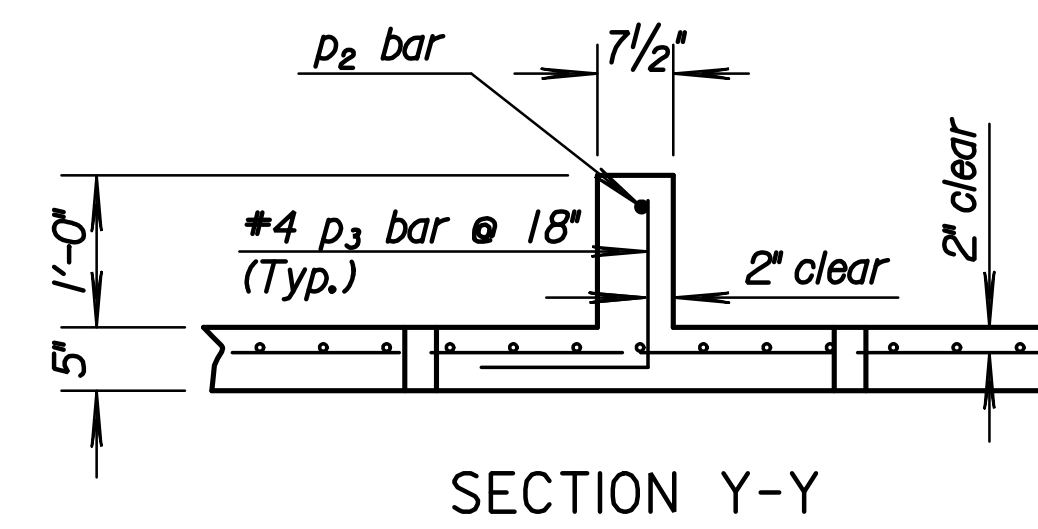
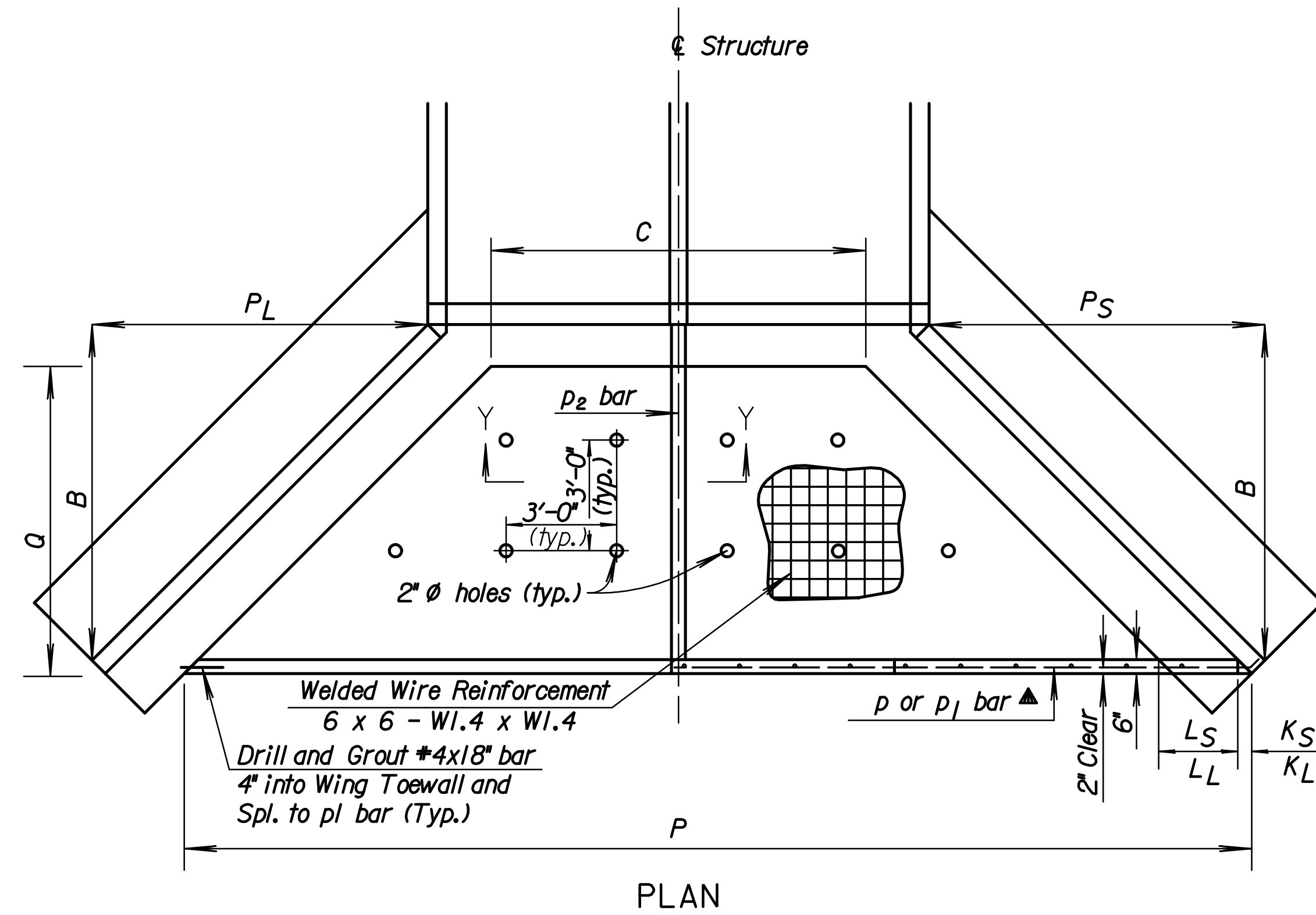


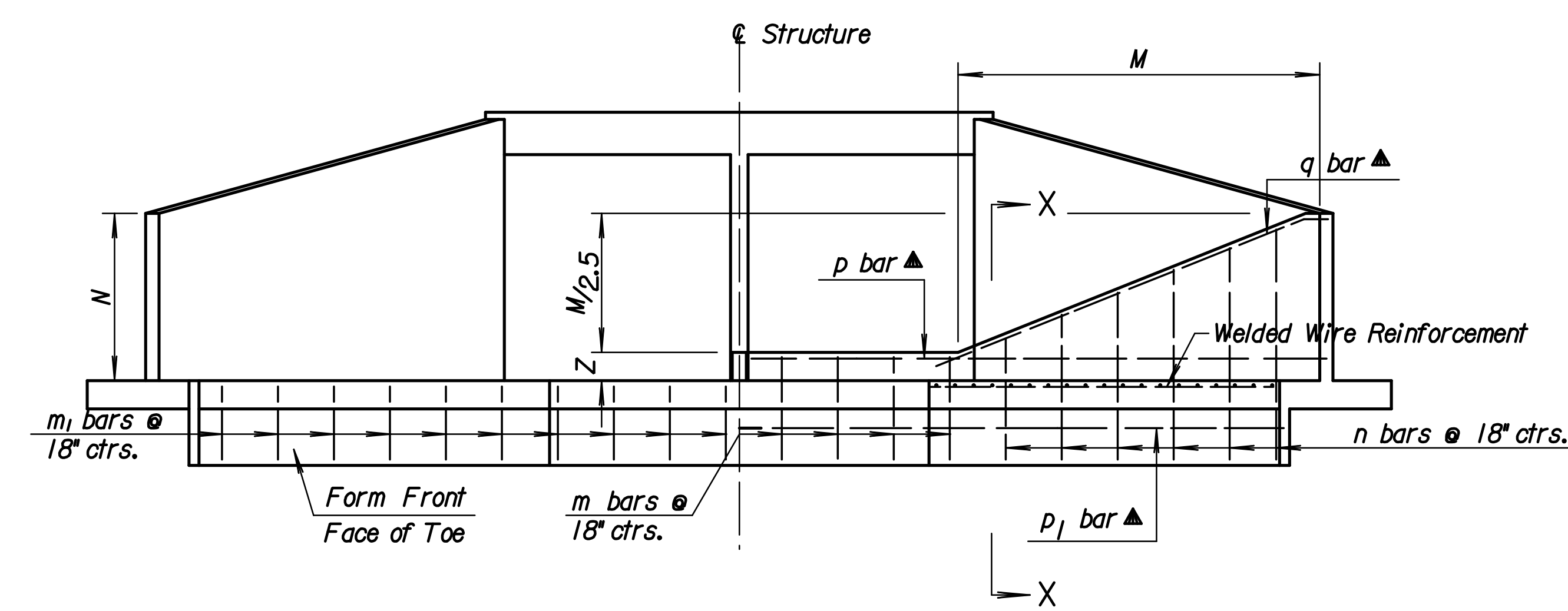
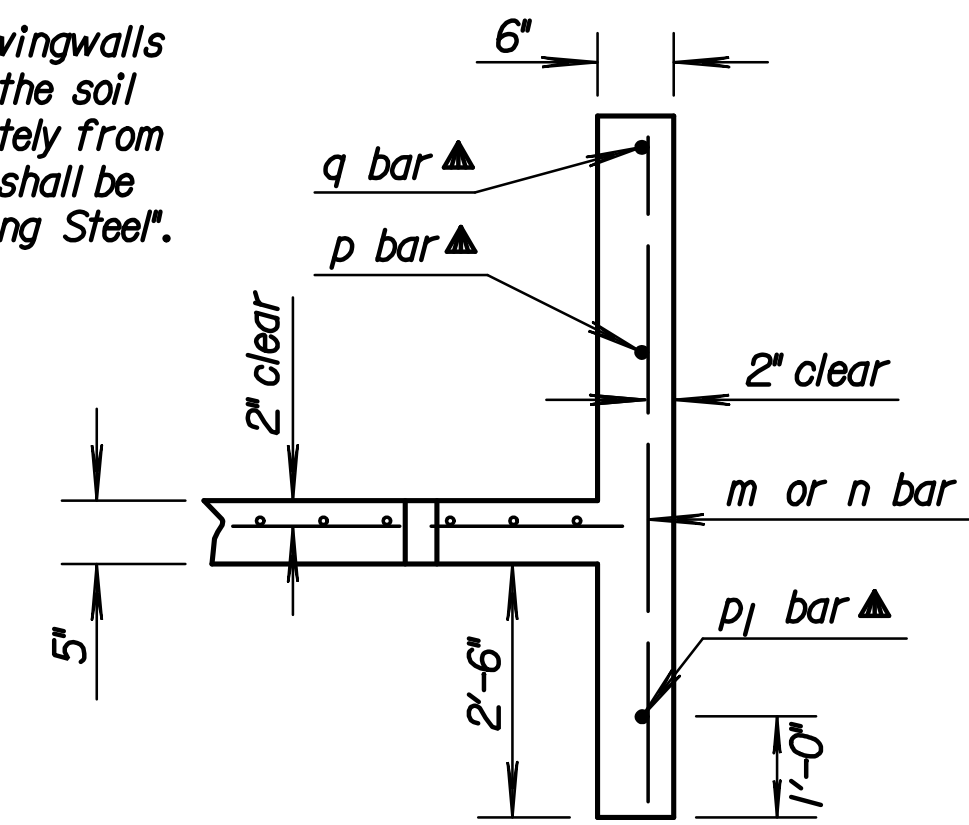
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0514-01	2010	72	148

**GENERAL NOTE**

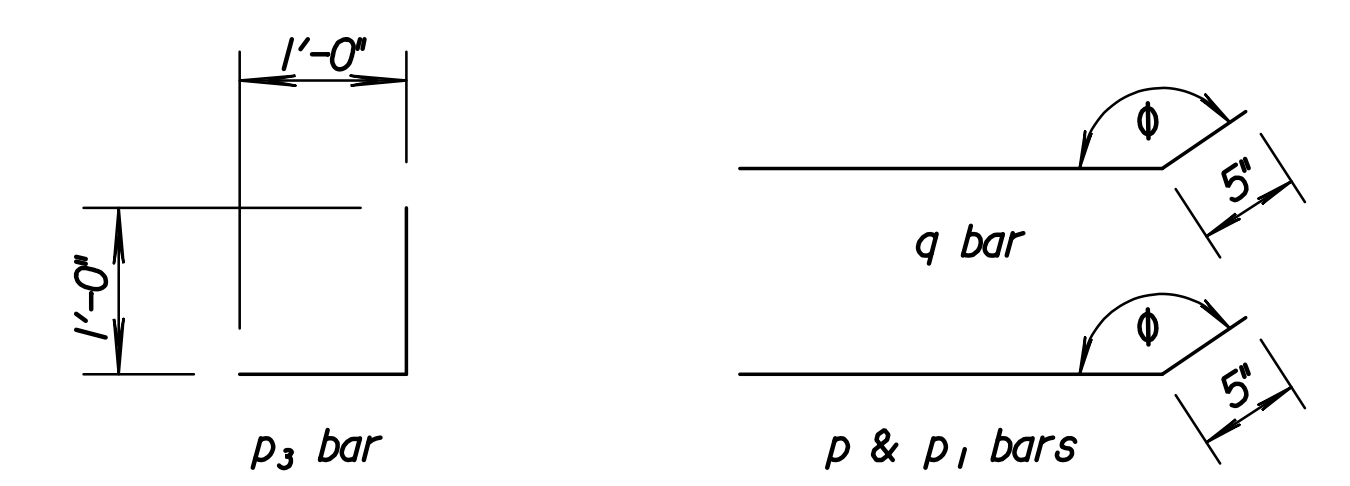
**CONCRETE:** Concrete Grade 4.0 shall be used throughout. All exposed edges shall be finished with an edging tool.  
**REINFORCING:** All dimensions are to  $\phi$  of bar except where noted. All reinforcing bars are No. 4. Reinforcing bars shall be Grade 60 billet steel. Minimum clearance on all reinforcement shall be 2".  
 Welded wire reinforcement shall be paid as pounds of reinforcing steel. When holes in the apron are warranted by drainage conditions they shall be constructed as directed by the Engineer.



▲ Drill and grout p and q bars into wingwalls and p<sub>1</sub> bar into wing footings when the soil saver end wall is constructed separately from the wingwalls. Drilling and grouting shall be Subsidiary to the bid item "Reinforcing Steel".



Varies from 3'-7" to 8'-6" by 7" Incr.  
Cut 1 Each Length



∅ Angle varies according to skew of RCB. Bars shall be field bent.

**BENDING DIAGRAMS**

STATION	SIDE RIGHT										SKEW 00°		Z= 1'-0"
Letter	B	C	K <sub>L</sub>	K <sub>S</sub>	L <sub>L</sub>	L <sub>S</sub>	M	N	P	P <sub>1</sub>	P <sub>S</sub>	Q	
Dimension	12'-0"	13'-5"	0'-6"	0'-6"	2'-6"	2'-6"	12'-4"	5'-11"	38'-1"	12'-0"	12'-0"	10'-8 1/2"	
Bar	m	m <sub>1</sub>	n*	p	p <sub>1</sub>	p <sub>2</sub>	p <sub>3</sub>	q					
Number	7	13	9	1	2	1	9	1	Sq. Ft. WWR	254			
Length	3'-7"	2'-7"	Varies	22'-5"	22'-5"	12'-2"	2'-0"	14'-2"	Grade 4.0 Conc.	6.9			Cu.Yd.
									Reinf. steel	128			Lbs.

Quantities include apron and soil saver end wall. \*n bars are variable, increase by increments of 7". Cut 1 each length.

Station	Culvert Size	Side	Z	Skew
29+18.50	2'-8"x8'	Right	1'-0"	—



NO.	DATE	REVISIONS	BY	APP'D
2	04-28-05	Chg. Class to Grade concrete, WWR	S.W.K.	J.O.B.
1	08-01-00	Revised Drill & Grout Note	R.J.S.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

**SOIL SAVER FOR R.C. CULVERTS**

RD520

DESIGNED	6-10-05	APP'D. James O. Brewer
DESIGN CK.	DETAIL CK.	QUANTITIES
		QUAN. CK.
		TRACE CK. Seltz

Plotted By: rjm  
 Plotted: 2/17/2010  
 File: i:\2008\0878\Office Check\0878-072-SoilSaver.dgn