

FOR TYPICAL SECTION, NOTES AND OTHER DETAILS, REFER TO STANDARD BCQ-DT.

BCQ-10

SPAN		HGHT		REINFORCING STEEL											QUAN./LF		HEADWALLS							WINGWALL			
(FT.)	(FT.)	SIZE	SPACING C-C	BT I							LENGTH	NO. BL1 #4 BARS	NO. BL2 #3 BARS	REINFORCING STEEL (LBS/LONG. FT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS/LF)	G		HW I		NO. HW2 BARS	NO. HW3 BARS	INLET CONCRETE CL. A4 (CY)		INLET REINFORCING STEEL (LBS)	OUTLET CONCRETE CL. A4 (CY)	OUTLET REINFORCING STEEL (LBS)
				a	b	c	d	e	f	g							HEADWALL LENGTH	SIZE	LENGTH								
3	3	4	12"	2'- 8 3/8"	0'- 4 1/2"	1'- 6 5/8"	0'- 5 7/8"	0'- 3 3/4"	14'- 11 7/8"	1'- 5 7/8"	15'- 9"	60	20	57.160	1.284	141.899	16'- 10"	6	16'- 6"	3	12	2.222	137.876	2.191	99.132	A	
3	4	4	12"	2'- 8 3/8"	0'- 4 1/2"	1'- 6 5/8"	0'- 5 7/8"	0'- 3 3/4"	14'- 11 7/8"	1'- 5 7/8"	15'- 9"	60	30	60.690	1.406	152.339	16'- 10"	6	16'- 6"	3	15	2.333	148.230	2.284	99.132	C	
4	3	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 7/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	20	70.520	1.479	168.508	20'- 10"	6	20'- 6"	3	12	2.626	161.908	2.609	123.164	A	
4	4	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 7/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	30	74.050	1.602	178.948	20'- 10"	6	20'- 6"	3	15	2.738	172.262	2.702	123.164	C	
4	5	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 7/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	40	77.580	1.724	189.388	20'- 10"	6	20'- 6"	3	18	2.849	182.616	2.794	123.164	E	
4	6	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 7/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	50	81.110	1.847	199.828	20'- 10"	6	20'- 6"	3	21	2.960	192.970	2.887	123.164	G	
5	3	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	20	83.880	1.675	195.339	24'- 10"	6	24'- 6"	3	12	3.031	185.940	3.027	147.196	A	
5	4	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	30	87.410	1.797	205.779	24'- 10"	6	24'- 6"	3	15	3.142	196.294	3.120	147.196	C	
5	5	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	40	90.940	1.920	216.219	24'- 10"	6	24'- 6"	3	18	3.254	206.648	3.212	147.196	E	
5	6	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	50	94.470	2.043	226.659	24'- 10"	6	24'- 6"	3	21	3.365	217.002	3.305	147.196	G	
5	7	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	60	98.000	2.165	237.099	24'- 10"	6	24'- 6"	3	24	3.476	227.356	3.398	147.196	I	
6	4	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	30	100.770	1.991	253.889	28'- 10"	6	28'- 6"	3	15	3.547	220.326	3.537	171.228	C	
6	5	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	40	104.300	2.114	264.643	28'- 10"	6	28'- 6"	3	18	3.658	230.680	3.630	171.228	E	
6	6	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	50	107.830	2.236	275.397	28'- 10"	6	28'- 6"	3	21	3.770	241.034	3.723	171.228	G	
6	7	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	60	111.360	2.359	287.512	28'- 10"	6	28'- 6"	3	24	3.881	251.388	3.816	171.228	I	
6	8	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	70	114.890	2.482	299.627	28'- 10"	6	28'- 6"	3	27	3.992	261.742	3.908	171.228	K	
7	4	4	12"	5'- 11 3/8"	0'- 4 1/2"	3'- 1 7/8"	0'- 5 7/8"	0'- 3 3/4"	31'- 1/8"	3'- 10 5/8"	31'- 10"	124	30	114.130	2.187	276.214	32'- 10"	6	32'- 6"	3	15	3.952	244.358	3.955	195.260	C	
7	6	4	12"	5'- 11 3/8"	0'- 4 1/2"	3'- 1 7/8"	0'- 5 7/8"	0'- 3 3/4"	31'- 1/8"	3'- 10 5/8"	31'- 10"	124	50	121.190	2.432	299.219	32'- 10"	6	32'- 6"	3	21	4.174	265.066	4.141	195.260	G	
7	8	4	12"	5'- 11 3/8"	0'- 4 1/2"	3'- 1 7/8"	0'- 5 7/8"	0'- 3 3/4"	31'- 1/8"	3'- 10 5/8"	31'- 10"	124	70	128.250	2.677	324.059	32'- 10"	6	32'- 6"	3	27	4.397	285.774	4.326	195.260	K	
7	10	4	11"	5'- 11 3/8"	0'- 4 1/2"	3'- 1 7/8"	0'- 5 7/8"	0'- 3 3/4"	31'- 1/8"	3'- 10 5/8"	31'- 10"	124	90	135.310	2.920	374.109	32'- 10"	6	32'- 6"	3	33	4.620	306.482	4.512	195.260	O	
8	4	4	11"	6'- 8 3/4"	0'- 4 3/4"	3'- 6 3/8"	0'- 6 1/4"	0'- 4"	34'- 11 7/8"	4'- 5 5/8"	35'- 10"	140	30	127.490	2.435	333.672	36'- 10"	6	36'- 6"	3	15	4.334	268.390	4.351	219.292	C	
8	6	4	11"	6'- 8 3/8"	0'- 5"	3'- 6 1/8"	0'- 6 1/2"	0'- 4 1/4"	34'- 11 7/8"	4'- 5 3/8"	35'- 10"	140	50	134.550	2.735	345.357	36'- 10"	6	36'- 6"	3	21	4.534	289.098	4.514	219.292	G	
8	8	4	10"	6'- 8 5/8"	0'- 5"	3'- 6 1/8"	0'- 6 1/2"	0'- 4 1/4"	34'- 11 7/8"	4'- 5 3/8"	35'- 10"	140	70	141.610	2.979	386.268	36'- 10"	6	36'- 6"	3	27	4.757	309.806	4.700	219.292	K	
8	10	4	9"	6'- 8 1/2"	0'- 5 1/4"	3'- 5 7/8"	0'- 6 3/8"	0'- 4 1/2"	34'- 11 7/8"	4'- 5 1/8"	35'- 11"	140	90	148.670	3.276	447.410	36'- 10"	6	36'- 6"	3	33	4.957	330.514	4.863	219.292	O	
9	4	4	9"	7'- 6"	0'- 5 1/2"	3'- 10 1/2"	0'- 7 1/4"	0'- 4 3/4"	39'- 0"	5'- 0"	40'- 0"	156	30	140.850	2.812	451.848	40'- 10"	6	40'- 6"	3	15	4.659	292.422	4.689	243.324	C	
9	6	4	9"	7'- 5 5/8"	0'- 5 3/4"	3'- 10 1/4"	0'- 7 5/8"	0'- 5"	39'- 0"	4'- 11 3/4"	40'- 0"	156	50	147.910	3.119	459.598	40'- 10"	6	40'- 6"	3	21	4.875	313.130	4.868	243.324	H	
9	8	4	9"	7'- 5 3/4"	0'- 6"	3'- 10"	0'- 8"	0'- 5 1/4"	39'- 0"	4'- 11 1/2"	40'- 1"	156	70	154.970	3.424	492.432	40'- 10"	6	40'- 6"	3	27	5.072	333.838	5.028	243.324	L	
9	10	4	9"	7'- 5 3/4"	0'- 6"	3'- 10"	0'- 8"	0'- 5 1/4"	39'- 0"	4'- 11 1/2"	40'- 1"	156	90	162.030	3.666	554.516	40'- 10"	6	40'- 6"	3	33	5.295	354.546	5.213	243.324	P	
9	12	4	8"	7'- 5 5/8"	0'- 6 1/4"	3'- 9 3/4"	0'- 8 3/8"	0'- 5 1/2"	39'- 0"	4'- 11 1/4"	40'- 2"	156	110	169.090	3.970	599.804	40'- 10"	6	40'- 6"	3	39	5.492	375.254	5.373	243.324	T	
10	4	4	8"	8'- 3 1/4"	0'- 6 1/4"	4'- 2 1/2"	0'- 8 3/8"	0'- 5 1/2"	43'- 0"	5'- 6 1/2"	44'- 2"	172	30	154.210	3.229	519.693	44'- 10"	6	44'- 6"	3	15	4.985	316.454	5.028	267.356	D	
10	6	4	8"	8'- 3 1/8"	0'- 6 1/2"	4'- 2 1/4"	0'- 8 5/8"	0'- 5 3/4"	43'- 0"	5'- 6 1/4"	44'- 2"	172	50	161.270	3.541	540.827	44'- 10"	6	44'- 6"	3	21	5.179	337.162	5.185	267.356	H	
10	8	4	8"	8'- 3"	0'- 6 3/4"	4'- 2"	0'- 9"	0'- 6"	43'- 0"	5'- 6"	44'- 3"	172	70	168.330	3.853	574.370	44'- 10"	6	44'- 6"	3	27	5.373	357.870	5.342	267.356	L	
10	10	4	8"	8'- 3"	0'- 6 3/4"	4'- 2"	0'- 9"	0'- 6"	43'- 0"	5'- 6"	44'- 3"	172	90	175.390	4.094	649.612	44'- 10"	6	44'- 6"	3	33	5.595	378.578	5.527	267.356	P	
10	12	5	10"	8'- 2 7/8"	0'- 7 1/8"	4'- 1 3/4"	0'- 9 1/2"	0'- 6 1/4"	43'- 0"	5'- 5 3/4"	44'- 3"	172	110	182.450	4.405	688.264	44'- 10"	6	44'- 6"	3	39	5.790	399.286	5.684	267.356	T	
12	6	6	12"	9'- 9 1/2"	0'- 8 1/2"	4'- 10 1/8"	0'- 11 3/8"	0'- 7 1/2"	51'- 1/8"	6'- 6 7/8"	52'- 6"	204	50	187.990	4.575	735.821	52'- 10"	6	52'- 6"	3	21	5.696	385.226	5.728	315.420	H	
12	8	6	11"	9'- 9 1/2"	0'- 8 1/2"	4'- 10 1/8"	0'- 11 3/8"	0'- 7 1/2"	51'- 1/8"	6'- 6 7/8"	52'- 6"	204	70	195.050	4.818	787.944	52'- 10"	6	52'- 6"	3	27	5.918	405.934	5.914	315.420	L	
12	10	5	9"	9'- 9 3/8"	0'- 8 5/8"	4'- 9 5/8"	0'- 11 5/8"	0'- 7 3/4"	51'- 1/8"	6'- 6 5/8"	52'- 7"	204	90	202.110	5.142	811.072	52'- 10"	6	52'- 6"	3	33	6.106	426.642	6.065	315.420	P	
12	12	5	9"	9'- 9 1/4"	0'- 8 7/8"	4'- 9 5/8"	1'- 0"	0'- 8"	51'- 1/8"	6'- 6 3/8"	52'- 8"	204	110	209.170	5.464	873.156	52'- 10"	6	52'- 6"	3	39	6.294	447.350	6.215	315.420	T	

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

SPECIFICATION REFERENCE	QUADRUPLE BOX CULVERTS 5 TO 10 FT. FILLS VIRGINIA DEPARTMENT OF TRANSPORTATION	 ROAD AND BRIDGE STANDARDS	
		REVISION DATE 07/13	SHEET 2 OF 2 1005.10