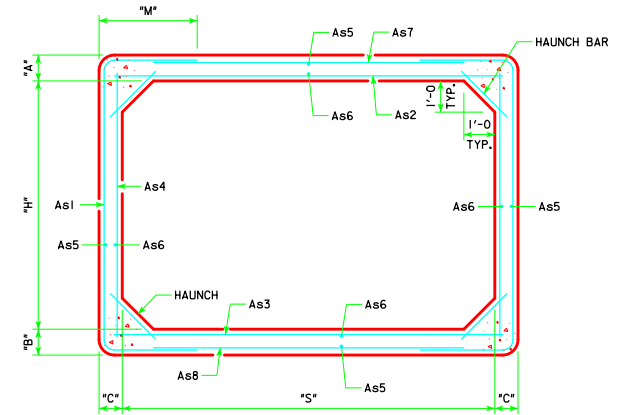


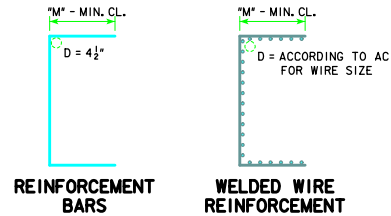
VARIABLE DIMENSIONS AND QUANTITIES FOR 12' SPAN BARREL SECTIONS																				
DIMENSIONS								REINFORCEMENT REQUIREMENTS (IN ² /FT)								WEIGHT (LB/FT)				
SIZE	CLASS	f'c (ksi)	FILL	S	H	A	B	C	As1	As2	As3	As4	As7/As8							
									AREA	LENGTH	M	AREA	LENGTH	AREA	LENGTH	AREA	LENGTH			
12x4	1	5.0	2-9	12	4	9	10	8	0.98	12'-11	3'-11	0.74	12'-6	0.74	12'-6	0.20	4'-6	0.24	9'-0	4270
	2	5.0	10-15	12	4	9	10	9	1.27	15'-1	5'-0	0.98	12'-6	0.96	12'-6	0.22	4'-6	0.24	7'-10	4410
	3	5.0	16-19	12	4	11	11	9	1.39	14'-8	4'-8	1.11	12'-6	1.12	12'-6	0.22	4'-6	0.27	9'-0	4915
	4	6.0	20-25	12	4	12	12	10	1.54	15'-0	4'-9	1.26	12'-6	1.27	12'-6	0.24	4'-6	0.29	9'-0	5400
12x5	1	5.0	2-10	12	5	9	10	8	0.94	13'-9	3'-10	0.88	12'-6	0.89	12'-6	0.20	5'-6	0.24	9'-0	4470
	2	5.0	11-15	12	5	9	10	9	1.16	14'-7	4'-3	1.07	12'-6	1.07	12'-6	0.22	5'-6	0.24	9'-0	4635
	3	5.0	16-21	12	5	11	11	9	1.35	13'-6	3'-7	1.33	12'-6	1.35	12'-6	0.22	5'-6	0.27	11'-0	5140
	4	6.0	22-25	12	5	12	12	9	1.38	13'-4	3'-5	1.53	12'-6	1.55	12'-6	0.22	5'-6	0.29	11'-0	5475
12x6	1	5.0	2-10	12	6	9	10	8	0.84	14'-5	3'-8	0.95	12'-6	0.97	12'-6	0.20	6'-6	0.24	9'-0	4670
	2	5.0	11-15	12	6	9	10	8	1.15	15'-5	4'-2	1.27	12'-6	1.28	12'-6	0.20	6'-6	0.24	9'-0	4670
	3	5.0	16-19	12	6	10	11	9	1.19	15'-11	4'-4	1.30	12'-6	1.36	12'-6	0.22	6'-6	0.27	9'-0	5195
	4	6.0	20-25	12	6	12	12	9	1.22	13'-10	3'-2	1.63	12'-6	1.65	12'-6	0.22	6'-6	0.29	11'-0	5700
12x7	1	5.0	2-10	12	7	9	10	8	0.77	15'-1	3'-6	1.00	12'-6	1.03	12'-6	0.20	7'-6	0.24	9'-0	4870
	2	5.0	11-15	12	7	9	10	8	1.05	16'-1	4'-0	1.34	12'-6	1.36	12'-6	0.20	7'-6	0.24	9'-0	4870
	3	5.0	16-20	12	7	10	11	8	1.18	14'-9	3'-3	1.63	12'-6	1.67	12'-6	0.20	7'-6	0.27	11'-0	5200
	4	6.0	21-25	12	7	12	12	9	1.10	14'-6	3'-0	1.70	12'-6	1.73	12'-6	0.22	7'-6	0.29	11'-0	5925
12x8	1	5.0	2-11	12	8	9	10	8	0.76	16'-1	3'-6	1.11	12'-6	1.15	12'-6	0.20	8'-6	0.24	9'-0	5070
	2	5.0	12-18	12	8	10	10	8	1.04	15'-2	3'-0	1.60	12'-6	1.65	12'-6	0.20	8'-6	0.24	11'-0	5235
	3	5.0	19-21	12	8	11	11	9	1.02	15'-4	3'-0	1.56	12'-6	1.61	12'-6	0.22	8'-6	0.27	11'-0	5815
	4	6.0	22-25	12	8	12	12	9	1.01	15'-2	2'-10	1.75	12'-6	1.79	12'-6	0.22	8'-6	0.29	11'-0	6150
12x9	1	5.0	2-10	12	9	9	10	8	0.67	16'-9	3'-4	1.09	12'-6	1.13	12'-6	0.20	9'-6	0.24	9'-0	5270
	2	5.0	11-15	12	9	9	10	8	0.91	17'-7	3'-9	1.44	12'-6	1.54	12'-6	0.20	9'-6	0.24	9'-0	5270
	3	5.0	16-20	12	9	10	11	9	1.00	18'-3	4'-0	1.60	12'-6	1.64	12'-6	0.22	9'-6	0.27	9'-0	5870
	4	6.0	21-25	12	9	12	12	9	0.94	16'-2	2'-10	1.78	12'-6	1.84	12'-6	0.22	9'-6	0.29	11'-0	6375
12x10	1	5.0	2-11	12	10	9	10	8	0.66	17'-9	3'-4	1.18	12'-6	1.24	12'-6	0.20	10'-6	0.24	9'-0	5470
	2	5.0	12-17	12	10	10	10	8	0.87	18'-6	3'-8	1.60	12'-6	1.68	12'-6	0.20	10'-6	0.24	9'-0	5635
	3	5.0	18-20	12	10	11	11	9	0.86	18'-10	3'-9	1.57	12'-6	1.64	12'-6	0.22	10'-6	0.27	9'-0	6265
	4	6.0	21-25	12	10	12	12	9	0.92	17'-2	2'-10	1.80	12'-6	1.87	12'-6	0.22	10'-6	0.29	11'-0	6600
12x11	1	5.0	2-11	12	11	9	10	8	0.67	18'-9	3'-4	1.21	12'-6	1.27	12'-6	0.23	11'-6	0.24	9'-0	5670
	2	5.0	12-15	12	11	10	10	8	0.80	19'-4	3'-7	1.42	12'-6	1.57	12'-6	0.23	11'-6	0.24	9'-0	5835
	3	5.0	16-20	12	11	11	11	10	0.85	20'-0	3'-10	1.49	12'-6	1.57	12'-6	0.24	11'-6	0.27	9'-0	6810
	4	6.0	21-25	12	11	12	12	10	0.90	20'-0	3'-9	1.71	12'-6	1.79	12'-6	0.24	11'-6	0.29	9'-0	7150
12x12	1	5.0	2-10	12	12	9	10	8	0.66	21'-1	4'-0	1.18	12'-6	1.25	12'-6	0.32	12'-6	0.24	7'-8	5870
	2	5.0	11-15	12	12	10	10	9	0.77	21'-8	4'-3	1.34	12'-6	1.44	12'-6	0.30	12'-6	0.24	7'-8	6375
	3	5.0	16-20	12	12	11	11	11	0.84	21'-2	3'-11	1.40	12'-6	1.50	12'-6	0.27	12'-6	0.27	9'-0	7405
	4	6.0	21-25	12	12	12	12	12	0.90	21'-4	3'-11	1.54	12'-6	1.62	12'-6	0.29	12'-6	0.29	9'-0	8100



TYPICAL BARREL SECTION

NOTES:

- DIMENSIONS "A", "B" & "C" LISTED IN THE BAR LIST ARE IN INCHES.
- LONGITUDINAL REINFORCEMENT DENOTED AS As5 AND As6 MUST BE PLACED IN SLAB, FLOOR, AND WALLS AND MUST BE 0.06 IN²/FT MINIMUM.
- ALL REINFORCEMENT LENGTHS AND AREAS ARE MINIMUM REQUIREMENTS.
- IF REINFORCING BARS ARE SUBSTITUTED FOR WELDED WIRE REINFORCING, DIMENSION "M" AND/OR LENGTH OF THE As7/As8 REINFORCEMENT SHALL BE ADJUSTED TO ENSURE ADEQUATE LAP LENGTH IS PROVIDED.
- WEIGHT OF SECTIONS ASSUMES A DENSITY OF 150 PCF AND SQUARED CORNERS.
- SEE PRCB G1-13 AND G2-13 FOR ADDITIONAL INFORMATION AND NOTES.



REINFORCEMENT BARS WELDED WIRE REINFORCEMENT

BENT BAR DETAILS

ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER (MIN.).
PIN DIAMETER MAY BE INCREASED IF NEEDED TO MAINTAIN CLEAR COVER.

LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER	 STANDARD DESIGN
		SINGLE PRECAST REINFORCED CONCRETE BOX CULVERTS JANUARY, 2013
		CULVERT BARREL DETAILS 12' SPAN BARREL SECTIONS

PRCB 12-13