 Checked by J.L.F.