Date: **March 13, 2025**

5100 S Macadam Avenue, Ste. 500
Portland, OR 97239
(503) 959 9128

Subject:	**Structural Modification Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Site Number:	318740
	Site Name:	Clay Hole Creek
	FA Number:	15743282
Crown Castle Designation:	**BU Number:**	870209
	Site Name:	Lake City (Hwy 47/Wester Rd.)
	JDE Job Number:	2132752
	Work Order Number:	2368227
	Order Number:	687759 Rev. 0
Engineering Firm Designation:	**Stantec Project Number:**	CN2-349R5 / 280570026
Site Data:	**4604 SW State Road 47, Lake City, Columbia County, FL32055** **Latitude *30° 6' 27.3"*, Longitude *-82° 39' 46"*** **445 Foot - Guyed Tower**	

Stantec is pleased to submit this **"Structural Modification Report"** to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level including the proposed modifications as outlined in the attached drawings, "Appendix D". Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC4: Modified Structure w/ Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2023 Florida Building Code, 8th Edition. Applicable standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

G. Lance Cooke, P.E. (FL License No. 68787)
Senior Engineer

Certificate of Authorization # 10187

G. LANCE COOKE LICENSE No 68787 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by G. Lance Cooke
Date: 2025.03.13 14:35:58-07'00'

EXP 2/28/2027

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1) INTRODUCTION

This tower is a 445 ft Guyed tower designed by ROHN.

The tower has been modified per reinforcement drawings prepared by P-Sec in September of 2010. Reinforcement consisted of replacing existing guy wires at 185 ft and 245 ft. Per the post modification inspection completed by Tower Engineering Professionals in January of 2011, these modifications has been properly installed and are considered in this analysis.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	119 mph
Exposure Category:	C
Topographic Factor:	1
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
229.0	229.0	6	commscope	NNH4-85B-R6	6 3	7/8 3/8
		3	ericsson	AIR 6472 B77G B77M_20240625		
		3	ericsson	4490 B5/B12		
		3	ericsson	4890 B25/B66		
		3	ericsson	RADIO 4494 44B14 20B29		
		3	raycap	DC9-48-60-24-8C-EV_220506		
		18	commscope	10' Mount Pipe [#C10900802]		
		3	commscope	12' V-Boom Mount [#C10841002C]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
440.0	440.0	1	tower mounts	Side Arm Mount [SO 305-1]	1	1C
430.0	436.0	1	rfs celwave	ALR8-0	-	-
	430.0	1	tower mounts	Side Arm Mount [SO 305-1]		
352.0	362.0	1	sinclair	SRL-210C-4	1	7/8
172.0	172.0	1	tower mounts	Sector Mount [SM 401-3]	15 2	3/8 1/4

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1305588	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	2207890	CCISITES
4-TOWER MANUFACTURER DRAWINGS	2191339	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2725390	CCISITES
4-POST-MODIFICATION INSPECTION	2806039	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS	Appendix D	ON-FILE

3.1) Analysis Method

tnxTower (version 8.2.4.3), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Stantec should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	445 - 425	Leg	ROHN 2 STD	3	-5.49	34.22	16.1	Pass
T2	425 - 405	Leg	ROHN 2 STD	36	-11.26	34.22	32.9	Pass
T3	405 - 385	Leg	ROHN 2 STD	69	-13.37	34.22	39.1	Pass
T4	385 - 365	Leg	ROHN 2 STD	102	-12.85	34.22	37.5	Pass
T5	365 - 345	Leg	ROHN 2 STD	133	-17.53	34.22	51.2	Pass
T6	345 - 325	Leg	ROHN 2 STD	166	-17.63	34.22	51.5	Pass
T7	325 - 305	Leg	ROHN 2 STD	200	-18.26	34.22	53.4	Pass
T8	305 - 285	Leg	ROHN 2 STD	233	-19.15	34.22	56.0	Pass
T9	285 - 265	Leg	ROHN 2 STD	266	-18.96	34.22	55.4	Pass
T10	265 - 245	Leg	ROHN 2 STD	299	-27.90	34.22	81.5	Pass
T11	245 - 225	Leg	ROHN 2 STD	333	-33.40	34.22	97.6	Pass
T12	225 - 205	Leg	ROHN 2 STD	365	-33.40	34.22	97.6	Pass
T13	205 - 185	Leg	ROHN 2 STD	397	-26.65	34.22	77.9	Pass
T14	185 - 165	Leg	ROHN 2 STD	430	-28.08	34.22	82.0	Pass
T15	165 - 145	Leg	ROHN 2 STD	463	-28.20	34.22	82.4	Pass
T16	145 - 125	Leg	ROHN 2 EH	498	-37.79	46.05	82.1	Pass
T17	125 - 105	Leg	ROHN 2 EH	531	-38.31	46.05	83.2	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T18	105 - 85	Leg	ROHN 2 EH	564	-30.45	46.05	66.1	Pass
T19	85 - 65	Leg	ROHN 2 EH	597	-35.55	46.05	77.2	Pass
T20	65 - 45	Leg	ROHN 2 EH	629	-36.12	46.05	78.4	Pass
T21	45 - 25	Leg	ROHN 2 EH	661	-36.07	46.05	78.3	Pass
T22	25 - 4.81771	Leg	ROHN 2 EH	694	-35.82	45.69	78.4	Pass
T23	4.81771 - 0	Leg	ROHN 2.5 EHH	727	-34.22	185.64	18.4	Pass
T1	445 - 425	Diagonal	ROHN 1.5 x 16GA	11	-1.69	6.52	25.9 27.3 (b)	Pass
T2	425 - 405	Diagonal	ROHN 1.5 x 16GA	65	-1.85	6.52	28.3 29.9 (b)	Pass
T3	405 - 385	Diagonal	ROHN 1.5 x 16GA	99	-0.60	6.52	9.2	Pass
T4	385 - 365	Diagonal	ROHN 1.5 x 16GA	110	-1.30	6.52	20.0	Pass
T5	365 - 345	Diagonal	ROHN 1.5 x 16GA	162	-0.86	6.52	13.2 13.7 (b)	Pass
T6	345 - 325	Diagonal	ROHN 1.5 x 16GA	175	-0.99	6.52	15.3	Pass
T7	325 - 305	Diagonal	ROHN 1.5 x 16GA	208	-1.86	6.52	28.5	Pass
T8	305 - 285	Diagonal	ROHN 1.5 x 16GA	260	-0.77	6.52	11.8 12.1 (b)	Pass
T9	285 - 265	Diagonal	ROHN 1.5 x 16GA	274	-0.97	6.52	14.8	Pass
T10	265 - 245	Diagonal	ROHN 1.5 x 16GA	307	-1.66	6.52	25.4	Pass
T11	245 - 225	Diagonal	ROHN 1.5 x 16GA	359	-4.25	6.52	65.2 68.0 (b)	Pass
T12	225 - 205	Diagonal	ROHN 1.5 x 16GA	373	-1.74	6.52	26.7	Pass
T13	205 - 185	Diagonal	ROHN 1.5 x 16GA	406	-2.64	6.52	40.4	Pass
T14	185 - 165	Diagonal	ROHN 1.5 x 16GA	458	-1.65	6.52	25.3 26.7 (b)	Pass
T15	165 - 145	Diagonal	ROHN 1.5 x 16GA	473	-1.07	6.52	16.5	Pass
T16	145 - 125	Diagonal	ROHN 1.5 x 16GA	506	-2.18	6.52	33.4	Pass
T17	125 - 105	Diagonal	ROHN 1.5 x 16GA	556	-1.48	6.52	22.6 23.4 (b)	Pass
T18	105 - 85	Diagonal	ROHN 1.5 x 16GA	592	-0.90	6.52	13.8	Pass
T19	85 - 65	Diagonal	ROHN 1.5 x 16GA	605	-1.65	6.52	25.3	Pass
T20	65 - 45	Diagonal	ROHN 1.5 x 16GA	655	-1.88	6.52	28.9 29.8 (b)	Pass
T21	45 - 25	Diagonal	ROHN 1.5 x 16GA	693	-1.36	6.52	20.8	Pass
T22	25 - 4.81771	Diagonal	ROHN 1.5 x 16GA	707	-1.46	6.49	22.4 22.5 (b)	Pass
T23	4.81771 - 0	Horizontal	14x1/4	741	-0.63	5.57	11.3	Pass
T1	445 - 425	Top Girt	ROHN 1.5 x 16GA	4	-0.11	7.33	1.5 1.7 (b)	Pass
T2	425 - 405	Top Girt	ROHN 1.5 x 16GA	38	-0.32	7.33	4.3	Pass
T3	405 - 385	Top Girt	ROHN 1.5 x 16GA	71	-0.23	7.33	3.2 3.7 (b)	Pass
T4	385 - 365	Top Girt	ROHN 1.5 x 16GA	104	-0.22	7.33	3.1 3.6 (b)	Pass
T5	365 - 345	Top Girt	ROHN 1.5 x 16GA	136	-0.31	7.33	4.2 5.9 (b)	Pass
T6	345 - 325	Top Girt	ROHN 1.5 x 16GA	169	-0.31	7.33	4.2 4.9 (b)	Pass
T7	325 - 305	Top Girt	ROHN 1.5 x 16GA	202	-0.33	7.33	4.5 5.3 (b)	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T8	305 - 285	Top Girt	ROHN 1.5 x 16GA	236	-0.33	7.33	4.5 6.4 (b)	Pass
T9	285 - 265	Top Girt	ROHN 1.5 x 16GA	268	-0.33	7.33	4.6 5.4 (b)	Pass
T10	265 - 245	Top Girt	ROHN 1.5 x 16GA	301	-0.50	7.33	6.8 8.0 (b)	Pass
T11	245 - 225	Top Girt	ROHN 1.5 x 16GA	335	-0.58	7.33	7.9 11.5 (b)	Pass
T12	225 - 205	Top Girt	ROHN 1.5 x 16GA	367	-0.67	7.33	9.1 12.4 (b)	Pass
T13	205 - 185	Top Girt	ROHN 1.5 x 16GA	400	-0.49	7.33	6.6 8.1 (b)	Pass
T14	185 - 165	Top Girt	ROHN 1.5 x 16GA	433	-0.49	7.33	6.6 8.8 (b)	Pass
T15	165 - 145	Top Girt	ROHN 1.5 x 16GA	466	-0.49	7.33	6.7 7.9 (b)	Pass
T16	145 - 125	Top Girt	ROHN 1.5 x 16GA	500	-0.67	7.33	9.2 10.8 (b)	Pass
T17	125 - 105	Top Girt	ROHN 1.5 x 16GA	533	-0.67	7.33	9.2 10.8 (b)	Pass
T18	105 - 85	Top Girt	ROHN 1.5 x 16GA	566	-0.54	7.33	7.3 8.6 (b)	Pass
T19	85 - 65	Top Girt	ROHN 1.5 x 16GA	598	-0.63	7.33	8.6 10.1 (b)	Pass
T20	65 - 45	Top Girt	ROHN 1.5 x 16GA	631	-0.63	7.33	8.6 10.1 (b)	Pass
T21	45 - 25	Top Girt	ROHN 1.5 x 16GA	664	-0.62	7.33	8.5 10.1 (b)	Pass
T22	25 - 4.81771	Top Girt	ROHN 1.5 x 16GA	697	-0.62	7.33	8.5 10.0 (b)	Pass
T23	4.81771 - 0	Top Girt	14x1/4	730	-0.63	2.97	21.1	Pass
T1	445 - 425	Bottom Girt	ROHN 1.5 x 16GA	8	-0.25	7.33	3.4 4.2 (b)	Pass
T2	425 - 405	Bottom Girt	ROHN 1.5 x 16GA	41	-0.20	7.33	2.8 3.3 (b)	Pass
T3	405 - 385	Bottom Girt	ROHN 1.5 x 16GA	74	-0.23	7.33	3.2 3.7 (b)	Pass
T4	385 - 365	Bottom Girt	ROHN 1.5 x 16GA	107	-0.47	7.33	6.4 8.3 (b)	Pass
T5	365 - 345	Bottom Girt	ROHN 1.5 x 16GA	139	-0.31	7.33	4.2 4.9 (b)	Pass
T6	345 - 325	Bottom Girt	ROHN 1.5 x 16GA	172	-0.31	7.33	4.2 4.9 (b)	Pass
T7	325 - 305	Bottom Girt	ROHN 1.5 x 16GA	205	-0.61	7.33	8.4 11.9 (b)	Pass
T8	305 - 285	Bottom Girt	ROHN 1.5 x 16GA	238	-0.33	7.33	4.5 5.3 (b)	Pass
T9	285 - 265	Bottom Girt	ROHN 1.5 x 16GA	271	-0.33	7.33	4.6 5.4 (b)	Pass
T10	265 - 245	Bottom Girt	ROHN 1.5 x 16GA	304	-0.84	7.33	11.5 16.2 (b)	Pass
T11	245 - 225	Bottom Girt	ROHN 1.5 x 16GA	337	-0.97	7.33	13.2 15.3 (b)	Pass
T12	225 - 205	Bottom Girt	ROHN 1.5 x 16GA	370	-0.58	7.33	7.9 9.3 (b)	Pass
T13	205 - 185	Bottom Girt	ROHN 1.5 x 16GA	404	-1.04	7.33	14.2 18.4 (b)	Pass
T14	185 - 165	Bottom Girt	ROHN 1.5 x 16GA	436	-0.49	7.33	6.6 7.8 (b)	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T15	165 - 145	Bottom Girt	ROHN 1.5 x 16GA	469	-0.49	7.33	6.7 7.9 (b)	Pass
T16	145 - 125	Bottom Girt	ROHN 1.5 x 16GA	503	1.00	9.44	10.6 16.0 (b)	Pass
T17	125 - 105	Bottom Girt	ROHN 1.5 x 16GA	536	-0.67	7.33	9.2 10.8 (b)	Pass
T18	105 - 85	Bottom Girt	ROHN 1.5 x 16GA	569	-0.54	7.33	7.3 8.6 (b)	Pass
T19	85 - 65	Bottom Girt	ROHN 1.5 x 16GA	601	-0.63	7.33	8.6 11.9 (b)	Pass
T20	65 - 45	Bottom Girt	ROHN 1.5 x 16GA	634	-0.63	7.33	8.6 10.1 (b)	Pass
T21	45 - 25	Bottom Girt	ROHN 1.5 x 16GA	667	-0.62	7.33	8.5 10.1 (b)	Pass
T22	25 - 4.81771	Bottom Girt	ROHN 1.5 x 16GA	700	-0.62	7.33	8.5 10.0 (b)	Pass
T2	425 - 405	Guy A@421.977	3/8 [ECP - 23000]	753	7.21	9.70	74.4	Pass
T5	365 - 345	Guy A@364.385	3/8 [ECP - 23000]	762	7.50	9.70	77.3	Pass
T8	305 - 285	Guy A@304.385	3/8 [ECP - 23000]	768	7.14	9.70	73.6	Pass
T11	245 - 225	Guy A@244.385	1/2 [ECP - 23000]	774	12.09	16.95	71.4	Pass
T14	185 - 165	Guy A@184.385	7/16 [ECP - 23000]	780	10.12	13.10	77.2	Pass
T17	125 - 105	Guy A@124.385	3/8 [ECP - 23000]	786	6.69	9.70	68.9	Pass
T20	65 - 45	Guy A@64.3854	3/8 [ECP - 23000]	792	4.73	9.70	48.7	Pass
T2	425 - 405	Guy B@421.977	3/8 [ECP - 23000]	750	7.17	9.70	73.9	Pass
T5	365 - 345	Guy B@364.385	3/8 [ECP - 23000]	761	7.45	9.70	76.8	Pass
T8	305 - 285	Guy B@304.385	3/8 [ECP - 23000]	767	7.08	9.70	73.0	Pass
T11	245 - 225	Guy B@244.385	1/2 [ECP - 23000]	773	12.17	16.95	71.8	Pass
T14	185 - 165	Guy B@184.385	7/16 [ECP - 23000]	779	10.29	13.10	78.5	Pass
T17	125 - 105	Guy B@124.385	3/8 [ECP - 23000]	785	6.98	9.70	72.0	Pass
T20	65 - 45	Guy B@64.3854	3/8 [ECP - 23000]	791	5.02	9.70	51.7	Pass
T2	425 - 405	Guy C@421.977	3/8 [ECP - 23000]	743	7.18	9.70	74.0	Pass
T5	365 - 345	Guy C@364.385	3/8 [ECP - 23000]	757	7.52	9.70	77.5	Pass
T8	305 - 285	Guy C@304.385	3/8 [ECP - 23000]	763	7.14	9.70	73.6	Pass
T11	245 - 225	Guy C@244.385	1/2 [ECP - 23000]	769	12.10	16.95	71.4	Pass
T14	185 - 165	Guy C@184.385	7/16 [ECP - 23000]	775	10.32	13.10	78.8	Pass
T17	125 - 105	Guy C@124.385	3/8 [ECP - 23000]	781	7.02	9.70	72.4	Pass
T20	65 - 45	Guy C@64.3854	3/8 [ECP - 23000]	787	5.04	9.70	51.9	Pass
T2	425 - 405	Top Guy Pull-Off@421.977	2L2x2x1/4x3/8	747	-2.49	51.39	4.8	Pass
T5	365 - 345	Top Guy Pull-Off@364.385	4 1/2x3/8	759	2.34	57.41	4.1	Pass
T8	305 - 285	Top Guy Pull-Off@304.385	4 1/2x3/8	764	2.55	57.41	4.4	Pass
T11	245 - 225	Top Guy Pull-Off@244.385	4 1/2x3/8	772	4.60	57.41	8.0	Pass
T14	185 - 165	Top Guy Pull-Off@184.385	4 1/2x3/8	778	3.52	57.41	6.1	Pass
T17	125 - 105	Top Guy Pull-Off@124.385	4 1/2x3/8	784	2.79	57.41	4.9	Pass
T20	65 - 45	Top Guy Pull-Off@64.3854	4 1/2x3/8	789	2.14	57.41	3.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T2	425 - 405	Torque Arm Top@421.977	C10x15.3	745	-0.41	129.63	43.8	Pass
							Summary	
						Leg (T12)	97.6	Pass
						Diagonal (T11)	68.0	Pass
						Horizontal (T23)	11.3	Pass
						Top Girt (T23)	21.1	Pass
						Bottom Girt (T13)	18.4	Pass
						Guy A (T5)	77.3	Pass
						Guy B (T14)	78.5	Pass
						Guy C (T14)	78.8	Pass
						Top Guy Pull-Off (T11)	8.0	Pass
						Torque Arm Top (T2)	43.8	Pass
						Bolt Checks	68.0	Pass
						Rating =	97.6	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC4

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Base Foundation (Structure)	0	2.6	Pass
1	Base Foundation (Soil Interaction)		60.4	Pass
1	Inner Guy Anchor Shaft	0	43.6	Pass
1	Inner Guy Anchor Foundation Soil Interaction		25.8	Pass
1	Outer Guy Anchor Shaft	0	80.2	Pass
1	Outer Guy Anchor Foundation Soil Interaction		71.2	Pass

Structure Rating (max from all components) =	**97.6%***

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.
2) *Rating per TIA-222H, Section 15.5.

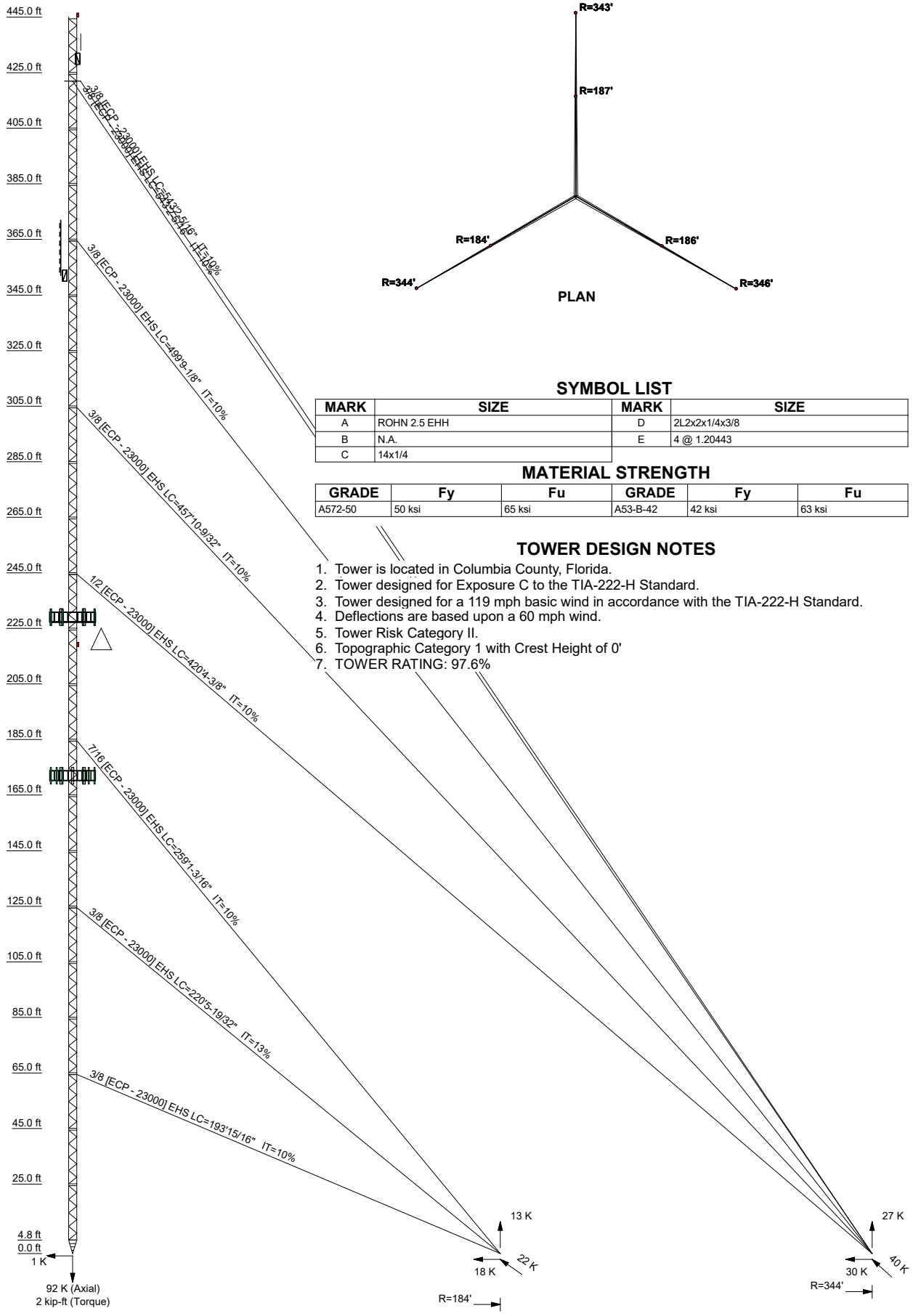
4.1) Recommendations

Perform the modifications detailed in “Appendix D” per the comments mentioned by the Client in Crown Castle Work Order No. 2368227.

APPENDIX A

TNXTOWER OUTPUT

Section		T23	T22	T21	T20	T19	T18	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	A					ROHN 2 EH											ROHN 2 STD							
Leg Grade															A572-50									
Diagonals	B														ROHN 1.5 x 16GA									
Diagonal Grade	B														A53-B-42									
Top Girts	C														ROHN 1.5 x 16GA									
Bottom Girts	B														ROHN 1.5 x 16GA									
Horizontals	C														N.A.									
Top Guy Pull-Offs			N.A.		4 1/2x3/8		N.A.	4 1/2x3/8		N.A.	4 1/2x3/8		N.A.	4 1/2x3/8		N.A.	4 1/2x3/8		N.A.	4 1/2x3/8		N.A.	D	N.A.
Face Width (ft)																								3.41667
# Panels @ (ft)			E 8 @ 2.43164												168 @ 2.40885									
Weight (K)	8.8	0.5	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.7	0.3



PLAN

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 2.5 EHH	D	2L2x2x1/4x3/8
B	N.A.	E	4 @ 1.20443
C	14x1/4		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A53-B-42	42 ksi	63 ksi

TOWER DESIGN NOTES

1. Tower is located in Columbia County, Florida.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0'
7. TOWER RATING: 97.6%

ALL REACTIONS ARE FACTORED

Stantec
Stantec 5100 S Macadam Avenue, Ste. 500
Portland, OR 97239
Stantec
Phone: (503) 959 9128
FAX: (503) 959 9128

Job:	***CN2-349R5 / 280570026***		
Project:	***870209 / Lake City (Hwy 47/Wester Rd)***		
Client: Crown Castle USA	Drawn by: THaile		App'd:
Code: TIA-222-H	Date: 03/13/25		Scale: NTS
Path: C:\ProjectWise-Drive\Stantec\CN-02\CN2-349p\CN2-349R5.SDD\Final Report & Review Sheet\QA_QC\CN2-349R5.BU_870209 WO_2368227.eri			Dwg No. E-1

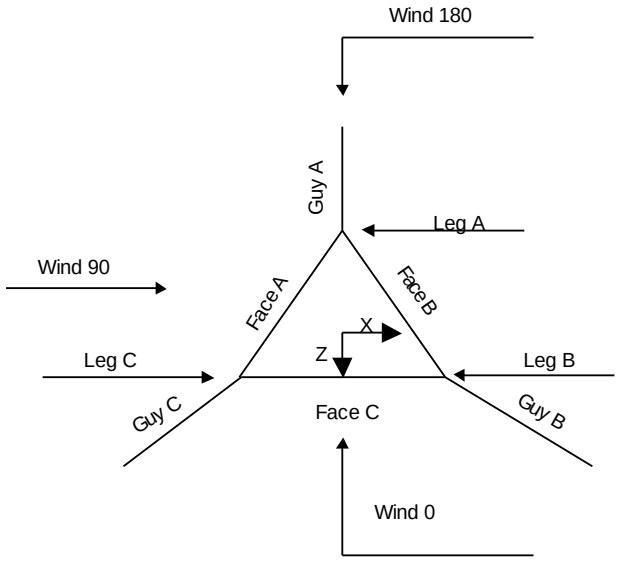
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 445' above the ground line.
The base of the tower is set at an elevation of 0' above the ground line.
The face width of the tower is 3'5" at the top and tapered at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

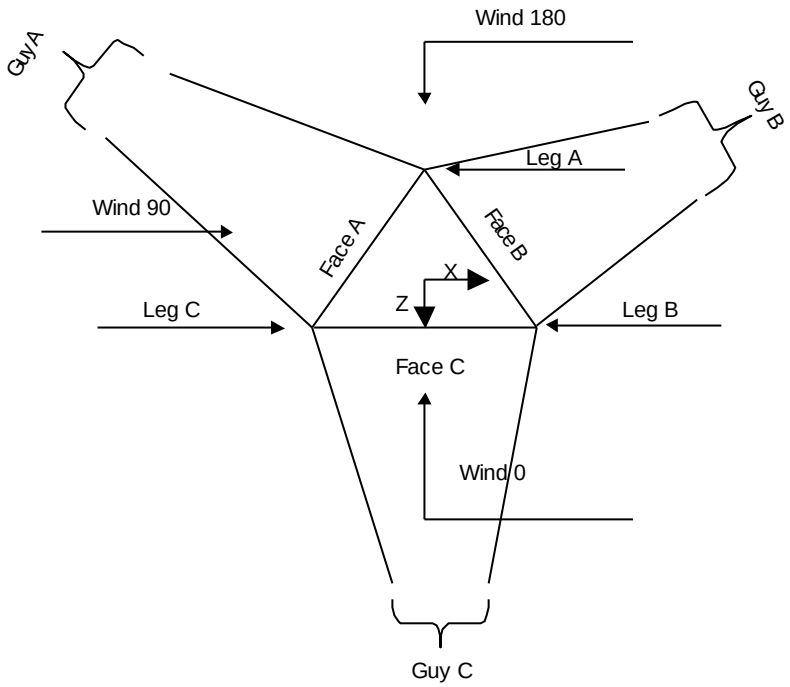
Tower is located in Columbia County, Florida.
Tower base elevation above sea level: 99'.
Basic wind speed of 119 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0'.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Safety factor used in guy design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$.
Maximum demand-capacity ratio is: 1.05.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Horizontals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Consider Moments - Diagonals	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
	Use Moment Magnification	√	Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Stress Ratios	√	Retension Guys To Initial Tension		Offset Girt At Foundation
√	Use Code Safety Factors - Guys	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Escalate Ice	√	Use Azimuth Dish Coefficients	√	Include Angle Block Shear Check
	Always Use Max Kz	√	Project Wind Area of Appurtenances		Use TIA-222-H Bracing Resist. Exemption
	Use Special Wind Profile	√	Alternative Appurt. EPA Calculation		Use TIA-222-H Tension Splice Exemption
√	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Poles
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Include Shear-Torsion Interaction
√	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Always Use Sub-Critical Flow
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Use Top Mounted Sockets
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Pole Without Linear Attachments
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole With Shroud Or No Appurtenances
	Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules		Outside and Inside Corner Radii Are Known



Corner & Starmount Guyed Tower



Face Guyed

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	445'-425'			3'5-1/32"	1	20'
T2	425'-405'			3'5-1/32"	1	20'
T3	405'-385'			3'5-1/32"	1	20'
T4	385'-365'			3'5-1/32"	1	20'
T5	365'-345'			3'5-1/32"	1	20'
T6	345'-325'			3'5-1/32"	1	20'
T7	325'-305'			3'5-1/32"	1	20'
T8	305'-285'			3'5-1/32"	1	20'
T9	285'-265'			3'5-1/32"	1	20'
T10	265'-245'			3'5-1/32"	1	20'
T11	245'-225'			3'5-1/32"	1	20'
T12	225'-205'			3'5-1/32"	1	20'
T13	205'-185'			3'5-1/32"	1	20'
T14	185'-165'			3'5-1/32"	1	20'
T15	165'-145'			3'5-1/32"	1	20'
T16	145'-125'			3'5-1/32"	1	20'
T17	125'-105'			3'5-1/32"	1	20'
T18	105'-85'			3'5-1/32"	1	20'
T19	85'-65'			3'5-1/32"	1	20'
T20	65'-45'			3'5-1/32"	1	20'
T21	45'-25'			3'5-1/32"	1	20'
T22	25'-4'9-27/32"			3'5-1/32"	1	20'2-5/32"
T23	4'9-27/32"-0'			3'5-1/32"	1	4'9-27/32"

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	445'-425'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T2	425'-405'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T3	405'-385'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T4	385'-365'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T5	365'-345'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T6	345'-325'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T7	325'-305'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T8	305'-285'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T9	285'-265'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T10	265'-245'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T11	245'-225'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T12	225'-205'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T13	205'-185'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T14	185'-165'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T15	165'-145'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T16	145'-125'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T17	125'-105'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T18	105'-85'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T19	85'-65'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T20	65'-45'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T21	45'-25'	2'4-29/32"	K Brace Left	No	No	7.3750	1.3750
T22	25'-4'9-27/32"	2'5-5/32"	K Brace Left	No	No	7.3750	1.3750
T23	4'9-27/32"-0'	1'2-13/32"	K Brace Left	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 445'-425'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T2 425'-405'	Pipe	ROHN 2 STD	A572-50	Pipe	ROHN 1.5 x 16GA	A53-B-42

Tower Elevation ft	*Leg Type*	*Leg Size*	*Leg Grade*	*Diagonal Type*	*Diagonal Size*	*Diagonal Grade*
T3 405'-385'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T4 385'-365'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T5 365'-345'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T6 345'-325'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T7 325'-305'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T8 305'-285'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T9 285'-265'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T10 265'-245'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T11 245'-225'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T12 225'-205'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T13 205'-185'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T14 185'-165'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T15 165'-145'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T16 145'-125'	Pipe	ROHN 2 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T17 125'-105'	Pipe	ROHN 2 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T18 105'-85'	Pipe	ROHN 2 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T19 85'-65'	Pipe	ROHN 2 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T20 65'-45'	Pipe	ROHN 2 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T21 45'-25'	Pipe	ROHN 2 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T22 25'-4'9-27/32"	Pipe	ROHN 2 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T23 4'9-27/32"-0'	Pipe	ROHN 2.5 EHH	A572-50 (50 ksi)	Pipe		A53-B-42 (42 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	*Top Girt Type*	*Top Girt Size*	*Top Girt Grade*	*Bottom Girt Type*	*Bottom Girt Size*	*Bottom Girt Grade*
T1 445'-425'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T2 425'-405'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T3 405'-385'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T4 385'-365'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T5 365'-345'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T6 345'-325'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T7 325'-305'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T8 305'-285'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T9 285'-265'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T10 265'-245'	Pipe	ROHN 1.5 x 16GA	A53-B-42	Pipe	ROHN 1.5 x 16GA	A53-B-42

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T11 245'-225'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T12 225'-205'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T13 205'-185'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T14 185'-165'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T15 165'-145'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T16 145'-125'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T17 125'-105'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T18 105'-85'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T19 85'-65'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T20 65'-45'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T21 45'-25'	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T22 25'-4'9-27/32"	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T23 4'9-27/32"-0'	Flat Bar	14x1/4	A36 (36 ksi)	Flat Bar	14x1/4	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T23 4'9-27/32"-0'	None	Flat Bar		A36 (36 ksi)	Flat Bar	14x1/4	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 445'-425'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 425'-405'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 405'-385'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 385'-365'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 365'-345'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 345'-325'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 325'-305'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 305'-285'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9 285'-265'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T10 265'-245'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T11 245'-225'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
T12 225'-205'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T13 205'-185'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T14 185'-165'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T15 165'-145'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T16 145'-125'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T17 125'-105'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T18 105'-85'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T19 85'-65'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T20 65'-45'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T21 45'-25'	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T22 25'-4'9-27/32''	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T23 4'9-27/32''-0'	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Brace Diags X	K Brace Diags Y	Single Diags X	Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
ft																	
T1 445'-425'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T2 425'-405'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T3 405'-385'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T4 385'-365'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T5 365'-345'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T6 345'-325'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T7 325'-305'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T8 305'-285'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T9 285'-265'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T10 265'-245'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T11 245'-225'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T12 225'-205'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T13 205'-185'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T14 185'-165'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T15 165'-145'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	
T16 145'-125'	No	No	1	1		1		1		1		1		1		1	
				1		1		1		1		1		1		1	

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Single Diags X	K Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T17 125'-105'	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1
T18 105'-85'	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1
T19 85'-65'	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1
T20 65'-45'	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1
T21 45'-25'	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1
T22 25'-4'9-27/32"	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1
T23 4'9-27/32"-0'	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1 445'-425'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 425'-405'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 405'-385'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 385'-365'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 365'-345'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 345'-325'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 325'-305'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 305'-285'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 285'-265'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 265'-245'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 245'-225'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 225'-205'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 205'-185'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 185'-165'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 165'-145'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 145'-125'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T17 125'-105'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T18 105'-85'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T19 85'-65'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T20 65'-45'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T21 45'-25'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T22 25'-4'9-27/32"	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T23 4'9-27/32"-0'	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal Net Width Deduct in	Redundant Horizontal U	Redundant Diagonal Net Width Deduct in	Redundant Diagonal U	Redundant Sub-Diagonal Net Width Deduct in	Redundant Sub-Diagonal U	Redundant Sub-Horizontal Net Width Deduct in	Redundant Sub-Horizontal U	Redundant Vertical Net Width Deduct in	Redundant Vertical U	Redundant Hip Net Width Deduct in	Redundant Hip U	Redundant Hip Diagonal Net Width Deduct in	Redundant Hip Diagonal U
T1 445'-425'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T2 425'-405'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T3 405'-385'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T4 385'-365'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T5 365'-345'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T6 345'-325'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T7 325'-305'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T8 305'-285'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T9 285'-265'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T10 265'-245'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T11 245'-225'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T12 225'-205'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T13 205'-185'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T14 185'-165'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T15 165'-145'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T16 145'-125'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T17 125'-105'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T18 105'-85'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T19 85'-65'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T20 65'-45'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T21 45'-25'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T22 25'-4'9-27/32"	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T23 4'9-27/32"-0'	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)

Tower Section Geometry *(cont'd)*

Tower Elevation	Connection Offsets							
	Diagonal				K-Bracing			
	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.
ft	in	in	in	in	in	in	in	in
T1 445'-425'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T2 425'-405'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T3 405'-385'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T4 385'-365'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T5 365'-345'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T6 345'-325'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T7 325'-305'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T8 305'-285'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T9 285'-265'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T10 265'-245'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T11 245'-225'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T12 225'-205'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T13 205'-185'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T14 185'-165'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T15 165'-145'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T16 145'-125'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T17 125'-105'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T18 105'-85'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T19 85'-65'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T20 65'-45'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T21 45'-25'	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T22 25'-4'9-27/32"	0.0000	3.5000	0.0000	3.5000	0.0000	0.0000	0.0000	0.0000
T23 4'9-27/32"-0'	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 445'-425'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 425'-405'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 405'-385'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 385'-365'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 365'-345'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 345'-325'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 325'-305'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 305'-285'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 285'-265'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 265'-245'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 245'-225'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T12 225'-205'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T13 205'-185'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Tower Elevation ft	*Leg Connection Type*	*Leg*		*Diagonal*		*Top Girt*		*Bottom Girt*		*Mid Girt*		*Long Horizontal*		*Short Horizontal*	
		Bolt Size in	*No.*	*Bolt Size* in	*No.*	*Bolt Size* in	*No.*	*Bolt Size* in	*No.*	*Bolt Size* in	*No.*	*Bolt Size* in	*No.*	*Bolt Size* in	*No.*
T14 185'-165'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T15 165'-145'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T16 145'-125'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T17 125'-105'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T18 105'-85'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T19 85'-65'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T20 65'-45'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T21 45'-25'	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T22 25'-4'9-27/32''	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T23 4'9-27/32''-0'	Flange	0.7500 A325X	0	0.5000 A325X	0	0.5000 A325X	0	0.5000 A325X	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Guy Data

Guy Elevation ft	Guy Grade	Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
421.977	EHS	A 3/8 [ECP -	1.54	10%	23000	0.273	542'2-1/32"	343'	0.0000	0'	100%
		B 23000]	1.54	10%	23000	0.273	544'23/32"	346'	0.0000	0'	100%
		C 3/8 [ECP - 23000] 3/8 [ECP - 23000]	1.54	10%	23000	0.273	542'9-15/32"	344'	0.0000	0'	100%
364.385	EHS	A 3/8 [ECP -	1.54	10%	23000	0.273	498'8-	343'	0.0000	0'	100%
		B 23000]	1.54	10%	23000	0.273	17/32"	346'	0.0000	0'	100%
		C 3/8 [ECP - 23000] 3/8 [ECP - 23000]	1.54	10%	23000	0.273	500'9-1/4" 499'4-13/16"	344'	0.0000	0'	100%
304.385	EHS	A 3/8 [ECP -	1.54	10%	23000	0.273	456'9-3/8"	343'	0.0000	0'	100%
		B 23000]	1.54	10%	23000	0.273	459'1/4"	346'	0.0000	0'	100%
		C 3/8 [ECP - 23000] 3/8 [ECP - 23000]	1.54	10%	23000	0.273	457'6-3/8"	344'	0.0000	0'	100%
244.385	EHS	A 1/2 [ECP -	2.69	10%	23000	0.517	419'3-	343'	0.0000	0'	100%
		B 23000]	2.69	10%	23000	0.517	15/32"	346'	0.0000	0'	100%
		C 1/2 [ECP - 23000] 1/2 [ECP - 23000]	2.69	10%	23000	0.517	421'8-3/4" 420'1-3/16"	344'	0.0000	0'	100%
184.385	EHS	A 7/16 [ECP -	2.08	10%	23000	0.399	261'1/4"	187'	0.0000	0'	100%
		B 23000]	2.08	10%	23000	0.399	260'3-	186'	0.0000	0'	100%
		C 7/16 [ECP - 23000] 7/16 [ECP - 23000]	2.08	10%	23000	0.399	23/32" 258'10-13/16"	184'	0.0000	0'	100%
124.385	EHS	A 3/8 [ECP -	2.00	13%	23000	0.273	222'8-	187'	0.0000	0'	100%
		B 23000]	2.00	13%	23000	0.273	17/32"	186'	0.0000	0'	100%
		C 3/8 [ECP - 23000] 3/8 [ECP - 23000]	2.00	13%	23000	0.273	221'10-9/16" 220'2-3/4"	184'	0.0000	0'	100%
64.3854	EHS	A 3/8 [ECP -	1.54	10%	23000	0.273	195'9"	187'	0.0000	0'	100%
		B 23000]	1.54	10%	23000	0.273	194'9-	186'	0.0000	0'	100%
		C 3/8 [ECP - 23000] 3/8 [ECP - 23000]	1.54	10%	23000	0.273	23/32" 192'11-1/32"	184'	0.0000	0'	100%

Guy Data*(cont'd)*

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
421.977	Torque Arm	6'9-31/32"	0.0000	Channel	A36 (36 ksi)	Channel	C10x15.3
364.385	Corner						
304.385	Corner						
244.385	Corner						
184.385	Corner						
124.385	Corner						
64.3854	Corner						

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
421'11-3/4"	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Double Equal Angle	2L2x2x1/4x3/8

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
364'4-11/16"	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	4 1/2x3/8
304'4-11/16"	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	4 1/2x3/8
244'4-11/16"	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	4 1/2x3/8
184'4-11/16"	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	4 1/2x3/8
124'4-11/16"	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	4 1/2x3/8
64'4-11/16"	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	4 1/2x3/8

Guy Data *(cont'd)*

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
421.977	0.15	0.15	0.15		25'1-11/16" 8.7 sec/pulse	25'3-27/32" 8.7 sec/pulse	25'2-13/32" 8.7 sec/pulse	
364.385	0.14	0.14	0.14		21'4-9/16" 8.0 sec/pulse	21'6-23/32" 8.0 sec/pulse	21'5-9/32" 8.0 sec/pulse	
304.385	0.12	0.13	0.12		18'3/8" 7.3 sec/pulse	18'2-17/32" 7.4 sec/pulse	18'1-3/32" 7.3 sec/pulse	
244.385	0.22	0.22	0.22		16'6-3/8" 7.0 sec/pulse	16'8-5/8" 7.1 sec/pulse	16'7-3/32" 7.0 sec/pulse	
184.385	0.10	0.10	0.10		6'5-5/32" 4.4 sec/pulse	6'4-11/16" 4.4 sec/pulse	6'3-27/32" 4.3 sec/pulse	
124.385	0.06	0.06	0.06		3'4-5/16" 3.2 sec/pulse	3'3-31/32" 3.2 sec/pulse	3'3-3/8" 3.1 sec/pulse	
64.3854	0.05	0.05	0.05		3'4-9/16" 3.2 sec/pulse	3'4-3/16" 3.2 sec/pulse	3'3-3/8" 3.1 sec/pulse	

Guy Data *(cont'd)*

			Torque Arm		Pull Off		Diagonal	
Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K_x	K_y	K_x	K_y	K_x	K_y
421.977	No	No	1	1	1	1	1	1
364.385	No	No			1	1	1	1
304.385	No	No			1	1	1	1
244.385	No	No			1	1	1	1
184.385	No	No			1	1	1	1
124.385	No	No			1	1	1	1
64.3854	No	No			1	1	1	1

Guy Data *(cont'd)*

	Torque-Arm				Pull Off				Diagonal			
Guy Elevation ft	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
421.977	0.7500 A325N	8	0.0000	1	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75

Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
364.385	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75
304.385	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75
244.385	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75
184.385	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75
124.385	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75
64.3854	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
421.977	A	210'11-7/8"	43		
	B	210'11-7/8"	43		
	C	210'11-7/8"	43		
364.385	A	182'2-9/32"	42		
	B	182'2-9/32"	42		
	C	182'2-9/32"	42		
304.385	A	152'2-9/32"	40		
	B	152'2-9/32"	40		
	C	152'2-9/32"	40		
244.385	A	122'2-9/32"	39		
	B	122'2-9/32"	39		
	C	122'2-9/32"	39		
184.385	A	92'2-9/32"	36		
	B	92'2-9/32"	36		
	C	92'2-9/32"	36		
124.385	A	62'2-9/32"	33		
	B	62'2-9/32"	33		
	C	62'2-9/32"	33		
64.3854	A	32'2-9/32"	29		
	B	32'2-9/32"	29		
	C	32'2-9/32"	29		

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Thin Flat Bar Climbing Ladder	B	No	No	Af (CaAa)	445' - 0'	0.0000	0	1	1	2.0000	2.0000		4.00
Safety Line 3/8 ******	B	No	No	Ar (CaAa)	445' - 0'	1.0000	0	1	1	0.3750	0.3750		0.22
CONDUIT (1C) ******	C	No	No	Ar (CaAa)	445' - 8'	0.0000	0	1	1	0.5000	1.5000		1.00
LDF5-50A(7/8) ******	A	No	No	Ar (CaAa)	352' - 8'	0.0000	-0.47	1	1	0.5000	1.0900		0.33
FB-L98B-235-XXX(3/8)	A	No	No	Ar (CaAa)	229' - 0'	2.0000	0.37	3	3	0.5000	0.3900		0.06
WR-VG66ST-BRD(7/8) ******	A	No	No	Ar (CaAa)	229' - 0'	0.0000	0.37	6	6	0.5000	0.9570		0.91

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LMR-400(3/8)	B	No	No	Ar (CaAa)	172' - 8'	0.0000	0.41	15	5	0.5000	0.4050		0.07
CAT5E(1/4) ******	B	No	No	Ar (CaAa)	172' - 8'	0.0000	0.47	2	2	0.5000	0.2500		0.10

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	445'-425'	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T2	425'-405'	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T3	405'-385'	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T4	385'-365'	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T5	365'-345'	A	0.000	0.000	0.763	0.000	0.00
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T6	345'-325'	A	0.000	0.000	2.180	0.000	0.01
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T7	325'-305'	A	0.000	0.000	2.180	0.000	0.01
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T8	305'-285'	A	0.000	0.000	2.180	0.000	0.01
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T9	285'-265'	A	0.000	0.000	2.180	0.000	0.01
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T10	265'-245'	A	0.000	0.000	2.180	0.000	0.01
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T11	245'-225'	A	0.000	0.000	4.945	0.000	0.03
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T12	225'-205'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T13	205'-185'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	7.417	0.000	0.08
		C	0.000	0.000	3.000	0.000	0.02
T14	185'-165'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	12.019	0.000	0.09
		C	0.000	0.000	3.000	0.000	0.02
T15	165'-145'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	20.567	0.000	0.11
		C	0.000	0.000	3.000	0.000	0.02
T16	145'-125'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	20.567	0.000	0.11
		C	0.000	0.000	3.000	0.000	0.02
T17	125'-105'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	20.567	0.000	0.11
		C	0.000	0.000	3.000	0.000	0.02
T18	105'-85'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	20.567	0.000	0.11
		C	0.000	0.000	3.000	0.000	0.02
T19	85'-65'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	20.567	0.000	0.11
		C	0.000	0.000	3.000	0.000	0.02

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T20	65'-45'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	20.567	0.000	0.11
		C	0.000	0.000	3.000	0.000	0.02
T21	45'-25'	A	0.000	0.000	16.004	0.000	0.12
		B	0.000	0.000	20.567	0.000	0.11
		C	0.000	0.000	3.000	0.000	0.02
T22	25'-4'9-27/32''	A	0.000	0.000	15.803	0.000	0.12
		B	0.000	0.000	18.662	0.000	0.11
		C	0.000	0.000	2.550	0.000	0.02
T23	4'9-27/32''-0'	A	0.000	0.000	3.330	0.000	0.03
		B	0.000	0.000	1.787	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	445'-425'	1.6965	-0.0602	1.6965	-0.0602
T2	425'-405'	1.6127	-0.0577	1.6127	-0.0577
T3	405'-385'	1.6965	-0.0602	1.6965	-0.0602
T4	385'-365'	1.6965	-0.0602	1.6965	-0.0602
T5	365'-345'	1.1624	0.1210	1.1624	0.1210
T6	345'-325'	0.5849	0.4720	0.5849	0.4720
T7	325'-305'	0.5849	0.4720	0.5849	0.4720
T8	305'-285'	0.5271	0.4325	0.5271	0.4325
T9	285'-265'	0.5849	0.4720	0.5849	0.4720
T10	265'-245'	0.5849	0.4720	0.5849	0.4720
T11	245'-225'	0.3838	-0.6671	0.3838	-0.6671
T12	225'-205'	-0.1075	-4.3508	-0.1075	-4.3508
T13	205'-185'	-0.1075	-4.3508	-0.1075	-4.3508
T14	185'-165'	0.7897	-3.3998	0.7897	-3.3998
T15	165'-145'	2.4215	-2.4683	2.4215	-2.4683
T16	145'-125'	2.4215	-2.4683	2.4215	-2.4683
T17	125'-105'	2.2438	-2.3308	2.2438	-2.3308
T18	105'-85'	2.4215	-2.4683	2.4215	-2.4683
T19	85'-65'	2.4215	-2.4683	2.4215	-2.4683
T20	65'-45'	2.2438	-2.3308	2.2438	-2.3308
T21	45'-25'	2.4215	-2.4683	2.4215	-2.4683
T22	25'-4'9-27/32''	2.2186	-2.9121	2.2186	-2.9121
T23	4'9-27/32''-0'	0.0746	-0.0487	0.0746	-0.0487

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	Thin Flat Bar Climbing Ladder	425.00 - 445.00	0.6000	0.6000
T1	2	Safety Line 3/8	425.00 - 445.00	1.0000	1.0000
T1	4	CONDUIT (1C)	425.00 - 445.00	0.6000	0.6000
T2	1	Thin Flat Bar Climbing Ladder	405.00 - 425.00	0.6000	0.6000
T2	2	Safety Line 3/8	405.00 - 425.00	1.0000	1.0000
T2	4	CONDUIT (1C)	405.00 - 425.00	0.6000	0.6000
T3	1	Thin Flat Bar Climbing Ladder	385.00 - 405.00	0.6000	0.6000
T3	2	Safety Line 3/8	385.00 - 405.00	1.0000	1.0000
T3	4	CONDUIT (1C)	385.00 - 405.00	0.6000	0.6000
T4	1	Thin Flat Bar Climbing Ladder	365.00 - 385.00	0.6000	0.6000
T4	2	Safety Line 3/8	365.00 - 385.00	1.0000	1.0000
T4	4	CONDUIT (1C)	365.00 - 385.00	0.6000	0.6000
T5	1	Thin Flat Bar Climbing Ladder	345.00 - 365.00	0.6000	0.6000
T5	2	Safety Line 3/8	345.00 - 365.00	1.0000	1.0000
T5	4	CONDUIT (1C)	345.00 - 365.00	0.6000	0.6000
T5	6	LDF5-50A(7/8)	345.00 - 352.00	0.6000	0.6000
T6	1	Thin Flat Bar Climbing Ladder	325.00 - 345.00	0.6000	0.6000
T6	2	Safety Line 3/8	325.00 - 345.00	1.0000	1.0000
T6	4	CONDUIT (1C)	325.00 - 345.00	0.6000	0.6000
T6	6	LDF5-50A(7/8)	325.00 - 345.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T7	1	Thin Flat Bar Climbing Ladder	305.00 - 325.00	0.6000	0.6000
T7	2	Safety Line 3/8	305.00 - 325.00	1.0000	1.0000
T7	4	CONDUIT (1C)	305.00 - 325.00	0.6000	0.6000
T7	6	LDF5-50A(7/8)	305.00 - 325.00	0.6000	0.6000
T8	1	Thin Flat Bar Climbing Ladder	285.00 - 305.00	0.6000	0.6000
T8	2	Safety Line 3/8	285.00 - 305.00	1.0000	1.0000
T8	4	CONDUIT (1C)	285.00 - 305.00	0.6000	0.6000
T8	6	LDF5-50A(7/8)	285.00 - 305.00	0.6000	0.6000
T9	1	Thin Flat Bar Climbing Ladder	265.00 - 285.00	0.6000	0.6000
T9	2	Safety Line 3/8	265.00 - 285.00	1.0000	1.0000
T9	4	CONDUIT (1C)	265.00 - 285.00	0.6000	0.6000
T9	6	LDF5-50A(7/8)	265.00 - 285.00	0.6000	0.6000
T10	1	Thin Flat Bar Climbing Ladder	245.00 - 265.00	0.6000	0.6000
T10	2	Safety Line 3/8	245.00 - 265.00	1.0000	1.0000
T10	4	CONDUIT (1C)	245.00 - 265.00	0.6000	0.6000
T10	6	LDF5-50A(7/8)	245.00 - 265.00	0.6000	0.6000
T11	1	Thin Flat Bar Climbing Ladder	225.00 - 245.00	0.6000	0.6000
T11	2	Safety Line 3/8	225.00 - 245.00	1.0000	1.0000
T11	4	CONDUIT (1C)	225.00 - 245.00	0.6000	0.6000
T11	6	LDF5-50A(7/8)	225.00 - 245.00	0.6000	0.6000
T11	8	FB-L98B-235-XXX(3/8)	225.00 - 229.00	0.6000	0.6000
T11	9	WR-VG66ST-BRD(7/8)	225.00 - 229.00	0.6000	0.6000
T12	1	Thin Flat Bar Climbing Ladder	205.00 - 225.00	0.6000	0.6000
T12	2	Safety Line 3/8	205.00 - 225.00	1.0000	1.0000
T12	4	CONDUIT (1C)	205.00 - 225.00	0.6000	0.6000
T12	6	LDF5-50A(7/8)	205.00 - 225.00	0.6000	0.6000
T12	8	FB-L98B-235-XXX(3/8)	205.00 - 225.00	0.6000	0.6000
T12	9	WR-VG66ST-BRD(7/8)	205.00 - 225.00	0.6000	0.6000
T13	1	Thin Flat Bar Climbing Ladder	185.00 - 205.00	0.6000	0.6000
T13	2	Safety Line 3/8	185.00 - 205.00	1.0000	1.0000
T13	4	CONDUIT (1C)	185.00 - 205.00	0.6000	0.6000
T13	6	LDF5-50A(7/8)	185.00 - 205.00	0.6000	0.6000
T13	8	FB-L98B-235-XXX(3/8)	185.00 - 205.00	0.6000	0.6000
T13	9	WR-VG66ST-BRD(7/8)	185.00 - 205.00	0.6000	0.6000
T14	1	Thin Flat Bar Climbing Ladder	165.00 - 185.00	0.6000	0.6000
T14	2	Safety Line 3/8	165.00 - 185.00	1.0000	1.0000
T14	4	CONDUIT (1C)	165.00 - 185.00	0.6000	0.6000
T14	6	LDF5-50A(7/8)	165.00 - 185.00	0.6000	0.6000
T14	8	FB-L98B-235-XXX(3/8)	165.00 - 185.00	0.6000	0.6000
T14	9	WR-VG66ST-BRD(7/8)	165.00 - 185.00	0.6000	0.6000
T14	11	LMR-400(3/8)	165.00 - 172.00	0.6000	0.6000
T14	12	CAT5E(1/4)	165.00 - 172.00	0.6000	0.6000
T15	1	Thin Flat Bar Climbing Ladder	145.00 - 165.00	0.6000	0.6000
T15	2	Safety Line 3/8	145.00 - 165.00	1.0000	1.0000
T15	4	CONDUIT (1C)	145.00 - 165.00	0.6000	0.6000
T15	6	LDF5-50A(7/8)	145.00 - 165.00	0.6000	0.6000
T15	8	FB-L98B-235-XXX(3/8)	145.00 - 165.00	0.6000	0.6000
T15	9	WR-VG66ST-BRD(7/8)	145.00 - 165.00	0.6000	0.6000
T15	11	LMR-400(3/8)	145.00 - 165.00	0.6000	0.6000
T15	12	CAT5E(1/4)	145.00 - 165.00	0.6000	0.6000
T16	1	Thin Flat Bar Climbing Ladder	125.00 - 145.00	0.6000	0.6000
T16	2	Safety Line 3/8	125.00 - 145.00	1.0000	1.0000
T16	4	CONDUIT (1C)	125.00 - 145.00	0.6000	0.6000
T16	6	LDF5-50A(7/8)	125.00 - 145.00	0.6000	0.6000
T16	8	FB-L98B-235-XXX(3/8)	125.00 - 145.00	0.6000	0.6000
T16	9	WR-VG66ST-BRD(7/8)	125.00 - 145.00	0.6000	0.6000
T16	11	LMR-400(3/8)	125.00 - 145.00	0.6000	0.6000
T16	12	CAT5E(1/4)	125.00 - 145.00	0.6000	0.6000
T17	1	Thin Flat Bar Climbing Ladder	105.00 - 125.00	0.6000	0.6000
T17	2	Safety Line 3/8	105.00 - 125.00	1.0000	1.0000
T17	4	CONDUIT (1C)	105.00 - 125.00	0.6000	0.6000
T17	6	LDF5-50A(7/8)	105.00 - 125.00	0.6000	0.6000
T17	8	FB-L98B-235-XXX(3/8)	105.00 - 125.00	0.6000	0.6000
T17	9	WR-VG66ST-BRD(7/8)	105.00 - 125.00	0.6000	0.6000
T17	11	LMR-400(3/8)	105.00 - 125.00	0.6000	0.6000
T17	12	CAT5E(1/4)	105.00 - 125.00	0.6000	0.6000
T18	1	Thin Flat Bar Climbing Ladder	85.00 - 105.00	0.6000	0.6000
T18	2	Safety Line 3/8	85.00 - 105.00	1.0000	1.0000
T18	4	CONDUIT (1C)	85.00 - 105.00	0.6000	0.6000
T18	6	LDF5-50A(7/8)	85.00 - 105.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T18	8	FB-L98B-235-XXX(3/8)	85.00 - 105.00	0.6000	0.6000
T18	9	WR-VG66ST-BRD(7/8)	85.00 - 105.00	0.6000	0.6000
T18	11	LMR-400(3/8)	85.00 - 105.00	0.6000	0.6000
T18	12	CAT5E(1/4)	85.00 - 105.00	0.6000	0.6000
T19	1	Thin Flat Bar Climbing Ladder	65.00 - 85.00	0.6000	0.6000
T19	2	Safety Line 3/8	65.00 - 85.00	1.0000	1.0000
T19	4	CONDUIT (1C)	65.00 - 85.00	0.6000	0.6000
T19	6	LDF5-50A(7/8)	65.00 - 85.00	0.6000	0.6000
T19	8	FB-L98B-235-XXX(3/8)	65.00 - 85.00	0.6000	0.6000
T19	9	WR-VG66ST-BRD(7/8)	65.00 - 85.00	0.6000	0.6000
T19	11	LMR-400(3/8)	65.00 - 85.00	0.6000	0.6000
T19	12	CAT5E(1/4)	65.00 - 85.00	0.6000	0.6000
T20	1	Thin Flat Bar Climbing Ladder	45.00 - 65.00	0.6000	0.6000
T20	2	Safety Line 3/8	45.00 - 65.00	1.0000	1.0000
T20	4	CONDUIT (1C)	45.00 - 65.00	0.6000	0.6000
T20	6	LDF5-50A(7/8)	45.00 - 65.00	0.6000	0.6000
T20	8	FB-L98B-235-XXX(3/8)	45.00 - 65.00	0.6000	0.6000
T20	9	WR-VG66ST-BRD(7/8)	45.00 - 65.00	0.6000	0.6000
T20	11	LMR-400(3/8)	45.00 - 65.00	0.6000	0.6000
T20	12	CAT5E(1/4)	45.00 - 65.00	0.6000	0.6000
T21	1	Thin Flat Bar Climbing Ladder	25.00 - 45.00	0.6000	0.6000
T21	2	Safety Line 3/8	25.00 - 45.00	1.0000	1.0000
T21	4	CONDUIT (1C)	25.00 - 45.00	0.6000	0.6000
T21	6	LDF5-50A(7/8)	25.00 - 45.00	0.6000	0.6000
T21	8	FB-L98B-235-XXX(3/8)	25.00 - 45.00	0.6000	0.6000
T21	9	WR-VG66ST-BRD(7/8)	25.00 - 45.00	0.6000	0.6000
T21	11	LMR-400(3/8)	25.00 - 45.00	0.6000	0.6000
T21	12	CAT5E(1/4)	25.00 - 45.00	0.6000	0.6000
T22	1	Thin Flat Bar Climbing Ladder	4.82 - 25.00	0.6000	0.6000
T22	2	Safety Line 3/8	4.82 - 25.00	1.0000	1.0000
T22	4	CONDUIT (1C)	8.00 - 25.00	0.6000	0.6000
T22	6	LDF5-50A(7/8)	8.00 - 25.00	0.6000	0.6000
T22	8	FB-L98B-235-XXX(3/8)	4.82 - 25.00	0.6000	0.6000
T22	9	WR-VG66ST-BRD(7/8)	4.82 - 25.00	0.6000	0.6000
T22	11	LMR-400(3/8)	8.00 - 25.00	0.6000	0.6000
T22	12	CAT5E(1/4)	8.00 - 25.00	0.6000	0.6000
T23	1	Thin Flat Bar Climbing Ladder	0.00 - 4.82	0.0000	0.0000
T23	2	Safety Line 3/8	0.00 - 4.82	1.0000	1.0000
T23	8	FB-L98B-235-XXX(3/8)	0.00 - 4.82	0.0000	0.0000
T23	9	WR-VG66ST-BRD(7/8)	0.00 - 4.82	0.0000	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
******									
Flash Beacon Lighting	B	From Leg	0.50 0' 0'	0.0000	445'	No Ice	2.70	2.70	0.05
Flash Beacon Lighting	B	From Leg	0.50 0' 0'	0.0000	218'6"	No Ice	2.70	2.70	0.05
Flash Beacon Lighting	B	From Leg	0.50 0' 0'	0.0000	218'6"	No Ice	2.70	2.70	0.05
******									
5' Hor x 3" x 3" Angle Mount	B	From Leg	3.00 0' 0'	0.0000	440'	No Ice	2.29	0.02	0.02
Side Arm Mount [SO 305-1]	B	From Leg	1.50 0' 0'	0.0000	440'	No Ice	0.53	1.52	0.03
******									
ALR8-0	B	From Face	3.00	0.0000	430'	No Ice	3.99	3.99	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
5' Hor x 3'' x 3'' Angle Mount	B	From Face	0' 6' 1.50 0' 0'	0.0000	430'	No Ice	2.29	0.02	0.02
Side Arm Mount [SO 305-1]	B	From Face	1.50 0' 0'	0.0000	430'	No Ice	0.53	1.52	0.03
******									
SRL-210C-4	C	From Leg	4.00 0' 10'	0.0000	352'	No Ice	1.00	1.00	0.06
(2) Horizontal Mount Pipe	C	From Leg	2.00 0' 0'	0.0000	352'	No Ice	1.14	0.01	0.02
******									
(2) NNH4-85B-R6	A	From Leg	4.00 0' 0'	0.0000	229'	No Ice	7.62	3.01	0.10
(2) NNH4-85B-R6	B	From Leg	4.00 0' 0'	0.0000	229'	No Ice	7.62	3.01	0.10
(2) NNH4-85B-R6	C	From Leg	4.00 0' 0'	0.0000	229'	No Ice	7.62	3.01	0.10
AIR 6472 B77G B77M_20240625	A	From Leg	4.00 0' 0'	0.0000	229'	No Ice	4.78	2.44	0.07
AIR 6472 B77G B77M_20240625	B	From Leg	4.00 0' 0'	0.0000	229'	No Ice	4.78	2.44	0.07
AIR 6472 B77G B77M_20240625	C	From Leg	4.00 0' 0'	0.0000	229'	No Ice	4.78	2.44	0.07
4490 B5/B12	A	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.20	0.85	0.02
4490 B5/B12	B	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.20	0.85	0.02
4490 B5/B12	C	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.20	0.85	0.02
4890 B25/B66	A	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.70	1.22	0.07
4890 B25/B66	B	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.70	1.22	0.07
4890 B25/B66	C	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.70	1.22	0.07
RADIO 4494 44B14 20B29	A	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.20	0.84	0.06
RADIO 4494 44B14 20B29	B	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.20	0.84	0.06
RADIO 4494 44B14 20B29	C	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.20	0.84	0.06
DC9-48-60-24-8C-EV_220506	A	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.11	2.69	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
DC9-48-60-24-8C-EV_220506	B	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.11	2.69	0.02
DC9-48-60-24-8C-EV_220506	C	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.11	2.69	0.02
(4) 10' Mount Pipe [#C10900802]	A	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.38	2.38	0.04
(4) 10' Mount Pipe [#C10900802]	B	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.38	2.38	0.04
(4) 10' Mount Pipe [#C10900802]	C	From Leg	4.00 0' 0'	0.0000	229'	No Ice	2.38	2.38	0.04
(2) 10' Mount Pipe [#C10900802]	A	From Leg	2.00 0' 0'	0.0000	229'	No Ice	2.38	2.38	0.04
(2) 10' Mount Pipe [#C10900802]	B	From Leg	2.00 0' 0'	0.0000	229'	No Ice	2.38	2.38	0.04
(2) 10' Mount Pipe [#C10900802]	C	From Leg	2.00 0' 0'	0.0000	229'	No Ice	2.38	2.38	0.04
12' V-Boom Mount [#C10841002C]	A	From Leg	2.00 0' 0'	0.0000	229'	No Ice	15.40	11.11	0.58
12' V-Boom Mount [#C10841002C]	B	From Leg	2.00 0' 0'	0.0000	229'	No Ice	15.40	11.11	0.58
12' V-Boom Mount [#C10841002C]	C	From Leg	2.00 0' 0'	0.0000	229'	No Ice	15.40	11.11	0.58
******									
8' x 2" Mount Pipe	A	From Leg	4.00 0' 0'	0.0000	172'	No Ice	1.90	1.90	0.03
8' x 2" Mount Pipe	B	From Leg	4.00 0' 0'	0.0000	172'	No Ice	1.90	1.90	0.03
8' x 2" Mount Pipe	C	From Leg	4.00 0' 0'	0.0000	172'	No Ice	1.90	1.90	0.03
Sector Mount [SM 401-3]	C	None		0.0000	172'	No Ice	17.82	17.82	0.80
******									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft^2	Weight K
******										

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy
3	1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy

Comb. No.	Description
4	1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy
5	1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy
6	1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy
7	1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy
8	1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy
9	1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy
10	1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy
11	1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy
12	1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy
13	1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy
14	Dead+Wind 0 deg - Service+Guy
15	Dead+Wind 30 deg - Service+Guy
16	Dead+Wind 60 deg - Service+Guy
17	Dead+Wind 90 deg - Service+Guy
18	Dead+Wind 120 deg - Service+Guy
19	Dead+Wind 150 deg - Service+Guy
20	Dead+Wind 180 deg - Service+Guy
21	Dead+Wind 210 deg - Service+Guy
22	Dead+Wind 240 deg - Service+Guy
23	Dead+Wind 270 deg - Service+Guy
24	Dead+Wind 300 deg - Service+Guy
25	Dead+Wind 330 deg - Service+Guy

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	445 - 425	Leg	Max Tension	4	5.64	0.26	-0.04
			Max. Compression	6	-6.26	0.10	0.13
			Max. Mx	4	-2.02	-0.31	-0.04
			Max. My	13	-3.07	0.21	0.35
			Max. Vy	4	0.88	0.16	-0.03
			Max. Vx	7	0.99	0.08	0.17
		Diagonal	Max Tension	13	1.70	0.00	0.00
			Max. Compression	7	-1.69	0.00	0.00
			Max. Mx	4	0.37	0.00	0.00
			Max. My	3	-0.09	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	3	0.10	0.00	0.00
			Max. Compression	9	-0.10	0.00	0.00
			Max. Mx	2	0.06	0.00	0.00
			Max. My	3	0.10	0.00	0.00
			Max. Vy	2	-0.00	0.00	0.00
			Max. Vx	3	-0.00	0.00	0.00
		Bottom Girt	Max Tension	7	0.26	0.00	0.00
			Max. Compression	12	-0.25	0.00	0.00
			Max. Mx	10	-0.06	0.00	0.00
			Max. My	9	0.17	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T2	425 - 405	Leg	Max Tension	4	6.50	-0.13	0.06
			Max. Compression	8	-11.68	0.06	-0.06
			Max. Mx	4	5.64	-0.38	0.06
			Max. My	7	-5.50	-0.21	-0.45
			Max. Vy	4	0.89	-0.38	0.06
			Max. Vx	7	1.00	-0.21	-0.45
		Diagonal	Max Tension	7	1.86	0.00	0.00
			Max. Compression	13	-1.85	0.00	0.00
			Max. Mx	9	0.60	0.00	0.00
			Max. My	3	1.19	0.00	-0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	2	0.24	0.00	0.00
			Max. Compression	7	-0.32	0.00	0.00
			Max. Mx	10	-0.00	0.00	0.00
			Max. My	9	-0.17	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	8	0.18	0.00	0.00
			Max. Compression	2	-0.16	0.00	0.00
			Max. Mx	10	0.10	0.00	0.00
			Max. My	9	-0.13	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Guy A	Bottom Tension	8	7.10		
			Top Tension	8	7.21		
			Top Cable Vert	8	5.76		
			Top Cable Norm	8	4.34		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-5.33		
			Bot Cable Norm	8	4.69		
			Bot Cable Tan	8	0.00		
		Guy B	Bottom Tension	12	7.05		
			Top Tension	12	7.17		
			Top Cable Vert	12	5.70		
			Top Cable Norm	12	4.34		
			Top Cable Tan	12	0.00		
			Bot Cable Vert	12	-5.27		
			Bot Cable Norm	12	4.68		
			Bot Cable Tan	12	0.00		
		Guy C	Bottom Tension	4	7.07		
			Top Tension	4	7.18		
			Top Cable Vert	4	5.73		
			Top Cable Norm	4	4.33		
			Top Cable Tan	4	0.00		
			Bot Cable Vert	4	-5.30		
			Bot Cable Norm	4	4.68		
			Bot Cable Tan	4	0.00		
		Top Guy Pull-Off	Max Tension	3	2.49	0.00	0.00
			Max. Compression	9	-2.49	0.00	0.00
			Max. Mx	10	-2.20	0.01	0.00
			Max. My	9	1.17	0.00	-0.00
			Max. Vy	10	-0.01	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Torque Arm Top	Max Tension	13	3.91	0.00	0.00
			Max. Compression	7	-0.98	0.00	0.00
			Max. Mx	4	-0.41	-19.20	0.00
			Max. My	9	0.33	-18.01	-0.00
			Max. Vy	4	5.65	-19.20	0.00
			Max. Vx	9	-0.00	-18.01	-0.00
T3	405 - 385	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-13.37	-0.05	-0.04
			Max. Mx	10	-2.00	-0.13	0.02
			Max. My	8	-11.68	-0.01	0.15
			Max. Vy	10	0.34	0.08	-0.03
			Max. Vx	2	0.38	-0.02	0.09
		Diagonal	Max Tension	9	0.53	0.00	0.00
			Max. Compression	2	-0.60	0.00	0.00
			Max. Mx	4	0.21	0.00	0.00
			Max. My	9	-0.13	0.00	0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
		Top Girt	Max Tension	2	0.15	0.00	0.00
			Max. Compression	8	-0.12	0.00	0.00
			Max. Mx	10	-0.04	0.00	0.00
			Max. My	9	0.11	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	7	0.07	0.00	0.00
			Max. Compression	13	-0.06	0.00	0.00
			Max. Mx	10	0.01	0.00	0.00
			Max. My	8	0.06	0.00	0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	8	-0.00	0.00	0.00
T4	385 - 365	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-12.96	0.03	-0.01

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	11	-4.53	0.24	-0.02
			Max. My	7	-5.39	-0.13	-0.24
			Max. Vy	11	-0.56	-0.10	-0.04
			Max. Vx	8	0.53	0.00	0.14
		Diagonal	Max Tension	13	1.24	0.00	0.00
			Max. Compression	7	-1.30	0.00	0.00
			Max. Mx	4	0.97	0.00	0.00
			Max. My	9	-0.59	0.00	0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
		Top Girt	Max Tension	12	0.11	0.00	0.00
			Max. Compression	7	-0.06	0.00	0.00
			Max. Mx	10	0.05	0.00	0.00
			Max. My	8	-0.04	0.00	0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	8	-0.00	0.00	0.00
		Bottom Girt	Max Tension	7	0.52	0.00	0.00
			Max. Compression	13	-0.47	0.00	0.00
			Max. Mx	12	0.16	0.00	0.00
			Max. My	9	-0.43	0.00	-0.00
			Max. Vy	12	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T5	365 - 345	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	4	-17.62	0.01	-0.06
			Max. Mx	5	-8.47	-0.32	-0.04
			Max. My	2	-6.96	0.07	0.33
			Max. Vy	11	-0.57	0.24	-0.00
			Max. Vx	8	0.55	-0.08	-0.20
		Diagonal	Max Tension	3	0.85	0.00	0.00
			Max. Compression	9	-0.86	0.00	0.00
			Max. Mx	4	-0.12	0.00	0.00
			Max. My	3	0.09	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	10	0.36	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	12	0.07	0.00	0.00
			Max. My	9	0.19	0.00	-0.00
			Max. Vy	12	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	8	0.08	0.00	0.00
			Max. Compression	2	-0.02	0.00	0.00
			Max. Mx	6	0.04	0.00	0.00
			Max. My	9	0.06	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Guy A	Bottom Tension	8	7.40		
			Top Tension	8	7.50		
			Top Cable Vert	8	5.61		
			Top Cable Norm	8	4.98		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-5.23		
			Bot Cable Norm	8	5.24		
			Bot Cable Tan	8	0.00		
		Guy B	Bottom Tension	12	7.35		
			Top Tension	12	7.45		
			Top Cable Vert	12	5.55		
			Top Cable Norm	12	4.97		
			Top Cable Tan	12	0.00		
			Bot Cable Vert	12	-5.17		
			Bot Cable Norm	12	5.23		
			Bot Cable Tan	12	0.00		
		Guy C	Bottom Tension	4	7.42		
			Top Tension	4	7.52		
			Top Cable Vert	4	5.61		
			Top Cable Norm	4	5.00		
			Top Cable Tan	4	0.00		
			Bot Cable Vert	4	-5.23		
			Bot Cable Norm	4	5.26		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Bot Cable Tan	4	0.00		
		Top Guy Pull-Off	Max Tension	10	2.34	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	12	0.43	0.01	0.00
			Max. My	9	1.22	0.00	-0.00
			Max. Vy	12	-0.01	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T6	345 - 325	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	4	-17.63	-0.02	0.00
			Max. Mx	11	-8.13	-0.21	-0.00
			Max. My	9	-14.35	-0.03	0.19
			Max. Vy	5	0.61	0.14	-0.05
			Max. Vx	9	0.49	-0.01	0.13
		Diagonal	Max Tension	5	0.91	0.00	0.00
			Max. Compression	11	-0.99	0.00	0.00
			Max. Mx	9	0.77	0.00	0.00
			Max. My	9	-0.48	0.00	0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
		Top Girt	Max Tension	5	0.05	0.00	0.00
			Max. Compression	8	-0.00	0.00	0.00
			Max. Mx	6	0.04	0.00	0.00
			Max. My	9	-0.00	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	10	0.22	0.00	0.00
			Max. Compression	5	-0.17	0.00	0.00
			Max. Mx	8	0.11	0.00	0.00
			Max. My	9	-0.16	0.00	-0.00
			Max. Vy	8	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T7	325 - 305	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-19.17	0.08	0.15
			Max. Mx	11	-13.82	0.41	-0.04
			Max. My	3	-12.65	-0.14	0.34
			Max. Vy	5	0.92	0.24	-0.06
			Max. Vx	8	0.87	-0.02	0.20
		Diagonal	Max Tension	5	1.76	0.00	0.00
			Max. Compression	11	-1.86	0.00	0.00
			Max. Mx	9	1.09	0.00	0.00
			Max. My	3	-0.65	0.00	-0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	4	0.25	0.00	0.00
			Max. Compression	10	-0.21	0.00	0.00
			Max. Mx	8	-0.09	0.00	0.00
			Max. My	9	0.21	0.00	-0.00
			Max. Vy	8	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	10	0.74	0.00	0.00
			Max. Compression	4	-0.61	0.00	0.00
			Max. Mx	8	0.27	0.00	0.00
			Max. My	9	-0.58	0.00	-0.00
			Max. Vy	8	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T8	305 - 285	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-19.18	-0.35	-0.12
			Max. Mx	5	-18.36	-0.45	-0.05
			Max. My	2	-18.31	0.11	0.44
			Max. Vy	5	0.91	-0.31	0.04
			Max. Vx	8	0.88	-0.06	-0.33
		Diagonal	Max Tension	7	0.75	0.00	0.00
			Max. Compression	13	-0.77	0.00	0.00
			Max. Mx	9	-0.62	0.00	0.00
			Max. My	3	0.28	0.00	-0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	2	0.40	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	0.06	0.00	0.00
			Max. My	9	0.20	0.00	-0.00
			Max. Vy	8	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	11	0.07	0.00	0.00
			Max. Compression	5	-0.03	0.00	0.00
			Max. Mx	6	0.03	0.00	0.00
			Max. My	9	0.03	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Guy A	Bottom Tension	8	7.05		
			Top Tension	8	7.14		
			Top Cable Vert	8	4.87		
			Top Cable Norm	8	5.22		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-4.55		
			Bot Cable Norm	8	5.39		
			Bot Cable Tan	8	0.00		
		Guy B	Bottom Tension	12	7.00		
			Top Tension	12	7.08		
			Top Cable Vert	12	4.81		
			Top Cable Norm	12	5.20		
			Top Cable Tan	12	0.00		
			Bot Cable Vert	12	-4.49		
			Bot Cable Norm	12	5.37		
			Bot Cable Tan	12	0.00		
		Guy C	Bottom Tension	4	7.06		
			Top Tension	4	7.14		
			Top Cable Vert	4	4.86		
			Top Cable Norm	4	5.23		
			Top Cable Tan	4	0.00		
			Bot Cable Vert	4	-4.54		
			Bot Cable Norm	4	5.40		
			Bot Cable Tan	4	0.00		
		Top Guy Pull-Off	Max Tension	2	2.55	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	8	0.38	0.01	0.00
			Max. My	9	1.28	0.00	-0.00
			Max. Vy	8	-0.01	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T9	285 - 265	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-19.29	0.01	0.06
			Max. Mx	11	-16.56	0.22	-0.01
			Max. My	8	-9.20	0.01	0.17
			Max. Vy	5	0.59	0.11	-0.05
			Max. Vx	9	0.47	0.00	0.10
		Diagonal	Max Tension	5	0.85	0.00	0.00
			Max. Compression	11	-0.97	0.00	0.00
			Max. Mx	9	0.12	0.00	0.00
			Max. My	3	-0.07	0.00	-0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	5	0.06	0.00	0.00
			Max. Compression	12	-0.01	0.00	0.00
			Max. Mx	6	0.05	0.00	0.00
			Max. My	9	0.03	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	10	0.23	0.00	0.00
			Max. Compression	4	-0.16	0.00	0.00
			Max. Mx	6	-0.06	0.00	0.00
			Max. My	9	-0.13	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T10	265 - 245	Leg	Max Tension	12	0.64	-0.19	-0.09
			Max. Compression	10	-28.68	-0.13	-0.09
			Max. Mx	11	-22.82	0.39	-0.02
			Max. My	3	-21.56	-0.14	0.30
			Max. Vy	11	-0.92	-0.06	-0.04

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	7	0.87	-0.05	0.10
		Diagonal	Max Tension	5	1.54	0.00	0.00
			Max. Compression	11	-1.66	0.00	0.00
			Max. Mx	9	0.84	0.00	0.00
			Max. My	3	-0.44	0.00	-0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	4	0.23	0.00	0.00
			Max. Compression	10	-0.19	0.00	0.00
			Max. Mx	6	0.12	0.00	0.00
			Max. My	9	0.19	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	10	1.00	0.00	0.00
			Max. Compression	4	-0.84	0.00	0.00
			Max. Mx	6	-0.19	0.00	0.00
			Max. My	9	-0.79	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T11	245 - 225	Leg	Max Tension	12	0.64	-0.10	-0.09
			Max. Compression	8	-33.40	0.27	0.24
			Max. Mx	3	-20.19	1.03	0.29
			Max. My	2	-26.22	0.44	-1.12
			Max. Vy	6	-1.44	-0.84	0.59
			Max. Vx	8	-1.31	-0.74	-0.59
		Diagonal	Max Tension	7	4.22	0.00	0.00
			Max. Compression	13	-4.25	0.00	0.00
			Max. Mx	9	0.50	0.00	0.00
			Max. My	3	0.40	0.00	-0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	5	0.72	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	6	0.71	0.00	0.00
			Max. My	9	0.27	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	12	0.95	0.00	0.00
			Max. Compression	6	-0.97	0.00	0.00
			Max. Mx	6	0.37	0.00	0.00
			Max. My	9	-0.89	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Guy A	Bottom Tension	8	11.97		
			Top Tension	8	12.09		
			Top Cable Vert	8	7.19		
			Top Cable Norm	8	9.73		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-6.78		
			Bot Cable Norm	8	9.86		
			Bot Cable Tan	8	0.00		
		Guy B	Bottom Tension	12	12.04		
			Top Tension	12	12.17		
			Top Cable Vert	12	7.19		
			Top Cable Norm	12	9.82		
			Top Cable Tan	12	0.00		
			Bot Cable Vert	12	-6.78		
			Bot Cable Norm	12	9.95		
			Bot Cable Tan	12	0.00		
		Guy C	Bottom Tension	4	11.98		
			Top Tension	4	12.10		
			Top Cable Vert	4	7.18		
			Top Cable Norm	4	9.74		
			Top Cable Tan	4	0.00		
			Bot Cable Vert	4	-6.77		
			Bot Cable Norm	4	9.88		
			Bot Cable Tan	4	0.00		
		Top Guy Pull-Off	Max Tension	5	4.60	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	6	4.56	0.01	0.00
			Max. My	9	1.73	0.00	-0.00
			Max. Vy	6	-0.01	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T12	225 - 205	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	12	-33.40	0.12	-0.09
			Max. Mx	2	-28.30	0.43	-0.19
			Max. My	6	-28.09	-0.16	0.49
			Max. Vy	11	-1.06	-0.27	-0.02
			Max. Vx	8	0.87	0.03	0.27
		Diagonal	Max Tension	5	1.62	0.00	0.00
			Max. Compression	11	-1.74	0.00	0.00
			Max. Mx	9	1.38	0.00	0.00
			Max. My	3	0.83	0.00	-0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	6	0.77	0.00	0.00
			Max. Compression	13	-0.67	0.00	0.00
			Max. Mx	6	-0.39	0.00	0.00
			Max. My	9	0.64	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	10	0.37	0.00	0.00
			Max. Compression	5	-0.40	0.00	0.00
			Max. Mx	12	0.23	0.00	0.00
			Max. My	9	-0.35	0.00	-0.00
			Max. Vy	12	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T13	205 - 185	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	10	-28.07	-0.28	-0.02
			Max. Mx	11	-20.31	0.58	-0.03
			Max. My	7	-20.09	-0.27	-0.50
			Max. Vy	11	-1.30	-0.24	-0.08
			Max. Vx	8	1.34	-0.03	0.32
		Diagonal	Max Tension	5	2.49	0.00	0.00
			Max. Compression	11	-2.64	0.00	0.00
			Max. Mx	9	1.66	0.00	0.00
			Max. My	3	1.19	0.00	-0.00
			Max. Vy	9	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	4	0.51	0.00	0.00
			Max. Compression	10	-0.34	0.00	0.00
			Max. Mx	12	-0.20	0.00	0.00
			Max. My	9	0.44	0.00	-0.00
			Max. Vy	12	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	7	1.14	0.00	0.00
			Max. Compression	12	-1.04	0.00	0.00
			Max. Mx	4	0.37	0.00	0.00
			Max. My	9	-0.89	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T14	185 - 165	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-28.15	0.02	-0.07
			Max. Mx	5	-26.09	-0.73	-0.09
			Max. My	2	-27.28	0.15	0.69
			Max. Vy	11	-1.31	0.57	0.01
			Max. Vx	8	1.34	-0.10	-0.50
		Diagonal	Max Tension	13	1.66	0.00	0.00
			Max. Compression	13	-1.65	0.00	0.00
			Max. Mx	3	-1.03	0.00	0.00
			Max. My	3	-0.32	0.00	-0.00
			Max. Vy	3	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	6	0.55	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	4	0.02	0.00	0.00
			Max. My	9	0.23	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	9	0.00	0.00	0.00
		Bottom Girt	Max Tension	5	0.19	0.00	0.00
			Max. Compression	9	-0.09	0.00	0.00
			Max. Mx	4	0.06	0.00	0.00
			Max. My	3	-0.03	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Guy A	Bottom Tension	7	10.05		
			Top Tension	7	10.12		
			Top Cable Vert	7	7.20		
			Top Cable Norm	7	7.11		
			Top Cable Tan	7	0.02		
			Bot Cable Vert	7	-6.98		
			Bot Cable Norm	7	7.23		
			Bot Cable Tan	7	0.12		
		Guy B	Bottom Tension	11	10.22		
			Top Tension	11	10.29		
			Top Cable Vert	11	7.34		
			Top Cable Norm	11	7.21		
			Top Cable Tan	11	0.02		
			Bot Cable Vert	11	-7.12		
			Bot Cable Norm	11	7.33		
			Bot Cable Tan	11	0.11		
		Guy C	Bottom Tension	5	10.25		
			Top Tension	5	10.32		
			Top Cable Vert	5	7.40		
			Top Cable Norm	5	7.19		
			Top Cable Tan	5	0.02		
			Bot Cable Vert	5	-7.18		
			Bot Cable Norm	5	7.31		
			Bot Cable Tan	5	0.11		
		Top Guy Pull-Off	Max Tension	6	3.52	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	4	0.10	0.01	0.00
			Max. My	9	1.47	0.00	-0.00
			Max. Vy	4	-0.01	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T15	165 - 145	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-28.20	-0.06	0.08
			Max. Mx	10	-26.48	0.24	0.04
			Max. My	6	-26.93	-0.07	-0.26
			Max. Vy	10	-0.59	-0.11	-0.05
			Max. Vx	13	-0.58	-0.14	-0.05
		Diagonal	Max Tension	13	0.94	0.00	0.00
			Max. Compression	6	-1.07	0.00	0.00
			Max. Mx	13	0.94	0.00	0.00
			Max. My	3	0.25	0.00	-0.00
			Max. Vy	13	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Top Girt	Max Tension	9	0.14	0.00	0.00
			Max. Compression	4	-0.08	0.00	0.00
			Max. Mx	4	0.04	0.00	0.00
			Max. My	3	0.08	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Bottom Girt	Max Tension	6	0.31	0.00	0.00
			Max. Compression	12	-0.16	0.00	0.00
			Max. Mx	4	0.12	0.00	0.00
			Max. My	6	-0.12	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
T16	145 - 125	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	2	-38.82	0.14	-0.12
			Max. Mx	10	-21.31	0.42	0.04
			Max. My	6	-21.73	-0.17	-0.45
			Max. Vy	11	-1.06	-0.18	-0.08
			Max. Vx	2	-0.96	0.14	-0.12
		Diagonal	Max Tension	13	2.02	0.00	0.00
			Max. Compression	7	-2.18	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	13	1.22	0.00	0.00
			Max. My	6	0.09	0.00	0.00
			Max. Vy	13	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	12	0.29	0.00	0.00
			Max. Compression	6	-0.29	0.00	0.00
			Max. Mx	4	-0.05	0.00	0.00
			Max. My	6	0.22	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Bottom Girt	Max Tension	6	1.00	0.00	0.00
			Max. Compression	12	-0.74	0.00	0.00
			Max. Mx	4	0.27	0.00	0.00
			Max. My	6	-0.50	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
T17	125 - 105	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	2	-38.83	0.22	0.46
			Max. Mx	5	-36.21	-0.63	-0.11
			Max. My	2	-38.28	0.14	0.62
			Max. Vy	11	-1.06	0.47	0.05
			Max. Vx	2	-0.96	0.22	0.46
		Diagonal	Max Tension	5	1.46	0.00	0.00
			Max. Compression	5	-1.48	0.00	0.00
			Max. Mx	6	-0.78	0.00	0.00
			Max. My	6	0.03	0.00	0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	6	0.44	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	4	0.04	0.00	0.00
			Max. My	6	0.12	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Bottom Girt	Max Tension	8	0.25	0.00	0.00
			Max. Compression	2	-0.15	0.00	0.00
			Max. Mx	4	-0.05	0.00	0.00
			Max. My	6	0.17	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Guy A	Bottom Tension	7	6.65		
			Top Tension	7	6.69		
			Top Cable Vert	7	3.77		
			Top Cable Norm	7	5.52		
			Top Cable Tan	7	0.02		
			Bot Cable Vert	7	-3.65		
			Bot Cable Norm	7	5.57		
			Bot Cable Tan	7	0.06		
		Guy B	Bottom Tension	11	6.95		
			Top Tension	11	6.98		
			Top Cable Vert	11	3.95		
			Top Cable Norm	11	5.76		
			Top Cable Tan	11	0.02		
			Bot Cable Vert	11	-3.83		
			Bot Cable Norm	11	5.80		
			Bot Cable Tan	11	0.06		
		Guy C	Bottom Tension	5	6.99		
			Top Tension	5	7.02		
			Top Cable Vert	5	4.00		
			Top Cable Norm	5	5.77		
			Top Cable Tan	5	0.02		
			Bot Cable Vert	5	-3.88		
			Bot Cable Norm	5	5.81		
			Bot Cable Tan	5	0.06		
		Top Guy Pull-Off	Max Tension	6	2.79	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	4	0.23	0.01	0.00
			Max. My	6	0.78	0.00	-0.00
			Max. Vy	4	-0.01	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	6	0.00	0.00	0.00
T18	105 - 85	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	2	-30.90	0.13	-0.09
			Max. Mx	11	-28.44	0.21	-0.00
			Max. My	5	-26.63	0.00	-0.22
			Max. Vy	5	-0.54	-0.15	-0.10
			Max. Vx	8	-0.44	0.13	-0.06
		Diagonal	Max Tension	5	0.77	0.00	0.00
			Max. Compression	11	-0.90	0.00	0.00
			Max. Mx	6	-0.68	0.00	0.00
			Max. My	6	0.20	0.00	0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	2	0.23	0.00	0.00
			Max. Compression	8	-0.13	0.00	0.00
			Max. Mx	10	-0.01	0.00	0.00
			Max. My	6	-0.08	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Bottom Girt	Max Tension	6	0.18	0.00	0.00
			Max. Compression	12	-0.09	0.00	0.00
			Max. Mx	4	0.06	0.00	0.00
			Max. My	6	0.05	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
T19	85 - 65	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-36.42	-0.01	0.21
			Max. Mx	10	-26.16	0.29	0.04
			Max. My	6	-26.63	-0.11	-0.38
			Max. Vy	11	-0.76	-0.16	-0.10
			Max. Vx	13	-0.60	-0.18	-0.13
		Diagonal	Max Tension	12	1.53	0.00	0.00
			Max. Compression	7	-1.65	0.00	0.00
			Max. Mx	5	0.15	0.00	0.00
			Max. My	6	0.37	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	12	0.21	0.00	0.00
			Max. Compression	6	-0.12	0.00	0.00
			Max. Mx	4	0.01	0.00	0.00
			Max. My	6	0.04	0.00	-0.00
			Max. Vy	4	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Bottom Girt	Max Tension	6	0.74	0.00	0.00
			Max. Compression	12	-0.59	0.00	0.00
			Max. Mx	10	-0.07	0.00	0.00
			Max. My	6	-0.26	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
T20	65 - 45	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-36.42	-0.38	-0.14
			Max. Mx	5	-35.21	-0.49	-0.08
			Max. My	2	-35.15	0.12	0.49
			Max. Vy	11	0.79	0.31	-0.07
			Max. Vx	3	0.64	-0.10	0.29
		Diagonal	Max Tension	11	1.85	0.00	0.00
			Max. Compression	5	-1.88	0.00	0.00
			Max. Mx	6	-0.64	0.00	0.00
			Max. My	6	0.37	0.00	0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	10	0.33	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	10	0.33	0.00	0.00
			Max. My	6	0.09	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Bottom Girt	Max Tension	5	0.34	0.00	0.00
			Max. Compression	11	-0.21	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	10	0.16	0.00	0.00
			Max. My	6	0.27	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Guy A	Bottom Tension	7	4.71		
			Top Tension	7	4.73		
			Top Cable Vert	7	1.59		
			Top Cable Norm	7	4.45		
			Top Cable Tan	7	0.02		
			Bot Cable Vert	7	-1.51		
			Bot Cable Norm	7	4.46		
			Bot Cable Tan	7	0.03		
		Guy B	Bottom Tension	11	5.00		
			Top Tension	11	5.02		
			Top Cable Vert	11	1.69		
			Top Cable Norm	11	4.72		
			Top Cable Tan	11	0.02		
			Bot Cable Vert	11	-1.61		
			Bot Cable Norm	11	4.73		
			Bot Cable Tan	11	0.03		
		Guy C	Bottom Tension	5	5.02		
			Top Tension	5	5.04		
			Top Cable Vert	5	1.71		
			Top Cable Norm	5	4.74		
			Top Cable Tan	5	0.02		
			Bot Cable Vert	5	-1.63		
			Bot Cable Norm	5	4.75		
			Bot Cable Tan	5	0.03		
		Top Guy Pull-Off	Max Tension	10	2.14	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	10	2.14	0.01	0.00
			Max. My	6	0.56	0.00	-0.00
			Max. Vy	10	-0.01	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
T21	45 - 25	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	5	-36.07	-0.11	0.13
			Max. Mx	6	-33.09	-0.29	0.08
			Max. My	9	-31.74	-0.08	0.27
			Max. Vy	11	0.79	0.22	-0.07
			Max. Vx	3	0.65	-0.04	0.22
		Diagonal	Max Tension	5	1.23	0.00	0.00
			Max. Compression	3	-1.36	0.00	0.00
			Max. Mx	5	-0.61	0.00	0.00
			Max. My	6	0.53	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	11	0.29	0.00	0.00
			Max. Compression	5	-0.22	0.00	0.00
			Max. Mx	10	-0.04	0.00	0.00
			Max. My	6	-0.17	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Bottom Girt	Max Tension	9	0.18	0.00	0.00
			Max. Compression	12	-0.13	0.00	0.00
			Max. Mx	10	0.07	0.00	0.00
			Max. My	6	0.14	0.00	-0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
T22	25 - 4.81771	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	5	-35.82	-0.00	0.21
			Max. Mx	5	-27.35	-0.47	-0.07
			Max. My	13	-27.81	0.22	0.45
			Max. Vy	3	1.50	-0.18	0.13
			Max. Vx	12	-1.33	0.20	0.19
		Diagonal	Max Tension	12	1.40	0.00	0.00
			Max. Compression	12	-1.46	0.00	0.00
			Max. Mx	5	-0.14	0.00	0.00
			Max. My	6	0.66	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	12	0.26	0.00	0.00
			Max. Compression	6	-0.11	0.00	0.00
			Max. Mx	10	0.06	0.00	0.00
			Max. My	6	-0.11	0.00	0.00
			Max. Vy	10	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Bottom Girt	Max Tension	6	0.61	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	6	0.61	0.00	0.00
			Max. My	6	0.43	0.00	0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
T23	4.81771 - 0	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	5	-34.22	-0.28	-0.48
			Max. Mx	6	-33.75	0.48	0.19
			Max. My	12	-29.32	-0.25	1.43
			Max. Vy	6	0.72	-0.46	-0.22
			Max. Vx	12	-1.66	-0.25	1.43
		Horizontal	Max Tension	6	0.28	0.09	0.01
			Max. Compression	13	-0.03	0.55	0.03
			Max. Mx	12	-0.03	-1.54	-0.04
			Max. My	12	-0.03	-1.54	-0.04
			Max. Vy	12	-2.91	-1.54	-0.04
			Max. Vx	12	-0.10	-1.42	-0.04
		Top Girt	Max Tension	6	6.79	-0.08	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	12	5.57	-0.88	-0.02
			Max. My	12	5.57	-0.88	-0.02
			Max. Vy	12	-0.35	-0.88	-0.02
			Max. Vx	12	-0.01	-0.47	-0.02

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	6	92.21	-0.43	-0.27
	Max. H_x	12	84.66	0.79	0.44
	Max. H_z	2	90.84	0.01	0.53
	Max. M_x	1	0.00	0.00	-0.01
	Max. M_z	1	0.00	0.00	-0.01
	Max. Torsion	6	1.88	-0.43	-0.27
	Min. Vert	1	47.58	0.00	-0.01
	Min. H_x	4	84.70	-0.77	0.43
	Min. H_z	8	84.31	0.01	-0.89
	Min. M_x	1	0.00	0.00	-0.01
	Min. M_z	1	0.00	0.00	-0.01
	Min. Torsion	12	-1.98	0.79	0.44
Guy C @ 344 ft Elev 0 ft Azimuth 240 deg	Max. Vert	10	-3.14	-1.72	0.99
	Max. H_x	10	-3.14	-1.72	0.99
	Max. H_z	3	-25.75	-24.27	14.93
	Min. Vert	4	-27.07	-25.84	14.92
	Min. H_x	4	-27.07	-25.84	14.92
	Min. H_z	10	-3.14	-1.72	0.99
Guy B @ 346 ft Elev 0 ft Azimuth 120 deg	Max. Vert	6	-3.11	1.72	0.99
	Max. H_x	12	-26.87	25.83	14.91
	Max. H_z	13	-25.61	24.34	14.98
	Min. Vert	12	-26.87	25.83	14.91
	Min. H_x	6	-3.11	1.72	0.99
	Min. H_z	6	-3.11	1.72	0.99
Guy A @ 343 ft Elev 0 ft Azimuth 0 deg	Max. Vert	2	-3.17	0.00	-2.01
	Max. H_x	11	-15.39	1.83	-16.20
	Max. H_z	2	-3.17	0.00	-2.01
	Min. Vert	8	-27.05	-0.00	-29.74
	Min. H_x	5	-15.31	-1.83	-16.12
	Min. H_z	8	-27.05	-0.00	-29.74
Guy C @ 184 ft Elev 0 ft Azimuth 240 deg	Max. Vert	10	-0.32	-0.29	0.17
	Max. H_x	10	-0.32	-0.29	0.17
	Max. H_z	5	-12.69	-15.58	8.75
	Min. Vert	5	-12.69	-15.58	8.75
	Min. H_x	5	-12.69	-15.58	8.75
	Min. H_z	10	-0.32	-0.29	0.17
Guy B @ 186 ft Elev 0 ft Azimuth 120 deg	Max. Vert	6	-0.30	0.28	0.16
	Max. H_x	11	-12.55	15.58	8.75
	Max. H_z	13	-12.21	14.85	8.82
	Min. Vert	11	-12.55	15.58	8.75
	Min. H_x	6	-0.30	0.28	0.16
	Min. H_z	6	-0.30	0.28	0.16
Guy A @ 187 ft Elev 0 ft Azimuth 0 deg	Max. Vert	2	-0.31	0.00	-0.35
	Max. H_x	11	-6.54	0.44	-9.34
	Max. H_z	2	-0.31	0.00	-0.35
	Min. Vert	7	-12.13	-0.21	-17.26
	Min. H_x	5	-6.55	-0.44	-9.36
	Min. H_z	7	-12.13	-0.21	-17.26

Tower Mast Reaction Summary

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead Only	47.58	-0.00	0.01	0.00	0.00	-0.01
1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy	90.84	-0.01	-0.53	0.00	0.00	1.21
1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy	87.80	0.45	-0.50	0.00	0.00	1.82
1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy	84.70	0.77	-0.43	0.00	0.00	0.33
1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy	90.11	0.65	-0.18	0.00	0.00	-1.63
1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy	92.21	0.43	0.27	0.00	0.00	-1.88
1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy	89.46	0.16	0.67	0.00	0.00	-1.44
1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy	84.31	-0.01	0.89	0.00	0.00	-1.31
1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy	87.72	-0.22	0.66	0.00	0.00	-1.85
1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy	91.41	-0.46	0.28	0.00	0.00	-0.33
1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy	89.88	-0.66	-0.18	0.00	0.00	1.61
1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy	84.66	-0.79	-0.44	0.00	0.00	1.98
1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy	89.34	-0.49	-0.46	0.00	0.00	1.41
Dead+Wind 0 deg - Service+Guy	50.10	-0.00	-0.30	0.00	0.00	0.41
Dead+Wind 30 deg - Service+Guy	50.77	0.14	-0.24	0.00	0.00	0.60
Dead+Wind 60 deg - Service+Guy	51.43	0.27	-0.15	0.00	0.00	0.11
Dead+Wind 90 deg - Service+Guy	50.82	0.32	0.01	0.00	0.00	-0.54
Dead+Wind 120 deg - Service+Guy	50.12	0.27	0.17	0.00	0.00	-0.63
Dead+Wind 150 deg - Service+Guy	50.78	0.15	0.28	0.00	0.00	-0.47
Dead+Wind 180 deg - Service+Guy	51.38	-0.00	0.31	0.00	0.00	-0.43
Dead+Wind 210 deg - Service+Guy	50.73	-0.15	0.26	0.00	0.00	-0.61
Dead+Wind 240 deg - Service+Guy	50.05	-0.28	0.17	0.00	0.00	-0.12
Dead+Wind 270 deg - Service+Guy	50.75	-0.33	0.01	0.00	0.00	0.53
Dead+Wind 300 deg - Service+Guy	51.38	-0.28	-0.15	0.00	0.00	0.62
Dead+Wind 330 deg - Service+Guy	50.77	-0.16	-0.26	0.00	0.00	0.46

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-20.78	0.00	-0.00	20.78	-0.00	0.006%
2	0.05	-24.83	-38.97	-0.05	24.83	38.96	0.013%
3	19.08	-24.34	-32.92	-19.08	24.34	32.92	0.011%
4	34.16	-23.85	-19.70	-34.16	23.85	19.70	0.010%
5	40.27	-24.34	-0.05	-40.27	24.34	0.05	0.012%
6	34.68	-24.83	19.95	-34.67	24.83	-19.94	0.013%
7	19.82	-24.34	34.29	-19.82	24.34	-34.29	0.012%
8	-0.05	-23.85	38.82	0.05	23.85	-38.83	0.009%
9	-19.08	-24.34	32.92	19.08	24.34	-32.92	0.012%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
10	-34.28	-24.83	19.77	34.28	24.83	-19.77	0.013%
11	-40.27	-24.34	0.05	40.27	24.34	-0.04	0.011%
12	-34.55	-23.85	-19.87	34.55	23.85	19.88	0.009%
13	-19.82	-24.34	-34.29	19.82	24.34	34.29	0.011%
14	0.01	-20.91	-10.46	-0.01	20.91	10.46	0.005%
15	5.12	-20.78	-8.84	-5.12	20.78	8.84	0.005%
16	9.17	-20.65	-5.29	-9.17	20.65	5.29	0.005%
17	10.81	-20.78	-0.01	-10.81	20.78	0.01	0.005%
18	9.31	-20.91	5.35	-9.31	20.91	-5.35	0.005%
19	5.32	-20.78	9.20	-5.32	20.78	-9.20	0.005%
20	-0.01	-20.65	10.42	0.01	20.65	-10.42	0.005%
21	-5.12	-20.78	8.84	5.12	20.78	-8.84	0.005%
22	-9.20	-20.91	5.31	9.20	20.91	-5.31	0.005%
23	-10.81	-20.78	0.01	10.81	20.78	-0.01	0.004%
24	-9.27	-20.65	-5.33	9.27	20.65	5.33	0.005%
25	-5.32	-20.78	-9.20	5.32	20.78	9.20	0.005%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	11	0.00000001	0.00004542
2	Yes	49	0.00009539	0.00006533
3	Yes	51	0.00008609	0.00005465
4	Yes	28	0.00009904	0.00007441
5	Yes	50	0.00009427	0.00005525
6	Yes	49	0.00009367	0.00006536
7	Yes	50	0.00009436	0.00005314
8	Yes	28	0.00008286	0.00009499
9	Yes	50	0.00009989	0.00006255
10	Yes	49	0.00009536	0.00006040
11	Yes	50	0.00009277	0.00005439
12	Yes	29	0.00008438	0.00007772
13	Yes	50	0.00009293	0.00005212
14	Yes	21	0.00000001	0.00002906
15	Yes	24	0.00000001	0.00002673
16	Yes	22	0.00000001	0.00002071
17	Yes	24	0.00000001	0.00002732
18	Yes	21	0.00000001	0.00002969
19	Yes	24	0.00000001	0.00002629
20	Yes	22	0.00000001	0.00002190
21	Yes	24	0.00000001	0.00002867
22	Yes	21	0.00000001	0.00002922
23	Yes	25	0.00000001	0.00002100
24	Yes	22	0.00000001	0.00002078
25	Yes	24	0.00000001	0.00002573

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	445 - 425	6.131	16	0.0589	0.4837
T2	425 - 405	6.026	16	0.0667	0.4579
T3	405 - 385	6.017	16	0.0660	0.4541
T4	385 - 365	5.947	16	0.0432	0.4618
T5	365 - 345	5.769	20	0.0371	0.4648
T6	345 - 325	5.562	16	0.0562	0.4695
T7	325 - 305	5.206	16	0.0821	0.4734
T8	305 - 285	4.761	16	0.0773	0.4747
T9	285 - 265	4.409	16	0.0671	0.4781
T10	265 - 245	4.077	16	0.0616	0.4784
T11	245 - 225	3.853	24	0.0507	0.4761
T12	225 - 205	3.803	24	0.0506	0.4837
T13	205 - 185	3.416	24	0.1019	0.4762
T14	185 - 165	2.883	24	0.0859	0.4617

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T15	165 - 145	2.534	24	0.0694	0.4547
T16	145 - 125	2.168	17	0.0762	0.4381
T17	125 - 105	1.798	17	0.0587	0.4092
T18	105 - 85	1.574	17	0.0443	0.3759
T19	85 - 65	1.339	17	0.0514	0.3297
T20	65 - 45	1.062	17	0.0481	0.2720
T21	45 - 25	0.843	17	0.0504	0.2082
T22	25 - 4.81771	0.537	17	0.0744	0.1336
T23	4.81771 - 0	0.095	17	0.0930	0.0514

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
445'	Flash Beacon Lighting	16	6.131	0.0589	0.4837	111615
440'	5' Hor x 3" x 3" Angle Mount	16	6.098	0.0610	0.4768	111615
430'	ALR8-0	16	6.043	0.0649	0.4637	37205
421'11-3/4"	Guy	16	6.020	0.0678	0.4547	36210
364'4-11/16"	Guy	20	5.763	0.0370	0.4650	60738
352'	SRL-210C-4	16	5.645	0.0473	0.4677	41165
304'4-11/16"	Guy	16	4.748	0.0768	0.4748	23837
244'4-11/16"	Guy	24	3.851	0.0497	0.4762	14902
229'	(2) NNH4-85B-R6	24	3.827	0.0404	0.4827	9954
218'6"	Flash Beacon Lighting	24	3.720	0.0702	0.4832	9161
184'4-11/16"	Guy	24	2.869	0.0850	0.4614	15541
172'	8' x 2" Mount Pipe	24	2.645	0.0719	0.4572	75919
124'4-11/16"	Guy	17	1.789	0.0580	0.4083	21673
64'4-11/16"	Guy	17	1.054	0.0479	0.2701	41217

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	445 - 425	38.133	6	0.1350	1.3665
T2	425 - 405	37.751	6	0.1131	1.2773
T3	405 - 385	37.853	10	0.1023	1.2309
T4	385 - 365	37.655	10	0.1994	1.2292
T5	365 - 345	36.811	10	0.2571	1.2103
T6	345 - 325	35.607	10	0.3473	1.2058
T7	325 - 305	33.691	10	0.4582	1.2050
T8	305 - 285	31.401	10	0.4395	1.1966
T9	285 - 265	29.528	10	0.3866	1.2041
T10	265 - 245	28.042	6	0.3469	1.2065
T11	245 - 225	27.103	6	0.2001	1.2008
T12	225 - 205	26.906	6	0.2968	1.2402
T13	205 - 185	25.223	6	0.5218	1.2404
T14	185 - 165	22.559	6	0.5416	1.2348
T15	165 - 145	20.051	6	0.5631	1.2800
T16	145 - 125	17.068	6	0.6153	1.2770
T17	125 - 105	13.948	6	0.5444	1.2165
T18	105 - 85	11.509	6	0.4612	1.1422
T19	85 - 65	9.227	6	0.4510	1.0214
T20	65 - 45	6.981	6	0.4022	0.8510
T21	45 - 25	5.123	6	0.3826	0.6568
T22	25 - 4.81771	3.053	6	0.4552	0.4227
T23	4.81771 - 0	0.525	6	0.5173	0.1617

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
445'	Flash Beacon Lighting	6	38.133	0.1350	1.3665	33429
440'	5' Hor x 3" x 3" Angle Mount	6	38.015	0.1258	1.3424	33429
430'	ALR8-0	6	37.815	0.1155	1.2971	11143
421'11-3/4"	Guy	6	37.729	0.1107	1.2667	11739
364'4-11/16"	Guy	10	36.780	0.2589	1.2098	26579
352'	SRL-210C-4	10	36.091	0.3077	1.2050	7613
304'4-11/16"	Guy	10	31.336	0.4376	1.1965	6572
244'4-11/16"	Guy	6	27.094	0.1983	1.2014	3437
229'	(2) NNH4-85B-R6	6	27.007	0.2555	1.2318	3060
218'6"	Flash Beacon Lighting	6	26.556	0.3775	1.2473	2469
184'4-11/16"	Guy	6	22.479	0.5412	1.2362	4467
172'	8' x 2" Mount Pipe	6	20.944	0.5476	1.2666	16818
124'4-11/16"	Guy	6	13.862	0.5411	1.2143	4765
64'4-11/16"	Guy	6	6.919	0.4015	0.8456	7903

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	445	Leg	A325X	0.7500	4	1.41	30.10	0.047	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.70	5.92	0.287	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.11	5.92	0.018	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.26	5.92	0.045	1.05	Member Bearing
T2	425	Leg	A325X	0.7500	4	0.97	30.10	0.032	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.86	5.92	0.314	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.32	7.02	0.045	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.20	5.92	0.034	1.05	Member Bearing
		Torque Arm Top@421.977	A325N	0.7500	8	0.49	19.05	0.026	1.05	Member Bearing
T3	405	Leg	A325X	0.7500	4	1.08	30.10	0.036	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	0.53	5.92	0.089	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.23	5.92	0.039	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.23	5.92	0.039	1.05	Member Bearing
T4	385	Leg	A325X	0.7500	4	0.72	30.10	0.024	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.24	5.92	0.209	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.22	5.92	0.038	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.52	5.92	0.087	1.05	Member Bearing
T5	365	Leg	A325X	0.7500	4	1.47	30.10	0.049	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	0.85	5.92	0.144	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.36	5.92	0.062	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.31	5.92	0.052	1.05	Member Bearing
T6	345	Leg	A325X	0.7500	4	1.21	30.10	0.040	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	0.91	5.92	0.154	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.31	5.92	0.052	1.05	Member Bearing

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Bottom Girt	A325X	0.5000	1	0.31	5.92	0.052	1.05	Member Bearing
T7	325	Leg	A325X	0.7500	4	1.60	30.10	0.053	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.76	5.92	0.297	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.33	5.92	0.056	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.74	5.92	0.125	1.05	Member Bearing
T8	305	Leg	A325X	0.7500	4	1.34	30.10	0.045	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	0.75	5.92	0.127	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.40	5.92	0.067	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.33	5.92	0.056	1.05	Member Bearing
T9	285	Leg	A325X	0.7500	4	1.61	30.10	0.053	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	0.85	5.92	0.144	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.33	5.92	0.056	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.33	5.92	0.056	1.05	Member Bearing
T10	265	Leg	A325X	0.7500	4	2.39	30.10	0.079	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.54	5.92	0.259	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.50	5.92	0.084	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	1.00	5.92	0.170	1.05	Member Bearing
T11	245	Leg	A325X	0.7500	4	2.78	30.10	0.092	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	4.22	5.92	0.714	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.72	5.92	0.121	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.95	5.92	0.161	1.05	Member Bearing
T12	225	Leg	A325X	0.7500	4	2.20	30.10	0.073	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.62	5.92	0.274	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.77	5.92	0.130	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.58	5.92	0.098	1.05	Member Bearing
T13	205	Leg	A325X	0.7500	4	2.34	30.10	0.078	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	2.49	5.92	0.421	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.51	5.92	0.085	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	1.14	5.92	0.193	1.05	Member Bearing
T14	185	Leg	A325X	0.7500	4	2.35	30.10	0.078	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.66	5.92	0.280	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.55	5.92	0.093	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.49	5.92	0.082	1.05	Member Bearing
T15	165	Leg	A325X	0.7500	4	2.16	30.10	0.072	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	0.94	5.92	0.158	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.49	5.92	0.083	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.49	5.92	0.083	1.05	Member Bearing
T16	145	Leg	A325X	0.7500	4	3.24	30.10	0.107	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	2.02	5.92	0.342	1.05	Member Bearing

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Top Girt	A325X	0.5000	1	0.67	5.92	0.114	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	1.00	5.92	0.168	1.05	Member Bearing
T17	125	Leg	A325X	0.7500	4	2.57	30.10	0.086	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.46	5.92	0.246	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.67	5.92	0.114	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.67	5.92	0.114	1.05	Member Bearing
T18	105	Leg	A325X	0.7500	4	2.49	30.10	0.083	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	0.77	5.92	0.130	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.54	5.92	0.090	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.54	5.92	0.090	1.05	Member Bearing
T19	85	Leg	A325X	0.7500	4	3.03	30.10	0.101	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.53	5.92	0.258	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.63	5.92	0.107	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.74	5.92	0.125	1.05	Member Bearing
T20	65	Leg	A325X	0.7500	4	2.77	30.10	0.092	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.85	5.92	0.313	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.63	5.92	0.107	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.63	5.92	0.107	1.05	Member Bearing
T21	45	Leg	A325X	0.7500	4	2.97	30.10	0.099	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.23	5.92	0.207	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.62	5.92	0.106	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.62	5.92	0.106	1.05	Member Bearing
T22	25	Leg	A325X	0.7500	4	2.65	30.10	0.088	1.05	Bolt Tension
		Diagonal	A325X	0.5000	1	1.40	5.92	0.237	1.05	Member Bearing
		Top Girt	A325X	0.5000	1	0.62	5.92	0.105	1.05	Member Bearing
		Bottom Girt	A325X	0.5000	1	0.62	5.92	0.105	1.05	Member Bearing

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T2	421'11-3/4" (A) (753)	3/8 [ECP - 23000] EHS	1.54	15.40	7.21	9.70	0.952	1.281
	421'11-3/4" (A) (754)	3/8 [ECP - 23000] EHS	1.54	15.40	6.99	9.70	0.952	1.321
	421'11-3/4" (B) (749)	3/8 [ECP - 23000] EHS	1.54	15.40	7.01	9.70	0.952	1.318
	421'11-3/4" (B) (750)	3/8 [ECP - 23000] EHS	1.54	15.40	7.17	9.70	0.952	1.290
	421'11-3/4" (C) (742)	3/8 [ECP - 23000] EHS	1.54	15.40	7.08	9.70	0.952	1.305
	421'11-3/4" (C) (743)	3/8 [ECP - 23000] EHS	1.54	15.40	7.18	9.70	0.952	1.286

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T5	364'4-11/16" (A) (762)	3/8 [ECP - 23000] EHS	1.54	15.40	7.50	9.70	0.952	1.232
	364'4-11/16" (B) (761)	3/8 [ECP - 23000] EHS	1.54	15.40	7.45	9.70	0.952	1.240
	364'4-11/16" (C) (757)	3/8 [ECP - 23000] EHS	1.54	15.40	7.52	9.70	0.952	1.229
T8	304'4-11/16" (A) (768)	3/8 [ECP - 23000] EHS	1.54	15.40	7.14	9.70	0.952	1.295
	304'4-11/16" (B) (767)	3/8 [ECP - 23000] EHS	1.54	15.40	7.08	9.70	0.952	1.304
	304'4-11/16" (C) (763)	3/8 [ECP - 23000] EHS	1.54	15.40	7.14	9.70	0.952	1.294
T11	244'4-11/16" (A) (774)	1/2 [ECP - 23000] EHS	2.69	26.90	12.09	16.95	0.952	1.335
	244'4-11/16" (B) (773)	1/2 [ECP - 23000] EHS	2.69	26.90	12.17	16.95	0.952	1.326
	244'4-11/16" (C) (769)	1/2 [ECP - 23000] EHS	2.69	26.90	12.10	16.95	0.952	1.334
T14	184'4-11/16" (A) (780)	7/16 [ECP - 23000] EHS	2.08	20.80	10.12	13.10	0.952	1.233
	184'4-11/16" (B) (779)	7/16 [ECP - 23000] EHS	2.08	20.80	10.29	13.10	0.952	1.213
	184'4-11/16" (C) (775)	7/16 [ECP - 23000] EHS	2.08	20.80	10.32	13.10	0.952	1.209
T17	124'4-11/16" (A) (786)	3/8 [ECP - 23000] EHS	2.00	15.40	6.69	9.70	0.952	1.382
	124'4-11/16" (B) (785)	3/8 [ECP - 23000] EHS	2.00	15.40	6.98	9.70	0.952	1.323
	124'4-11/16" (C) (781)	3/8 [ECP - 23000] EHS	2.00	15.40	7.02	9.70	0.952	1.316
T20	64'4-11/16" (A) (792)	3/8 [ECP - 23000] EHS	1.54	15.40	4.73	9.70	0.952	1.954
	64'4-11/16" (B) (791)	3/8 [ECP - 23000] EHS	1.54	15.40	5.02	9.70	0.952	1.841
	64'4-11/16" (C) (787)	3/8 [ECP - 23000] EHS	1.54	15.40	5.04	9.70	0.952	1.835

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	445 - 425	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-5.49	32.59	0.169 [1]
T2	425 - 405	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-11.26	32.59	0.345 [1]
T3	405 - 385	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-13.37	32.59	0.410 [1]
T4	385 - 365	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-12.85	32.59	0.394 [1]
T5	365 - 345	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-17.53	32.59	0.538 [1]
T6	345 - 325	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-17.63	32.59	0.541 [1]
T7	325 - 305	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-18.26	32.59	0.560 [1]
T8	305 - 285	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-19.15	32.59	0.588 [1]
T9	285 - 265	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-18.96	32.59	0.582 [1]
T10	265 - 245	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-27.90	32.59	0.856 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T11	245 - 225	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-33.40	32.59	1.025 [1]
T12	225 - 205	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-33.40	32.59	1.025 [1]
T13	205 - 185	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-26.65	32.59	0.818 [1]
T14	185 - 165	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-28.08	32.59	0.861 [1]
T15	165 - 145	ROHN 2 STD	20'	2'4-29/32"	73.4 K=2.00	1.0745	-28.20	32.59	0.865 [1]
T16	145 - 125	ROHN 2 EH	20'	2'4-29/32"	75.4 K=2.00	1.4773	-37.79	43.86	0.862 [1]
T17	125 - 105	ROHN 2 EH	20'	2'4-29/32"	75.4 K=2.00	1.4773	-38.31	43.86	0.873 [1]
T18	105 - 85	ROHN 2 EH	20'	2'4-29/32"	75.4 K=2.00	1.4773	-30.45	43.86	0.694 [1]
T19	85 - 65	ROHN 2 EH	20'	2'4-29/32"	75.4 K=2.00	1.4773	-35.55	43.86	0.811 [1]
T20	65 - 45	ROHN 2 EH	20'	2'4-29/32"	75.4 K=2.00	1.4773	-36.12	43.86	0.824 [1]
T21	45 - 25	ROHN 2 EH	20'	2'4-29/32"	75.4 K=2.00	1.4773	-36.07	43.86	0.822 [1]
T22	25 - 4.81771	ROHN 2 EH	20'2-5/32"	2'5-5/32"	76.1 K=2.00	1.4773	-35.82	43.51	0.823 [1]
T23	4.81771 - 0	ROHN 2.5 EHH	5'2-17/32"	1'3-19/32"	18.5 K=1.00	4.0285	-34.22	176.80	0.194 [1]

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	445 - 425	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-1.69	6.21	0.272 [1]
T2	425 - 405	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-1.85	6.21	0.297 [1]
T3	405 - 385	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-0.60	6.21	0.097 [1]
T4	385 - 365	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-1.30	6.21	0.210 [1]
T5	365 - 345	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-0.86	6.21	0.138 [1]
T6	345 - 325	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-0.99	6.21	0.160 [1]
T7	325 - 305	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-1.86	6.21	0.300 [1]
T8	305 - 285	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-0.77	6.21	0.123 [1]
T9	285 - 265	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-0.97	6.21	0.156 [1]
T10	265 - 245	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-1.66	6.21	0.267 [1]
T11	245 - 225	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-4.25	6.21	0.685 [1]
T12	225 - 205	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-1.74	6.21	0.280 [1]
T13	205 - 185	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-2.64	6.21	0.424 [1]
T14	185 - 165	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-1.65	6.21	0.266 [1]
T15	165 - 145	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-1.07	6.21	0.173 [1]
T16	145 - 125	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5 K=1.00	0.2627	-2.18	6.21	0.351 [1]
T17	125 - 105	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.2627	-1.48	6.21	0.238 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T18	105 - 85	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	K=1.00 87.5 K=1.00	0.2627	-0.90	6.21	0.145 [1]
T19	85 - 65	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	K=1.00 87.5 K=1.00	0.2627	-1.65	6.21	0.265 [1]
T20	65 - 45	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	K=1.00 87.5 K=1.00	0.2627	-1.88	6.21	0.303 [1]
T21	45 - 25	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	K=1.00 87.5 K=1.00	0.2627	-1.36	6.21	0.218 [1]
T22	25 - 4.81771	ROHN 1.5 x 16GA	3'8-3/4"	3'8-3/4"	K=1.00 87.8 K=1.00	0.2627	-1.46	6.19	0.236 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T23	4.81771 - 0	14x1/4 KL/R > 200 (C) - 739	2'6-23/32"	2'3-27/32"	386.2 K=1.00	3.5000	-0.63	5.30	0.118 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	445 - 425	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.11	6.99	0.016 [1]
T2	425 - 405	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.32	6.99	0.045 [1]
T3	405 - 385	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.23	6.99	0.033 [1]
T4	385 - 365	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.22	6.99	0.032 [1]
T5	365 - 345	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.31	6.99	0.044 [1]
T6	345 - 325	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.31	6.99	0.044 [1]
T7	325 - 305	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.33	6.99	0.048 [1]
T8	305 - 285	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.33	6.99	0.048 [1]
T9	285 - 265	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.33	6.99	0.048 [1]
T10	265 - 245	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.50	6.99	0.071 [1]
T11	245 - 225	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.58	6.99	0.083 [1]
T12	225 - 205	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.67	6.99	0.095 [1]
T13	205 - 185	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.49	6.99	0.070 [1]
T14	185 - 165	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.49	6.99	0.070 [1]
T15	165 - 145	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.49	6.99	0.070 [1]
T16	145 - 125	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.67	6.99	0.096 [1]
T17	125 - 105	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.67	6.99	0.096 [1]

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T18	105 - 85	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.54	6.99	0.077 [1]
T19	85 - 65	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.63	6.99	0.090 [1]
T20	65 - 45	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.63	6.99	0.090 [1]
T21	45 - 25	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.62	6.99	0.089 [1]
T22	25 - 4.81771	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.62	6.99	0.089 [1]
T23	4.81771 - 0	14x1/4 KL/R > 200 (C) - 730	3'5-1/32"	3'2-5/32"	528.3 K=1.00	3.5000	-0.63	2.83	0.221 [1]

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	445 - 425	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.25	6.99	0.035 [1]
T2	425 - 405	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.20	6.99	0.029 [1]
T3	405 - 385	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.23	6.99	0.033 [1]
T4	385 - 365	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.47	6.99	0.067 [1]
T5	365 - 345	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.31	6.99	0.044 [1]
T6	345 - 325	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.31	6.99	0.044 [1]
T7	325 - 305	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.61	6.99	0.088 [1]
T8	305 - 285	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.33	6.99	0.048 [1]
T9	285 - 265	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.33	6.99	0.048 [1]
T10	265 - 245	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.84	6.99	0.121 [1]
T11	245 - 225	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.97	6.99	0.139 [1]
T12	225 - 205	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.58	6.99	0.083 [1]
T13	205 - 185	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-1.04	6.99	0.149 [1]
T14	185 - 165	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.49	6.99	0.070 [1]
T15	165 - 145	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.49	6.99	0.070 [1]
T16	145 - 125	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.74	6.99	0.105 [1]
T17	125 - 105	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.67	6.99	0.096 [1]
T18	105 - 85	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.54	6.99	0.077 [1]
T19	85 - 65	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.63	6.99	0.090 [1]
T20	65 - 45	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.63	6.99	0.090 [1]
T21	45 - 25	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.62	6.99	0.089 [1]
T22	25 - 4.81771	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7 K=1.00	0.2627	-0.62	6.99	0.089 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	425 - 405	2L2x2x1/4x3/8 ai/ri > (KL/r)o - 747	3'5-1/32"	3'	92.1 K=1.00	1.8800	-2.49	48.94	0.051 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	425 - 405	2L2x2x1/4x3/8	0.00	2.00	0.000	0.00	3.39	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T2	425 - 405	2L2x2x1/4x3/8	0.051	0.000	0.000	0.051 [1]	1.050	

[1] P_u / ϕP_n controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	425 - 405 (744)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8 K=1.00	4.4900	-0.33	123.45	0.003
T2	425 - 405 (745)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8 K=1.00	4.4900	-0.41	123.45	0.003
T2	425 - 405 (751)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8 K=1.00	4.4900	-0.39	123.45	0.003
T2	425 - 405 (752)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8 K=1.00	4.4900	-0.55	123.45	0.004
T2	425 - 405 (755)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8 K=1.00	4.4900	-0.56	123.45	0.005
T2	425 - 405 (756)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8 K=1.00	4.4900	-0.59	123.45	0.005

Torque-Arm Top Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	425 - 405 (744)	C10x15.3	-19.07	41.93	0.455	-0.00	4.70	0.000
T2	425 - 405 (745)	C10x15.3	-19.20	41.93	0.458	0.00	4.70	0.000
T2	425 - 405 (751)	C10x15.3	-19.04	41.93	0.454	0.00	4.70	0.000
T2	425 - 405 (752)	C10x15.3	-19.11	41.93	0.456	0.00	4.70	0.000
T2	425 - 405 (755)	C10x15.3	-18.96	41.93	0.452	0.00	4.70	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	425 - 405 (756)	C10x15.3	-19.12	41.93	0.456	-0.00	4.70	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T2	425 - 405 (744)	C10x15.3	0.003	0.455	0.000	0.456	1.050	
T2	425 - 405 (745)	C10x15.3	0.003	0.458	0.000	0.460	1.050	
T2	425 - 405 (751)	C10x15.3	0.003	0.454	0.000	0.456	1.050	
T2	425 - 405 (752)	C10x15.3	0.004	0.456	0.000	0.458	1.050	
T2	425 - 405 (755)	C10x15.3	0.005	0.452	0.000	0.455	1.050	
T2	425 - 405 (756)	C10x15.3	0.005	0.456	0.000	0.459	1.050	

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	445 - 425	ROHN 2 STD	20'	1-5/16"	1.7	1.0745	5.64	48.35	0.117 [1]
T2	425 - 405	ROHN 2 STD	20'	2'4-29/32"	36.7	1.0745	6.50	48.35	0.134 [1]
T10	265 - 245	ROHN 2 STD	20'	1-5/16"	1.7	1.0745	0.64	48.35	0.013 [1]
T11	245 - 225	ROHN 2 STD	20'	7-5/16"	9.4	1.0745	0.64	48.35	0.013 [1]

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	445 - 425	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.70	8.99	0.189 [1]
T2	425 - 405	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.86	8.99	0.207 [1]
T3	405 - 385	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	0.53	8.99	0.059 [1]
T4	385 - 365	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.24	8.99	0.138 [1]
T5	365 - 345	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	0.85	8.99	0.095 [1]
T6	345 - 325	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	0.91	8.99	0.101 [1]
T7	325 - 305	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.76	8.99	0.196 [1]
T8	305 - 285	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	0.75	8.99	0.084 [1]
T9	285 - 265	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	0.85	8.99	0.095 [1]
T10	265 - 245	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.54	8.99	0.171 [1]
T11	245 - 225	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	4.22	8.99	0.470 [1]
T12	225 - 205	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.62	8.99	0.180 [1]
T13	205 - 185	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	2.49	8.99	0.277 [1]
T14	185 - 165	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.66	8.99	0.184 [1]
T15	165 - 145	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	0.94	8.99	0.104 [1]
T16	145 - 125	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	2.02	8.99	0.225 [1]
T17	125 - 105	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.46	8.99	0.162 [1]
T18	105 - 85	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	0.77	8.99	0.086 [1]
T19	85 - 65	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.53	8.99	0.170 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T20	65 - 45	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.85	8.99	0.206 [1]
T21	45 - 25	ROHN 1.5 x 16GA	3'8-5/8"	3'8-5/8"	87.5	0.1902	1.23	8.99	0.136 [1]
T22	25 - 4.81771	ROHN 1.5 x 16GA	3'8-3/4"	3'8-3/4"	87.8	0.1902	1.40	8.99	0.156 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T23	4.81771 - 0	14x1/4	2'6-23/32"	2'3-27/32"	386.2	3.5000	0.63	113.40	0.006 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	445 - 425	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.11	8.99	0.012 [1]
T2	425 - 405	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.24	8.99	0.027 [1]
T3	405 - 385	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.23	8.99	0.026 [1]
T4	385 - 365	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.22	8.99	0.025 [1]
T5	365 - 345	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.36	8.99	0.041 [1]
T6	345 - 325	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.31	8.99	0.034 [1]
T7	325 - 305	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.33	8.99	0.037 [1]
T8	305 - 285	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.40	8.99	0.044 [1]
T9	285 - 265	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.33	8.99	0.037 [1]
T10	265 - 245	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.50	8.99	0.055 [1]
T11	245 - 225	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.72	8.99	0.080 [1]
T12	225 - 205	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.77	8.99	0.086 [1]
T13	205 - 185	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.51	8.99	0.056 [1]
T14	185 - 165	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.55	8.99	0.061 [1]
T15	165 - 145	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.49	8.99	0.054 [1]
T16	145 - 125	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.67	8.99	0.075 [1]
T17	125 - 105	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.67	8.99	0.075 [1]
T18	105 - 85	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.54	8.99	0.060 [1]
T19	85 - 65	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.63	8.99	0.070 [1]
T20	65 - 45	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.63	8.99	0.070 [1]
T21	45 - 25	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.62	8.99	0.069 [1]
T22	25 - 4.81771	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.62	8.99	0.069 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T23	4.81771 - 0	14x1/4	3'5-1/32"	3'2-5/32"	528.3	3.5000	6.79	113.40	0.060 [1]

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	445 - 425	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.26	8.99	0.029 [1]
T2	425 - 405	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.20	8.99	0.023 [1]
T3	405 - 385	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.23	8.99	0.026 [1]
T4	385 - 365	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.52	8.99	0.057 [1]
T5	365 - 345	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.31	8.99	0.034 [1]
T6	345 - 325	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.31	8.99	0.034 [1]
T7	325 - 305	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.74	8.99	0.083 [1]
T8	305 - 285	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.33	8.99	0.037 [1]
T9	285 - 265	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.33	8.99	0.037 [1]
T10	265 - 245	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	1.00	8.99	0.112 [1]
T11	245 - 225	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.95	8.99	0.106 [1]
T12	225 - 205	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.58	8.99	0.064 [1]
T13	205 - 185	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	1.14	8.99	0.127 [1]
T14	185 - 165	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.49	8.99	0.054 [1]
T15	165 - 145	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.49	8.99	0.054 [1]
T16	145 - 125	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	1.00	8.99	0.111 [1]
T17	125 - 105	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.67	8.99	0.075 [1]
T18	105 - 85	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.54	8.99	0.060 [1]
T19	85 - 65	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.74	8.99	0.083 [1]
T20	65 - 45	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.63	8.99	0.070 [1]
T21	45 - 25	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.62	8.99	0.069 [1]
T22	25 - 4.81771	ROHN 1.5 x 16GA	3'5-1/32"	3'2-5/8"	75.7	0.1902	0.62	8.99	0.069 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	425 - 405	2L2x2x1/4x3/8	3'5-1/32"	3'	63.4	1.8800	2.49	60.91	0.041 [1]
		ai/ri > (KL/r)o - 747							

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T5	365 - 345	4 1/2x3/8	3'5-1/32"	3'2-5/8"	356.8	1.6875	2.34	54.67	0.043 [1]
T8	305 - 285	4 1/2x3/8	3'5-1/32"	3'2-5/8"	356.8	1.6875	2.55	54.67	0.047 [1]
T11	245 - 225	4 1/2x3/8	3'5-1/32"	3'2-5/8"	356.8	1.6875	4.60	54.67	0.084 [1]
T14	185 - 165	4 1/2x3/8	3'5-1/32"	3'2-5/8"	356.8	1.6875	3.52	54.67	0.064 [1]
T17	125 - 105	4 1/2x3/8	3'5-1/32"	3'2-5/8"	356.8	1.6875	2.79	54.67	0.051 [1]
T20	65 - 45	4 1/2x3/8	3'5-1/32"	3'2-5/8"	356.8	1.6875	2.14	54.67	0.039 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	425 - 405	2L2x2x1/4x3/8	0.00	2.00	0.000	0.00	3.39	0.000
T5	365 - 345	4 1/2x3/8	0.00	5.13	0.000	0.00	0.43	0.000
T8	305 - 285	4 1/2x3/8	0.00	5.13	0.000	0.00	0.43	0.000
T11	245 - 225	4 1/2x3/8	0.00	5.13	0.000	0.00	0.43	0.000
T14	185 - 165	4 1/2x3/8	0.00	5.13	0.000	0.00	0.43	0.000
T17	125 - 105	4 1/2x3/8	0.00	5.13	0.000	0.00	0.43	0.000
T20	65 - 45	4 1/2x3/8	0.00	5.13	0.000	0.00	0.43	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T2	425 - 405	2L2x2x1/4x3/8	0.041	0.000	0.000	0.041 [1]	1.050	
T5	365 - 345	4 1/2x3/8	0.043	0.000	0.000	0.043 [1]	1.050	
T8	305 - 285	4 1/2x3/8	0.047	0.000	0.000	0.047 [1]	1.050	
T11	245 - 225	4 1/2x3/8	0.084	0.000	0.000	0.084 [1]	1.050	
T14	185 - 165	4 1/2x3/8	0.064	0.000	0.000	0.064 [1]	1.050	
T17	125 - 105	4 1/2x3/8	0.051	0.000	0.000	0.051 [1]	1.050	
T20	65 - 45	4 1/2x3/8	0.039	0.000	0.000	0.039 [1]	1.050	

[1] P_u / ϕP_n controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	425 - 405 (744)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8	4.4900	0.59	145.48	0.004
T2	425 - 405 (745)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8	4.4900	0.40	145.48	0.003
T2	425 - 405 (751)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8	4.4900	0.57	145.48	0.004
T2	425 - 405 (752)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8	4.4900	0.29	145.48	0.002
T2	425 - 405 (755)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8	4.4900	0.41	145.48	0.003
T2	425 - 405 (756)	C10x15.3	3'5-1/32"	3'3-27/32"	55.8	4.4900	0.33	145.48	0.002

Torque-Arm Top Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	425 - 405 (744)	C10x15.3	-18.08	41.93	0.431	-0.00	4.70	0.000
T2	425 - 405 (745)	C10x15.3	-18.14	41.93	0.433	-0.00	4.70	0.000
T2	425 - 405 (751)	C10x15.3	-18.05	41.93	0.430	0.00	4.70	0.000
T2	425 - 405 (752)	C10x15.3	-17.88	41.93	0.426	0.00	4.70	0.000
T2	425 - 405 (755)	C10x15.3	-17.89	41.93	0.427	0.00	4.70	0.000
T2	425 - 405 (756)	C10x15.3	-18.01	41.93	0.430	-0.00	4.70	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T2	425 - 405 (744)	C10x15.3	0.004	0.431	0.000	0.433	1.050	
T2	425 - 405 (745)	C10x15.3	0.003	0.433	0.000	0.434	1.050	
T2	425 - 405 (751)	C10x15.3	0.004	0.430	0.000	0.432	1.050	
T2	425 - 405 (752)	C10x15.3	0.002	0.426	0.000	0.427	1.050	
T2	425 - 405 (755)	C10x15.3	0.003	0.427	0.000	0.428	1.050	
T2	425 - 405 (756)	C10x15.3	0.002	0.430	0.000	0.431	1.050	

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	445 - 425	Leg	ROHN 2 STD	3	-5.49	34.22	16.1	Pass
T2	425 - 405	Leg	ROHN 2 STD	36	-11.26	34.22	32.9	Pass
T3	405 - 385	Leg	ROHN 2 STD	69	-13.37	34.22	39.1	Pass
T4	385 - 365	Leg	ROHN 2 STD	102	-12.85	34.22	37.5	Pass
T5	365 - 345	Leg	ROHN 2 STD	133	-17.53	34.22	51.2	Pass
T6	345 - 325	Leg	ROHN 2 STD	166	-17.63	34.22	51.5	Pass
T7	325 - 305	Leg	ROHN 2 STD	200	-18.26	34.22	53.4	Pass
T8	305 - 285	Leg	ROHN 2 STD	233	-19.15	34.22	56.0	Pass
T9	285 - 265	Leg	ROHN 2 STD	266	-18.96	34.22	55.4	Pass
T10	265 - 245	Leg	ROHN 2 STD	299	-27.90	34.22	81.5	Pass
T11	245 - 225	Leg	ROHN 2 STD	333	-33.40	34.22	97.6	Pass
T12	225 - 205	Leg	ROHN 2 STD	365	-33.40	34.22	97.6	Pass
T13	205 - 185	Leg	ROHN 2 STD	397	-26.65	34.22	77.9	Pass
T14	185 - 165	Leg	ROHN 2 STD	430	-28.08	34.22	82.0	Pass
T15	165 - 145	Leg	ROHN 2 STD	463	-28.20	34.22	82.4	Pass
T16	145 - 125	Leg	ROHN 2 EH	498	-37.79	46.05	82.1	Pass
T17	125 - 105	Leg	ROHN 2 EH	531	-38.31	46.05	83.2	Pass
T18	105 - 85	Leg	ROHN 2 EH	564	-30.45	46.05	66.1	Pass
T19	85 - 65	Leg	ROHN 2 EH	597	-35.55	46.05	77.2	Pass
T20	65 - 45	Leg	ROHN 2 EH	629	-36.12	46.05	78.4	Pass
T21	45 - 25	Leg	ROHN 2 EH	661	-36.07	46.05	78.3	Pass
T22	25 - 4.81771	Leg	ROHN 2 EH	694	-35.82	45.69	78.4	Pass
T23	4.81771 - 0	Leg	ROHN 2.5 EHH	727	-34.22	185.64	18.4	Pass
T1	445 - 425	Diagonal	ROHN 1.5 x 16GA	11	-1.69	6.52	25.9	Pass

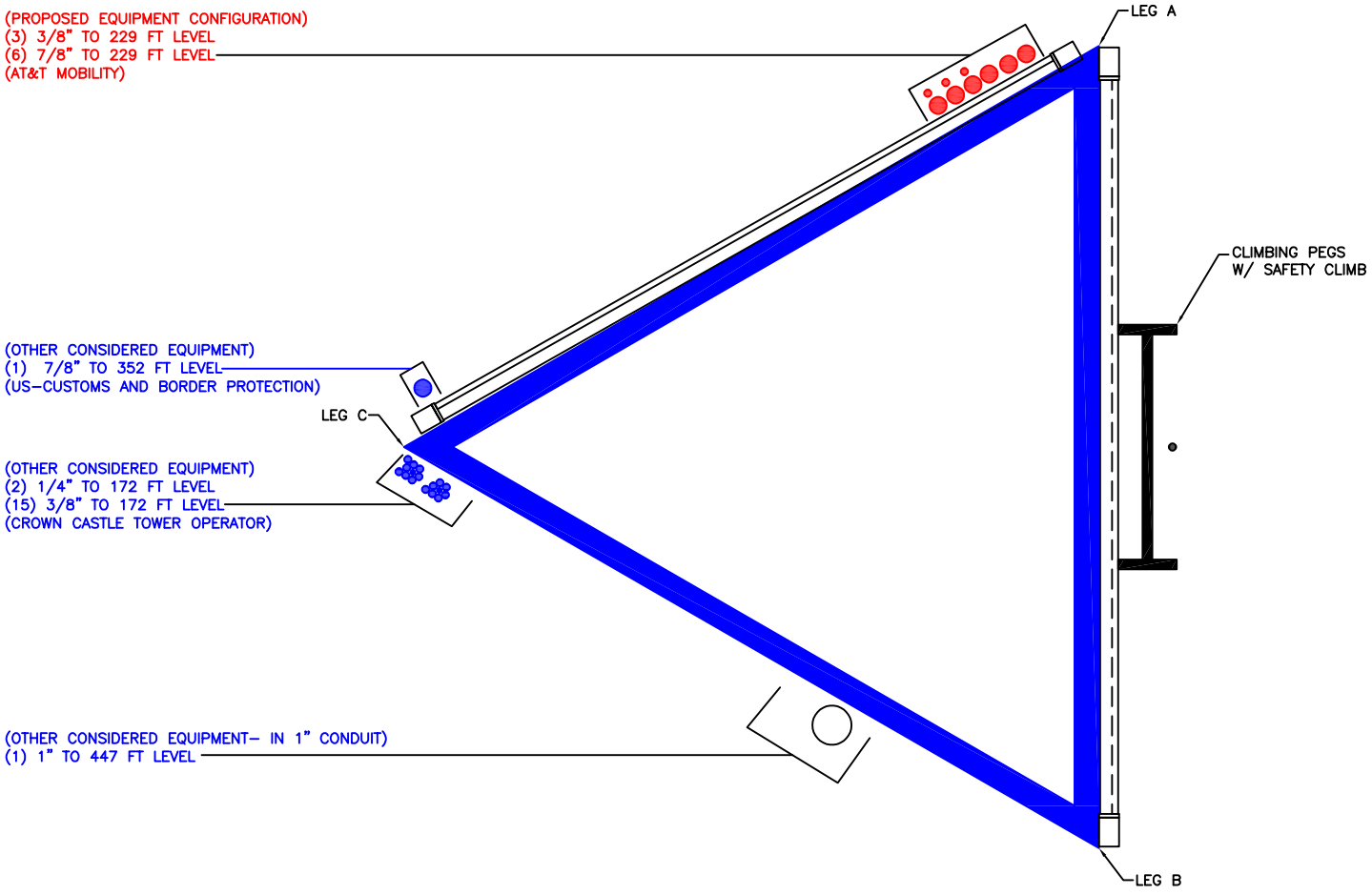
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
							27.3 (b)	
T2	425 - 405	Diagonal	ROHN 1.5 x 16GA	65	-1.85	6.52	28.3	Pass
							29.9 (b)	
T3	405 - 385	Diagonal	ROHN 1.5 x 16GA	99	-0.60	6.52	9.2	Pass
T4	385 - 365	Diagonal	ROHN 1.5 x 16GA	110	-1.30	6.52	20.0	Pass
T5	365 - 345	Diagonal	ROHN 1.5 x 16GA	162	-0.86	6.52	13.2	Pass
							13.7 (b)	
T6	345 - 325	Diagonal	ROHN 1.5 x 16GA	175	-0.99	6.52	15.3	Pass
T7	325 - 305	Diagonal	ROHN 1.5 x 16GA	208	-1.86	6.52	28.5	Pass
T8	305 - 285	Diagonal	ROHN 1.5 x 16GA	260	-0.77	6.52	11.8	Pass
							12.1 (b)	
T9	285 - 265	Diagonal	ROHN 1.5 x 16GA	274	-0.97	6.52	14.8	Pass
T10	265 - 245	Diagonal	ROHN 1.5 x 16GA	307	-1.66	6.52	25.4	Pass
T11	245 - 225	Diagonal	ROHN 1.5 x 16GA	359	-4.25	6.52	65.2	Pass
							68.0 (b)	
T12	225 - 205	Diagonal	ROHN 1.5 x 16GA	373	-1.74	6.52	26.7	Pass
T13	205 - 185	Diagonal	ROHN 1.5 x 16GA	406	-2.64	6.52	40.4	Pass
T14	185 - 165	Diagonal	ROHN 1.5 x 16GA	458	-1.65	6.52	25.3	Pass
							26.7 (b)	
T15	165 - 145	Diagonal	ROHN 1.5 x 16GA	473	-1.07	6.52	16.5	Pass
T16	145 - 125	Diagonal	ROHN 1.5 x 16GA	506	-2.18	6.52	33.4	Pass
T17	125 - 105	Diagonal	ROHN 1.5 x 16GA	556	-1.48	6.52	22.6	Pass
							23.4 (b)	
T18	105 - 85	Diagonal	ROHN 1.5 x 16GA	592	-0.90	6.52	13.8	Pass
T19	85 - 65	Diagonal	ROHN 1.5 x 16GA	605	-1.65	6.52	25.3	Pass
T20	65 - 45	Diagonal	ROHN 1.5 x 16GA	655	-1.88	6.52	28.9	Pass
							29.8 (b)	
T21	45 - 25	Diagonal	ROHN 1.5 x 16GA	693	-1.36	6.52	20.8	Pass
T22	25 - 4.81771	Diagonal	ROHN 1.5 x 16GA	707	-1.46	6.49	22.4	Pass
							22.5 (b)	
T23	4.81771 - 0	Horizontal	14x1/4	741	-0.63	5.57	11.3	Pass
T1	445 - 425	Top Girt	ROHN 1.5 x 16GA	4	-0.11	7.33	1.5	Pass
							1.7 (b)	
T2	425 - 405	Top Girt	ROHN 1.5 x 16GA	38	-0.32	7.33	4.3	Pass
T3	405 - 385	Top Girt	ROHN 1.5 x 16GA	71	-0.23	7.33	3.2	Pass
							3.7 (b)	
T4	385 - 365	Top Girt	ROHN 1.5 x 16GA	104	-0.22	7.33	3.1	Pass
							3.6 (b)	
T5	365 - 345	Top Girt	ROHN 1.5 x 16GA	136	-0.31	7.33	4.2	Pass
							5.9 (b)	
T6	345 - 325	Top Girt	ROHN 1.5 x 16GA	169	-0.31	7.33	4.2	Pass
							4.9 (b)	
T7	325 - 305	Top Girt	ROHN 1.5 x 16GA	202	-0.33	7.33	4.5	Pass
							5.3 (b)	
T8	305 - 285	Top Girt	ROHN 1.5 x 16GA	236	-0.33	7.33	4.5	Pass
							6.4 (b)	
T9	285 - 265	Top Girt	ROHN 1.5 x 16GA	268	-0.33	7.33	4.6	Pass
							5.4 (b)	
T10	265 - 245	Top Girt	ROHN 1.5 x 16GA	301	-0.50	7.33	6.8	Pass
							8.0 (b)	
T11	245 - 225	Top Girt	ROHN 1.5 x 16GA	335	-0.58	7.33	7.9	Pass
							11.5 (b)	
T12	225 - 205	Top Girt	ROHN 1.5 x 16GA	367	-0.67	7.33	9.1	Pass
							12.4 (b)	
T13	205 - 185	Top Girt	ROHN 1.5 x 16GA	400	-0.49	7.33	6.6	Pass
							8.1 (b)	
T14	185 - 165	Top Girt	ROHN 1.5 x 16GA	433	-0.49	7.33	6.6	Pass
							8.8 (b)	
T15	165 - 145	Top Girt	ROHN 1.5 x 16GA	466	-0.49	7.33	6.7	Pass
							7.9 (b)	
T16	145 - 125	Top Girt	ROHN 1.5 x 16GA	500	-0.67	7.33	9.2	Pass
							10.8 (b)	
T17	125 - 105	Top Girt	ROHN 1.5 x 16GA	533	-0.67	7.33	9.2	Pass
							10.8 (b)	
T18	105 - 85	Top Girt	ROHN 1.5 x 16GA	566	-0.54	7.33	7.3	Pass
							8.6 (b)	
T19	85 - 65	Top Girt	ROHN 1.5 x 16GA	598	-0.63	7.33	8.6	Pass
							10.1 (b)	
T20	65 - 45	Top Girt	ROHN 1.5 x 16GA	631	-0.63	7.33	8.6	Pass
							10.1 (b)	

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T21	45 - 25	Top Girt	ROHN 1.5 x 16GA	664	-0.62	7.33	8.5 10.1 (b)	Pass
T22	25 - 4.81771	Top Girt	ROHN 1.5 x 16GA	697	-0.62	7.33	8.5 10.0 (b)	Pass
T23	4.81771 - 0	Top Girt	14x1/4	730	-0.63	2.97	21.1	Pass
T1	445 - 425	Bottom Girt	ROHN 1.5 x 16GA	8	-0.25	7.33	3.4 4.2 (b)	Pass
T2	425 - 405	Bottom Girt	ROHN 1.5 x 16GA	41	-0.20	7.33	2.8 3.3 (b)	Pass
T3	405 - 385	Bottom Girt	ROHN 1.5 x 16GA	74	-0.23	7.33	3.2 3.7 (b)	Pass
T4	385 - 365	Bottom Girt	ROHN 1.5 x 16GA	107	-0.47	7.33	6.4 8.3 (b)	Pass
T5	365 - 345	Bottom Girt	ROHN 1.5 x 16GA	139	-0.31	7.33	4.2 4.9 (b)	Pass
T6	345 - 325	Bottom Girt	ROHN 1.5 x 16GA	172	-0.31	7.33	4.2 4.9 (b)	Pass
T7	325 - 305	Bottom Girt	ROHN 1.5 x 16GA	205	-0.61	7.33	8.4 11.9 (b)	Pass
T8	305 - 285	Bottom Girt	ROHN 1.5 x 16GA	238	-0.33	7.33	4.5 5.3 (b)	Pass
T9	285 - 265	Bottom Girt	ROHN 1.5 x 16GA	271	-0.33	7.33	4.6 5.4 (b)	Pass
T10	265 - 245	Bottom Girt	ROHN 1.5 x 16GA	304	-0.84	7.33	11.5 16.2 (b)	Pass
T11	245 - 225	Bottom Girt	ROHN 1.5 x 16GA	337	-0.97	7.33	13.2 15.3 (b)	Pass
T12	225 - 205	Bottom Girt	ROHN 1.5 x 16GA	370	-0.58	7.33	7.9 9.3 (b)	Pass
T13	205 - 185	Bottom Girt	ROHN 1.5 x 16GA	404	-1.04	7.33	14.2 18.4 (b)	Pass
T14	185 - 165	Bottom Girt	ROHN 1.5 x 16GA	436	-0.49	7.33	6.6 7.8 (b)	Pass
T15	165 - 145	Bottom Girt	ROHN 1.5 x 16GA	469	-0.49	7.33	6.7 7.9 (b)	Pass
T16	145 - 125	Bottom Girt	ROHN 1.5 x 16GA	503	1.00	9.44	10.6 16.0 (b)	Pass
T17	125 - 105	Bottom Girt	ROHN 1.5 x 16GA	536	-0.67	7.33	9.2 10.8 (b)	Pass
T18	105 - 85	Bottom Girt	ROHN 1.5 x 16GA	569	-0.54	7.33	7.3 8.6 (b)	Pass
T19	85 - 65	Bottom Girt	ROHN 1.5 x 16GA	601	-0.63	7.33	8.6 11.9 (b)	Pass
T20	65 - 45	Bottom Girt	ROHN 1.5 x 16GA	634	-0.63	7.33	8.6 10.1 (b)	Pass
T21	45 - 25	Bottom Girt	ROHN 1.5 x 16GA	667	-0.62	7.33	8.5 10.1 (b)	Pass
T22	25 - 4.81771	Bottom Girt	ROHN 1.5 x 16GA	700	-0.62	7.33	8.5 10.0 (b)	Pass
T2	425 - 405	Guy A@421.977	3/8 [ECP - 23000]	753	7.21	9.70	74.4	Pass
T5	365 - 345	Guy A@364.385	3/8 [ECP - 23000]	762	7.50	9.70	77.3	Pass
T8	305 - 285	Guy A@304.385	3/8 [ECP - 23000]	768	7.14	9.70	73.6	Pass
T11	245 - 225	Guy A@244.385	1/2 [ECP - 23000]	774	12.09	16.95	71.4	Pass
T14	185 - 165	Guy A@184.385	7/16 [ECP - 23000]	780	10.12	13.10	77.2	Pass
T17	125 - 105	Guy A@124.385	3/8 [ECP - 23000]	786	6.69	9.70	68.9	Pass
T20	65 - 45	Guy A@64.3854	3/8 [ECP - 23000]	792	4.73	9.70	48.7	Pass
T2	425 - 405	Guy B@421.977	3/8 [ECP - 23000]	750	7.17	9.70	73.9	Pass
T5	365 - 345	Guy B@364.385	3/8 [ECP - 23000]	761	7.45	9.70	76.8	Pass
T8	305 - 285	Guy B@304.385	3/8 [ECP - 23000]	767	7.08	9.70	73.0	Pass
T11	245 - 225	Guy B@244.385	1/2 [ECP - 23000]	773	12.17	16.95	71.8	Pass
T14	185 - 165	Guy B@184.385	7/16 [ECP - 23000]	779	10.29	13.10	78.5	Pass
T17	125 - 105	Guy B@124.385	3/8 [ECP - 23000]	785	6.98	9.70	72.0	Pass
T20	65 - 45	Guy B@64.3854	3/8 [ECP - 23000]	791	5.02	9.70	51.7	Pass
T2	425 - 405	Guy C@421.977	3/8 [ECP - 23000]	743	7.18	9.70	74.0	Pass
T5	365 - 345	Guy C@364.385	3/8 [ECP - 23000]	757	7.52	9.70	77.5	Pass
T8	305 - 285	Guy C@304.385	3/8 [ECP - 23000]	763	7.14	9.70	73.6	Pass
T11	245 - 225	Guy C@244.385	1/2 [ECP - 23000]	769	12.10	16.95	71.4	Pass
T14	185 - 165	Guy C@184.385	7/16 [ECP - 23000]	775	10.32	13.10	78.8	Pass
T17	125 - 105	Guy C@124.385	3/8 [ECP - 23000]	781	7.02	9.70	72.4	Pass
T20	65 - 45	Guy C@64.3854	3/8 [ECP - 23000]	787	5.04	9.70	51.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T2	425 - 405	Top Guy Pull-Off@421.977	2L2x2x1/4x3/8	747	-2.49	51.39	4.8	Pass
T5	365 - 345	Top Guy Pull-Off@364.385	4 1/2x3/8	759	2.34	57.41	4.1	Pass
T8	305 - 285	Top Guy Pull-Off@304.385	4 1/2x3/8	764	2.55	57.41	4.4	Pass
T11	245 - 225	Top Guy Pull-Off@244.385	4 1/2x3/8	772	4.60	57.41	8.0	Pass
T14	185 - 165	Top Guy Pull-Off@184.385	4 1/2x3/8	778	3.52	57.41	6.1	Pass
T17	125 - 105	Top Guy Pull-Off@124.385	4 1/2x3/8	784	2.79	57.41	4.9	Pass
T20	65 - 45	Top Guy Pull-Off@64.3854	4 1/2x3/8	789	2.14	57.41	3.7	Pass
T2	425 - 405	Torque Arm Top@421.977	C10x15.3	745	-0.41	129.63	43.8	Pass
							Summary	
						Leg (T12)	97.6	Pass
						Diagonal (T11)	68.0	Pass
						Horizontal (T23)	11.3	Pass
						Top Girt (T23)	21.1	Pass
						Bottom Girt (T13)	18.4	Pass
						Guy A (T5)	77.3	Pass
						Guy B (T14)	78.5	Pass
						Guy C (T14)	78.8	Pass
						Top Guy Pull-Off (T11)	8.0	Pass
						Torque Arm Top (T2)	43.8	Pass
						Bolt Checks	68.0	Pass
						RATING =	**97.6**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 870209 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

Guy Lug Calculations - Rohn Pipe Clamp Pulloff w/ Lug Replacement

Banding Plate Width:	$Banding_{Width} := 4.5in$	
Banding Plate Thickness:	$Banding_{Th} := 0.375in$	
Lug Plate Width:	$Lug_{Width} := 3in$	
Lug Plate Thickness:	$Lug_{Th} := 1in$	(Proposed Lug Assembly)
Lug Hole Diameter:	$D_{hole} := 1in$	
Lug Hole Edge Distance:	$ME_{hole} := 1.5in$	
Lug-Banding Bolt Diameter:	$D_{boltBanding} := 0.62in$	(Minimum Bolt Diameter at Threads)
Lug-Banding Bolt Edge Distance:	$ME_{boltBanding} := 1.25in$	
Lug Intermediate Bolt Diameter:	$D_{boltInt} := 0.52in$	
Lug Intermediate Bolt Edge Distance:	$ME_{boltInt} := 1.25in$	
Lug & Banding Material Strength:	$f_y := 36ksi$	
	$f_u := 58ksi$	
Bolt Material Strength:	$f_{ybolt} := 92ksi$	
	$f_{ubolt} := 120ksi$	
Wire Breaking Strength:	$MBS := 26.9kip$	
Shackle Pin Diameter:	$D_{pin} := 1in$	

Parameter Calcs:

$$L_{cLug} := ME_{hole} - \left(0.5 \cdot D_{hole}\right) = 1 \cdot in$$

$$L_{cBolt} := ME_{boltBanding} - \left[0.5 \cdot \left(D_{boltBanding} + 0.25in\right)\right] = 0.815 \cdot in$$ (Hole is assumed to be bolt size + 1/4")

$$A_{gLug} := Lug_{Th} \cdot \left(Lug_{Width} - D_{hole}\right) = 2 \cdot in^2$$

$$A_{gBanding} := 2 \cdot Banding_{Th} \cdot \left[Banding_{Width} - \left(D_{boltBanding} + 0.25in\right)\right] = 2.722 \cdot in^2$$ (Hole is assumed to be bolt size + 1/4")

$$BoltStrength := 0.75 \cdot \pi \cdot \left(\frac{D_{boltBanding}}{2}\right)^2 \cdot 0.6 \cdot f_{ubolt} = 16.303 \cdot kip$$

$$IntBoltStrength := 0.75 \cdot \pi \cdot \left(\frac{D_{boltInt}}{2}\right)^2 \cdot 0.6 \cdot f_{ubolt} = 11.468 \cdot kip$$

Lug Strength:

Lug Bearing / Shear Tear-Out:

$$\phi R_{nLbearing} := \min\left(0.75 \cdot 1.2 \cdot L_{cLug} \cdot Lug_{Th} \cdot f_u, 0.75 \cdot 2.4 \cdot D_{pin} \cdot Lug_{Th} \cdot f_u\right) = 52.2 \cdot kip$$

Lug Tension:

$$\phi R_{nLugTy} := 0.9 \cdot f_y \cdot A_{gLug} = 64.8 \cdot kip \quad \text{Yielding}$$

$$\phi R_{nLugTu} := 0.75 \cdot f_u \cdot A_{gLug} = 87 \cdot kip \quad \text{Rupture}$$

Lug Bolt:

$$\phi R_{nLugIntBolt} := 4 \cdot IntBoltStrength = 45.872 \cdot kip$$

Banding Strength:

Banding Bearing / Shear Tear-Out:

$$\phi R_{nBbearing} := \min\left(2 \cdot 0.75 \cdot 1.2 \cdot L_{cBolt} \cdot Banding_{Th} \cdot f_u, 2 \cdot 0.75 \cdot 2.4 \cdot D_{boltBanding} \cdot Banding_{Th} \cdot f_u\right) = 31.907 \cdot kip$$

Banding Tension:

$$\phi R_{nBandingTy} := 0.9 \cdot f_y \cdot A_{gBanding} = 88.209 \cdot kip \quad \text{Yielding}$$

$$\phi R_{nBandingTu} := 0.75 \cdot f_u \cdot A_{gBanding} = 118.429 \cdot kip \quad \text{Rupture}$$

Banding-Lug Bolt:

$$\phi R_{nBandingBolt} := 2 \cdot BoltStrength = 32.606 \cdot kip$$

Results:

Minimum Strength:

$$\phi R_{nLug} := \min\left(\phi R_{nLbearing}, \phi R_{nLugTy}, \phi R_{nLugTu}, \phi R_{nLugIntBolt}\right) = 45.872 \cdot kip$$

$$\phi R_{nBanding} := \min\left(\phi R_{nBbearing}, \phi R_{nBandingTy}, \phi R_{nBandingTu}, \phi R_{nBandingBolt}\right) = 31.907 \cdot kip$$

$$\phi R_n := \min\left(\phi R_{nLug}, \phi R_{nBanding}\right) = 31.907 \cdot kip$$

Design Check:

$$Check := \begin{cases} \text{"OK"} & \text{if } \phi R_n > MBS \\ \text{"NG - CABLE STRENGTH DOES NOT CONTROL"} & \text{otherwise} \end{cases}$$

Check = "OK"

Pier and Pad Foundation

BU # :	870209
Site Name:	Lake City (Hwy 47/
App. Number:	687759 Rev. 0

TIA-222 Revision:	H
Tower Type:	Guyed

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☑
Rectangular Pad?:	☐

Superstructure Analysis Reactions

Compression, P_{comp}:	92.21	kips
Base Shear, Vu_comp:	0.51	kips
Moment, M_u:	0	ft-kips
Tower Height, **H**:	445	ft
BP Dist. Above Fdn, bp_{dist}:	0.5	in
Bolt Circle / Bearing Plate Width, **BC**:	12	in

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	29.77	0.51	**1.6%**	**Pass**
Bearing Pressure (ksf)	7.43	4.71	**60.4%**	**Pass**
*Overturning (kip*ft)*	60.00	2.83	**4.7%**	**Pass**
*Pad Flexure (kip*ft)*	2131.26	59.04	**2.6%**	**Pass**
Pad Shear - 1-way (kips)	303.16	0.00	**0.0%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	4262.51	0.00	**0.0%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Structural Rating*:	**2.6%**
Soil Rating*:	**60.4%**

Pad Properties

Depth, **D**:	5.166	ft
Pad Width, W_1:	5	ft
Pad Thickness, **T**:	5.5	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	10	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties

Total Soil Unit Weight, γ:	100	pcf
Ultimate Net Bearing, Qnet:	12.000	ksf
Cohesion, **Cu**:	0.200	ksf
Friction Angle, φ:	28	degrees
SPT Blow Count, N_{blows}:	5	
Base Friction, μ:	0.3	
Neglected Depth, **N**:	2.00	ft
Foundation Bearing on Rock?		
Groundwater Depth, **gw**:	3	ft

<--Toggle between Gross and Net

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	870209
Site Name:	Lake City (Hwy 47/Wester Rd.)
Order Number:	687759 Rev. 0
Location:	Guy A @ 187 ft (Elev 0 ft)

TIA-222 Revision:	H

Design Reactions		
Shear, **S**:	17.26	kips
Uplift, **Ua**:	12.13	kips
Resultant Force, **Rf**:	21.10	kips
Tower Height, **H**:	445.00	ft
Guy Anchor Radius, **R**:	187.00	ft
Resultant Angle to Horizontal, **θ**:	35.1	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	6.5	ft
Anchor Width, **Wa**:	5.5	ft
Anchor Thickness, **Ta**:	2.5	ft
Anchor Length, **La**:	6.83	ft
Concrete Volume, **Vc**:	3.5	yd^3
Toe Width, **toe**:	0	ft

Anchor Shaft Diameter, **ds**:	1.25	in
Anchor Shaft Quantity. **n**:	1	
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:	1	

Material Properties		
Wt. Avg.Concrete Density, δ**x**:	0.150	kcf
Anchor Shaft Grade, **Fy'**:	50	ksi
Anchor Shaft Ultimate Strength, **Fu'**:	60	ksi

Design Checks	Capacity	Demand	Rating*	Check
Lateral Capacity (kips):	103.86	17.26	**15.8%**	**Pass**
Uplift Capacity (kips):	63.38	12.13	**18.2%**	**Pass**
Anchor Shaft (kips):	47.86	21.10	**42.0%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Anchor Shaft Rating:	**42.0%**
Structural Rating:	**N/A**
Soil Rating:	**18.2%**

Neglect Depth, **Neg**:	2	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties: No. of Soil Layers: 3

Layer	φ, deg	cu, ksf	δ, pcf	d, ft	Ultimate fs (ksf)	N (blows/ft)
1	0	0.000	100	2.00	0.000	
2	28	0.000	100	3.00	0.015	
3	28	0.900	120	6.50	1.200	

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

Version 5.0.1

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	870209
Site Name:	Lake City (Hwy 47/Wester Rd.)
Order Number:	687759 Rev. 0
Location:	Guy B @ 186 ft (Elev 0 ft)

TIA-222 Revision:	H

Design Reactions		
Shear, **S**:	17.87	kips
Uplift, **Ua**:	12.55	kips
Resultant Force, **Rf**:	21.84	kips
Tower Height, **H**:	445.00	ft
Guy Anchor Radius, **R**:	186.00	ft
Resultant Angle to Horizontal, **θ**:	35.1	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	6.5	ft
Anchor Width, **Wa**:	5.5	ft
Anchor Thickness, **Ta**:	2.5	ft
Anchor Length, **La**:	6.83	ft
Concrete Volume, **Vc**:	3.5	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:	1.25	in
Anchor Shaft Quantity. **n**:	1	
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:	1	

Material Properties		
Wt. Avg.Concrete Density, δ**x**:	0.150	kcf
Anchor Shaft Grade, **Fy'**:	50	ksi
Anchor Shaft Ultimate Strength, **Fu'**:	60	ksi

Design Checks	Capacity	Demand	Rating*	Check
Lateral Capacity (kips):	66.05	17.87	**25.8%**	**Pass**
Uplift Capacity (kips):	48.98	12.55	**24.4%**	**Pass**
Anchor Shaft (kips):	47.86	21.84	**43.5%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Anchor Shaft Rating:	**43.5%**
Structural Rating:	**N/A**
Soil Rating:	**25.8%**

Neglect Depth, **Neg**:	2	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties: No. of Soil Layers: 4

Layer	φ, deg	cu, ksf	δ, pcf	d, ft	Ultimate fs (ksf)	N (blows/ft)
1	0	0.000	100	2.00	0.000	
2	28	0.000	100	3.00	0.015	
3	28	0.400	115	6.00	0.480	
4	28	1.000	120	6.50	1.200	

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

Version 5.0.1

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	870209
Site Name:	Lake City (Hwy 47/Wester Rd.)
Order Number:	687759 Rev. 0
Location:	Guy C @ 184 ft (Elev 0 ft)

TIA-222 Revision:	H

Design Reactions		
Shear, **S**:	17.87	kips
Uplift, **Ua**:	12.69	kips
Resultant Force, **Rf**:	21.92	kips
Tower Height, **H**:	445.00	ft
Guy Anchor Radius, **R**:	184.00	ft
Resultant Angle to Horizontal, **θ**:	35.4	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	6.5	ft
Anchor Width, **Wa**:	5.5	ft
Anchor Thickness, **Ta**:	2.5	ft
Anchor Length, **La**:	6.83	ft
Concrete Volume, **Vc**:	3.5	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:	1.25	in
Anchor Shaft Quantity. **n**:	1	
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:	1	

Material Properties		
Wt. Avg.Concrete Density, δ**x**:	0.150	kcf
Anchor Shaft Grade, **Fy'**:	50	ksi
Anchor Shaft Ultimate Strength, **Fu'**:	60	ksi

Design Checks	Capacity	Demand	Rating*	Check
Lateral Capacity (kips):	74.73	17.87	**22.8%**	**Pass**
Uplift Capacity (kips):	51.86	12.69	**23.3%**	**Pass**
Anchor Shaft (kips):	47.86	21.92	**43.6%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Anchor Shaft Rating:	**43.6%**
Structural Rating:	**N/A**
Soil Rating:	**23.3%**

Neglect Depth, **Neg**:	2	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties: — **No. of Soil Layers:** 4

Layer	φ, deg	cu, ksf	δ, pcf	d, ft	Ultimate fs (ksf)	N (blows/ft)
1	0	0.000	100	2.00	0.000	
2	28	0.000	100	3.00	0.015	
3	28	0.500	115	6.00	0.600	
4	28	1.000	125	6.50	1.290	

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

Version 5.0.1

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	870209
Site Name:	Lake City (Hwy 47/Wester Rd.)
Order Number:	687759 Rev. 0
Location:	Guy A @ 343 ft (Elev 0 ft)

TIA-222 Revision:	H

Design Reactions		
Shear, **S**:	29.74	kips
Uplift, **Ua**:	27.05	kips
Resultant Force, **Rf**:	40.20	kips
Tower Height, **H**:	445.00	ft
Guy Anchor Radius, **R**:	343.00	ft
Resultant Angle to Horizontal, **θ**:	42.3	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	6.5	ft
Anchor Width, **Wa**:	4	ft
Anchor Thickness, **Ta**:	4	ft
Anchor Length, **La**:	5.83	ft
Concrete Volume, **Vc**:	3.5	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:	1.25	in
Anchor Shaft Quantity. **n**:	1	
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:	1	

Material Properties		
Wt. Avg.Concrete Density, δ**x**:	0.150	kcf
Anchor Shaft Grade, **Fy'**:	50	ksi
Anchor Shaft Ultimate Strength, **Fu'**:	60	ksi

Design Checks	Capacity	Demand	Rating*	Check
Lateral Capacity (kips):	88.07	29.74	**32.2%**	**Pass**
Uplift Capacity (kips):	54.15	27.05	**47.6%**	**Pass**
Anchor Shaft (kips):	47.86	40.20	**80.0%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Anchor Shaft Rating:	**80.0%**
Structural Rating:	**N/A**
Soil Rating:	**47.6%**

Neglect Depth, **Neg**:	2	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties: No. of Soil Layers: 3

Layer	φ, deg	cu, ksf	δ, pcf	d, ft	Ultimate fs (ksf)	N (blows/ft)
1	0	0.000	100	2.00	0.000	
2	28	0.000	100	3.00	0.015	
3	28	0.900	120	6.50	1.200	

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

Version 5.0.1

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	870209
Site Name:	Lake City (Hwy 47/Wester Rd.)
Order Number:	687759 Rev. 0
Location:	Guy B @ 346 ft (Elev 0 ft)

TIA-222 Revision:	H

Design Reactions		
Shear, **S**:	29.82	kips
Uplift, **Ua**:	26.87	kips
Resultant Force, **Rf**:	40.14	kips
Tower Height, **H**:	445.00	ft
Guy Anchor Radius, **R**:	346.00	ft
Resultant Angle to Horizontal, **θ**:	42.0	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	6.5	ft
Anchor Width, **Wa**:	4	ft
Anchor Thickness, **Ta**:	4	ft
Anchor Length, **La**:	5.83	ft
Concrete Volume, **Vc**:	3.5	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:	1.25	in
Anchor Shaft Quantity. **n**:	1	
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:	1	

Material Properties		
Wt. Avg.Concrete Density, δ**x**:	0.150	kcf
Anchor Shaft Grade, **Fy'**:	50	ksi
Anchor Shaft Ultimate Strength, **Fu'**:	60	ksi

Design Checks	Capacity	Demand	Rating*	Check
Lateral Capacity (kips):	57.05	29.82	**49.8%**	**Pass**
Uplift Capacity (kips):	35.94	26.87	**71.2%**	**Pass**
Anchor Shaft (kips):	47.86	40.14	**79.9%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Anchor Shaft Rating:	**79.9%**
Structural Rating:	**N/A**
Soil Rating:	**71.2%**

Neglect Depth, **Neg**:	2	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties: No. of Soil Layers: 4

Layer	φ, deg	cu, ksf	δ, pcf	d, ft	Ultimate fs (ksf)	N (blows/ft)
1	0	0.000	100	2.00	0.000	
2	28	0.000	100	3.00	0.015	
3	28	0.400	115	6.00	0.480	
4	28	1.000	120	6.50	1.200	

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

Version 5.0.1

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	870209
Site Name:	Lake City (Hwy 47/Wester Rd.)
Order Number:	687759 Rev. 0
Location:	Guy C @ 344 ft (Elev 0 ft)

TIA-222 Revision:	H

Design Reactions		
Shear, **S**:	29.84	kips
Uplift, **Ua**:	27.07	kips
Resultant Force, **Rf**:	40.29	kips
Tower Height, **H**:	445.00	ft
Guy Anchor Radius, **R**:	344.00	ft
Resultant Angle to Horizontal, **θ**:	42.2	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	6.5	ft
Anchor Width, **Wa**:	4	ft
Anchor Thickness, **Ta**:	4	ft
Anchor Length, **La**:	5.83	ft
Concrete Volume, **Vc**:	3.5	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:	1.25	in
Anchor Shaft Quantity. **n**:	1	
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:	1	

Material Properties		
Wt. Avg.Concrete Density, δ**x**:	0.150	kcf
Anchor Shaft Grade, **Fy'**:	50	ksi
Anchor Shaft Ultimate Strength, **Fu'**:	60	ksi

Version 5.0.1

Design Checks	Capacity	Demand	Rating*	Check
Lateral Capacity (kips):	63.20	29.84	**45.0%**	**Pass**
Uplift Capacity (kips):	39.38	27.07	**65.5%**	**Pass**
Anchor Shaft (kips):	47.86	40.29	**80.2%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Anchor Shaft Rating:	**80.2%**
Structural Rating:	**N/A**
Soil Rating:	**65.5%**

Neglect Depth, **Neg**:	2	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties: No. of Soil Layers: 4

Layer	φ, deg	cu, ksf	δ, pcf	d, ft	Ultimate fs (ksf)	N (blows/ft)
1	0	0.000	100	2.00	0.000	
2	28	0.000	100	3.00	0.015	
3	28	0.500	115	6.00	0.600	
4	28	1.000	125	6.50	1.290	

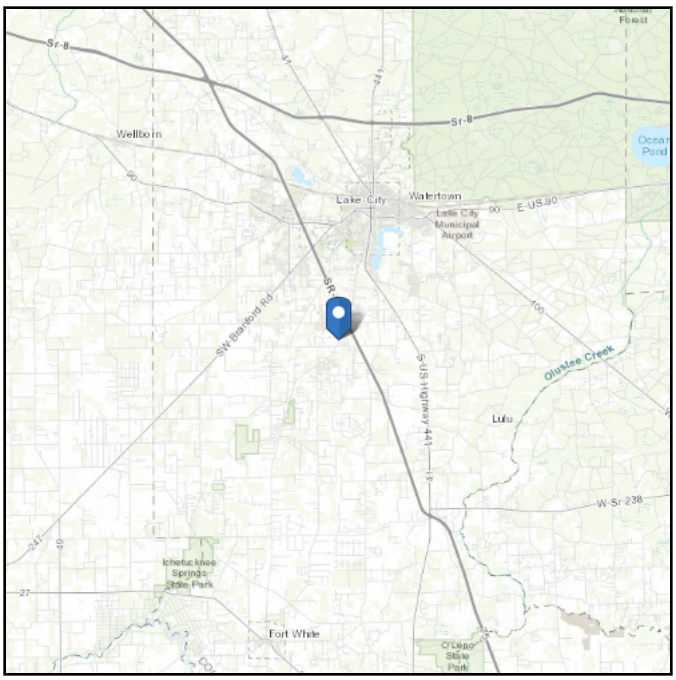
*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-22
Risk Category: II
Soil Class: D - Stiff Soil

Latitude: 30.107583
Longitude: -82.662778
Elevation: 98.56148657260263 ft (NAVD 88)



Wind

Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	83 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph
300-year MRI	110 Vmph
700-year MRI	119 Vmph
1,700-year MRI	129 Vmph
3,000-year MRI	134 Vmph
10,000-year MRI	144 Vmph
100,000-year MRI	153 Vmph
1,000,000-year MRI	166 Vmph

Data Source: ASCE/SEI 7-22, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Mar 13 2025

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-22 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years). Values for 10-year MRI, 25-year MRI, 50-year MRI and 100-year MRI are Service Level wind speeds, all other wind speeds are Ultimate wind speeds.

Site is in a hurricane-prone region as defined in ASCE/SEI 7-22 Section 26.2. Glazed openings need not be protected against wind-borne debris.

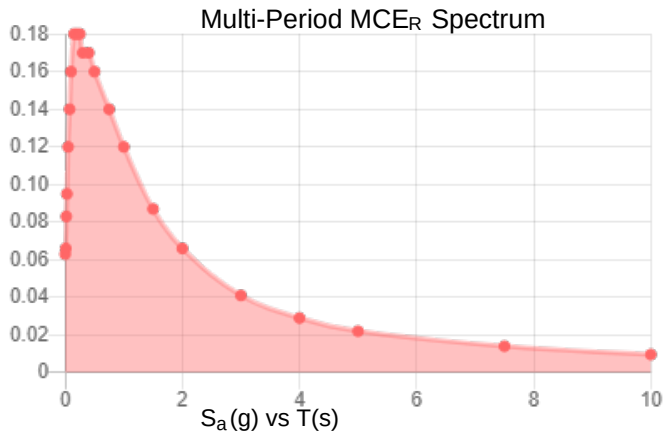
Seismic

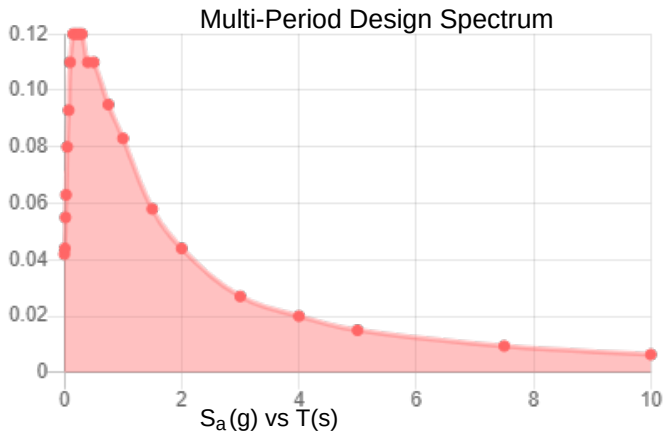
Site Soil Class: D - Stiff Soil

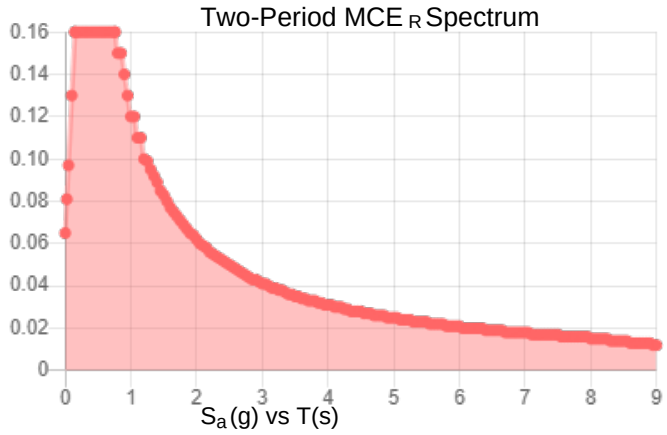
Results:

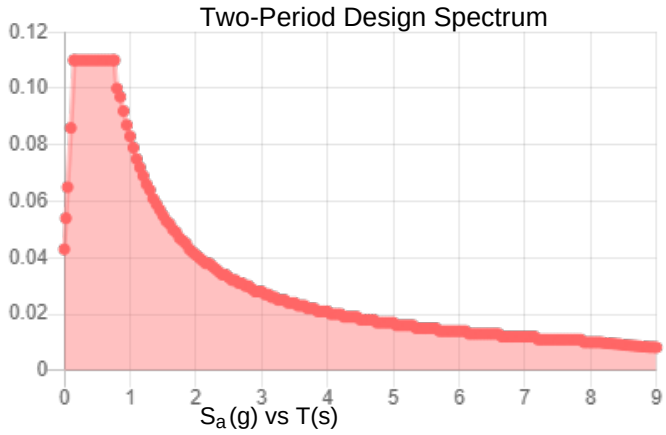
PGA_M :	0.058	T_L :	8
S_{MS} :	0.16	S_S :	0.12
S_{M1} :	0.12	S_1 :	0.058
S_{DS} :	0.11	V_{S30} :	260
S_{D1} :	0.083		

Seismic Design Category: B









MCER Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Data Accessed: Thu Mar 13 2025

Date Source:
USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	N/A
Concurrent Temperature:	N/A
3-s Gust Speed	N/A
Data Source:	Standard ASCE/SEI 7-22, Figs. 10-2 through 10-8
Date Accessed:	Thu Mar 13 2025

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain for 250, 500, 1,000, and 1,400-year mean recurrence intervals along with concurrent 3-s gust speeds and concurrent air temperatures. The shading indicates special icing regions, with elevations above 2,100 ft (640 m) in the east, 6,000 ft (1829 m) in the west, and 1,600 ft (488 m) in Alaska, with sparse weather station data for determining design ice loads. In these regions, as well as in regions with complex terrain causing unusual icing conditions and regions where snow or in-cloud icing results in larger loads, the mapped values should be adjusted based on a combination of local historical records and experience, reanalysis data, and numerical weather prediction systems.

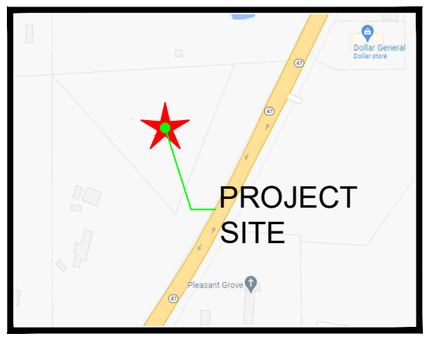
APPENDIX D

MODIFICATION DRAWINGS

TOWER MODIFICATION DRAWINGS
PREPARED FOR CROWN CASTLE

SITE NAME: LAKE CITY (HWY 47/WESTER RD.)
BU NUMBER: 870209

SITE ADDRESS:
4604 SW STATE ROAD 47
LAKE CITY, FL 32055
COLUMBIA COUNTY, USA



PROJECT CONTACTS:

1. CROWN PROJECT MANAGER

BRIAN BECKHAM
(205) 909-2030
BRIAN.BECKHAM@CROWNCASTLE.COM
TWO CHASE CORPORATE DRIVE, SUITE 105
BIRMINGHAM, AL 35244

2. STANTEC ENGINEER OF RECORD

LANCE COOKE, P.E.
(503) 924-2515
CROWNMODIFICATIONS@STANTEC.COM
5100 SW MACADAM AVE, SUITE 500
PORTLAND, OR 97239

TOWER INFORMATION

TOWER MAPPING / CCI DOC #:	TOWER ENGINEERING PROFESSIONALS / CCI DOC # 2191339
TOWER HEIGHT / TYPE:	445 FT GUYED TOWER
TOWER LOCATION:	LAT 30° 6' 27.30"
	LONG -82° 39' 46.00"
DATUM: (NAVD 88)	ELEV 99 FT AMSL
STRUCTURAL DESIGN DRAWING:	CCI / WO # 2368227
STRUCTURAL ANALYSIS REPORT:	CN2-349R5 / 280570026 / WO # 2368227
STRUCTURAL ANALYSIS DATE:	03/13/25
ORDER #:	687759 REV # 0
CCISITES DOCUMENT ID:	11881082

CODE COMPLIANCE

GOVERNING CODES:	TIA-222-H & 2023 FLORIDA BUILDING CODE
WIND SPEEDS:	119 MPH 3 SECOND GUST
ICE THICKNESS:	N/A
RISK CATEGORY:	II
EXPOSURE CATEGORY:	C
TOPO CATEGORY:	1

SEISMIC CRITERIA:

STRUCTURE CLASS:	II
SITE CLASS:	D
RESPONSE COEFFICIENT (R):	3.0
SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (Ss):	0.120g
1-SECOND SPECTRAL RESPONSE ACCELERATION (S_1):	0.058g

HOT WORK INCLUDED

NA	BASE GRINDING ONLY
NA	BASE WELDING (AND GRINDING)
NA	AERIAL GRINDING ONLY
NA	AERIAL WELDING (AND GRINDING)

ATTENTION ALL CONTRACTORS, ANYTIME YOU ACCESS A CROWN SITE FOR ANY REASON YOU ARE TO CALL THE CROWN NOC UPON ARRIVAL AND DEPARTURE, DAILY AT 800-788-7011

LOOK UP!

SAFETY CLIMB: 'LOOK UP'
THE INTEGRITY OF THE WIRE ROPE SAFETY CLIMB SYSTEM SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER REINFORCEMENTS AND EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF ANY WIRE ROPE SAFETY CLIMB ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, OR IMPACT TO THE ANCHORAGE POINTS IN ANY WAY. ANY COMPROMISED SAFETY CLIMB MUST BE REPORTED TO YOUR CROWN POC FOR RESOLUTION, INCLUDING EXISTING CONDITIONS.

DRAWINGS INCLUDED

SHEET NUMBER	DESCRIPTION
S-1	TITLE PAGE
S-2	MODIFICATION INSPECTION CHECKLIST
S-3	NOTES
S-4	TOWER MODIFICATION SCHEDULE
S-5	BOLT-ON GUY PULL-OFF ASSEMBLY DETAILS
S-6	FAN PLATE CONNECTION DETAILS
S-7	GROUNDING DETAILS
S-8	GUY HARDWARE DETAILS
S-9	GUY TEMPERATURE TABLE AND PLAN VIEW

NO.	DATE	DESCRIPTION	BY

REVISIONS

G. LANCE COOKE LICENSE No 68787 STATE OF FLORIDA PROFESSIONAL ENGINEER

EXP 2/28/2027

Stantec
5100 South Macadam Avenue, Suite 500
Portland, OR 97239
Tel: 503-595-9128
www.stantec.com

SITE NAME:LAKE CITY (HWY 47/WESTER RD.)
BU NUMBER: 870209
WO NUMBER: 2368227
SITE ADDRESS:
4604 SW STATE ROAD 47
LAKE CITY, FL 32055
COLUMBIA COUNTY, USA

ENG/QA BY: **KP/TH** DATE: **03/13/25**
DFT BY: **MV/MO** DATE: **03/13/25**
APRV'D BY: **GLC** DATE: **03/13/25**
STANTEC PROJECT: **280570026.300/CN2-349R5**
SCALE: N.T.S.

TITLE PAGE

S-1 REV 0

CON-FRM-10354 MI CHECKLIST

REQUIRED	REPORT ITEM	APPLICABLE CROWN DOC	BRIEF DESCRIPTION
PRE-CONSTRUCTION			
X	EOR APPROVED SHOP DRAWINGS	CON-SOW-10007	ONCE THE PRE-MODIFICATION MAPPING IS COMPLETE AND PRIOR TO FABRICATION, THE CONTRACTOR SHALL PROVIDE DETAILED ASSEMBLY DRAWINGS AND/OR SHOP DRAWINGS ALONG WITH EOR RFI FORM DETAILING ANY CHANGES FROM THE ORIGINAL DESIGN TO THE EOR FOR REVIEW AND APPROVAL.
X	FABRICATION INSPECTION	CON-SOW-10007	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS, SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	FABRICATOR CERTIFIED WELD INSPECTION	CON-SOW-10007 CED-STD-10069	A CWI SHALL INSPECT ALL WELDING PERFORMED ON STRUCTURAL MEMBERS DURING FABRICATION. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	MATERIAL TEST REPORTS (MTR)	CON-SOW-10007	MATERIAL TEST REPORTS SHALL BE PROVIDED FOR MATERIAL USED AS REQUIRED PER SECTION 9.2.5 OF CED-SOW-10007. MTRS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	FABRICATOR NDE INSPECTION REPORT	CED-SOW-10066 CED-STD-10069	CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED NDT INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	NDE OF MONOPOLE BASE PLATE	ENG-SOW-10033	A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	CON-SOW-10007	PACKING/SHIPPING LIST FOR ALL MATERIAL USED DURING CONSTRUCTION OF THE MODIFICATION
ADDITIONAL TESTING AND INSPECTIONS:			
NA			
CONSTRUCTION			
NA	FOUNDATION INSPECTIONS	CED-SOW-10144	A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A VISUAL OBSERVATION OF THE REBAR SHALL BE PERFORMED BEFORE PLACING THE EPOXY. A SEALED WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	CONCRETE COMP. STRENGTH AND SLUMP TEST	CED-SOW-10144	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED AS PART OF THE FOUNDATION REPORT.
NA	EARTHWORK: SOIL COMPACTION	CED-SOW-10144	FOUNDATION SOIL COMPACTION SHALL BE INSPECTED AND APPROVED BY AN APPROVED FOUNDATION INSPECTOR AND RESULTS INCLUDED AS PART OF THE FOUNDATION REPORT.
NA	EARTHWORK: BEARING CAPACITY	CED-SOW-10144	FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY AN APPROVED FOUNDATION INSPECTOR AND RESULTS INCLUDED AS PART OF THE FOUNDATION REPORT.
NA	MICROPILE/ROCK ANCHOR	CED-SOW-10144	MICROPILES/ROCK ANCHORS SHALL BE INSPECTED BY THE FOUNDATION INSPECTION VENDOR AND SHALL BE INCLUDED AS PART OF THE FOUNDATION INSPECTION REPORT, ADDITIONAL TESTING AND/OR INSPECTION REQUIREMENTS ARE NOTED IN THESE CONTRACT DOCUMENTS AND GENERAL NOTES PAGE TWO.
NA	POST-INSTALLED ANCHOR ROD VERIFICATION	CON-SOW-10007 CON-FRM-10358	POST INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH CROWN REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	BASE PLATE GROUT VERIFICATION	ENG-STD-10323	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT CERTIFIES THAT THE GROUT WAS REMOVED AND/OR INSTALLED IN ACCORDANCE WITH CROWN REQUIREMENTS FOR INCLUSION IN THE MI REPORT.
NA	ELEPHANT ARMOR	OPS-SOW-10331	PHOTOS SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 6 FOR INCLUSION IN THE MI REPORT
NA	FIELD CERTIFIED WELD INSPECTION	CED-SOW-10066 CED-STD-10069	A CROWN APPROVED CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST FIELD WELDS, FOLLOWING ALL PROCEDURES SPECIFIED IN CROWN STANDARD DOCUMENTS APPLICABLE TO WELD INSPECTIONS. A REPORT SHALL BE PROVIDED. NDE OF FIELD WELDS SHALL BE PERFORMED AS REQUIRED BY CROWN STANDARDS AND CONTRACT DOCUMENTS. THE NDE REPORT SHALL BE INCLUDED IN THE CWI REPORT.
NA	FIELD NDE	CON-STD-10159 CON-SOW-10007	A NDE OF THE FIELD WELDS IN ACCORDANCE WITH CON-STD-10159 AND ANY ADDITIONAL NDE REQUIREMENTS NOTED IN THESE DESIGN DOCUMENTS
X	ON-SITE COLD GALVANIZING VERIFICATION	ENG-STD-10149 CON-FRM-10358	THE GENERAL CONTRACTOR SHALL PROVIDE WRITTEN AND PHOTOGRAPHIC DOCUMENTATION TO THE MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED PER MANUFACTURER SPECIFICATIONS AND APPLICABLE STANDARDS.
X	TENSION TWIST AND PLUMB	CED-PRC-10182 CED-STD-10261	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT IN ACCORDANCE WITH APPLICABLE STANDARDS DOCUMENTING TENSION TWIST AND PLUMB.
NA	TOWER PLUMB DELIVERABLES	CON-SOW-10007	THE CONTRACTOR SHALL PROVIDE WRITTEN AND PHOTOGRAPHIC DOCUMENTATION TO THE MI INSPECTOR VERIFYING THE TOWER PLUMB CONDITION SEE REQUIREMENTS ON GENERAL NOTES SHEET PAGE TWO
NA	CANISTER DRAWINGS	CON-SOW-10007	THE CONTRACTOR SHALL SUBMIT A LEGIBLE COPY OF ANY FINAL FABRICATION OR PARTS DRAWINGS PROVIDED BY THE CANISTER VENDOR
X	GC AS-BUILT DRAWINGS	CON-SOW-10007	THE GENERAL CONTRACTOR SHALL SUBMIT A LEGIBLE COPY OF THE ORIGINAL DESIGN DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD. EOR/RFI FORMS APPROVING ALL CHANGES SHALL BE SUBMITTED
ADDITIONAL TESTING AND INSPECTIONS:			
NA			
POST-CONSTRUCTION			
X	CONSTRUCTION COMPLIANCE LETTER	CON-SOW-10007 CED-FRM-10358	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS
NA	POST-INSTALLED ANCHOR ROD PULL TESTS	CED-PRC-10119	POST-INSTALLED ANCHOR RODS SHALL BE TESTED BY A CROWN APPROVED PULL TEST INSPECTOR AND A REPORT SHALL BE PROVIDED INDICATING TESTING RESULTS.
X	PHOTOGRAPHS	CON-SOW-10007	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI. PHOTOS SHALL DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
X	BOLT HOLE INSTALLATION VERIFICATION REPORT	CON-SOW-10007	THE MI INSPECTOR SHALL VERIFY THE HOLE SIZE AND CONDITION OF 10% OF ALL NON PRE-TENSIONED BOLTS INSTALLED AS PART OF THE MODIFICATION. THE MI REPORT SHALL CONTAIN THE COMPLETED BOLT INSTALLATION VERIFICATION REPORT, INCLUDING THE SUPPORTING PHOTOGRAPHS.
X	PUNCH LIST DEVELOPMENT AND CORRECTION DOCUMENTATION	CED-PRC-10283 CED-FRM-10285	FINAL PUNCH LIST INDICATING ALL NONCONFORMANCE(S) IDENTIFIED AND THE FINAL RESOLUTION/APPROVAL.
X	MI INSPECTOR RECORD DRAWING(S)	CON-SOW-10007	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTOR'S REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
ADDITIONAL TESTING AND INSPECTIONS:			
NA			

THE MI CHECKLIST SHALL BE REVIEWED PRIOR TO THE START OF CONSTRUCTION. ALL PARTIES TO THE MODIFICATION SHALL UNDERSTAND CROWN REQUIREMENTS AND INSPECTION/DOCUMENTATION THAT IS APPLICABLE TO THE SCOPE OF WORK THEY ARE PERFORMING. ERRORS ON THE MI CHECKLIST SHALL BE BROUGHT TO THE ATTENTION OF THE CROWN POC AND EOR AS SOON AS POSSIBLE.

MODIFICATION INSPECTION NOTES

GENERAL

THE MI IS AN ON-SITE VISUAL AND HANDS-ON INSPECTION OF TOWER MODIFICATIONS INCLUDING A REVIEW OF CONSTRUCTION REPORTS AND ADDITIONAL PERTINENT DOCUMENTATION PROVIDED BY THE GENERAL CONTRACTOR (GC), AS WELL AS ANY INSPECTION DOCUMENTS PROVIDED BY 3RD PARTY INSPECTORS. THE MI IS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS; IN ACCORDANCE WITH APPLICABLE CROWN STANDARDS; AND AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

NO DOCUMENT, CODE OR POLICY CAN ANTICIPATE EVERY SITUATION THAT MAY ARISE. ACCORDINGLY, THIS CHECKLIST IS INTENDED TO SERVE AS A SOURCE OF GUIDING PRINCIPLES IN ESTABLISHING GUIDELINES FOR MODIFICATION INSPECTION.

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, AND THE MI INSPECTOR DOES NOT TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES. THE MI INSPECTOR SHALL INSPECT AND NOTE CONFORMANCE/NONCONFORMANCE AND PROVIDE TO THE CROWN POINT OF CONTACT (CROWN POC) FOR EVALUATION.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN THE GC AND/OR INSPECTOR SHALL CONTACT THE CROWN POINT OF CONTACT (CROWN POC).

REFER TO CROWN CON-SOW-10007, "MODIFICATION INSPECTION", FOR FURTHER DETAILS AND REQUIREMENTS.

SERVICE LEVEL COMMITMENT

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

- THE GC SHALL PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY MINOR DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
  - RAW MATERIALS
  - PHOTOS OF ALL CRITICAL DETAILS
  - FOUNDATION MODIFICATIONS
  - WELD PREPARATION
  - BOLT INSTALLATION
  - FINAL INSTALLED CONDITION
  - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
  - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS, FOR A COMPLETE LIST OF PHOTOS SEE CROWN DOCUMENT # CED-SOW-10007.

NO.	DATE	DESCRIPTION	BY

REVISIONS

Stantec
5100 South Macadam Avenue, Suite 500
Portland, OR 97239
Tel: 503-595-9128
www.stantec.com

G. LANCE COOKE
LICENSE
No 68787
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

EXP 2/28/2027

SITE NAME:LAKE CITY (HWY 47/WESTER RD.)

BU NUMBER: 870209

WO NUMBER: 2368227

SITE ADDRESS:
4604 SW STATE ROAD 47
LAKE CITY, FL 32055
COLUMBIA COUNTY, USA

ENG/QA BY: **KP/TH** DATE: **03/13/25**

DFT BY: **MV/MO** DATE: **03/13/25**

APRV'D BY: **GLC** DATE: **03/13/25**

STANTEC PROJECT:
280570026.300/CN2-349R5

SCALE: N.T.S.

MODIFICATION INSPECTION CHECKLIST

S-2

REV 0

GENERAL NOTES

1. The General Contractor (GC) shall reference CON-STD-10159, "Tower Modification Construction Specifications", as a continuation of the following General Notes. The GC shall keep a printed or electronic copy of this document with the Structural Design Drawings (SDD) at all times, in a location accessible to all Contractor Personnel, and shall ensure that all Contractor Personnel are aware of the information enclosed within the General Notes and CON-STD-10159.
2. The Contract Documents are the property of Crown Castle (Crown). They are provided to the GC and its Lower Tier Contractors and material suppliers for the limited purpose of use in completing the Work for this Site, and shall be kept in strict confidence and not disclosed to any third parties. The Contract Documents shall not be used for any other purpose whatsoever without the prior written consent of Crown.
3. Detail drawings, including notes and tables, shall govern over general notes and typical details. Contact the Crown Point of Contact (POC) and Engineer of Record (EOR) for clarification as needed.
4. Do not scale drawings.
5. Any Work performed without a prefabrication mapping is done at the risk of the GC and/or fabricator. All dimensions of existing structural elements are assumed based on the available documentation and are preliminary until field-verified by the GC, unless noted otherwise (UNO). Where discrepancies are found, GC shall contact the Crown POC and EOR through RFI.
6. For this analysis and modification, the tower has been assumed to be in good condition without any structural defects, UNO. If the GC discovers any indication of an existing structural defect, contact the Crown POC and EOR immediately.
7. All construction means and methods, including but not limited to erection plans, rigging plans, climbing plans, and rescue plans, shall be the responsibility of the GC responsible for the execution of the Work contained herein, and shall meet ANSI/ASSE A10.48 (latest edition); federal, state, and local regulations; and any applicable industry consensus standards related to the construction activities being performed. All rigging plans shall adhere to ANSI/ASSE A10.48 (latest edition) and Crown standard CED-STD-10253, "Rigging Program", including the required involvement of a qualified engineer for class IV construction to certify the supporting structure(s) in accordance with the ANSI/TIA-322 (latest edition).
8. The structural integrity of the modification design extends to the complete condition only. The GC must be cognizant that the removal of any structural component of an existing tower has the potential to cause the partial or complete collapse of the structure. All necessary precautions must be taken to ensure structural integrity, including, but not limited to, engineering assessment of construction stresses with installation maximum wind speed and/or temporary bracing and shoring.
9. Aerial and underground utilities and facilities may or may not be shown on the drawings. The GC shall take every precaution to preserve and protect these items, which may include aerial or underground power lines, telephone lines, water lines, sewer lines, cable television facilities, pipelines, structures and other public and private improvements within or adjacent to the Work area. The responsibility for determining the actual on-site location of these items shall rest exclusively with the GC.
10. All manufacturer's hardware assembly instructions shall be followed, UNO. Conflicting notes shall be brought to the attention of the EOR and the Crown POC.

DETAIL DRAWINGS SHALL GOVERN OVER ANY VARIANCE FROM THIS SHEET

11. The GC shall fabricate all required items per the materials specified below, UNO on the detail drawing sheets. If the GC finds for any component that the materials have not been clearly specified, the GC shall submit an RFI to the EOR to confirm the required material.

All structural elements shall be new and shall conform to the following requirements, UNO:

Monopoles:

- Structural shapes and plates: ASTM A572 Grade 65 (FY = 65 KSI)
- Welding electrodes, SMAW: E80XX
- Welding electrodes, FCAW: E8XT-XX
- Welding electrodes, GMAW: ER80S-X

Self-Support and Guyed Towers:

- Structural shapes and plates: ASTM A572 Grade 50 (FY = 50 KSI)
- Welding electrodes, SMAW: E70XX
- Welding electrodes, FCAW: E7XT-XX
- Welding electrodes, GMAW: ER70S-X

All tower types:

- Steel angle: ASTM A572 Grade 50 (FY = 50 KSI)
- Solid rod: ASTM A36 (FY = 36 KSI)
- Pipe/tube (round): ASTM A500 Grade C (FY = 46 KSI)
- Pipe/tube (square): ASTM A500 Grade C (FY = 50 KSI)
- Bolts: ASTM F3125 Grade A325 Type 1
- U-bolts: ASTM A307 Grade A, or SAE J429 Grade 2
- Nuts: ASTM A563 Grade DH
- Washers: ASTM F436 Type 1
- Guy Wires: ASTM A475 Grade EHS
- Bridge Strand: ASTM A586 Grade 1

12. After fabrication, hot-dip galvanize all steel items, UNO. Galvanize per ASTM A123, ASTM A153/A153M, or ASTM A653 G90, as applicable. ASTM A490 bolts shall not be hot-dip galvanized, but shall instead be coated with Magni 565 or EOR approved equivalent, per ASTM F2833.
13. Contractor Personnel shall not drill holes in any new or existing structural members, other than those drilled holes shown on structural drawings, without the approval of the EOR.
14. For a list of Crown-approved cold galvanizing compounds, refer to CON-STD-10149, “Tower Protective Coatings Guidelines”.
15. All exposed structural steel as the result of this scope of Work including welds (after final inspection of the weld by the CWI), field drilled holes, and shaft interiors (where accessible), shall be cleaned and two (2) coats cold galvanizing shall be applied by brush in accordance with CON-STD-10149, “Tower Protective Coatings Guidelines”. Photo documentation is required to be submitted to the MI Inspector.
16. If removal of existing modifications is required per the modification scope, the GC shall clean and cold galvanize any existing empty bolt holes, UNO. If additional unexpected, oversized, or slotted holes are found, the GC shall contact the EOR and Crown POC for guidance prior to proceeding with the modifications.
17. All Work involving base plate grout scope items or resulting in disturbance of base plate grout shall reference ENG-STD-10323, "Base Plate Grout", and shall follow any Base Plate Grout Removal Notes contained herein.
18. If scope of modification involves bark removal or installation, the GC shall reference CED-SOW-10265, "Tree Concealment for Monopoles", as well as CED-STD-10395, "Installation Guidelines for Bark Surfaces".
19. If scope of modification involves concealment components including branching, the GC shall reference CED-CAT-10398 "Monopole Concealed Decorative Structures (CDS) Approved Components". All new branch installations require tethering.
20. If scope of modification involves cathodic protection, the GC shall reference CED-SOW-10397, " Cathodic Protection Installation, Replacement, and Enhancement".
21. All tower grounding affected by the Work shall be repaired or replaced in accordance with OPS-STD-10090, "Tower Grounding", and OPS-BUL-10133, "Grounding Repair Recommendation".
22. If scope of modification requires removal or covering of tower ID tag, the tag must be replaced.
23. Any hardware removed from the existing tower shall be replaced with new hardware of equal size and quality, UNO. No existing fasteners shall be reused.
24. All joints using ASTM A325 or A490 bolts, U-bolts, V-bolts, and threaded rods shall be snug tightened, UNO.
25. A nut locking device shall be installed on all proposed and/or replaced snug tightened ASTM A325 or A490 bolts, U-bolts, V-bolts, and threaded rods.
26. All joints are bearing type connections UNO. If no bolt length is given in the Bill of Materials, the connection may include threads in the shear planes, and the GC is responsible for sizing the length of the bolt.
27. Blind bolts shall be installed per the installation specifications on the corresponding Approved Fastener sheets contained in CON-CAT-10300, "Monopole Standard Drawings and Approved Reinforcement Components".
28. If ASTM A325 or A490 bolts, and/or threaded rods are specified to be pre-tensioned, these shall be installed and tightened to the pretensioned condition according to the requirements of the RCSC Specification for Structural Joints Using ASTM High Strength Bolts.
29. All proposed and/or replaced bolts shall be of sufficient length such that the end of the bolt be at least flush with the face of the nut. It is not permitted for the bolt end to be below the face of the nut after tightening is completed.

NO.	DATE	DESCRIPTION	BY

REVISIONS

G. LANCE COOKE LICENSE No 68787 STATE OF FLORIDA PROFESSIONAL ENGINEER

EXP 2/28/2027

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SITE NAME:LAKE CITY (HWY 47/WESTER RD.)
BU NUMBER: 870209
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SITE ADDRESS:
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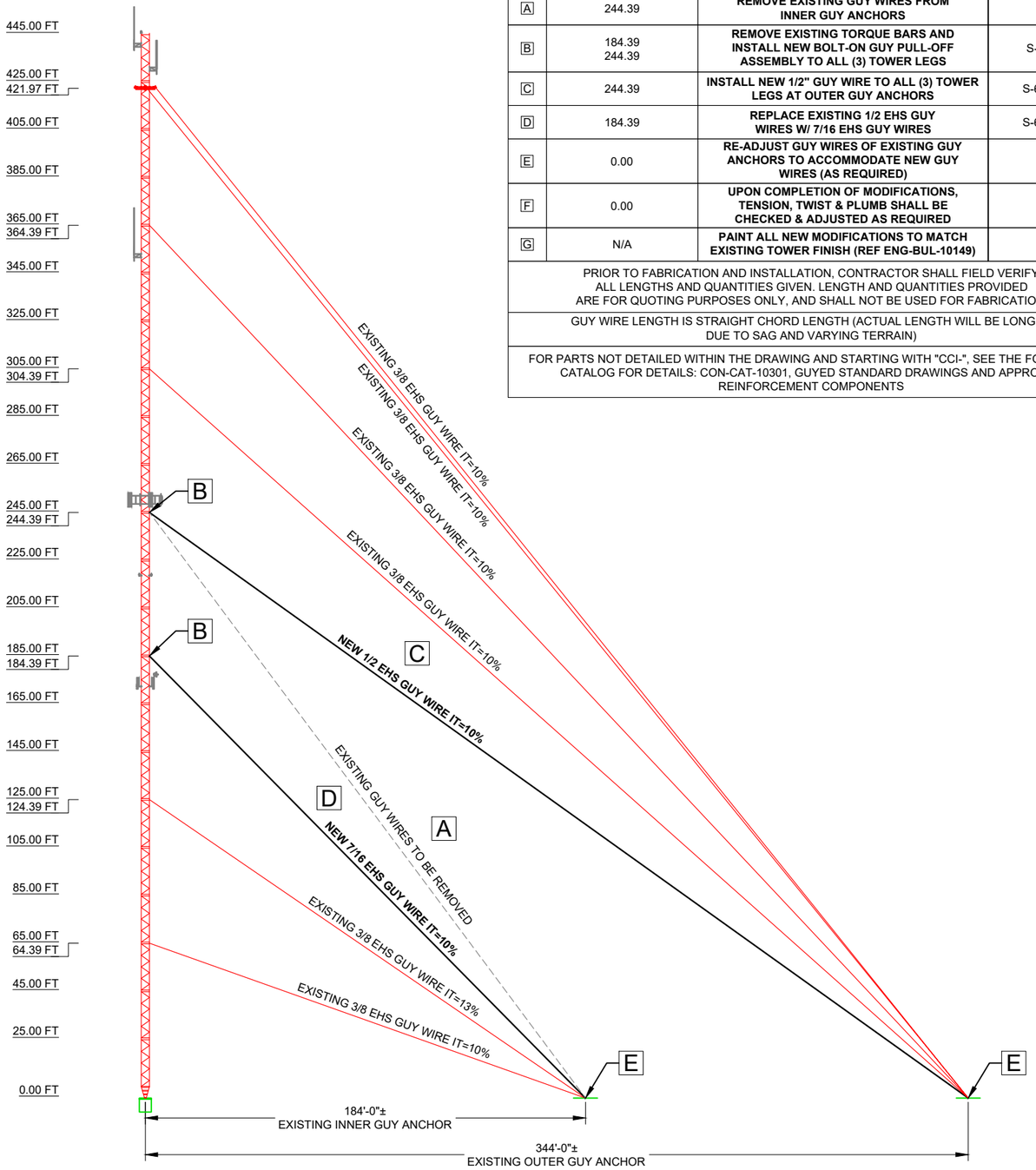
STANTEC PROJECT: **280570026.300/CN2-349R5**
SCALE: N.T.S.

NOTES

S-3 REV 0



TOWER ELEVATION

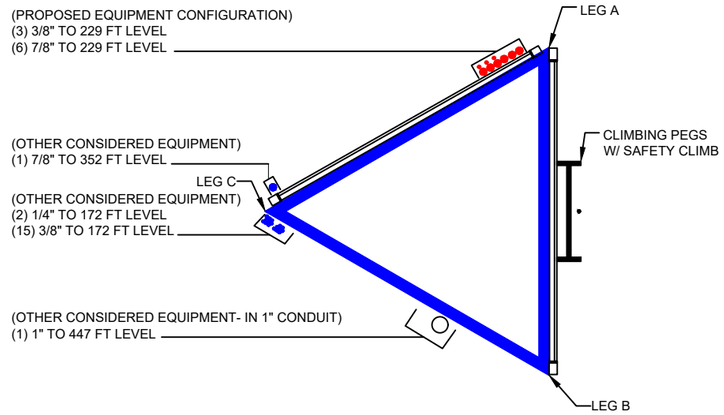
TOWER MODIFICATION SCHEDULE

	ELEVATION (FT)	MODIFICATION	REFERENCE SHEET
A	244.39	**REMOVE EXISTING GUY WIRES FROM INNER GUY ANCHORS**	S-4
B	184.39 244.39	**REMOVE EXISTING TORQUE BARS AND INSTALL NEW BOLT-ON GUY PULL-OFF ASSEMBLY TO ALL (3) TOWER LEGS**	S-4 & S-5
C	244.39	**INSTALL NEW 1/2" GUY WIRE TO ALL (3) TOWER LEGS AT OUTER GUY ANCHORS**	S-6 TO S-9
D	184.39	**REPLACE EXISTING 1/2 EHS GUY WIRES W/ 7/16 EHS GUY WIRES**	S-6 TO S-9
E	0.00	**RE-ADJUST GUY WIRES OF EXISTING GUY ANCHORS TO ACCOMMODATE NEW GUY WIRES (AS REQUIRED)**	S-6
F	0.00	**UPON COMPLETION OF MODIFICATIONS, TENSION, TWIST & PLUMB SHALL BE CHECKED & ADJUSTED AS REQUIRED**	N/A
G	N/A	**PAINT ALL NEW MODIFICATIONS TO MATCH EXISTING TOWER FINISH (REF ENG-BUL-10149)**	N/A

PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTH AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.

GUY WIRE LENGTH IS STRAIGHT CHORD LENGTH (ACTUAL LENGTH WILL BE LONGER DUE TO SAG AND VARYING TERRAIN)

FOR PARTS NOT DETAILED WITHIN THE DRAWING AND STARTING WITH "CCI-", SEE THE FOLLOWING CATALOG FOR DETAILS: CON-CAT-10301, GUYED STANDARD DRAWINGS AND APPROVED REINFORCEMENT COMPONENTS



BASE LEVEL DRAWING

NO.	DATE	DESCRIPTION	BY

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G. LANCE COOKE LICENSE No 68787 STATE OF FLORIDA PROFESSIONAL ENGINEER

EXP 2/28/2027

SITE NAME:LAKE CITY (HWY 47/WESTER RD.)

BU NUMBER: 870209

WO NUMBER: 2368227

SITE ADDRESS:
4604 SW STATE ROAD 47
LAKE CITY, FL 32055
COLUMBIA COUNTY, USA

ENG/QA BY: **KP/TH** DATE: **03/13/25**

DFT BY: **MV/MO** DATE: **03/13/25**

APRV'D BY: **GLC** DATE: **03/13/25**

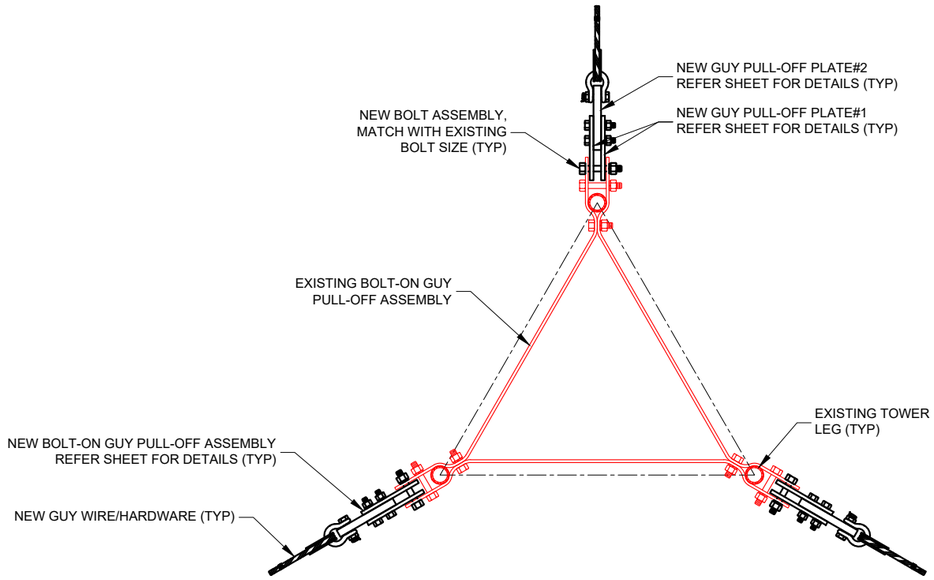
STANTEC PROJECT:
280570026.300/CN2-349R5

SCALE: N.T.S.

TOWER MODIFICATION SCHEDULE

S-4

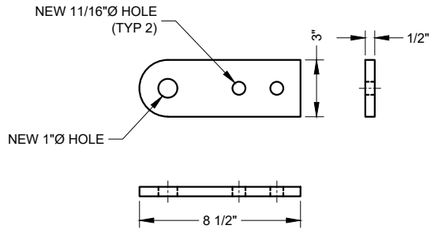
REV 0



A-A / S-5

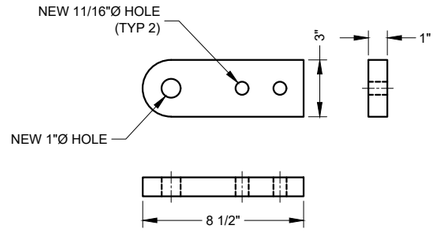
TYPICAL GUY PULL-OFF LAYOUT

EXISTING FLANGE CONNECTIONS ARE OMITTED FOR CLARITY



ELEVATION	QUANTITY
184.39 FT	6
244.39 FT	6

GUY PULL-OFF PLATE#1 DETAIL

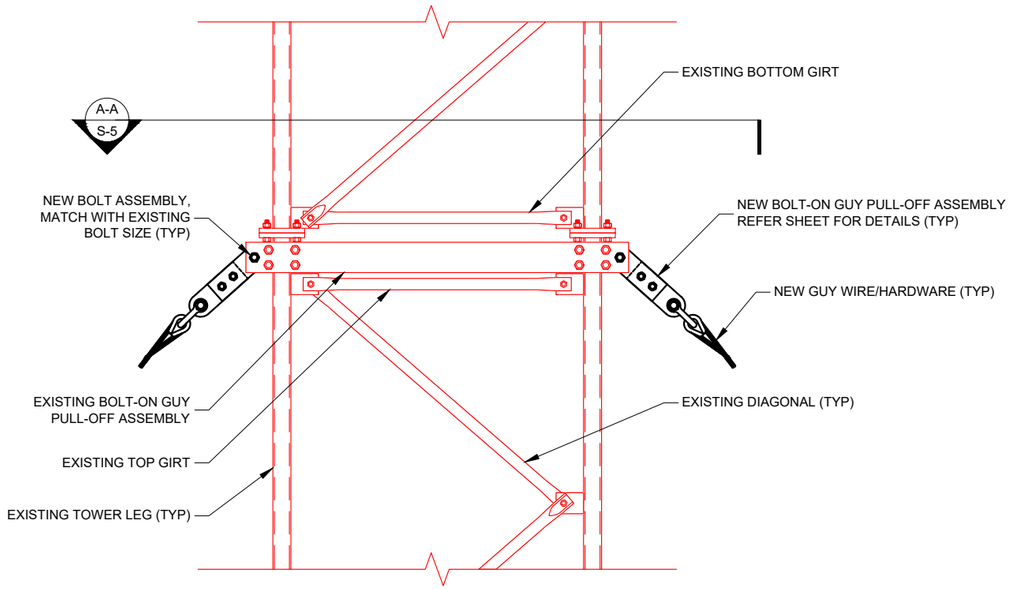


ELEVATION	QUANTITY
184.39 FT	3
244.39 FT	3

GUY PULL-OFF PLATE#2 DETAIL

NOTES:

1. CONTRACTOR TO PROVIDE CHEEK PLATES TO RESIST THE MOMENT OF THIMBLE DURING THE INSTALLATION OF NEW GUY WIRE.
2. GUY PULL-OFF PLATES SHALL BE ASTM A36.
3. TOLERANCES, UNCLES NOTED OTHERWISE: FRACTIONS ± 1/16" ANGLES ± 1/2 DEGREE DECIMALS ± .010"
4. ALL EXPOSED STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED PER ASTM A153 / A153M OR A123, AS APPLICABLE. FIELD DRILLED OR CUT MATERIAL TO BE COATED WITH TWO BRUSH COATS OF CROWN APPROVED ZINC RICH PAINT IN ACCORDANCE WITH ENG-BUL-10149 TOWER PROTECTIVE COATINGS BULLETIN.
5. ALL BOLTS SHALL BE HOT-DIP GALVANIZED ASTM A325 ASSEMBLIES, TO INCLUDE BOLT, HEAVY HEX NUT, AND SPLIT LOCK WASHER, UNO.



ELEVATION VIEW

(@ 184.39' & 244.39' ELEVATIONS)

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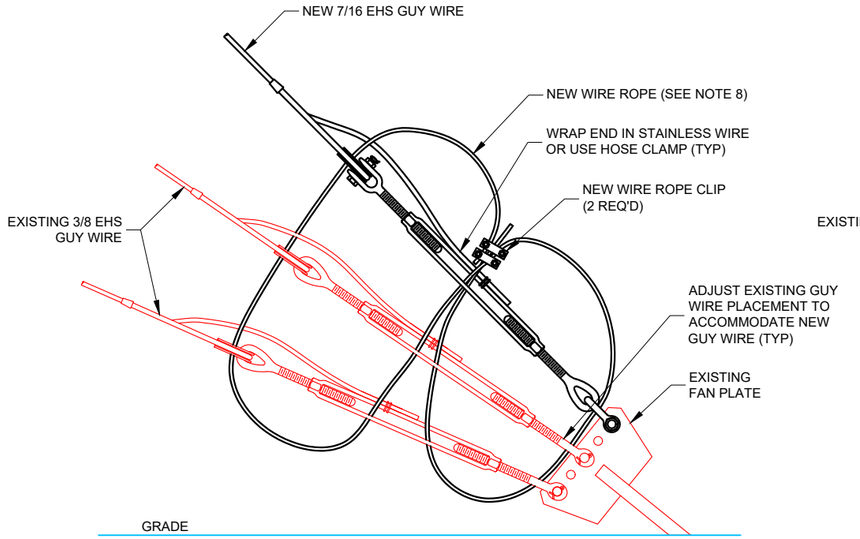
STANTEC PROJECT:
280570026.300/CN2-349R5

SCALE: N.T.S.

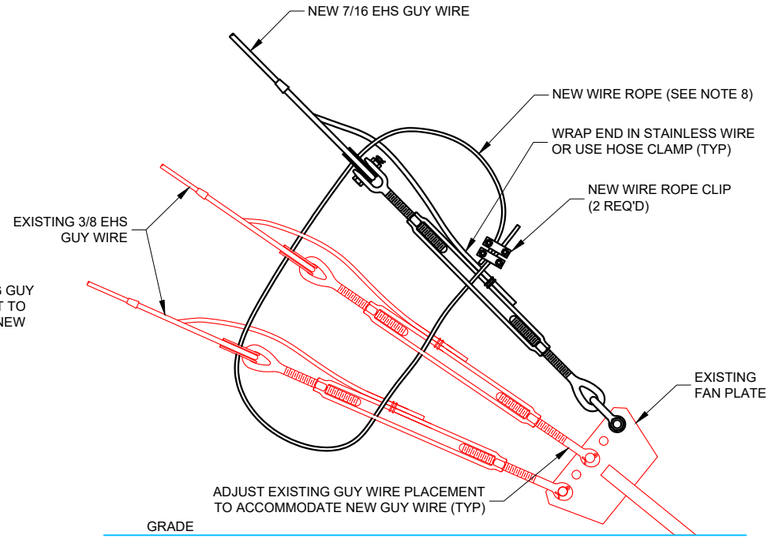
BOLT-ON GUY PULL-OFF ASSEMBLY DETAILS

S-5

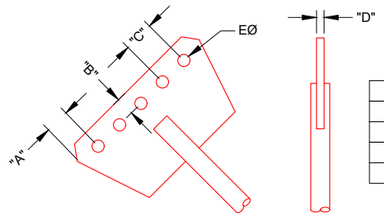
REV 0



INNER GUY ANCHOR CONNECTION
OPTION 1



INNER GUY ANCHOR CONNECTION
OPTION 2 (SEE NOTE 2)

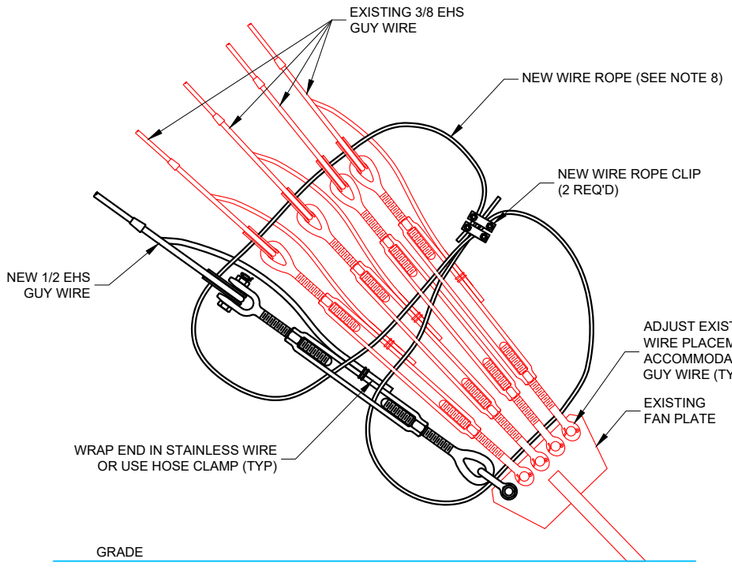


A	FIELD VERIFY
B	FIELD VERIFY
C	FIELD VERIFY
D	FIELD VERIFY
E	FIELD VERIFY

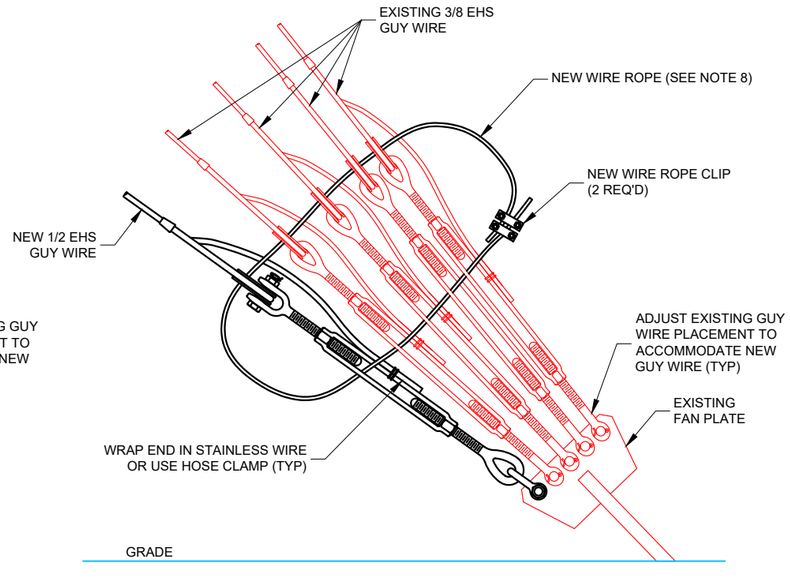
FAN PLATE DIMENSIONS
(SEE NOTE 11)

NOTES:

1. THE USE OF WIRE ROPE CLIPS AS DEADENED SLEEVES IS PROHIBITED.
2. THE PREFERRED SAFETY LOOP IS A FIGURE 8 CONFIGURATION. IN SOME CASES A SINGLE LOOP MAY BE REQUIRED AND IS PERMITTED WITH CROWN CASTLE APPROVAL.
3. THE TURNBUCKLE SAFETY LOOP SHALL BE ROUTED THROUGH THE THIMBLES AS SHOWN. THE SAFETY WIRE ROPE MAY BE ROUTED THROUGH A TURNBUCKLE EYE/JAW IF IT IS THE PATH OF LEAST RESISTANCE AS LONG AS THE CONDITION DECREASES THE RISK OF DAMAGING THE PERFORM OR OTHER GUY ASSEMBLY HARDWARE.
4. FOR ALL SITE SPECIFIC FAN PLATE ATTACHMENT CONFIGURATIONS, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SURE THE SAFETY LOOP IS INSTALLED SO THAT IT PREVENTS THE ROTATION OF ALL TURNBUCKLES.
5. THE TAG END OF GUY WIRES SHALL NOT TOUCH THE GROUND.
6. DEAD END SLEEVES SHALL BE INSTALLED SO FULLY EVEN WITH THE SHORT TAIL SIDE OF THE PREFORM.
7. TURNBUCKLE SAFETY WIRES SHALL BE 3/8" OR 5/16" DIAMETER. WHEN REPLACING THE SAFETY LOOP, 7X19 WIRE ROPE SHALL BE USED WITH SLIGHT SLACK IN CABLE AND SECURED WITH TWO WIRE ROPE CLAMPS.
8. WIRE ROPE CLIPS ARE NOT REQUIRED TO BE DOMESTICALLY MANUFACTURED.
9. NEW WIRE ROPE CLIPS SHALL MATCH THE DIAMETER OF THE NEW WIRE ROPE.
10. CONTRACTOR TO OBTAIN DURING PRE SITE CONSTRUCTION WALK AND SUBMIT TO THE EOR THE FOLLOWING DIMENSIONS: A, B, C, D, E. PRIOR TO INSTALLATION TO THE NEW HARDWARE.



INNER GUY ANCHOR CONNECTION
OPTION 1



INNER GUY ANCHOR CONNECTION
OPTION 2 (SEE NOTE 2)

NO.	DATE	DESCRIPTION	BY

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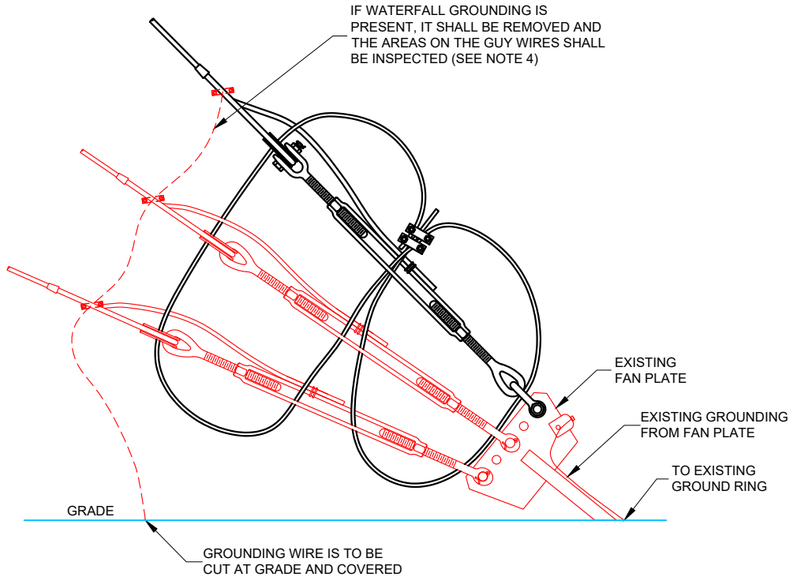
STANTEC PROJECT:
280570026.300/CN2-349R5

SCALE: N.T.S.

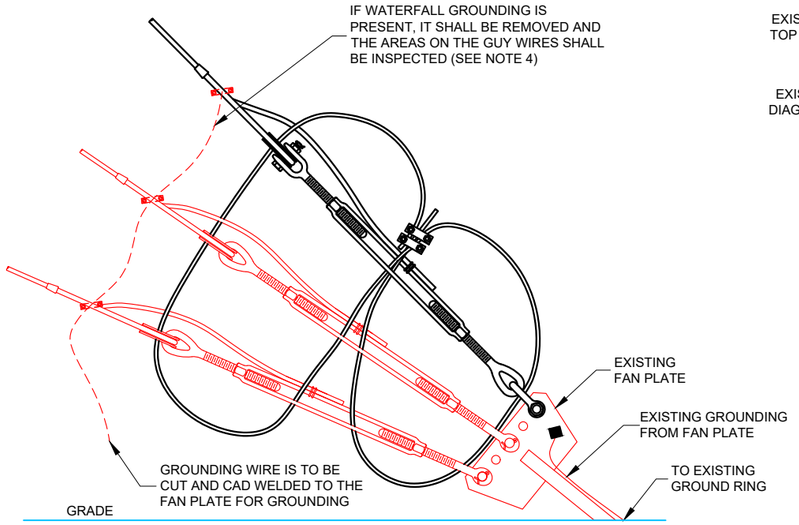
FAN PLATE CONNECTION DETAILS

S-6

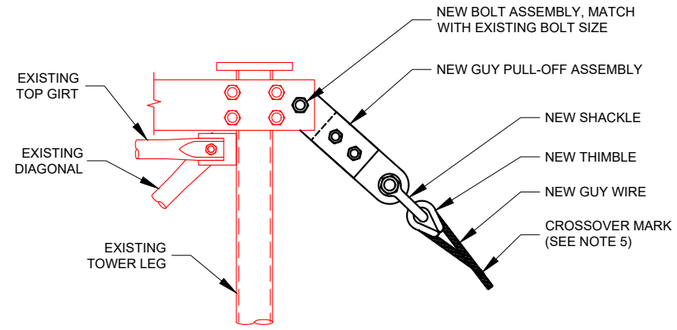
REV 0



INNER GUY ANCHOR GROUNDING (EXISTING FAN PLATE GROUNDED)



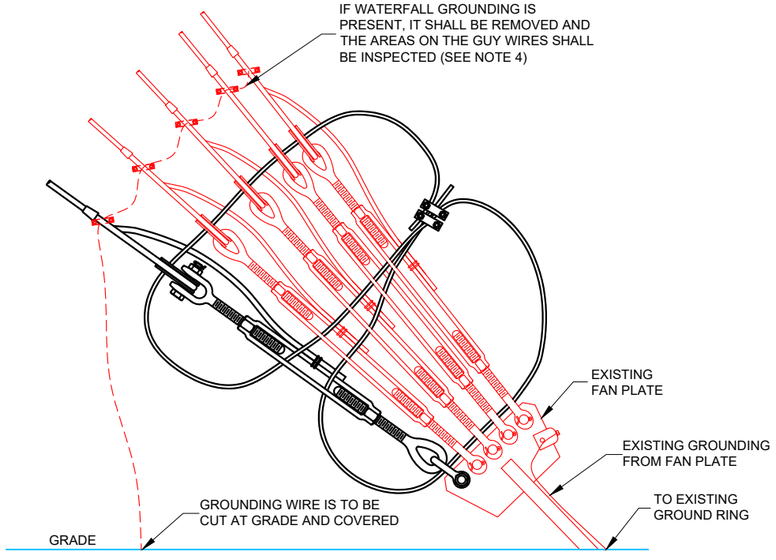
INNER GUY ANCHOR GROUNDING (FAN PLATE GROUNDING REQUIRED)



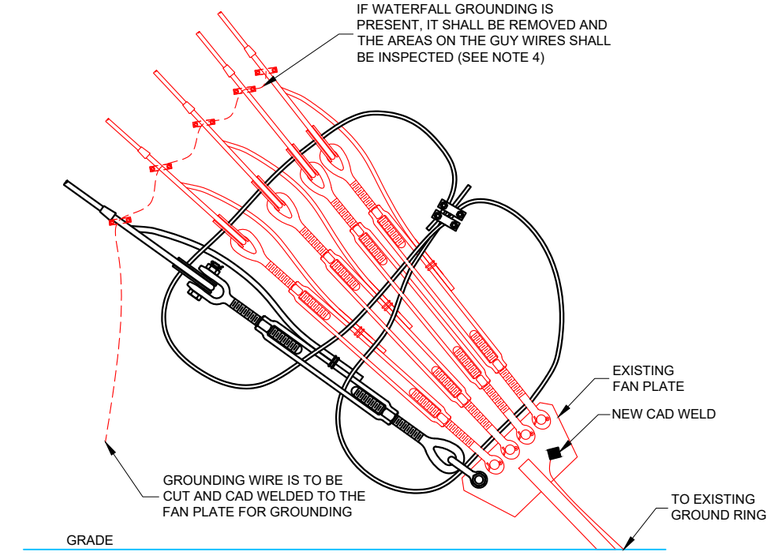
TYPICAL GUY TOWER CONNECTION

NOTES:

1. ALL GUY WIRES ARE TO BE GROUNDED FROM THE FAN PLATE UTILIZING #2 AWG OR LARGER BARE TINNED COPPER WIRE TO THE ANCHORS EARTHEN GROUND RING.
2. GROUNDING WIRES MAY BE SPLICED TOGETHER BY CAD WELD PROCESS (TYPE PH OR SV) IF NECESSARY TO REACH THE EXISTING FAN PLATE.
3. IF A GROUND RING IS NOT PRESENT AT THE SITE, CONTACT THE MODIFICATION PROJECT MANAGER.
4. IF CORROSION OR OTHER DAMAGE IS PRESENT ON GUY WIRES UPON REMOVAL OF WATERFALL GROUNDING, RUST SHALL BE CATEGORIZED PER ENG-BUL-10114 AND THE MODIFICATION PROJECT MANAGER MUST BE CONTACTED.
5. THE GUY WIRE TAIL ON THE ANCHOR CONNECTION SHALL BE INSTALLED PER CROWN STANDARD, AND BE TIED BACK TO THE BODY OF THE TURNBUCKLE. THE GUY WIRE TAIL ON THE TOWER CONNECTION SHALL BE INSTALLED PER PREFORMED LINE PRODUCT'S (PLP) RECOMMENDATIONS.
   PLP RECOMMENDS THAT THE TAIL SHALL BE INSTALLED, AT A MINIMUM, TO THE CROSS OVER MARK. IF THE TAIL EXTENDS OUT BEYOND THE CROSS OVER MARK, IT SHALL BE TIED BACK TO THE SHACKLE. HOWEVER, THE TAIL SHALL NOT EXTEND MORE THAN 12" PAST THE CROSS OVER MARK. IF THE TAIL DOES NOT REACH THE SHACKLE, IT IS NOT REQUIRED TO BE TIED BACK.



OUTER GUY ANCHOR GROUNDING (EXISTING FAN PLATE GROUNDED)



OUTER GUY ANCHOR GROUNDING (FAN PLATE GROUNDING REQUIRED)

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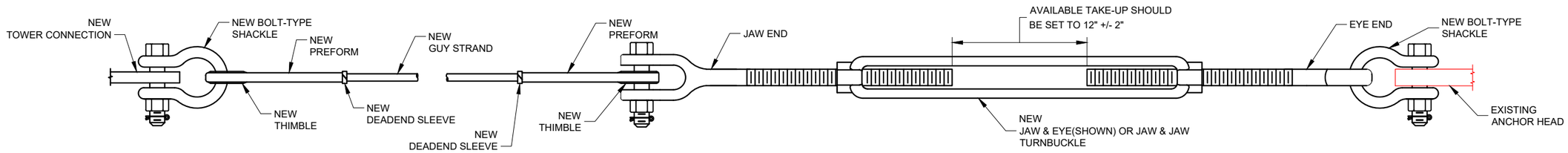
STANTEC PROJECT:
280570026.300/CN2-349R5

SCALE: N.T.S.

GROUNDING DETAILS

S-7

REV 0



PREFERRED NEW GUY WIRE ASSEMBLY

STANDARD GUY HARDWARE ASSEMBLIES										
EHS WIRE			TURNBUCKLE		DEADEND SLEEVE	PREFORM	THIMBLE	SHACKLE		ASSEMBLY BREAKING STRENGTH (KIPS)
SIZE	NUMBER OF WIRES IN STRAND	MINIMUM BREAKING STRENGTH (KIPS)	SIZE	MINIMUM BREAKING STRENGTH (KIPS)	SIZE	SIZE	SIZE	SIZE	MINIMUM BREAKING STRENGTH (KIPS)	
7/16	7	20.80	3/4 x 18	26.0	7/16	7/16	1/2 EXTRA HVY	5/8	32.50	**20.80**
1/2	7	26.90	7/8 x 18	36.0	1/2	1/2	5/8 EXTRA HVY	5/8	32.50	**26.90**

NOTES:

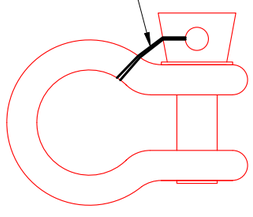
1. **PREFORMS SHALL BE PURCHASED FROM PREFORMED LINE PRODUCTS (PLP). WWW.PREFORMED.COM**
2. **GALVANIZED STEEL GUY STRAND SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF ASTM STANDARD A475 EXTRA HIGH STRENGTH (EHS) OR EQUIVALENT RECOGNIZED STANDARD WITH EOR APPROVAL.**
3. **PINS SHALL CONSIST OF A BOLT, NUT, AND STAINLESS STEEL COTTER PINS.**
4. **REFER TO CON-CAT-10301 FOR PRE-APPROVED SHACKLES AND TURNBUCKLES BY THE CROSBY GROUP AND VAN BEEST USA, LLC. SHACKLES AND TURNBUCKLES MANUFACTURED BY OTHERS REQUIRE APPROVAL FROM BOTH THE EOR AND CROWN CASTLE PRIOR TO INSTALLATION. INSTALLATION OF NON-APPROVED COMPONENTS IS CAUSE FOR AUTOMATIC REJECTION.**
5. **CERTIFICATION/VERIFICATION DOCUMENTATION FOR THE GUY WIRE, TURNBUCKLES, SHACKLES, AND PREFORMS SHALL BE SUPPLIED TO THE MODIFICATION INSPECTOR TO BE INCLUDED IN THE CLOSE OUT REPORT.**
6. **ALL EXISTING SCREW TYPE SHACKLES AT THE FAN PLATE SHALL HAVE MOUSING INSTALLED AS PART OF THE MODIFICATION.**
7. **THE TURNBUCKLE AND SHACKLE SIZE LISTED ARE MINIMUM DIMENSIONS. LARGER SIZES ARE PERMITTED WITH EOR APPROVAL BASED ON FIT UP. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY FIT UP AT THE PRE-CONSTRUCTION SITE WALK.**
8. **IF THE FAN PLATE SIDE SHACKLE CAUSES INTERFERENCES, CONTACT THE EOR.**
9. **TURNBUCKLES SHALL BE ADJUSTED BY A PROPER SIZED SMOOTH JAWED WRENCH. CHANNEL LOCKS ARE PROHIBITED.**
10. **SHACKLES AND TURNBUCKLES SHALL ONLY BE REPLACED FOR NEW GUY WIRES UNLESS NOTED OTHERWISE.**

CROSBY JAW & EYE TURNBUCKLES (W/ BOLT, NUT & COTTER PIN CONNECTION)	
SIZE	PART NUMBER
3/4 x 18	1035334
7/8 x 18	1035352

CROSBY SHACKLES (W/ BOLT, NUT & COTTER PIN CONNECTION)	
SIZE	PART NUMBER (G-2130)
5/8	1019490

CROSBY EXTRA HEAVY THIMBLES	
SIZE	PART NUMBER (G-414)
1/2	1037719
5/8	1037755

USE 0.041"Ø STAINLESS STEEL LOCK WIRE OR APPROVED EQUIVALENT TO LOOP THROUGH HOLE IN COLLAR OF PIN AND AROUND ADJACENT LEG OF SHACKLE BODY. WIRE ENDS MUST BE SECURELY TWISTED TOGETHER.



SCREW PIN MOUSING

VAN BEEST GREEN PIN POLAR JAW & EYE TURNBUCKLES (W/ BOLT, NUT & COTTER PIN CONNECTION)	
SIZE	PART NUMBER
3/4 x 18	6VB-SSGPPOGO1918
7/8 x 18	6VB-SSGPPOGO2218

VAN BEEST GREEN PIN SHACKLES (W/ BOLT, NUT & COTTER PIN CONNECTION)	
SIZE	PART NUMBER (G-5263)
5/8	6VB-SUGHMB16SS

NO.	DATE	DESCRIPTION	BY

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STANTEC PROJECT:
280570026.300/CN2-349R5

SCALE: N.T.S.

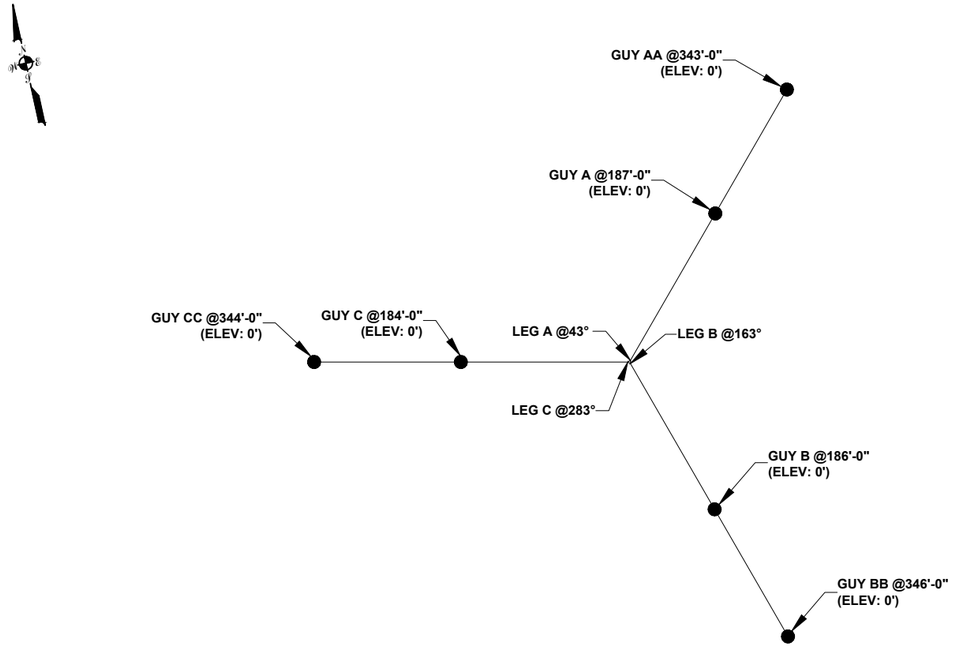
GUY HARDWARE DETAILS

S-8

REV 0

GUY ANCHOR (LOCATION)	GUY ELEVATION (FT.)	ANCHOR RADIUS (FT.)	ANCHOR ELEVATION WITH RESPECT TO TOWER BASE (FT.)	GUY SIZE (IN.)	ULTIMATE BREAKING STRENGTH (KIPS)	INITIAL TENSION %	INITIAL TENSION(T) IN LBS						
							0°F	20°F	40°F	60°F	80°F	100°F	120°F
A													
AA	421.977	343.00	0	3/8	15.40	10%	1762	1686	1612	1540	1470	1403	1339
	364.385			3/8	15.40	10%	1803	1713	1625	1540	1458	1380	1306
	304.385			3/8	15.40	10%	1856	1747	1641	1540	1443	1352	1266
	244.385			1/2	26.90	10%	3369	3131	2904	2690	2490	2306	2137
A	184.385	187.00	0	7/16	20.80	10%	2556	2395	2236	2080	1928	1781	1640
	124.385			3/8	15.40	13%	2476	2317	2159	2002	1847	1694	1544
	64.385			3/8	15.40	10%	2136	1934	1735	1540	1352	1175	1011
B													
BB	421.977	346.00	0	3/8	15.40	10%	1764	1687	1612	1540	1470	1403	1338
	364.385			3/8	15.40	10%	1805	1714	1625	1540	1458	1380	1305
	304.385			3/8	15.40	10%	1857	1748	1642	1540	1443	1352	1266
	244.385			1/2	26.90	10%	3370	3132	2904	2690	2490	2306	2138
B	184.385	186.00	0	7/16	20.80	10%	2554	2393	2235	2080	1929	1782	1641
	124.385			3/8	15.40	13%	2474	2316	2158	2002	1847	1695	1545
	64.385			3/8	15.40	10%	2136	1933	1734	1540	1352	1174	1011
C													
CC	421.977	344.00	0	3/8	15.40	10%	1762	1686	1612	1540	1470	1403	1339
	364.385			3/8	15.40	10%	1804	1713	1625	1540	1458	1380	1306
	304.385			3/8	15.40	10%	1856	1747	1641	1540	1443	1352	1266
	244.385			1/2	26.90	10%	3369	3131	2904	2690	2490	2306	2137
C	184.385	184.00	0	7/16	20.80	10%	2549	2390	2234	2080	1930	1784	1644
	124.385			3/8	15.40	13%	2471	2314	2157	2002	1848	1697	1548
	64.385			3/8	15.40	10%	2135	1933	1734	1540	1352	1174	1010

GUY TEMPERATURE TABLE



PLAN VIEW

NOTES:

1. EOR AND CROWN POC APPROVAL REQUIRED BEFORE ANY CHANGES ARE MADE DUE TO FIELD CONDITIONS.
2. GUY WIRE LENGTH IS STRAIGHT CORD LENGTH (ACTUAL LENGTH WILL BE LONGER DUE TO SAG AND VARYING TERRAIN)

NO.	DATE	DESCRIPTION	BY

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SCALE: N.T.S.

GUY TEMPERATURE TABLE AND PLAN VIEW

S-9

REV 0