

BCQ-45		DIMENSIONS					REINFORCING STEEL																										
SPAN	HGHT	T1	T2	T3	T4	A	B	C	D	E	F	BH1			BH2			BH3			BH4			BV1			BV2						
(FT.)	(FT.)	TOP SLAB	BOTTOM SLAB	EXTERIOR WALL (IN.)	INTERIOR WALL (IN.)							SIZE	SPACING C-C	LENGTH	SIZE	SPACING C-C	LENGTH	SIZE	SPACING C-C	a	LENGTH	SIZE	SPACING C-C	a	b	LENGTH	SIZE	SPACING C-C	LENGTH	SIZE	SPACING C-C	LENGTH	
3	3	8/4"	8/4"	8"	8"	13	13'- 0"	13	13'- 0"	1	1'- 0"	4	12"	14'-10"	4	12"	15'- 0"	4	12"	2'- 1/4"	3'-11"	4	12"	2'- 1/4"	2'- 8/4"	4'- 6"	4	12"	4'- 0"	4	12"	4'- 0"	
3	4	8/4"	8/4"	8"	8"	13	13'- 0"	13	13'- 0"	2	2'- 0"	4	12"	14'-10"	4	12"	15'- 0"	4	12"	2'- 1/4"	3'-11"	4	12"	2'- 1/4"	3'- 2/4"	5'- 0"	4	12"	5'- 0"	4	12"	5'- 0"	
4	3	10 1/2"	10 1/2"	8"	8"	17	17'- 0"	17	17'- 0"	1	1'- 0"	4	12"	18'- 5"	4	12"	19'- 0"	--	--	--	--	--	4	12"	2'- 3 5/8"	2'-10 1/2"	4'-11"	4	12"	4'- 5"	4	12"	4'- 5"
4	4	10 1/2"	10 1/2"	8"	8"	17	17'- 0"	17	17'- 0"	2	2'- 0"	4	12"	18'- 5"	4	12"	19'- 0"	--	--	--	--	--	4	12"	2'- 3 5/8"	3'- 4 1/2"	5'- 5"	4	12"	5'- 5"	4	12"	5'- 5"
4	5	10 3/4"	10 3/4"	8"	8"	17	17'- 0"	17	17'- 0"	3	3'- 0"	4	12"	18'- 5"	4	12"	19'- 0"	--	--	--	--	--	4	12"	2'- 3 5/8"	3'-10 3/4"	5'-11"	4	12"	6'- 5"	4	12"	6'- 5"
4	6	10 3/4"	10 3/4"	8"	8"	17	17'- 0"	17	17'- 0"	4	4'- 0"	4	12"	18'- 5"	4	12"	19'- 0"	4	12"	2'- 3 5/8"	4'- 4"	4	12"	2'- 3 5/8"	4'- 4 3/4"	6'- 5"	4	11"	7'- 5"	4	12"	7'- 5"	
5	3	12 1/2"	12 1/2"	8"	8"	21	21'- 0"	21	21'- 0"	1	1'- 0"	4	10"	22'- 0"	4	10"	23'- 0"	--	--	--	--	--	4	10"	2'- 6"	3'- 1/2"	5'- 3"	4	12"	4'- 9"	4	12"	4'- 9"
5	4	12 1/2"	12 1/2"	8"	8"	21	21'- 0"	21	21'- 0"	2	2'- 0"	4	10"	22'- 0"	4	10"	23'- 0"	--	--	--	--	--	4	10"	2'- 6"	3'- 6 1/2"	5'- 9"	4	12"	5'- 9"	4	12"	5'- 9"
5	5	12 1/2"	12 1/2"	8"	8"	21	21'- 0"	21	21'- 0"	3	3'- 0"	4	10"	22'- 0"	4	10"	23'- 0"	--	--	--	--	--	4	10"	2'- 6"	4'- 1/2"	6'- 3"	4	12"	6'- 9"	4	12"	6'- 9"
5	6	12 1/2"	12 1/2"	8"	8"	21	21'- 0"	21	21'- 0"	4	4'- 0"	4	10"	22'- 0"	4	10"	23'- 0"	--	--	--	--	--	4	10"	2'- 6"	4'- 6 1/2"	6'- 9"	4	12"	7'- 9"	4	12"	7'- 9"
5	7	12 1/2"	12 1/2"	8"	8"	21	21'- 0"	21	21'- 0"	5	5'- 0"	4	10"	22'- 0"	4	10"	23'- 0"	--	--	--	--	--	5	10"	2'- 6"	5'- 1/2"	7'- 3"	4	7"	8'- 9"	4	12"	8'- 9"
6	4	15 1/4"	15 1/4"	8"	8"	25	25'- 0"	25	25'- 0"	2	2'- 0"	4	9"	25'- 7"	5	9"	27'- 0"	--	--	--	--	--	4	9"	2'- 8 3/8"	3'- 9/4"	6'- 2"	4	12"	6'- 3"	4	12"	6'- 3"
6	5	15 1/4"	15 1/4"	8"	8"	25	25'- 0"	25	25'- 0"	3	3'- 0"	4	9"	25'- 7"	5	9"	27'- 0"	--	--	--	--	--	4	9"	2'- 8 3/8"	4'- 3/4"	6'- 8"	4	12"	7'- 3"	4	12"	7'- 3"
6	6	14 3/4"	14 3/4"	8"	8"	25	25'- 0"	25	25'- 0"	4	4'- 0"	4	9"	25'- 7"	5	9"	27'- 0"	--	--	--	--	--	4	9"	2'- 8 3/8"	4'- 8 3/4"	7'- 2"	4	12"	8'- 1"	4	12"	8'- 1"
6	7	14 3/4"	14 3/4"	8"	8"	25	25'- 0"	25	25'- 0"	5	5'- 0"	4	9"	25'- 7"	5	9"	27'- 0"	3	9"	2'- 8 3/8"	5'- 2"	4	9"	2'- 8 3/8"	5'- 2 3/4"	7'- 8"	4	7"	9'- 1"	4	12"	9'- 1"	
6	8	14 3/4"	14 3/4"	8"	8"	25	25'- 0"	25	25'- 0"	6	6'- 0"	4	9"	25'- 7"	5	9"	27'- 0"	--	--	--	--	--	5	9"	2'- 8 3/8"	5'- 8 3/4"	8'- 1"	4	5 1/2"	10'- 1"	4	12"	10'- 1"
7	4	16 3/4"	16 3/4"	8"	8"	29	29'- 0"	29	29'- 0"	2	2'- 0"	4	9"	29'- 2"	5	9"	31'- 0"	--	--	--	--	--	4	9"	2'-10 3/4"	3'-10 3/4"	6'- 6"	4	12"	6'- 6"	4	10 1/2"	6'- 6"
7	6	17"	17"	8"	8"	29	29'- 0"	29	29'- 0"	4	4'- 0"	5	9"	29'- 2"	5	9"	31'- 0"	--	--	--	--	--	4	9"	2'-10 3/4"	4'-11"	7'- 7"	4	11 1/2"	8'- 6"	4	10 1/2"	8'- 6"
7	8	17"	17"	8"	8"	29	29'- 0"	29	29'- 0"	6	6'- 0"	5	9"	29'- 2"	5	9"	31'- 0"	4	9"	2'-10 3/4"	5'- 6"	4	9"	2'-10 3/4"	5'-11"	8'- 7"	4	5 1/2"	10'- 6"	4	10 1/2"	10'- 6"	
7	10	17 1/4"	17 1/4"	9"	8"	29	29'- 0"	29	29'- 0"	8	8'- 0"	5	9"	29'- 2"	5	9"	31'- 2"	3	9"	2'-11 3/4"	5'- 9"	5	9"	2'-11 3/4"	6'-11 1/4"	9'- 7"	4	4"	12'- 6"	4	10 1/2"	12'- 6"	
8	4	19 1/4"	19 1/4"	8"	8"	33	33'- 0"	33	33'- 0"	2	2'- 0"	6	9"	32'-10"	5	9"	35'- 0"	--	--	--	--	--	4	9"	3'- 1 1/4"	4'- 1 1/4"	6'-11"	4	12"	6'-10"	4	10"	6'-10"
8	6	19 1/4"	19 1/4"	8"	8"	33	33'- 0"	33	33'- 0"	4	4'- 0"	6	9"	32'-10"	5	9"	35'- 0"	--	--	--	--	--	4	9"	3'- 1 1/4"	5'- 1 1/4"	7'-11"	4	11"	8'-10"	4	10"	8'-10"
8	8	19 1/4"	19 1/4"	8"	8"	33	33'- 0"	33	33'- 0"	6	6'- 0"	5	8"	32'-10"	5	8"	35'- 0"	3	8"	3'- 1 1/4"	6'- 0"	4	8"	3'- 1 1/4"	6'- 1 1/4"	8'-11"	4	5 1/2"	10'-10"	4	10"	10'-10"	
8	10	19 1/4"	19 1/4"	9"	8"	33	33'- 0"	33	33'- 0"	8	8'- 0"	5	8"	32'-10"	5	8"	35'- 2"	3	8"	3'- 2 1/4"	6'- 2"	5	8"	3'- 2 1/4"	7'- 1 1/4"	10'- 0"	4	4"	12'-10"	4	10"	12'-10"	
9	4	21 1/2"	21 1/2"	8"	8"	37	37'- 0"	37	37'- 0"	2	2'- 0"	6	9"	36'- 5"	6	9"	39'- 0"	--	--	--	--	--	4	9"	3'- 3 5/8"	4'- 3 1/2"	7'- 4"	4	12"	7'- 3"	4	10"	7'- 3"
9	6	21 1/2"	21 1/2"	8"	8"	37	37'- 0"	37	37'- 0"	4	4'- 0"	6	9"	36'- 5"	6	9"	39'- 0"	--	--	--	--	--	4	9"	3'- 3 5/8"	5'- 3 1/2"	8'- 4"	4	10 1/2"	9'- 3"	4	10"	9'- 3"
9	8	21 1/2"	21 1/2"	8"	8"	37	37'- 0"	37	37'- 0"	6	6'- 0"	6	9"	36'- 5"	6	9"	39'- 0"	--	--	--	--	--	5	9"	3'- 3 5/8"	6'- 3 1/2"	9'- 3"	6	11 1/2"	11'- 3"	4	10"	11'- 3"
9	10	21 1/2"	21 1/2"	9"	8"	37	37'- 0"	37	37'- 0"	8	8'- 0"	6	9"	36'- 5"	6	9"	39'- 2"	--	--	--	--	--	6	9"	3'- 4 5/8"	7'- 3 1/2"	10'- 3"	5	6"	13'- 3"	4	10"	13'- 3"
9	12	21 1/2"	21 1/2"	10 1/2"	8"	37	37'- 0"	37	37'- 0"	10	10'- 0"	6	9"	36'- 5"	6	9"	39'- 5"	3	9"	3'- 6 1/8"	6'-10"	6	9"	3'- 6 1/8"	8'- 3 1/2"	11'- 5"	7	10"	15'- 3"	4	10"	15'- 3"	
10	4	23 1/2"	23 1/2"	8"	8"	41	41'- 0"	41	41'- 0"	2	2'- 0"	6	9"	40'- 0"	6	9"	43'- 0"	--	--	--	--	--	4	9"	3'- 6"	4'- 5 1/2"	7'- 8"	4	12"	7'- 7"	4	9 1/2"	7'- 7"
10	6	23 1/2"	23 1/2"	8"	8"	41	41'- 0"	41	41'- 0"	4	4'- 0"	6	9"	40'- 0"	6	9"	43'- 0"	--	--	--	--	--	4	9"	3'- 6"	5'- 5 1/2"	8'- 8"	4	10"	9'- 7"	4	10"	9'- 7"
10	8	23 1/2"	23 1/2"	8"	8"	41	41'- 0"	41	41'- 0"	6	6'- 0"	6	9"	40'- 0"	6	9"	43'- 0"	3	9"	3'- 6"	6'-10"	4	9"	3'- 6"	6'- 5 1/2"	9'- 8"	5	8"	11'- 7"	4	10"	11'- 7"	
10	10	23 1/2"	23 1/2"	9"	8"	41	41'- 0"	41	41'- 0"	8	8'- 0"	6	9"	40'- 0"	6	9"	43'- 2"	3	9"	3'- 7"	7'- 0"	5	9"	3'- 7"	7'- 5 1/2"	10'- 9"	7	11 1/2"	13'- 7"	4	10"	13'- 7"	
10	12	23 1/2"	23 1/2"	10 1/2"	8"	41	41'- 0"	41	41'- 0"	10	10'- 0"	6	9"	40'- 0"	6	9"	43'- 5"	3	9"	3'- 8 1/2"	7'- 3"	6	9"	3'- 8 1/2"	8'- 5 1/2"	11'- 9"	5	5"	15'- 7"	4	10"	15'- 7"	
12	6	28 1/4"	28 1/4"	8"	8"	49	49'- 0"	49	49'- 0"	4	4'- 0"	7	8"	47'- 2"	6	8"	51'- 0"	--	--	--	--	--	4	8"	3'-10 3/4"	5'-10 1/4"	9'- 6"	4	8"	10'- 5"	4	8"	10'- 5"
12	8	28 1/4"	28 1/4"	8"	8"	49	49'- 0"	49	49'- 0"	6	6'- 0"	7	8"	47'- 2"	6	8"	51'- 0"	--	--	--	--	--	4	8"	3'-10 3/4"	6'-10 1/4"	10'- 6"	4	4 1/2"	12'- 5"	4	8"	12'- 5"
12	10	28 1/4"	28 1/4"	9 1/4"	8"	49	49'- 0"	49	49'- 0"	8	8'- 0"	7	8"	47'- 2"	6	8"	51'- 3"	3	8"	4'- 0"	7'-10"	5	8"	4'- 0"	7'-10 1/4"	11'- 6"	6	8"	14'- 5"	4	8"	14'- 5"	
12	12	28 1/4"	28 1/4"	10 1/2"	8"	49	49'- 0"	49	49'- 0"	10	10'- 0"	6	8"	47'- 2"	6	8"	51'- 5"	4	8"	4'- 1 1/4"	7'-11"	5	8"	4'- 1 1/4"	8'-10 1/4"	12'- 8"	8	12"	16'- 5"	4	8"	16'- 5"	

Sheet 1 of 2

For Typical Section, notes and other details, refer to standard BCQ-DT.

QUADRUPLE BOX CULVERTS

40 TO 45 FT. FILLS

VIRGINIA DEPARTMENT OF TRANSPORTATION

STRUCTURE
AND
BRIDGE
DIVISION

I005.22