

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

BCQ-30

SPAN		HGT		REINFORCING STEEL											QUAN./LF		HEADWALLS							WINGWALL		
(FT.)	(FT.)	SIZE	SPACING C-C	a	b	c	d	e	f	g	LENGTH	NO. BL1 #4 BARS	NO. BL2 #3 BARS	REINFORCING STEEL (LBS/LONG. JT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS/LF)	G HEADWALL LENGTH	HW1 SIZE	HW1 LENGTH	NO. HW2 BARS	NO. HW3 BARS	INLET CONCRETE CL. A4 (CY)	INLET REINFORCING STEEL (LBS)		OUTLET CONCRETE CL. A4 (CY)	OUTLET REINFORCING STEEL (LBS)
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'- 4"	0'- 4 1/2"	2'- 3"	0'- 5/8"	0'- 3/4"	19'- 0"	1'- 9"	19'- 9"	76	20	70.520	1.538	168.486	20'-10"	6	20'- 6"	3	12	2.606	161.908	2.589	123.164	A
4	4	4	12"	3'- 4"	0'- 4 1/2"	2'- 3"	0'- 5/8"	0'- 3/4"	19'- 0"	1'- 9"	19'- 9"	76	30	74.050	1.661	178.926	20'-10"	6	20'- 6"	3	15	2.718	172.262	2.682	123.164	C
4	5	4	12"	3'- 4"	0'- 4 1/2"	2'- 3"	0'- 5/8"	0'- 3/4"	19'- 0"	1'- 9"	19'- 9"	76	40	77.580	1.784	189.366	20'-10"	6	20'- 6"	3	18	2.829	182.616	2.774	123.164	E
4	6	4	12"	3'- 4"	0'- 4 1/2"	2'- 3"	0'- 5/8"	0'- 3/4"	19'- 0"	1'- 9"	19'- 9"	76	50	81.110	1.906	205.118	20'-10"	6	20'- 6"	3	21	2.940	192.970	2.867	123.164	G
5	3	4	12"	4'- 0"	0'- 6 1/4"	2'- 8"	0'- 8 3/8"	0'- 5/2"	23'- 0"	2'- 0"	24'- 1"	92	20	83.880	1.998	204.855	24'-10"	6	24'- 6"	3	12	2.932	185.940	2.927	147.196	B
5	4	4	12"	4'- 0"	0'- 6"	2'- 8"	0'- 8"	0'- 5/4"	23'- 0"	2'- 1"	24'- 0"	92	30	87.410	2.084	214.948	24'-10"	6	24'- 6"	3	15	3.056	196.294	3.033	147.196	D
5	5	4	12"	4'- 0"	0'- 6 1/4"	2'- 8"	0'- 8 3/8"	0'- 5/2"	23'- 0"	2'- 0"	24'- 1"	92	40	90.940	2.243	226.299	24'-10"	6	24'- 6"	3	18	3.154	206.648	3.113	147.196	F
5	6	4	12"	4'- 0"	0'- 6"	2'- 8"	0'- 8"	0'- 5/4"	23'- 0"	2'- 1"	24'- 0"	92	50	94.470	2.329	248.718	24'-10"	6	24'- 6"	3	21	3.279	217.002	3.219	147.196	H
5	7	4	12"	4'- 0"	0'- 6"	2'- 8"	0'- 8"	0'- 5/4"	23'- 0"	2'- 1"	24'- 0"	92	60	98.000	2.451	260.977	24'-10"	6	24'- 6"	3	24	3.390	227.356	3.311	147.196	J
6	4	4	10"	4'- 8"	0'- 8"	3'- 0"	0'- 10 1/8"	0'- 7 1/4"	27'- 0"	2'- 5"	28'- 5"	108	30	100.770	2.665	261.928	28'-10"	6	28'- 6"	3	15	3.307	220.326	3.297	171.228	D
6	5	4	10"	4'- 8"	0'- 8 1/4"	3'- 0"	0'- 11 1/8"	0'- 7 1/2"	27'- 0"	2'- 4"	28'- 6"	108	40	104.300	2.830	273.007	28'-10"	6	28'- 6"	3	18	3.402	230.680	3.373	171.228	F
6	6	4	10"	4'- 9"	0'- 7 1/2"	3'- 0"	0'- 10 1/8"	0'- 6 3/4"	27'- 0"	2'- 6"	28'- 4"	108	50	107.830	2.826	282.598	28'-10"	6	28'- 6"	3	21	3.562	241.034	3.515	171.228	H
6	7	4	10"	4'- 9"	0'- 7 1/2"	3'- 0"	0'- 10 1/8"	0'- 6 3/4"	27'- 0"	2'- 6"	28'- 4"	108	60	111.360	2.947	310.904	28'-10"	6	28'- 6"	3	24	3.673	251.388	3.607	171.228	J
6	8	4	10"	4'- 8"	0'- 7 3/4"	3'- 0"	0'- 10 1/2"	0'- 7"	27'- 0"	2'- 5"	28'- 5"	108	70	114.890	3.111	334.127	28'-10"	6	28'- 6"	3	27	3.768	261.742	3.684	171.228	L
7	4	4	9"	5'- 4"	0'- 9 1/2"	3'- 5"	1'- 1"	0'- 8 3/4"	31'- 0"	2'- 9"	32'- 9"	124	30	114.130	3.248	312.794	32'-10"	6	32'- 6"	3	15	3.565	244.358	3.569	195.260	D
7	6	4	9"	5'- 4"	0'- 9 1/2"	3'- 5"	1'- 1"	0'- 8 3/4"	31'- 0"	2'- 9"	32'- 9"	124	50	121.190	3.490	365.565	32'-10"	6	32'- 6"	3	21	3.788	265.066	3.754	195.260	H
7	8	4	9"	5'- 4"	0'- 9 1/4"	3'- 5"	1'- 5/8"	0'- 8 1/2"	31'- 0"	2'- 9"	32'- 8"	124	70	128.250	3.685	415.008	32'-10"	6	32'- 6"	3	27	4.011	285.774	3.940	195.260	L
7	10	4	9"	5'- 6"	0'- 9 1/4"	3'- 5"	1'- 5/8"	0'- 8 1/2"	31'- 3"	2'- 9"	32'- 11"	124	90	135.310	4.040	481.430	32'-10"	6	32'- 6"	3	33	4.233	306.482	4.125	195.260	P
8	4	5	9"	6'- 0"	0'- 11 1/2"	3'- 10"	1'- 3 5/8"	0'- 10 5/8"	35'- 0"	3'- 0"	37'- 1"	140	30	127.490	4.006	455.459	36'-10"	6	36'- 6"	3	15	3.749	268.390	3.765	219.292	D
8	6	5	9"	6'- 0"	0'- 11 1/2"	3'- 10"	1'- 3 5/8"	0'- 10 5/8"	35'- 0"	3'- 0"	37'- 1"	140	50	134.550	4.251	477.230	36'-10"	6	36'- 6"	3	21	3.971	289.098	3.951	219.292	H
8	8	5	9"	6'- 0"	0'- 11 1/4"	3'- 10"	1'- 3 1/4"	0'- 10 3/8"	35'- 0"	3'- 1"	37'- 1"	140	70	141.610	4.440	527.772	36'-10"	6	36'- 6"	3	27	4.190	309.806	4.133	219.292	M
8	10	5	9"	6'- 2"	0'- 11"	3'- 10"	1'- 3"	0'- 10 1/8"	35'- 3"	3'- 1"	37'- 3"	140	90	148.670	4.743	592.544	36'-10"	6	36'- 6"	3	33	4.417	330.514	4.322	219.292	P
9	4	6	9"	6'- 8"	1'- 1"	4'- 3"	1'- 5 5/8"	1'- 0"	39'- 0"	3'- 5"	41'- 5"	156	30	140.850	4.742	600.657	40'-10"	6	40'- 6"	3	15	3.882	292.422	3.912	243.324	E
9	6	6	9"	6'- 8"	1'- 1"	4'- 3"	1'- 5 5/8"	1'- 0"	39'- 0"	3'- 5"	41'- 5"	156	50	147.910	4.987	622.427	40'-10"	6	40'- 6"	3	21	4.104	313.130	4.097	243.324	I
9	8	6	9"	6'- 8"	1'- 1"	4'- 3"	1'- 5 5/8"	1'- 0"	39'- 0"	3'- 5"	41'- 5"	156	70	154.970	5.230	677.154	40'-10"	6	40'- 6"	3	27	4.327	333.838	4.283	243.324	M
9	10	5	9"	6'- 9"	1'- 1"	4'- 3"	1'- 5 3/4"	1'- 1/8"	39'- 1"	3'- 4"	41'- 7"	156	90	162.030	5.558	652.398	40'-10"	6	40'- 6"	3	33	4.550	354.546	4.468	243.324	Q
9	12	5	9"	6'- 11"	1'- 1"	4'- 3"	1'- 5 3/4"	1'- 1/8"	39'- 6"	3'- 4"	41'- 11"	156	110	169.090	5.995	722.430	40'-10"	6	40'- 6"	3	39	4.727	375.254	4.608	243.324	U
10	4	6	9"	7'- 4"	1'- 2 1/2"	4'- 8"	1'- 7 3/4"	1'- 1 1/2"	43'- 0"	3'- 9"	45'- 8"	172	30	154.210	5.554	714.032	44'-10"	6	44'- 6"	3	15	4.004	316.454	4.047	267.356	E
10	6	6	9"	7'- 4"	1'- 2 1/2"	4'- 8"	1'- 7 3/4"	1'- 1 1/2"	43'- 0"	3'- 9"	45'- 8"	172	50	161.270	5.799	736.948	44'-10"	6	44'- 6"	3	21	4.227	337.162	4.233	267.356	I
10	8	6	9"	7'- 4"	1'- 2 3/4"	4'- 8"	1'- 8 1/8"	1'- 1 3/4"	43'- 0"	3'- 8"	45'- 9"	172	70	168.330	6.109	789.369	44'-10"	6	44'- 6"	3	27	4.421	357.870	4.390	267.356	M
10	10	6	9"	7'- 5"	1'- 2 3/4"	4'- 8"	1'- 8 1/8"	1'- 1 3/4"	43'- 1"	3'- 8"	45'- 11"	172	90	175.390	6.431	866.899	44'-10"	6	44'- 6"	3	33	4.643	378.578	4.575	267.356	Q
10	12	6	9"	7'- 7"	1'- 2 3/4"	4'- 8"	1'- 8 1/8"	1'- 1 3/4"	43'- 6"	3'- 8"	46'- 3"	172	110	182.450	6.871	940.128	44'-10"	6	44'- 6"	3	39	4.820	399.286	4.714	267.356	U
12	6	6	8"	8'- 8"	1'- 5 3/4"	5'- 5"	2'- 3/8"	1'- 4 3/4"	51'- 0"	4'- 5"	54'- 4"	204	50	187.990	7.727	944.848	52'-10"	6	52'- 6"	3	21	4.344	385.226	4.377	315.420	J
12	8	6	8"	8'- 8"	1'- 5 3/4"	5'- 5"	2'- 3/8"	1'- 4 3/4"	51'- 0"	4'- 5"	54'- 4"	204	70	195.050	7.969	1005.543	52'-10"	6	52'- 6"	3	27	4.567	405.934	4.562	315.420	N
12	10	6	8"	8'- 9"	1'- 5 3/4"	5'- 5"	2'- 3/8"	1'- 4 3/4"	51'- 0"	4'- 5"	54'- 5"	204	90	202.110	8.252	1086.055	52'-10"	6	52'- 6"	3	33	4.789	426.642	4.748	315.420	R
12	12	6	8"	8'- 11"	1'- 5 3/4"	5'- 5"	2'- 3/8"	1'- 4 3/4"	51'- 6"	4'- 5"	54'- 10"	204	110	209.170	8.742	1137.009	52'-10"	6	52'- 6"	3	39	4.964	447.350	4.885	315.420	V

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

SPECIFICATION REFERENCE	<h2>QUADRUPLE BOX CULVERTS</h2> <h3>20 TO 30 FT. FILLS</h3> <p>VIRGINIA DEPARTMENT OF TRANSPORTATION</p>	 ROAD AND BRIDGE STANDARDS	
		REVISION DATE	SHEET 2 OF 2
		07/11	1005.14