

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	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"	7'- 7 7/8"	-----	7'- 11"	32	12	30.956	0.695	79.439	9'- 6"	6	9'- 2"	1	4	1.433	67.988	1.425	55.073	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"	7'- 7 7/8"	-----	7'- 11"	32	18	33.074	0.768	85.703	9'- 6"	6	9'- 2"	1	5	1.531	71.439	1.517	55.073	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"	9'- 8"	-----	9'- 11"	40	12	37.636	0.792	92.688	11'- 6"	6	11'- 2"	1	4	1.635	80.004	1.634	67.089	A
4	4	3	12"	3'- 6 1/2"	0'- 4 3/8"	1'- 11 3/8"	0'- 5 7/8"	0'- 3 3/8"	9'- 8 7/8"	-----	9'- 11"	40	18	39.754	0.866	93.161	11'- 6"	6	11'- 2"	1	5	1.734	83.455	1.726	67.089	C
4	5	3	12"	3'- 6 1/2"	0'- 4 3/8"	1'- 11 3/8"	0'- 5 7/8"	0'- 3 3/8"	9'- 8 7/8"	-----	9'- 11"	40	24	41.872	0.940	99.425	11'- 6"	6	11'- 2"	1	6	1.833	86.907	1.819	67.089	E
4	6	3	12"	3'- 6 1/2"	0'- 4 3/8"	1'- 11 3/8"	0'- 5 7/8"	0'- 3 3/8"	9'- 8 7/8"	-----	9'- 11"	40	30	43.990	1.014	105.689	11'- 6"	6	11'- 2"	1	7	1.932	90.358	1.912	67.089	G
5	3	4	12"	4'- 4 7/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	11'- 8"	-----	11'- 11"	48	12	44.316	0.890	106.159	13'- 6"	6	13'- 2"	1	4	1.837	92.020	1.843	79.105	A
5	4	4	12"	4'- 4 7/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	11'- 8"	-----	11'- 11"	48	18	46.434	0.964	112.423	13'- 6"	6	13'- 2"	1	5	1.936	95.471	1.935	79.105	C
5	5	4	12"	4'- 4 7/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	11'- 8"	-----	11'- 11"	48	24	48.552	1.037	118.687	13'- 6"	6	13'- 2"	1	6	2.035	98.923	2.028	79.105	E
5	6	4	12"	4'- 4 7/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	11'- 8"	-----	11'- 11"	48	30	50.670	1.111	124.951	13'- 6"	6	13'- 2"	1	7	2.134	102.374	2.121	79.105	G
5	7	4	12"	4'- 4 7/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	11'- 8"	-----	11'- 11"	48	36	52.788	1.185	131.215	13'- 6"	6	13'- 2"	1	8	2.233	105.825	2.214	79.105	I
6	4	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	13'- 8"	-----	13'- 11"	56	18	53.114	1.060	139.477	15'- 6"	6	15'- 2"	1	5	2.138	107.487	2.144	91.121	C
6	5	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	13'- 8"	-----	13'- 11"	56	24	55.232	1.134	145.741	15'- 6"	6	15'- 2"	1	6	2.237	110.939	2.237	91.121	E
6	6	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	13'- 8"	-----	13'- 11"	56	30	57.350	1.208	152.005	15'- 6"	6	15'- 2"	1	7	2.336	114.390	2.330	91.121	G
6	7	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	13'- 8"	-----	13'- 11"	56	36	59.468	1.281	158.269	15'- 6"	6	15'- 2"	1	8	2.435	117.841	2.423	91.121	I
6	8	4	12"	5'- 1 5/8"	0'- 4 3/4"	2'- 8 3/4"	0'- 6 1/4"	0'- 4"	13'- 8"	-----	13'- 11"	56	42	61.586	1.376	164.533	15'- 6"	6	15'- 2"	1	9	2.528	121.293	2.509	91.121	K
7	4	4	11"	5'- 11"	0'- 5 1/4"	3'- 1 1/8"	0'- 6 7/8"	0'- 4 1/2"	15'- 8 7/8"	-----	16'- 0"	64	18	59.794	1.232	156.816	17'- 6"	6	17'- 2"	1	5	2.318	119.503	2.331	103.137	C
7	6	4	11"	5'- 10 7/8"	0'- 5 1/2"	3'- 7/8"	0'- 7 1/4"	0'- 4 3/4"	15'- 8 7/8"	-----	16'- 0"	64	30	64.030	1.403	175.689	17'- 6"	6	17'- 2"	1	7	2.509	126.406	2.509	103.137	G
7	8	4	11"	5'- 10 3/4"	0'- 5 3/4"	3'- 5 7/8"	0'- 7 5/8"	0'- 5"	15'- 8 7/8"	-----	16'- 0"	64	42	68.266	1.575	188.460	17'- 6"	6	17'- 2"	1	9	2.718	133.309	2.706	103.137	L
7	10	4	11"	5'- 10 5/8"	0'- 6"	3'- 3 7/8"	0'- 8"	0'- 5 1/4"	15'- 8 7/8"	-----	16'- 1"	64	54	72.502	1.746	213.925	17'- 6"	6	17'- 2"	1	11	2.908	140.211	2.884	103.137	P
8	4	4	9"	6'- 7 3/4"	0'- 6 3/4"	3'- 4 3/8"	0'- 9"	0'- 6"	17'- 7 7/8"	-----	18'- 1"	72	18	66.474	1.503	211.166	19'- 6"	6	19'- 2"	1	5	2.481	131.519	2.500	115.153	D
8	6	4	9"	6'- 7 5/8"	0'- 7"	3'- 4 1/8"	0'- 9 3/8"	0'- 6 1/4"	17'- 7 7/8"	-----	18'- 1"	72	30	70.710	1.678	211.816	19'- 6"	6	19'- 2"	1	7	2.670	138.422	2.676	115.153	H
8	8	4	9"	6'- 7 1/2"	0'- 7 1/4"	3'- 3 7/8"	0'- 9 3/4"	0'- 6 1/2"	17'- 7 7/8"	-----	18'- 1"	72	42	74.946	1.852	237.267	19'- 6"	6	19'- 2"	1	9	2.858	145.325	2.853	115.153	L
8	10	4	9"	6'- 7 3/8"	0'- 7 1/2"	3'- 3 5/8"	0'- 10 1/8"	0'- 6 3/4"	17'- 7 7/8"	-----	18'- 2"	72	54	79.182	2.027	260.134	19'- 6"	6	19'- 2"	1	11	3.047	152.227	3.029	115.153	P
9	4	4	8"	7'- 4 7/8"	0'- 7 3/4"	3'- 8 1/4"	0'- 10 1/2"	0'- 7"	19'- 8"	-----	20'- 2"	80	18	73.154	1.750	250.181	21'- 6"	6	21'- 2"	1	5	2.627	143.535	2.653	127.169	D
9	6	4	8"	7'- 4 3/4"	0'- 8"	3'- 8"	0'- 10 3/4"	0'- 7 1/4"	19'- 8"	-----	20'- 2"	80	30	77.390	1.929	248.322	21'- 6"	6	21'- 2"	1	7	2.814	150.438	2.828	127.169	H
9	8	4	8"	7'- 4 5/8"	0'- 8 1/4"	3'- 7 3/4"	0'- 11 1/8"	0'- 7 1/2"	19'- 8"	-----	20'- 2"	80	42	81.626	2.107	262.409	21'- 6"	6	21'- 2"	1	9	3.002	157.341	3.003	127.169	L
9	10	4	8"	7'- 4 5/8"	0'- 8 1/4"	3'- 7 3/4"	0'- 11 1/8"	0'- 7 1/2"	19'- 8"	-----	20'- 2"	80	54	85.862	2.253	292.166	21'- 6"	6	21'- 2"	1	11	3.199	164.243	3.188	127.169	P
9	12	4	8"	7'- 4 3/8"	0'- 8 3/4"	3'- 7 1/4"	0'- 11 1/8"	0'- 8"	19'- 8"	-----	20'- 3"	80	66	90.098	2.457	359.409	21'- 6"	6	21'- 2"	1	13	3.376	171.146	3.352	127.169	T
10	4	5	9"	8'- 2"	0'- 8 7/8"	4'- 0"	1'- 0"	0'- 8"	21'- 8"	-----	22'- 3"	88	18	79.834	2.021	294.626	23'- 6"	6	23'- 2"	1	5	2.761	155.551	2.793	139.185	D
10	6	5	9"	8'- 1 7/8"	0'- 9 1/8"	3'- 11 3/4"	1'- 1/4"	0'- 8 1/4"	21'- 8"	-----	22'- 3"	88	30	84.070	2.202	306.151	23'- 6"	6	23'- 2"	1	7	2.947	162.454	2.967	139.185	H
10	8	5	9"	8'- 1 3/4"	0'- 9 3/8"	3'- 11 1/2"	1'- 5/8"	0'- 8 1/2"	21'- 8"	-----	22'- 3"	88	42	88.306	2.383	319.866	23'- 6"	6	23'- 2"	1	9	3.132	169.357	3.140	139.185	L
10	10	5	9"	8'- 1 5/8"	0'- 9 5/8"	3'- 11 1/4"	1'- 1"	0'- 8 3/4"	21'- 8"	-----	22'- 3"	88	54	92.542	2.564	339.695	23'- 6"	6	23'- 2"	1	11	3.318	176.259	3.313	139.185	P
10	12	5	9"	8'- 1 5/8"	0'- 9 5/8"	3'- 11 1/4"	1'- 1"	0'- 8 3/4"	21'- 8"	-----	22'- 3"	88	66	96.778	2.708	396.956	23'- 6"	6	23'- 2"	1	13	3.516	183.162	3.499	139.185	T
12	6	5	8"	9'- 8"	0'- 11 3/8"	4'- 7/8"	1'- 3 1/2"	0'- 10 1/2"	25'- 8 7/8"	-----	26'- 5"	104	30	97.430	2.866	385.333	27'- 6"	6	27'- 2"	1	7	3.159	186.486	3.193	163.217	H
12	8	5	8"	9'- 7 7/8"	0'- 11 5/8"	4'- 6 7/8"	1'- 3 7/8"	0'- 10 3/4"	25'- 8 7/8"	-----	26'- 5"	104	42	101.666	3.053	399.754	27'- 6"	6	27'- 2"	1	9	3.342	193.389	3.363	163.217	L
12	10	5	8"	9'- 7 3/4"	0'- 11 7/8"	4'- 6 3/8"	1'- 4 1/8"	0'- 11"	25'- 8 7/8"	-----	26'- 5"	104	54	105.902	3.239	426.793	27'- 6"	6	27'- 2"	1	11	3.543	200.291	3.552	163.217	Q
12	12	5	8"	9'- 7 5/8"	1'- 1/8"	4'- 6 3/8"	1'- 4 1/2"	0'- 11 1/4"	25'- 8 7/8"	-----	26'- 5"	104	66	110.138	3.421	513.736	27'- 6"	6	27'- 2"	1	13	3.726	207.194	3.722	163.217	U

SPECIFICATION REFERENCE

**DOULBE BOX CULVERTS**  
 10 TO 15 FT. FILLS  
 VIRGINIA DEPARTMENT OF TRANSPORTATION

**VDOT**  
 ROAD AND BRIDGE STANDARDS

REVISION DATE	SHEET 2 OF 2
1003.11	