

SPAN		HGHT		REINFORCING STEEL											QUAN./LF		HEADWALLS						WINGWALL			
(FT.)	(FT.)	SIZE	SPACING C-C	a	b	c	d	e	f	g	LENGTH	NO. BL1 BARS	NO. BL2 BARS	REINFORCING STEEL (LBS/LONG. JT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS/LF)	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'- 8 7/8"	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 7/8"	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	1.674	208.031	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	1.796	218.471	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	1.919	223.489	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	2.042	233.929	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	2.164	249.791	24'- 10"	6	24'- 6"	3	24	3.476	227.356	3.398	147.196	I
6	4	4	12"	5'- 1 1/8"	0'- 5 3/4"	2'- 7 3/4"	0'- 7 5/8"	0'- 5"	27'- 0"	3'- 2 1/4"	28'- 0"	108	30	100.770	2.202	247.641	28'- 10"	6	28'- 6"	3	15	3.485	220.326	3.475	171.228	D
6	5	4	11"	5'- 1 1/8"	0'- 5 3/4"	2'- 7 3/4"	0'- 7 5/8"	0'- 5"	27'- 0"	3'- 2 1/4"	28'- 0"	108	40	104.300	2.324	270.621	28'- 10"	6	28'- 6"	3	18	3.596	230.680	3.568	171.228	F
6	6	4	12"	5'- 1"	0'- 6"	2'- 7 1/2"	0'- 8"	0'- 5 1/4"	27'- 0"	3'- 2"	28'- 1"	108	50	107.830	2.490	269.300	28'- 10"	6	28'- 6"	3	21	3.691	241.034	3.644	171.228	H
6	7	4	11"	5'- 1"	0'- 6"	2'- 7 1/2"	0'- 8"	0'- 5 1/4"	27'- 0"	3'- 2"	28'- 1"	108	60	111.360	2.612	292.553	28'- 10"	6	28'- 6"	3	24	3.803	251.388	3.737	171.228	J
6	8	4	11"	5'- 1"	0'- 6"	2'- 7 1/2"	0'- 8"	0'- 5 1/4"	27'- 0"	3'- 2"	28'- 1"	108	70	114.890	2.734	300.357	28'- 10"	6	28'- 6"	3	27	3.914	261.742	3.830	171.228	L
7	4	4	10"	5'- 10 1/8"	0'- 7"	2'- 11 3/8"	0'- 9 3/8"	0'- 6 1/4"	31'- 1/8"	3'- 8 1/8"	32'- 4"	124	30	114.130	2.669	300.670	32'- 10"	6	32'- 6"	3	15	3.778	244.358	3.781	195.260	D
7	6	4	10"	5'- 10"	0'- 7 1/4"	2'- 11 1/8"	0'- 9 3/4"	0'- 6 1/2"	31'- 1/8"	3'- 7 7/8"	32'- 4"	124	50	121.190	2.962	322.084	32'- 10"	6	32'- 6"	3	21	3.981	265.066	3.947	195.260	H
7	8	4	10"	5'- 9 3/8"	0'- 7 1/2"	2'- 10 7/8"	0'- 10 1/8"	0'- 6 3/4"	31'- 1/8"	3'- 7 5/8"	32'- 5"	124	70	128.250	3.256	344.345	32'- 10"	6	32'- 6"	3	27	4.184	285.774	4.113	195.260	L
7	10	4	10"	5'- 9 3/8"	0'- 7 3/4"	2'- 10 5/8"	0'- 10 1/2"	0'- 7"	31'- 1/8"	3'- 7 3/8"	32'- 6"	124	90	135.310	3.547	393.878	32'- 10"	6	32'- 6"	3	33	4.388	306.482	4.280	195.260	P
8	4	4	9"	6'- 6 3/8"	0'- 8 1/2"	3'- 2 3/8"	0'- 11 1/2"	0'- 7 3/4"	34'- 11 7/8"	4'- 1 7/8"	36'- 7"	140	30	127.490	3.251	355.679	36'- 10"	6	36'- 6"	3	15	4.017	268.390	4.034	219.292	D
8	6	4	9"	6'- 6 3/4"	0'- 8 3/4"	3'- 2 3/8"	0'- 11 7/8"	0'- 8"	34'- 11 7/8"	4'- 1 5/8"	36'- 8"	140	50	134.550	3.552	366.012	36'- 10"	6	36'- 6"	3	21	4.217	289.098	4.197	219.292	H
8	8	4	9"	6'- 6 3/4"	0'- 8 3/4"	3'- 2 3/8"	0'- 11 7/8"	0'- 8"	34'- 11 7/8"	4'- 1 5/8"	36'- 8"	140	70	141.610	3.791	467.648	36'- 10"	6	36'- 6"	3	27	4.440	309.806	4.382	219.292	L
8	10	4	9"	6'- 6 5/8"	0'- 9"	3'- 2 1/8"	1'- 1/4"	0'- 8 1/4"	34'- 11 7/8"	4'- 1 3/8"	36'- 9"	140	90	148.670	4.088	519.446	36'- 10"	6	36'- 6"	3	33	4.640	330.514	4.546	219.292	P
9	4	4	8"	7'- 4"	0'- 9 1/2"	3'- 6 1/2"	1'- 7/8"	0'- 8 3/4"	39'- 0"	4'- 8"	40'- 9"	156	30	140.850	3.779	506.278	40'- 10"	6	40'- 6"	3	15	4.270	292.422	4.301	243.324	D
9	6	4	8"	7'- 3 3/8"	0'- 9 3/4"	3'- 6 1/4"	1'- 1 1/4"	0'- 9"	39'- 0"	4'- 7 3/4"	40'- 10"	156	50	147.910	4.086	513.406	40'- 10"	6	40'- 6"	3	21	4.468	313.130	4.461	243.324	H
9	8	4	8"	7'- 3 3/8"	0'- 9 3/4"	3'- 6 1/4"	1'- 1 1/4"	0'- 9"	39'- 0"	4'- 7 3/4"	40'- 10"	156	70	154.970	4.330	550.098	40'- 10"	6	40'- 6"	3	27	4.690	333.838	4.646	243.324	L
9	10	4	8"	7'- 3 3/4"	0'- 10"	3'- 6"	1'- 1 5/8"	0'- 9 1/4"	39'- 0"	4'- 7 1/2"	40'- 11"	156	90	162.030	4.634	591.795	40'- 10"	6	40'- 6"	3	33	4.888	354.546	4.806	243.324	P
9	12	4	9"	7'- 3 3/4"	0'- 10"	3'- 6"	1'- 1 5/8"	0'- 9 1/4"	39'- 0"	4'- 7 1/2"	40'- 11"	156	110	169.090	4.877	644.903	40'- 10"	6	40'- 6"	3	39	5.110	375.254	4.992	243.324	T
10	4	5	9"	8'- 1"	0'- 10 7/8"	3'- 10"	1'- 2 3/4"	0'- 10"	43'- 0"	5'- 2"	45'- 0"	172	30	154.210	4.430	553.865	44'- 10"	6	44'- 6"	3	15	4.471	316.454	4.514	267.356	D
10	6	5	9"	8'- 7/8"	0'- 11 1/8"	3'- 9 3/4"	1'- 3 1/8"	0'- 10 1/4"	43'- 0"	5'- 1 3/4"	45'- 1"	172	50	161.270	4.742	577.174	44'- 10"	6	44'- 6"	3	21	4.665	337.162	4.671	267.356	H
10	8	5	9"	8'- 7/8"	0'- 11 1/8"	3'- 9 3/4"	1'- 3 1/8"	0'- 10 1/4"	43'- 0"	5'- 1 3/4"	45'- 1"	172	70	168.330	4.987	600.944	44'- 10"	6	44'- 6"	3	27	4.887	357.870	4.856	267.356	L
10	10	5	9"	8'- 3/4"	0'- 11 3/8"	3'- 9 1/2"	1'- 3 1/2"	0'- 10 1/2"	43'- 0"	5'- 1 1/2"	45'- 2"	172	90	175.390	5.298	646.721	44'- 10"	6	44'- 6"	3	33	5.082	378.578	5.013	267.356	P
10	12	5	9"	8'- 3/4"	0'- 11 3/8"	3'- 9 1/2"	1'- 3 1/2"	0'- 10 1/2"	43'- 0"	5'- 1 1/2"	45'- 2"	172	110	182.450	5.536	765.626	44'- 10"	6	44'- 6"	3	39	5.304	399.286	5.199	267.356	T
12	6	5	8"	9'- 6 3/8"	1'- 1 5/8"	4'- 4 1/8"	1'- 6 5/8"	1'- 3/4"	51'- 1/8"	6'- 1 5/8"	53'- 7"	204	50	187.990	6.236	774.672	52'- 10"	6	52'- 6"	3	21	4.985	385.226	5.018	315.420	I
12	8	5	8"	9'- 6 3/4"	1'- 1 7/8"	4'- 4 5/8"	1'- 7"	1'- 1"	51'- 1/8"	6'- 1 3/8"	53'- 8"	204	70	195.050	6.559	814.257	52'- 10"	6	52'- 6"	3	27	5.173	405.934	5.169	315.420	M
12	10	5	8"	9'- 6 3/8"	1'- 2 1/8"	4'- 4 3/8"	1'- 7 3/8"	1'- 1 1/4"	51'- 1/8"	6'- 1 1/8"	53'- 9"	204	90	202.110	6.884	828.477	52'- 10"	6	52'- 6"	3	33	5.361	426.642	5.319	315.420	Q
12	12	5	8"	9'- 6 5/8"	1'- 2 1/8"	4'- 4 3/8"	1'- 7 3/8"	1'- 1 1/4"	51'- 1/8"	6'- 1 1/8"	53'- 9"	204	110	209.170	7.123	927.078	52'- 10"	6	52'- 6"	3	39	5.584	447.350	5.505	315.420	U

SPECIFICATION REFERENCE

QUADRUPLE BOX CULVERTS
 15 TO 20 FT. FILLS
 VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT
 ROAD AND BRIDGE STANDARDS

REVISION DATE	SHEET 2 OF 2
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