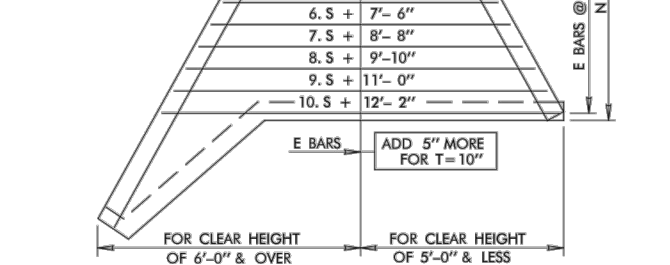
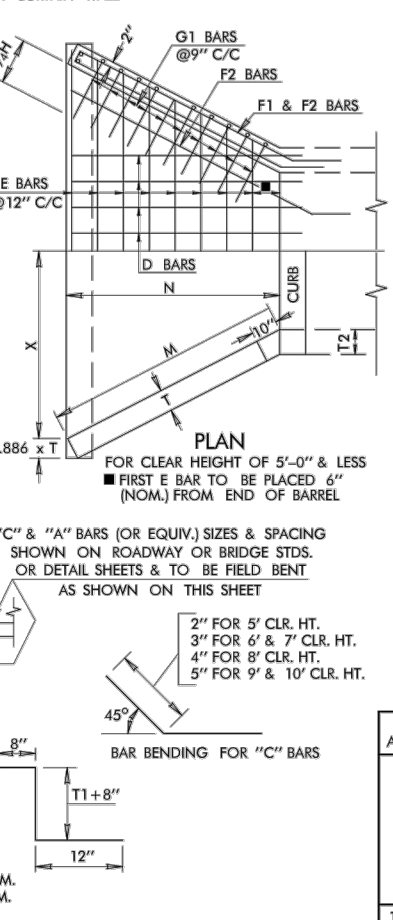
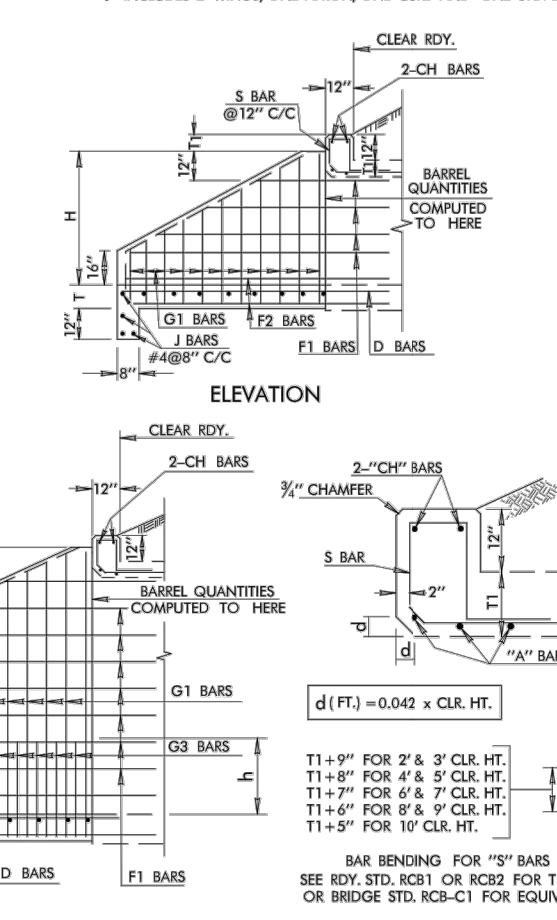
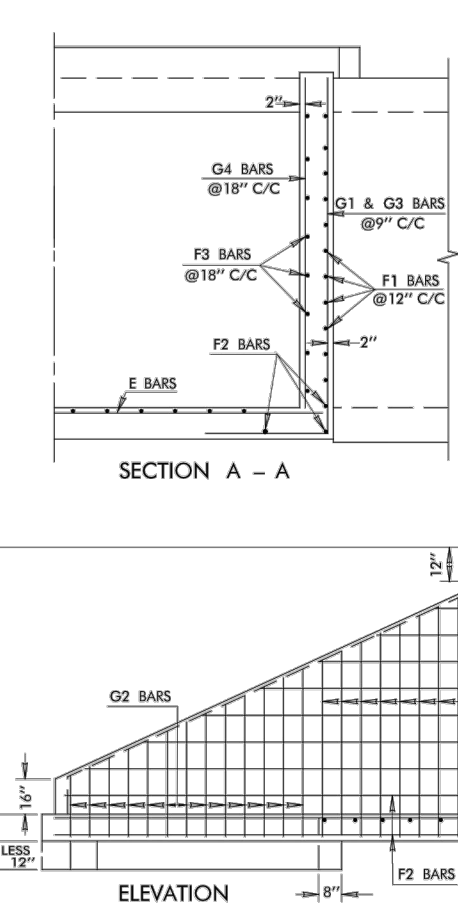
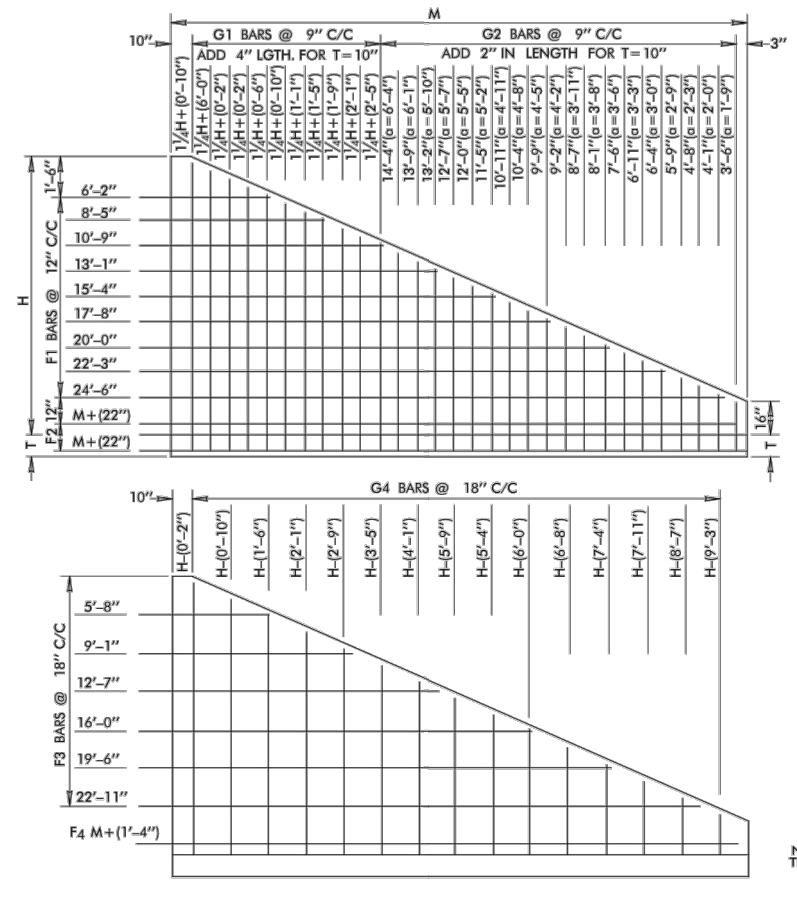
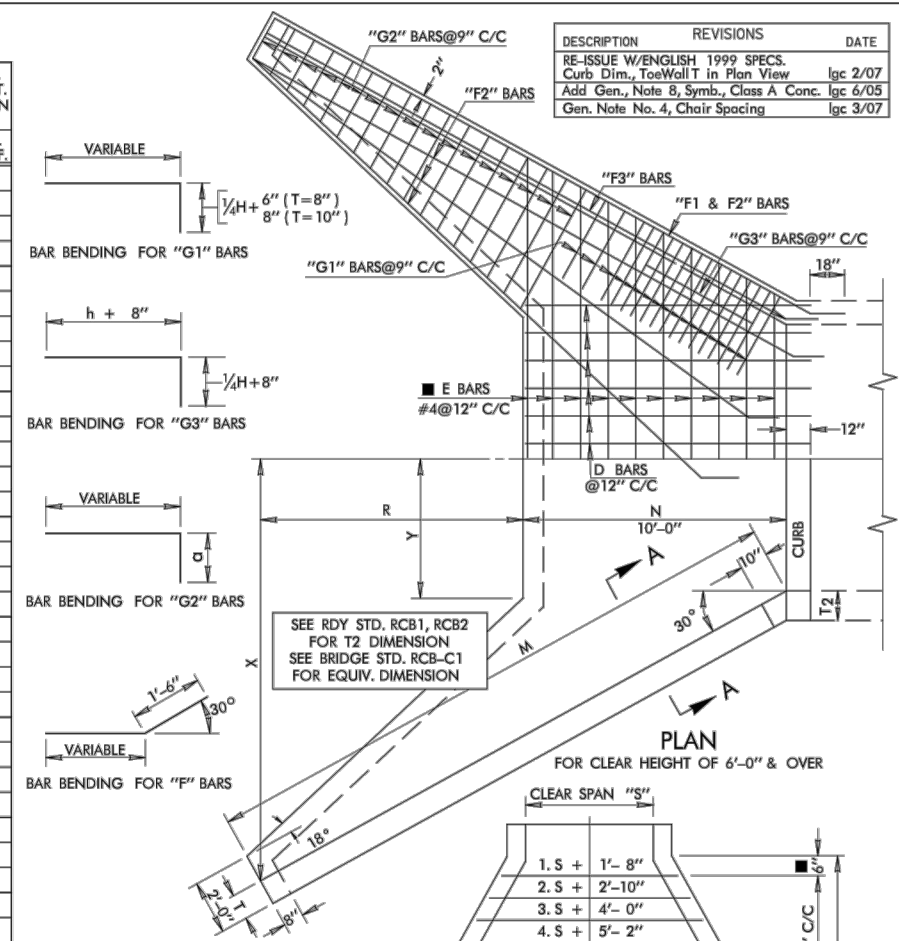


DESIGN NO.	CLEAR SPAN (ft.)	CLEAR HEIGHT (ft.)	REINFORCING BARS																														* TOTAL QUANT. ONE HEADWALL CONC. C.Y./D.	ADD'L QUANT. CURTAIN WALL CONC. C.Y./V.F.							
			WING DIMENSIONS					APRON		TWO WINGS												ONE CURB																			
			X (ft.)	Y (ft.)	d (ft.)	T	H	M	N	R	"D" BARS	"E" BARS	"F1" BARS	"F2" BARS	"F3" BARS	"F4" BARS @ #4	"G1" BARS	"G2" BARS @ #4	"G3" BARS	"G4" BARS @ #4	"H" BARS @ #4	"S" BARS @ #4	CONC. C.Y./D.	STEEL LBS.	CONC. C.Y./V.F.																
1	2	3.33						4		5'-5"											2'-8"	5	4'-1"	1.43	133	0.29															
2	3	3.83						5	#4	4'-10"	4	#4	5'-5"								3'-8"	6	4'-1"	1.59	143	0.33															
3	4	4.33			0.08	8"	3'-0"	6	#4	4'-8"	4'-0"										4'-8"	7	4'-3"	1.75	154	0.36															
4	5	4.83						7	#4	4'-8"											5'-8"	8	4'-5"	1.91	165	0.40															
5	3	4.96						5	#4	6'-10"	6	#4	7'-7"								3'-8"	6	4'-1"	2.57	218	0.41															
6	4	5.46						6	#4	6'-10"	6	#4	8'-7"								4'-8"	7	4'-3"	2.78	232	0.45															
7	5	5.96			0.13	8"	4'-0"	7	#4	6'-11"	6'-0"										5'-8"	8	4'-5"	2.99	245	0.45															
8	6	6.46						8	#4	6'-10"											6'-8"	9	4'-7"	3.20	259	0.52															
9	8	7.46						10	#4	6'-10"											8'-8"	11	4'-11"	3.62	287	0.60															
10	4	6.63						6	#4	8'-10"	8	#4	9'-9"								4'-8"	7	4'-2"	4.06	336	0.53															
11	5	7.13						7	#4	8'-10"	8	#4	10'-9"								5'-8"	8	4'-5"	4.32	352	0.57															
12	6	7.63			0.17	8"	5'-0"	8	#4	8'-10"	8	#4	11'-9"								6'-8"	9	4'-6"	4.58	368	0.61															
13	8	8.63						10	#4	8'-10"											8'-8"	11	4'-10"	5.11	402	0.68															
14	10	9.63						12	#4	8'-10"											11'-0"	13	5'-0"	5.63	435	0.76															
15	5	8.25						7	#4	10'-10"	10	#4	11'-11"								5'-10"	8	4'-4"	5.86	480	0.65															
16	6	8.75			0.21	8"	6'-0"	8	#4	10'-10"	10	#4	12'-11"								6'-10"	9	4'-6"	6.16	498	0.69															
17	8	9.75						10	#4	10'-10"											8'-10"	11	4'-10"	6.79	537	0.76															
18	10	10.75						12	#4	10'-10"											11'-0"	13	5'-0"	7.41	575	0.84															
19	5	9.42	5.32					7	#4	10'-10"	10	#4	11'-11"								6'-0"	8	4'-3"	7.01	588	0.74															
20	6	9.92	5.82					8	#4	10'-10"	10	#4	12'-11"								7'-0"	9	4'-5"	7.32	607	0.78															
21	8	10.92	6.82					10	#4	10'-10"											9'-0"	11	4'-9"	7.95	645	0.85															
22	10	11.92	7.82					12	#4	10'-10"											11'-0"	13	4'-11"	8.56	682	0.93															
23	5	10.58	4.48					7	#4	10'-10"	10	#4	11'-11"								6'-2"	8	4'-3"	10.38	722	0.83															
24	6	11.08	4.98					8	#4	10'-10"	10	#4	12'-11"								7'-2"	9	4'-5"	10.76	741	0.86															
25	8	12.08	5.98					10	#4	10'-10"											9'-2"	11	4'-9"	11.50	779	0.94															
26	10	13.08	6.98					12	#4	10'-10"											11'-2"	13	4'-11"	12.24	818	1.01															
27	6	12.25	3.90					8	#4	10'-10"	10	#4	12'-11"								7'-4"	9	4'-4"	12.75	955	0.95															
28	8	13.25	4.90					10	#4	10'-10"	10	#4	14'-11"								9'-4"	11	4'-8"	13.49	993	1.02															
29	10	14.25	5.90					12	#4	10'-10"	10	#4	16'-11"								11'-4"	13	4'-10"	14.24	1032	1.10															
30	10	15.38	4.87	0.38	10"	10'-0"	20'-9"	10'-0"	8'-0"	12	#4	10'-10"	10	#4	14'-2 1/2"	10	#4	22'-7"	10	#4	12'-7"	2	22'-1"	22	#4	12'-0"	32	7'-9 1/2"	18	#4	3'-0"	6'-10"	28	5'-7"	2	11'-6"	14	4'-10"	16.46	1208	1.18
31	10	16.54	3.79	0.42	10"	11'-0"	23'-1"	10'-0"	10'-0"	12	#4	10'-10"	10	#4	15'-4"	12	#4	24'-11"	12	#4	14'-3 1/2"	2	24'-5"	20	#4	13'-5"	40	8'-10 1/2"	24	#5	4'-3"	8'-4"	30	6'-3"	14	4'-9"	19.00	1545	1.27		

\* INCLUDES 2 WINGS, ONE APRON, ONE CURB AND ONE STD. DEPTH CURTAIN WALL



- GENERAL NOTES**
- ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE 1999 ENGLISH STANDARD SPECIFICATIONS.
  - REINFORCING STEEL IN APRON SHALL BE SUPPORTED ON BAR CHAIRS. CHAIRS SHALL BE SUPPORTED ON CLASS C CONCRETE STRIPS SPACED AT 4' CENTERS.
  - THE TOP OF CHAIR SUPPORTS, SHALL BE AT THE ELEVATION OF THE BOTTOM OF FOOTING. REINFORCING STEEL IN THE WINGS SHALL BE HELD IN PLACE BY METAL CHAIRS. MAXIMUM SPACING OF CHAIRS SHALL BE 4'-0" CENTERS.
  - COST OF METAL CHAIRS OR CONCRETE STRIPS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
  - DETAILS OF SINGLE CELL BARRELS CORRESPONDING TO THE HEADWALLS SHOWN ON THIS STANDARD SHALL BE INCLUDED IN THE PLANS.
  - ALL REINFORCING STEEL SHALL HAVE 2" MINIMUM CLEARANCE FROM ALL ADJACENT CONCRETE SURFACES.
  - \* 8" WING WALL, CURB AND APRON CONSTRUCTION SHALL CONSIST OF THE SAME CLASS OF CONCRETE USED FOR THE REINFORCED CONCRETE BOX.

APPROVED BY ROADWAY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

**OKLAHOMA DEPT. OF TRANSPORTATION**  
**ROADWAY STANDARD (ENGLISH)**

**HEADWALL**  
**ONE CELL REINFORCED CONCRETE BOX**

1999 SPECIFICATIONS	( 12" HIGH CURB )	RCB1H-1	02E
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J.P. NO. 25447(04) SHEET NO. B008 R-55E