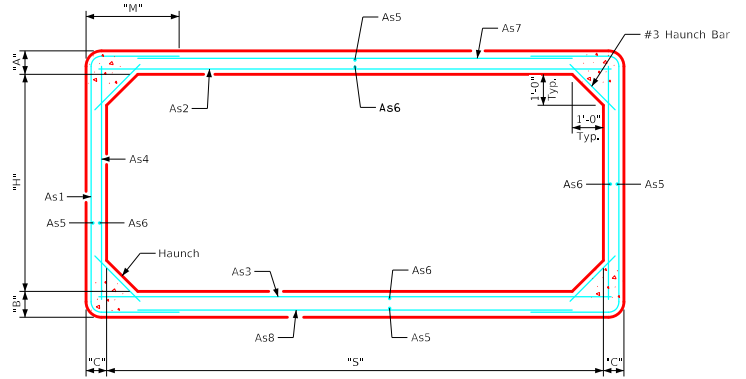
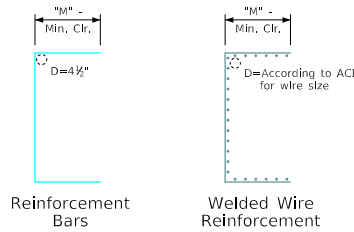


Variable Dimensions and Quantities for 16' Span Barrel Sections

Size		Dimensions								Reinforcement Requirements								Weight (LB/FT)		
		Class	Pc (KSI)	Fill (FT)	S (FT)	H (FT)	A (IN)	B (IN)	C (IN)	As1		As2		As4		As7/As8				
									Area (IN ² /FT)	Length	M	Area (IN ² /FT)	Length	Area (IN ² /FT)	Length	Area (IN ² /FT)	Length			
16'x4'	1	5.0	2-10	16	4	10	10	10	1.58	13'-6"	4'-3"	0.98	16'-6"	0.99	16'-6"	0.24	4'-6"	0.24	15'-8"	5720
	2	5.0	11-13	16	4	11	11	10	1.92	13'-2"	4'-0"	1.19	16'-6"	1.20	16'-6"	0.27	4'-6"	0.27	15'-8"	6160
	3	6.0	14-16	16	4	12	12	11	1.88	13'-2"	3'-11"	1.14	16'-6"	1.16	16'-6"	0.27	4'-6"	0.29	15'-10"	6750
16'x5'	1	5.0	2-8	16	5	10	10	9	1.44	13'-8"	3'-10"	1.02	16'-6"	1.02	16'-6"	0.23	5'-6"	0.24	15'-6"	5800
	2	5.0	9-12	16	5	11	11	10	1.62	13'-8"	3'-9"	1.17	16'-6"	1.20	16'-6"	0.24	5'-6"	0.27	15'-8"	6410
	3	5.0	13-16	16	5	12	12	11	1.77	13'-10"	3'-9"	1.28	16'-6"	1.31	16'-6"	0.27	5'-6"	0.29	15'-10"	7025
16'x6'	1	5.0	2-9	16	6	10	10	9	1.50	14'-4"	3'-8"	1.22	16'-6"	1.25	16'-6"	0.23	6'-6"	0.24	15'-6"	6025
	2	5.0	10-12	16	6	11	11	10	1.52	14'-4"	3'-7"	1.29	16'-6"	1.32	16'-6"	0.24	6'-6"	0.27	15'-8"	6660
	3	5.0	13-16	16	6	12	12	10	1.77	14'-0"	3'-4"	1.55	16'-6"	1.61	16'-6"	0.24	6'-6"	0.29	15'-8"	7100
16'x7'	1	5.0	2-9	16	7	9	10	9	1.50	15'-11"	4'-0"	1.44	16'-6"	1.43	16'-6"	0.23	7'-6"	0.24	15'-6"	6035
	2	5.0	10-12	16	7	11	11	9	1.56	14'-6"	3'-2"	1.55	16'-6"	1.61	16'-6"	0.23	7'-6"	0.27	15'-6"	6690
	3	6.0	13-16	16	7	12	12	10	1.59	14'-10"	3'-3"	1.68	16'-6"	1.73	16'-6"	0.24	7'-6"	0.29	15'-8"	7350
16'x8'	1	5.0	2-8	16	8	9	10	9	1.37	16'-9"	3'-11"	1.41	16'-6"	1.41	16'-6"	0.23	8'-6"	0.24	15'-6"	6260
	2	5.0	9-12	16	8	11	11	9	1.47	15'-4"	3'-1"	1.67	16'-6"	1.74	16'-6"	0.23	8'-6"	0.27	15'-6"	6915
	3	6.0	13-16	16	8	12	12	10	1.47	15'-8"	3'-2"	1.79	16'-6"	1.85	16'-6"	0.24	8'-6"	0.29	15'-8"	7600
16'x9'	1	5.0	2-8	16	9	10	10	8	1.35	16'-0"	3'-0"	1.62	16'-6"	1.68	16'-6"	0.20	9'-6"	0.24	15'-4"	6435
	2	5.0	9-12	16	9	11	11	9	1.40	16'-4"	3'-1"	1.79	16'-6"	1.88	16'-6"	0.23	9'-6"	0.27	15'-6"	7140
	3	6.0	13-16	16	9	12	12	9	1.40	16'-2"	2'-11"	2.07	16'-6"	2.16	16'-6"	0.23	9'-6"	0.29	15'-6"	7575
16'x10'	1	5.0	2-8	16	10	10	10	8	1.35	17'-2"	3'-1"	1.77	16'-6"	1.82	16'-6"	0.20	10'-6"	0.24	15'-4"	6635
	2	5.0	9-12	16	10	11	11	9	1.35	17'-4"	3'-1"	1.91	16'-6"	2.00	16'-6"	0.23	10'-6"	0.27	15'-6"	7365
	3	6.0	13-16	16	10	12	12	10	1.31	17'-6"	3'-1"	2.00	16'-6"	2.09	16'-6"	0.24	10'-6"	0.29	15'-8"	8100
16'x11'	1	5.0	2-8	16	11	10	10	8	1.34	18'-4"	3'-2"	1.84	16'-6"	1.95	16'-6"	0.20	11'-6"	0.24	15'-4"	6835
	2	5.0	9-12	16	11	11	11	9	1.32	18'-6"	3'-2"	2.00	16'-6"	2.13	16'-6"	0.23	11'-6"	0.27	15'-6"	7590
	3	6.0	13-16	16	11	12	12	10	1.28	18'-8"	3'-2"	2.09	16'-6"	2.21	16'-6"	0.24	11'-6"	0.29	15'-8"	8350
16'x12'	1	5.0	2-7	16	12	10	10	8	1.29	19'-10"	3'-5"	1.85	16'-6"	1.95	16'-6"	0.24	12'-6"	0.24	15'-4"	7035
	2	5.0	8-11	16	12	11	11	9	1.22	20'-0"	3'-5"	1.97	16'-6"	2.12	16'-6"	0.23	12'-6"	0.27	15'-6"	7815
	3	6.0	12-16	16	12	12	12	11	1.22	20'-6"	3'-7"	2.00	16'-6"	2.15	16'-6"	0.27	12'-6"	0.29	15'-10"	8950
16'x13'	1	5.0	2-7	16	13	10	10	8	1.32	21'-8"	3'-10"	1.95	16'-6"	2.10	16'-6"	0.32	13'-6"	0.24	15'-4"	7235
	2	5.0	8-11	16	13	11	11	9	1.23	21'-6"	3'-8"	2.06	16'-6"	2.24	16'-6"	0.27	13'-6"	0.27	15'-6"	8040
	3	6.0	12-16	16	13	12	12	11	1.19	21'-10"	3'-9"	2.10	16'-6"	2.25	16'-6"	0.29	13'-6"	0.29	15'-10"	9225
16'x14'	1	5.0	2-7	16	14	10	10	8	1.38	24'-0"	4'-6"	2.09	16'-6"	2.25	16'-6"	0.42	14'-6"	0.24	15'-4"	7435
	2	5.0	8-11	16	14	11	11	10	1.22	23'-4"	4'-1"	1.98	16'-6"	2.16	16'-6"	0.31	14'-6"	0.27	15'-8"	8660
	3	6.0	12-16	16	14	12	12	11	1.17	23'-2"	3'-11"	2.19	16'-6"	2.37	16'-6"	0.29	14'-6"	0.29	15'-10"	9500



Typical Barrel Section



Bent Bar Details

All dimensions are out to out.
D = pin diameter (min.).
Pin diameter may be increased if needed to maintain clear cover.

Notes:

1. Longitudinal reinforcement denoted as As5 and As6 must be placed in slab, floor, and walls and must be 0.11 in²/ft minimum.
2. All reinforcement lengths and areas are minimum requirements.
3. 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.
4. Weight of sections assumes a density of 150 PCF and squared corners.
5. See PRCB G1-20 and G2-20 for additional information and notes.

LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER	
		Standard Design Single Precast Reinforced Concrete Box Culverts December, 2020
		Culvert Barrel Details 16'-0" Span Barrel Sections
		PRCB 16-20