

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

BCQ-20

SPAN		HGHT		REINFORCING STEEL											QUAN./LF		HEADWALLS							WINGWALL			
(FT.)	(FT.)	SIZE	SPACING C-C	BT1									NO. BL1 #4 BARS	NO. BL2 #3 BARS	REINFORCING STEEL (LBS./LONG. FT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS./LF)	G		HW1		NO. HW2 BARS	NO. HW3 BARS		INLET CONCRETE CL. A4 (CY)	INLET REINFORCING STEEL (LBS)	OUTLET CONCRETE CL. A4 (CY)
				a	b	c	d	e	f	g	LENGTH						HEADWALL LENGTH	SIZE	LENGTH								
3	3	4	12"	2'- 7"	0'- 4"	1'- 10"	0'- 5/8"	0'- 3/4"	15'- 0"	1'- 3"	15'- 7"	60	20	57.160	1.283	141.073	16'- 10"	6	16'- 6"	3	12	2.222	137.876	2.191	99.132	A	
3	4	4	12"	2'- 7"	0'- 4"	1'- 10"	0'- 5/8"	0'- 3/4"	15'- 0"	1'- 3"	15'- 7"	60	30	60.690	1.406	151.513	16'- 10"	6	16'- 6"	3	15	2.333	148.230	2.284	99.132	C	
4	3	4	12"	3'- 5"	0'- 4"	2'- 3"	0'- 5/8"	0'- 3/4"	19'- 0"	1'- 10"	19'- 7"	76	20	70.520	1.479	167.793	20'- 10"	6	20'- 6"	3	12	2.626	161.908	2.609	123.164	A	
4	4	4	12"	3'- 5"	0'- 4"	2'- 3"	0'- 5/8"	0'- 3/4"	19'- 0"	1'- 10"	19'- 7"	76	30	74.050	1.602	178.233	20'- 10"	6	20'- 6"	3	15	2.738	172.262	2.702	123.164	C	
4	5	4	12"	3'- 5"	0'- 4"	2'- 3"	0'- 5/8"	0'- 3/4"	19'- 0"	1'- 10"	19'- 7"	76	40	77.580	1.724	188.673	20'- 10"	6	20'- 6"	3	18	2.849	182.616	2.794	123.164	E	
4	6	4	12"	3'- 5"	0'- 4"	2'- 3"	0'- 5/8"	0'- 3/4"	19'- 0"	1'- 10"	19'- 7"	76	50	81.110	1.847	199.113	20'- 10"	6	20'- 6"	3	21	2.960	192.970	2.887	123.164	G	
5	3	4	12"	4'- 2"	0'- 4"	2'- 8"	0'- 5/8"	0'- 3/4"	23'- 0"	2'- 5"	23'- 7"	92	20	83.880	1.673	207.164	24'- 10"	6	24'- 6"	3	12	3.031	185.940	3.027	147.196	A	
5	4	4	12"	4'- 2"	0'- 4"	2'- 8"	0'- 5/8"	0'- 3/4"	23'- 0"	2'- 5"	23'- 7"	92	30	87.410	1.796	217.604	24'- 10"	6	24'- 6"	3	15	3.142	196.294	3.120	147.196	C	
5	5	4	12"	4'- 2"	0'- 4"	2'- 8"	0'- 5/8"	0'- 3/4"	23'- 0"	2'- 5"	23'- 7"	92	40	90.940	1.919	222.614	24'- 10"	6	24'- 6"	3	18	3.254	206.648	3.212	147.196	E	
5	6	4	12"	4'- 2"	0'- 4"	2'- 8"	0'- 5/8"	0'- 3/4"	23'- 0"	2'- 5"	23'- 7"	92	50	94.470	2.042	233.655	24'- 10"	6	24'- 6"	3	21	3.365	217.002	3.305	147.196	G	
5	7	4	12"	4'- 2"	0'- 4"	2'- 8"	0'- 5/8"	0'- 3/4"	23'- 0"	2'- 5"	23'- 7"	92	60	98.000	2.163	257.062	24'- 10"	6	24'- 6"	3	24	3.476	227.356	3.398	147.196	I	
6	4	4	12"	4'- 11"	0'- 5/4"	3'- 0"	0'- 7"	0'- 4/2"	27'- 0"	2'- 10"	27'- 11"	108	30	100.770	2.202	247.126	28'- 10"	6	28'- 6"	3	15	3.485	220.326	3.475	171.228	D	
6	5	4	11"	4'- 11"	0'- 5/4"	3'- 0"	0'- 7"	0'- 4/2"	27'- 0"	2'- 10"	27'- 11"	108	40	104.300	2.324	270.040	28'- 10"	6	28'- 6"	3	18	3.596	230.680	3.568	171.228	F	
6	6	4	12"	4'- 11"	0'- 5/2"	3'- 0"	0'- 7/4"	0'- 4/2"	27'- 0"	2'- 10"	27'- 11"	108	50	107.830	2.490	269.021	28'- 10"	6	28'- 6"	3	21	3.691	241.034	3.644	171.228	H	
6	7	4	11"	4'- 11"	0'- 5/2"	3'- 0"	0'- 7/4"	0'- 4/2"	27'- 0"	2'- 10"	27'- 11"	108	60	111.360	2.611	293.415	28'- 10"	6	28'- 6"	3	24	3.803	251.388	3.737	171.228	J	
6	8	4	11"	4'- 11"	0'- 5/2"	3'- 0"	0'- 7/4"	0'- 4/2"	27'- 0"	2'- 10"	27'- 11"	108	70	114.890	2.734	306.706	28'- 10"	6	28'- 6"	3	27	3.914	261.742	3.830	171.228	L	
7	4	4	10"	5'- 7"	0'- 6/2"	3'- 5"	0'- 8/4"	0'- 5/2"	31'- 0"	3'- 3"	32'- 2"	124	30	114.130	2.668	299.731	32'- 10"	6	32'- 6"	3	15	3.778	244.358	3.781	195.260	D	
7	6	4	10"	5'- 7"	0'- 6/4"	3'- 5"	0'- 9"	0'- 6"	31'- 0"	3'- 2"	32'- 2"	124	50	121.190	2.962	321.622	32'- 10"	6	32'- 6"	3	21	3.981	265.066	3.947	195.260	H	
7	8	4	10"	5'- 7"	0'- 7"	3'- 5"	0'- 9/8"	0'- 6/4"	31'- 0"	3'- 2"	32'- 3"	124	70	128.250	3.255	352.053	32'- 10"	6	32'- 6"	3	27	4.184	285.774	4.113	195.260	L	
7	10	4	10"	5'- 6"	0'- 7/4"	3'- 5"	0'- 9/8"	0'- 6/2"	31'- 0"	3'- 1"	32'- 3"	124	90	135.310	3.546	408.419	32'- 10"	6	32'- 6"	3	33	4.388	306.482	4.280	195.260	P	
8	4	4	9"	6'- 3"	0'- 8"	3'- 10"	0'- 10/8"	0'- 7/4"	35'- 0"	3'- 7"	36'- 5"	140	30	127.490	3.251	354.559	36'- 10"	6	36'- 6"	3	15	4.017	268.390	4.034	219.292	D	
8	6	4	9"	6'- 3"	0'- 8/4"	3'- 10"	0'- 11/8"	0'- 7/2"	35'- 0"	3'- 6"	36'- 6"	140	50	134.550	3.551	364.684	36'- 10"	6	36'- 6"	3	21	4.217	289.098	4.197	219.292	H	
8	8	5	9"	6'- 3"	0'- 8/4"	3'- 10"	0'- 11"	0'- 7/8"	35'- 0"	3'- 7"	36'- 5"	140	70	141.610	3.787	514.012	36'- 10"	6	36'- 6"	3	27	4.440	309.806	4.382	219.292	L	
8	10	5	9"	6'- 3"	0'- 8/2"	3'- 10"	0'- 11/8"	0'- 7/8"	35'- 0"	3'- 6"	36'- 6"	140	90	148.670	4.083	575.477	36'- 10"	6	36'- 6"	3	33	4.640	330.514	4.546	219.292	P	
9	4	5	8"	7'- 0"	0'- 9"	4'- 3"	1'- 1/8"	0'- 8/8"	39'- 0"	4'- 0"	40'- 7"	156	30	140.850	3.774	554.231	40'- 10"	6	40'- 6"	3	15	4.270	292.422	4.301	243.324	D	
9	6	5	8"	7'- 0"	0'- 9/4"	4'- 3"	1'- 1/2"	0'- 8/8"	39'- 0"	4'- 0"	40'- 8"	156	50	147.910	4.081	561.360	40'- 10"	6	40'- 6"	3	21	4.468	313.130	4.461	243.324	H	
9	8	5	8"	7'- 0"	0'- 9/4"	4'- 3"	1'- 1/2"	0'- 8/8"	39'- 0"	4'- 0"	40'- 8"	156	70	154.970	4.325	606.495	40'- 10"	6	40'- 6"	3	27	4.690	333.838	4.646	243.324	L	
9	10	5	8"	6'- 11"	0'- 9/2"	4'- 3"	1'- 7/8"	0'- 8/8"	39'- 0"	3'- 11"	40'- 9"	156	90	162.030	4.628	658.293	40'- 10"	6	40'- 6"	3	33	4.888	354.546	4.806	243.324	P	
10	4	5	9"	7'- 8"	0'- 10/4"	4'- 8"	1'- 1/8"	0'- 9/8"	43'- 0"	4'- 5"	44'- 10"	172	30	154.210	4.429	555.819	44'- 10"	6	44'- 6"	3	15	4.471	316.454	4.514	267.356	D	
10	6	5	9"	7'- 8"	0'- 10/2"	4'- 8"	1'- 2/4"	0'- 9/8"	43'- 0"	4'- 4"	44'- 11"	172	50	161.270	4.742	578.457	44'- 10"	6	44'- 6"	3	21	4.665	337.162	4.671	267.356	H	
10	8	5	9"	7'- 8"	0'- 10/2"	4'- 8"	1'- 2/4"	0'- 9/8"	43'- 0"	4'- 4"	44'- 11"	172	70	168.330	4.986	609.791	44'- 10"	6	44'- 6"	3	27	4.887	357.870	4.856	267.356	L	
10	10	5	9"	7'- 8"	0'- 10/4"	4'- 8"	1'- 2/8"	0'- 9/8"	43'- 0"	4'- 4"	45'- 0"	172	90	175.390	5.296	664.116	44'- 10"	6	44'- 6"	3	33	5.082	378.578	5.013	267.356	P	
10	12	6	9"	7'- 9"	0'- 10/4"	4'- 8"	1'- 2/2"	0'- 9/4"	43'- 3"	4'- 4"	45'- 2"	172	110	182.450	5.662	854.988	44'- 10"	6	44'- 6"	3	39	5.304	399.286	5.199	267.356	T	
12	6	6	8"	9'- 1"	1'- 1"	5'- 5"	1'- 5/8"	1'- 0"	51'- 0"	5'- 3"	53'- 5"	204	50	187.990	6.228	856.933	52'- 10"	6	52'- 6"	3	21	4.985	385.226	5.018	315.420	I	
12	8	6	8"	9'- 1"	1'- 1/4"	5'- 5"	1'- 6"	1'- 1/4"	51'- 0"	5'- 2"	53'- 5"	204	70	195.050	6.551	904.742	52'- 10"	6	52'- 6"	3	27	5.173	405.934	5.169	315.420	M	
12	10	6	8"	9'- 1"	1'- 1/2"	5'- 5"	1'- 6/8"	1'- 1/2"	51'- 0"	5'- 2"	53'- 6"	204	90	202.110	6.873	949.975	52'- 10"	6	52'- 6"	3	33	5.361	426.642	5.319	315.420	Q	
12	12	6	8"	9'- 2"	1'- 1/2"	5'- 5"	1'- 6/8"	1'- 1/2"	51'- 3"	5'- 2"	53'- 9"	204	110	209.170	7.252	1039.445	52'- 10"	6	52'- 6"	3	39	5.584	447.350	5.505	315.420	U	

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

SPECIFICATION REFERENCE	QUADRUPLE BOX CULVERTS		 ROAD AND BRIDGE STANDARDS
	10 TO 20 FT. FILLS		
	VIRGINIA DEPARTMENT OF TRANSPORTATION		SHEET 2 OF 2
			07/11 1005.12