

ZONE 4 WITH AND WITHOUT ICE 70 MPH WIND

TOWER HEIGHT (ft)	10' SPAN										15' SPAN										20' SPAN										25' SPAN										TOWER HEIGHT (ft)																		
	TOWER PIPE		ANCHOR BOLTS		BASE PLATE	TRUSS	DESIGN LOADS				TOWER PIPE		ANCHOR BOLTS		BASE PLATE	TRUSS	DESIGN LOADS				TOWER PIPE		ANCHOR BOLTS		BASE PLATE	TRUSS	DESIGN LOADS				TOWER PIPE		ANCHOR BOLTS		BASE PLATE	TRUSS	DESIGN LOADS																						
	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	SIZE (in)	DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	SIZE (in)	DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	SIZE (in)	DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	SIZE (in)		DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)														
14'	16	0.250	0.104	1 1/4	6	20 1/2"	24 x 1 1/4	0.2	2.75	12.39	38.53	16	0.250	0.234	1 3/8	6	20 3/4"	24 1/2 x 1 1/4	0.5	4.13	28.76	59.63	16	0.250	0.419	1 3/4	6	21 1/2"	26 x 1 3/4	1.3	5.59	52.67	83.06	20	0.250	0.333	1 3/8	8	24 3/4"	28 1/2 x 1 3/8	1.4	7.00	82.44	107.23	14'														
15'			0.119						2.76		41.23							24 1/2 x 1 1/4	0.6	4.14		63.62			0.250	0.481																0.382					1.5	7.02		113.64	15'								
16'			0.136						2.77		43.94							24 1/2 x 1 3/8	0.6	4.16		67.63			0.250	0.547																				0.435					1.6	7.03		120.14	16'				
17'			0.153						2.79		46.68							24 1/2 x 1 3/8	0.6	4.17		71.67			0.281	0.549																				0.491					1.7	7.05		126.71	17'				
18'			0.172						2.80		49.43							25 x 1 3/8	0.7	4.18		75.74				0.615																				0.550	1 3/8	24 3/4"	28 1/2 x 1 3/8	1.7	7.07		133.34	18'					
19'			0.191						2.81		52.20							25 x 1 1/2	0.7	4.20		79.83					0.685																			0.613	1 1/2	25"	29 x 1 1/2	1.8	7.08		140.03	19'					
20'			0.212						2.83		54.99							25 x 1 1/2	0.7	4.21		83.94				0.281	0.759			26 x 1 3/4	1.6	5.67															0.679					1.9	7.10		146.77	20'			
21'			0.234						2.84		57.79								25 x 1 1/2	0.8	4.22		88.08			0.310	0.759			26 x 2	1.5	5.68															0.250	0.749				2.0	7.12		153.56	21'			
22'			0.257					0.2	2.85		60.61							25 x 1 1/2	0.8	4.23		92.23				0.834																				0.281	0.735				29 x 1 1/2	1.6	5.70		126.40	22'			
23'			0.280					0.3	2.87		63.45							25 x 1 5/8	0.9	4.25		96.40				0.911																				0.803					29 x 1 5/8	1.7	5.71		131.96	23'			
24'			0.305						2.88		66.30								25 x 1 1/2	0.9	4.26		100.60			0.310	0.992																				0.874	1 1/2	25"			29 x 1 1/2	1.7	5.77		138.12	24'		
25'			0.331	1 1/4		20 1/2"	24 x 1 1/4		2.89		69.16									0.9	4.27		104.81			0.340	0.990																				0.949	1 3/4	25 3/8"			29 x 1 1/2	1.8	5.77		143.15	25'		
26'			0.358	1 3/8		20 3/4"	24 1/2 x 1 3/8		2.90		72.04									1.0	4.29		109.03			0.340	1.071																				0.920					29 x 1 5/8	2.1	7.20		148.78	26'		
27'			0.386						2.92		74.93									1.0	4.30		113.28			0.340	1.155																				0.992					29 3/4 x 1 3/4	2.1	7.21		154.43	27'		
28'			0.416						2.93		77.84	0.250								1.0	4.31		117.54			0.375	1.139																				1.067					29 3/4 x 1 3/4	2.1	7.23		160.10	28'		
29'			0.446						2.94		80.76	0.280								1.0	4.33		121.82			0.375	1.221																						1.145					29 3/4 x 1 3/4	2.1	7.24		165.79	29'
30'			0.477	1 3/8		20 3/4"	24 1/2 x 1 3/8		2.96		83.69									1.0	4.34		126.11			0.375	1.307																						1.119					29 3/4 x 2	2.2	7.26		171.49	30'
31'			0.509	1 1/2		21"	25 x 1 1/2		2.97		86.64									1.0	4.35		130.42			0.410	1.297																						1.194					29 3/4 x 2	2.2	7.28		177.22	31'
32'	16	0.250	0.543	1 1/2	6	21"	25 x 1 1/2	0.3	2.98	12.39	89.61	16	0.280	1.094	1 1/2	8	21"	25 x 1 5/8	1.1	4.36	28.76	134.74	16	0.410	1.382	1 3/4	8	21 1/2"	26 x 2	1.8	5.83	52.67	182.97	20	0.344	1.273	1 3/4	8	25 3/8"	29 3/4 x 2	2.2	7.29	82.44	230.50	32'														

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TOWER HEIGHT (ft)	30' SPAN										35' SPAN										40' SPAN										TOWER HEIGHT (ft)																							
	TOWER PIPE		ANCHOR BOLTS		BASE PLATE	TRUSS	DESIGN LOADS				TOWER PIPE		ANCHOR BOLTS		BASE PLATE	TRUSS	DESIGN LOADS				TOWER PIPE		ANCHOR BOLTS		BASE PLATE	TRUSS	DESIGN LOADS																											
	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	SIZE (in)	DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	SIZE (in)	DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	SIZE (in)	DEFL ΔV (in)		SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	SIZE (in)	DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)									
14'	24	0.250	0.285	1 1/2	8	29"	33 x 1 1/2	1.6	8.42	119.01	134.48	24	0.250	0.406	1 3/4	8	29 3/8"	33 3/4 x 1 1/2	2.6	9.77	161.98	165.20	30	0.250	0.280	1 3/4	8	35 3/8"	39 3/4 x 1 1/2	2.4	11.22	211.94	200.44	14'																				
15'			0.327						1.6	8.44	141.90								2.6	9.79		173.37				0.322																						2.5	11.24		209.33	15'		
16'			0.372						1.7	8.46	149.44								2.8	9.81		181.71				0.366																						2.6	11.27		218.45	16'		
17'			0.420						1.8	8.48	157.10	0.250							3.0	9.83		190.21				0.413																								2.7	11.29		227.79	17'
18'			0.471						1.9	8.50	164.85	0.281							2.9	9.85		198.85				0.463																								2.8	11.32		237.32	18'
19'			0.524						2.0	8.52	172.68								3.0	9.87		207.61	0.250			0.516																								2.9	11.34		247.01	19'
20'			0.581						2.1	8.54	180.60								3.1	9.89		216.48	0.281			0.510																								2.8	11.37		256.86	20'
21'			0.641	1 1/2		29"	33 x 1 1/2	2.2	8.56		188.59								3.2	9.91		225.46				0.562																								2.9	11.39		266.86	21'
22'			0.703	1 3/4		29 3/8"	33 3/4 x 1 1/2	2.2	8.58		196.65	0.281							3.4	9.93																																		