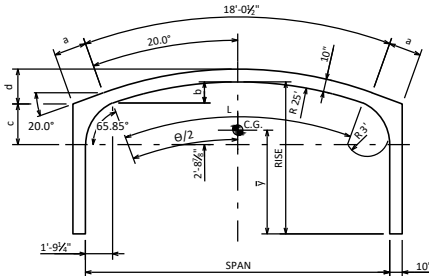
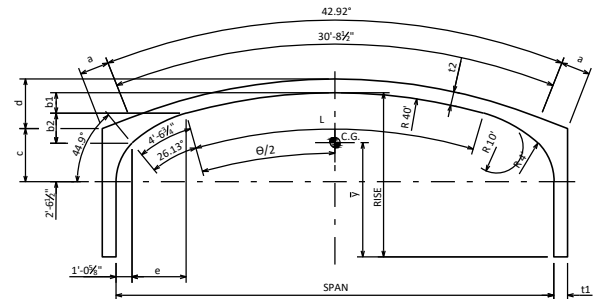


14'-0" SPAN



20'-0" TO 24'-0" SPANS



28'-0" TO 42'-0" SPANS

RISE FT	SPAN - FT					
	14	20	24	28	36	42
4	3.2					
5	3.9	3.8				
6	4.6	4.6	4.6			
7	5.2	5.3	5.3	5.3		
8	5.8	6.0	6.0	6.0	5.8	
9	6.5	6.6	6.6	6.7	6.5	
10	7.1	7.3	7.3	7.4	7.2	6.9
11				8.0	7.9	7.7
12					8.6	8.4
13					9.3	9.1

RISE FT	SPAN - FT					
	14	20	24	28	36	42
4	15.2					
5	16.5	24.8				
6	17.8	26.5	29.1			
7	19.2	28.2	30.8	39.9		
8	20.5	29.9	32.5	41.9	54.1	
9	21.8	31.5	34.2	43.9	56.4	
10	23.0	33.2	35.8	45.9	58.7	64.7
11				47.9	61.1	67.0
12					63.4	69.4
13					65.7	71.7

	SPAN - FT				
	20	24	28	36	42
θ	38.43°	48.29°	25.30°	37.93°	47.86°
L	16.77	21.07	17.66	26.48	33.41
a	2.13	4.25	0.00	4.48	4.48
b	1.39	2.19			
b1			0.97	2.17	3.50
b2			1.96	2.40	2.75
c	2.68	2.75	3.76	3.91	4.31
d	2.29	3.01	2.84	4.48	5.66
e			4.07	3.83	3.63
t1			1.00	1.17	1.17
t2			0.83	1.00	1.00

(REFER TO STANDARDS 36.16 FOR REINFORCING DETAILS)

COVER ft	ARCH UNIT PRIMARY REINFORCING (MINIMUM)																	
	14'-0" SPAN 4'-0" TO 10'-0" RISE			20'-0" SPAN 5'-0" TO 10'-0" RISE			24'-0" SPAN 6'-0" TO 10'-0" RISE			28'-0" SPAN 7'-0" TO 11'-0" RISE			36'-0" SPAN 8'-0" TO 13'-0" RISE			42'-0" SPAN 10'-0" TO 13'-0" RISE		
	A1 SQ. IN/FT	A3 SQ. IN/FT	Fc REQ'D. PSI	A1 SQ. IN/FT	A3 SQ. IN/FT	Fc REQ'D. PSI	A1 SQ. IN/FT	A3 SQ. IN/FT	Fc REQ'D. PSI	A1 SQ. IN/FT	A3 SQ. IN/FT	Fc REQ'D. PSI	A1 SQ. IN/FT	A3 SQ. IN/FT	Fc REQ'D. PSI	A1 SQ. IN/FT	A3 SQ. IN/FT	Fc REQ'D. PSI
3	0.66	0.48	5000	0.90	0.78	5000	0.72	0.84	5000	0.96	1.08	5000	1.50	1.68	6000	1.44	1.44	6000
6	0.66	0.48	5000	0.72	0.78	5000	0.72	1.08	5000	0.96	1.32	5000	1.50	1.92	6000	1.44	1.44	6000
9	0.66	0.48	5000	0.72	0.90	5000	0.72	1.44	5000	0.96	1.68	5000	1.50	2.40	6000	1.44	1.92	6000
12	0.66	0.60	5000	0.72	1.08	5000	0.72	1.80	6000	0.96	1.80	6000	1.50	3.00	6000	1.44	2.16	6000

- ① SHEAR REINFORCEMENT REQUIRED
- ② SHEAR REINFORCEMENT REQUIRED FOR 6'-0" & 7'-0" RISE
- ③ SHEAR REINFORCEMENT REQUIRED FOR 8'-0" & 9'-0" RISE
- ④ SHEAR REINFORCEMENT REQUIRED FOR 10'-0" & 11'-0" RISE
- ⑤ MINIMUM PRECAST UNIT WIDTH = 3'-11 1/2"

NOTE:
THESE STEEL AREAS ARE SHOWN FOR COVER OF 12'-0" OR LESS.

**PRECAST THREE-SIDED BOX
CULVERT CROSS SECTIONS**



APPROVED: *Laura Shadewald* DATE:
1-11