

SPAN		HT	REINFORCING STEEL											QUAN./LF		HEADWALLS							WINGWALL			
(FT.)	(FT.)	SIZE	BTI									NO. BL1 BARS	NO. BL2 BARS	REINFORCING STEEL (LBS./LONG. JT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS./LF)	C		HW I		NO. HW2 BARS	NO. HW3 BARS		INLET CONCRETE CL. A4 (CY)	INLET REINFORCING STEEL (LBS)	OUTLET CONCRETE CL. A4 (CY)
		SPACING C-C	a	b	c	d	e	f	g	LENGTH	HEADWALL LENGTH						SIZE	LENGTH								
3	3	4	12"	2'- 8 3/8"	0'- 4 1/2"	1'- 6 5/8"	0'- 5 3/8"	0'- 3 3/4"	14'- 11 1/8"	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 3/8"	0'- 3 3/4"	14'- 11 1/8"	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 3/8"	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 3/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	30	74.050	1.601	190.527	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 3/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	40	77.580	1.723	202.012	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 3/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	50	81.110	1.846	213.957	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 3/8"	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 3/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	30	87.410	1.796	222.479	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 3/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	40	90.940	1.919	233.721	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 3/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	50	94.470	2.041	244.963	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 3/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	60	98.000	2.164	258.229	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 3/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	30	100.770	1.992	247.095	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 3/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	40	104.300	2.114	263.629	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 3/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	50	107.830	2.236	279.629	28'- 10"	6	28'- 6"	3	21	3.770	241.034	3.723	171.228	G
6	7	4	11"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 3/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	60	111.360	2.358	305.635	28'- 10"	6	28'- 6"	3	24	3.881	251.388	3.816	171.228	I
6	8	4	11"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 3/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	70	114.890	2.479	334.480	28'- 10"	6	28'- 6"	3	27	3.992	261.742	3.908	171.228	K
7	4	4	8"	5'- 11 3/8"	0'- 4 1/2"	3'- 1 1/8"	0'- 5 3/8"	0'- 3 3/4"	31'- 1 1/8"	3'- 10 5/8"	31'- 10"	124	30	114.130	2.180	364.938	32'- 10"	6	32'- 6"	3	15	3.952	244.358	3.955	195.260	C
7	6	4	8"	5'- 11 3/8"	0'- 4 1/2"	3'- 1 1/8"	0'- 5 3/8"	0'- 3 3/4"	31'- 1 1/8"	3'- 10 5/8"	31'- 10"	124	50	121.190	2.424	400.118	32'- 10"	6	32'- 6"	3	21	4.174	265.066	4.141	195.260	G
7	8	4	8"	5'- 11 3/8"	0'- 4 1/2"	3'- 1 1/8"	0'- 5 3/8"	0'- 3 3/4"	31'- 1 1/8"	3'- 10 5/8"	31'- 10"	124	70	128.250	2.669	431.128	32'- 10"	6	32'- 6"	3	27	4.397	285.774	4.326	195.260	K
7	10	4	8"	5'- 11 3/8"	0'- 4 1/2"	3'- 1 1/8"	0'- 5 3/8"	0'- 3 3/4"	31'- 1 1/8"	3'- 10 5/8"	31'- 10"	124	90	135.310	2.913	464.968	32'- 10"	6	32'- 6"	3	33	4.620	306.482	4.512	195.260	O
8	4	5	10"	6'- 8 3/8"	0'- 4 3/8"	3'- 6 3/8"	0'- 6"	0'- 3 3/4"	34'- 11 1/8"	4'- 5 3/8"	35'- 9"	140	30	127.490	2.371	459.442	36'- 10"	6	36'- 6"	3	15	4.356	268.390	4.373	219.292	C
8	6	5	11"	6'- 8 3/4"	0'- 4 3/8"	3'- 6 3/8"	0'- 6 1/4"	0'- 4"	34'- 11 1/8"	4'- 5 3/8"	35'- 9"	140	50	134.550	2.672	463.936	36'- 10"	6	36'- 6"	3	21	4.557	289.098	4.536	219.292	G
8	8	5	11"	6'- 8 3/4"	0'- 4 3/8"	3'- 6 3/8"	0'- 6 1/4"	0'- 4"	34'- 11 1/8"	4'- 5 3/8"	35'- 9"	140	70	141.610	2.912	554.080	36'- 10"	6	36'- 6"	3	27	4.779	309.806	4.722	219.292	K
8	10	5	10"	6'- 8 5/8"	0'- 5 1/8"	3'- 6 1/8"	0'- 6 5/8"	0'- 4 1/4"	34'- 11 1/8"	4'- 5 3/8"	35'- 10"	140	90	148.670	3.212	569.734	36'- 10"	6	36'- 6"	3	33	4.980	330.514	4.885	219.292	O
9	4	5	9"	7'- 6 1/4"	0'- 5 1/8"	3'- 11"	0'- 6 5/8"	0'- 4 1/4"	39'- 0"	5'- 1/2"	39'- 10"	156	30	140.850	2.683	544.147	40'- 10"	6	40'- 6"	3	15	4.710	292.422	4.740	243.324	C
9	6	5	9"	7'- 6 1/4"	0'- 5 1/8"	3'- 11"	0'- 6 5/8"	0'- 4 1/4"	39'- 0"	5'- 1/2"	39'- 10"	156	50	147.910	2.927	581.941	40'- 10"	6	40'- 6"	3	21	4.933	313.130	4.926	243.324	G
9	8	5	9"	7'- 6 1/4"	0'- 5 1/8"	3'- 11"	0'- 6 5/8"	0'- 4 1/4"	39'- 0"	5'- 1/2"	39'- 10"	156	70	154.970	3.172	616.469	40'- 10"	6	40'- 6"	3	27	5.156	333.838	5.111	243.324	K
9	10	5	9"	7'- 6"	0'- 5 3/8"	3'- 10 1/2"	0'- 7 3/8"	0'- 4 3/4"	39'- 0"	5'- 0"	40'- 0"	156	90	162.030	3.538	645.647	40'- 10"	6	40'- 6"	3	33	5.327	354.546	5.246	243.324	O
9	12	6	12"	7'- 6"	0'- 5 3/4"	3'- 10 1/2"	0'- 7 1/2"	0'- 4 3/4"	39'- 0"	5'- 0"	39'- 11"	156	110	169.090	3.780	701.005	40'- 10"	6	40'- 6"	3	39	5.550	375.254	5.431	243.324	S
10	4	6	12"	8'- 3 3/8"	0'- 5 3/4"	4'- 3 1/4"	0'- 7 1/2"	0'- 4 3/4"	43'- 0"	5'- 7 1/4"	43'- 11"	172	30	154.210	3.021	615.136	44'- 10"	6	44'- 6"	3	15	5.052	316.454	5.095	267.356	C
10	6	6	12"	8'- 3 3/8"	0'- 5 3/4"	4'- 3 1/4"	0'- 7 1/2"	0'- 4 3/4"	43'- 0"	5'- 7 1/4"	43'- 11"	172	50	161.270	3.265	655.563	44'- 10"	6	44'- 6"	3	21	5.274	337.162	5.280	267.356	G
10	8	5	8"	8'- 3 1/2"	0'- 5 3/8"	4'- 3"	0'- 7 3/4"	0'- 5"	43'- 0"	5'- 7"	44'- 0"	172	70	168.330	3.574	718.147	44'- 10"	6	44'- 6"	3	27	5.487	357.870	5.456	267.356	L
10	10	6	11"	8'- 3 3/8"	0'- 6 1/4"	4'- 2 3/4"	0'- 8 1/8"	0'- 5 1/4"	43'- 0"	5'- 6 3/4"	44'- 0"	172	90	175.390	3.884	766.954	44'- 10"	6	44'- 6"	3	33	5.681	378.578	5.613	267.356	P
10	12	6	11"	8'- 3 1/4"	0'- 6 1/2"	4'- 2 1/2"	0'- 8 1/2"	0'- 5 1/2"	43'- 0"	5'- 6 1/2"	44'- 1"	172	110	182.450	4.196	801.995	44'- 10"	6	44'- 6"	3	39	5.875	399.286	5.770	267.356	T
12	6	6	12"	9'- 10 1/8"	0'- 7 1/4"	4'- 11 3/8"	0'- 9 5/8"	0'- 6 1/4"	51'- 1 1/8"	6'- 8 1/8"	52'- 3"	204	50	187.990	4.175	755.139	52'- 10"	6	52'- 6"	3	21	5.869	385.226	5.902	315.420	H
12	8	5	8"	9'- 10 1/8"	0'- 6 3/8"	4'- 11 3/8"	0'- 9 3/8"	0'- 6"	51'- 1 1/8"	6'- 8 3/8"	52'- 3"	204	70	195.050	4.332	897.281	52'- 10"	6	52'- 6"	3	27	6.127	405.934	6.122	315.420	L
12	10	6	10"	9'- 10 1/4"	0'- 7"	4'- 11 5/8"	0'- 9 1/4"	0'- 6"	51'- 1 1/8"	6'- 8 3/8"	52'- 3"	204	90	202.110	4.576	936.842	52'- 10"	6	52'- 6"	3	33	6.349	426.642	6.308	315.420	P
12	12	6	9"	9'- 10 3/8"	0'- 6 3/4"	4'- 11 7/8"	0'- 8 7/8"	0'- 5 3/4"	51'- 1 1/8"	6'- 8 5/8"	52'- 2"	204	110	209.170	4.736	1066.426	52'- 10"	6	52'- 6"	3	39	6.607	447.350	6.528	315.420	T

STRUCTURE AND BRIDGE DIVISION

QUADRUPLE BOX CULVERTS

2 TO 5 FT. FILLS

VIRGINIA DEPARTMENT OF TRANSPORTATION

1005.07