STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

March 2, 2022

Denise Sabo
Northeast Site Solutions
54 Main Street, Unit 3
Sturbridge, MA 01566-1359
denise@northeastsitesolutions.com

RE: **TS-DISH-049-220126** – Dish Wireless LLC request for an order to approve tower sharing at an existing telecommunications facility located at 3 Bright Meadow Boulevard, Enfield, Connecticut.

Dear Ms. Sabo:

The Connecticut Siting Council (Council) is in receipt of your correspondence of February 28, 2022 submitted in response to the Council's February 2, 2022 notification of an incomplete request for tower sharing with regard to the above-referenced matter.

The submission renders the request for tower sharing complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/IN/emr

From: Deborah Chase <deborah@northeastsitesolutions.com>
Sent: Monday, February 28, 2022 7:31 PM
To: CSC-DL Siting Council <Siting.Council@ct.gov>; Bachman, Melanie <Melanie.Bachman@ct.gov>; Mathews, Lisa A <Lisa.A.Mathews@ct.gov>; Fontaine, Lisa <Lisa.Fontaine@ct.gov>; Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: Denise <denise@northeastsitesolutions.com>; victoria@northeastsitesolutions.com
Subject: Council Incomplete Letter for TS-DISH-049-220126 (Bright Meadow Boulevard, Enfield) 876348
Importance: High

Siting Council
Please see attached the Structural Analysis as requested per the attached incomplete letter.
You will also receive a hard copy (see attached mailing label 557642869)
I have also included the mailing label to Ellen Zoppo, the Town Manager of Enfield (see attached label 557644708).
Please let us know of this is sufficient enough to consider the application complete for review.
Thank you very much

Deborah Chase
Senior Project Coordinator & Analyst
Mobile: 860-490-8839
Save a tree. Refuse.Reduce. Reuse. Recycle.

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VIA ELECTRONIC MAIL

February 2, 2022

Denise Sabo
Northeast Site Solutions
54 Main Street, Unit 3
Sturbridge, MA 01566-1359
denise@northeastsitesolutions.com

RE: **TS-DISH-049-220126** - Dish Wireless LLC request for an order to approve tower sharing at an existing telecommunications facility located at 3 Bright Meadow Boulevard, Enfield, Connecticut.

Dear Ms. Sabo:

The Connecticut Siting Council (Council) received the tower share request for the above-referenced facility on January 26, 2022.

According to Section 16-50j-90 of the Regulations of Connecticut State Agencies, "no tower share application shall be approved until a complete application containing all information deemed relevant by the Council has been filed. Relevant information shall at a minimum include that listed in Section 16-50j-89 of the Regulations of Connecticut State Agencies…"

Staff has reviewed this tower share request for completeness and has identified a deficiency in the submittal. The Structural Analysis Report provided is dated August 3, 2021. The Council had received a request for exempt modification from T-Mobile for the same facility in November of 2021. The above-referenced request for exempt modification does not include T-Mobile's approved equipment; however, the structural analysis included in T-Mobile's request for exempt modification does appear to include both T-Mobile's equipment and the equipment that Dish is now proposing. Please see T-Mobile's exempt modification filing for this facility, which may be found on the Council's website under the Decisions page in Enfield under the filing number EM-T-MOBILE-049-211116 or by following the link:

https://portal.ct.gov/-/media/CSC/2_EMS-medialibrary/Enfield/BrightMeadowBlvd/T-Mobile/em-t-mobile-049-211116_filing_BrightMeadowBlvd_Enfield.pdf

Also, the mailing receipts provided with the request indicate that notice was sent to the Mayor of the City of Bristol and not the Town Manager for the Town of Enfield.

Therefore, the tower share request is incomplete at this time. The Council recommends that Northeast Site Solutions provide proof of notice to the Chief Elected Officer for the Town of Enfield and an updated Structural Analysis Report for the facility that includes proposed and approved equipment by T-Mobile and other entities that are located at this facility on or before March 2, 2022. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to March 2, 2022. **Please provide an electronic version and one hard copy of the response for the incomplete request to be rendered complete and processed. Please include the Council's tower share identification number referenced above with the submittal.**

This notice of incompletion shall have the effect of tolling the Federal Communications Commission (FCC) 60-day timeframe in accordance with Paragraph 217 of the FCC Wireless Infrastructure Report and Order issued on October 21, 2014 (FCC 14-153).

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Sincerely,

Melanie Bachman
Executive Director

MAB/IN/emr

Date: **February 03, 2022**

MORRISON HERSHFIELD

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Subject:	**Structural Analysis Report**	
Carrier Designation:	***DISH Network* Co-Locate**	
	Site Number:	BOBDL00093A
	Site Name:	CT-CCI-T-876348
Crown Castle Designation:	**BU Number:**	876348
	Site Name:	Enfield
	JDE Job Number:	650079
	Work Order Number:	2075735
	Order Number:	556604 Rev. 2
Engineering Firm Designation:	**Morrison Hershfield Project Number:** CN8-725R3 / 2200039	
Site Data:	**Bright Meadow Blvd., Enfield, Hartford County, CT 06082** **Latitude *42° 1' 14.91"*, Longitude *-72° 35' 6.59"*** **147.5 Foot – Summit Monopole Tower**	

Morrison Hershfield is pleased to submit this **"Structural Analysis 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. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 81.3%**

This analysis utilizes an ultimate 3-second gust wind speed of 116 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

STATE OF CONNECTICUT
G. LANCE COOKE
No. 28133
LICENSED PROFESSIONAL ENGINEER

G. Lance Cooke, P.E. (CT License No. PEN.0028133)
Senior Engineer

Digitally signed by G. Lance Cooke
Date: 2022.02.03 07:28:08-08'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 147.5 ft Summit monopole tower designed by Paul J Ford and Company.

The tower was modified per reinforcement drawings prepared by Paul J Ford and Company. Reinforcement consisted of adding flat members from 39 ft to 49 ft and additional anchor rods. Per the post modification inspection completed by Tower Engineering Solutions in August of 2013, these modifications were properly installed are considered in this analysis.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	116 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
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)
97.0	97.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-1/2
		3	fujitsu	TA08025-B604		
		3	fujitsu	TA08025-B605		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		

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)
147.0	147.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe	3	1-5/8
		3	rfs/celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
		3	-	Pipe Mount [#9' Long, P2.0 STD]		
		1	Site Pro 1	Platform Reinforcement Kit [#PRK-1245L]		
		1	Site Pro 1	Support Rail Kit [#HRK-12]		
		1	-	Platform Mount [LP 1201-1]		
145.0	145.0	3	alcatel lucent	TME-800MHz 2x50W RRH W/FILTER	-	-
		3	alcatel lucent	TME-PCS 1900MHz 4x45W-65MHz		
		1	-	Side Arm Mount [SO 102-3]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
137.0	139.0	3	samsung telecommunications	MT6407-77A w/ Mount Pipe	8	1-5/8
		1	symmetricom	58532A		
	137.0	3	antel	BXA-70063-6CF-EDIN-2 w/ Mount Pipe		
		6	commscope	SBNHH-1D65B		
		2	rfs/celwave	DB-T1-6Z-8AB-0Z		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		3	-	Dual Antenna Mount Kit		
		1	-	Platform Mount [LP 1201-1_HR-2]		
	135.0	3	samsung telecommunications	CBRS w/ Mount Pipe		
117.0	119.0	1	andrew	SBNHH-1D65A w/ Mount Pipe	9 2 1 1	1-5/8 3/4 2C 3/8
		1	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe		
		1	cci antennas	HPA-65R-BUU-H8 w/ Mount Pipe		
		3	ericsson	RRUS 32 B2		
		4	kathrein	860 10025		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
	117.0	2	powerwave technologies	LGP17201		
		1	-	Platform Mount [LP 1201-1]		
115.0	119.0	3	raycap	TME-RRU-11	-	-
		1	raycap	TME-DC6-48-60-18-8F		
	115.0	1	-	Side Arm Mount [SO 102-3]		
107.0	107.0	3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe	7 2	1-5/8 1-3/8
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe		
		3	rfs/celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B12/B71		
		1	-	T-Arm Mount [TA 701-3]		
49.0	50.0	1	symmetricom	58532A	1	1/2
	49.0	1	-	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1532963	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1613614	CCISITES
4-TOWER MANUFACTURER DRAWINGS	1613591	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3667620	CCISITES
4-POST-MODIFICATION INSPECTION	3966655	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.1.0), 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.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix C.

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. Morrison Hershfield 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	% Capacity	Pass / Fail
L1	147.5 - 142.5	Pole	TP22.95x22x0.25	Pole	4.5	Pass
L2	142.5 - 137.5	Pole	TP23.9x22.95x0.25	Pole	8.7	Pass
L3	137.5 - 132.5	Pole	TP24.85x23.9x0.25	Pole	15.5	Pass
L4	132.5 - 127.5	Pole	TP25.8x24.85x0.25	Pole	21.4	Pass
L5	127.5 - 122.5	Pole	TP26.75x25.8x0.25	Pole	26.8	Pass
L6	122.5 - 117.5	Pole	TP27.7x26.75x0.25	Pole	31.7	Pass
L7	117.5 - 112.5	Pole	TP28.65x27.7x0.25	Pole	38.2	Pass
L8	112.5 - 112.25	Pole	TP29.41x28.65x0.25	Pole	38.5	Pass
L9	112.25 - 107.25	Pole	TP29.148x28.198x0.25	Pole	42.4	Pass
L10	107.25 - 102.25	Pole	TP30.098x29.148x0.25	Pole	48.8	Pass
L11	102.25 - 97.25	Pole	TP31.048x30.098x0.25	Pole	54.5	Pass
L12	97.25 - 92.25	Pole	TP31.998x31.048x0.25	Pole	61.0	Pass
L13	92.25 - 87.25	Pole	TP32.948x31.998x0.25	Pole	66.9	Pass
L14	87.25 - 82.25	Pole	TP33.898x32.948x0.25	Pole	72.6	Pass
L15	82.25 - 77.25	Pole	TP34.848x33.898x0.25	Pole	77.9	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L16	77.25 - 76.75	Pole	TP35.798x34.848x0.25	Pole	78.4	Pass
L17	76.75 - 71.75	Pole	TP35.393x34.443x0.3125	Pole	63.7	Pass
L18	71.75 - 66.75	Pole	TP36.343x35.393x0.3125	Pole	67.1	Pass
L19	66.75 - 61.75	Pole	TP37.293x36.343x0.3125	Pole	70.2	Pass
L20	61.75 - 56.75	Pole	TP38.242x37.293x0.3125	Pole	73.2	Pass
L21	56.75 - 51.75	Pole	TP39.192x38.242x0.3125	Pole	75.9	Pass
L22	51.75 - 47.83	Pole	TP39.937x39.192x0.3125	Pole	77.9	Pass
L23	47.83 - 47.58	Pole	TP39.984x39.937x0.3125	Pole	78.0	Pass
L24	47.58 - 42.58	Pole	TP40.934x39.984x0.3125	Pole	80.5	Pass
L25	42.58 - 41	Pole	TP42.232x40.934x0.3125	Pole	81.3	Pass
L26	41 - 34.75	Pole	TP41.797x40.61x0.375	Pole	68.0	Pass
L27	34.75 - 29.75	Pole	TP42.747x41.797x0.375	Pole	69.6	Pass
L28	29.75 - 24.75	Pole	TP43.697x42.747x0.375	Pole	71.0	Pass
L29	24.75 - 19.75	Pole	TP44.647x43.697x0.375	Pole	72.4	Pass
L30	19.75 - 14.75	Pole	TP45.597x44.647x0.375	Pole	73.6	Pass
L31	14.75 - 9.75	Pole	TP46.547x45.597x0.375	Pole	74.8	Pass
L32	9.75 - 4.75	Pole	TP47.497x46.547x0.375	Pole	75.9	Pass
L33	4.75 - 0	Pole	TP48.4x47.497x0.375	Pole	76.9	Pass
					Summary	
				Pole	81.3	Pass
				Reinforcement	0.0	Pass
				Overall	81.3	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	73.8	Pass
1	Base Plate		61.6	Pass
1	Base Foundation (Structure)	0	47.5	Pass
1	Base Foundation (Soil Interaction)		52.6	Pass

Structure Rating (max from all components) =	81.3%*

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

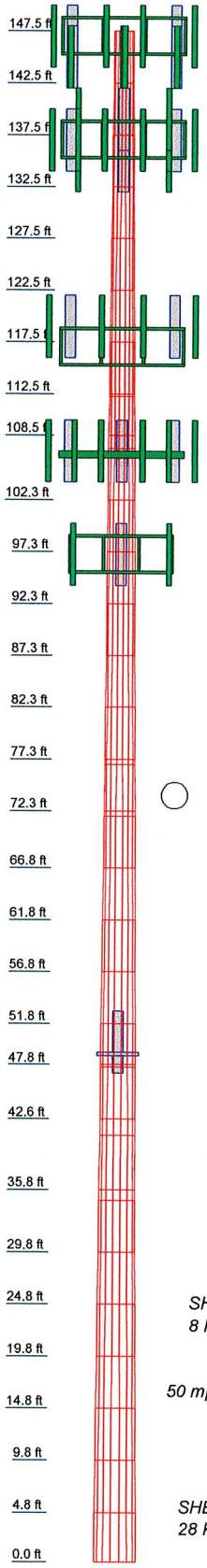
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

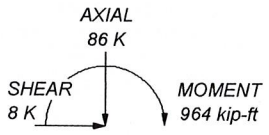
APPENDIX A

TNXTOWER OUTPUT

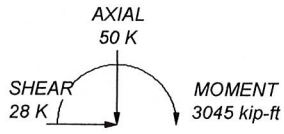
Section		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Length (ft)		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	6.2583	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.75
Number of Sides		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Thickness (in)		0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750
Socket Length (ft)		3.75															4.50									5.25								
Top Dia (in)		22.0000	22.9500	23.9000	24.8500	25.8000	26.7500	27.7000	28.6500	29.6000	30.0926	31.0477	31.9978	32.9478	33.8979	34.8479	35.7980	36.7480	37.2926	38.2425	39.1924	40.1424	41.0925	42.0425	42.9926	43.9426	44.8927	45.8427	46.7928	47.7428	48.6929	49.6429	50.5930	51.5430
Bot Dia (in)		22.9500	23.9000	24.8500	25.8000	26.7500	27.7000	28.6500	29.6000	30.5500	31.0477	31.9978	32.9478	33.8979	34.8479	35.7980	36.7480	37.2926	38.2425	39.1924	40.1424	41.0925	42.0425	42.9926	43.9426	44.8927	45.8427	46.7928	47.7428	48.6929	49.6429	50.5930	51.5430	52.4931
Grade		A607-60																A607-65																
Weight (K)	18.7	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.0	0.7	1.0	1.0	0.8	0.9	0.9	0.9	0.9	0.9	0.9



ALL REACTIONS ARE FACTORED



TORQUE 1 kip-ft
50 mph WIND - 1.5000 in ICE



TORQUE 2 kip-ft
REACTIONS - 116 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-60	60 ksi	75 ksi	A607-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 116 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. CCIPOLE RATING: 81.3%

Morrison Hershfield
Consulting Engineers
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
Phone: (770) 379-8500
FAX: (770) 379-8501

Job: **CN8-725R3 / 2200039**		
Project: ***876348 / Enfield***		
Client: Crown Castle USA	Drawn by: RP	App'd:
Code: TIA-222-H	Date: 02/03/22	Scale: NTS
Path: C:\Users\RPeddamani\OneDrive - MORRISON HERSHFIELD\Desktop\CN8-725R3 SA Re-run\Analysis\CN8-725R3 BU_876348 WO_2075736.eri		Dwg No. E-1

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Tower base elevation above sea level: 110.00 ft.
Basic wind speed of 116 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.5000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
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		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	147.50-142.50	5.00	0.00	18	22.0000	22.9500	0.2500	1.0000	A607-60 (60 ksi)
L2	142.50-137.50	5.00	0.00	18	22.9500	23.9000	0.2500	1.0000	A607-60 (60 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	137.50-132.50	5.00	0.00	18	23.9000	24.8500	0.2500	1.0000	A607-60 (60 ksi)
L4	132.50-127.50	5.00	0.00	18	24.8500	25.8000	0.2500	1.0000	A607-60 (60 ksi)
L5	127.50-122.50	5.00	0.00	18	25.8000	26.7500	0.2500	1.0000	A607-60 (60 ksi)
L6	122.50-117.50	5.00	0.00	18	26.7500	27.7000	0.2500	1.0000	A607-60 (60 ksi)
L7	117.50-112.50	5.00	0.00	18	27.7000	28.6500	0.2500	1.0000	A607-60 (60 ksi)
L8	112.50-108.50	4.00	3.75	18	28.6500	29.4100	0.2500	1.0000	A607-60 (60 ksi)
L9	108.50-107.25	5.00	0.00	18	28.1975	29.1476	0.2500	1.0000	A607-65 (65 ksi)
L10	107.25-102.25	5.00	0.00	18	29.1476	30.0976	0.2500	1.0000	A607-65 (65 ksi)
L11	102.25-97.25	5.00	0.00	18	30.0976	31.0477	0.2500	1.0000	A607-65 (65 ksi)
L12	97.25-92.25	5.00	0.00	18	31.0477	31.9978	0.2500	1.0000	A607-65 (65 ksi)
L13	92.25-87.25	5.00	0.00	18	31.9978	32.9478	0.2500	1.0000	A607-65 (65 ksi)
L14	87.25-82.25	5.00	0.00	18	32.9478	33.8979	0.2500	1.0000	A607-65 (65 ksi)
L15	82.25-77.25	5.00	0.00	18	33.8979	34.8479	0.2500	1.0000	A607-65 (65 ksi)
L16	77.25-72.25	5.00	4.50	18	34.8479	35.7980	0.2500	1.0000	A607-65 (65 ksi)
L17	72.25-71.75	5.00	0.00	18	34.4429	35.3928	0.3125	1.2500	A607-65 (65 ksi)
L18	71.75-66.75	5.00	0.00	18	35.3928	36.3427	0.3125	1.2500	A607-65 (65 ksi)
L19	66.75-61.75	5.00	0.00	18	36.3427	37.2926	0.3125	1.2500	A607-65 (65 ksi)
L20	61.75-56.75	5.00	0.00	18	37.2926	38.2425	0.3125	1.2500	A607-65 (65 ksi)
L21	56.75-51.75	5.00	0.00	18	38.2425	39.1924	0.3125	1.2500	A607-65 (65 ksi)
L22	51.75-47.83	3.92	0.00	18	39.1924	39.9365	0.3125	1.2500	A607-65 (65 ksi)
L23	47.83-47.58	0.25	0.00	18	39.9365	39.9840	0.3125	1.2500	A607-65 (65 ksi)
L24	47.58-42.58	5.00	0.00	18	39.9840	40.9339	0.3125	1.2500	A607-65 (65 ksi)
L25	42.58-35.75	6.83	5.25	18	40.9339	42.2320	0.3125	1.2500	A607-65 (65 ksi)
L26	35.75-34.75	6.25	0.00	18	40.6096	41.7972	0.3750	1.5000	A607-65 (65 ksi)
L27	34.75-29.75	5.00	0.00	18	41.7972	42.7472	0.3750	1.5000	A607-65 (65 ksi)
L28	29.75-24.75	5.00	0.00	18	42.7472	43.6973	0.3750	1.5000	A607-65 (65 ksi)
L29	24.75-19.75	5.00	0.00	18	43.6973	44.6473	0.3750	1.5000	A607-65 (65 ksi)
L30	19.75-14.75	5.00	0.00	18	44.6473	45.5974	0.3750	1.5000	A607-65 (65 ksi)
L31	14.75-9.75	5.00	0.00	18	45.5974	46.5474	0.3750	1.5000	A607-65 (65 ksi)
L32	9.75-4.75	5.00	0.00	18	46.5474	47.4975	0.3750	1.5000	A607-65 (65 ksi)
L33	4.75-0.00	4.75		18	47.4975	48.4000	0.3750	1.5000	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	22.3008	17.2586	1031.4832	7.7212	11.1760	92.2945	2064.3237	8.6310	3.4320	13.728
	23.2655	18.0125	1172.6326	8.0585	11.6586	100.5809	2346.8081	9.0079	3.5992	14.397
L2	23.2655	18.0125	1172.6326	8.0585	11.6586	100.5809	2346.8081	9.0079	3.5992	14.397
	24.2301	18.7663	1326.1047	8.3957	12.1412	109.2235	2653.9543	9.3849	3.7664	15.066
L3	24.2301	18.7663	1326.1047	8.3957	12.1412	109.2235	2653.9543	9.3849	3.7664	15.066
	25.1948	19.5201	1492.4153	8.7330	12.6238	118.2224	2986.7944	9.7619	3.9336	15.734
L4	25.1948	19.5201	1492.4153	8.7330	12.6238	118.2224	2986.7944	9.7619	3.9336	15.734
	26.1594	20.2739	1672.0802	9.0702	13.1064	127.5774	3346.3605	10.1389	4.1008	16.403
L5	26.1594	20.2739	1672.0802	9.0702	13.1064	127.5774	3346.3605	10.1389	4.1008	16.403
	27.1241	21.0278	1865.6149	9.4075	13.5890	137.2886	3733.6846	10.5159	4.2680	17.072
L6	27.1241	21.0278	1865.6149	9.4075	13.5890	137.2886	3733.6846	10.5159	4.2680	17.072
	28.0888	21.7816	2073.5353	9.7447	14.0716	147.3560	4149.7990	10.8929	4.4352	17.741
L7	28.0888	21.7816	2073.5353	9.7447	14.0716	147.3560	4149.7990	10.8929	4.4352	17.741
	29.0534	22.5354	2296.3570	10.0820	14.5542	157.7797	4595.7356	11.2698	4.6024	18.41
L8	29.0534	22.5354	2296.3570	10.0820	14.5542	157.7797	4595.7356	11.2698	4.6024	18.41
	29.8251	23.1385	2485.6899	10.3518	14.9403	166.3751	4974.6504	11.5714	4.7362	18.945
L9	29.3175	22.1763	2188.3323	9.9214	14.3243	152.7703	4379.5441	11.0903	4.5228	18.091
	29.5586	22.9302	2419.1791	10.2586	14.8070	163.3812	4841.5414	11.4673	4.6900	18.76
L10	29.5586	22.9302	2419.1791	10.2586	14.8070	163.3812	4841.5414	11.4673	4.6900	18.76
	30.5234	23.6841	2665.7150	10.5959	15.2896	174.3483	5334.9377	11.8443	4.8572	19.429
L11	30.5234	23.6841	2665.7150	10.5959	15.2896	174.3483	5334.9377	11.8443	4.8572	19.429
	31.4881	24.4380	2928.4560	10.9332	15.7722	185.6717	5860.7654	12.2213	5.0244	20.098
L12	31.4881	24.4380	2928.4560	10.9332	15.7722	185.6717	5860.7654	12.2213	5.0244	20.098
	32.4528	25.1918	3207.9178	11.2705	16.2549	197.3513	6420.0567	12.5983	5.1916	20.766
L13	32.4528	25.1918	3207.9178	11.2705	16.2549	197.3513	6420.0567	12.5983	5.1916	20.766
	33.4175	25.9457	3504.6163	11.6077	16.7375	209.3872	7013.8441	12.9753	5.3588	21.435
L14	33.4175	25.9457	3504.6163	11.6077	16.7375	209.3872	7013.8441	12.9753	5.3588	21.435
	34.3822	26.6996	3819.0673	11.9450	17.2201	221.7794	7643.1597	13.3523	5.5260	22.104
L15	34.3822	26.6996	3819.0673	11.9450	17.2201	221.7794	7643.1597	13.3523	5.5260	22.104
	35.3470	27.4535	4151.7865	12.2823	17.7028	234.5277	8309.0360	13.7293	5.6932	22.773
L16	35.3470	27.4535	4151.7865	12.2823	17.7028	234.5277	8309.0360	13.7293	5.6932	22.773
	36.3117	28.2073	4503.2898	12.6195	18.1854	247.6324	9012.5051	14.1063	5.8604	23.442
L17	35.7942	33.8531	4982.1890	12.1163	17.4970	284.7451	9970.9337	16.9298	5.5120	17.638
	35.8906	34.7953	5409.8516	12.4535	17.9796	300.8890	10826.821 7	17.4010	5.6791	18.173
L18	35.8906	34.7953	5409.8516	12.4535	17.9796	300.8890	10826.821 7	17.4010	5.6791	18.173
	36.8552	35.7375	5861.3129	12.7907	18.4621	317.4781	11730.338 2	17.8721	5.8463	18.708
L19	36.8552	35.7375	5861.3129	12.7907	18.4621	317.4781	11730.338 2	17.8721	5.8463	18.708
	37.8197	36.6796	6337.2171	13.1279	18.9446	334.5124	12682.772 8	18.3433	6.0135	19.243
L20	37.8197	36.6796	6337.2171	13.1279	18.9446	334.5124	12682.772 8	18.3433	6.0135	19.243
	38.7842	37.6218	6838.2087	13.4651	19.4272	351.9918	13685.415 3	18.8145	6.1807	19.778
L21	38.7842	37.6218	6838.2087	13.4651	19.4272	351.9918	13685.415 3	18.8145	6.1807	19.778
	39.7488	38.5640	7364.9321	13.8024	19.9097	369.9164	14739.555 2	19.2856	6.3479	20.313
L22	39.7488	38.5640	7364.9321	13.8024	19.9097	369.9164	14739.555 2	19.2856	6.3479	20.313
	40.5044	39.3021	7795.9601	14.0665	20.2877	384.2694	15602.178 3	19.6548	6.4788	20.732
L23	40.5044	39.3021	7795.9601	14.0665	20.2877	384.2694	15602.178 3	19.6548	6.4788	20.732
	40.5526	39.3492	7824.0269	14.0834	20.3119	385.1948	15658.348 9	19.6783	6.4872	20.759
L24	40.5526	39.3492	7824.0269	14.0834	20.3119	385.1948	15658.348 9	19.6783	6.4872	20.759
	41.5172	40.2913	8399.6008	14.4206	20.7944	403.9354	16810.254 1	20.1495	6.6544	21.294
L25	41.5172	40.2913	8399.6008	14.4206	20.7944	403.9354	16810.254 1	20.1495	6.6544	21.294
	42.8353	41.5789	9230.8709	14.8814	21.4539	430.2663	18473.888 0	20.7934	6.8828	22.025

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L26	42.1912	47.8893	9794.3446	14.2833	20.6297	474.7694	19601.5768	23.9492	6.4873	17.299
	42.3841	49.3027	10687.4588	14.7049	21.2330	503.3427	21388.9804	24.6561	6.6963	17.857
L27	42.3841	49.3027	10687.4588	14.7049	21.2330	503.3427	21388.9804	24.6561	6.6963	17.857
	43.3488	50.4335	11439.8267	15.0421	21.7156	526.8025	22894.7062	25.2216	6.8635	18.303
L28	43.3488	50.4335	11439.8267	15.0421	21.7156	526.8025	22894.7062	25.2216	6.8635	18.303
	44.3135	51.5643	12226.7009	15.3794	22.1982	550.7966	24469.4900	25.7871	7.0307	18.749
L29	44.3135	51.5643	12226.7009	15.3794	22.1982	550.7966	24469.4900	25.7871	7.0307	18.749
	45.2782	52.6951	13048.8550	15.7167	22.6808	575.3251	26114.8800	26.3526	7.1979	19.194
L30	45.2782	52.6951	13048.8550	15.7167	22.6808	575.3251	26114.8800	26.3526	7.1979	19.194
	46.2429	53.8259	13907.0627	16.0539	23.1635	600.3880	27832.4247	26.9181	7.3651	19.64
L31	46.2429	53.8259	13907.0627	16.0539	23.1635	600.3880	27832.4247	26.9181	7.3651	19.64
	47.2076	54.9567	14802.0977	16.3912	23.6461	625.9852	29623.6724	27.4836	7.5323	20.086
L32	47.2076	54.9567	14802.0977	16.3912	23.6461	625.9852	29623.6724	27.4836	7.5323	20.086
	48.1723	56.0875	15734.7336	16.7285	24.1287	652.1167	31490.1714	28.0491	7.6996	20.532
L33	48.1723	56.0875	15734.7336	16.7285	24.1287	652.1167	31490.1714	28.0491	7.6996	20.532
	49.0888	57.1618	16656.2703	17.0489	24.5872	677.4366	33334.4574	28.5863	7.8584	20.956

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
L1 147.50-142.50				1	1	1			
L2 142.50-137.50				1	1	1			
L3 137.50-132.50				1	1	1			
L4 132.50-127.50				1	1	1			
L5 127.50-122.50				1	1	1			
L6 122.50-117.50				1	1	1			
L7 117.50-112.50				1	1	1			
L8 112.50-108.50				1	1	1			
L9 108.50-107.25				1	1	1			
L10 107.25-102.25				1	1	1			
L11 102.25-97.25				1	1	1			
L12 97.25-92.25				1	1	1			
L13 92.25-87.25				1	1	1			
L14 87.25-82.25				1	1	1			
L15 82.25-77.25				1	1	1			
L16 77.25-				1	1	1			

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
72.25									
L17 72.25-71.75				1	1	1			
L18 71.75-66.75				1	1	1			
L19 66.75-61.75				1	1	1			
L20 61.75-56.75				1	1	1			
L21 56.75-51.75				1	1	1			
L22 51.75-47.83				1	1	1			
L23 47.83-47.58				1	1	1			
L24 47.58-42.58				1	1	1			
L25 42.58-35.75				1	1	1			
L26 35.75-34.75				1	1	1			
L27 34.75-29.75				1	1	1			
L28 29.75-24.75				1	1	1			
L29 24.75-19.75				1	1	1			
L30 19.75-14.75				1	1	1			
L31 14.75-9.75				1	1	1			
L32 9.75-4.75				1	1	1			
L33 4.75-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
******										
Safety Line 5/8"	B	No	Surface Ar (CaAa)	147.50 - 0.00	1	1	0.000 0.000	0.8800		0.40
Climbing Pegs	B	No	Surface Ar (CaAa)	147.50 - 0.00	1	1	-0.050 0.050	0.7050		1.80
******										
HCS 6X12 6AWG(1-3/8)	A	No	Surface Ar (CaAa)	107.00 - 6.00	2	2	0.400 0.470	1.3800		1.70
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	A	No	Surface Ar (CaAa)	107.00 - 6.00	1	1	0.350 0.350	1.6250		1.07
LDF7-50A(1-5/8)	A	No	Surface Ar (CaAa)	107.00 - 6.00	6	4	0.250 0.450	1.9800		0.82
******										
CU12PSM9P6XXX(1-1/2)	B	No	Surface Ar (CaAa)	97.00 - 6.00	1	1	-0.450 -0.450	1.6000		2.35
******										
MP3-03 Reinforcement	A	No	Surface Af (CaAa)	49.00 - 39.00	1	1	-0.417 -0.417	4.0600	11.2600	0.00
MP3-03 Reinforcement	B	No	Surface Af (CaAa)	49.00 - 39.00	1	1	-0.417 -0.417	4.0600	11.2600	0.00
MP3-03 Reinforcement	C	No	Surface Af (CaAa)	49.00 - 39.00	1	1	-0.417 -0.417	4.0600	11.2600	0.00
******										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft²/ft	Weight plf
******									
***									
HB158-21U6S24-xxM_TMO(1-5/8)	A	No	No	Inside Pole	147.00 - 6.00	3	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50
							2" Ice	0.00	2.50
******									
HB158-1-08U8-S8J18(1-5/8)	B	No	No	Inside Pole	137.00 - 6.00	2	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
							2" Ice	0.00	1.30
LDF7-50A(1-5/8)	B	No	No	Inside Pole	137.00 - 6.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
******									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	117.00 - 6.00	9	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
FB-L98B-002-75000(3/8)	C	No	No	Inside Pole	117.00 - 6.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	117.00 - 6.00	2	No Ice	0.00	0.58
							1/2" Ice	0.00	0.58
							1" Ice	0.00	0.58
							2" Ice	0.00	0.58
Conduit (2")	C	No	No	Inside Pole	117.00 - 6.00	1	No Ice	0.00	2.80
							1/2" Ice	0.00	2.80
							1" Ice	0.00	2.80
							2" Ice	0.00	2.80
******									
LDF4-50A(1/2)	B	No	No	Inside Pole	49.00 - 6.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15
******									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
L1	147.50-142.50	A	0.000	0.000	0.000	0.000	0.034
		B	0.000	0.000	0.792	0.000	0.011
		C	0.000	0.000	0.000	0.000	0.000
L2	142.50-137.50	A	0.000	0.000	0.000	0.000	0.037
		B	0.000	0.000	0.792	0.000	0.011
		C	0.000	0.000	0.000	0.000	0.000
L3	137.50-132.50	A	0.000	0.000	0.000	0.000	0.037
		B	0.000	0.000	0.792	0.000	0.045
		C	0.000	0.000	0.000	0.000	0.000
L4	132.50-127.50	A	0.000	0.000	0.000	0.000	0.037
		B	0.000	0.000	0.792	0.000	0.049
		C	0.000	0.000	0.000	0.000	0.000
L5	127.50-122.50	A	0.000	0.000	0.000	0.000	0.037
		B	0.000	0.000	0.792	0.000	0.049
		C	0.000	0.000	0.000	0.000	0.000
L6	122.50-117.50	A	0.000	0.000	0.000	0.000	0.037
		B	0.000	0.000	0.792	0.000	0.049
		C	0.000	0.000	0.000	0.000	0.000

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
L7	117.50-112.50	A	0.000	0.000	0.000	0.000	0.037
		B	0.000	0.000	0.792	0.000	0.049
		C	0.000	0.000	0.000	0.000	0.051
L8	112.50-108.50	A	0.000	0.000	0.000	0.000	0.030
		B	0.000	0.000	0.634	0.000	0.039
		C	0.000	0.000	0.000	0.000	0.046
L9	108.50-107.25	A	0.000	0.000	0.000	0.000	0.009
		B	0.000	0.000	0.198	0.000	0.012
		C	0.000	0.000	0.000	0.000	0.014
L10	107.25-102.25	A	0.000	0.000	5.845	0.000	0.082
		B	0.000	0.000	0.792	0.000	0.049
		C	0.000	0.000	0.000	0.000	0.057
L11	102.25-97.25	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	0.792	0.000	0.049
		C	0.000	0.000	0.000	0.000	0.057
L12	97.25-92.25	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.553	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L13	92.25-87.25	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L14	87.25-82.25	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L15	82.25-77.25	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L16	77.25-72.25	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L17	72.25-71.75	A	0.000	0.000	0.615	0.000	0.008
		B	0.000	0.000	0.159	0.000	0.006
		C	0.000	0.000	0.000	0.000	0.006
L18	71.75-66.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L19	66.75-61.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L20	61.75-56.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L21	56.75-51.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.060
		C	0.000	0.000	0.000	0.000	0.057
L22	51.75-47.83	A	0.000	0.000	5.610	0.000	0.066
		B	0.000	0.000	2.037	0.000	0.047
		C	0.000	0.000	0.790	0.000	0.045
L23	47.83-47.58	A	0.000	0.000	0.477	0.000	0.004
		B	0.000	0.000	0.249	0.000	0.003
		C	0.000	0.000	0.169	0.000	0.003
L24	47.58-42.58	A	0.000	0.000	9.536	0.000	0.084
		B	0.000	0.000	4.976	0.000	0.061
		C	0.000	0.000	3.383	0.000	0.057
L25	42.58-35.75	A	0.000	0.000	10.833	0.000	0.115
		B	0.000	0.000	4.601	0.000	0.084
		C	0.000	0.000	2.424	0.000	0.078
L26	35.75-34.75	A	0.000	0.000	1.230	0.000	0.017
		B	0.000	0.000	0.319	0.000	0.012
		C	0.000	0.000	0.000	0.000	0.011
L27	34.75-29.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.061
		C	0.000	0.000	0.000	0.000	0.057
L28	29.75-24.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.061
		C	0.000	0.000	0.000	0.000	0.057
L29	24.75-19.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.061
		C	0.000	0.000	0.000	0.000	0.057

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
L30	19.75-14.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.061
		C	0.000	0.000	0.000	0.000	0.057
L31	14.75-9.75	A	0.000	0.000	6.152	0.000	0.084
		B	0.000	0.000	1.593	0.000	0.061
		C	0.000	0.000	0.000	0.000	0.057
L32	9.75-4.75	A	0.000	0.000	4.614	0.000	0.063
		B	0.000	0.000	1.393	0.000	0.049
		C	0.000	0.000	0.000	0.000	0.043
L33	4.75-0.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.753	0.000	0.010
		C	0.000	0.000	0.000	0.000	0.000

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	147.50-142.50	A	1.478	0.000	0.000	0.000	0.000	0.034
		B		0.000	0.000	3.749	0.000	0.052
		C		0.000	0.000	0.000	0.000	0.000
L2	142.50-137.50	A	1.473	0.000	0.000	0.000	0.000	0.037
		B		0.000	0.000	3.739	0.000	0.052
		C		0.000	0.000	0.000	0.000	0.000
L3	137.50-132.50	A	1.468	0.000	0.000	0.000	0.000	0.037
		B		0.000	0.000	3.728	0.000	0.085
		C		0.000	0.000	0.000	0.000	0.000
L4	132.50-127.50	A	1.462	0.000	0.000	0.000	0.000	0.037
		B		0.000	0.000	3.717	0.000	0.089
		C		0.000	0.000	0.000	0.000	0.000
L5	127.50-122.50	A	1.457	0.000	0.000	0.000	0.000	0.037
		B		0.000	0.000	3.706	0.000	0.089
		C		0.000	0.000	0.000	0.000	0.000
L6	122.50-117.50	A	1.451	0.000	0.000	0.000	0.000	0.037
		B		0.000	0.000	3.694	0.000	0.088
		C		0.000	0.000	0.000	0.000	0.000
L7	117.50-112.50	A	1.445	0.000	0.000	0.000	0.000	0.037
		B		0.000	0.000	3.682	0.000	0.088
		C		0.000	0.000	0.000	0.000	0.051
L8	112.50-108.50	A	1.439	0.000	0.000	0.000	0.000	0.030
		B		0.000	0.000	2.936	0.000	0.070
		C		0.000	0.000	0.000	0.000	0.046
L9	108.50-107.25	A	1.435	0.000	0.000	0.000	0.000	0.009
		B		0.000	0.000	0.918	0.000	0.022
		C		0.000	0.000	0.000	0.000	0.014
L10	107.25-102.25	A	1.431	0.000	0.000	11.872	0.000	0.215
		B		0.000	0.000	3.655	0.000	0.087
		C		0.000	0.000	0.000	0.000	0.057
L11	102.25-97.25	A	1.424	0.000	0.000	12.472	0.000	0.223
		B		0.000	0.000	3.641	0.000	0.087
		C		0.000	0.000	0.000	0.000	0.057
L12	97.25-92.25	A	1.417	0.000	0.000	12.446	0.000	0.222
		B		0.000	0.000	5.732	0.000	0.123
		C		0.000	0.000	0.000	0.000	0.057
L13	92.25-87.25	A	1.409	0.000	0.000	12.420	0.000	0.221
		B		0.000	0.000	5.820	0.000	0.124
		C		0.000	0.000	0.000	0.000	0.057
L14	87.25-82.25	A	1.401	0.000	0.000	12.391	0.000	0.220
		B		0.000	0.000	5.796	0.000	0.124
		C		0.000	0.000	0.000	0.000	0.057
L15	82.25-77.25	A	1.393	0.000	0.000	12.362	0.000	0.219
		B		0.000	0.000	5.770	0.000	0.123
		C		0.000	0.000	0.000	0.000	0.057
L16	77.25-72.25	A	1.384	0.000	0.000	12.330	0.000	0.218
		B		0.000	0.000	5.743	0.000	0.122
		C		0.000	0.000	0.000	0.000	0.057

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
L17	72.25-71.75	A	1.378	0.000	0.000	1.233	0.000	0.022
		B		0.000	0.000	0.574	0.000	0.012
		C		0.000	0.000	0.000	0.000	0.006
L18	71.75-66.75	A	1.373	0.000	0.000	12.293	0.000	0.217
		B		0.000	0.000	5.712	0.000	0.122
		C		0.000	0.000	0.000	0.000	0.057
L19	66.75-61.75	A	1.363	0.000	0.000	12.257	0.000	0.216
		B		0.000	0.000	5.681	0.000	0.121
		C		0.000	0.000	0.000	0.000	0.057
L20	61.75-56.75	A	1.352	0.000	0.000	12.219	0.000	0.215
		B		0.000	0.000	5.648	0.000	0.120
		C		0.000	0.000	0.000	0.000	0.057
L21	56.75-51.75	A	1.340	0.000	0.000	12.177	0.000	0.213
		B		0.000	0.000	5.612	0.000	0.119
		C		0.000	0.000	0.000	0.000	0.057
L22	51.75-47.83	A	1.329	0.000	0.000	10.498	0.000	0.176
		B		0.000	0.000	5.359	0.000	0.103
		C		0.000	0.000	0.989	0.000	0.055
L23	47.83-47.58	A	1.323	0.000	0.000	0.818	0.000	0.013
		B		0.000	0.000	0.490	0.000	0.008
		C		0.000	0.000	0.212	0.000	0.005
L24	47.58-42.58	A	1.315	0.000	0.000	16.323	0.000	0.252
		B		0.000	0.000	9.771	0.000	0.160
		C		0.000	0.000	4.232	0.000	0.099
L25	42.58-35.75	A	1.297	0.000	0.000	19.462	0.000	0.314
		B		0.000	0.000	10.520	0.000	0.189
		C		0.000	0.000	3.026	0.000	0.107
L26	35.75-34.75	A	1.283	0.000	0.000	2.405	0.000	0.042
		B		0.000	0.000	1.097	0.000	0.023
		C		0.000	0.000	0.000	0.000	0.011
L27	34.75-29.75	A	1.272	0.000	0.000	11.940	0.000	0.206
		B		0.000	0.000	5.409	0.000	0.116
		C		0.000	0.000	0.000	0.000	0.057
L28	29.75-24.75	A	1.251	0.000	0.000	11.865	0.000	0.203
		B		0.000	0.000	5.345	0.000	0.114
		C		0.000	0.000	0.000	0.000	0.057
L29	24.75-19.75	A	1.226	0.000	0.000	11.777	0.000	0.201
		B		0.000	0.000	5.270	0.000	0.112
		C		0.000	0.000	0.000	0.000	0.057
L30	19.75-14.75	A	1.195	0.000	0.000	11.669	0.000	0.197
		B		0.000	0.000	5.177	0.000	0.111
		C		0.000	0.000	0.000	0.000	0.057
L31	14.75-9.75	A	1.155	0.000	0.000	11.529	0.000	0.193
		B		0.000	0.000	5.056	0.000	0.108
		C		0.000	0.000	0.000	0.000	0.057
L32	9.75-4.75	A	1.096	0.000	0.000	8.492	0.000	0.140
		B		0.000	0.000	4.405	0.000	0.087
		C		0.000	0.000	0.000	0.000	0.043
L33	4.75-0.00	A	0.980	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	2.614	0.000	0.031
		C		0.000	0.000	0.000	0.000	0.000

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	147.50-142.50	1.0344	-0.5972	2.2731	-1.3124
L2	142.50-137.50	1.0372	-0.5988	2.2949	-1.3250
L3	137.50-132.50	1.0398	-0.6003	2.3150	-1.3365
L4	132.50-127.50	1.0422	-0.6017	2.3333	-1.3471
L5	127.50-122.50	1.0445	-0.6030	2.3501	-1.3568
L6	122.50-117.50	1.0466	-0.6043	2.3653	-1.3656
L7	117.50-112.50	1.0486	-0.6054	2.3791	-1.3736
L8	112.50-108.50	1.0503	-0.6064	2.3903	-1.3801
L9	108.50-107.25	1.0503	-0.6064	2.3907	-1.3803

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L10	107.25-102.25	-0.9878	-6.1982	-0.0651	-5.7022
L11	102.25-97.25	-1.0623	-6.4441	-0.1340	-5.9120
L12	97.25-92.25	-0.9492	-6.9451	-0.0407	-6.5385
L13	92.25-87.25	-0.9514	-7.0411	-0.0370	-6.6658
L14	87.25-82.25	-0.9594	-7.1134	-0.0383	-6.7639
L15	82.25-77.25	-0.9671	-7.1834	-0.0399	-6.8589
L16	77.25-72.25	-0.9746	-7.2512	-0.0419	-6.9508
L17	72.25-71.75	-0.9750	-7.2539	-0.0418	-6.9547
L18	71.75-66.75	-0.9790	-7.2903	-0.0452	-6.9991
L19	66.75-61.75	-0.9861	-7.3548	-0.0480	-7.0856
L20	61.75-56.75	-0.9931	-7.4174	-0.0512	-7.1687
L21	56.75-51.75	-0.9998	-7.4781	-0.0550	-7.2485
L22	51.75-47.83	-0.8732	-6.5394	-0.0543	-6.7430
L23	47.83-47.58	-0.6697	-5.0176	-0.0475	-5.7204
L24	47.58-42.58	-0.6736	-5.0504	-0.0497	-5.7561
L25	42.58-35.75	-0.8095	-6.0783	-0.0618	-6.5107
L26	35.75-34.75	-1.0198	-7.6586	-0.0707	-7.4800
L27	34.75-29.75	-1.0234	-7.6911	-0.0817	-7.5023
L28	29.75-24.75	-1.0293	-7.7440	-0.0909	-7.5599
L29	24.75-19.75	-1.0350	-7.7954	-0.1023	-7.6104
L30	19.75-14.75	-1.0405	-7.8455	-0.1169	-7.6515
L31	14.75-9.75	-1.0459	-7.8942	-0.1368	-7.6782
L32	9.75-4.75	-0.6517	-6.5618	0.2363	-6.5867
L33	4.75-0.00	1.0735	-0.6198	2.0709	-1.1957

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	2	Safety Line 5/8"	142.50 - 147.50	1.0000	1.0000
L1	3	Climbing Pegs	142.50 - 147.50	1.0000	1.0000
L2	2	Safety Line 5/8"	137.50 - 142.50	1.0000	1.0000
L2	3	Climbing Pegs	137.50 - 142.50	1.0000	1.0000
L3	2	Safety Line 5/8"	132.50 - 137.50	1.0000	1.0000
L3	3	Climbing Pegs	132.50 - 137.50	1.0000	1.0000
L4	2	Safety Line 5/8"	127.50 - 132.50	1.0000	1.0000
L4	3	Climbing Pegs	127.50 - 132.50	1.0000	1.0000
L5	2	Safety Line 5/8"	122.50 - 127.50	1.0000	1.0000
L5	3	Climbing Pegs	122.50 - 127.50	1.0000	1.0000
L6	2	Safety Line 5/8"	117.50 - 122.50	1.0000	1.0000
L6	3	Climbing Pegs	117.50 - 122.50	1.0000	1.0000
L7	2	Safety Line 5/8"	112.50 - 117.50	1.0000	1.0000
L7	3	Climbing Pegs	112.50 - 117.50	1.0000	1.0000
L8	2	Safety Line 5/8"	108.50 - 112.50	1.0000	1.0000
L8	3	Climbing Pegs	108.50 - 112.50	1.0000	1.0000
L9	2	Safety Line 5/8"	107.25 - 108.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L9	3	Climbing Pegs	107.25 - 108.50	1.0000	1.0000
L10	2	Safety Line 5/8"	102.25 - 107.25	1.0000	1.0000
L10	3	Climbing Pegs	102.25 - 107.25	1.0000	1.0000
L10	19	HCS 6X12 6AWG(1-3/8)	102.25 - 107.00	1.0000	1.0000
L10	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	102.25 - 107.00	1.0000	1.0000
L10	21	LDF7-50A(1-5/8)	102.25 - 107.00	1.0000	1.0000
L11	2	Safety Line 5/8"	97.25 - 102.25	1.0000	1.0000
L11	3	Climbing Pegs	97.25 - 102.25	1.0000	1.0000
L11	19	HCS 6X12 6AWG(1-3/8)	97.25 - 102.25	1.0000	1.0000
L11	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	97.25 - 102.25	1.0000	1.0000
L11	21	LDF7-50A(1-5/8)	97.25 - 102.25	1.0000	1.0000
L12	2	Safety Line 5/8"	92.25 - 97.25	1.0000	1.0000
L12	3	Climbing Pegs	92.25 - 97.25	1.0000	1.0000
L12	19	HCS 6X12 6AWG(1-3/8)	92.25 - 97.25	1.0000	1.0000
L12	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	92.25 - 97.25	1.0000	1.0000
L12	21	LDF7-50A(1-5/8)	92.25 - 97.25	1.0000	1.0000
L12	23	CU12PSM9P6XXX(1-1/2)	92.25 - 97.00	1.0000	1.0000
L13	2	Safety Line 5/8"	87.25 - 92.25	1.0000	1.0000
L13	3	Climbing Pegs	87.25 - 92.25	1.0000	1.0000
L13	19	HCS 6X12 6AWG(1-3/8)	87.25 - 92.25	1.0000	1.0000
L13	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	87.25 - 92.25	1.0000	1.0000
L13	21	LDF7-50A(1-5/8)	87.25 - 92.25	1.0000	1.0000
L13	23	CU12PSM9P6XXX(1-1/2)	87.25 - 92.25	1.0000	1.0000
L14	2	Safety Line 5/8"	82.25 - 87.25	1.0000	1.0000
L14	3	Climbing Pegs	82.25 - 87.25	1.0000	1.0000
L14	19	HCS 6X12 6AWG(1-3/8)	82.25 - 87.25	1.0000	1.0000
L14	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	82.25 - 87.25	1.0000	1.0000
L14	21	LDF7-50A(1-5/8)	82.25 - 87.25	1.0000	1.0000
L14	23	CU12PSM9P6XXX(1-1/2)	82.25 - 87.25	1.0000	1.0000
L15	2	Safety Line 5/8"	77.25 - 82.25	1.0000	1.0000
L15	3	Climbing Pegs	77.25 - 82.25	1.0000	1.0000
L15	19	HCS 6X12 6AWG(1-3/8)	77.25 - 82.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L15	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	77.25 - 82.25	1.0000	1.0000
L15	21	LDF7-50A(1-5/8)	77.25 - 82.25	1.0000	1.0000
L15	23	CU12PSM9P6XXX(1-1/2)	77.25 - 82.25	1.0000	1.0000
L16	2	Safety Line 5/8"	72.25 - 77.25	1.0000	1.0000
L16	3	Climbing Pegs	72.25 - 77.25	1.0000	1.0000
L16	19	HCS 6X12 6AWG(1-3/8)	72.25 - 77.25	1.0000	1.0000
L16	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	72.25 - 77.25	1.0000	1.0000
L16	21	LDF7-50A(1-5/8)	72.25 - 77.25	1.0000	1.0000
L16	23	CU12PSM9P6XXX(1-1/2)	72.25 - 77.25	1.0000	1.0000
L17	2	Safety Line 5/8"	71.75 - 72.25	1.0000	1.0000
L17	3	Climbing Pegs	71.75 - 72.25	1.0000	1.0000
L17	19	HCS 6X12 6AWG(1-3/8)	71.75 - 72.25	1.0000	1.0000
L17	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	71.75 - 72.25	1.0000	1.0000
L17	21	LDF7-50A(1-5/8)	71.75 - 72.25	1.0000	1.0000
L17	23	CU12PSM9P6XXX(1-1/2)	71.75 - 72.25	1.0000	1.0000
L18	2	Safety Line 5/8"	66.75 - 71.75	1.0000	1.0000
L18	3	Climbing Pegs	66.75 - 71.75	1.0000	1.0000
L18	19	HCS 6X12 6AWG(1-3/8)	66.75 - 71.75	1.0000	1.0000
L18	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	66.75 - 71.75	1.0000	1.0000
L18	21	LDF7-50A(1-5/8)	66.75 - 71.75	1.0000	1.0000
L18	23	CU12PSM9P6XXX(1-1/2)	66.75 - 71.75	1.0000	1.0000
L19	2	Safety Line 5/8"	61.75 - 66.75	1.0000	1.0000
L19	3	Climbing Pegs	61.75 - 66.75	1.0000	1.0000
L19	19	HCS 6X12 6AWG(1-3/8)	61.75 - 66.75	1.0000	1.0000
L19	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	61.75 - 66.75	1.0000	1.0000
L19	21	LDF7-50A(1-5/8)	61.75 - 66.75	1.0000	1.0000
L19	23	CU12PSM9P6XXX(1-1/2)	61.75 - 66.75	1.0000	1.0000
L20	2	Safety Line 5/8"	56.75 - 61.75	1.0000	1.0000
L20	3	Climbing Pegs	56.75 - 61.75	1.0000	1.0000
L20	19	HCS 6X12 6AWG(1-3/8)	56.75 - 61.75	1.0000	1.0000
L20	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	56.75 - 61.75	1.0000	1.0000
L20	21	LDF7-50A(1-5/8)	56.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L20	23	CU12PSM9P6XXX(1-1/2)	61.75 - 56.75	1.0000	1.0000
L21	2	Safety Line 5/8"	61.75 - 51.75	1.0000	1.0000
L21	3	Climbing Pegs	56.75 - 51.75	1.0000	1.0000
L21	19	HCS 6X12 6AWG(1-3/8)	56.75 - 51.75	1.0000	1.0000
L21	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	56.75 - 51.75	1.0000	1.0000
L21	21	LDF7-50A(1-5/8)	56.75 - 51.75	1.0000	1.0000
L21	23	CU12PSM9P6XXX(1-1/2)	56.75 - 51.75	1.0000	1.0000
L22	2	Safety Line 5/8"	51.75 - 47.83	1.0000	1.0000
L22	3	Climbing Pegs	51.75 - 47.83	1.0000	1.0000
L22	19	HCS 6X12 6AWG(1-3/8)	51.75 - 47.83	1.0000	1.0000
L22	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	51.75 - 47.83	1.0000	1.0000
L22	21	LDF7-50A(1-5/8)	51.75 - 47.83	1.0000	1.0000
L22	23	CU12PSM9P6XXX(1-1/2)	51.75 - 47.83	1.0000	1.0000
L22	27	MP3-03 Reinforcement	51.75 - 49.00	1.0000	1.0000
L22	28	MP3-03 Reinforcement	51.75 - 49.00	1.0000	1.0000
L22	29	MP3-03 Reinforcement	51.75 - 49.00	1.0000	1.0000
L23	2	Safety Line 5/8"	47.83 - 47.58	1.0000	1.0000
L23	3	Climbing Pegs	47.83 - 47.58	1.0000	1.0000
L23	19	HCS 6X12 6AWG(1-3/8)	47.83 - 47.58	1.0000	1.0000
L23	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	47.83 - 47.58	1.0000	1.0000
L23	21	LDF7-50A(1-5/8)	47.83 - 47.58	1.0000	1.0000
L23	23	CU12PSM9P6XXX(1-1/2)	47.83 - 47.58	1.0000	1.0000
L23	27	MP3-03 Reinforcement	47.83 - 47.58	1.0000	1.0000
L23	28	MP3-03 Reinforcement	47.83 - 47.58	1.0000	1.0000
L23	29	MP3-03 Reinforcement	47.83 - 47.58	1.0000	1.0000
L24	2	Safety Line 5/8"	47.58 - 42.58	1.0000	1.0000
L24	3	Climbing Pegs	47.58 - 42.58	1.0000	1.0000
L24	19	HCS 6X12 6AWG(1-3/8)	47.58 - 42.58	1.0000	1.0000
L24	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	47.58 - 42.58	1.0000	1.0000
L24	21	LDF7-50A(1-5/8)	47.58 - 42.58	1.0000	1.0000
L24	23	CU12PSM9P6XXX(1-1/2)	47.58 - 42.58	1.0000	1.0000
L24	27	MP3-03 Reinforcement	47.58 - 42.58	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	28	MP3-03 Reinforcement	42.58 - 47.58	1.0000	1.0000
L24	29	MP3-03 Reinforcement	42.58 - 47.58	1.0000	1.0000
L25	2	Safety Line 5/8"	35.75 - 42.58	1.0000	1.0000
L25	3	Climbing Pegs	35.75 - 42.58	1.0000	1.0000
L25	19	HCS 6X12 6AWG(1-3/8)	35.75 - 42.58	1.0000	1.0000
L25	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	35.75 - 42.58	1.0000	1.0000
L25	21	LDF7-50A(1-5/8)	35.75 - 42.58	1.0000	1.0000
L25	23	CU12PSM9P6XXX(1-1/2)	35.75 - 42.58	1.0000	1.0000
L25	27	MP3-03 Reinforcement	39.00 - 42.58	1.0000	1.0000
L25	28	MP3-03 Reinforcement	39.00 - 42.58	1.0000	1.0000
L25	29	MP3-03 Reinforcement	39.00 - 42.58	1.0000	1.0000
L26	2	Safety Line 5/8"	34.75 - 35.75	1.0000	1.0000
L26	3	Climbing Pegs	34.75 - 35.75	1.0000	1.0000
L26	19	HCS 6X12 6AWG(1-3/8)	34.75 - 35.75	1.0000	1.0000
L26	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	34.75 - 35.75	1.0000	1.0000
L26	21	LDF7-50A(1-5/8)	34.75 - 35.75	1.0000	1.0000
L26	23	CU12PSM9P6XXX(1-1/2)	34.75 - 35.75	1.0000	1.0000
L27	2	Safety Line 5/8"	29.75 - 34.75	1.0000	1.0000
L27	3	Climbing Pegs	29.75 - 34.75	1.0000	1.0000
L27	19	HCS 6X12 6AWG(1-3/8)	29.75 - 34.75	1.0000	1.0000
L27	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	29.75 - 34.75	1.0000	1.0000
L27	21	LDF7-50A(1-5/8)	29.75 - 34.75	1.0000	1.0000
L27	23	CU12PSM9P6XXX(1-1/2)	29.75 - 34.75	1.0000	1.0000
L28	2	Safety Line 5/8"	24.75 - 29.75	1.0000	1.0000
L28	3	Climbing Pegs	24.75 - 29.75	1.0000	1.0000
L28	19	HCS 6X12 6AWG(1-3/8)	24.75 - 29.75	1.0000	1.0000
L28	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	24.75 - 29.75	1.0000	1.0000
L28	21	LDF7-50A(1-5/8)	24.75 - 29.75	1.0000	1.0000
L28	23	CU12PSM9P6XXX(1-1/2)	24.75 - 29.75	1.0000	1.0000
L29	2	Safety Line 5/8"	19.75 - 24.75	1.0000	1.0000
L29	3	Climbing Pegs	19.75 - 24.75	1.0000	1.0000
L29	19	HCS 6X12 6AWG(1-3/8)	19.75 - 24.75	1.0000	1.0000
L29	20	MLE HYBRID	19.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		9POWER/18FIBER RL 2(1-5/8)	24.75		
L29	21	LDF7-50A(1-5/8)	19.75 - 24.75	1.0000	1.0000
L29	23	CU12PSM9P6XXX(1-1/2)	19.75 - 24.75	1.0000	1.0000
L30	2	Safety Line 5/8"	14.75 - 19.75	1.0000	1.0000
L30	3	Climbing Pegs	14.75 - 19.75	1.0000	1.0000
L30	19	HCS 6X12 6AWG(1-3/8)	14.75 - 19.75	1.0000	1.0000
L30	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	14.75 - 19.75	1.0000	1.0000
L30	21	LDF7-50A(1-5/8)	14.75 - 19.75	1.0000	1.0000
L30	23	CU12PSM9P6XXX(1-1/2)	14.75 - 19.75	1.0000	1.0000
L31	2	Safety Line 5/8"	9.75 - 14.75	1.0000	1.0000
L31	3	Climbing Pegs	9.75 - 14.75	1.0000	1.0000
L31	19	HCS 6X12 6AWG(1-3/8)	9.75 - 14.75	1.0000	1.0000
L31	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	9.75 - 14.75	1.0000	1.0000
L31	21	LDF7-50A(1-5/8)	9.75 - 14.75	1.0000	1.0000
L31	23	CU12PSM9P6XXX(1-1/2)	9.75 - 14.75	1.0000	1.0000
L32	2	Safety Line 5/8"	4.75 - 9.75	1.0000	1.0000
L32	3	Climbing Pegs	4.75 - 9.75	1.0000	1.0000
L32	19	HCS 6X12 6AWG(1-3/8)	6.00 - 9.75	1.0000	1.0000
L32	20	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	6.00 - 9.75	1.0000	1.0000
L32	21	LDF7-50A(1-5/8)	6.00 - 9.75	1.0000	1.0000
L32	23	CU12PSM9P6XXX(1-1/2)	6.00 - 9.75	1.0000	1.0000
L33	2	Safety Line 5/8"	0.00 - 4.75	1.0000	1.0000
L33	3	Climbing Pegs	0.00 - 4.75	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L22	27	MP3-03 Reinforcement	47.83 - 49.00	Auto	0.0000
L22	28	MP3-03 Reinforcement	47.83 - 49.00	Auto	0.0000
L22	29	MP3-03 Reinforcement	47.83 - 49.00	Auto	0.0000
L23	27	MP3-03 Reinforcement	47.58 - 47.83	Auto	0.0000
L23	28	MP3-03 Reinforcement	47.58 - 47.83	Auto	0.0000
L23	29	MP3-03 Reinforcement	47.58 - 47.83	Auto	0.0000
L24	27	MP3-03 Reinforcement	42.58 - 47.58	Auto	0.0000
L24	28	MP3-03 Reinforcement	42.58 - 47.58	Auto	0.0000
L24	29	MP3-03 Reinforcement	42.58 - 47.58	Auto	0.0000
L25	27	MP3-03 Reinforcement	39.00 - 42.58	Auto	0.0000
L25	28	MP3-03 Reinforcement	39.00 - 42.58	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L25	29	MP3-03 Reinforcement	39.00 - 42.58	Auto	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
******									
Platform Mount [LP 1201-1]	C	None		0.0000	147.00	No Ice	18.38	18.38	2.100
						1/2" Ice	22.11	22.11	2.652
						1" Ice	25.87	25.87	3.263
						2" Ice	33.47	33.47	4.662
***									
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	14.69	6.87	0.183
						1/2" Ice	15.46	7.55	0.311
						1" Ice	16.23	8.25	0.453
						2" Ice	17.82	9.67	0.782
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	14.69	6.87	0.183
						1/2" Ice	15.46	7.55	0.311
						1" Ice	16.23	8.25	0.453
						2" Ice	17.82	9.67	0.782
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	14.69	6.87	0.183
						1/2" Ice	15.46	7.55	0.311
						1" Ice	16.23	8.25	0.453
						2" Ice	17.82	9.67	0.782
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	5.19	2.71	0.128
						1/2" Ice	5.59	3.04	0.174
						1" Ice	6.02	3.38	0.227
						2" Ice	6.90	4.12	0.354
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	5.19	2.71	0.128
						1/2" Ice	5.59	3.04	0.174
						1" Ice	6.02	3.38	0.227
						2" Ice	6.90	4.12	0.354
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	5.19	2.71	0.128
						1/2" Ice	5.59	3.04	0.174
						1" Ice	6.02	3.38	0.227
						2" Ice	6.90	4.12	0.354
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	2.14	1.69	0.109
						1/2" Ice	2.32	1.85	0.131
						1" Ice	2.51	2.02	0.156
						2" Ice	2.91	2.39	0.217
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	2.14	1.69	0.109
						1/2" Ice	2.32	1.85	0.131
						1" Ice	2.51	2.02	0.156
						2" Ice	2.91	2.39	0.217
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice	2.14	1.69	0.109
						1/2" Ice	2.32	1.85	0.131
						1" Ice	2.51	2.02	0.156
						2" Ice	2.91	2.39	0.217
Radio 4480_TMOV2	A	From Leg	4.00	0.0000	147.00	No Ice	2.88	1.40	0.081

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				1/2"	3.09	1.56	0.103
			0.00				Ice	3.31	1.73	0.128
							1" Ice	3.78	2.09	0.188
							2" Ice			
Radio 4480_TMOV2	B	From Leg	4.00		0.0000	147.00	No Ice	2.88	1.40	0.081
			0.00				1/2"	3.09	1.56	0.103
			0.00				Ice	3.31	1.73	0.128
							1" Ice	3.78	2.09	0.188
							2" Ice			
Radio 4480_TMOV2	C	From Leg	4.00		0.0000	147.00	No Ice	2.88	1.40	0.081
			0.00				1/2"	3.09	1.56	0.103
			0.00				Ice	3.31	1.73	0.128
							1" Ice	3.78	2.09	0.188
							2" Ice			
Pipe Mount [#9' Long, P2.0 STD]	A	From Leg	4.00		0.0000	147.00	No Ice	2.14	2.14	0.070
			0.00				1/2"	3.07	3.07	0.081
			0.00				Ice	4.01	4.01	0.103
							1" Ice	5.13	5.13	0.165
							2" Ice			
Pipe Mount [#9' Long, P2.0 STD]	B	From Leg	4.00		0.0000	147.00	No Ice	2.14	2.14	0.070
			0.00				1/2"	3.07	3.07	0.081
			0.00				Ice	4.01	4.01	0.103
							1" Ice	5.13	5.13	0.165
							2" Ice			
Pipe Mount [#9' Long, P2.0 STD]	C	From Leg	4.00		0.0000	147.00	No Ice	2.14	2.14	0.070
			0.00				1/2"	3.07	3.07	0.081
			0.00				Ice	4.01	4.01	0.103
							1" Ice	5.13	5.13	0.165
							2" Ice			
(2) 6' x 2" Mount Pipe	A	From Leg	4.00		0.0000	147.00	No Ice	1.43	1.43	0.022
			0.00				1/2"	1.92	1.92	0.033
			0.00				Ice	2.29	2.29	0.048
							1" Ice	3.06	3.06	0.090
							2" Ice			
(2) 6' x 2" Mount Pipe	B	From Leg	4.00		0.0000	147.00	No Ice	1.43	1.43	0.022
			0.00				1/2"	1.92	1.92	0.033
			0.00				Ice	2.29	2.29	0.048
							1" Ice	3.06	3.06	0.090
							2" Ice			
(2) 6' x 2" Mount Pipe	C	From Leg	4.00		0.0000	147.00	No Ice	1.43	1.43	0.022
			0.00				1/2"	1.92	1.92	0.033
			0.00				Ice	2.29	2.29	0.048
							1" Ice	3.06	3.06	0.090
							2" Ice			
Support Rail Kit [#HRK-12]	C	None			0.0000	147.00	No Ice	12.17	12.17	0.508
							1/2"	16.47	16.47	0.700
							Ice	20.42	20.42	0.954
							1" Ice	27.62	27.62	1.648
							2" Ice			
Platform Reinforcement Kit [#PRK-1245L]	C	None			0.0000	147.00	No Ice	11.84	11.84	0.275
							1/2"	16.96	16.96	0.296
							Ice	22.08	22.08	0.317
							1" Ice	32.32	32.32	0.360
							2" Ice			
******										
TME-PCS 1900MHz 4x45W-65MHz	A	From Leg	2.00		0.0000	145.00	No Ice	2.32	2.24	0.060
			0.00				1/2"	2.53	2.44	0.083
			0.00				Ice	2.74	2.65	0.110
							1" Ice	3.19	3.09	0.173
							2" Ice			
TME-PCS 1900MHz 4x45W-65MHz	B	From Leg	2.00		0.0000	145.00	No Ice	2.32	2.24	0.060
			0.00				1/2"	2.53	2.44	0.083
			0.00				Ice	2.74	2.65	0.110
							1" Ice	3.19	3.09	0.173
							2" Ice			

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
TME-PCS 1900MHz 4x45W-65MHz	C	From Leg	2.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.060 0.083 0.110 0.173
TME-800MHz 2x50W RRH W/FILTER	A	From Leg	2.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.053 0.074 0.098 0.157
TME-800MHz 2x50W RRH W/FILTER	B	From Leg	2.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.053 0.074 0.098 0.157
TME-800MHz 2x50W RRH W/FILTER	C	From Leg	2.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.053 0.074 0.098 0.157
6' x 2" Mount Pipe	A	From Leg	2.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.022 0.033 0.048 0.090
6' x 2" Mount Pipe	B	From Leg	2.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.022 0.033 0.048 0.090
6' x 2" Mount Pipe	C	From Leg	2.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.022 0.033 0.048 0.090
Side Arm Mount [SO 102-3]	C	None		0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.60 4.18 4.75 5.90	3.60 4.18 4.75 5.90	0.075 0.105 0.135 0.195
******									
(2) SBNHH-1D65B	A	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.16 4.57 4.99 5.85	2.49 2.88 3.27 4.09	0.041 0.091 0.148 0.281
(2) SBNHH-1D65B	B	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.16 4.57 4.99 5.85	2.49 2.88 3.27 4.09	0.041 0.091 0.148 0.281
(2) SBNHH-1D65B	C	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.16 4.57 4.99 5.85	2.49 2.88 3.27 4.09	0.041 0.091 0.148 0.281
BXA-70063-6CF-EDIN-2 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.40 8.14 8.90 10.46	5.39 6.10 6.83 8.34	0.042 0.097 0.162 0.326
BXA-70063-6CF-EDIN-2 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	7.40 8.14 8.90 10.46	5.39 6.10 6.83 8.34	0.042 0.097 0.162 0.326

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
						2" Ice			
BXA-70063-6CF-EDIN-2 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.40 8.14 8.90 10.46	5.39 6.10 6.83 8.34	0.042 0.097 0.162 0.326
58532A	A	From Leg	4.00 0.00 2.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.19 0.25 0.31 0.47	0.19 0.25 0.31 0.47	0.000 0.003 0.006 0.017
RFV01U-D1A	A	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.084 0.103 0.124 0.175
RFV01U-D1A	B	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.084 0.103 0.124 0.175
RFV01U-D1A	C	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.084 0.103 0.124 0.175
RFV01U-D2A	A	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.070 0.087 0.106 0.153
RFV01U-D2A	B	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.070 0.087 0.106 0.153
RFV01U-D2A	C	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.070 0.087 0.106 0.153
DB-T1-6Z-8AB-0Z	A	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.80 5.07 5.35 5.93	2.00 2.19 2.39 2.81	0.044 0.080 0.120 0.213
DB-T1-6Z-8AB-0Z	B	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.80 5.07 5.35 5.93	2.00 2.19 2.39 2.81	0.044 0.080 0.120 0.213
Dual Antenna Mount Kit	A	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.32 1.58 1.84 2.40	1.32 1.58 1.84 2.40	0.065 0.077 0.093 0.134
Dual Antenna Mount Kit	B	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.32 1.58 1.84 2.40	1.32 1.58 1.84 2.40	0.065 0.077 0.093 0.134
Dual Antenna Mount Kit	C	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	1.32 1.58 1.84 2.40	1.32 1.58 1.84 2.40	0.065 0.077 0.093 0.134

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
						2" Ice			
Platform Mount [LP 1201-1_HR-2]	C	None		0.0000	137.00	No Ice	32.68	32.68	2.562
						1/2" Ice	38.48	38.48	3.323
						1" Ice	44.02	44.02	4.199
						2" Ice	54.73	54.73	6.296
***									
CBRS w/ Mount Pipe	A	From Leg	4.00 0.00 -2.00	0.0000	137.00	No Ice	1.45	0.99	0.032
						1/2" Ice	1.67	1.18	0.048
						1" Ice	1.90	1.39	0.068
						2" Ice	2.42	1.85	0.123
CBRS w/ Mount Pipe	B	From Leg	4.00 0.00 -2.00	0.0000	137.00	No Ice	1.45	0.99	0.032
						1/2" Ice	1.67	1.18	0.048
						1" Ice	1.90	1.39	0.068
						2" Ice	2.42	1.85	0.123
CBRS w/ Mount Pipe	C	From Leg	4.00 0.00 -2.00	0.0000	137.00	No Ice	1.45	0.99	0.032
						1/2" Ice	1.67	1.18	0.048
						1" Ice	1.90	1.39	0.068
						2" Ice	2.42	1.85	0.123
MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	137.00	No Ice	4.91	2.68	0.096
						1/2" Ice	5.26	3.14	0.136
						1" Ice	5.61	3.62	0.180
						2" Ice	6.36	4.63	0.288
MT6407-77A w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	137.00	No Ice	4.91	2.68	0.096
						1/2" Ice	5.26	3.14	0.136
						1" Ice	5.61	3.62	0.180
						2" Ice	6.36	4.63	0.288
MT6407-77A w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	137.00	No Ice	4.91	2.68	0.096
						1/2" Ice	5.26	3.14	0.136
						1" Ice	5.61	3.62	0.180
						2" Ice	6.36	4.63	0.288
******									
7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	117.00	No Ice	5.75	4.25	0.055
						1/2" Ice	6.18	5.01	0.103
						1" Ice	6.61	5.71	0.157
						2" Ice	7.49	7.16	0.287
7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	117.00	No Ice	5.75	4.25	0.055
						1/2" Ice	6.18	5.01	0.103
						1" Ice	6.61	5.71	0.157
						2" Ice	7.49	7.16	0.287
7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	117.00	No Ice	5.75	4.25	0.055
						1/2" Ice	6.18	5.01	0.103
						1" Ice	6.61	5.71	0.157
						2" Ice	7.49	7.16	0.287
HPA-65R-BUU-H8 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	117.00	No Ice	12.25	8.33	0.105
						1/2" Ice	13.19	9.23	0.194
						1" Ice	14.16	10.15	0.297
						2" Ice	16.14	12.05	0.543
SBNHH-1D65A w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	117.00	No Ice	3.04	2.45	0.054
						1/2" Ice	3.34	2.75	0.104
						1" Ice	3.65	3.05	0.162
						2" Ice	4.31	3.68	0.307
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.00 0.00	0.0000	117.00	No Ice	9.22	6.25	0.074
						1/2" Ice	9.98	6.96	0.143

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
			2.00			Ice	10.76	7.70	0.224
						1" Ice	12.36	9.22	0.420
						2" Ice			
(2) LGP17201	B	From Leg	4.00	0.0000	117.00	No Ice	1.87	0.48	0.031
			0.00			1/2"	2.04	0.58	0.043
			0.00			Ice	2.21	0.69	0.058
						1" Ice	2.59	0.93	0.095
						2" Ice			
(2) 860 10025	A	From Leg	4.00	0.0000	117.00	No Ice	0.14	0.12	0.001
			0.00			1/2"	0.20	0.17	0.003
			2.00			Ice	0.26	0.23	0.005
						1" Ice	0.41	0.38	0.014
						2" Ice			
(2) 860 10025	C	From Leg	4.00	0.0000	117.00	No Ice	0.14	0.12	0.001
			0.00			1/2"	0.20	0.17	0.003
			2.00			Ice	0.26	0.23	0.005
						1" Ice	0.41	0.38	0.014
						2" Ice			
RRUS 32 B2	A	From Leg	4.00	0.0000	117.00	No Ice	2.73	1.67	0.053
			0.00			1/2"	2.95	1.86	0.074
			2.00			Ice	3.18	2.05	0.098
						1" Ice	3.66	2.46	0.157
						2" Ice			
RRUS 32 B2	B	From Leg	4.00	0.0000	117.00	No Ice	2.73	1.67	0.053
			0.00			1/2"	2.95	1.86	0.074
			2.00			Ice	3.18	2.05	0.098
						1" Ice	3.66	2.46	0.157
						2" Ice			
RRUS 32 B2	C	From Leg	4.00	0.0000	117.00	No Ice	2.73	1.67	0.053
			0.00			1/2"	2.95	1.86	0.074
			2.00			Ice	3.18	2.05	0.098
						1" Ice	3.66	2.46	0.157
						2" Ice			
(2) 6' x 2" Mount Pipe	A	From Leg	4.00	0.0000	117.00	No Ice	1.43	1.43	0.022
			0.00			1/2"	1.92	1.92	0.033
			0.00			Ice	2.29	2.29	0.048
						1" Ice	3.06	3.06	0.090
						2" Ice			
(2) 6' x 2" Mount Pipe	B	From Leg	4.00	0.0000	117.00	No Ice	1.43	1.43	0.022
			0.00			1/2"	1.92	1.92	0.033
			0.00			Ice	2.29	2.29	0.048
						1" Ice	3.06	3.06	0.090
						2" Ice			
(2) 6' x 2" Mount Pipe	C	From Leg	4.00	0.0000	117.00	No Ice	1.43	1.43	0.022
			0.00			1/2"	1.92	1.92	0.033
			0.00			Ice	2.29	2.29	0.048
						1" Ice	3.06	3.06	0.090
						2" Ice			
Platform Mount [LP 1201-1]	C	None		0.0000	117.00	No Ice	18.38	18.38	2.100
						1/2"	22.11	22.11	2.652
						Ice	25.87	25.87	3.263
						1" Ice	33.47	33.47	4.662
						2" Ice			
******									
TME-RRU-11	A	From Leg	2.00	0.0000	115.00	No Ice	2.79	1.19	0.050
			0.00			1/2"	3.00	1.34	0.072
			4.00			Ice	3.21	1.50	0.095
						1" Ice	3.67	1.84	0.153
						2" Ice			
TME-RRU-11	B	From Leg	2.00	0.0000	115.00	No Ice	2.79	1.19	0.050
			0.00			1/2"	3.00	1.34	0.072
			4.00			Ice	3.21	1.50	0.095
						1" Ice	3.67	1.84	0.153
						2" Ice			
TME-RRU-11	C	From Leg	2.00	0.0000	115.00	No Ice	2.79	1.19	0.050

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
			0.00			1/2"	3.00	1.34	0.072
			4.00			Ice	3.21	1.50	0.095
						1" Ice	3.67	1.84	0.153
						2" Ice			
TME-DC6-48-60-18-8F	A	From Leg	2.00	0.0000	115.00	No Ice	1.00	1.00	0.033
			0.00			1/2"	1.58	1.58	0.053
			4.00			Ice	1.77	1.77	0.075
						1" Ice	2.18	2.18	0.127
						2" Ice			
6' x 2" Mount Pipe	A	From Leg	2.00	0.0000	115.00	No Ice	1.43	1.43	0.022
			0.00			1/2"	1.92	1.92	0.033
			0.00			Ice	2.29	2.29	0.048
						1" Ice	3.06	3.06	0.090
						2" Ice			
6' x 2" Mount Pipe	B	From Leg	2.00	0.0000	115.00	No Ice	1.43	1.43	0.022
			0.00			1/2"	1.92	1.92	0.033
			0.00			Ice	2.29	2.29	0.048
						1" Ice	3.06	3.06	0.090
						2" Ice			
6' x 2" Mount Pipe	C	From Leg	2.00	0.0000	115.00	No Ice	1.43	1.43	0.022
			0.00			1/2"	1.92	1.92	0.033
			0.00			Ice	2.29	2.29	0.048
						1" Ice	3.06	3.06	0.090
						2" Ice			
Side Arm Mount [SO 102-3]	C	None		0.0000	115.00	No Ice	3.60	3.60	0.075
						1/2"	4.18	4.18	0.105
						Ice	4.75	4.75	0.135
						1" Ice	5.90	5.90	0.195
						2" Ice			
******									
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00	0.0000	107.00	No Ice	3.14	2.59	0.112
			0.00			1/2"	3.45	2.88	0.164
			0.00			Ice	3.77	3.19	0.225
						1" Ice	4.43	3.84	0.375
						2" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00	0.0000	107.00	No Ice	3.14	2.59	0.112
			0.00			1/2"	3.45	2.88	0.164
			0.00			Ice	3.77	3.19	0.225
						1" Ice	4.43	3.84	0.375
						2" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00	0.0000	107.00	No Ice	3.14	2.59	0.112
			0.00			1/2"	3.45	2.88	0.164
			0.00			Ice	3.77	3.19	0.225
						1" Ice	4.43	3.84	0.375
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00	0.0000	107.00	No Ice	14.69	6.87	0.186
			0.00			1/2"	15.46	7.55	0.315
			0.00			Ice	16.23	8.25	0.458
						1" Ice	17.82	9.67	0.788
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00	0.0000	107.00	No Ice	14.69	6.87	0.186
			0.00			1/2"	15.46	7.55	0.315
			0.00			Ice	16.23	8.25	0.458
						1" Ice	17.82	9.67	0.788
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00	0.0000	107.00	No Ice	14.69	6.87	0.186
			0.00			1/2"	15.46	7.55	0.315
			0.00			Ice	16.23	8.25	0.458
						1" Ice	17.82	9.67	0.788
						2" Ice			
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.00	0.0000	107.00	No Ice	3.76	3.15	0.194
			0.00			1/2"	4.12	3.49	0.252
			0.00			Ice	4.48	3.84	0.320
						1" Ice	5.24	4.58	0.485
						2" Ice			

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
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.76 4.12 4.48 5.24	3.15 3.49 3.84 4.58	0.194 0.252 0.320 0.485
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.76 4.12 4.48 5.24	3.15 3.49 3.84 4.58	0.194 0.252 0.320 0.485
KRY 112 144/1	A	From Leg	4.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.35 0.43 0.51 0.70	0.17 0.23 0.30 0.46	0.011 0.014 0.019 0.032
(2) KRY 112 144/1	B	From Leg	4.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.35 0.43 0.51 0.70	0.17 0.23 0.30 0.46	0.011 0.014 0.019 0.032
(2) RADIO 4449 B12/B71	A	From Leg	4.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.16 1.30 1.45 1.76	0.074 0.090 0.109 0.155
RADIO 4449 B12/B71	C	From Leg	4.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.16 1.30 1.45 1.76	0.074 0.090 0.109 0.155
T-Arm Mount [TA 701-3]	C	None		0.0000	107.00	No Ice 1/2" Ice 1" Ice 2" Ice	23.94 30.04 36.16 48.72	23.94 30.04 36.16 48.72	1.092 1.476 1.948 3.157
******									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.108 0.194 0.292 0.522
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.108 0.194 0.292 0.522
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.108 0.194 0.292 0.522
TA08025-B604	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.064 0.081 0.100 0.148
TA08025-B604	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.064 0.081 0.100 0.148
TA08025-B604	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice Ice 1" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.064 0.081 0.100 0.148

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
						2" Ice			
TA08025-B605	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.075 0.093 0.114 0.164
TA08025-B605	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.075 0.093 0.114 0.164
TA08025-B605	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.075 0.093 0.114 0.164
RDIDC-9181-PF-48	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.01 2.19 2.37 2.76	1.17 1.31 1.46 1.78	0.022 0.040 0.060 0.110
(2) 8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.029 0.044 0.063 0.119
(2) 8' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.029 0.044 0.063 0.119
(2) 8' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.029 0.044 0.063 0.119
Commscope MC-PK8-DSH	C	None		0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	34.24 62.95 91.66 149.08	34.24 62.95 91.66 149.08	1.749 2.099 2.450 3.151
******									
58532A	A	From Leg	3.00 0.00 1.00	0.0000	49.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.19 0.25 0.31 0.47	0.19 0.25 0.31 0.47	0.000 0.003 0.006 0.017
Side Arm Mount [SO 701-1]	A	From Leg	1.50 0.00 0.00	0.0000	49.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.85 1.14 1.43 2.01	1.67 2.34 3.01 4.35	0.065 0.079 0.093 0.121
******									

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice

Comb. No.	Description
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

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
L1	147.5 - 142.5	Pole	Max Tension	26	0.000	-0.00	-0.00
			Max. Compression	26	-12.971	-0.05	0.06
			Max. Mx	8	-6.018	-23.54	0.01
			Max. My	2	-6.040	-0.00	23.44
			Max. Vy	8	5.681	-23.54	0.01
			Max. Vx	2	-5.658	-0.00	23.44
			Max. Torque	21			0.00
L2	142.5 - 137.5	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-13.672	-0.10	0.12
			Max. Mx	8	-6.421	-52.73	0.02
			Max. My	2	-6.444	-0.01	52.51
			Max. Vy	8	5.995	-52.73	0.02
			Max. Vx	2	-5.970	-0.01	52.51

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	20			0.00
L3	137.5 - 132.5	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-24.891	-0.91	0.71
			Max. Mx	8	-11.316	-101.90	-0.02
			Max. My	2	-11.351	-0.04	101.55
			Max. Vy	8	10.246	-101.90	-0.02
			Max. Vx	2	-10.243	-0.04	101.55
			Max. Torque	25			-0.30
L4	132.5 - 127.5	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-25.683	-0.96	0.81
			Max. Mx	8	-11.809	-153.92	-0.19
			Max. My	2	-11.844	0.14	153.56
			Max. Vy	8	10.565	-153.92	-0.19
			Max. Vx	2	-10.561	0.14	153.56
			Max. Torque	25			-0.30
L5	127.5 - 122.5	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-26.497	-1.02	0.91
			Max. Mx	8	-12.323	-207.55	-0.35
			Max. My	2	-12.360	0.32	207.15
			Max. Vy	8	10.885	-207.55	-0.35
			Max. Vx	2	-10.879	0.32	207.15
			Max. Torque	25			-0.30
L6	122.5 - 117.5	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-27.334	-1.07	1.01
			Max. Mx	8	-12.858	-262.77	-0.52
			Max. My	2	-12.896	0.51	262.32
			Max. Vy	8	11.206	-262.77	-0.52
			Max. Vx	2	-11.198	0.51	262.32
			Max. Torque	25			-0.30
L7	117.5 - 112.5	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-36.155	-1.37	1.85
			Max. Mx	8	-16.984	-335.50	-0.52
			Max. My	2	-17.033	0.39	335.15
			Max. Vy	8	14.533	-335.50	-0.52
			Max. Vx	2	-14.531	0.39	335.15
			Max. Torque	21			-0.78
L8	112.5 - 108.5	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-36.202	-1.37	1.86
			Max. Mx	8	-17.020	-339.13	-0.53
			Max. My	2	-17.069	0.40	338.78
			Max. Vy	8	14.547	-339.13	-0.53
			Max. Vx	2	-14.545	0.40	338.78
			Max. Torque	21			-0.78
L9	108.5 - 107.25	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-37.697	-1.43	1.98
			Max. Mx	8	-17.994	-412.83	-0.72
			Max. My	2	-18.044	0.61	412.45
			Max. Vy	20	-14.922	411.74	1.62
			Max. Vx	2	-14.916	0.61	412.45
			Max. Torque	21			-0.78
L10	107.25 - 102.25	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-46.189	-0.86	3.37
			Max. Mx	8	-21.849	-500.81	-0.19
			Max. My	2	-21.917	1.15	501.30
			Max. Vy	20	-17.990	500.37	2.58
			Max. Vx	2	-17.912	1.15	501.30
			Max. Torque	21			-1.02
L11	102.25 - 97.25	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-47.366	-0.67	3.65
			Max. Mx	8	-22.612	-591.56	-0.33

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-22.690	1.42	591.55
			Max. Vy	20	-18.352	591.23	2.87
			Max. Vx	2	-18.189	1.42	591.55
			Max. Torque	21			-1.02
L12	97.25 - 92.25	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-54.417	-0.53	4.41
			Max. Mx	8	-26.396	-696.67	-0.35
			Max. My	2	-26.514	1.68	695.25
			Max. Vy	20	-21.477	696.42	3.29
			Max. Vx	2	-20.967	1.68	695.25
			Max. Torque	21			-1.37
L13	92.25 - 87.25	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-55.677	-0.39	4.72
			Max. Mx	8	-27.216	-805.45	-0.50
			Max. My	2	-27.364	1.94	800.68
			Max. Vy	20	-22.080	805.28	3.58
			Max. Vx	2	-21.210	1.94	800.68
			Max. Torque	21			-1.57
L14	87.25 - 82.25	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-56.957	-0.24	5.03
			Max. Mx	8	-28.065	-917.20	-0.64
			Max. My	2	-28.237	2.20	907.29
			Max. Vy	20	-22.673	917.12	3.86
			Max. Vx	2	-21.442	2.20	907.29
			Max. Torque	21			-1.77
L15	82.25 - 77.25	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-58.257	-0.08	5.33
			Max. Mx	8	-28.943	-1031.89	-0.78
			Max. My	2	-29.134	2.46	1015.03
			Max. Vy	20	-23.253	1031.88	4.15
			Max. Vx	2	-21.663	2.46	1015.03
			Max. Torque	21			-1.97
L16	77.25 - 72.25	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-58.388	-0.07	5.37
			Max. Mx	20	-29.039	1043.52	4.18
			Max. My	2	-29.232	2.48	1025.87
			Max. Vy	20	-23.302	1043.52	4.18
			Max. Vx	2	-21.676	2.48	1025.87
			Max. Torque	21			-1.99
L17	72.25 - 71.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-60.634	0.09	5.67
			Max. Mx	20	-30.514	1161.81	4.47
			Max. My	2	-30.727	2.74	1135.16
			Max. Vy	20	-24.007	1161.81	4.47
			Max. Vx	2	-22.020	2.74	1135.16
			Max. Torque	21			-2.19
L18	71.75 - 66.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-62.105	0.24	5.97
			Max. Mx	20	-31.568	1282.67	4.77
			Max. My	2	-31.776	3.00	1245.86
			Max. Vy	20	-24.348	1282.67	4.77
			Max. Vx	2	-22.261	3.00	1245.86
			Max. Torque	21			-2.19
L19	66.75 - 61.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-63.600	0.40	6.27
			Max. Mx	20	-32.655	1405.16	5.07
			Max. My	2	-32.854	3.25	1357.71
			Max. Vy	20	-24.666	1405.16	5.07
			Max. Vx	2	-22.484	3.25	1357.71
			Max. Torque	21			-2.19
L20	61.75 -	Pole	Max Tension	1	0.000	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
	56.75						
			Max. Compression	26	-65.117	0.57	6.57
			Max. Mx	20	-33.766	1529.19	5.36
			Max. My	2	-33.956	3.51	1470.64
			Max. Vy	20	-24.967	1529.19	5.36
			Max. Vx	2	-22.698	3.51	1470.64
			Max. Torque	21			-2.19
L21	56.75 - 51.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-66.656	0.73	6.87
			Max. Mx	20	-34.902	1654.69	5.66
			Max. My	2	-35.080	3.77	1584.62
			Max. Vy	20	-25.252	1654.69	5.66
			Max. Vx	2	-22.900	3.77	1584.62
			Max. Torque	21			-2.19
L22	51.75 - 47.833	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-68.032	0.86	7.51
			Max. Mx	20	-35.881	1754.06	6.13
			Max. My	2	-36.050	3.96	1674.89
			Max. Vy	20	-25.531	1754.06	6.13
			Max. Vx	2	-23.089	3.96	1674.89
			Max. Torque	21			-2.36
L23	47.833 - 47.583	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-68.116	0.87	7.52
			Max. Mx	20	-35.954	1760.44	6.14
			Max. My	2	-36.120	3.98	1680.66
			Max. Vy	20	-25.540	1760.44	6.14
			Max. Vx	2	-23.081	3.98	1680.66
			Max. Torque	21			-2.37
L24	47.583 - 42.583	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-69.819	1.04	7.81
			Max. Mx	20	-37.114	1889.47	6.43
			Max. My	2	-37.277	4.23	1796.55
			Max. Vy	20	-26.084	1889.47	6.43
			Max. Vx	2	-23.272	4.23	1796.55
			Max. Torque	21			-2.47
L25	42.583 - 35.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-70.344	1.09	7.90
			Max. Mx	20	-37.485	1930.81	6.52
			Max. My	2	-37.643	4.31	1833.42
			Max. Vy	20	-26.173	1930.81	6.52
			Max. Vx	2	-23.336	4.31	1833.42
			Max. Torque	21			-2.47
L26	35.75 - 34.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-73.847	1.30	8.26
			Max. Mx	20	-39.998	2095.76	6.89
			Max. My	2	-40.145	4.63	1980.35
			Max. Vy	20	-26.618	2095.76	6.89
			Max. Vx	2	-23.677	4.63	1980.35
			Max. Torque	21			-2.47
L27	34.75 - 29.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-75.626	1.47	8.54
			Max. Mx	20	-41.377	2229.36	7.18
			Max. My	2	-41.505	4.88	2099.14
			Max. Vy	20	-26.842	2229.36	7.18
			Max. Vx	2	-23.844	4.88	2099.14
			Max. Torque	21			-2.47
L28	29.75 - 24.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-77.425	1.64	8.79
			Max. Mx	20	-42.781	2364.05	7.46
			Max. My	2	-42.890	5.13	2218.73
			Max. Vy	20	-27.053	2364.05	7.46

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	2	-24.002	5.13	2218.73
			Max. Torque	21			-2.46
L29	24.75 - 19.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-79.244	1.80	9.03
			Max. Mx	20	-44.210	2499.77	7.75
			Max. My	2	-44.299	5.38	2339.12
			Max. Vy	20	-27.258	2499.77	7.75
			Max. Vx	2	-24.157	5.38	2339.12
			Max. Torque	21			-2.46
L30	19.75 - 14.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-81.078	1.97	9.27
			Max. Mx	20	-45.663	2636.51	8.03
			Max. My	2	-45.731	5.63	2460.27
			Max. Vy	20	-27.458	2636.51	8.03
			Max. Vx	2	-24.310	5.63	2460.27
			Max. Torque	21			-2.46
L31	14.75 - 9.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-82.924	2.13	9.51
			Max. Mx	20	-47.141	2774.23	8.31
			Max. My	2	-47.187	5.88	2582.18
			Max. Vy	20	-27.652	2774.23	8.31
			Max. Vx	2	-24.461	5.88	2582.18
			Max. Torque	21			-2.46
L32	9.75 - 4.75	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-84.683	2.23	9.70
			Max. Mx	20	-48.586	2912.78	8.57
			Max. My	2	-48.610	6.11	2704.81
			Max. Vy	20	-27.800	2912.78	8.57
			Max. Vx	2	-24.609	6.11	2704.81
			Max. Torque	21			-2.46
L33	4.75 - 0	Pole	Max Tension	1	0.000	0.00	0.00
			Max. Compression	26	-86.096	2.18	9.73
			Max. Mx	20	-49.815	3045.00	8.77
			Max. My	2	-49.818	6.27	2821.95
			Max. Vy	20	-27.928	3045.00	8.77
			Max. Vx	2	-24.752	6.27	2821.95
			Max. Torque	21			-2.46

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	30	86.096	-7.993	-0.008
	Max. H_x	20	49.830	27.901	0.038
	Max. H_z	3	37.372	0.038	24.727
	Max. M_x	2	2821.95	0.038	24.727
	Max. M_z	8	3043.67	-27.901	-0.038
	Max. Torsion	9	2.45	-27.901	-0.038
	Min. Vert	23	37.372	21.361	12.397
	Min. H_x	8	49.830	-27.901	-0.038
	Min. H_z	15	37.372	-0.038	-24.727
	Min. M_x	14	-2815.59	-0.038	-24.727
	Min. M_z	20	-3045.00	27.901	0.038
	Min. Torsion	21	-2.46	27.901	0.038

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	41.525	-0.000	-0.000	-2.51	0.53	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	49.830	-0.038	-24.727	-2821.95	6.27	-0.26
0.9 Dead+1.0 Wind 0 deg - No Ice	37.372	-0.038	-24.727	-2760.85	5.97	-0.25
1.2 Dead+1.0 Wind 30 deg - No Ice	49.830	12.289	-21.395	-2441.53	-1397.56	-0.89
0.9 Dead+1.0 Wind 30 deg - No Ice	37.372	12.289	-21.395	-2388.57	-1367.87	-0.88
1.2 Dead+1.0 Wind 60 deg - No Ice	49.830	22.086	-12.771	-1439.88	-2482.45	-1.28
0.9 Dead+1.0 Wind 60 deg - No Ice	37.372	22.086	-12.771	-1408.56	-2429.97	-1.28
1.2 Dead+1.0 Wind 90 deg - No Ice	49.830	27.901	0.038	2.46	-3043.67	-2.45
0.9 Dead+1.0 Wind 90 deg - No Ice	37.372	27.901	0.038	3.18	-2980.57	-2.45
1.2 Dead+1.0 Wind 120 deg - No Ice	49.830	21.361	12.397	1411.08	-2432.33	-1.03
0.9 Dead+1.0 Wind 120 deg - No Ice	37.372	21.361	12.397	1381.70	-2380.52	-1.04
1.2 Dead+1.0 Wind 150 deg - No Ice	49.830	12.355	21.433	2440.74	-1407.25	-0.45
0.9 Dead+1.0 Wind 150 deg - No Ice	37.372	12.355	21.433	2389.37	-1377.33	-0.46
1.2 Dead+1.0 Wind 180 deg - No Ice	49.830	0.038	24.727	2815.59	-4.96	0.25
0.9 Dead+1.0 Wind 180 deg - No Ice	37.372	0.038	24.727	2756.20	-4.99	0.24
1.2 Dead+1.0 Wind 210 deg - No Ice	49.830	-12.289	21.395	2435.18	1398.87	0.89
0.9 Dead+1.0 Wind 210 deg - No Ice	37.372	-12.289	21.395	2383.93	1368.84	0.89
1.2 Dead+1.0 Wind 240 deg - No Ice	49.830	-22.086	12.771	1433.53	2483.76	1.29
0.9 Dead+1.0 Wind 240 deg - No Ice	37.372	-22.086	12.771	1403.92	2430.95	1.29
1.2 Dead+1.0 Wind 270 deg - No Ice	49.830	-27.901	-0.038	-8.76	3045.00	2.45
0.9 Dead+1.0 Wind 270 deg - No Ice	37.372	-27.901	-0.038	-7.78	2981.55	2.46
1.2 Dead+1.0 Wind 300 deg - No Ice	49.830	-21.361	-12.397	-1417.44	2433.66	1.03
0.9 Dead+1.0 Wind 300 deg - No Ice	37.372	-21.361	-12.397	-1386.34	2381.51	1.04
1.2 Dead+1.0 Wind 330 deg - No Ice	49.830	-12.355	-21.433	-2447.11	1408.58	0.44
0.9 Dead+1.0 Wind 330 deg - No Ice	37.372	-12.355	-21.433	-2394.02	1378.32	0.45
1.2 Dead+1.0 Ice+1.0 Temp	86.096	-0.000	-0.000	-9.73	2.18	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	86.096	-0.008	-7.713	-948.26	3.54	-0.07
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	86.096	3.844	-6.675	-821.87	-464.64	-0.24
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	86.096	6.666	-3.849	-477.90	-807.73	-0.34
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	86.096	7.993	0.008	-8.50	-959.28	-0.63
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	86.096	6.674	3.864	460.53	-809.07	-0.27
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	86.096	3.858	6.684	803.53	-466.96	-0.11
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	86.096	0.008	7.713	928.58	0.86	0.07
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	86.096	-3.844	6.675	802.19	469.04	0.23

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	86.096	-6.666	3.849	458.21	812.14	0.34
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	86.096	-7.993	-0.008	-11.18	963.69	0.63
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	86.096	-6.674	-3.864	-480.22	813.47	0.27
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	86.096	-3.858	-6.684	-823.21	471.36	0.11
Dead+Wind 0 deg - Service	41.525	-0.010	-6.232	-704.23	1.94	-0.06
Dead+Wind 30 deg - Service	41.525	3.097	-5.392	-609.54	-347.48	-0.23
Dead+Wind 60 deg - Service	41.525	5.566	-3.218	-360.27	-617.59	-0.33
Dead+Wind 90 deg - Service	41.525	7.031	0.010	-1.23	-757.56	-0.63
Dead+Wind 120 deg - Service	41.525	5.383	3.124	349.38	-605.04	-0.27
Dead+Wind 150 deg - Service	41.525	3.114	5.402	605.68	-349.89	-0.12
Dead+Wind 180 deg - Service	41.525	0.010	6.232	698.98	-0.85	0.06
Dead+Wind 210 deg - Service	41.525	-3.097	5.392	604.28	348.57	0.23
Dead+Wind 240 deg - Service	41.525	-5.566	3.218	355.02	618.68	0.33
Dead+Wind 270 deg - Service	41.525	-7.031	-0.010	-4.02	758.66	0.63
Dead+Wind 300 deg - Service	41.525	-5.383	-3.124	-354.64	606.13	0.27
Dead+Wind 330 deg - Service	41.525	-3.114	-5.402	-610.94	350.99	0.12

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-41.525	0.000	0.000	41.525	0.000	0.000%
2	-0.038	-49.830	-24.727	0.038	49.830	24.727	0.000%
3	-0.038	-37.372	-24.727	0.038	37.372	24.727	0.000%
4	12.289	-49.830	-21.395	-12.289	49.830	21.395	0.000%
5	12.289	-37.372	-21.395	-12.289	37.372	21.395	0.000%
6	22.086	-49.830	-12.771	-22.086	49.830	12.771	0.000%
7	22.086	-37.372	-12.771	-22.086	37.372	12.771	0.000%
8	27.901	-49.830	0.038	-27.901	49.830	-0.038	0.000%
9	27.901	-37.372	0.038	-27.901	37.372	-0.038	0.000%
10	21.361	-49.830	12.397	-21.361	49.830	-12.397	0.000%
11	21.361	-37.372	12.397	-21.361	37.372	-12.397	0.000%
12	12.355	-49.830	21.433	-12.355	49.830	-21.433	0.000%
13	12.355	-37.372	21.433	-12.355	37.372	-21.433	0.000%
14	0.038	-49.830	24.727	-0.038	49.830	-24.727	0.000%
15	0.038	-37.372	24.727	-0.038	37.372	-24.727	0.000%
16	-12.289	-49.830	21.395	12.289	49.830	-21.395	0.000%
17	-12.289	-37.372	21.395	12.289	37.372	-21.395	0.000%
18	-22.086	-49.830	12.771	22.086	49.830	-12.771	0.000%
19	-22.086	-37.372	12.771	22.086	37.372	-12.771	0.000%
20	-27.901	-49.830	-0.038	27.901	49.830	0.038	0.000%
21	-27.901	-37.372	-0.038	27.901	37.372	0.038	0.000%
22	-21.361	-49.830	-12.397	21.361	49.830	12.397	0.000%
23	-21.361	-37.372	-12.397	21.361	37.372	12.397	0.000%
24	-12.355	-49.830	-21.433	12.355	49.830	21.433	0.000%
25	-12.355	-37.372	-21.433	12.355	37.372	21.433	0.000%
26	0.000	-86.096	0.000	0.000	86.096	0.000	0.000%
27	-0.008	-86.096	-7.713	0.008	86.096	7.713	0.000%
28	3.844	-86.096	-6.675	-3.844	86.096	6.675	0.000%
29	6.666	-86.096	-3.849	-6.666	86.096	3.849	0.000%
30	7.993	-86.096	0.008	-7.993	86.096	-0.008	0.000%
31	6.674	-86.096	3.864	-6.674	86.096	-3.864	0.000%
32	3.858	-86.096	6.684	-3.858	86.096	-6.684	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
33	0.008	-86.096	7.713	-0.008	86.096	-7.713	0.000%
34	-3.844	-86.096	6.675	3.844	86.096	-6.675	0.000%
35	-6.666	-86.096	3.849	6.666	86.096	-3.849	0.000%
36	-7.993	-86.096	-0.008	7.993	86.096	0.008	0.000%
37	-6.674	-86.096	-3.864	6.674	86.096	3.864	0.000%
38	-3.858	-86.096	-6.684	3.858	86.096	6.684	0.000%
39	-0.010	-41.525	-6.232	0.010	41.525	6.232	0.000%
40	3.097	-41.525	-5.392	-3.097	41.525	5.392	0.000%
41	5.566	-41.525	-3.218	-5.566	41.525	3.218	0.000%
42	7.031	-41.525	0.010	-7.031	41.525	-0.010	0.000%
43	5.383	-41.525	3.124	-5.383	41.525	-3.124	0.000%
44	3.114	-41.525	5.402	-3.114	41.525	-5.402	0.000%
45	0.010	-41.525	6.232	-0.010	41.525	-6.232	0.000%
46	-3.097	-41.525	5.392	3.097	41.525	-5.392	0.000%
47	-5.566	-41.525	3.218	5.566	41.525	-3.218	0.000%
48	-7.031	-41.525	-0.010	7.031	41.525	0.010	0.000%
49	-5.383	-41.525	-3.124	5.383	41.525	3.124	0.000%
50	-3.114	-41.525	-5.402	3.114	41.525	5.402	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00001043
2	Yes	6	0.00000001	0.00016284
3	Yes	5	0.00000001	0.00071722
4	Yes	7	0.00000001	0.00096988
5	Yes	7	0.00000001	0.00024124
6	Yes	8	0.00000001	0.00010117
7	Yes	7	0.00000001	0.00025452
8	Yes	6	0.00000001	0.00048923
9	Yes	6	0.00000001	0.00017710
10	Yes	7	0.00000001	0.00097242
11	Yes	7	0.00000001	0.00024185
12	Yes	7	0.00000001	0.00099359
13	Yes	7	0.00000001	0.00024787
14	Yes	6	0.00000001	0.00010193
15	Yes	5	0.00000001	0.00038502
16	Yes	7	0.00000001	0.00099180
17	Yes	7	0.00000001	0.00024804
18	Yes	7	0.00000001	0.00098292
19	Yes	7	0.00000001	0.00024336
20	Yes	6	0.00000001	0.00060239
21	Yes	6	0.00000001	0.00021658
22	Yes	8	0.00000001	0.00009947
23	Yes	7	0.00000001	0.00025091
24	Yes	7	0.00000001	0.00098664
25	Yes	7	0.00000001	0.00024519
26	Yes	5	0.00000001	0.00025004
27	Yes	7	0.00000001	0.00077385
28	Yes	8	0.00000001	0.00028868
29	Yes	8	0.00000001	0.00029448
30	Yes	7	0.00000001	0.00077988
31	Yes	8	0.00000001	0.00027907
32	Yes	8	0.00000001	0.00028308
33	Yes	7	0.00000001	0.00075377
34	Yes	8	0.00000001	0.00028284
35	Yes	8	0.00000001	0.00027680
36	Yes	7	0.00000001	0.00078159
37	Yes	8	0.00000001	0.00029593
38	Yes	8	0.00000001	0.00029229
39	Yes	5	0.00000001	0.00020302
40	Yes	6	0.00000001	0.00014272
41	Yes	6	0.00000001	0.00016155
42	Yes	5	0.00000001	0.00037268
43	Yes	6	0.00000001	0.00014089

44	Yes	6	0.00000001	0.00014958
45	Yes	5	0.00000001	0.00019793
46	Yes	6	0.00000001	0.00015083
47	Yes	6	0.00000001	0.00014273
48	Yes	5	0.00000001	0.00038685
49	Yes	6	0.00000001	0.00015625
50	Yes	6	0.00000001	0.00014747

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	147.5 - 142.5	30.491	48	1.7332	0.0034
L2	142.5 - 137.5	28.680	48	1.7300	0.0034
L3	137.5 - 132.5	26.876	48	1.7193	0.0034
L4	132.5 - 127.5	25.086	48	1.7002	0.0033
L5	127.5 - 122.5	23.322	48	1.6717	0.0033
L6	122.5 - 117.5	21.591	48	1.6358	0.0032
L7	117.5 - 112.5	19.900	48	1.5937	0.0032
L8	112.5 - 108.5	18.256	48	1.5456	0.0030
L9	112.25 - 107.25	18.175	48	1.5430	0.0030
L10	107.25 - 102.25	16.575	48	1.5077	0.0029
L11	102.25 - 97.25	15.029	48	1.4449	0.0028
L12	97.25 - 92.25	13.551	48	1.3764	0.0026
L13	92.25 - 87.25	12.148	48	1.3027	0.0024
L14	87.25 - 82.25	10.825	48	1.2241	0.0022
L15	82.25 - 77.25	9.586	48	1.1415	0.0020
L16	77.25 - 72.25	8.435	48	1.0555	0.0018
L17	76.75 - 71.75	8.325	48	1.0467	0.0017
L18	71.75 - 66.75	7.250	48	1.0027	0.0016
L19	66.75 - 61.75	6.240	48	0.9263	0.0015
L20	61.75 - 56.75	5.311	48	0.8487	0.0013
L21	56.75 - 51.75	4.463	48	0.7702	0.0011
L22	51.75 - 47.833	3.698	48	0.6911	0.0010
L23	47.833 - 47.583	3.157	48	0.6290	0.0009
L24	47.583 - 42.583	3.124	48	0.6251	0.0009
L25	42.583 - 35.75	2.511	48	0.5457	0.0007
L26	41 - 34.75	2.334	48	0.5205	0.0007
L27	34.75 - 29.75	1.683	48	0.4678	0.0006
L28	29.75 - 24.75	1.230	48	0.3987	0.0005
L29	24.75 - 19.75	0.848	48	0.3301	0.0004
L30	19.75 - 14.75	0.538	48	0.2621	0.0003
L31	14.75 - 9.75	0.299	48	0.1946	0.0002
L32	9.75 - 4.75	0.130	48	0.1279	0.0001
L33	4.75 - 0	0.031	48	0.0619	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
147.00	Platform Mount [LP 1201-1]	48	30.310	1.7330	0.0034	41223
145.00	TME-PCS 1900MHz 4x45W-65MHz	48	29.585	1.7322	0.0034	41223
137.00	(2) SBNHH-1D65B	48	26.696	1.7178	0.0034	18514
117.00	7770.00 w/ Mount Pipe	48	19.734	1.5892	0.0032	6291
115.00	TME-RRU-11	48	19.072	1.5705	0.0031	6363
107.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	48	16.496	1.5055	0.0029	5366
97.00	MX08FRO665-21 w/ Mount Pipe	48	13.479	1.3729	0.0026	3996
49.00	58532A	48	3.313	0.6475	0.0009	3623

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	147.5 - 142.5	122.776	20	6.9941	0.0131
L2	142.5 - 137.5	115.476	20	6.9812	0.0131
L3	137.5 - 132.5	108.206	20	6.9382	0.0131
L4	132.5 - 127.5	100.997	20	6.8612	0.0129
L5	127.5 - 122.5	93.887	20	6.7466	0.0127
L6	122.5 - 117.5	86.913	20	6.6015	0.0125
L7	117.5 - 112.5	80.102	20	6.4318	0.0124
L8	112.5 - 108.5	73.480	20	6.2373	0.0118
L9	112.25 - 107.25	73.155	20	6.2270	0.0118
L10	107.25 - 102.25	66.708	20	6.0836	0.0114
L11	102.25 - 97.25	60.480	20	5.8287	0.0107
L12	97.25 - 92.25	54.530	20	5.5512	0.0101
L13	92.25 - 87.25	48.879	20	5.2530	0.0093
L14	87.25 - 82.25	43.550	20	4.9348	0.0086
L15	82.25 - 77.25	38.562	20	4.6003	0.0077
L16	77.25 - 72.25	33.931	20	4.2525	0.0069
L17	76.75 - 71.75	33.488	20	4.2171	0.0068
L18	71.75 - 66.75	29.161	20	4.0391	0.0064
L19	66.75 - 61.75	25.095	20	3.7306	0.0057
L20	61.75 - 56.75	21.355	20	3.4171	0.0050
L21	56.75 - 51.75	17.944	20	3.1002	0.0044
L22	51.75 - 47.833	14.866	20	2.7813	0.0039
L23	47.833 - 47.583	12.687	20	2.5307	0.0034
L24	47.583 - 42.583	12.555	20	2.5147	0.0034
L25	42.583 - 35.75	10.090	20	2.1946	0.0029
L26	41 - 34.75	9.380	20	2.0934	0.0027
L27	34.75 - 29.75	6.764	20	1.8810	0.0024
L28	29.75 - 24.75	4.940	20	1.6028	0.0020
L29	24.75 - 19.75	3.406	20	1.3267	0.0016
L30	19.75 - 14.75	2.161	20	1.0529	0.0012
L31	14.75 - 9.75	1.200	20	0.7818	0.0009
L32	9.75 - 4.75	0.522	20	0.5136	0.0006
L33	4.75 - 0	0.123	20	0.2486	0.0003

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
147.00	Platform Mount [LP 1201-1]	20	122.045	6.9934	0.0133	10477
145.00	TME-PCS 1900MHz 4x45W-65MHz	20	119.124	6.9900	0.0133	10477
137.00	(2) SBNHH-1D65B	20	107.482	6.9321	0.0133	4723
117.00	7770.00 w/ Mount Pipe	20	79.431	6.4136	0.0125	1596
115.00	TME-RRU-11	20	76.766	6.3381	0.0123	1614
107.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20	66.391	6.0744	0.0115	1358
97.00	MX08FRO665-21 w/ Mount Pipe	20	54.240	5.5370	0.0101	1009
49.00	58532A	20	13.315	2.6054	0.0036	902

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	147.5 - 142.5 (1)	TP22.95x22x0.25	5.00	0.00	0.0	18.0124	-6.018	972.672	0.006
L2	142.5 - 137.5 (2)	TP23.9x22.95x0.25	5.00	0.00	0.0	18.7663	-6.421	1013.380	0.006
L3	137.5 - 132.5 (3)	TP24.85x23.9x0.25	5.00	0.00	0.0	19.5201	-11.316	1054.090	0.011
L4	132.5 - 127.5 (4)	TP25.8x24.85x0.25	5.00	0.00	0.0	20.2739	-11.809	1094.790	0.011
L5	127.5 - 122.5 (5)	TP26.75x25.8x0.25	5.00	0.00	0.0	21.0278	-12.323	1135.500	0.011
L6	122.5 - 117.5 (6)	TP27.7x26.75x0.25	5.00	0.00	0.0	21.7816	-12.858	1176.210	0.011
L7	117.5 - 112.5 (7)	TP28.65x27.7x0.25	5.00	0.00	0.0	22.5354	-16.984	1216.910	0.014
L8	112.5 - 108.5 (8)	TP29.41x28.65x0.25	4.00	0.00	0.0	22.5731	-17.020	1218.950	0.014
L9	108.5 - 107.25 (9)	TP29.1476x28.1975x0.25	5.00	0.00	0.0	22.9302	-17.994	1341.420	0.013
L10	107.25 - 102.25 (10)	TP30.0976x29.1476x0.25	5.00	0.00	0.0	23.6841	-21.915	1385.520	0.016
L11	102.25 - 97.25 (11)	TP31.0477x30.0976x0.25	5.00	0.00	0.0	24.4380	-22.688	1429.620	0.016
L12	97.25 - 92.25 (12)	TP31.9978x31.0477x0.25	5.00	0.00	0.0	25.1918	-26.396	1473.720	0.018
L13	92.25 - 87.25 (13)	TP32.9478x31.9978x0.25	5.00	0.00	0.0	25.9457	-27.216	1517.820	0.018
L14	87.25 - 82.25 (14)	TP33.8979x32.9478x0.25	5.00	0.00	0.0	26.6996	-28.065	1561.930	0.018
L15	82.25 - 77.25 (15)	TP34.8479x33.8979x0.25	5.00	0.00	0.0	27.4535	-28.942	1606.030	0.018
L16	77.25 - 72.25 (16)	TP35.798x34.8479x0.25	5.00	0.00	0.0	27.5289	-29.039	1610.440	0.018
L17	72.25 - 71.75 (17)	TP35.3928x34.4429x0.3125	5.00	0.00	0.0	34.7953	-30.515	2035.530	0.015
L18	71.75 - 66.75 (18)	TP36.3427x35.3928x0.3125	5.00	0.00	0.0	35.7375	-31.568	2090.640	0.015
L19	66.75 - 61.75 (19)	TP37.2926x36.3427x0.3125	5.00	0.00	0.0	36.6796	-32.654	2145.760	0.015
L20	61.75 - 56.75 (20)	TP38.2425x37.2926x0.3125	5.00	0.00	0.0	37.6218	-33.766	2200.880	0.015
L21	56.75 - 51.75 (21)	TP39.1924x38.2425x0.3125	5.00	0.00	0.0	38.5640	-34.903	2255.990	0.015
L22	51.75 - 47.833 (22)	TP39.9365x39.1924x0.3125	3.92	0.00	0.0	39.3021	-35.881	2299.170	0.016
L23	47.833 - 47.583 (23)	TP39.984x39.9365x0.3125	0.25	0.00	0.0	39.3492	-35.954	2301.930	0.016
L24	47.583 - 42.583 (24)	TP40.9339x39.984x0.3125	5.00	0.00	0.0	40.2913	-37.114	2357.040	0.016
L25	42.583 - 35.75 (25)	TP42.232x40.9339x0.3125	6.83	0.00	0.0	40.5896	-37.485	2374.490	0.016
L26	35.75 - 34.75 (26)	TP41.7972x40.6096x0.375	6.25	0.00	0.0	49.3027	-39.998	2884.210	0.014
L27	34.75 - 29.75 (27)	TP42.7472x41.7972x0.375	5.00	0.00	0.0	50.4335	-41.377	2950.360	0.014
L28	29.75 - 24.75 (28)	TP43.6973x42.7472x0.375	5.00	0.00	0.0	51.5643	-42.781	3016.510	0.014
L29	24.75 - 19.75 (29)	TP44.6473x43.6973x0.375	5.00	0.00	0.0	52.6951	-44.210	3082.660	0.014
L30	19.75 - 14.75 (30)	TP45.5974x44.6473x0.375	5.00	0.00	0.0	53.8259	-45.663	3148.820	0.015
L31	14.75 - 9.75 (31)	TP46.5474x45.5974x0.375	5.00	0.00	0.0	54.9567	-47.141	3214.970	0.015

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L32	9.75 - 4.75 (32)	TP47.4975x46.5474x0.375	5.00	0.00	0.0	56.0875	-48.586	3281.120	0.015
L33	4.75 - 0 (33)	TP48.4x47.4975x0.375	4.75	0.00	0.0	57.1618	-49.815	3343.960	0.015

Pole 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 $\frac{M_{uy}}{\phi M_{ny}}$
L1	147.5 - 142.5 (1)	TP22.95x22x0.25	23.54	574.82	0.041	0.00	574.82	0.000
L2	142.5 - 137.5 (2)	TP23.9x22.95x0.25	52.73	624.21	0.084	0.00	624.21	0.000
L3	137.5 - 132.5 (3)	TP24.85x23.9x0.25	101.90	675.64	0.151	0.00	675.64	0.000
L4	132.5 - 127.5 (4)	TP25.8x24.85x0.25	153.92	723.10	0.213	0.00	723.10	0.000
L5	127.5 - 122.5 (5)	TP26.75x25.8x0.25	207.55	770.96	0.269	0.00	770.96	0.000
L6	122.5 - 117.5 (6)	TP27.7x26.75x0.25	262.77	819.78	0.321	0.00	819.78	0.000
L7	117.5 - 112.5 (7)	TP28.65x27.7x0.25	335.50	869.52	0.386	0.00	869.52	0.000
L8	112.5 - 108.5 (8)	TP29.41x28.65x0.25	339.13	872.02	0.389	0.00	872.02	0.000
L9	108.5 - 107.25 (9)	TP29.1476x28.1975x0.25	412.83	959.47	0.430	0.00	959.47	0.000
L10	107.25 - 102.25 (10)	TP30.0976x29.1476x0.25	501.66	1013.58	0.495	0.00	1013.58	0.000
L11	102.25 - 97.25 (11)	TP31.0477x30.0976x0.25	591.99	1068.46	0.554	0.00	1068.46	0.000
L12	97.25 - 92.25 (12)	TP31.9978x31.0477x0.25	696.67	1124.03	0.620	0.00	1124.03	0.000
L13	92.25 - 87.25 (13)	TP32.9478x31.9978x0.25	805.45	1180.22	0.682	0.00	1180.22	0.000
L14	87.25 - 82.25 (14)	TP33.8979x32.9478x0.25	917.20	1236.98	0.741	0.00	1236.98	0.000
L15	82.25 - 77.25 (15)	TP34.8479x33.8979x0.25	1031.89	1294.25	0.797	0.00	1294.25	0.000
L16	77.25 - 72.25 (16)	TP35.798x34.8479x0.25	1043.53	1300.01	0.803	0.00	1300.01	0.000
L17	72.25 - 71.75 (17)	TP35.3928x34.4429x0.3125	1161.82	1782.56	0.652	0.00	1782.56	0.000
L18	71.75 - 66.75 (18)	TP36.3427x35.3928x0.3125	1282.68	1865.85	0.687	0.00	1865.85	0.000
L19	66.75 - 61.75 (19)	TP37.2926x36.3427x0.3125	1405.17	1950.18	0.721	0.00	1950.18	0.000
L20	61.75 - 56.75 (20)	TP38.2425x37.2926x0.3125	1529.20	2035.47	0.751	0.00	2035.47	0.000
L21	56.75 - 51.75 (21)	TP39.1924x38.2425x0.3125	1654.70	2121.67	0.780	0.00	2121.67	0.000
L22	51.75 - 47.833 (22)	TP39.9365x39.1924x0.3125	1754.07	2189.78	0.801	0.00	2189.78	0.000
L23	47.833 - 47.583 (23)	TP39.984x39.9365x0.3125	1760.45	2194.15	0.802	0.00	2194.15	0.000
L24	47.583 - 42.583 (24)	TP40.9339x39.984x0.3125	1889.48	2281.83	0.828	0.00	2281.83	0.000
L25	42.583 - 35.75 (25)	TP42.232x40.9339x0.3125	1930.82	2309.75	0.836	0.00	2309.75	0.000
L26	35.75 - 34.75 (26)	TP41.7972x40.6096x0.375	2095.77	2996.00	0.700	0.00	2996.00	0.000
L27	34.75 - 29.75 (27)	TP42.7472x41.7972x0.375	2229.37	3114.92	0.716	0.00	3114.92	0.000
L28	29.75 - 24.75	TP43.6973x42.7472x0.375	2364.06	3235.13	0.731	0.00	3235.13	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 $\frac{M_{uy}}{\phi M_{ny}}$
	(28)	5						
L29	24.75 - 19.75 (29)	TP44.6473x43.6973x0.375	2499.78	3356.57	0.745	0.00	3356.57	0.000
L30	19.75 - 14.75 (30)	TP45.5974x44.6473x0.375	2636.53	3479.18	0.758	0.00	3479.18	0.000
L31	14.75 - 9.75 (31)	TP46.5474x45.5974x0.375	2774.24	3602.88	0.770	0.00	3602.88	0.000
L32	9.75 - 4.75 (32)	TP47.4975x46.5474x0.375	2912.79	3727.64	0.781	0.00	3727.64	0.000
L33	4.75 - 0 (33)	TP48.4x47.4975x0.375	3045.01	3847.06	0.792	0.00	3847.06	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	147.5 - 142.5 (1)	TP22.95x22x0.25	5.681	291.802	0.019	0.00	580.09	0.000
L2	142.5 - 137.5 (2)	TP23.9x22.95x0.25	5.995	304.014	0.020	0.00	629.66	0.000
L3	137.5 - 132.5 (3)	TP24.85x23.9x0.25	10.246	316.226	0.032	0.17	681.26	0.000
L4	132.5 - 127.5 (4)	TP25.8x24.85x0.25	10.566	328.438	0.032	0.17	734.89	0.000
L5	127.5 - 122.5 (5)	TP26.75x25.8x0.25	10.885	340.650	0.032	0.17	790.56	0.000
L6	122.5 - 117.5 (6)	TP27.7x26.75x0.25	11.206	352.862	0.032	0.17	848.26	0.000
L7	117.5 - 112.5 (7)	TP28.65x27.7x0.25	14.533	365.073	0.040	0.76	907.98	0.001
L8	112.5 - 108.5 (8)	TP29.41x28.65x0.25	14.547	365.684	0.040	0.76	911.02	0.001
L9	108.5 - 107.25 (9)	TP29.1476x28.1975x0.25	14.922	402.425	0.037	0.76	1018.42	0.001
L10	107.25 - 102.25 (10)	TP30.0976x29.1476x0.25	17.927	415.656	0.043	0.28	1086.48	0.000
L11	102.25 - 97.25 (11)	TP31.0477x30.0976x0.25	18.204	428.886	0.042	0.28	1156.75	0.000
L12	97.25 - 92.25 (12)	TP31.9978x31.0477x0.25	21.477	442.117	0.049	1.36	1229.22	0.001
L13	92.25 - 87.25 (13)	TP32.9478x31.9978x0.25	22.080	455.347	0.048	1.55	1303.89	0.001
L14	87.25 - 82.25 (14)	TP33.8979x32.9478x0.25	22.672	468.578	0.048	1.75	1380.77	0.001
L15	82.25 - 77.25 (15)	TP34.8479x33.8979x0.25	23.253	481.808	0.048	1.96	1459.83	0.001
L16	77.25 - 72.25 (16)	TP35.798x34.8479x0.25	23.302	483.131	0.048	1.98	1467.87	0.001
L17	72.25 - 71.75 (17)	TP35.3928x34.4429x0.3125	24.007	610.658	0.039	2.19	1876.03	0.001
L18	71.75 - 66.75 (18)	TP36.3427x35.3928x0.3125	24.348	627.193	0.039	2.18	1979.01	0.001
L19	66.75 - 61.75 (19)	TP37.2926x36.3427x0.3125	24.666	643.728	0.038	2.18	2084.73	0.001
L20	61.75 - 56.75 (20)	TP38.2425x37.2926x0.3125	24.967	660.263	0.038	2.18	2193.21	0.001
L21	56.75 - 51.75 (21)	TP39.1924x38.2425x0.3125	25.252	676.798	0.037	2.18	2304.43	0.001
L22	51.75 - 47.833 (22)	TP39.9365x39.1924x0.3125	25.531	689.751	0.037	2.35	2393.48	0.001
L23	47.833 - 47.583 (23)	TP39.984x39.9365x0.3125	25.540	690.578	0.037	2.36	2399.22	0.001
L24	47.583 - 42.583 (24)	TP40.9339x39.984x0.3125	26.084	707.113	0.037	2.46	2515.49	0.001
L25	42.583 -	TP42.232x40.9339x0.3125	26.173	712.348	0.037	2.46	2552.88	0.001

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
	35.75 (25)	5						
L26	35.75 - 34.75 (26)	TP41.7972x40.6096x0.37 5	26.618	865.263	0.031	2.46	3138.78	0.001
L27	34.75 - 29.75 (27)	TP42.7472x41.7972x0.37 5	26.843	885.109	0.030	2.46	3284.42	0.001
L28	29.75 - 24.75 (28)	TP43.6973x42.7472x0.37 5	27.053	904.954	0.030	2.46	3433.35	0.001
L29	24.75 - 19.75 (29)	TP44.6473x43.6973x0.37 5	27.259	924.799	0.029	2.46	3585.58	0.001
L30	19.75 - 14.75 (30)	TP45.5974x44.6473x0.37 5	27.458	944.645	0.029	2.45	3741.13	0.001
L31	14.75 - 9.75 (31)	TP46.5474x45.5974x0.37 5	27.652	964.490	0.029	2.45	3899.96	0.001
L32	9.75 - 4.75 (32)	TP47.4975x46.5474x0.37 5	27.800	984.336	0.028	2.45	4062.11	0.001
L33	4.75 - 0 (33)	TP48.4x47.4975x0.375	27.928	1003.190	0.028	2.45	4219.20	0.001

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	147.5 - 142.5 (1)	0.006	0.041	0.000	0.019	0.000	0.048	1.050	4.8.2
L2	142.5 - 137.5 (2)	0.006	0.084	0.000	0.020	0.000	0.091	1.050	4.8.2
L3	137.5 - 132.5 (3)	0.011	0.151	0.000	0.032	0.000	0.163	1.050	4.8.2
L4	132.5 - 127.5 (4)	0.011	0.213	0.000	0.032	0.000	0.225	1.050	4.8.2
L5	127.5 - 122.5 (5)	0.011	0.269	0.000	0.032	0.000	0.281	1.050	4.8.2
L6	122.5 - 117.5 (6)	0.011	0.321	0.000	0.032	0.000	0.332	1.050	4.8.2
L7	117.5 - 112.5 (7)	0.014	0.386	0.000	0.040	0.001	0.401	1.050	4.8.2
L8	112.5 - 108.5 (8)	0.014	0.389	0.000	0.040	0.001	0.405	1.050	4.8.2
L9	108.5 - 107.25 (9)	0.013	0.430	0.000	0.037	0.001	0.445	1.050	4.8.2
L10	107.25 - 102.25 (10)	0.016	0.495	0.000	0.043	0.000	0.513	1.050	4.8.2
L11	102.25 - 97.25 (11)	0.016	0.554	0.000	0.042	0.000	0.572	1.050	4.8.2
L12	97.25 - 92.25 (12)	0.018	0.620	0.000	0.049	0.001	0.640	1.050	4.8.2
L13	92.25 - 87.25 (13)	0.018	0.682	0.000	0.048	0.001	0.703	1.050	4.8.2
L14	87.25 - 82.25 (14)	0.018	0.741	0.000	0.048	0.001	0.762	1.050	4.8.2
L15	82.25 - 77.25 (15)	0.018	0.797	0.000	0.048	0.001	0.818	1.050	4.8.2
L16	77.25 - 72.25 (16)	0.018	0.803	0.000	0.048	0.001	0.823	1.050	4.8.2
L17	72.25 - 71.75 (17)	0.015	0.652	0.000	0.039	0.001	0.668	1.050	4.8.2
L18	71.75 - 66.75 (18)	0.015	0.687	0.000	0.039	0.001	0.704	1.050	4.8.2
L19	66.75 - 61.75 (19)	0.015	0.721	0.000	0.038	0.001	0.737	1.050	4.8.2
L20	61.75 - 56.75 (20)	0.015	0.751	0.000	0.038	0.001	0.768	1.050	4.8.2
L21	56.75 - 51.75 (21)	0.015	0.780	0.000	0.037	0.001	0.797	1.050	4.8.2
L22	51.75 -	0.016	0.801	0.000	0.037	0.001	0.818	1.050	4.8.2

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L23	47.833 (22) 47.833 - 47.583 (23)	0.016	0.802	0.000	0.037	0.001	0.819	1.050	4.8.2
L24	47.583 - 42.583 (24)	0.016	0.828	0.000	0.037	0.001	0.845	1.050	4.8.2
L25	42.583 - 35.75 (25)	0.016	0.836	0.000	0.037	0.001	0.853	1.050	4.8.2
L26	35.75 - 34.75 (26)	0.014	0.700	0.000	0.031	0.001	0.714	1.050	4.8.2
L27	34.75 - 29.75 (27)	0.014	0.716	0.000	0.030	0.001	0.731	1.050	4.8.2
L28	29.75 - 24.75 (28)	0.014	0.731	0.000	0.030	0.001	0.746	1.050	4.8.2
L29	24.75 - 19.75 (29)	0.014	0.745	0.000	0.029	0.001	0.760	1.050	4.8.2
L30	19.75 - 14.75 (30)	0.015	0.758	0.000	0.029	0.001	0.773	1.050	4.8.2
L31	14.75 - 9.75 (31)	0.015	0.770	0.000	0.029	0.001	0.786	1.050	4.8.2
L32	9.75 - 4.75 (32)	0.015	0.781	0.000	0.028	0.001	0.797	1.050	4.8.2
L33	4.75 - 0 (33)	0.015	0.792	0.000	0.028	0.001	0.807	1.050	4.8.2

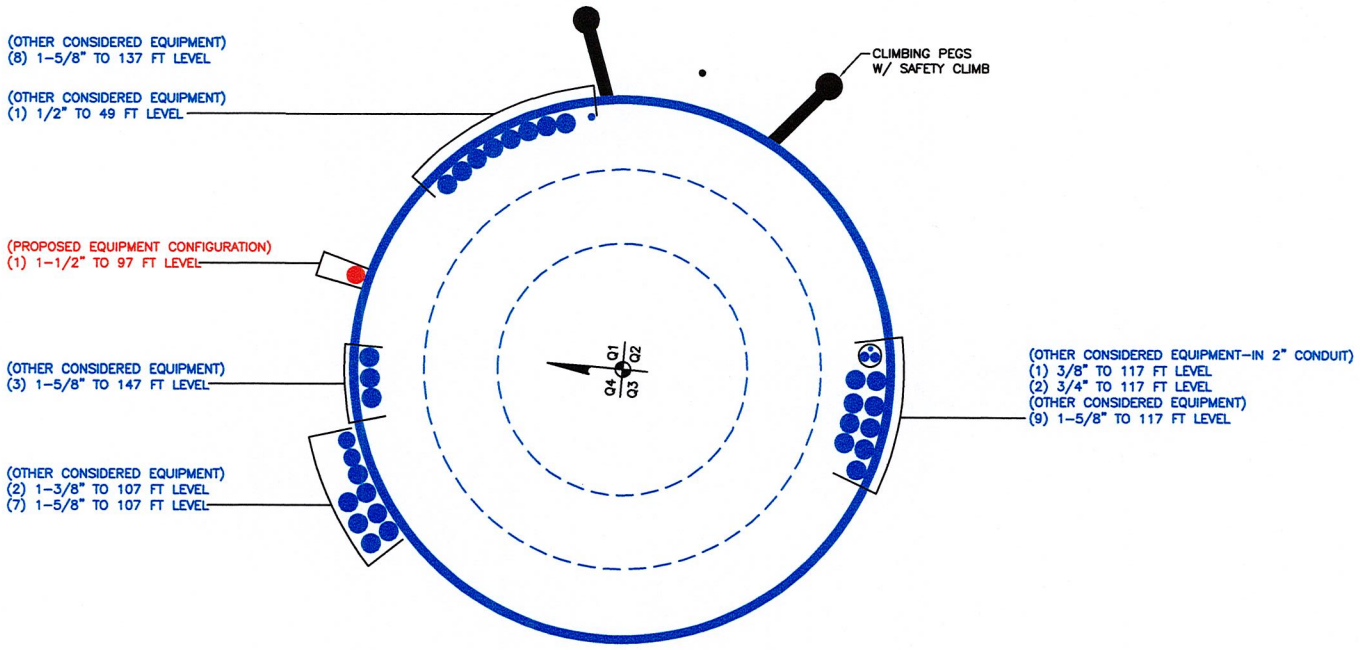
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	147.5 - 142.5	Pole	TP22.95x22x0.25	1	-6.018	1021.306	4.5	Pass
L2	142.5 - 137.5	Pole	TP23.9x22.95x0.25	2	-6.421	1064.049	8.7	Pass
L3	137.5 - 132.5	Pole	TP24.85x23.9x0.25	3	-11.316	1106.794	15.5	Pass
L4	132.5 - 127.5	Pole	TP25.8x24.85x0.25	4	-11.809	1149.529	21.4	Pass
L5	127.5 - 122.5	Pole	TP26.75x25.8x0.25	5	-12.323	1192.275	26.8	Pass
L6	122.5 - 117.5	Pole	TP27.7x26.75x0.25	6	-12.858	1235.020	31.7	Pass
L7	117.5 - 112.5	Pole	TP28.65x27.7x0.25	7	-16.984	1277.755	38.2	Pass
L8	112.5 - 108.5	Pole	TP29.41x28.65x0.25	8	-17.020	1279.897	38.5	Pass
L9	108.5 - 107.25	Pole	TP29.1476x28.1975x0.25	9	-17.994	1408.491	42.4	Pass
L10	107.25 - 102.25	Pole	TP30.0976x29.1476x0.25	10	-21.915	1454.796	48.8	Pass
L11	102.25 - 97.25	Pole	TP31.0477x30.0976x0.25	11	-22.688	1501.101	54.5	Pass
L12	97.25 - 92.25	Pole	TP31.9978x31.0477x0.25	12	-26.396	1547.406	61.0	Pass
L13	92.25 - 87.25	Pole	TP32.9478x31.9978x0.25	13	-27.216	1593.711	66.9	Pass
L14	87.25 - 82.25	Pole	TP33.8979x32.9478x0.25	14	-28.065	1640.026	72.6	Pass
L15	82.25 - 77.25	Pole	TP34.8479x33.8979x0.25	15	-28.942	1686.331	77.9	Pass
L16	77.25 - 72.25	Pole	TP35.798x34.8479x0.25	16	-29.039	1690.962	78.4	Pass
L17	72.25 - 71.75	Pole	TP35.3928x34.4429x0.3125	17	-30.515	2137.306	63.7	Pass
L18	71.75 - 66.75	Pole	TP36.3427x35.3928x0.3125	18	-31.568	2195.172	67.1	Pass
L19	66.75 - 61.75	Pole	TP37.2926x36.3427x0.3125	19	-32.654	2253.048	70.2	Pass
L20	61.75 - 56.75	Pole	TP38.2425x37.2926x0.3125	20	-33.766	2310.924	73.2	Pass
L21	56.75 - 51.75	Pole	TP39.1924x38.2425x0.3125	21	-34.903	2368.789	75.9	Pass
L22	51.75 - 47.833	Pole	TP39.9365x39.1924x0.3125	22	-35.881	2414.128	77.9	Pass
L23	47.833 - 47.583	Pole	TP39.984x39.9365x0.3125	23	-35.954	2417.026	78.0	Pass
L24	47.583 - 42.583	Pole	TP40.9339x39.984x0.3125	24	-37.114	2474.892	80.5	Pass
L25	42.583 - 35.75	Pole	TP42.232x40.9339x0.3125	25	-37.485	2493.214	81.3	Pass
L26	35.75 - 34.75	Pole	TP41.7972x40.6096x0.375	26	-39.998	3028.420	68.0	Pass
L27	34.75 - 29.75	Pole	TP42.7472x41.7972x0.375	27	-41.377	3097.878	69.6	Pass
L28	29.75 - 24.75	Pole	TP43.6973x42.7472x0.375	28	-42.781	3167.335	71.0	Pass
L29	24.75 - 19.75	Pole	TP44.6473x43.6973x0.375	29	-44.210	3236.793	72.4	Pass
L30	19.75 - 14.75	Pole	TP45.5974x44.6473x0.375	30	-45.663	3306.261	73.6	Pass
L31	14.75 - 9.75	Pole	TP46.5474x45.5974x0.375	31	-47.141	3375.718	74.8	Pass
L32	9.75 - 4.75	Pole	TP47.4975x46.5474x0.375	32	-48.586	3445.176	75.9	Pass
L33	4.75 - 0	Pole	TP48.4x47.4975x0.375	33	-49.815	3511.158	76.9	Pass
							Summary	
						Pole (L25)	81.3	Pass
						RATING =	**81.3**	**Pass**

***NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in AppendixC.**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 876348 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876348

Work Order: 2075735

CROWN CASTLE

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	147.5	39	3.75	18	22	29.41	0.25	Auto	A607-60
2	112.25	40	4.5	18	28.20	35.798	0.25	Auto	A607-65
3	76.75	41	5.25	18	34.44	42.232	0.3125	Auto	A607-65
4	41	41	0	18	40.61	48.4	0.375	Auto	A607-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	40.167	47.833	channel	MP3-03 (1.1875in)	3					X						X						X	
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	4.06	1.57	2.92	0.59	PC 8.8 - M20 (100)	14	PC 8.8 - M20 (100)	14.000	18.000	2.545	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	147.5 - 142.5	5		18	22.000	22.950	0.25	A607-60	1.000
2	142.5 - 137.5	5		18	22.950	23.900	0.25	A607-60	1.000
3	137.5 - 132.5	5		18	23.900	24.850	0.25	A607-60	1.000
4	132.5 - 127.5	5		18	24.850	25.800	0.25	A607-60	1.000
5	127.5 - 122.5	5		18	25.800	26.750	0.25	A607-60	1.000
6	122.5 - 117.5	5		18	26.750	27.700	0.25	A607-60	1.000
7	117.5 - 112.5	5		18	27.700	28.650	0.25	A607-60	1.000
8	112.5 - 112.25	4	3.75	18	28.650	29.410	0.25	A607-60	1.000
9	112.25 - 107.25	5		18	28.198	29.148	0.25	A607-65	1.000
10	107.25 - 102.25	5		18	29.148	30.098	0.25	A607-65	1.000
11	102.25 - 97.25	5		18	30.098	31.048	0.25	A607-65	1.000
12	97.25 - 92.25	5		18	31.048	31.998	0.25	A607-65	1.000
13	92.25 - 87.25	5		18	31.998	32.948	0.25	A607-65	1.000
14	87.25 - 82.25	5		18	32.948	33.898	0.25	A607-65	1.000
15	82.25 - 77.25	5		18	33.898	34.848	0.25	A607-65	1.000
16	77.25 - 76.75	5	4.5	18	34.848	35.798	0.25	A607-65	1.000
17	76.75 - 71.75	5		18	34.443	35.393	0.3125	A607-65	1.000
18	71.75 - 66.75	5		18	35.393	36.343	0.3125	A607-65	1.000
19	66.75 - 61.75	5		18	36.343	37.293	0.3125	A607-65	1.000
20	61.75 - 56.75	5		18	37.293	38.242	0.3125	A607-65	1.000
21	56.75 - 51.75	5		18	38.242	39.192	0.3125	A607-65	1.000
22	51.75 - 47.833	3.917		18	39.192	39.937	0.3125	A607-65	1.000
23	47.833 - 47.583	0.25		18	39.937	39.984	0.3125	A607-65	1.000
24	47.583 - 42.583	5		18	39.984	40.934	0.3125	A607-65	1.000
25	42.583 - 41	6.833	5.25	18	40.934	42.232	0.3125	A607-65	1.000
26	41 - 34.75	6.25		18	40.610	41.797	0.375	A607-65	1.000
27	34.75 - 29.75	5		18	41.797	42.747	0.375	A607-65	1.000
28	29.75 - 24.75	5		18	42.747	43.697	0.375	A607-65	1.000
29	24.75 - 19.75	5		18	43.697	44.647	0.375	A607-65	1.000
30	19.75 - 14.75	5		18	44.647	45.597	0.375	A607-65	1.000
31	14.75 - 9.75	5		18	45.597	46.547	0.375	A607-65	1.000
32	9.75 - 4.75	5		18	46.547	47.497	0.375	A607-65	1.000
33	4.75 - 0	4.75		18	47.497	48.400	0.375	A607-65	1.000

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	147.5 - 142.5	6.02	23.54	5.68
2	142.5 - 137.5	6.42	52.73	5.99
3	137.5 - 132.5	11.32	101.90	10.25
4	132.5 - 127.5	11.81	153.92	10.57
5	127.5 - 122.5	12.32	207.55	10.89
6	122.5 - 117.5	12.86	262.77	11.21
7	117.5 - 112.5	16.98	335.50	14.53
8	112.5 - 112.25	17.02	339.13	14.55
9	112.25 - 107.25	17.99	412.83	14.92
10	107.25 - 102.25	21.91	501.66	17.93
11	102.25 - 97.25	22.69	591.99	18.20
12	97.25 - 92.25	26.40	696.67	21.48
13	92.25 - 87.25	27.22	805.45	22.08
14	87.25 - 82.25	28.07	917.20	22.67
15	82.25 - 77.25	28.94	1031.89	23.25
16	77.25 - 76.75	29.04	1043.52	23.30
17	76.75 - 71.75	30.51	1161.82	24.01
18	71.75 - 66.75	31.57	1282.68	24.35
19	66.75 - 61.75	32.65	1405.17	24.67
20	61.75 - 56.75	33.77	1529.20	24.97
21	56.75 - 51.75	34.90	1654.70	25.25
22	51.75 - 47.833	35.88	1754.07	25.53
23	47.833 - 47.583	35.95	1760.45	25.54
24	47.583 - 42.583	37.11	1889.48	26.08
25	42.583 - 41	37.48	1930.82	26.17
26	41 - 34.75	40.00	2095.77	26.62
27	34.75 - 29.75	41.38	2229.37	26.84
28	29.75 - 24.75	42.78	2364.06	27.05
29	24.75 - 19.75	44.21	2499.78	27.26
30	19.75 - 14.75	45.66	2636.52	27.46
31	14.75 - 9.75	47.14	2774.24	27.65
32	9.75 - 4.75	48.59	2912.79	27.80
33	4.75 - 0	49.81	3045.01	27.93

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
147.5 - 142.5	Pole	TP22.95x22x0.25	Pole	4.5%	Pass
142.5 - 137.5	Pole	TP23.9x22.95x0.25	Pole	8.7%	Pass
137.5 - 132.5	Pole	TP24.85x23.9x0.25	Pole	15.5%	Pass
132.5 - 127.5	Pole	TP25.8x24.85x0.25	Pole	21.4%	Pass
127.5 - 122.5	Pole	TP26.75x25.8x0.25	Pole	26.8%	Pass
122.5 - 117.5	Pole	TP27.7x26.75x0.25	Pole	31.7%	Pass
117.5 - 112.5	Pole	TP28.65x27.7x0.25	Pole	38.2%	Pass
112.5 - 112.25	Pole	TP29.41x28.65x0.25	Pole	38.5%	Pass
112.25 - 107.25	Pole	TP29.148x28.198x0.25	Pole	42.4%	Pass
107.25 - 102.25	Pole	TP30.098x29.148x0.25	Pole	48.8%	Pass
102.25 - 97.25	Pole	TP31.048x30.098x0.25	Pole	54.5%	Pass
97.25 - 92.25	Pole	TP31.998x31.048x0.25	Pole	61.0%	Pass
92.25 - 87.25	Pole	TP32.948x31.998x0.25	Pole	66.9%	Pass
87.25 - 82.25	Pole	TP33.898x32.948x0.25	Pole	72.6%	Pass
82.25 - 77.25	Pole	TP34.848x33.898x0.25	Pole	77.9%	Pass
77.25 - 76.75	Pole	TP35.798x34.848x0.25	Pole	78.4%	Pass
76.75 - 71.75	Pole	TP35.393x34.443x0.3125	Pole	63.7%	Pass
71.75 - 66.75	Pole	TP36.343x35.393x0.3125	Pole	67.1%	Pass
66.75 - 61.75	Pole	TP37.293x36.343x0.3125	Pole	70.2%	Pass
61.75 - 56.75	Pole	TP38.242x37.293x0.3125	Pole	73.2%	Pass
56.75 - 51.75	Pole	TP39.192x38.242x0.3125	Pole	75.9%	Pass
51.75 - 47.83	Pole	TP39.937x39.192x0.3125	Pole	77.9%	Pass
47.83 - 47.58	Pole	TP39.984x39.937x0.3125	Pole	78.0%	Pass
47.58 - 42.58	Pole	TP40.934x39.984x0.3125	Pole	80.5%	Pass
42.58 - 41	Pole	TP42.232x40.934x0.3125	Pole	81.3%	Pass
41 - 34.75	Pole	TP41.797x40.61x0.375	Pole	68.0%	Pass
34.75 - 29.75	Pole	TP42.747x41.797x0.375	Pole	69.6%	Pass
29.75 - 24.75	Pole	TP43.697x42.747x0.375	Pole	71.0%	Pass
24.75 - 19.75	Pole	TP44.647x43.697x0.375	Pole	72.4%	Pass
19.75 - 14.75	Pole	TP45.597x44.647x0.375	Pole	73.6%	Pass
14.75 - 9.75	Pole	TP46.547x45.597x0.375	Pole	74.8%	Pass
9.75 - 4.75	Pole	TP47.497x46.547x0.375	Pole	75.9%	Pass
4.75 - 0	Pole	TP48.4x47.497x0.375	Pole	76.9%	Pass
				Summary	
			Pole	81.3%	Pass
			Reinforcement	0.0%	Pass
			Overall	81.3%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*	
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1
147.5 - 142.5	1172	n/a	1172	18.01	n/a	18.01	4.5%	
142.5 - 137.5	1326	n/a	1326	18.77	n/a	18.77	8.7%	
137.5 - 132.5	1492	n/a	1492	19.52	n/a	19.52	15.5%	
132.5 - 127.5	1671	n/a	1671	20.27	n/a	20.27	21.4%	
127.5 - 122.5	1865	n/a	1865	21.03	n/a	21.03	26.8%	
122.5 - 117.5	2073	n/a	2073	21.78	n/a	21.78	31.7%	
117.5 - 112.5	2296	n/a	2296	22.53	n/a	22.53	38.2%	
112.5 - 112.25	2307	n/a	2307	22.57	n/a	22.57	38.5%	
112.25 - 107.25	2418	n/a	2418	22.93	n/a	22.93	42.4%	
107.25 - 102.25	2665	n/a	2665	23.68	n/a	23.68	48.8%	
102.25 - 97.25	2927	n/a	2927	24.44	n/a	24.44	54.5%	
97.25 - 92.25	3207	n/a	3207	25.19	n/a	25.19	61.0%	
92.25 - 87.25	3503	n/a	3503	25.94	n/a	25.94	66.9%	
87.25 - 82.25	3818	n/a	3818	26.70	n/a	26.70	72.6%	
82.25 - 77.25	4150	n/a	4150	27.45	n/a	27.45	77.9%	
77.25 - 76.75	4185	n/a	4185	27.53	n/a	27.53	78.4%	
76.75 - 71.75	5408	n/a	5408	34.79	n/a	34.79	63.7%	
71.75 - 66.75	5859	n/a	5859	35.74	n/a	35.74	67.1%	
66.75 - 61.75	6335	n/a	6335	36.68	n/a	36.68	70.2%	
61.75 - 56.75	6836	n/a	6836	37.62	n/a	37.62	73.2%	
56.75 - 51.75	7362	n/a	7362	38.56	n/a	38.56	75.9%	
51.75 - 47.83	7793	n/a	7793	39.30	n/a	39.30	77.9%	
47.83 - 47.58	7821	n/a	7821	39.35	n/a	39.35	78.0%	
47.58 - 42.58	8397	n/a	8397	40.29	n/a	40.29	80.5%	
42.58 - 41	8584	n/a	8584	40.59	n/a	40.59	81.3%	
41 - 34.75	10684	n/a	10684	49.30	n/a	49.30	68.0%	
34.75 - 29.75	11436	n/a	11436	50.43	n/a	50.43	69.6%	
29.75 - 24.75	12222	n/a	12222	51.56	n/a	51.56	71.0%	
24.75 - 19.75	13044	n/a	13044	52.69	n/a	52.69	72.4%	
19.75 - 14.75	13902	n/a	13902	53.82	n/a	53.82	73.6%	
14.75 - 9.75	14797	n/a	14797	54.95	n/a	54.95	74.8%	
9.75 - 4.75	15729	n/a	15729	56.09	n/a	56.09	75.9%	
4.75 - 0	16650	n/a	16650	57.16	n/a	57.16	76.9%	

Note: Section capacity checked using 5 degree increments.
Rating per TIA-222-H Section 15.5.

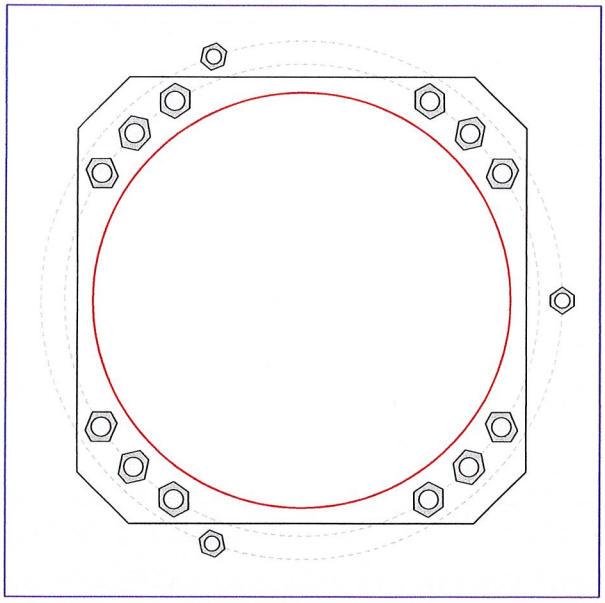
Monopole Base Plate Connection

Site Info	
BU #	876348
Site Name	Enfield
Order #	556604 Rev. 2

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
l_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	3045.01
Axial Force (kips)	49.81
Shear Force (kips)	27.93

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 55" BC
Anchor Spacing: 6 in
GROUP 2: (3) 1-3/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 60.4" BC

Base Plate Data

52" W x 3" Plate (A572-50; Fy=50 ksi, Fu=65 ksi); Clip: 6 in

Stiffener Data

N/A

Pole Data

48.4" x 0.375" 18-sided pole (A607-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

GROUP 1:

Pu_t = 188.85	ϕPn_t = 243.75	**Stress Rating**
Vu = 2.33	ϕVn = 149.1	**73.8%**
Mu = n/a	ϕMn = n/a	**Pass**

GROUP 2:

Pu_t = 122.48	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**65.5%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	29.09	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**61.6%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

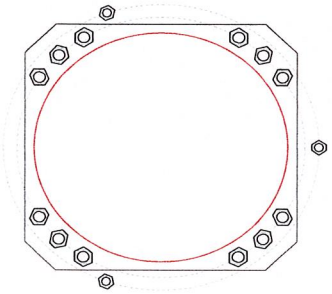
note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	No	No	
2	No	No	No	No	No	

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	32.474174	2.25	A615-75	55	0.5	0	N-Included		No
2	1	45	2.25	A615-75	55	0.5	0	N-Included		No
3	1	57.525826	2.25	A615-75	55	0.5	0	N-Included		No
4	1	122.47417	2.25	A615-75	55	0.5	0	N-Included		No
5	1	135	2.25	A615-75	55	0.5	0	N-Included		No
6	1	147.52583	2.25	A615-75	55	0.5	0	N-Included		No
7	1	212.47417	2.25	A615-75	55	0.5	0	N-Included		No
8	1	225	2.25	A615-75	55	0.5	0	N-Included		No
9	1	237.52583	2.25	A615-75	55	0.5	0	N-Included		No
10	1	302.47417	2.25	A615-75	55	0.5	0	N-Included		No
11	1	315	2.25	A615-75	55	0.5	0	N-Included		No
12	1	327.52583	2.25	A615-75	55	0.5	0	N-Included		No
13	2	110	1.75	A193 Gr. B7	60.4	0.5	0	N-Included		No
14	2	250	1.75	A193 Gr. B7	60.4	0.5	0	N-Included		No
15	2	360	1.75	A193 Gr. B7	60.4	0.5	0	N-Included		No

Plot Graphic



Pier and Pad Foundation

BU # :	876348
Site Name:	Enfield
App. Number:	556604 Rev. 2

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	49.83	kips
Base Shear, Vu_comp:	27.9	kips
Moment, M_u:	3045.01	ft-kips
Tower Height, H:	147.5	ft
BP Dist. Above Fdn, bp_{dist}:	6	in

Pier Properties		
Pier Shape:	Square	
Pier Diameter, **dpier**:	8	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	11	
Pier Rebar Quantity, **mc**:	24	
Pier Tie/Spiral Size, **St**:	5	
Pier Tie/Spiral Quantity, **mt**:	12	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	9.8	ft
Pad Width, W_1:	23.8	ft
Pad Thickness, **T**:	2.8	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	9	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	23	
Pad Clear Cover, cc_{pad}:	3	in

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

Soil Properties		
Total Soil Unit Weight, γ:	115	pcf
Ultimate Gross Bearing, Qult:	6.500	ksf
Cohesion, **Cu**:	1.500	ksf
Friction Angle, φ:		degrees
SPT Blow Count, N_{blows}:	12	
Base Friction, μ:		
Neglected Depth, **N**:	4.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	900.85	27.90	**2.9%**	**Pass**
Bearing Pressure (ksf)	4.88	2.63	**51.3%**	**Pass**
*Overturning (kip*ft)*	6360.20	3346.33	**52.6%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	6922.95	3254.26	**44.8%**	**Pass**
Pier Compression (kip)	30551.04	136.23	**0.4%**	**Pass**
*Pad Flexure (kip*ft)*	2893.92	958.88	**31.6%**	**Pass**
Pad Shear - 1-way (kips)	678.31	166.90	**23.4%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.034	**19.8%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3915.02	1952.56	**47.5%**	**Pass**

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

Structural Rating*:	**47.5%**
Soil Rating*:	**52.6%**

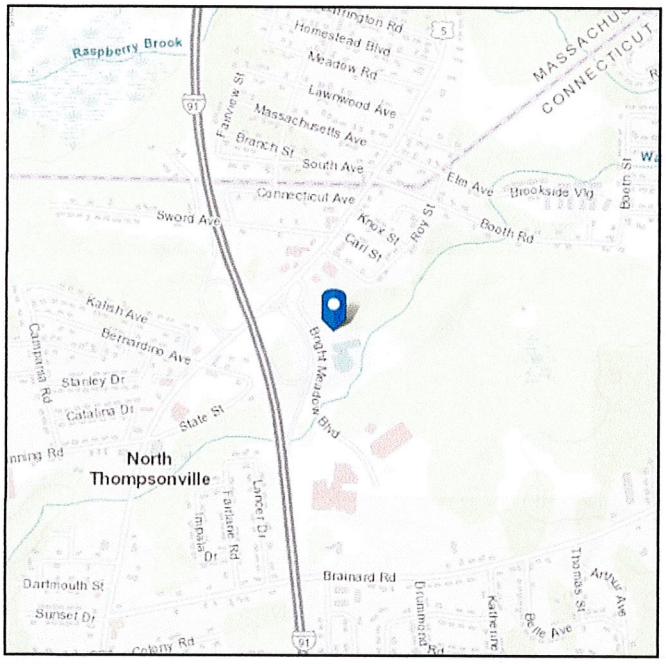
Version 4.1.1

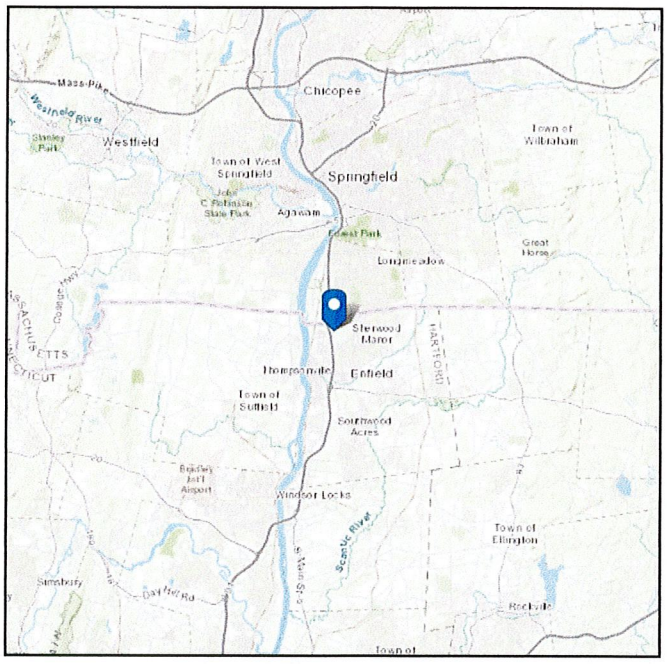
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 110.38 ft (NAVD 88)
Latitude: 42.020808
Longitude: -72.585164





Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	83 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Feb 03 2022

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 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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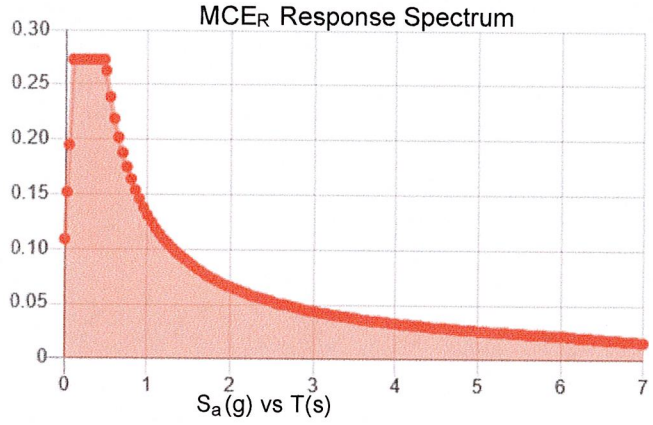
Seismic

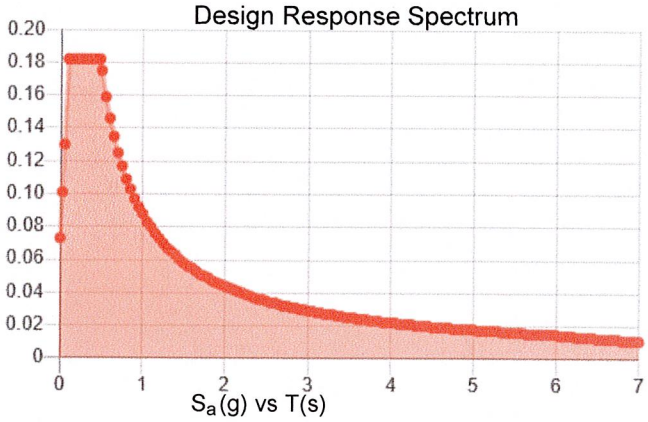
Site Soil Class: D - Stiff Soil

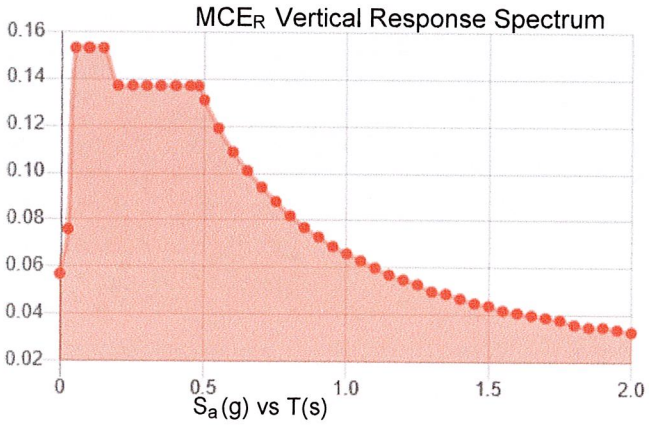
Results:

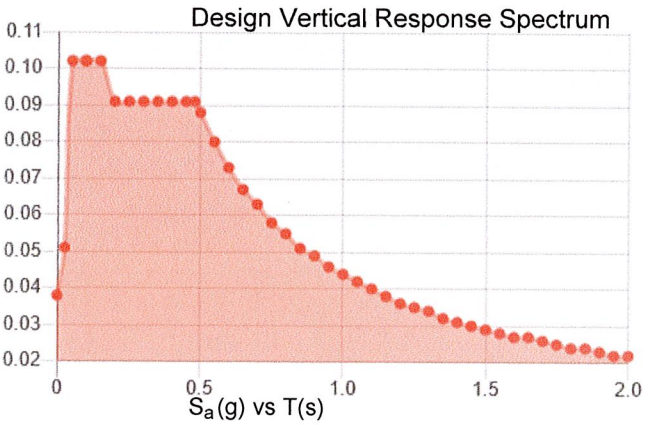
S_S :	0.171	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.089
F_v :	2.4	PGA_M :	0.143
S_{MS} :	0.273	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.182	C_v :	0.7

Seismic Design Category B









Data Accessed: **Thu Feb 03 2022**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

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Ice

Results:

Ice Thickness:	1.50 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Feb 03 2022

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 with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.