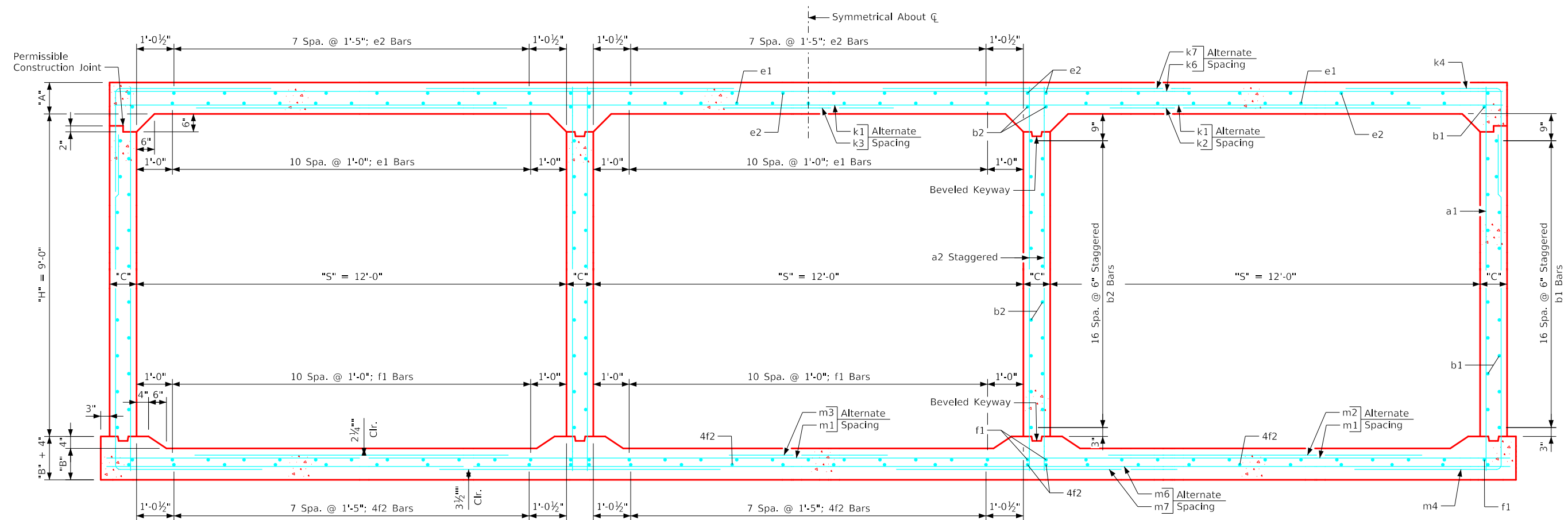


ENGLISHLRFDSDIGNEDTRIPLECULVERTS.DGN - TRRCB 12-9s1-20 - THIS SHEET ISSUED 07-2020.



Triple 12' x 9' Barrel Section

Notes:

1. Dimensions listed on this sheet to be used in conjunction with Sheet TRRCB G3-20.
2. Fill, dimensions "S" and "H" are in feet.
3. Dimensions "A", "B", "C", "D", and "Sp." listed in the bar list are in inches.
4. Dimensions "L", "H", "V" are in feet and inches.

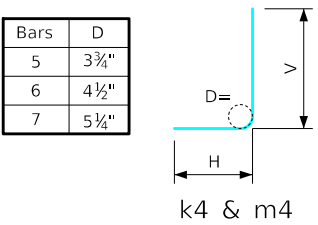
LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER		
		Standard Design Triple Reinforced Concrete Box Culverts July, 2020	
		Culvert Barrel Details 12' x 9' Barrel Sections	TRRCB 12-9-20 Sheet 1 of 2

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Variable Dimensions and Quantities for Triple 12' x 9' Barrel Sections																																																									
Dimensions														Bar List																																											
														a1			a2			b1			b2			e1			e2			f1			f2			k1			k2			k3			k4					k6			k7		
Fill	S	H	A	B	C	D	E	R	T	U	W	X	Z	Size	Sp.	L	Size	Sp.	L	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	L	Size	Sp.	L	Size	Sp.	L	H	V	Size	Sp.	L	Size	Sp.	L						
0	12	9	14	11.5	9	9	9	0'4	0'0	7'7	2'7	4'5	4'4	4	12	11'0	6	9	11'0	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	5	12	38'8	5	12	12'11	4	12	12'1	6	12	11'9	7'9	4'0	5	18	38'8	6	18	15'2
1	12	9	13.5	11.5	9	9	9	0'10	0'4	7'7	2'7	4'5	4'3	4	12	11'0	6	9	11'0	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	6	18	38'8	6	18	12'7	5	18	11'1	6	12	11'8	7'9	3'11	5	18	38'8	6	18	15'2
2	12	9	10	10	9	9	9	1'9	1'1	6'7	3'5	5'2	4'3	4	9	10'7	6	9	10'7	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	7	18	38'8	7	18	11'10	5	18	9'3	6	9	8'6	4'10	3'8	5	18	38'8	8	18	14'7
3-6	12	9	9	10.5	9	9	9	3'10	2'4	5'0	3'1	5'2	4'1	4	9	10'6	6	9	10'6	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	6	12	38'8	5	12	9'2	4	12	5'1	6	9	7'10	4'3	3'7	5	9	38'8	5	9	10'8
7-8	12	9	10	11.5	9	9	9	5'2	2'10	3'11	3'1	5'2	3'11	4	9	10'8	6	9	10'8	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	5	9	38'8	4	9	8'7	4	9	2'5	6	9	7'4	3'8	3'8	5	9	38'8	5	9	8'4
9-10	12	9	11	13	9	9	9	5'2	2'10	3'10	2'9	5'2	3'8	4	9	10'11	6	9	10'11	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	6	12	38'8	5	12	8'9	4	12	2'5	6	9	7'6	3'9	3'9	4	9	38'8	6	9	8'1
11-12	12	9	12	14	9	9	9	5'2	2'8	3'10	2'6	5'2	3'9	4	9	11'1	6	9	11'1	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	6	12	38'8	5	12	9'2	4	12	2'5	6	9	7'1	3'3	3'10	5	12	38'8	7	12	8'2
13-15	12	9	13.5	16	9	9	9	4'1	2'5	3'10	2'2	4'1	3'10	4	9	11'4	6	9	11'4	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	6	12	38'8	5	12	9'9	4	12	4'7	6	9	7'3	3'3	4'0	5	12	38'8	7	12	8'3
16-17	12	9	14.5	17	9.5	9	6	5'2	1'10	3'10	1'11	4'0	3'11	4	12	11'6	5	6	11'6	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	7	18	38'10	7	18	11'2	4	18	2'6	5	6	7'4	3'8	3'8	5	12	38'10	7	12	8'3
18-19	12	9	15.5	18	10	9	9	4'0	1'9	3'11	1'9	3'11	4'0	4	9	11'8	7	9	11'8	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	7	18	39'0	7	18	11'4	4	18	4'10	6	9	7'6	3'4	4'2	5	9	39'0	6	9	8'5
20-21	12	9	16.5	19	10.5	9	9	3'11	1'4	4'0	1'8	3'11	4'1	4	9	11'10	7	9	11'10	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	5	9	39'2	5	9	11'9	4	9	5'0	5	6	7'8	3'10	3'10	5	9	39'2	6	9	8'7
22-23	12	9	18.5	20	11	9	9	3'6	1'0	4'1	1'3	3'9	4'2	5	12	12'1	7	9	12'1	4	6	36	4	6	38	4	12	33	4	17	30	4	12	39	4	17	30	7	18	39'4	7	18	12'2	4	18	5'11	6	9	8'0	3'7	4'5	5	12	39'4	7	12	8'10
24-25	12	9	19	21.5	11.5	9	9	3'7	1'1	4'2	1'0	3'8	4'3	4	9	12'3	7	9	12'3	4	6	36	4	6	38	4	12	33	4	17	30	5	12	39	4	17	30	6	12	39'6	6	12	12'2	4	12	5'10	5	6	8'0	4'0	4'0	5	9	39'6	6	9	8'11

	Bar List																								Quantities						
	k9			m1			m2			m3			m4					m6			m7			m9			Concrete (CY/FT)				Steel (LB/FT)
Fill	Size	Sp.	L	Size	Sp.	L	Size	Sp.	L	Size	Sp.	L	Size	Sp.	L	H	V	Size	Sp.	L	Size	Sp.	L	Size	Sp.	L	Slab	Floor	Walls	Total	
0	6	4.5	38'-8	5	12	39'-2	5	12	9'-4	4	12	3'-11	7	12	15'-11	6'-6	9'-5	4	9	39'-2	5	9	8'-9	5	4.5	39'-2	1.766	1.483	0.952	4.201	568.29
1	6	4.5	38'-8	5	12	39'-2	5	12	8'-11	4	12	3'-11	7	12	15'-7	6'-2	9'-5	4	12	39'-2	6	12	8'-8	6	4.5	39'-2	1.706	1.483	0.952	4.141	559.74
2	8	4.5	38'-8	6	12	39'-2	5	12	7'-4	4	12	2'-5	6	9	13'-9	4'-6	9'-3	5	12	39'-2	7	12	8'-7	7	4.5	39'-2	1.285	1.301	0.952	3.538	635.71
3-6	5	4.5	38'-8	6	12	39'-2	5	12	8'-0	4	12	2'-5	6	9	13'-5	4'-1	9'-4	5	12	39'-2	7	12	8'-5	7	4.5	39'-2	1.165	1.362	0.952	3.479	616.50
7-8	5	4.5	38'-8	6	12	39'-2	5	12	8'-2	4	12	2'-5	6	9	12'-11	3'-6	9'-5	5	12	39'-2	7	12	8'-1	7	4.5	39'-2	1.285	1.483	0.952	3.720	594.92
9-10	6	4.5	38'-8	6	12	39'-2	5	12	9'-1	4	12	2'-5	6	9	12'-10	3'-4	9'-6	4	9	39'-2	6	9	7'-9	6	4.5	39'-2	1.405	1.666	0.952	4.023	589.00
11-12	7	4.5	38'-8	5	9	39'-2	5	9	9'-8	4	9	2'-5	6	9	12'-11	3'-4	9'-7	5	12	39'-2	7	12	8'-0	7	4.5	39'-2	1.526	1.788	0.952	4.266	609.87
13-15	7	4.5	38'-8	5	9	39'-2	5	9	10'-8	4	9	4'-7	6	9	13'-2	3'-5	9'-9	4	9	39'-2	6	9	8'-3	6	4.5	39'-2	1.706	2.032	0.952	4.690	612.45
16-17	7	4.5	38'-10	5	9	39'-4	5	9	11'-2	4	9	4'-10	5	6	13'-3	3'-5	9'-10	5	12	39'-4	7	12	8'-5	7	4.5	39'-4	1.837	2.165	1.004	5.006	629.11
18-19	6	4.5	39'-0	5	9	39'-6	5	9	11'-4	4	9	5'-0	6	9	13'-4	3'-5	9'-11	5	12	39'-6	7	12	8'-7	7	4.5	39'-6	1.969	2.299	1.057	5.325	664.68
20-21	6	4.5	39'-2	6	12	39'-8	6	12	11'-6	4	12	5'-0	5	6	13'-6	3'-6	10'-0	5	12	39'-8	7	12	8'-9	7	4.5	39'-8	2.101	2.430	1.113	5.644	678.47
22-23	7	4.5	39'-4	6	12	39'-10	6	12	12'-0	4	12	5'-5	6	9	13'-8	3'-7	10'-1	5	9	39'-10	6	9	8'-11	6	4.5	39'-10	2.357	2.566	1.166	6.089	693.11
24-25	6	4.5	39'-6	6	12	40'-0	6	12	12'-4	4	12	5'-8	5	6	14'-0	3'-9	10'-3	5	12	40'-0	7	12	9'-2	7	4.5	40'-0	2.431	2.765	1.218	6.414	716.84

Bent Bar Detail



Note:
All dimensions are out to out.
D = pin diameter.

Notes:

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- Dimensions "A", "B", "C", "D", and "Sp." listed in the bar list are in inches.
- Dimensions "L", "H", "V" are in feet and inches.

LATEST REVISION DATE


APPROVED BY BRIDGE ENGINEER



Standard Design
Triple Reinforced Concrete
Box Culverts
July, 2020

Culvert Barrel
Details
12' x 9' Barrel Sections

TRRCB
12-9-20
Sheet 2 of 2