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

May 30, 2023

Denise Sabo
Northeast Site Solutions
4 Angela's Way
Burlington, CT 06013
denise@northeastsitesolutions.com

RE: **EM-VER-108-230518** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 338 Oxford Road, Oxford, Connecticut.

Dear Denise Sabo:

The Connecticut Siting Council (Council) is in receipt of your correspondence of May 30, 2023 submitted in response to the Council's May 30, 2023 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification 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/ANM/dll

From: Denise Sabo <denise@northeastsitesolutions.com>
Sent: Tuesday, May 30, 2023 10:45 AM
To: LaFountain, Dakota <Dakota.LaFountain@ct.gov>; Victoria Masse <victoria@northeastsitesolutions.com>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>; Deborah Chase <deborah@northeastsitesolutions.com>
Subject: 876362 - Crown VZW RE: Council Incomplete Letter: EM-VER-108-230518 - 338 Oxford Road, Oxford

HI Dakota,

I apologize, it looks like the wrong version of the SA was submitted.
The attached structural references the 2022 codes.

Victoria – In Deb's absence can you please send CSC (1) Hard copy of the attached SA with a copy of the letter attached.

Thank you,
Denise

Denise Sabo
Phone: (203) 435-3640
Email: denise@northeastsitesolutions.com

Date: **February 8, 2023**

Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351

Subject: Structural Analysis Report

Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Site Number:	467814
	Site Name:	Oxford, CT
Crown Castle Designation:	**BU Number:**	876362
	Site Name:	Oxford / Fritz Property
	JDE Job Number:	740378
	Work Order Number:	2200964
	Order Number:	644522 Rev. 0
Engineering Firm Designation:	**TEP Project Number:**	25611.819335
Site Data:	**338 Oxford Rd., Oxford, New Haven County, CT 06478** **Latitude *41° 25' 40.77"*, Longitude *-73° 6' 30.75"*** **150 Foot - Monopole Tower**	

Tower Engineering Professionals 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**

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Jonathan Alvarez / WAT

Respectfully submitted by:

Shawn Hoffmeyer, P.E.

Electronic Copy

02/08/23

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 150-ft monopole tower designed by Engineered Endeavors, Inc. The tower has been modified multiple times in the past to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	118 mph
Exposure Category:	B
Topographic Factor:	1.0
Ice Thickness:	1.0 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)
127.0	129.0	6	RFS Celwave	APL866513-42T0 w/ Mount Pipe	13 1	1-5/8 1/2
		6	Jma Wireless	MX06FRO660-03 w/ Mount Pipe		
		3	Samsung Telecom.	MT6407-77A w/ Mount Pipe		
		1	Gps	GPS_A		
		3	Samsung Telecom.	RF4439D-25A		
		3	Samsung Telecom.	RF4440D-13A		
		1	Raycap	RVZDC-6627-PF-48_CCIV2		
	127.0	1	Site Pro 1	HRK12-U		
		1	Site Pro 1	RMQP-NP		

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)
152.0	152.0	3	Commscope	VV-65B-R1_TMO w/ Mount Pipe	3	1-5/8
		3	Ericsson	AIR 6419 B41_TMO w/ Mount Pipe		
		3	RFS Celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	Ericsson	Radio 4480_TMOV2		
		1	Tower Mounts	Platform Mount [LP 602-1]		

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	Powerwave Technologies	7770.00 w/ Mount Pipe	12	1-1/4
		4	Andrew	SBNH-1D6565C w/ Mount Pipe		
		2	KMW Comm.	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		3	Powerwave Technologies	7020.00		
		6	Powerwave Technologies	LGP21901		
		6	Communication Components Inc.	DTMABP7819VG12A		
		6	Adc	DD1900 FULL BAND W/850 BY-PASS MASTHEAD		
		1	Raycap	DC6-48-60-18-8F		
	137.0	1	Tower Mounts	Platform Mount [LP 714-1]		
136.0	136.0	6	Ericsson	RRUS 11 B12	2 1	3/4 3/8
		1	Raycap	DC6-48-60-18-8F		
		2	Tower Mounts	Pipe Mount [PM 601-3]		
117.0	117.0	3	RFS Celwave	APXV18-206517S-C-A20	7 1	1-5/8 3/8
		3	RFS Celwave	APXVAALL24_43-U-NA20		
		3	Ericsson	RADIO 4449 B12/B71		
		1	Tower Mounts	Platform Mount [LP 1302-1]		
107.0	107.0	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		
75.0	75.0	1	Kathrein	OG-860/1920/GPS-A	1	1/2
		1	Tower Mounts	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Geotechnical Report	1531939	CCISites
Tower Foundation Drawings	1440552	CCISites
Tower Manufacturer Drawings	1441271	CCISites
Post-Modification Inspection	2364903	CCISites
Tower Reinforcement Drawings	2364904	CCISites
Tower Reinforcement Drawings	3041498	CCISites
Post-Modification Inspection	3192205	CCISites
Tower Reinforcement Drawings	3274216	CCISites
Post-Modification Inspection	3872724	CCISites

Document	Reference	Source
Tower Reinforcement Drawings	4870951	CCISites
Post-Modification Inspection	5301920	CCISites
Tower Reinforcement Drawings	5632043	CCISites
Post-Modification Inspection	6119183	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.

RISA-3D, a commercially available analysis software package, was used to model and analyze the foundation. Selected output from the analysis is included in Appendix C.

3.2) Assumptions

1) The 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. Tower Engineering Professionals should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)[1,2]

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP16.08x15x0.1875	Pole	14.1%	Pass
145 - 140	Pole	TP17.16x16.08x0.1875	Pole	21.5%	Pass
140 - 135	Pole	TP18.239x17.16x0.1875	Pole	31.6%	Pass
135 - 130	Pole	TP19.319x18.239x0.1875	Pole	42.4%	Pass
130 - 126.59	Pole	TP20.74x19.319x0.1875	Pole	51.2%	Pass
126.59 - 122.25	Pole	TP20.603x19.68x0.25	Pole	47.2%	Pass
122.25 - 122	Pole + Reinf.	TP20.656x20.603x0.4125	Reinf. 22 Tension Rupture	53.6%	Pass
122 - 120.25	Pole + Reinf.	TP21.029x20.656x0.4125	Reinf. 22 Tension Rupture	57.2%	Pass
120.25 - 120	Pole + Reinf.	TP21.082x21.029x0.575	Reinf. 22 Tension Rupture	42.0%	Pass
120 - 115.25	Pole + Reinf.	TP22.092x21.082x0.5625	Reinf. 22 Tension Rupture	49.9%	Pass
115.25 - 115	Pole + Reinf.	TP22.145x22.092x0.4	Reinf. 19 Tension Rupture	68.6%	Pass
115 - 114.75	Pole + Reinf.	TP22.198x22.145x0.55	Reinf. 19 Tension Rupture	50.8%	Pass

114.75 - 109.75	Pole + Reinf.	TP23.261x22.198x0.5375	Reinf. 19 Tension Rupture	59.3%	Pass
109.75 - 105.25	Pole + Reinf.	TP24.218x23.261x0.525	Reinf. 19 Tension Rupture	66.8%	Pass
105.25 - 105	Pole + Reinf.	TP24.271x24.218x0.7375	Reinf. 3 Tension Rupture	54.6%	Pass
105 - 101.92	Pole + Reinf.	TP24.926x24.271x0.725	Reinf. 3 Tension Rupture	59.0%	Pass
101.92 - 101.67	Pole + Reinf.	TP24.979x24.926x0.75	Reinf. 2 Tension Rupture	53.1%	Pass
101.67 - 101.25	Pole + Reinf.	TP25.069x24.979x0.75	Reinf. 2 Tension Rupture	53.6%	Pass
101.25 - 101	Pole + Reinf.	TP25.122x25.069x0.75	Reinf. 2 Tension Rupture	53.9%	Pass
101 - 100.25	Pole + Reinf.	TP25.281x25.122x0.75	Reinf. 2 Tension Rupture	54.8%	Pass
100.25 - 100	Pole + Reinf.	TP25.335x25.281x0.7375	Reinf. 2 Tension Rupture	55.1%	Pass
100 - 95	Pole + Reinf.	TP26.398x25.335x0.7125	Reinf. 2 Tension Rupture	60.7%	Pass
95 - 90.04	Pole + Reinf.	TP28.32x26.398x0.7	Reinf. 2 Tension Rupture	65.7%	Pass
90.04 - 85.04	Pole + Reinf.	TP28.018x26.952x0.75	Reinf. 2 Tension Rupture	65.9%	Pass
85.04 - 82	Pole + Reinf.	TP28.665x28.018x0.7375	Reinf. 2 Tension Rupture	68.2%	Pass
82 - 81.75	Pole + Reinf.	TP28.719x28.665x0.925	Reinf. 2 Tension Rupture	55.5%	Pass
81.75 - 77.5	Pole + Reinf.	TP29.624x28.719x0.9125	Reinf. 2 Tension Rupture	58.1%	Pass
77.5 - 77.25	Pole + Reinf.	TP29.677x29.624x0.7875	Reinf. 2 Tension Rupture	66.3%	Pass
77.25 - 75	Pole + Reinf.	TP30.157x29.677x0.775	Reinf. 2 Tension Rupture	67.7%	Pass
75 - 74.75	Pole + Reinf.	TP30.21x30.157x0.7125	Reinf. 2 Tension Rupture	73.1%	Pass
74.75 - 74.5	Pole + Reinf.	TP30.263x30.21x0.825	Reinf. 2 Tension Rupture	63.8%	Pass
74.5 - 72.17	Pole + Reinf.	TP30.76x30.263x0.8125	Reinf. 2 Tension Rupture	65.1%	Pass
72.17 - 71.92	Pole + Reinf.	TP30.813x30.76x0.8375	Reinf. 18 Tension Rupture	62.1%	Pass
71.92 - 68.75	Pole + Reinf.	TP31.488x30.813x0.8125	Reinf. 18 Tension Rupture	63.7%	Pass
68.75 - 68.5	Pole + Reinf.	TP31.542x31.488x0.9375	Reinf. 1 Tension Rupture	55.9%	Pass
68.5 - 63.5	Pole + Reinf.	TP32.607x31.542x0.9125	Reinf. 1 Tension Rupture	58.0%	Pass
63.5 - 58.5	Pole + Reinf.	TP33.672x32.607x0.8875	Reinf. 1 Tension Rupture	60.0%	Pass
58.5 - 53.5	Pole + Reinf.	TP34.737x33.672x0.8625	Reinf. 1 Tension Rupture	61.9%	Pass
53.5 - 48.5	Pole + Reinf.	TP35.803x34.737x0.8375	Reinf. 1 Tension Rupture	63.5%	Pass
48.5 - 47.58	Pole + Reinf.	TP37.1x35.803x0.8375	Reinf. 1 Tension Rupture	63.8%	Pass
47.58 - 41.41	Pole + Reinf.	TP36.687x35.374x0.725	Reinf. 17 Tension Rupture	67.4%	Pass
41.41 - 36.41	Pole + Reinf.	TP37.751x36.687x0.7125	Reinf. 17 Tension Rupture	68.5%	Pass
36.41 - 32.75	Pole + Reinf.	TP38.53x37.751x0.7	Reinf. 17 Tension Rupture	69.2%	Pass
32.75 - 32.5	Pole + Reinf.	TP38.583x38.53x0.75	Reinf. 15 Tension Rupture	68.7%	Pass
32.5 - 31.25	Pole + Reinf.	TP38.849x38.583x0.75	Reinf. 15 Tension Rupture	68.9%	Pass
31.25 - 31	Pole + Reinf.	TP38.902x38.849x0.7375	Reinf. 15 Tension Rupture	69.0%	Pass
31 - 26	Pole + Reinf.	TP39.966x38.902x0.725	Reinf. 15 Tension Rupture	69.9%	Pass
26 - 21	Pole + Reinf.	TP41.031x39.966x0.725	Reinf. 15 Tension Rupture	70.7%	Pass
21 - 18.75	Pole + Reinf.	TP41.509x41.031x0.7125	Reinf. 15 Tension Rupture	71.0%	Pass
18.75 - 18.5	Pole + Reinf.	TP41.563x41.509x0.7	Reinf. 14 Tension Rupture	70.7%	Pass
18.5 - 15	Pole + Reinf.	TP42.308x41.563x0.6875	Reinf. 14 Tension Rupture	71.2%	Pass

15 - 14.75	Pole + Reinf.	TP42.361x42.308x0.5875	Reinf. 8 Tension Rupture	74.1%	Pass
14.75 - 9.75	Pole + Reinf.	TP43.425x42.361x0.5813	Reinf. 8 Tension Rupture	74.4%	Pass
9.75 - 4.75	Pole + Reinf.	TP44.489x43.425x0.575	Reinf. 8 Tension Rupture	74.7%	Pass
4.75 - 1.25	Pole + Reinf.	TP45.234x44.489x0.575	Reinf. 8 Tension Rupture	74.9%	Pass
1.25 - 1	Pole + Reinf.	TP45.287x45.234x0.75	Reinf. 13 Compression	63.5%	Pass
1 - 0	Pole + Reinf.	TP45.5x45.287x0.75	Reinf. 13 Compression	63.6%	Pass
				Summary	
			Pole	57.5%	Pass
			Reinforcement	74.9%	Pass
			Overall	74.9%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rods	-	53.2	Pass
1,2	Base Plate	-	27.7	Pass
1,2	Base Foundation Structural	-	4.3	Pass
1,2	Base Foundation Soil Interaction	-	10.2	Pass

Structure Rating (max from all components) =	**74.9%**

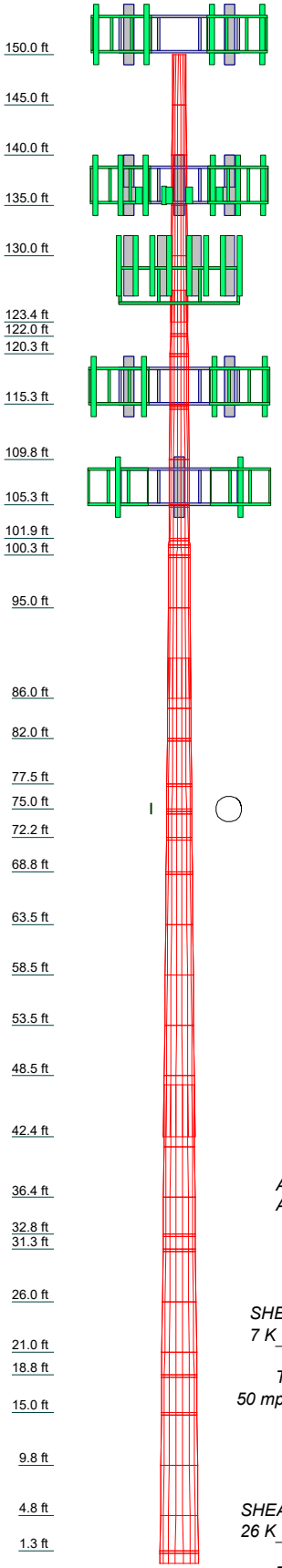
Notes:
1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity listed.
2) Rating per TIA-222-H Section 15.5

4.1) Recommendations

1) 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	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.19		15.00	16.08	A572-65	0.2
2	5.00	18	0.19		16.08	17.16		0.2
3	5.00	18	0.19		17.16	18.24		0.2
4	5.00	18	0.19		18.24	19.32		0.2
5	6.58	18	0.19	3.17	19.32	20.74		0.3
6–12	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
13	5.00	18	0.54		22.20	23.28		0.6
14	4.50	18	0.53		23.26	24.22		0.6
15–21	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
22	5.00	18	0.71		25.32	26.40		0.9
23	9.04	18	0.70	4.08	26.40	28.32		1.7
24–35	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
36	5.00	18	0.91		31.54	32.63		1.4
37	5.00	18	0.89		32.61	33.67		1.4
38	5.00	18	0.86		33.67	34.74		1.4
39	5.00	18	0.84		34.74	35.80		1.5
40	6.09	18	0.84	5.17	35.80	37.10		1.8
41	[illegible]	18	0.72		35.37	36.69		1.6
42	5.00	18	0.71		36.69	37.75		1.3
43	3.66	18	0.70		[illegible]	[illegible]		1.0
44–46	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
47	5.00	18	0.72		38.90	39.97		1.5
48	5.00	18	0.72		39.97	41.03		1.5
49–52	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
53	5.00	18	0.58		42.38	43.44		1.4
54	5.00	18	0.57		43.42	44.49		1.4
55	3.50	18	0.57		[illegible]	45.23		1.0
56	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
								32.6

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 118 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 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. TOWER RATING: 74.9%

ALL REACTIONS
ARE FACTORED

TORQUE 0 kip-ft
50 mph WIND - 1.00 in ICE

TORQUE 0 kip-ft
REACTIONS - 118 mph WIND

Tower Engineering Professionals

Tower Engineering Professionals, Inc.
326 Tryon Road
Raleigh, NC 27603
Phone: (919) 661-6351
FAX: (919) 661-6350

Job: ***Oxford / Fritz Property (BU 876362)***			
Project: ***TEP No. 25611.819335***			
Client: Crown Castle	Drawn by: jalvarez	App'd:	
Code: TIA-222-H	Date: 02/08/23	Scale: NTS	
Path:		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 New Haven County, Connecticut.
Tower base elevation above sea level: 373.00 ft.
Basic wind speed of 118 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 1.00 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.
TOWER RATING: 73.7%.
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	150.00-145.00	5.00	0.000	18	15.00	16.08	0.19	0.75	A572-65 (65 ksi)
L2	145.00-140.00	5.00	0.000	18	16.08	17.16	0.19	0.75	A572-65 (65 ksi)
L3	140.00-135.00	5.00	0.000	18	17.16	18.24	0.19	0.75	A572-65 (65 ksi)
L4	135.00-130.00	5.00	0.000	18	18.24	19.32	0.19	0.75	A572-65 (65 ksi)
L5	130.00-123.42	6.58	3.170	18	19.32	20.74	0.19	0.75	A572-65 (65 ksi)
L6	123.42-122.25	4.34	0.000	18	19.68	20.60	0.25	1.00	A572-65 (65 ksi)
L7	122.25-122.00	0.25	0.000	18	20.60	20.66	0.41	1.65	A572-65 (65 ksi)
L8	122.00-120.25	1.75	0.000	18	20.66	21.03	0.41	1.65	A572-65 (65 ksi)
L9	120.25-120.00	0.25	0.000	18	21.03	21.08	0.57	2.30	A572-65 (65 ksi)
L10	120.00-115.25	4.75	0.000	18	21.08	22.09	0.56	2.25	A572-65 (65 ksi)
L11	115.25-115.00	0.25	0.000	18	22.09	22.14	0.40	1.60	A572-65 (65 ksi)
L12	115.00-114.75	0.25	0.000	18	22.14	22.20	0.55	2.20	A572-65 (65 ksi)
L13	114.75-109.75	5.00	0.000	18	22.20	23.26	0.54	2.15	A572-65 (65 ksi)
L14	109.75-105.25	4.50	0.000	18	23.26	24.22	0.53	2.10	A572-65 (65 ksi)
L15	105.25-105.00	0.25	0.000	18	24.22	24.27	0.74	2.95	A572-65 (65 ksi)
L16	105.00-101.92	3.08	0.000	18	24.27	24.93	0.72	2.90	A572-65 (65 ksi)
L17	101.92-101.67	0.25	0.000	18	24.93	24.98	0.75	3.00	A572-65 (65 ksi)
L18	101.67-101.25	0.42	0.000	18	24.98	25.07	0.75	3.00	A572-65 (65 ksi)
L19	101.25-101.00	0.25	0.000	18	25.07	25.12	0.75	3.00	A572-65 (65 ksi)
L20	101.00-100.25	0.75	0.000	18	25.12	25.28	0.75	3.00	A572-65 (65 ksi)
L21	100.25-100.00	0.25	0.000	18	25.28	25.33	0.74	2.95	A572-65 (65 ksi)
L22	100.00-95.00	5.00	0.000	18	25.33	26.40	0.71	2.85	A572-65 (65 ksi)
L23	95.00-85.96	9.04	4.080	18	26.40	28.32	0.70	2.80	A572-65 (65 ksi)
L24	85.96-85.04	5.00	0.000	18	26.95	28.02	0.75	3.00	A572-65 (65 ksi)
L25	85.04-82.00	3.04	0.000	18	28.02	28.67	0.74	2.95	A572-65 (65 ksi)
L26	82.00-81.75	0.25	0.000	18	28.67	28.72	0.93	3.70	A572-65 (65 ksi)
L27	81.75-77.50	4.25	0.000	18	28.72	29.62	0.91	3.65	A572-65 (65 ksi)
L28	77.50-77.25	0.25	0.000	18	29.62	29.68	0.79	3.15	A572-65 (65 ksi)
L29	77.25-75.00	2.25	0.000	18	29.68	30.16	0.78	3.10	A572-65 (65 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
L30	75.00-74.75	0.25	0.000	18	30.16	30.21	0.71	2.85	A572-65 (65 ksi)
L31	74.75-74.50	0.25	0.000	18	30.21	30.26	0.82	3.30	A572-65 (65 ksi)
L32	74.50-72.17	2.33	0.000	18	30.26	30.76	0.81	3.25	A572-65 (65 ksi)
L33	72.17-71.92	0.25	0.000	18	30.76	30.81	0.84	3.35	A572-65 (65 ksi)
L34	71.92-68.75	3.17	0.000	18	30.81	31.49	0.81	3.25	A572-65 (65 ksi)
L35	68.75-68.50	0.25	0.000	18	31.49	31.54	0.94	3.75	A572-65 (65 ksi)
L36	68.50-63.50	5.00	0.000	18	31.54	32.61	0.91	3.65	A572-65 (65 ksi)
L37	63.50-58.50	5.00	0.000	18	32.61	33.67	0.89	3.55	A572-65 (65 ksi)
L38	58.50-53.50	5.00	0.000	18	33.67	34.74	0.86	3.45	A572-65 (65 ksi)
L39	53.50-48.50	5.00	0.000	18	34.74	35.80	0.84	3.35	A572-65 (65 ksi)
L40	48.50-42.41	6.09	5.170	18	35.80	37.10	0.84	3.35	A572-65 (65 ksi)
L41	42.41-41.41	6.17	0.000	18	35.37	36.69	0.72	2.90	A572-65 (65 ksi)
L42	41.41-36.41	5.00	0.000	18	36.69	37.75	0.71	2.85	A572-65 (65 ksi)
L43	36.41-32.75	3.66	0.000	18	37.75	38.53	0.70	2.80	A572-65 (65 ksi)
L44	32.75-32.50	0.25	0.000	18	38.53	38.58	0.75	3.00	A572-65 (65 ksi)
L45	32.50-31.25	1.25	0.000	18	38.58	38.85	0.75	3.00	A572-65 (65 ksi)
L46	31.25-31.00	0.25	0.000	18	38.85	38.90	0.74	2.95	A572-65 (65 ksi)
L47	31.00-26.00	5.00	0.000	18	38.90	39.97	0.72	2.90	A572-65 (65 ksi)
L48	26.00-21.00	5.00	0.000	18	39.97	41.03	0.72	2.90	A572-65 (65 ksi)
L49	21.00-18.75	2.25	0.000	18	41.03	41.51	0.71	2.85	A572-65 (65 ksi)
L50	18.75-18.50	0.25	0.000	18	41.51	41.56	0.70	2.80	A572-65 (65 ksi)
L51	18.50-15.00	3.50	0.000	18	41.56	42.31	0.69	2.75	A572-65 (65 ksi)
L52	15.00-14.75	0.25	0.000	18	42.31	42.36	0.59	2.35	A572-65 (65 ksi)
L53	14.75-9.75	5.00	0.000	18	42.36	43.42	0.58	2.33	A572-65 (65 ksi)
L54	9.75-4.75	5.00	0.000	18	43.42	44.49	0.57	2.30	A572-65 (65 ksi)
L55	4.75-1.25	3.50	0.000	18	44.49	45.23	0.57	2.30	A572-65 (65 ksi)
L56	1.25-1.00	0.25	0.000	18	45.23	45.29	0.75	3.00	A572-65 (65 ksi)
L57	1.00-0.00	1.00		18	45.29	45.50	0.75	3.00	A572-65 (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	15.20	8.82	244.36	5.26	7.62	32.07	489.04	4.41	2.31	12.32
	16.30	9.46	301.79	5.64	8.17	36.95	603.97	4.73	2.50	13.334
L2	16.30	9.46	301.79	5.64	8.17	36.95	603.97	4.73	2.50	13.334
	17.40	10.10	367.58	6.03	8.72	42.17	735.63	5.05	2.69	14.347
L3	17.40	10.10	367.58	6.03	8.72	42.17	735.63	5.05	2.69	14.347
	18.49	10.74	442.29	6.41	9.27	47.73	885.16	5.37	2.88	15.361
L4	18.49	10.74	442.29	6.41	9.27	47.73	885.16	5.37	2.88	15.361
	19.59	11.39	526.50	6.79	9.81	53.65	1053.69	5.69	3.07	16.374
L5	19.59	11.39	526.50	6.79	9.81	53.65	1053.69	5.69	3.07	16.374
	21.03	12.23	652.74	7.30	10.54	61.95	1306.34	6.12	3.32	17.708
L6	20.63	15.42	735.41	6.90	10.00	73.56	1471.80	7.71	3.02	12.095
	20.88	16.15	845.26	7.23	10.47	80.76	1691.62	8.08	3.19	12.745
L7	20.86	26.44	1361.53	7.17	10.47	130.09	2724.86	13.22	2.90	7.031
	20.91	26.50	1372.32	7.19	10.49	130.78	2746.44	13.25	2.91	7.053
L8	20.91	26.50	1372.32	7.19	10.49	130.78	2746.44	13.25	2.91	7.053
	21.29	26.99	1449.39	7.32	10.68	135.68	2900.69	13.50	2.98	7.212
L9	21.26	37.33	1972.97	7.26	10.68	184.69	3948.53	18.67	2.69	4.677
	21.32	37.43	1988.39	7.28	10.71	185.67	3979.40	18.72	2.70	4.693
L10	21.32	36.63	1948.72	7.28	10.71	181.96	3900.01	18.32	2.72	4.836
	22.35	38.44	2250.89	7.64	11.22	200.57	4504.75	19.22	2.90	5.152
L11	22.37	27.54	1637.15	7.70	11.22	145.88	3276.46	13.77	3.18	7.96
	22.42	27.61	1649.22	7.72	11.25	146.60	3300.61	13.81	3.19	7.984
L12	22.40	37.70	2221.07	7.67	11.25	197.44	4445.07	18.85	2.93	5.326
	22.46	37.79	2237.51	7.69	11.28	198.42	4477.97	18.90	2.94	5.343
L13	22.46	36.95	2190.45	7.69	11.28	194.25	4383.79	18.48	2.96	5.509
	23.54	38.77	2529.10	8.07	11.82	214.03	5061.52	19.39	3.15	5.857
L14	23.54	37.89	2474.36	8.07	11.82	209.39	4951.97	18.95	3.17	6.038
	24.51	39.48	2800.10	8.41	12.30	227.60	5603.88	19.74	3.34	6.359
L15	24.48	54.96	3828.58	8.34	12.30	311.20	7662.20	27.49	2.96	4.02
	24.53	55.09	3854.64	8.35	12.33	312.63	7714.36	27.55	2.97	4.032
L16	24.53	54.18	3795.35	8.36	12.33	307.82	7595.70	27.10	3.00	4.132
	25.20	55.69	4120.94	8.59	12.66	325.44	8247.31	27.85	3.11	4.291
L17	25.20	57.55	4249.85	8.58	12.66	335.62	8505.28	28.78	3.07	4.089
	25.25	57.68	4277.94	8.60	12.69	337.12	8561.51	28.84	3.08	4.102
L18	25.25	57.68	4277.94	8.60	12.69	337.12	8561.51	28.84	3.08	4.102
	25.34	57.89	4325.42	8.63	12.73	339.65	8656.54	28.95	3.09	4.123
L19	25.34	57.89	4325.42	8.63	12.73	339.65	8656.54	28.95	3.09	4.123
	25.39	58.02	4353.85	8.65	12.76	341.16	8713.43	29.01	3.10	4.135
L20	25.39	58.02	4353.85	8.65	12.76	341.16	8713.43	29.01	3.10	4.135
	25.56	58.40	4439.88	8.71	12.84	345.71	8885.60	29.20	3.13	4.173
L21	25.56	57.45	4372.56	8.71	12.84	340.46	8750.87	28.73	3.15	4.273
	25.61	57.58	4401.03	8.73	12.87	341.96	8807.86	28.79	3.16	4.286
L22	25.62	55.68	4264.82	8.74	12.87	331.38	8535.26	27.85	3.20	4.498
	26.70	58.09	4841.50	9.12	13.41	361.04	9689.37	29.05	3.39	4.761
L23	26.70	57.10	4763.51	9.12	13.41	355.22	9533.28	28.55	3.41	4.877
	28.65	61.37	5914.44	9.81	14.39	411.11	11836.66	30.69	3.75	5.36
L24	28.14	62.37	5410.41	9.30	13.69	395.16	10827.94	31.19	3.42	4.565
	28.33	64.91	6097.48	9.68	14.23	428.40	12202.98	32.46	3.61	4.815
L25	28.34	63.86	6004.10	9.68	14.23	421.84	12016.10	31.94	3.63	4.926
	28.99	65.37	6441.97	9.91	14.56	442.38	12892.42	32.69	3.75	5.081
L26	28.96	81.44	7918.12	9.85	14.56	543.75	15846.65	40.73	3.42	3.694
	29.02	81.60	7963.81	9.87	14.59	545.88	15938.11	40.81	3.43	3.704
L27	29.02	80.53	7866.80	9.87	14.59	539.23	15743.95	40.27	3.45	3.779
	29.94	83.16	8660.61	10.19	15.05	575.49	17332.61	41.59	3.61	3.954
L28	29.96	72.08	7572.27	10.24	15.05	503.17	15154.50	36.05	3.83	4.861
	30.01	72.21	7614.30	10.26	15.08	505.06	15238.63	36.11	3.84	4.873
L29	30.02	71.10	7503.17	10.26	15.08	497.69	15016.22	35.55	3.86	4.98
	30.50	72.27	7882.73	10.43	15.32	514.55	15775.84	36.14	3.94	5.088
L30	30.51	66.59	7293.37	10.45	15.32	476.08	14596.35	33.30	4.05	5.689

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
	30.57	66.71	7333.03	10.47	15.35	477.83	14675.70	33.36	4.06	5.702
L31	30.55	76.95	8394.09	10.43	15.35	546.97	16799.23	38.48	3.86	4.685
	30.60	77.09	8439.82	10.45	15.37	548.98	16890.75	38.55	3.87	4.696
L32	30.60	75.95	8322.54	10.46	15.37	541.35	16656.02	37.98	3.90	4.795
	31.11	77.23	8750.51	10.63	15.63	560.00	17512.54	38.62	3.98	4.903
L33	31.10	79.54	8997.19	10.62	15.63	575.79	18006.21	39.78	3.94	4.704
	31.16	79.68	9045.32	10.64	15.65	577.87	18102.54	39.85	3.95	4.715
L34	31.16	77.37	8797.28	10.65	15.65	562.02	17606.14	38.69	3.99	4.915
	31.85	79.11	9404.89	10.89	16.00	587.95	18822.16	39.56	4.11	5.061
L35	31.83	90.91	10719.68	10.85	16.00	670.15	21453.47	45.46	3.89	4.151
	31.88	91.07	10775.84	10.86	16.02	672.52	21565.87	45.54	3.90	4.161
L36	31.89	88.71	10514.21	10.87	16.02	656.19	21042.26	44.36	3.95	4.324
	32.97	91.80	11649.83	11.25	16.56	703.31	23315.00	45.91	4.13	4.529
L37	32.97	89.35	11357.49	11.26	16.56	685.66	22729.93	44.68	4.18	4.706
	34.05	92.35	12540.63	11.64	17.11	733.14	25097.77	46.18	4.36	4.917
L38	34.06	89.82	12215.28	11.65	17.11	714.12	24446.63	44.92	4.41	5.111
	35.14	92.73	13444.13	12.03	17.65	761.86	26905.95	46.38	4.60	5.328
L39	35.14	90.11	13083.37	12.03	17.65	741.41	26183.96	45.07	4.64	5.54
	36.23	92.94	14355.91	12.41	18.19	789.32	28730.71	46.48	4.83	5.764
L40	36.23	92.94	14355.91	12.41	18.19	789.32	28730.71	46.48	4.83	5.764
	37.54	96.39	16014.10	12.87	18.85	849.70	32049.26	48.21	5.06	6.037
L41	36.92	79.73	12093.08	12.30	17.97	672.97	24202.07	39.87	4.95	6.827
	37.14	82.75	13520.81	12.77	18.64	725.49	27059.42	41.38	5.18	7.146
L42	37.14	81.35	13301.56	12.77	18.64	713.72	26620.62	40.69	5.20	7.302
	38.22	83.76	14517.24	13.15	19.18	757.00	29053.58	41.89	5.39	7.565
L43	38.23	82.32	14277.00	13.15	19.18	744.47	28572.78	41.17	5.41	7.732
	39.02	84.05	15196.54	13.43	19.57	776.40	30413.08	42.03	5.55	7.927
L44	39.01	89.93	16217.53	13.41	19.57	828.56	32456.41	44.98	5.46	7.282
	39.06	90.06	16286.15	13.43	19.60	830.92	32593.73	45.04	5.47	7.294
L45	39.06	90.06	16286.15	13.43	19.60	830.92	32593.73	45.04	5.47	7.294
	39.33	90.69	16632.14	13.53	19.74	842.76	33286.16	45.36	5.52	7.357
L46	39.33	89.21	16371.04	13.53	19.74	829.53	32763.62	44.61	5.54	7.511
	39.39	89.34	16439.70	13.55	19.76	831.87	32901.04	44.68	5.55	7.524
L47	39.39	87.85	16176.95	13.55	19.76	818.57	32375.18	43.93	5.57	7.684
	40.47	90.30	17567.75	13.93	20.30	865.28	35158.62	45.16	5.76	7.942
L48	40.47	90.30	17567.75	13.93	20.30	865.28	35158.62	45.16	5.76	7.942
	41.55	92.75	19036.07	14.31	20.84	913.28	38097.19	46.38	5.95	8.201
L49	41.55	91.18	18725.27	14.31	20.84	898.37	37475.19	45.60	5.97	8.375
	42.04	92.26	19400.45	14.48	21.09	920.03	38826.42	46.14	6.05	8.494
L50	42.04	90.67	19077.61	14.49	21.09	904.72	38180.33	45.34	6.07	8.677
	42.10	90.79	19152.33	14.51	21.11	907.10	38329.86	45.40	6.08	8.69
L51	42.10	89.19	18827.59	14.51	21.11	891.72	37679.96	44.61	6.11	8.88
	42.85	90.82	19875.80	14.78	21.49	924.79	39777.76	45.42	6.24	9.071
L52	42.87	77.80	17107.50	14.81	21.49	795.99	34237.51	38.91	6.41	10.914
	42.92	77.90	17173.04	14.83	21.52	798.03	34368.67	38.96	6.42	10.93
L53	42.92	77.08	16997.97	14.83	21.52	789.90	34018.31	38.55	6.43	11.067
	44.01	79.04	18330.19	15.21	22.06	830.93	36684.49	39.53	6.62	11.389
L54	44.01	78.20	18141.02	15.21	22.06	822.35	36305.92	39.11	6.63	11.532
	45.09	80.15	19526.43	15.59	22.60	863.98	39078.55	40.08	6.82	11.858
L55	45.09	80.15	19526.43	15.59	22.60	863.98	39078.55	40.08	6.82	11.858
	45.84	81.50	20537.05	15.85	22.98	893.74	41101.13	40.76	6.95	12.086
L56	45.82	105.89	26473.78	15.79	22.98	1152.09	52982.40	52.96	6.64	8.855
	45.87	106.02	26568.89	15.81	23.01	1154.87	53172.75	53.02	6.65	8.867
L57	45.87	106.02	26568.89	15.81	23.01	1154.87	53172.75	53.02	6.65	8.867
	46.09	106.53	26951.61	15.89	23.11	1166.03	53938.69	53.27	6.69	8.917

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

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 150.00-145.00				1	1	1			
L2 145.00-140.00				1	1	1			
L3 140.00-135.00				1	1	1			
L4 135.00-130.00				1	1	1			
L5 130.00-123.42				1	1	1			
L6 123.42-122.25				1	1	1			
L7 122.25-122.00				1	1	0.950498			
L8 122.00-120.25				1	1	0.944281			
L9 120.25-120.00				1	1	0.922642			
L10 120.00-115.25				1	1	0.919201			
L11 115.25-115.00				1	1	0.955323			
L12 115.00-114.75				1	1	0.930814			
L13 114.75-109.75				1	1	0.929135			
L14 109.75-105.25				1	1	0.931569			
L15 105.25-105.00				1	1	0.898158			
L16 105.00-101.92				1	1	0.897779			
L17 101.92-101.67				1	1	0.900085			
L18 101.67-101.25				1	1	0.898003			
L19 101.25-101.00				1	1	0.896772			
L20 101.00-100.25				1	1	0.893109			
L21 100.25-100.00				1	1	0.906554			
L22 100.00-95.00				1	1	0.913132			
L23 95.00-85.96				1	1	0.906441			
L24 85.96-85.04				1	1	0.920842			
L25 85.04-82.00				1	1	0.92414			
L26 82.00-81.75				1	1	0.906466			
L27 81.75-77.50				1	1	0.900305			
L28 77.50-77.25				1	1	0.916189			
L29 77.25-75.00				1	1	0.92196			
L30				1	1	0.928632			

Tower Elevation ft	Gusset Area (per face) ft²	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
75.00-74.75									
L31				1	1	0.917944			
74.75-74.50									
L32				1	1	0.922602			
74.50-72.17									
L33				1	1	0.91253			
72.17-71.92									
L34				1	1	0.9276			
71.92-68.75									
L35				1	1	0.905218			
68.75-68.50									
L36				1	1	0.909537			
68.50-63.50									
L37				1	1	0.9155			
63.50-58.50									
L38				1	1	0.923111			
58.50-53.50									
L39				1	1	0.932391			
53.50-48.50									
L40				1	1	0.929274			
48.50-42.41									
L41				1	1	0.944631			
42.41-41.41									
L42				1	1	0.948384			
41.41-36.41									
L43				1	1	0.956154			
36.41-32.75									
L44				1	1	0.949946			
32.75-32.50									
L45				1	1	0.946804			
32.50-31.25									
L46				1	1	0.961903			
31.25-31.00									
L47				1	1	0.965667			
31.00-26.00									
L48				1	1	0.953828			
26.00-21.00									
L49				1	1	0.96505			
21.00-18.75									
L50				1	1	0.981401			
18.75-18.50									
L51				1	1	0.990823			
18.50-15.00									
L52				1	1	1.05172			
15.00-14.75									
L53 14.75-9.75				1	1	1.0525			
L54 9.75-4.75				1	1	1.05381			
L55 4.75-1.25				1	1	1.04711			
L56 1.25-1.00				1	1	1.0171			
L57 1.00-0.00				1	1	1.01464			

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
***										
***										
CU12PSM9P6XXX(1-1/2)	A	No	Surface Ar (CaAa)	107.00 - 0.00	1	1	-0.167 -0.167	1.60		2.350
***										
LDF4-50A(1/2)	A	No	Surface Ar (CaAa)	75.00 - 0.00	1	1	0.167 0.167	0.63		0.150
Mods										
Bar #1	C	No	Surface Af (CaAa)	72.17 - 42.42	1	1	-0.167 -0.167	4.25	11.00	0.000
Bar #1	B	No	Surface Af (CaAa)	72.17 - 42.42	1	1	-0.167 -0.167	4.25	11.00	0.000
Bar #1	A	No	Surface Af (CaAa)	72.17 - 42.42	1	1	-0.167 -0.167	4.25	11.00	0.000
***										
Bar #2	C	No	Surface Af (CaAa)	101.92 - 72.17	1	1	-0.167 -0.167	3.88	10.25	0.000
Bar #2	B	No	Surface Af (CaAa)	101.92 - 72.17	1	1	-0.167 -0.167	3.88	10.25	0.000
Bar #2	A	No	Surface Af (CaAa)	101.92 - 72.17	1	1	-0.167 -0.167	3.88	10.25	0.000
***										
Bar #3	C	No	Surface Af (CaAa)	106.50 - 101.92	1	1	-0.167 -0.167	3.38	9.25	0.000
Bar #3	B	No	Surface Af (CaAa)	106.50 - 101.92	1	1	-0.167 -0.167	3.38	9.25	0.000
Bar #3	A	No	Surface Af (CaAa)	106.50 - 101.92	1	1	-0.167 -0.167	3.38	9.25	0.000
***										
MP3-03 (1.1875in)	B	No	Surface Af (CaAa)	76.00 - 46.00	1	1	0.167 0.167	4.06	11.26	0.000
MP3-03 (1.1875in)	A	No	Surface Af (CaAa)	76.00 - 46.00	1	1	0.167 0.167	4.06	11.26	0.000
MP3-03 (1.1875in)	C	No	Surface Af (CaAa)	76.00 - 46.00	1	1	0.167 0.167	4.06	11.26	0.000
***										
MP3-05 (1.1875in)	C	No	Surface Af (CaAa)	21.25 - 0.00	1	1	-0.167 -0.167	5.33	14.84	0.000
***										
MP3-05 (1.1875in)	B	No	Surface Af (CaAa)	46.25 - 16.25	1	1	0.500 0.500	5.33	14.84	0.000
***										
MP3-05 (1.1875in)	A	No	Surface Af (CaAa)	31.25 - 0.00	1	1	0.500 0.500	5.33	14.84	0.000
MP3-05 (1.1875in)	C	No	Surface Af (CaAa)	31.25 - 0.00	1	1	0.500 0.500	5.33	14.84	0.000
***										
MP3-05 (1.1875in)	A	No	Surface Af (CaAa)	46.25 - 31.25	1	1	0.500 0.500	5.33	14.84	0.000
MP3-05 (1.1875in)	C	No	Surface Af (CaAa)	46.25 - 31.25	1	1	0.500 0.500	5.33	14.84	0.000
***										
MP3-03 (1.1875in)	B	No	Surface Af (CaAa)	76.25 - 46.25	1	1	0.500 0.500	4.06	11.26	0.000
MP3-03 (1.1875in)	A	No	Surface Af (CaAa)	76.25 - 46.25	1	1	0.500 0.500	4.06	11.26	0.000
MP3-03 (1.1875in)	C	No	Surface Af	76.25 -	1	1	0.500	4.06	11.26	0.000

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
			(CaAa)	46.25			0.500			
***										
MP3-03 (1.1875in)	B	No	Surface Af (CaAa)	101.25 - 76.25	1	1	0.500 0.500	4.06	11.26	0.000
MP3-03 (1.1875in)	A	No	Surface Af (CaAa)	101.25 - 76.25	1	1	0.500 0.500	4.06	11.26	0.000
MP3-03 (1.1875in)	C	No	Surface Af (CaAa)	101.25 - 76.25	1	1	0.500 0.500	4.06	11.26	0.000
***										
MP3-03 (1.1875in)	B	No	Surface Af (CaAa)	116.25 - 101.25	1	1	0.500 0.500	4.06	11.26	0.000
MP3-03 (1.1875in)	A	No	Surface Af (CaAa)	116.25 - 101.25	1	1	0.500 0.500	4.06	11.26	0.000
MP3-03 (1.1875in)	C	No	Surface Af (CaAa)	116.25 - 101.25	1	1	0.500 0.500	4.06	11.26	0.000
***										
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	36.25 - 0.00	1	1	0.000 0.000	6.50	15.50	0.000
***										
(Area) CCI-65FP-065125 (Mod) (H)	C	No	Surface Af (CaAa)	36.25 - 0.00	1	1	0.000 0.000	5.50	13.50	0.000
***										
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	36.25 - 11.50	1	1	0.000 0.000	6.50	15.50	0.000
***										
(Area) CCI-65FP-060100 (H)	C	No	Surface Af (CaAa)	71.25 - 36.25	1	1	0.000 0.000	6.00	14.00	0.000
(Area) CCI-65FP-060100 (H)	B	No	Surface Af (CaAa)	71.25 - 36.25	1	1	0.000 0.000	6.00	14.00	0.000
(Area) CCI-65FP-060100 (H)	A	No	Surface Af (CaAa)	71.25 - 36.25	1	1	0.000 0.000	6.00	14.00	0.000
***										
(Area) CCI-65FP-040075 (H)	C	No	Surface Af (CaAa)	101.25 - 71.25	1	1	0.000 0.000	4.00	9.50	0.000
(Area) CCI-65FP-040075 (H)	B	No	Surface Af (CaAa)	101.25 - 71.25	1	1	0.000 0.000	4.00	9.50	0.000
(Area) CCI-65FP-040075 (H)	A	No	Surface Af (CaAa)	101.25 - 71.25	1	1	0.000 0.000	4.00	9.50	0.000
***										
(Area) CCI-65FP-040075 (H)	C	No	Surface Af (CaAa)	121.25 - 101.25	1	1	0.000 0.000	4.00	9.50	0.000
(Area) CCI-65FP-040075 (H)	B	No	Surface Af (CaAa)	121.25 - 101.25	1	1	0.000 0.000	4.00	9.50	0.000
(Area) CCI-65FP-040075 (H)	A	No	Surface Af (CaAa)	121.25 - 101.25	1	1	0.000 0.000	4.00	9.50	0.000
***										
(Area) CCI-65FP-045100 (H)	B	No	Surface Af (CaAa)	83.50 - 73.50	1	1	0.333 0.333	4.50	11.00	0.000
(Area) CCI-65FP-045100 (H)	A	No	Surface Af (CaAa)	83.50 - 73.50	1	1	0.333 0.333	4.50	11.00	0.000
(Area) CCI-65FP-045100 (H)	C	No	Surface Af (CaAa)	83.50 - 73.50	1	1	0.333 0.333	4.50	11.00	0.000
***										
(Area) CCI-65FP-040075 (H)	B	No	Surface Af (CaAa)	123.75 - 113.75	1	1	0.333 0.333	4.00	9.50	0.000
(Area) CCI-65FP-040075 (H)	A	No	Surface Af (CaAa)	123.75 - 113.75	1	1	0.333 0.333	4.00	9.50	0.000
(Area) CCI-65FP-040075 (H)	C	No	Surface Af (CaAa)	123.75 - 113.75	1	1	0.333 0.333	4.00	9.50	0.000
***										

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 ft^2/ft	Weight plf
***									
HB158-21U6S24-xx M_TMO(1-5/8)	A	No	No	Inside Pole	150.00 - 0.00	3	No Ice	0.00	2.500
							1/2" Ice	0.00	2.500
							1" Ice	0.00	2.500
***									
LDF6-50A(1-1/4)	C	No	No	Inside Pole	137.00 - 0.00	12	No Ice	0.00	0.600
							1/2" Ice	0.00	0.600
							1" Ice	0.00	0.600
***									
FB-L98B-002-75000 (3/8)	B	No	No	Inside Pole	136.00 - 0.00	1	No Ice	0.00	0.059
							1/2" Ice	0.00	0.059
							1" Ice	0.00	0.059
WR-VG86ST-BRD(3/4)	B	No	No	Inside Pole	136.00 - 0.00	2	No Ice	0.00	0.584
							1/2" Ice	0.00	0.584
							1" Ice	0.00	0.584
2" Flexible Conduit	B	No	No	Inside Pole	136.00 - 0.00	1	No Ice	0.00	0.340
							1/2" Ice	0.00	0.340
							1" Ice	0.00	0.340
***									
AVA7-50(1-5/8)	B	No	No	Inside Pole	127.00 - 0.00	13	No Ice	0.00	0.700
							1/2" Ice	0.00	0.700
							1" Ice	0.00	0.700
LDF4-50A(1/2)	B	No	No	Inside Pole	127.00 - 0.00	1	No Ice	0.00	0.150
							1/2" Ice	0.00	0.150
							1" Ice	0.00	0.150
***									
FXL-1873(1-5/8)	C	No	No	Inside Pole	117.00 - 0.00	7	No Ice	0.00	0.670
							1/2" Ice	0.00	0.670
							1" Ice	0.00	0.670
860 10033(3/8)	C	No	No	Inside Pole	117.00 - 0.00	1	No Ice	0.00	0.004
							1/2" Ice	0.00	0.004
							1" Ice	0.00	0.004
***									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	150.00-145.00	A	0.000	0.000	0.000	0.000	0.04
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L2	145.00-140.00	A	0.000	0.000	0.000	0.000	0.04
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L3	140.00-135.00	A	0.000	0.000	0.000	0.000	0.04
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.01
L4	135.00-130.00	A	0.000	0.000	0.000	0.000	0.04
		B	0.000	0.000	0.000	0.000	0.01

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
		C	0.000	0.000	0.000	0.000	0.04
L5	130.00-123.42	A	0.000	0.000	0.220	0.000	0.05
		B	0.000	0.000	0.220	0.000	0.04
		C	0.000	0.000	0.220	0.000	0.05
L6	123.42-122.25	A	0.000	0.000	0.780	0.000	0.01
		B	0.000	0.000	0.780	0.000	0.01
		C	0.000	0.000	0.780	0.000	0.01
L7	122.25-122.00	A	0.000	0.000	0.167	0.000	0.00
		B	0.000	0.000	0.167	0.000	0.00
		C	0.000	0.000	0.167	0.000	0.00
L8	122.00-120.25	A	0.000	0.000	1.833	0.000	0.01
		B	0.000	0.000	1.833	0.000	0.02
		C	0.000	0.000	1.833	0.000	0.01
L9	120.25-120.00	A	0.000	0.000	0.333	0.000	0.00
		B	0.000	0.000	0.333	0.000	0.00
		C	0.000	0.000	0.333	0.000	0.00
L10	120.00-115.25	A	0.000	0.000	7.010	0.000	0.04
		B	0.000	0.000	7.010	0.000	0.05
		C	0.000	0.000	7.010	0.000	0.04
L11	115.25-115.00	A	0.000	0.000	0.502	0.000	0.00
		B	0.000	0.000	0.502	0.000	0.00
		C	0.000	0.000	0.502	0.000	0.00
L12	115.00-114.75	A	0.000	0.000	0.502	0.000	0.00
		B	0.000	0.000	0.502	0.000	0.00
		C	0.000	0.000	0.502	0.000	0.00
L13	114.75-109.75	A	0.000	0.000	7.383	0.000	0.04
		B	0.000	0.000	7.383	0.000	0.05
		C	0.000	0.000	7.383	0.000	0.06
L14	109.75-105.25	A	0.000	0.000	6.914	0.000	0.04
		B	0.000	0.000	6.634	0.000	0.05
		C	0.000	0.000	6.634	0.000	0.05
L15	105.25-105.00	A	0.000	0.000	0.494	0.000	0.00
		B	0.000	0.000	0.454	0.000	0.00
		C	0.000	0.000	0.454	0.000	0.00
L16	105.00-101.92	A	0.000	0.000	6.082	0.000	0.03
		B	0.000	0.000	5.589	0.000	0.03
		C	0.000	0.000	5.589	0.000	0.04
L17	101.92-101.67	A	0.000	0.000	0.537	0.000	0.00
		B	0.000	0.000	0.497	0.000	0.00
		C	0.000	0.000	0.497	0.000	0.00
L18	101.67-101.25	A	0.000	0.000	0.903	0.000	0.00
		B	0.000	0.000	0.835	0.000	0.00
		C	0.000	0.000	0.835	0.000	0.00
L19	101.25-101.00	A	0.000	0.000	0.537	0.000	0.00
		B	0.000	0.000	0.497	0.000	0.00
		C	0.000	0.000	0.497	0.000	0.00
L20	101.00-100.25	A	0.000	0.000	1.612	0.000	0.01
		B	0.000	0.000	1.492	0.000	0.01
		C	0.000	0.000	1.492	0.000	0.01
L21	100.25-100.00	A	0.000	0.000	0.537	0.000	0.00
		B	0.000	0.000	0.497	0.000	0.00
		C	0.000	0.000	0.497	0.000	0.00
L22	100.00-95.00	A	0.000	0.000	10.746	0.000	0.05
		B	0.000	0.000	9.946	0.000	0.05
		C	0.000	0.000	9.946	0.000	0.06
L23	95.00-85.96	A	0.000	0.000	19.428	0.000	0.09
		B	0.000	0.000	17.982	0.000	0.10
		C	0.000	0.000	17.982	0.000	0.11
L24	85.96-85.04	A	0.000	0.000	1.977	0.000	0.01
		B	0.000	0.000	1.830	0.000	0.01
		C	0.000	0.000	1.830	0.000	0.01

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
L25	85.04-82.00	A	0.000	0.000	7.658	0.000	0.03
		B	0.000	0.000	7.172	0.000	0.03
		C	0.000	0.000	7.172	0.000	0.04
L26	82.00-81.75	A	0.000	0.000	0.725	0.000	0.00
		B	0.000	0.000	0.685	0.000	0.00
		C	0.000	0.000	0.685	0.000	0.00
L27	81.75-77.50	A	0.000	0.000	12.321	0.000	0.04
		B	0.000	0.000	11.641	0.000	0.05
		C	0.000	0.000	11.641	0.000	0.05
L28	77.50-77.25	A	0.000	0.000	0.725	0.000	0.00
		B	0.000	0.000	0.685	0.000	0.00
		C	0.000	0.000	0.685	0.000	0.00
L29	77.25-75.00	A	0.000	0.000	7.200	0.000	0.02
		B	0.000	0.000	6.840	0.000	0.02
		C	0.000	0.000	6.840	0.000	0.03
L30	75.00-74.75	A	0.000	0.000	0.910	0.000	0.00
		B	0.000	0.000	0.854	0.000	0.00
		C	0.000	0.000	0.854	0.000	0.00
L31	74.75-74.50	A	0.000	0.000	0.910	0.000	0.00
		B	0.000	0.000	0.854	0.000	0.00
		C	0.000	0.000	0.854	0.000	0.00
L32	74.50-72.17	A	0.000	0.000	7.480	0.000	0.02
		B	0.000	0.000	6.961	0.000	0.03
		C	0.000	0.000	6.961	0.000	0.03
L33	72.17-71.92	A	0.000	0.000	0.738	0.000	0.00
		B	0.000	0.000	0.682	0.000	0.00
		C	0.000	0.000	0.682	0.000	0.00
L34	71.92-68.75	A	0.000	0.000	10.187	0.000	0.03
		B	0.000	0.000	9.482	0.000	0.03
		C	0.000	0.000	9.482	0.000	0.04
L35	68.75-68.50	A	0.000	0.000	0.821	0.000	0.00
		B	0.000	0.000	0.765	0.000	0.00
		C	0.000	0.000	0.765	0.000	0.00
L36	68.50-63.50	A	0.000	0.000	16.421	0.000	0.05
		B	0.000	0.000	15.308	0.000	0.05
		C	0.000	0.000	15.308	0.000	0.06
L37	63.50-58.50	A	0.000	0.000	16.421	0.000	0.05
		B	0.000	0.000	15.308	0.000	0.05
		C	0.000	0.000	15.308	0.000	0.06
L38	58.50-53.50	A	0.000	0.000	16.421	0.000	0.05
		B	0.000	0.000	15.308	0.000	0.05
		C	0.000	0.000	15.308	0.000	0.06
L39	53.50-48.50	A	0.000	0.000	16.421	0.000	0.05
		B	0.000	0.000	15.308	0.000	0.05
		C	0.000	0.000	15.308	0.000	0.06
L40	48.50-42.41	A	0.000	0.000	18.377	0.000	0.06
		B	0.000	0.000	17.022	0.000	0.07
		C	0.000	0.000	17.022	0.000	0.07
L41	42.41-41.41	A	0.000	0.000	2.111	0.000	0.01
		B	0.000	0.000	1.888	0.000	0.01
		C	0.000	0.000	1.888	0.000	0.01
L42	41.41-36.41	A	0.000	0.000	10.554	0.000	0.05
		B	0.000	0.000	9.442	0.000	0.05
		C	0.000	0.000	9.442	0.000	0.06
L43	36.41-32.75	A	0.000	0.000	8.017	0.000	0.04
		B	0.000	0.000	7.203	0.000	0.04
		C	0.000	0.000	6.620	0.000	0.04
L44	32.75-32.50	A	0.000	0.000	0.549	0.000	0.00
		B	0.000	0.000	0.493	0.000	0.00
		C	0.000	0.000	0.451	0.000	0.00
L45	32.50-31.25	A	0.000	0.000	2.743	0.000	0.01

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
		B	0.000	0.000	2.465	0.000	0.01
		C	0.000	0.000	2.256	0.000	0.01
L46	31.25-31.00	A	0.000	0.000	0.549	0.000	0.00
		B	0.000	0.000	0.493	0.000	0.00
		C	0.000	0.000	0.451	0.000	0.00
L47	31.00-26.00	A	0.000	0.000	10.971	0.000	0.05
		B	0.000	0.000	9.858	0.000	0.05
		C	0.000	0.000	9.025	0.000	0.06
L48	26.00-21.00	A	0.000	0.000	10.971	0.000	0.05
		B	0.000	0.000	9.858	0.000	0.05
		C	0.000	0.000	9.247	0.000	0.06
L49	21.00-18.75	A	0.000	0.000	4.937	0.000	0.02
		B	0.000	0.000	4.436	0.000	0.02
		C	0.000	0.000	6.060	0.000	0.03
L50	18.75-18.50	A	0.000	0.000	0.549	0.000	0.00
		B	0.000	0.000	0.493	0.000	0.00
		C	0.000	0.000	0.673	0.000	0.00
L51	18.50-15.00	A	0.000	0.000	7.680	0.000	0.04
		B	0.000	0.000	5.790	0.000	0.04
		C	0.000	0.000	9.427	0.000	0.04
L52	15.00-14.75	A	0.000	0.000	0.549	0.000	0.00
		B	0.000	0.000	0.271	0.000	0.00
		C	0.000	0.000	0.673	0.000	0.00
L53	14.75-9.75	A	0.000	0.000	9.075	0.000	0.05
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	13.467	0.000	0.06
L54	9.75-4.75	A	0.000	0.000	5.554	0.000	0.05
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	13.467	0.000	0.06
L55	4.75-1.25	A	0.000	0.000	3.888	0.000	0.04
		B	0.000	0.000	3.792	0.000	0.04
		C	0.000	0.000	9.427	0.000	0.04
L56	1.25-1.00	A	0.000	0.000	0.278	0.000	0.00
		B	0.000	0.000	0.271	0.000	0.00
		C	0.000	0.000	0.673	0.000	0.00
L57	1.00-0.00	A	0.000	0.000	1.111	0.000	0.01
		B	0.000	0.000	1.083	0.000	0.01
		C	0.000	0.000	2.693	0.000	0.01

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	150.00-145.00	A	0.987	0.000	0.000	0.000	0.000	0.04
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L2	145.00-140.00	A	0.984	0.000	0.000	0.000	0.000	0.04
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L3	140.00-135.00	A	0.980	0.000	0.000	0.000	0.000	0.04
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.01
L4	135.00-130.00	A	0.977	0.000	0.000	0.000	0.000	0.04
		B		0.000	0.000	0.000	0.000	0.01
		C		0.000	0.000	0.000	0.000	0.04
L5	130.00-123.42	A	0.972	0.000	0.000	0.270	0.000	0.05
		B		0.000	0.000	0.270	0.000	0.05

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
		C		0.000	0.000	0.270	0.000	0.05
L6	123.42-122.25	A	0.969	0.000	0.000	0.957	0.000	0.01
		B		0.000	0.000	0.957	0.000	0.02
		C		0.000	0.000	0.957	0.000	0.01
L7	122.25-122.00	A	0.969	0.000	0.000	0.204	0.000	0.00
		B		0.000	0.000	0.204	0.000	0.00
		C		0.000	0.000	0.204	0.000	0.00
L8	122.00-120.25	A	0.968	0.000	0.000	2.290	0.000	0.03
		B		0.000	0.000	2.290	0.000	0.03
		C		0.000	0.000	2.290	0.000	0.03
L9	120.25-120.00	A	0.967	0.000	0.000	0.419	0.000	0.00
		B		0.000	0.000	0.419	0.000	0.01
		C		0.000	0.000	0.419	0.000	0.00
L10	120.00-115.25	A	0.965	0.000	0.000	8.833	0.000	0.09
		B		0.000	0.000	8.833	0.000	0.10
		C		0.000	0.000	8.833	0.000	0.09
L11	115.25-115.00	A	0.963	0.000	0.000	0.636	0.000	0.01
		B		0.000	0.000	0.636	0.000	0.01
		C		0.000	0.000	0.636	0.000	0.01
L12	115.00-114.75	A	0.963	0.000	0.000	0.636	0.000	0.01
		B		0.000	0.000	0.636	0.000	0.01
		C		0.000	0.000	0.636	0.000	0.01
L13	114.75-109.75	A	0.961	0.000	0.000	9.454	0.000	0.09
		B		0.000	0.000	9.454	0.000	0.11
		C		0.000	0.000	9.454	0.000	0.12
L14	109.75-105.25	A	0.957	0.000	0.000	9.101	0.000	0.10
		B		0.000	0.000	8.486	0.000	0.10
		C		0.000	0.000	8.486	0.000	0.11
L15	105.25-105.00	A	0.954	0.000	0.000	0.663	0.000	0.01
		B		0.000	0.000	0.575	0.000	0.01
		C		0.000	0.000	0.575	0.000	0.01
L16	105.00-101.92	A	0.953	0.000	0.000	8.163	0.000	0.09
		B		0.000	0.000	7.083	0.000	0.08
		C		0.000	0.000	7.083	0.000	0.08
L17	101.92-101.67	A	0.951	0.000	0.000	0.728	0.000	0.01
		B		0.000	0.000	0.640	0.000	0.01
		C		0.000	0.000	0.640	0.000	0.01
L18	101.67-101.25	A	0.951	0.000	0.000	1.222	0.000	0.01
		B		0.000	0.000	1.075	0.000	0.01
		C		0.000	0.000	1.075	0.000	0.01
L19	101.25-101.00	A	0.951	0.000	0.000	0.727	0.000	0.01
		B		0.000	0.000	0.640	0.000	0.01
		C		0.000	0.000	0.640	0.000	0.01
L20	101.00-100.25	A	0.950	0.000	0.000	2.182	0.000	0.02
		B		0.000	0.000	1.919	0.000	0.02
		C		0.000	0.000	1.919	0.000	0.02
L21	100.25-100.00	A	0.950	0.000	0.000	0.727	0.000	0.01
		B		0.000	0.000	0.640	0.000	0.01
		C		0.000	0.000	0.640	0.000	0.01
L22	100.00-95.00	A	0.947	0.000	0.000	14.535	0.000	0.14
		B		0.000	0.000	12.788	0.000	0.13
		C		0.000	0.000	12.788	0.000	0.14
L23	95.00-85.96	A	0.940	0.000	0.000	26.228	0.000	0.25
		B		0.000	0.000	23.081	0.000	0.24
		C		0.000	0.000	23.081	0.000	0.25
L24	85.96-85.04	A	0.935	0.000	0.000	2.669	0.000	0.03
		B		0.000	0.000	2.349	0.000	0.02
		C		0.000	0.000	2.349	0.000	0.02
L25	85.04-82.00	A	0.933	0.000	0.000	10.094	0.000	0.09
		B		0.000	0.000	9.041	0.000	0.09
		C		0.000	0.000	9.041	0.000	0.09

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
L26	82.00-81.75	A	0.931	0.000	0.000	0.939	0.000	0.01
		B		0.000	0.000	0.852	0.000	0.01
		C		0.000	0.000	0.852	0.000	0.01
L27	81.75-77.50	A	0.928	0.000	0.000	15.950	0.000	0.14
		B		0.000	0.000	14.481	0.000	0.13
		C		0.000	0.000	14.481	0.000	0.14
L28	77.50-77.25	A	0.926	0.000	0.000	0.938	0.000	0.01
		B		0.000	0.000	0.851	0.000	0.01
		C		0.000	0.000	0.851	0.000	0.01
L29	77.25-75.00	A	0.924	0.000	0.000	9.297	0.000	0.08
		B		0.000	0.000	8.521	0.000	0.07
		C		0.000	0.000	8.521	0.000	0.08
L30	75.00-74.75	A	0.923	0.000	0.000	1.214	0.000	0.01
		B		0.000	0.000	1.066	0.000	0.01
		C		0.000	0.000	1.066	0.000	0.01
L31	74.75-74.50	A	0.922	0.000	0.000	1.214	0.000	0.01
		B		0.000	0.000	1.066	0.000	0.01
		C		0.000	0.000	1.066	0.000	0.01
L32	74.50-72.17	A	0.921	0.000	0.000	10.164	0.000	0.09
		B		0.000	0.000	8.788	0.000	0.08
		C		0.000	0.000	8.788	0.000	0.08
L33	72.17-71.92	A	0.919	0.000	0.000	1.013	0.000	0.01
		B		0.000	0.000	0.866	0.000	0.01
		C		0.000	0.000	0.866	0.000	0.01
L34	71.92-68.75	A	0.917	0.000	0.000	13.675	0.000	0.11
		B		0.000	0.000	11.807	0.000	0.10
		C		0.000	0.000	11.807	0.000	0.11
L35	68.75-68.50	A	0.915	0.000	0.000	1.095	0.000	0.01
		B		0.000	0.000	0.948	0.000	0.01
		C		0.000	0.000	0.948	0.000	0.01
L36	68.50-63.50	A	0.911	0.000	0.000	21.887	0.000	0.18
		B		0.000	0.000	18.952	0.000	0.16
		C		0.000	0.000	18.952	0.000	0.17
L37	63.50-58.50	A	0.904	0.000	0.000	21.844	0.000	0.18
		B		0.000	0.000	18.924	0.000	0.16
		C		0.000	0.000	18.924	0.000	0.17
L38	58.50-53.50	A	0.896	0.000	0.000	21.798	0.000	0.18
		B		0.000	0.000	18.893	0.000	0.16
		C		0.000	0.000	18.893	0.000	0.17
L39	53.50-48.50	A	0.888	0.000	0.000	21.748	0.000	0.18
		B		0.000	0.000	18.860	0.000	0.16
		C		0.000	0.000	18.860	0.000	0.16
L40	48.50-42.41	A	0.878	0.000	0.000	24.150	0.000	0.20
		B		0.000	0.000	20.666	0.000	0.18
		C		0.000	0.000	20.657	0.000	0.19
L41	42.41-41.41	A	0.871	0.000	0.000	2.811	0.000	0.03
		B		0.000	0.000	2.239	0.000	0.02
		C		0.000	0.000	2.237	0.000	0.02
L42	41.41-36.41	A	0.864	0.000	0.000	14.001	0.000	0.13
		B		0.000	0.000	11.170	0.000	0.11
		C		0.000	0.000	11.160	0.000	0.12
L43	36.41-32.75	A	0.854	0.000	0.000	10.511	0.000	0.10
		B		0.000	0.000	8.453	0.000	0.08
		C		0.000	0.000	7.863	0.000	0.09
L44	32.75-32.50	A	0.849	0.000	0.000	0.718	0.000	0.01
		B		0.000	0.000	0.578	0.000	0.01
		C		0.000	0.000	0.536	0.000	0.01
L45	32.50-31.25	A	0.847	0.000	0.000	3.588	0.000	0.03
		B		0.000	0.000	2.888	0.000	0.03
		C		0.000	0.000	2.678	0.000	0.03
L46	31.25-31.00	A	0.845	0.000	0.000	0.718	0.000	0.01

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
		B		0.000	0.000	0.577	0.000	0.01
		C		0.000	0.000	0.536	0.000	0.01
L47	31.00-26.00	A	0.838	0.000	0.000	14.321	0.000	0.13
		B		0.000	0.000	11.534	0.000	0.11
		C		0.000	0.000	10.700	0.000	0.12
L48	26.00-21.00	A	0.822	0.000	0.000	14.257	0.000	0.13
		B		0.000	0.000	11.502	0.000	0.11
		C		0.000	0.000	10.931	0.000	0.12
L49	21.00-18.75	A	0.808	0.000	0.000	6.391	0.000	0.06
		B		0.000	0.000	5.163	0.000	0.05
		C		0.000	0.000	7.151	0.000	0.06
L50	18.75-18.50	A	0.803	0.000	0.000	0.709	0.000	0.01
		B		0.000	0.000	0.573	0.000	0.01
		C		0.000	0.000	0.794	0.000	0.01
L51	18.50-15.00	A	0.794	0.000	0.000	9.903	0.000	0.09
		B		0.000	0.000	6.704	0.000	0.07
		C		0.000	0.000	11.095	0.000	0.10
L52	15.00-14.75	A	0.785	0.000	0.000	0.706	0.000	0.01
		B		0.000	0.000	0.310	0.000	0.00
		C		0.000	0.000	0.791	0.000	0.01
L53	14.75-9.75	A	0.770	0.000	0.000	11.885	0.000	0.11
		B		0.000	0.000	6.186	0.000	0.08
		C		0.000	0.000	15.776	0.000	0.14
L54	9.75-4.75	A	0.730	0.000	0.000	7.745	0.000	0.09
		B		0.000	0.000	6.147	0.000	0.08
		C		0.000	0.000	15.658	0.000	0.13
L55	4.75-1.25	A	0.669	0.000	0.000	5.292	0.000	0.06
		B		0.000	0.000	4.260	0.000	0.05
		C		0.000	0.000	10.831	0.000	0.09
L56	1.25-1.00	A	0.606	0.000	0.000	0.369	0.000	0.00
		B		0.000	0.000	0.301	0.000	0.00
		C		0.000	0.000	0.764	0.000	0.01
L57	1.00-0.00	A	0.559	0.000	0.000	1.446	0.000	0.02
		B		0.000	0.000	1.195	0.000	0.01
		C		0.000	0.000	3.029	0.000	0.02

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	150.00-145.00	0.00	0.00	0.00	0.00
L2	145.00-140.00	0.00	0.00	0.00	0.00
L3	140.00-135.00	0.00	0.00	0.00	0.00
L4	135.00-130.00	0.00	0.00	0.00	0.00
L5	130.00-123.42	0.00	0.00	0.00	0.00
L6	123.42-122.25	0.00	0.00	0.00	0.00
L7	122.25-122.00	0.00	0.00	0.00	0.00
L8	122.00-120.25	0.00	0.00	0.00	0.00
L9	120.25-120.00	0.00	0.00	0.00	0.00
L10	120.00-115.25	0.00	0.00	0.00	0.00
L11	115.25-115.00	0.00	0.00	0.00	0.00
L12	115.00-114.75	0.00	0.00	0.00	0.00
L13	114.75-109.75	0.00	0.00	0.00	0.00
L14	109.75-105.25	-0.13	-0.02	-0.21	-0.04
L15	105.25-105.00	-0.29	-0.05	-0.45	-0.08
L16	105.00-101.92	-0.29	-0.05	-0.46	-0.08

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L17	101.92-101.67	-0.27	-0.05	-0.43	-0.07
L18	101.67-101.25	-0.27	-0.05	-0.43	-0.08
L19	101.25-101.00	-0.27	-0.05	-0.43	-0.08
L20	101.00-100.25	-0.28	-0.05	-0.43	-0.08
L21	100.25-100.00	-0.28	-0.05	-0.43	-0.08
L22	100.00-95.00	-0.28	-0.05	-0.44	-0.08
L23	95.00-85.96	-0.29	-0.05	-0.45	-0.08
L24	85.96-85.04	-0.30	-0.05	-0.46	-0.08
L25	85.04-82.00	-0.26	-0.05	-0.41	-0.07
L26	82.00-81.75	-0.23	-0.04	-0.38	-0.07
L27	81.75-77.50	-0.24	-0.04	-0.38	-0.07
L28	77.50-77.25	-0.24	-0.04	-0.39	-0.07
L29	77.25-75.00	-0.22	-0.04	-0.36	-0.06
L30	75.00-74.75	-0.25	-0.09	-0.47	-0.23
L31	74.75-74.50	-0.25	-0.09	-0.47	-0.23
L32	74.50-72.17	-0.28	-0.11	-0.52	-0.26
L33	72.17-71.92	-0.31	-0.12	-0.56	-0.28
L34	71.92-68.75	-0.29	-0.11	-0.53	-0.26
L35	68.75-68.50	-0.29	-0.11	-0.53	-0.26
L36	68.50-63.50	-0.29	-0.11	-0.54	-0.26
L37	63.50-58.50	-0.30	-0.11	-0.55	-0.27
L38	58.50-53.50	-0.31	-0.12	-0.56	-0.27
L39	53.50-48.50	-0.31	-0.12	-0.57	-0.28
L40	48.50-42.41	-0.34	-0.13	-0.62	-0.30
L41	42.41-41.41	-0.46	-0.17	-0.82	-0.40
L42	41.41-36.41	-0.47	-0.18	-0.82	-0.40
L43	36.41-32.75	-0.47	-0.56	-0.82	-0.68
L44	32.75-32.50	-0.47	-0.58	-0.83	-0.69
L45	32.50-31.25	-0.47	-0.58	-0.83	-0.70
L46	31.25-31.00	-0.48	-0.58	-0.83	-0.70
L47	31.00-26.00	-0.48	-0.59	-0.83	-0.70
L48	26.00-21.00	-0.41	-0.50	-0.77	-0.63
L49	21.00-18.75	0.87	1.15	0.38	0.84
L50	18.75-18.50	0.87	1.16	0.38	0.84
L51	18.50-15.00	0.61	0.19	0.14	-0.02
L52	15.00-14.75	0.08	-1.75	-0.35	-1.71
L53	14.75-9.75	0.97	-1.34	0.39	-1.36
L54	9.75-4.75	2.88	-0.44	1.93	-0.62
L55	4.75-1.25	2.92	-0.45	1.98	-0.60
L56	1.25-1.00	2.94	-0.46	2.03	-0.59
L57	1.00-0.00	2.94	-0.46	2.05	-0.57

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
L5	82	(Area) CCI-65FP-040075 (H)	123.42 - 123.75	1.0000	1.0000
L5	83	(Area) CCI-65FP-040075 (H)	123.42 - 123.75	1.0000	1.0000
L5	84	(Area) CCI-65FP-040075 (H)	123.42 - 123.75	1.0000	1.0000
L6	82	(Area) CCI-65FP-040075 (H)	122.25 - 123.42	1.0000	1.0000
L6	83	(Area) CCI-65FP-040075 (H)	122.25 - 123.42	1.0000	1.0000
L6	84	(Area) CCI-65FP-040075 (H)	122.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			123.42		
L7	82	(Area) CCI-65FP-040075 (H)	122.00 - 122.25	1.0000	1.0000
L7	83	(Area) CCI-65FP-040075 (H)	122.00 - 122.25	1.0000	1.0000
L7	84	(Area) CCI-65FP-040075 (H)	122.00 - 122.25	1.0000	1.0000
L8	74	(Area) CCI-65FP-040075 (H)	120.25 - 121.25	1.0000	1.0000
L8	75	(Area) CCI-65FP-040075 (H)	120.25 - 121.25	1.0000	1.0000
L8	76	(Area) CCI-65FP-040075 (H)	120.25 - 121.25	1.0000	1.0000
L8	82	(Area) CCI-65FP-040075 (H)	120.25 - 122.00	1.0000	1.0000
L8	83	(Area) CCI-65FP-040075 (H)	120.25 - 122.00	1.0000	1.0000
L8	84	(Area) CCI-65FP-040075 (H)	120.25 - 122.00	1.0000	1.0000
L9	74	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	1.0000	1.0000
L9	75	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	1.0000	1.0000
L9	76	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	1.0000	1.0000
L9	82	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	1.0000	1.0000
L9	83	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	1.0000	1.0000
L9	84	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	1.0000	1.0000
L10	56	MP3-03 (1.1875in)	115.25 - 116.25	1.0000	1.0000
L10	57	MP3-03 (1.1875in)	115.25 - 116.25	1.0000	1.0000
L10	58	MP3-03 (1.1875in)	115.25 - 116.25	1.0000	1.0000
L10	74	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	1.0000	1.0000
L10	75	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	1.0000	1.0000
L10	76	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	1.0000	1.0000
L10	82	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	1.0000	1.0000
L10	83	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	1.0000	1.0000
L10	84	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	1.0000	1.0000
L11	56	MP3-03 (1.1875in)	115.00 - 115.25	1.0000	1.0000
L11	57	MP3-03 (1.1875in)	115.00 - 115.25	1.0000	1.0000
L11	58	MP3-03 (1.1875in)	115.00 - 115.25	1.0000	1.0000
L11	74	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	1.0000	1.0000
L11	75	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	1.0000	1.0000
L11	76	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	1.0000	1.0000
L11	82	(Area) CCI-65FP-040075 (H)	115.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L11	83	(Area) CCI-65FP-040075 (H)	115.25 115.00 - 115.25	1.0000	1.0000
L11	84	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	1.0000	1.0000
L12	56	MP3-03 (1.1875in)	114.75 - 115.00	1.0000	1.0000
L12	57	MP3-03 (1.1875in)	114.75 - 115.00	1.0000	1.0000
L12	58	MP3-03 (1.1875in)	114.75 - 115.00	1.0000	1.0000
L12	74	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	1.0000	1.0000
L12	75	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	1.0000	1.0000
L12	76	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	1.0000	1.0000
L12	82	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	1.0000	1.0000
L12	83	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	1.0000	1.0000
L12	84	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	1.0000	1.0000
L13	56	MP3-03 (1.1875in)	109.75 - 114.75	1.0000	1.0000
L13	57	MP3-03 (1.1875in)	109.75 - 114.75	1.0000	1.0000
L13	58	MP3-03 (1.1875in)	109.75 - 114.75	1.0000	1.0000
L13	74	(Area) CCI-65FP-040075 (H)	109.75 - 114.75	1.0000	1.0000
L13	75	(Area) CCI-65FP-040075 (H)	109.75 - 114.75	1.0000	1.0000
L13	76	(Area) CCI-65FP-040075 (H)	109.75 - 114.75	1.0000	1.0000
L13	82	(Area) CCI-65FP-040075 (H)	113.75 - 114.75	1.0000	1.0000
L13	83	(Area) CCI-65FP-040075 (H)	113.75 - 114.75	1.0000	1.0000
L13	84	(Area) CCI-65FP-040075 (H)	113.75 - 114.75	1.0000	1.0000
L14	18	CU12PSM9P6XXX(1-1/2)	105.25 - 107.00	1.0000	1.0000
L14	30	Bar #3	105.25 - 106.50	1.0000	1.0000
L14	31	Bar #3	105.25 - 106.50	1.0000	1.0000
L14	32	Bar #3	105.25 - 106.50	1.0000	1.0000
L14	56	MP3-03 (1.1875in)	105.25 - 109.75	1.0000	1.0000
L14	57	MP3-03 (1.1875in)	105.25 - 109.75	1.0000	1.0000
L14	58	MP3-03 (1.1875in)	105.25 - 109.75	1.0000	1.0000
L14	74	(Area) CCI-65FP-040075 (H)	105.25 - 109.75	1.0000	1.0000
L14	75	(Area) CCI-65FP-040075 (H)	105.25 - 109.75	1.0000	1.0000
L14	76	(Area) CCI-65FP-040075 (H)	105.25 - 109.75	1.0000	1.0000
L15	18	CU12PSM9P6XXX(1-1/2)	105.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L15	30	Bar #3	105.25 105.00 - 105.25	1.0000	1.0000
L15	31	Bar #3	105.00 - 105.25	1.0000	1.0000
L15	32	Bar #3	105.00 - 105.25	1.0000	1.0000
L15	56	MP3-03 (1.1875in)	105.00 - 105.25	1.0000	1.0000
L15	57	MP3-03 (1.1875in)	105.00 - 105.25	1.0000	1.0000
L15	58	MP3-03 (1.1875in)	105.00 - 105.25	1.0000	1.0000
L15	74	(Area) CCI-65FP-040075 (H)	105.00 - 105.25	1.0000	1.0000
L15	75	(Area) CCI-65FP-040075 (H)	105.00 - 105.25	1.0000	1.0000
L15	76	(Area) CCI-65FP-040075 (H)	105.00 - 105.25	1.0000	1.0000
L16	18	CU12PSM9P6XXX(1-1/2)	101.92 - 105.00	1.0000	1.0000
L16	30	Bar #3	101.92 - 105.00	1.0000	1.0000
L16	31	Bar #3	101.92 - 105.00	1.0000	1.0000
L16	32	Bar #3	101.92 - 105.00	1.0000	1.0000
L16	56	MP3-03 (1.1875in)	101.92 - 105.00	1.0000	1.0000
L16	57	MP3-03 (1.1875in)	101.92 - 105.00	1.0000	1.0000
L16	58	MP3-03 (1.1875in)	101.92 - 105.00	1.0000	1.0000
L16	74	(Area) CCI-65FP-040075 (H)	101.92 - 105.00	1.0000	1.0000
L16	75	(Area) CCI-65FP-040075 (H)	101.92 - 105.00	1.0000	1.0000
L16	76	(Area) CCI-65FP-040075 (H)	101.92 - 105.00	1.0000	1.0000
L17	18	CU12PSM9P6XXX(1-1/2)	101.67 - 101.92	1.0000	1.0000
L17	26	Bar #2	101.67 - 101.92	1.0000	1.0000
L17	27	Bar #2	101.67 - 101.92	1.0000	1.0000
L17	28	Bar #2	101.67 - 101.92	1.0000	1.0000
L17	56	MP3-03 (1.1875in)	101.67 - 101.92	1.0000	1.0000
L17	57	MP3-03 (1.1875in)	101.67 - 101.92	1.0000	1.0000
L17	58	MP3-03 (1.1875in)	101.67 - 101.92	1.0000	1.0000
L17	74	(Area) CCI-65FP-040075 (H)	101.67 - 101.92	1.0000	1.0000
L17	75	(Area) CCI-65FP-040075 (H)	101.67 - 101.92	1.0000	1.0000
L17	76	(Area) CCI-65FP-040075 (H)	101.67 - 101.92	1.0000	1.0000
L18	18	CU12PSM9P6XXX(1-1/2)	101.25 - 101.67	1.0000	1.0000
L18	26	Bar #2	101.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L18	27	Bar #2	101.25 - 101.67	1.0000	1.0000
L18	28	Bar #2	101.25 - 101.67	1.0000	1.0000
L18	56	MP3-03 (1.1875in)	101.25 - 101.67	1.0000	1.0000
L18	57	MP3-03 (1.1875in)	101.25 - 101.67	1.0000	1.0000
L18	58	MP3-03 (1.1875in)	101.25 - 101.67	1.0000	1.0000
L18	74	(Area) CCI-65FP-040075 (H)	101.25 - 101.67	1.0000	1.0000
L18	75	(Area) CCI-65FP-040075 (H)	101.25 - 101.67	1.0000	1.0000
L18	76	(Area) CCI-65FP-040075 (H)	101.25 - 101.67	1.0000	1.0000
L19	18	CU12PSM9P6XXX(1-1/2)	101.00 - 101.25	1.0000	1.0000
L19	26	Bar #2	101.00 - 101.25	1.0000	1.0000
L19	27	Bar #2	101.00 - 101.25	1.0000	1.0000
L19	28	Bar #2	101.00 - 101.25	1.0000	1.0000
L19	52	MP3-03 (1.1875in)	101.00 - 101.25	1.0000	1.0000
L19	53	MP3-03 (1.1875in)	101.00 - 101.25	1.0000	1.0000
L19	54	MP3-03 (1.1875in)	101.00 - 101.25	1.0000	1.0000
L19	70	(Area) CCI-65FP-040075 (H)	101.00 - 101.25	1.0000	1.0000
L19	71	(Area) CCI-65FP-040075 (H)	101.00 - 101.25	1.0000	1.0000
L19	72	(Area) CCI-65FP-040075 (H)	101.00 - 101.25	1.0000	1.0000
L20	18	CU12PSM9P6XXX(1-1/2)	100.25 - 101.00	1.0000	1.0000
L20	26	Bar #2	100.25 - 101.00	1.0000	1.0000
L20	27	Bar #2	100.25 - 101.00	1.0000	1.0000
L20	28	Bar #2	100.25 - 101.00	1.0000	1.0000
L20	52	MP3-03 (1.1875in)	100.25 - 101.00	1.0000	1.0000
L20	53	MP3-03 (1.1875in)	100.25 - 101.00	1.0000	1.0000
L20	54	MP3-03 (1.1875in)	100.25 - 101.00	1.0000	1.0000
L20	70	(Area) CCI-65FP-040075 (H)	100.25 - 101.00	1.0000	1.0000
L20	71	(Area) CCI-65FP-040075 (H)	100.25 - 101.00	1.0000	1.0000
L20	72	(Area) CCI-65FP-040075 (H)	100.25 - 101.00	1.0000	1.0000
L21	18	CU12PSM9P6XXX(1-1/2)	100.00 - 100.25	1.0000	1.0000
L21	26	Bar #2	100.00 - 100.25	1.0000	1.0000
L21	27	Bar #2	100.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L21	28	Bar #2	100.25 100.00 - 100.25	1.0000	1.0000
L21	52	MP3-03 (1.1875in)	100.00 - 100.25	1.0000	1.0000
L21	53	MP3-03 (1.1875in)	100.00 - 100.25	1.0000	1.0000
L21	54	MP3-03 (1.1875in)	100.00 - 100.25	1.0000	1.0000
L21	70	(Area) CCI-65FP-040075 (H)	100.00 - 100.25	1.0000	1.0000
L21	71	(Area) CCI-65FP-040075 (H)	100.00 - 100.25	1.0000	1.0000
L21	72	(Area) CCI-65FP-040075 (H)	100.00 - 100.25	1.0000	1.0000
L22	18	CU12PSM9P6XXX(1-1/2)	95.00 - 100.00	1.0000	1.0000
L22	26	Bar #2	95.00 - 100.00	1.0000	1.0000
L22	27	Bar #2	95.00 - 100.00	1.0000	1.0000
L22	28	Bar #2	95.00 - 100.00	1.0000	1.0000
L22	52	MP3-03 (1.1875in)	95.00 - 100.00	1.0000	1.0000
L22	53	MP3-03 (1.1875in)	95.00 - 100.00	1.0000	1.0000
L22	54	MP3-03 (1.1875in)	95.00 - 100.00	1.0000	1.0000
L22	70	(Area) CCI-65FP-040075 (H)	95.00 - 100.00	1.0000	1.0000
L22	71	(Area) CCI-65FP-040075 (H)	95.00 - 100.00	1.0000	1.0000
L22	72	(Area) CCI-65FP-040075 (H)	95.00 - 100.00	1.0000	1.0000
L23	18	CU12PSM9P6XXX(1-1/2)	85.96 - 95.00	1.0000	1.0000
L23	26	Bar #2	85.96 - 95.00	1.0000	1.0000
L23	27	Bar #2	85.96 - 95.00	1.0000	1.0000
L23	28	Bar #2	85.96 - 95.00	1.0000	1.0000
L23	52	MP3-03 (1.1875in)	85.96 - 95.00	1.0000	1.0000
L23	53	MP3-03 (1.1875in)	85.96 - 95.00	1.0000	1.0000
L23	54	MP3-03 (1.1875in)	85.96 - 95.00	1.0000	1.0000
L23	70	(Area) CCI-65FP-040075 (H)	85.96 - 95.00	1.0000	1.0000
L23	71	(Area) CCI-65FP-040075 (H)	85.96 - 95.00	1.0000	1.0000
L23	72	(Area) CCI-65FP-040075 (H)	85.96 - 95.00	1.0000	1.0000
L24	18	CU12PSM9P6XXX(1-1/2)	85.04 - 85.96	1.0000	1.0000
L24	26	Bar #2	85.04 - 85.96	1.0000	1.0000
L24	27	Bar #2	85.04 - 85.96	1.0000	1.0000
L24	28	Bar #2	85.04 - 85.96	1.0000	1.0000
L24	52	MP3-03 (1.1875in)	85.04 - 85.96	1.0000	1.0000
L24	53	MP3-03 (1.1875in)	85.04 - 85.96	1.0000	1.0000
L24	54	MP3-03 (1.1875in)	85.04 - 85.96	1.0000	1.0000
L24	70	(Area) CCI-65FP-040075 (H)	85.04 - 85.96	1.0000	1.0000
L24	71	(Area) CCI-65FP-040075 (H)	85.04 - 85.96	1.0000	1.0000
L24	72	(Area) CCI-65FP-040075 (H)	85.04 - 85.96	1.0000	1.0000
L25	18	CU12PSM9P6XXX(1-1/2)	82.00 - 85.04	1.0000	1.0000
L25	26	Bar #2	82.00 - 85.04	1.0000	1.0000
L25	27	Bar #2	82.00 - 85.04	1.0000	1.0000
L25	28	Bar #2	82.00 - 85.04	1.0000	1.0000
L25	52	MP3-03 (1.1875in)	82.00 - 85.04	1.0000	1.0000
L25	53	MP3-03 (1.1875in)	82.00 - 85.04	1.0000	1.0000
L25	54	MP3-03 (1.1875in)	82.00 - 85.04	1.0000	1.0000
L25	70	(Area) CCI-65FP-040075 (H)	82.00 - 85.04	1.0000	1.0000
L25	71	(Area) CCI-65FP-040075 (H)	82.00 - 85.04	1.0000	1.0000
L25	72	(Area) CCI-65FP-040075 (H)	82.00 - 85.04	1.0000	1.0000
L25	78	(Area) CCI-65FP-045100 (H)	82.00 - 83.50	1.0000	1.0000
L25	79	(Area) CCI-65FP-045100 (H)	82.00 - 83.50	1.0000	1.0000
L25	80	(Area) CCI-65FP-045100 (H)	82.00 - 83.50	1.0000	1.0000
L26	18	CU12PSM9P6XXX(1-1/2)	81.75 - 82.00	1.0000	1.0000
L26	26	Bar #2	81.75 - 82.00	1.0000	1.0000
L26	27	Bar #2	81.75 - 82.00	1.0000	1.0000
L26	28	Bar #2	81.75 - 82.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L26	52	MP3-03 (1.1875in)	81.75 - 82.00	1.0000	1.0000
L26	53	MP3-03 (1.1875in)	81.75 - 82.00	1.0000	1.0000
L26	54	MP3-03 (1.1875in)	81.75 - 82.00	1.0000	1.0000
L26	70	(Area) CCI-65FP-040075 (H)	81.75 - 82.00	1.0000	1.0000
L26	71	(Area) CCI-65FP-040075 (H)	81.75 - 82.00	1.0000	1.0000
L26	72	(Area) CCI-65FP-040075 (H)	81.75 - 82.00	1.0000	1.0000
L26	78	(Area) CCI-65FP-045100 (H)	81.75 - 82.00	1.0000	1.0000
L26	79	(Area) CCI-65FP-045100 (H)	81.75 - 82.00	1.0000	1.0000
L26	80	(Area) CCI-65FP-045100 (H)	81.75 - 82.00	1.0000	1.0000
L27	18	CU12PSM9P6XXX(1-1/2)	77.50 - 81.75	1.0000	1.0000
L27	26	Bar #2	77.50 - 81.75	1.0000	1.0000
L27	27	Bar #2	77.50 - 81.75	1.0000	1.0000
L27	28	Bar #2	77.50 - 81.75	1.0000	1.0000
L27	52	MP3-03 (1.1875in)	77.50 - 81.75	1.0000	1.0000
L27	53	MP3-03 (1.1875in)	77.50 - 81.75	1.0000	1.0000
L27	54	MP3-03 (1.1875in)	77.50 - 81.75	1.0000	1.0000
L27	70	(Area) CCI-65FP-040075 (H)	77.50 - 81.75	1.0000	1.0000
L27	71	(Area) CCI-65FP-040075 (H)	77.50 - 81.75	1.0000	1.0000
L27	72	(Area) CCI-65FP-040075 (H)	77.50 - 81.75	1.0000	1.0000
L27	78	(Area) CCI-65FP-045100 (H)	77.50 - 81.75	1.0000	1.0000
L27	79	(Area) CCI-65FP-045100 (H)	77.50 - 81.75	1.0000	1.0000
L27	80	(Area) CCI-65FP-045100 (H)	77.50 - 81.75	1.0000	1.0000
L28	18	CU12PSM9P6XXX(1-1/2)	77.25 - 77.50	1.0000	1.0000
L28	26	Bar #2	77.25 - 77.50	1.0000	1.0000
L28	27	Bar #2	77.25 - 77.50	1.0000	1.0000
L28	28	Bar #2	77.25 - 77.50	1.0000	1.0000
L28	52	MP3-03 (1.1875in)	77.25 - 77.50	1.0000	1.0000
L28	53	MP3-03 (1.1875in)	77.25 - 77.50	1.0000	1.0000
L28	54	MP3-03 (1.1875in)	77.25 - 77.50	1.0000	1.0000
L28	70	(Area) CCI-65FP-040075 (H)	77.25 - 77.50	1.0000	1.0000
L28	71	(Area) CCI-65FP-040075 (H)	77.25 - 77.50	1.0000	1.0000
L28	72	(Area) CCI-65FP-040075 (H)	77.25 - 77.50	1.0000	1.0000
L28	78	(Area) CCI-65FP-045100 (H)	77.25 - 77.50	1.0000	1.0000
L28	79	(Area) CCI-65FP-045100 (H)	77.25 - 77.50	1.0000	1.0000
L28	80	(Area) CCI-65FP-045100 (H)	77.25 - 77.50	1.0000	1.0000
L29	18	CU12PSM9P6XXX(1-1/2)	75.00 - 77.25	1.0000	1.0000
L29	26	Bar #2	75.00 - 77.25	1.0000	1.0000
L29	27	Bar #2	75.00 - 77.25	1.0000	1.0000
L29	28	Bar #2	75.00 - 77.25	1.0000	1.0000
L29	34	MP3-03 (1.1875in)	75.00 - 76.00	1.0000	1.0000
L29	35	MP3-03 (1.1875in)	75.00 - 76.00	1.0000	1.0000
L29	36	MP3-03 (1.1875in)	75.00 - 76.00	1.0000	1.0000
L29	48	MP3-03 (1.1875in)	75.00 - 76.25	1.0000	1.0000
L29	49	MP3-03 (1.1875in)	75.00 - 76.25	1.0000	1.0000
L29	50	MP3-03 (1.1875in)	75.00 - 76.25	1.0000	1.0000
L29	52	MP3-03 (1.1875in)	76.25 - 77.25	1.0000	1.0000
L29	53	MP3-03 (1.1875in)	76.25 - 77.25	1.0000	1.0000
L29	54	MP3-03 (1.1875in)	76.25 - 77.25	1.0000	1.0000
L29	70	(Area) CCI-65FP-040075 (H)	75.00 - 77.25	1.0000	1.0000
L29	71	(Area) CCI-65FP-040075 (H)	75.00 - 77.25	1.0000	1.0000
L29	72	(Area) CCI-65FP-040075 (H)	75.00 - 77.25	1.0000	1.0000
L29	78	(Area) CCI-65FP-045100 (H)	75.00 - 77.25	1.0000	1.0000
L29	79	(Area) CCI-65FP-045100 (H)	75.00 - 77.25	1.0000	1.0000
L29	80	(Area) CCI-65FP-045100 (H)	75.00 - 77.25	1.0000	1.0000
L30	18	CU12PSM9P6XXX(1-1/2)	74.75 - 75.00	1.0000	1.0000
L30	20	LDF4-50A(1/2)	74.75 - 75.00	1.0000	1.0000
L30	26	Bar #2	74.75 - 75.00	1.0000	1.0000
L30	27	Bar #2	74.75 - 75.00	1.0000	1.0000
L30	28	Bar #2	74.75 - 75.00	1.0000	1.0000
L30	34	MP3-03 (1.1875in)	74.75 - 75.00	1.0000	1.0000
L30	35	MP3-03 (1.1875in)	74.75 - 75.00	1.0000	1.0000
L30	36	MP3-03 (1.1875in)	74.75 - 75.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L30	48	MP3-03 (1.1875in)	74.75 - 75.00	1.0000	1.0000
L30	49	MP3-03 (1.1875in)	74.75 - 75.00	1.0000	1.0000
L30	50	MP3-03 (1.1875in)	74.75 - 75.00	1.0000	1.0000
L30	70	(Area) CCI-65FP-040075 (H)	74.75 - 75.00	1.0000	1.0000
L30	71	(Area) CCI-65FP-040075 (H)	74.75 - 75.00	1.0000	1.0000
L30	72	(Area) CCI-65FP-040075 (H)	74.75 - 75.00	1.0000	1.0000
L30	78	(Area) CCI-65FP-045100 (H)	74.75 - 75.00	1.0000	1.0000
L30	79	(Area) CCI-65FP-045100 (H)	74.75 - 75.00	1.0000	1.0000
L30	80	(Area) CCI-65FP-045100 (H)	74.75 - 75.00	1.0000	1.0000
L31	18	CU12PSM9P6XXX(1-1/2)	74.50 - 74.75	1.0000	1.0000
L31	20	LDF4-50A(1/2)	74.50 - 74.75	1.0000	1.0000
L31	26	Bar #2	74.50 - 74.75	1.0000	1.0000
L31	27	Bar #2	74.50 - 74.75	1.0000	1.0000
L31	28	Bar #2	74.50 - 74.75	1.0000	1.0000
L31	34	MP3-03 (1.1875in)	74.50 - 74.75	1.0000	1.0000
L31	35	MP3-03 (1.1875in)	74.50 - 74.75	1.0000	1.0000
L31	36	MP3-03 (1.1875in)	74.50 - 74.75	1.0000	1.0000
L31	48	MP3-03 (1.1875in)	74.50 - 74.75	1.0000	1.0000
L31	49	MP3-03 (1.1875in)	74.50 - 74.75	1.0000	1.0000
L31	50	MP3-03 (1.1875in)	74.50 - 74.75	1.0000	1.0000
L31	70	(Area) CCI-65FP-040075 (H)	74.50 - 74.75	1.0000	1.0000
L31	71	(Area) CCI-65FP-040075 (H)	74.50 - 74.75	1.0000	1.0000
L31	72	(Area) CCI-65FP-040075 (H)	74.50 - 74.75	1.0000	1.0000
L31	78	(Area) CCI-65FP-045100 (H)	74.50 - 74.75	1.0000	1.0000
L31	79	(Area) CCI-65FP-045100 (H)	74.50 - 74.75	1.0000	1.0000
L31	80	(Area) CCI-65FP-045100 (H)	74.50 - 74.75	1.0000	1.0000
L32	18	CU12PSM9P6XXX(1-1/2)	72.17 - 74.50	1.0000	1.0000
L32	20	LDF4-50A(1/2)	72.17 - 74.50	1.0000	1.0000
L32	26	Bar #2	72.17 - 74.50	1.0000	1.0000
L32	27	Bar #2	72.17 - 74.50	1.0000	1.0000
L32	28	Bar #2	72.17 - 74.50	1.0000	1.0000
L32	34	MP3-03 (1.1875in)	72.17 - 74.50	1.0000	1.0000
L32	35	MP3-03 (1.1875in)	72.17 - 74.50	1.0000	1.0000
L32	36	MP3-03 (1.1875in)	72.17 - 74.50	1.0000	1.0000
L32	48	MP3-03 (1.1875in)	72.17 - 74.50	1.0000	1.0000
L32	49	MP3-03 (1.1875in)	72.17 - 74.50	1.0000	1.0000
L32	50	MP3-03 (1.1875in)	72.17 - 74.50	1.0000	1.0000
L32	70	(Area) CCI-65FP-040075 (H)	72.17 - 74.50	1.0000	1.0000
L32	71	(Area) CCI-65FP-040075 (H)	72.17 - 74.50	1.0000	1.0000
L32	72	(Area) CCI-65FP-040075 (H)	72.17 - 74.50	1.0000	1.0000
L32	78	(Area) CCI-65FP-045100 (H)	73.50 - 74.50	1.0000	1.0000
L32	79	(Area) CCI-65FP-045100 (H)	73.50 - 74.50	1.0000	1.0000
L32	80	(Area) CCI-65FP-045100 (H)	73.50 - 74.50	1.0000	1.0000
L33	18	CU12PSM9P6XXX(1-1/2)	71.92 - 72.17	1.0000	1.0000
L33	20	LDF4-50A(1/2)	71.92 - 72.17	1.0000	1.0000
L33	22	Bar #1	71.92 - 72.17	1.0000	1.0000
L33	23	Bar #1	71.92 - 72.17	1.0000	1.0000
L33	24	Bar #1	71.92 - 72.17	1.0000	1.0000
L33	34	MP3-03 (1.1875in)	71.92 - 72.17	1.0000	1.0000
L33	35	MP3-03 (1.1875in)	71.92 - 72.17	1.0000	1.0000
L33	36	MP3-03 (1.1875in)	71.92 - 72.17	1.0000	1.0000
L33	48	MP3-03 (1.1875in)	71.92 - 72.17	1.0000	1.0000
L33	49	MP3-03 (1.1875in)	71.92 - 72.17	1.0000	1.0000
L33	50	MP3-03 (1.1875in)	71.92 - 72.17	1.0000	1.0000
L33	70	(Area) CCI-65FP-040075 (H)	71.92 - 72.17	1.0000	1.0000
L33	71	(Area) CCI-65FP-040075 (H)	71.92 - 72.17	1.0000	1.0000
L33	72	(Area) CCI-65FP-040075 (H)	71.92 - 72.17	1.0000	1.0000
L34	18	CU12PSM9P6XXX(1-1/2)	68.75 - 71.92	1.0000	1.0000
L34	20	LDF4-50A(1/2)	68.75 - 71.92	1.0000	1.0000
L34	22	Bar #1	68.75 - 71.92	1.0000	1.0000
L34	23	Bar #1	68.75 - 71.92	1.0000	1.0000
L34	24	Bar #1	68.75 - 71.92	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L34	34	MP3-03 (1.1875in)	68.75 - 71.92	1.0000	1.0000
L34	35	MP3-03 (1.1875in)	68.75 - 71.92	1.0000	1.0000
L34	36	MP3-03 (1.1875in)	68.75 - 71.92	1.0000	1.0000
L34	48	MP3-03 (1.1875in)	68.75 - 71.92	1.0000	1.0000
L34	49	MP3-03 (1.1875in)	68.75 - 71.92	1.0000	1.0000
L34	50	MP3-03 (1.1875in)	68.75 - 71.92	1.0000	1.0000
L34	66	(Area) CCI-65FP-060100 (H)	68.75 - 71.25	1.0000	1.0000
L34	67	(Area) CCI-65FP-060100 (H)	68.75 - 71.25	1.0000	1.0000
L34	68	(Area) CCI-65FP-060100 (H)	68.75 - 71.25	1.0000	1.0000
L34	70	(Area) CCI-65FP-040075 (H)	71.25 - 71.92	1.0000	1.0000
L34	71	(Area) CCI-65FP-040075 (H)	71.25 - 71.92	1.0000	1.0000
L34	72	(Area) CCI-65FP-040075 (H)	71.25 - 71.92	1.0000	1.0000
L35	18	CU12PSM9P6XXX(1-1/2)	68.50 - 68.75	1.0000	1.0000
L35	20	LDF4-50A(1/2)	68.50 - 68.75	1.0000	1.0000
L35	22	Bar #1	68.50 - 68.75	1.0000	1.0000
L35	23	Bar #1	68.50 - 68.75	1.0000	1.0000
L35	24	Bar #1	68.50 - 68.75	1.0000	1.0000
L35	34	MP3-03 (1.1875in)	68.50 - 68.75	1.0000	1.0000
L35	35	MP3-03 (1.1875in)	68.50 - 68.75	1.0000	1.0000
L35	36	MP3-03 (1.1875in)	68.50 - 68.75	1.0000	1.0000
L35	48	MP3-03 (1.1875in)	68.50 - 68.75	1.0000	1.0000
L35	49	MP3-03 (1.1875in)	68.50 - 68.75	1.0000	1.0000
L35	50	MP3-03 (1.1875in)	68.50 - 68.75	1.0000	1.0000
L35	66	(Area) CCI-65FP-060100 (H)	68.50 - 68.75	1.0000	1.0000
L35	67	(Area) CCI-65FP-060100 (H)	68.50 - 68.75	1.0000	1.0000
L35	68	(Area) CCI-65FP-060100 (H)	68.50 - 68.75	1.0000	1.0000
L36	18	CU12PSM9P6XXX(1-1/2)	63.50 - 68.50	1.0000	1.0000
L36	20	LDF4-50A(1/2)	63.50 - 68.50	1.0000	1.0000
L36	22	Bar #1	63.50 - 68.50	1.0000	1.0000
L36	23	Bar #1	63.50 - 68.50	1.0000	1.0000
L36	24	Bar #1	63.50 - 68.50	1.0000	1.0000
L36	34	MP3-03 (1.1875in)	63.50 - 68.50	1.0000	1.0000
L36	35	MP3-03 (1.1875in)	63.50 - 68.50	1.0000	1.0000
L36	36	MP3-03 (1.1875in)	63.50 - 68.50	1.0000	1.0000
L36	48	MP3-03 (1.1875in)	63.50 - 68.50	1.0000	1.0000
L36	49	MP3-03 (1.1875in)	63.50 - 68.50	1.0000	1.0000
L36	50	MP3-03 (1.1875in)	63.50 - 68.50	1.0000	1.0000
L36	66	(Area) CCI-65FP-060100 (H)	63.50 - 68.50	1.0000	1.0000
L36	67	(Area) CCI-65FP-060100 (H)	63.50 - 68.50	1.0000	1.0000
L36	68	(Area) CCI-65FP-060100 (H)	63.50 - 68.50	1.0000	1.0000
L37	18	CU12PSM9P6XXX(1-1/2)	58.50 - 63.50	1.0000	1.0000
L37	20	LDF4-50A(1/2)	58.50 - 63.50	1.0000	1.0000
L37	22	Bar #1	58.50 - 63.50	1.0000	1.0000
L37	23	Bar #1	58.50 - 63.50	1.0000	1.0000
L37	24	Bar #1	58.50 - 63.50	1.0000	1.0000
L37	34	MP3-03 (1.1875in)	58.50 - 63.50	1.0000	1.0000
L37	35	MP3-03 (1.1875in)	58.50 - 63.50	1.0000	1.0000
L37	36	MP3-03 (1.1875in)	58.50 - 63.50	1.0000	1.0000
L37	48	MP3-03 (1.1875in)	58.50 - 63.50	1.0000	1.0000
L37	49	MP3-03 (1.1875in)	58.50 - 63.50	1.0000	1.0000
L37	50	MP3-03 (1.1875in)	58.50 - 63.50	1.0000	1.0000
L37	66	(Area) CCI-65FP-060100 (H)	58.50 - 63.50	1.0000	1.0000
L37	67	(Area) CCI-65FP-060100 (H)	58.50 - 63.50	1.0000	1.0000
L37	68	(Area) CCI-65FP-060100 (H)	58.50 - 63.50	1.0000	1.0000
L38	18	CU12PSM9P6XXX(1-1/2)	53.50 - 58.50	1.0000	1.0000
L38	20	LDF4-50A(1/2)	53.50 - 58.50	1.0000	1.0000
L38	22	Bar #1	53.50 - 58.50	1.0000	1.0000
L38	23	Bar #1	53.50 - 58.50	1.0000	1.0000
L38	24	Bar #1	53.50 - 58.50	1.0000	1.0000
L38	34	MP3-03 (1.1875in)	53.50 - 58.50	1.0000	1.0000
L38	35	MP3-03 (1.1875in)	53.50 - 58.50	1.0000	1.0000
L38	36	MP3-03 (1.1875in)	53.50 - 58.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L38	48	MP3-03 (1.1875in)	53.50 - 58.50	1.0000	1.0000
L38	49	MP3-03 (1.1875in)	53.50 - 58.50	1.0000	1.0000
L38	50	MP3-03 (1.1875in)	53.50 - 58.50	1.0000	1.0000
L38	66	(Area) CCI-65FP-060100 (H)	53.50 - 58.50	1.0000	1.0000
L38	67	(Area) CCI-65FP-060100 (H)	53.50 - 58.50	1.0000	1.0000
L38	68	(Area) CCI-65FP-060100 (H)	53.50 - 58.50	1.0000	1.0000
L39	18	CU12PSM9P6XXX(1-1/2)	48.50 - 53.50	1.0000	1.0000
L39	20	LDF4-50A(1/2)	48.50 - 53.50	1.0000	1.0000
L39	22	Bar #1	48.50 - 53.50	1.0000	1.0000
L39	23	Bar #1	48.50 - 53.50	1.0000	1.0000
L39	24	Bar #1	48.50 - 53.50	1.0000	1.0000
L39	34	MP3-03 (1.1875in)	48.50 - 53.50	1.0000	1.0000
L39	35	MP3-03 (1.1875in)	48.50 - 53.50	1.0000	1.0000
L39	36	MP3-03 (1.1875in)	48.50 - 53.50	1.0000	1.0000
L39	48	MP3-03 (1.1875in)	48.50 - 53.50	1.0000	1.0000
L39	49	MP3-03 (1.1875in)	48.50 - 53.50	1.0000	1.0000
L39	50	MP3-03 (1.1875in)	48.50 - 53.50	1.0000	1.0000
L39	66	(Area) CCI-65FP-060100 (H)	48.50 - 53.50	1.0000	1.0000
L39	67	(Area) CCI-65FP-060100 (H)	48.50 - 53.50	1.0000	1.0000
L39	68	(Area) CCI-65FP-060100 (H)	48.50 - 53.50	1.0000	1.0000
L40	18	CU12PSM9P6XXX(1-1/2)	42.41 - 48.50	1.0000	1.0000
L40	20	LDF4-50A(1/2)	42.41 - 48.50	1.0000	1.0000
L40	22	Bar #1	42.42 - 48.50	1.0000	1.0000
L40	23	Bar #1	42.42 - 48.50	1.0000	1.0000
L40	24	Bar #1	42.42 - 48.50	1.0000	1.0000
L40	34	MP3-03 (1.1875in)	46.00 - 48.50	1.0000	1.0000
L40	35	MP3-03 (1.1875in)	46.00 - 48.50	1.0000	1.0000
L40	36	MP3-03 (1.1875in)	46.00 - 48.50	1.0000	1.0000
L40	40	MP3-05 (1.1875in)	42.41 - 46.25	1.0000	1.0000
L40	45	MP3-05 (1.1875in)	42.41 - 46.25	1.0000	1.0000
L40	46	MP3-05 (1.1875in)	42.41 - 46.25	1.0000	1.0000
L40	48	MP3-03 (1.1875in)	46.25 - 48.50	1.0000	1.0000
L40	49	MP3-03 (1.1875in)	46.25 - 48.50	1.0000	1.0000
L40	50	MP3-03 (1.1875in)	46.25 - 48.50	1.0000	1.0000
L40	66	(Area) CCI-65FP-060100 (H)	42.41 - 48.50	1.0000	1.0000
L40	67	(Area) CCI-65FP-060100 (H)	42.41 - 48.50	1.0000	1.0000
L40	68	(Area) CCI-65FP-060100 (H)	42.41 - 48.50	1.0000	1.0000
L41	18	CU12PSM9P6XXX(1-1/2)	41.41 - 42.41	1.0000	1.0000
L41	20	LDF4-50A(1/2)	41.41 - 42.41	1.0000	1.0000
L41	40	MP3-05 (1.1875in)	41.41 - 42.41	1.0000	1.0000
L41	45	MP3-05 (1.1875in)	41.41 - 42.41	1.0000	1.0000
L41	46	MP3-05 (1.1875in)	41.41 - 42.41	1.0000	1.0000
L41	66	(Area) CCI-65FP-060100 (H)	41.41 - 42.41	1.0000	1.0000
L41	67	(Area) CCI-65FP-060100 (H)	41.41 - 42.41	1.0000	1.0000
L41	68	(Area) CCI-65FP-060100 (H)	41.41 - 42.41	1.0000	1.0000
L42	18	CU12PSM9P6XXX(1-1/2)	36.41 - 41.41	1.0000	1.0000
L42	20	LDF4-50A(1/2)	36.41 - 41.41	1.0000	1.0000
L42	40	MP3-05 (1.1875in)	36.41 - 41.41	1.0000	1.0000
L42	45	MP3-05 (1.1875in)	36.41 - 41.41	1.0000	1.0000
L42	46	MP3-05 (1.1875in)	36.41 - 41.41	1.0000	1.0000
L42	66	(Area) CCI-65FP-060100 (H)	36.41 - 41.41	1.0000	1.0000
L42	67	(Area) CCI-65FP-060100 (H)	36.41 - 41.41	1.0000	1.0000
L42	68	(Area) CCI-65FP-060100 (H)	36.41 - 41.41	1.0000	1.0000
L43	18	CU12PSM9P6XXX(1-1/2)	32.75 - 36.41	1.0000	1.0000
L43	20	LDF4-50A(1/2)	32.75 - 36.41	1.0000	1.0000
L43	40	MP3-05 (1.1875in)	32.75 - 36.41	1.0000	1.0000
L43	45	MP3-05 (1.1875in)	32.75 - 36.41	1.0000	1.0000
L43	46	MP3-05 (1.1875in)	32.75 - 36.41	1.0000	1.0000
L43	60	(Area) CCI-65FP-065125 (H)	32.75 - 36.25	1.0000	1.0000
L43	62	(Area) CCI-65FP-065125 (Mod) (H)	32.75 - 36.25	1.0000	1.0000
L43	64	(Area) CCI-65FP-065125 (H)	32.75 - 36.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L43	66	(Area) CCI-65FP-060100 (H)	36.25 - 36.41	1.0000	1.0000
L43	67	(Area) CCI-65FP-060100 (H)	36.25 - 36.41	1.0000	1.0000
L43	68	(Area) CCI-65FP-060100 (H)	36.25 - 36.41	1.0000	1.0000
L44	18	CU12PSM9P6XXX(1-1/2)	32.50 - 32.75	1.0000	1.0000
L44	20	LDF4-50A(1/2)	32.50 - 32.75	1.0000	1.0000
L44	40	MP3-05 (1.1875in)	32.50 - 32.75	1.0000	1.0000
L44	45	MP3-05 (1.1875in)	32.50 - 32.75	1.0000	1.0000
L44	46	MP3-05 (1.1875in)	32.50 - 32.75	1.0000	1.0000
L44	60	(Area) CCI-65FP-065125 (H)	32.50 - 32.75	1.0000	1.0000
L44	62	(Area) CCI-65FP-065125 (Mod) (H)	32.50 - 32.75	1.0000	1.0000
L44	64	(Area) CCI-65FP-065125 (H)	32.50 - 32.75	1.0000	1.0000
L45	18	CU12PSM9P6XXX(1-1/2)	31.25 - 32.50	1.0000	1.0000
L45	20	LDF4-50A(1/2)	31.25 - 32.50	1.0000	1.0000
L45	40	MP3-05 (1.1875in)	31.25 - 32.50	1.0000	1.0000
L45	45	MP3-05 (1.1875in)	31.25 - 32.50	1.0000	1.0000
L45	46	MP3-05 (1.1875in)	31.25 - 32.50	1.0000	1.0000
L45	60	(Area) CCI-65FP-065125 (H)	31.25 - 32.50	1.0000	1.0000
L45	62	(Area) CCI-65FP-065125 (Mod) (H)	31.25 - 32.50	1.0000	1.0000
L45	64	(Area) CCI-65FP-065125 (H)	31.25 - 32.50	1.0000	1.0000
L46	18	CU12PSM9P6XXX(1-1/2)	31.00 - 31.25	1.0000	1.0000
L46	20	LDF4-50A(1/2)	31.00 - 31.25	1.0000	1.0000
L46	40	MP3-05 (1.1875in)	31.00 - 31.25	1.0000	1.0000
L46	42	MP3-05 (1.1875in)	31.00 - 31.25	1.0000	1.0000
L46	43	MP3-05 (1.1875in)	31.00 - 31.25	1.0000	1.0000
L46	60	(Area) CCI-65FP-065125 (H)	31.00 - 31.25	1.0000	1.0000
L46	62	(Area) CCI-65FP-065125 (Mod) (H)	31.00 - 31.25	1.0000	1.0000
L46	64	(Area) CCI-65FP-065125 (H)	31.00 - 31.25	1.0000	1.0000
L47	18	CU12PSM9P6XXX(1-1/2)	26.00 - 31.00	1.0000	1.0000
L47	20	LDF4-50A(1/2)	26.00 - 31.00	1.0000	1.0000
L47	40	MP3-05 (1.1875in)	26.00 - 31.00	1.0000	1.0000
L47	42	MP3-05 (1.1875in)	26.00 - 31.00	1.0000	1.0000
L47	43	MP3-05 (1.1875in)	26.00 - 31.00	1.0000	1.0000
L47	60	(Area) CCI-65FP-065125 (H)	26.00 - 31.00	1.0000	1.0000
L47	62	(Area) CCI-65FP-065125 (Mod) (H)	26.00 - 31.00	1.0000	1.0000
L47	64	(Area) CCI-65FP-065125 (H)	26.00 - 31.00	1.0000	1.0000
L48	18	CU12PSM9P6XXX(1-1/2)	21.00 - 26.00	1.0000	1.0000
L48	20	LDF4-50A(1/2)	21.00 - 26.00	1.0000	1.0000
L48	38	MP3-05 (1.1875in)	21.00 - 21.25	1.0000	1.0000
L48	40	MP3-05 (1.1875in)	21.00 - 26.00	1.0000	1.0000
L48	42	MP3-05 (1.1875in)	21.00 - 26.00	1.0000	1.0000
L48	43	MP3-05 (1.1875in)	21.00 - 26.00	1.0000	1.0000
L48	60	(Area) CCI-65FP-065125 (H)	21.00 - 26.00	1.0000	1.0000
L48	62	(Area) CCI-65FP-065125 (Mod) (H)	21.00 - 26.00	1.0000	1.0000
L48	64	(Area) CCI-65FP-065125 (H)	21.00 - 26.00	1.0000	1.0000
L49	18	CU12PSM9P6XXX(1-1/2)	18.75 - 21.00	1.0000	1.0000
L49	20	LDF4-50A(1/2)	18.75 - 21.00	1.0000	1.0000
L49	38	MP3-05 (1.1875in)	18.75 - 21.00	1.0000	1.0000
L49	40	MP3-05 (1.1875in)	18.75 - 21.00	1.0000	1.0000
L49	42	MP3-05 (1.1875in)	18.75 - 21.00	1.0000	1.0000
L49	43	MP3-05 (1.1875in)	18.75 - 21.00	1.0000	1.0000
L49	60	(Area) CCI-65FP-065125 (H)	18.75 - 21.00	1.0000	1.0000
L49	62	(Area) CCI-65FP-065125 (Mod) (H)	18.75 - 21.00	1.0000	1.0000
L49	64	(Area) CCI-65FP-065125 (H)	18.75 - 21.00	1.0000	1.0000
L50	18	CU12PSM9P6XXX(1-1/2)	18.50 - 18.75	1.0000	1.0000
L50	20	LDF4-50A(1/2)	18.50 - 18.75	1.0000	1.0000
L50	38	MP3-05 (1.1875in)	18.50 - 18.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L50	40	MP3-05 (1.1875in)	18.50 - 18.75	1.0000	1.0000
L50	42	MP3-05 (1.1875in)	18.50 - 18.75	1.0000	1.0000
L50	43	MP3-05 (1.1875in)	18.50 - 18.75	1.0000	1.0000
L50	60	(Area) CCI-65FP-065125 (H)	18.50 - 18.75	1.0000	1.0000
L50	62	(Area) CCI-65FP-065125 (Mod) (H)	18.50 - 18.75	1.0000	1.0000
L50	64	(Area) CCI-65FP-065125 (H)	18.50 - 18.75	1.0000	1.0000
L51	18	CU12PSM9P6XXX(1-1/2)	15.00 - 18.50	1.0000	1.0000
L51	20	LDF4-50A(1/2)	15.00 - 18.50	1.0000	1.0000
L51	38	MP3-05 (1.1875in)	15.00 - 18.50	1.0000	1.0000
L51	40	MP3-05 (1.1875in)	16.25 - 18.50	1.0000	1.0000
L51	42	MP3-05 (1.1875in)	15.00 - 18.50	1.0000	1.0000
L51	43	MP3-05 (1.1875in)	15.00 - 18.50	1.0000	1.0000
L51	60	(Area) CCI-65FP-065125 (H)	15.00 - 18.50	1.0000	1.0000
L51	62	(Area) CCI-65FP-065125 (Mod) (H)	15.00 - 18.50	1.0000	1.0000
L51	64	(Area) CCI-65FP-065125 (H)	15.00 - 18.50	1.0000	1.0000
L52	18	CU12PSM9P6XXX(1-1/2)	14.75 - 15.00	1.0000	1.0000
L52	20	LDF4-50A(1/2)	14.75 - 15.00	1.0000	1.0000
L52	38	MP3-05 (1.1875in)	14.75 - 15.00	1.0000	1.0000
L52	42	MP3-05 (1.1875in)	14.75 - 15.00	1.0000	1.0000
L52	43	MP3-05 (1.1875in)	14.75 - 15.00	1.0000	1.0000
L52	60	(Area) CCI-65FP-065125 (H)	14.75 - 15.00	1.0000	1.0000
L52	62	(Area) CCI-65FP-065125 (Mod) (H)	14.75 - 15.00	1.0000	1.0000
L52	64	(Area) CCI-65FP-065125 (H)	14.75 - 15.00	1.0000	1.0000
L53	18	CU12PSM9P6XXX(1-1/2)	9.75 - 14.75	1.0000	1.0000
L53	20	LDF4-50A(1/2)	9.75 - 14.75	1.0000	1.0000
L53	38	MP3-05 (1.1875in)	9.75 - 14.75	1.0000	1.0000
L53	42	MP3-05 (1.1875in)	9.75 - 14.75	1.0000	1.0000
L53	43	MP3-05 (1.1875in)	9.75 - 14.75	1.0000	1.0000
L53	60	(Area) CCI-65FP-065125 (H)	9.75 - 14.75	1.0000	1.0000
L53	62	(Area) CCI-65FP-065125 (Mod) (H)	9.75 - 14.75	1.0000	1.0000
L53	64	(Area) CCI-65FP-065125 (H)	11.50 - 14.75	1.0000	1.0000
L54	18	CU12PSM9P6XXX(1-1/2)	4.75 - 9.75	1.0000	1.0000
L54	20	LDF4-50A(1/2)	4.75 - 9.75	1.0000	1.0000
L54	38	MP3-05 (1.1875in)	4.75 - 9.75	1.0000	1.0000
L54	42	MP3-05 (1.1875in)	4.75 - 9.75	1.0000	1.0000
L54	43	MP3-05 (1.1875in)	4.75 - 9.75	1.0000	1.0000
L54	60	(Area) CCI-65FP-065125 (H)	4.75 - 9.75	1.0000	1.0000
L54	62	(Area) CCI-65FP-065125 (Mod) (H)	4.75 - 9.75	1.0000	1.0000
L55	18	CU12PSM9P6XXX(1-1/2)	1.25 - 4.75	1.0000	1.0000
L55	20	LDF4-50A(1/2)	1.25 - 4.75	1.0000	1.0000
L55	38	MP3-05 (1.1875in)	1.25 - 4.75	1.0000	1.0000
L55	42	MP3-05 (1.1875in)	1.25 - 4.75	1.0000	1.0000
L55	43	MP3-05 (1.1875in)	1.25 - 4.75	1.0000	1.0000
L55	60	(Area) CCI-65FP-065125 (H)	1.25 - 4.75	1.0000	1.0000
L55	62	(Area) CCI-65FP-065125 (Mod) (H)	1.25 - 4.75	1.0000	1.0000
L56	18	CU12PSM9P6XXX(1-1/2)	1.00 - 1.25	1.0000	1.0000
L56	20	LDF4-50A(1/2)	1.00 - 1.25	1.0000	1.0000
L56	38	MP3-05 (1.1875in)	1.00 - 1.25	1.0000	1.0000
L56	42	MP3-05 (1.1875in)	1.00 - 1.25	1.0000	1.0000
L56	43	MP3-05 (1.1875in)	1.00 - 1.25	1.0000	1.0000
L56	60	(Area) CCI-65FP-065125 (H)	1.00 - 1.25	1.0000	1.0000
L56	62	(Area) CCI-65FP-065125 (Mod) (H)	1.00 - 1.25	1.0000	1.0000
L57	18	CU12PSM9P6XXX(1-1/2)	0.00 - 1.00	1.0000	1.0000
L57	20	LDF4-50A(1/2)	0.00 - 1.00	1.0000	1.0000
L57	38	MP3-05 (1.1875in)	0.00 - 1.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L57	42	MP3-05 (1.1875in)	0.00 - 1.00	1.0000	1.0000
L57	43	MP3-05 (1.1875in)	0.00 - 1.00	1.0000	1.0000
L57	60	(Area) CCI-65FP-065125 (H)	0.00 - 1.00	1.0000	1.0000
L57	62	(Area) CCI-65FP-065125 (Mod) (H)	0.00 - 1.00	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
L5	82	(Area) CCI-65FP-040075 (H)	123.42 - 123.75	Auto	0.1715
L5	83	(Area) CCI-65FP-040075 (H)	123.42 - 123.75	Auto	0.1715
L5	84	(Area) CCI-65FP-040075 (H)	123.42 - 123.75	Auto	0.1715
L6	82	(Area) CCI-65FP-040075 (H)	122.25 - 123.42	Auto	0.2089
L6	83	(Area) CCI-65FP-040075 (H)	122.25 - 123.42	Auto	0.2089
L6	84	(Area) CCI-65FP-040075 (H)	122.25 - 123.42	Auto	0.2089
L7	82	(Area) CCI-65FP-040075 (H)	122.00 - 122.25	Auto	0.2738
L7	83	(Area) CCI-65FP-040075 (H)	122.00 - 122.25	Auto	0.2738
L7	84	(Area) CCI-65FP-040075 (H)	122.00 - 122.25	Auto	0.2738
L8	74	(Area) CCI-65FP-040075 (H)	120.25 - 121.25	Auto	0.2609
L8	75	(Area) CCI-65FP-040075 (H)	120.25 - 121.25	Auto	0.2609
L8	76	(Area) CCI-65FP-040075 (H)	120.25 - 121.25	Auto	0.2609
L8	82	(Area) CCI-65FP-040075 (H)	120.25 - 122.00	Auto	0.2644
L8	83	(Area) CCI-65FP-040075 (H)	120.25 - 122.00	Auto	0.2644
L8	84	(Area) CCI-65FP-040075 (H)	120.25 - 122.00	Auto	0.2644
L9	74	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	Auto	0.3266
L9	75	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	Auto	0.3266
L9	76	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	Auto	0.3266
L9	82	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	Auto	0.3266
L9	83	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	Auto	0.3266
L9	84	(Area) CCI-65FP-040075 (H)	120.00 - 120.25	Auto	0.3266
L10	56	MP3-03 (1.1875in)	115.25 - 116.25	Auto	0.2908
L10	57	MP3-03 (1.1875in)	115.25 - 116.25	Auto	0.2908
L10	58	MP3-03 (1.1875in)	115.25 -	Auto	0.2908

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
			116.25		
L10	74	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	Auto	0.2977
L10	75	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	Auto	0.2977
L10	76	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	Auto	0.2977
L10	82	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	Auto	0.2977
L10	83	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	Auto	0.2977
L10	84	(Area) CCI-65FP-040075 (H)	115.25 - 120.00	Auto	0.2977
L11	56	MP3-03 (1.1875in)	115.00 - 115.25	Auto	0.2146
L11	57	MP3-03 (1.1875in)	115.00 - 115.25	Auto	0.2146
L11	58	MP3-03 (1.1875in)	115.00 - 115.25	Auto	0.2146
L11	74	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	Auto	0.2028
L11	75	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	Auto	0.2028
L11	76	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	Auto	0.2028
L11	82	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	Auto	0.2028
L11	83	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	Auto	0.2028
L11	84	(Area) CCI-65FP-040075 (H)	115.00 - 115.25	Auto	0.2028
L12	56	MP3-03 (1.1875in)	114.75 - 115.00	Auto	0.2773
L12	57	MP3-03 (1.1875in)	114.75 - 115.00	Auto	0.2773
L12	58	MP3-03 (1.1875in)	114.75 - 115.00	Auto	0.2773
L12	74	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	Auto	0.2665
L12	75	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	Auto	0.2665
L12	76	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	Auto	0.2665
L12	82	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	Auto	0.2665
L12	83	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	Auto	0.2665
L12	84	(Area) CCI-65FP-040075 (H)	114.75 - 115.00	Auto	0.2665
L13	56	MP3-03 (1.1875in)	109.75 - 114.75	Auto	0.2477
L13	57	MP3-03 (1.1875in)	109.75 - 114.75	Auto	0.2477
L13	58	MP3-03 (1.1875in)	109.75 - 114.75	Auto	0.2477
L13	74	(Area) CCI-65FP-040075 (H)	109.75 - 114.75	Auto	0.2364
L13	75	(Area) CCI-65FP-040075 (H)	109.75 - 114.75	Auto	0.2364
L13	76	(Area) CCI-65FP-040075 (H)	109.75 - 114.75	Auto	0.2364

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L13	82	(Area) CCI-65FP-040075 (H)	113.75 - 114.75	Auto	0.2551
L13	83	(Area) CCI-65FP-040075 (H)	113.75 - 114.75	Auto	0.2551
L13	84	(Area) CCI-65FP-040075 (H)	113.75 - 114.75	Auto	0.2551
L14	30	Bar #3	105.25 - 106.50	Auto	0.0178
L14	31	Bar #3	105.25 - 106.50	Auto	0.0178
L14	32	Bar #3	105.25 - 106.50	Auto	0.0178
L14	56	MP3-03 (1.1875in)	105.25 - 109.75	Auto	0.1985
L14	57	MP3-03 (1.1875in)	105.25 - 109.75	Auto	0.1985
L14	58	MP3-03 (1.1875in)	105.25 - 109.75	Auto	0.1985
L14	74	(Area) CCI-65FP-040075 (H)	105.25 - 109.75	Auto	0.1865
L14	75	(Area) CCI-65FP-040075 (H)	105.25 - 109.75	Auto	0.1865
L14	76	(Area) CCI-65FP-040075 (H)	105.25 - 109.75	Auto	0.1865
L15	30	Bar #3	105.00 - 105.25	Auto	0.1203
L15	31	Bar #3	105.00 - 105.25	Auto	0.1203
L15	32	Bar #3	105.00 - 105.25	Auto	0.1203
L15	56	MP3-03 (1.1875in)	105.00 - 105.25	Auto	0.2687
L15	57	MP3-03 (1.1875in)	105.00 - 105.25	Auto	0.2687
L15	58	MP3-03 (1.1875in)	105.00 - 105.25	Auto	0.2687
L15	74	(Area) CCI-65FP-040075 (H)	105.00 - 105.25	Auto	0.2577
L15	75	(Area) CCI-65FP-040075 (H)	105.00 - 105.25	Auto	0.2577
L15	76	(Area) CCI-65FP-040075 (H)	105.00 - 105.25	Auto	0.2577
L16	30	Bar #3	101.92 - 105.00	Auto	0.0953
L16	31	Bar #3	101.92 - 105.00	Auto	0.0953
L16	32	Bar #3	101.92 - 105.00	Auto	0.0953
L16	56	MP3-03 (1.1875in)	101.92 - 105.00	Auto	0.2479
L16	57	MP3-03 (1.1875in)	101.92 - 105.00	Auto	0.2479
L16	58	MP3-03 (1.1875in)	101.92 - 105.00	Auto	0.2479
L16	74	(Area) CCI-65FP-040075 (H)	101.92 - 105.00	Auto	0.2367
L16	75	(Area) CCI-65FP-040075 (H)	101.92 - 105.00	Auto	0.2367
L16	76	(Area) CCI-65FP-040075 (H)	101.92 - 105.00	Auto	0.2367
L17	26	Bar #2	101.67 -	Auto	0.2073

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L17	27	Bar #2	101.92 101.67 - 101.92	Auto	0.2073
L17	28	Bar #2	101.67 - 101.92	Auto	0.2073
L17	56	MP3-03 (1.1875in)	101.67 - 101.92	Auto	0.2434
L17	57	MP3-03 (1.1875in)	101.67 - 101.92	Auto	0.2434
L17	58	MP3-03 (1.1875in)	101.67 - 101.92	Auto	0.2434
L17	74	(Area) CCI-65FP-040075 (H)	101.67 - 101.92	Auto	0.2321
L17	75	(Area) CCI-65FP-040075 (H)	101.67 - 101.92	Auto	0.2321
L17	76	(Area) CCI-65FP-040075 (H)	101.67 - 101.92	Auto	0.2321
L18	26	Bar #2	101.25 - 101.67	Auto	0.2041
L18	27	Bar #2	101.25 - 101.67	Auto	0.2041
L18	28	Bar #2	101.25 - 101.67	Auto	0.2041
L18	56	MP3-03 (1.1875in)	101.25 - 101.67	Auto	0.2403
L18	57	MP3-03 (1.1875in)	101.25 - 101.67	Auto	0.2403
L18	58	MP3-03 (1.1875in)	101.25 - 101.67	Auto	0.2403
L18	74	(Area) CCI-65FP-040075 (H)	101.25 - 101.67	Auto	0.2289
L18	75	(Area) CCI-65FP-040075 (H)	101.25 - 101.67	Auto	0.2289
L18	76	(Area) CCI-65FP-040075 (H)	101.25 - 101.67	Auto	0.2289
L19	26	Bar #2	101.00 - 101.25	Auto	0.2008
L19	27	Bar #2	101.00 - 101.25	Auto	0.2008
L19	28	Bar #2	101.00 - 101.25	Auto	0.2008
L19	52	MP3-03 (1.1875in)	101.00 - 101.25	Auto	0.2372
L19	53	MP3-03 (1.1875in)	101.00 - 101.25	Auto	0.2372
L19	54	MP3-03 (1.1875in)	101.00 - 101.25	Auto	0.2372
L19	70	(Area) CCI-65FP-040075 (H)	101.00 - 101.25	Auto	0.2258
L19	71	(Area) CCI-65FP-040075 (H)	101.00 - 101.25	Auto	0.2258
L19	72	(Area) CCI-65FP-040075 (H)	101.00 - 101.25	Auto	0.2258
L20	26	Bar #2	100.25 - 101.00	Auto	0.1960
L20	27	Bar #2	100.25 - 101.00	Auto	0.1960
L20	28	Bar #2	100.25 - 101.00	Auto	0.1960
L20	52	MP3-03 (1.1875in)	100.25 - 101.00	Auto	0.2326

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L20	53	MP3-03 (1.1875in)	100.25 - 101.00	Auto	0.2326
L20	54	MP3-03 (1.1875in)	100.25 - 101.00	Auto	0.2326
L20	70	(Area) CCI-65FP-040075 (H)	100.25 - 101.00	Auto	0.2211
L20	71	(Area) CCI-65FP-040075 (H)	100.25 - 101.00	Auto	0.2211
L20	72	(Area) CCI-65FP-040075 (H)	100.25 - 101.00	Auto	0.2211
L21	26	Bar #2	100.00 - 100.25	Auto	0.1855
L21	27	Bar #2	100.00 - 100.25	Auto	0.1855
L21	28	Bar #2	100.00 - 100.25	Auto	0.1855
L21	52	MP3-03 (1.1875in)	100.00 - 100.25	Auto	0.2226
L21	53	MP3-03 (1.1875in)	100.00 - 100.25	Auto	0.2226
L21	54	MP3-03 (1.1875in)	100.00 - 100.25	Auto	0.2226
L21	70	(Area) CCI-65FP-040075 (H)	100.00 - 100.25	Auto	0.2110
L21	71	(Area) CCI-65FP-040075 (H)	100.00 - 100.25	Auto	0.2110
L21	72	(Area) CCI-65FP-040075 (H)	100.00 - 100.25	Auto	0.2110
L22	26	Bar #2	95.00 - 100.00	Auto	0.1488
L22	27	Bar #2	95.00 - 100.00	Auto	0.1488
L22	28	Bar #2	95.00 - 100.00	Auto	0.1488
L22	52	MP3-03 (1.1875in)	95.00 - 100.00	Auto	0.1876
L22	53	MP3-03 (1.1875in)	95.00 - 100.00	Auto	0.1876
L22	54	MP3-03 (1.1875in)	95.00 - 100.00	Auto	0.1876
L22	70	(Area) CCI-65FP-040075 (H)	95.00 - 100.00	Auto	0.1754
L22	71	(Area) CCI-65FP-040075 (H)	95.00 - 100.00	Auto	0.1754
L22	72	(Area) CCI-65FP-040075 (H)	95.00 - 100.00	Auto	0.1754
L23	26	Bar #2	85.96 - 95.00	Auto	0.0753
L23	27	Bar #2	85.96 - 95.00	Auto	0.0753
L23	28	Bar #2	85.96 - 95.00	Auto	0.0753
L23	52	MP3-03 (1.1875in)	85.96 - 95.00	Auto	0.1174
L23	53	MP3-03 (1.1875in)	85.96 - 95.00	Auto	0.1174
L23	54	MP3-03 (1.1875in)	85.96 - 95.00	Auto	0.1174
L23	70	(Area) CCI-65FP-040075 (H)	85.96 - 95.00	Auto	0.1042
L23	71	(Area) CCI-65FP-040075 (H)	85.96 - 95.00	Auto	0.1042
L23	72	(Area) CCI-65FP-040075 (H)	85.96 - 95.00	Auto	0.1042
L24	26	Bar #2	85.04 - 85.96	Auto	0.0726
L24	27	Bar #2	85.04 - 85.96	Auto	0.0726
L24	28	Bar #2	85.04 - 85.96	Auto	0.0726
L24	52	MP3-03 (1.1875in)	85.04 - 85.96	Auto	0.1148
L24	53	MP3-03 (1.1875in)	85.04 - 85.96	Auto	0.1148
L24	54	MP3-03 (1.1875in)	85.04 - 85.96	Auto	0.1148
L24	70	(Area) CCI-65FP-040075 (H)	85.04 - 85.96	Auto	0.1015
L24	71	(Area) CCI-65FP-040075 (H)	85.04 - 85.96	Auto	0.1015
L24	72	(Area) CCI-65FP-040075 (H)	85.04 - 85.96	Auto	0.1015
L25	26	Bar #2	82.00 - 85.04	Auto	0.0477
L25	27	Bar #2	82.00 - 85.04	Auto	0.0477
L25	28	Bar #2	82.00 - 85.04	Auto	0.0477
L25	52	MP3-03 (1.1875in)	82.00 - 85.04	Auto	0.0911
L25	53	MP3-03 (1.1875in)	82.00 - 85.04	Auto	0.0911
L25	54	MP3-03 (1.1875in)	82.00 - 85.04	Auto	0.0911

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L25	70	(Area) CCI-65FP-040075 (H)	82.00 - 85.04	Auto	0.0775
L25	71	(Area) CCI-65FP-040075 (H)	82.00 - 85.04	Auto	0.0775
L25	72	(Area) CCI-65FP-040075 (H)	82.00 - 85.04	Auto	0.0775
L25	78	(Area) CCI-65FP-045100 (H)	82.00 - 83.50	Auto	0.1736
L25	79	(Area) CCI-65FP-045100 (H)	82.00 - 83.50	Auto	0.1736
L25	80	(Area) CCI-65FP-045100 (H)	82.00 - 83.50	Auto	0.1736
L26	26	Bar #2	81.75 - 82.00	Auto	0.1170
L26	27	Bar #2	81.75 - 82.00	Auto	0.1170
L26	28	Bar #2	81.75 - 82.00	Auto	0.1170
L26	52	MP3-03 (1.1875in)	81.75 - 82.00	Auto	0.1572
L26	53	MP3-03 (1.1875in)	81.75 - 82.00	Auto	0.1572
L26	54	MP3-03 (1.1875in)	81.75 - 82.00	Auto	0.1572
L26	70	(Area) CCI-65FP-040075 (H)	81.75 - 82.00	Auto	0.1446
L26	71	(Area) CCI-65FP-040075 (H)	81.75 - 82.00	Auto	0.1446
L26	72	(Area) CCI-65FP-040075 (H)	81.75 - 82.00	Auto	0.1446
L26	78	(Area) CCI-65FP-045100 (H)	81.75 - 82.00	Auto	0.2396
L26	79	(Area) CCI-65FP-045100 (H)	81.75 - 82.00	Auto	0.2396
L26	80	(Area) CCI-65FP-045100 (H)	81.75 - 82.00	Auto	0.2396
L27	26	Bar #2	77.50 - 81.75	Auto	0.0895
L27	27	Bar #2	77.50 - 81.75	Auto	0.0895
L27	28	Bar #2	77.50 - 81.75	Auto	0.0895
L27	52	MP3-03 (1.1875in)	77.50 - 81.75	Auto	0.1310
L27	53	MP3-03 (1.1875in)	77.50 - 81.75	Auto	0.1310
L27	54	MP3-03 (1.1875in)	77.50 - 81.75	Auto	0.1310
L27	70	(Area) CCI-65FP-040075 (H)	77.50 - 81.75	Auto	0.1180
L27	71	(Area) CCI-65FP-040075 (H)	77.50 - 81.75	Auto	0.1180
L27	72	(Area) CCI-65FP-040075 (H)	77.50 - 81.75	Auto	0.1180
L27	78	(Area) CCI-65FP-045100 (H)	77.50 - 81.75	Auto	0.2160
L27	79	(Area) CCI-65FP-045100 (H)	77.50 - 81.75	Auto	0.2160
L27	80	(Area) CCI-65FP-045100 (H)	77.50 - 81.75	Auto	0.2160
L28	26	Bar #2	77.25 - 77.50	Auto	0.0110
L28	27	Bar #2	77.25 - 77.50	Auto	0.0110
L28	28	Bar #2	77.25 - 77.50	Auto	0.0110
L28	52	MP3-03 (1.1875in)	77.25 - 77.50	Auto	0.0560
L28	53	MP3-03 (1.1875in)	77.25 - 77.50	Auto	0.0560
L28	54	MP3-03 (1.1875in)	77.25 - 77.50	Auto	0.0560
L28	70	(Area) CCI-65FP-040075 (H)	77.25 - 77.50	Auto	0.0419
L28	71	(Area) CCI-65FP-040075 (H)	77.25 - 77.50	Auto	0.0419
L28	72	(Area) CCI-65FP-040075 (H)	77.25 - 77.50	Auto	0.0419
L28	78	(Area) CCI-65FP-045100 (H)	77.25 - 77.50	Auto	0.1483
L28	79	(Area) CCI-65FP-045100 (H)	77.25 - 77.50	Auto	0.1483
L28	80	(Area) CCI-65FP-045100 (H)	77.25 - 77.50	Auto	0.1483
L29	26	Bar #2	75.00 - 77.25	Auto	0.0004
L29	27	Bar #2	75.00 - 77.25	Auto	0.0004
L29	28	Bar #2	75.00 - 77.25	Auto	0.0004
L29	34	MP3-03 (1.1875in)	75.00 - 76.00	Auto	0.0333
L29	35	MP3-03 (1.1875in)	75.00 - 76.00	Auto	0.0333
L29	36	MP3-03 (1.1875in)	75.00 - 76.00	Auto	0.0333
L29	48	MP3-03 (1.1875in)	75.00 - 76.25	Auto	0.0344
L29	49	MP3-03 (1.1875in)	75.00 - 76.25	Auto	0.0344
L29	50	MP3-03 (1.1875in)	75.00 - 76.25	Auto	0.0344
L29	52	MP3-03 (1.1875in)	76.25 - 77.25	Auto	0.0448
L29	53	MP3-03 (1.1875in)	76.25 - 77.25	Auto	0.0448
L29	54	MP3-03 (1.1875in)	76.25 - 77.25	Auto	0.0448
L29	70	(Area) CCI-65FP-040075 (H)	75.00 - 77.25	Auto	0.0247
L29	71	(Area) CCI-65FP-040075 (H)	75.00 - 77.25	Auto	0.0247
L29	72	(Area) CCI-65FP-040075 (H)	75.00 - 77.25	Auto	0.0247
L29	78	(Area) CCI-65FP-045100 (H)	75.00 - 77.25	Auto	0.1330
L29	79	(Area) CCI-65FP-045100 (H)	75.00 - 77.25	Auto	0.1330
L29	80	(Area) CCI-65FP-045100 (H)	75.00 - 77.25	Auto	0.1330
L30	26	Bar #2	74.75 - 75.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L30	27	Bar #2	74.75 - 75.00	Auto	0.0000
L30	28	Bar #2	74.75 - 75.00	Auto	0.0000
L30	34	MP3-03 (1.1875in)	74.75 - 75.00	Auto	0.0005
L30	35	MP3-03 (1.1875in)	74.75 - 75.00	Auto	0.0005
L30	36	MP3-03 (1.1875in)	74.75 - 75.00	Auto	0.0005
L30	48	MP3-03 (1.1875in)	74.75 - 75.00	Auto	0.0005
L30	49	MP3-03 (1.1875in)	74.75 - 75.00	Auto	0.0005
L30	50	MP3-03 (1.1875in)	74.75 - 75.00	Auto	0.0005
L30	70	(Area) CCI-65FP-040075 (H)	74.75 - 75.00	Auto	0.0000
L30	71	(Area) CCI-65FP-040075 (H)	74.75 - 75.00	Auto	0.0000
L30	72	(Area) CCI-65FP-040075 (H)	74.75 - 75.00	Auto	0.0000
L30	78	(Area) CCI-65FP-045100 (H)	74.75 - 75.00	Auto	0.0982
L30	79	(Area) CCI-65FP-045100 (H)	74.75 - 75.00	Auto	0.0982
L30	80	(Area) CCI-65FP-045100 (H)	74.75 - 75.00	Auto	0.0982
L31	26	Bar #2	74.50 - 74.75	Auto	0.0014
L31	27	Bar #2	74.50 - 74.75	Auto	0.0014
L31	28	Bar #2	74.50 - 74.75	Auto	0.0014
L31	34	MP3-03 (1.1875in)	74.50 - 74.75	Auto	0.0469
L31	35	MP3-03 (1.1875in)	74.50 - 74.75	Auto	0.0469
L31	36	MP3-03 (1.1875in)	74.50 - 74.75	Auto	0.0469
L31	48	MP3-03 (1.1875in)	74.50 - 74.75	Auto	0.0469
L31	49	MP3-03 (1.1875in)	74.50 - 74.75	Auto	0.0469
L31	50	MP3-03 (1.1875in)	74.50 - 74.75	Auto	0.0469
L31	70	(Area) CCI-65FP-040075 (H)	74.50 - 74.75	Auto	0.0326
L31	71	(Area) CCI-65FP-040075 (H)	74.50 - 74.75	Auto	0.0326
L31	72	(Area) CCI-65FP-040075 (H)	74.50 - 74.75	Auto	0.0326
L31	78	(Area) CCI-65FP-045100 (H)	74.50 - 74.75	Auto	0.1401
L31	79	(Area) CCI-65FP-045100 (H)	74.50 - 74.75	Auto	0.1401
L31	80	(Area) CCI-65FP-045100 (H)	74.50 - 74.75	Auto	0.1401
L32	26	Bar #2	72.17 - 74.50	Auto	0.0000
L32	27	Bar #2	72.17 - 74.50	Auto	0.0000
L32	28	Bar #2	72.17 - 74.50	Auto	0.0000
L32	34	MP3-03 (1.1875in)	72.17 - 74.50	Auto	0.0296
L32	35	MP3-03 (1.1875in)	72.17 - 74.50	Auto	0.0296
L32	36	MP3-03 (1.1875in)	72.17 - 74.50	Auto	0.0296
L32	48	MP3-03 (1.1875in)	72.17 - 74.50	Auto	0.0296
L32	49	MP3-03 (1.1875in)	72.17 - 74.50	Auto	0.0296
L32	50	MP3-03 (1.1875in)	72.17 - 74.50	Auto	0.0296
L32	70	(Area) CCI-65FP-040075 (H)	72.17 - 74.50	Auto	0.0150
L32	71	(Area) CCI-65FP-040075 (H)	72.17 - 74.50	Auto	0.0150
L32	72	(Area) CCI-65FP-040075 (H)	72.17 - 74.50	Auto	0.0150
L32	78	(Area) CCI-65FP-045100 (H)	73.50 - 74.50	Auto	0.1300
L32	79	(Area) CCI-65FP-045100 (H)	73.50 - 74.50	Auto	0.1300
L32	80	(Area) CCI-65FP-045100 (H)	73.50 - 74.50	Auto	0.1300
L33	22	Bar #1	71.92 - 72.17	Auto	0.0719
L33	23	Bar #1	71.92 - 72.17	Auto	0.0719
L33	24	Bar #1	71.92 - 72.17	Auto	0.0719
L33	34	MP3-03 (1.1875in)	71.92 - 72.17	Auto	0.0285
L33	35	MP3-03 (1.1875in)	71.92 - 72.17	Auto	0.0285
L33	36	MP3-03 (1.1875in)	71.92 - 72.17	Auto	0.0285
L33	48	MP3-03 (1.1875in)	71.92 - 72.17	Auto	0.0285
L33	49	MP3-03 (1.1875in)	71.92 - 72.17	Auto	0.0285
L33	50	MP3-03 (1.1875in)	71.92 - 72.17	Auto	0.0285
L33	70	(Area) CCI-65FP-040075 (H)	71.92 - 72.17	Auto	0.0139
L33	71	(Area) CCI-65FP-040075 (H)	71.92 - 72.17	Auto	0.0139
L33	72	(Area) CCI-65FP-040075 (H)	71.92 - 72.17	Auto	0.0139
L34	22	Bar #1	68.75 - 71.92	Auto	0.0465
L34	23	Bar #1	68.75 - 71.92	Auto	0.0465
L34	24	Bar #1	68.75 - 71.92	Auto	0.0465
L34	34	MP3-03 (1.1875in)	68.75 - 71.92	Auto	0.0046
L34	35	MP3-03 (1.1875in)	68.75 - 71.92	Auto	0.0046

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L34	36	MP3-03 (1.1875in)	68.75 - 71.92	Auto	0.0046
L34	48	MP3-03 (1.1875in)	68.75 - 71.92	Auto	0.0046
L34	49	MP3-03 (1.1875in)	68.75 - 71.92	Auto	0.0046
L34	50	MP3-03 (1.1875in)	68.75 - 71.92	Auto	0.0046
L34	66	(Area) CCI-65FP-060100 (H)	68.75 - 71.25	Auto	0.3225
L34	67	(Area) CCI-65FP-060100 (H)	68.75 - 71.25	Auto	0.3225
L34	68	(Area) CCI-65FP-060100 (H)	68.75 - 71.25	Auto	0.3225
L34	70	(Area) CCI-65FP-040075 (H)	71.25 - 71.92	Auto	0.0002
L34	71	(Area) CCI-65FP-040075 (H)	71.25 - 71.92	Auto	0.0002
L34	72	(Area) CCI-65FP-040075 (H)	71.25 - 71.92	Auto	0.0002
L35	22	Bar #1	68.50 - 68.75	Auto	0.0831
L35	23	Bar #1	68.50 - 68.75	Auto	0.0831
L35	24	Bar #1	68.50 - 68.75	Auto	0.0831
L35	34	MP3-03 (1.1875in)	68.50 - 68.75	Auto	0.0402
L35	35	MP3-03 (1.1875in)	68.50 - 68.75	Auto	0.0402
L35	36	MP3-03 (1.1875in)	68.50 - 68.75	Auto	0.0402
L35	48	MP3-03 (1.1875in)	68.50 - 68.75	Auto	0.0402
L35	49	MP3-03 (1.1875in)	68.50 - 68.75	Auto	0.0402
L35	50	MP3-03 (1.1875in)	68.50 - 68.75	Auto	0.0402
L35	66	(Area) CCI-65FP-060100 (H)	68.50 - 68.75	Auto	0.3506
L35	67	(Area) CCI-65FP-060100 (H)	68.50 - 68.75	Auto	0.3506
L35	68	(Area) CCI-65FP-060100 (H)	68.50 - 68.75	Auto	0.3506
L36	22	Bar #1	63.50 - 68.50	Auto	0.0496
L36	23	Bar #1	63.50 - 68.50	Auto	0.0496
L36	24	Bar #1	63.50 - 68.50	Auto	0.0496
L36	34	MP3-03 (1.1875in)	63.50 - 68.50	Auto	0.0086
L36	35	MP3-03 (1.1875in)	63.50 - 68.50	Auto	0.0086
L36	36	MP3-03 (1.1875in)	63.50 - 68.50	Auto	0.0086
L36	48	MP3-03 (1.1875in)	63.50 - 68.50	Auto	0.0086
L36	49	MP3-03 (1.1875in)	63.50 - 68.50	Auto	0.0086
L36	50	MP3-03 (1.1875in)	63.50 - 68.50	Auto	0.0086
L36	66	(Area) CCI-65FP-060100 (H)	63.50 - 68.50	Auto	0.3268
L36	67	(Area) CCI-65FP-060100 (H)	63.50 - 68.50	Auto	0.3268
L36	68	(Area) CCI-65FP-060100 (H)	63.50 - 68.50	Auto	0.3268
L37	22	Bar #1	58.50 - 63.50	Auto	0.0034
L37	23	Bar #1	58.50 - 63.50	Auto	0.0034
L37	24	Bar #1	58.50 - 63.50	Auto	0.0034
L37	34	MP3-03 (1.1875in)	58.50 - 63.50	Auto	0.0000
L37	35	MP3-03 (1.1875in)	58.50 - 63.50	Auto	0.0000
L37	36	MP3-03 (1.1875in)	58.50 - 63.50	Auto	0.0000
L37	48	MP3-03 (1.1875in)	58.50 - 63.50	Auto	0.0000
L37	49	MP3-03 (1.1875in)	58.50 - 63.50	Auto	0.0000
L37	50	MP3-03 (1.1875in)	58.50 - 63.50	Auto	0.0000
L37	66	(Area) CCI-65FP-060100 (H)	58.50 - 63.50	Auto	0.2882
L37	67	(Area) CCI-65FP-060100 (H)	58.50 - 63.50	Auto	0.2882
L37	68	(Area) CCI-65FP-060100 (H)	58.50 - 63.50	Auto	0.2882
L38	22	Bar #1	53.50 - 58.50	Auto	0.0000
L38	23	Bar #1	53.50 - 58.50	Auto	0.0000
L38	24	Bar #1	53.50 - 58.50	Auto	0.0000
L38	34	MP3-03 (1.1875in)	53.50 - 58.50	Auto	0.0000
L38	35	MP3-03 (1.1875in)	53.50 - 58.50	Auto	0.0000
L38	36	MP3-03 (1.1875in)	53.50 - 58.50	Auto	0.0000
L38	48	MP3-03 (1.1875in)	53.50 - 58.50	Auto	0.0000
L38	49	MP3-03 (1.1875in)	53.50 - 58.50	Auto	0.0000
L38	50	MP3-03 (1.1875in)	53.50 - 58.50	Auto	0.0000
L38	66	(Area) CCI-65FP-060100 (H)	53.50 - 58.50	Auto	0.2497
L38	67	(Area) CCI-65FP-060100 (H)	53.50 - 58.50	Auto	0.2497
L38	68	(Area) CCI-65FP-060100 (H)	53.50 - 58.50	Auto	0.2497
L39	22	Bar #1	48.50 - 53.50	Auto	0.0000
L39	23	Bar #1	48.50 - 53.50	Auto	0.0000
L39	24	Bar #1	48.50 - 53.50	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L39	34	MP3-03 (1.1875in)	48.50 - 53.50	Auto	0.0000
L39	35	MP3-03 (1.1875in)	48.50 - 53.50	Auto	0.0000
L39	36	MP3-03 (1.1875in)	48.50 - 53.50	Auto	0.0000
L39	48	MP3-03 (1.1875in)	48.50 - 53.50	Auto	0.0000
L39	49	MP3-03 (1.1875in)	48.50 - 53.50	Auto	0.0000
L39	50	MP3-03 (1.1875in)	48.50 - 53.50	Auto	0.0000
L39	66	(Area) CCI-65FP-060100 (H)	48.50 - 53.50	Auto	0.2111
L39	67	(Area) CCI-65FP-060100 (H)	48.50 - 53.50	Auto	0.2111
L39	68	(Area) CCI-65FP-060100 (H)	48.50 - 53.50	Auto	0.2111
L40	22	Bar #1	42.42 - 48.50	Auto	0.0000
L40	23	Bar #1	42.42 - 48.50	Auto	0.0000
L40	24	Bar #1	42.42 - 48.50	Auto	0.0000
L40	34	MP3-03 (1.1875in)	46.00 - 48.50	Auto	0.0000
L40	35	MP3-03 (1.1875in)	46.00 - 48.50	Auto	0.0000
L40	36	MP3-03 (1.1875in)	46.00 - 48.50	Auto	0.0000
L40	40	MP3-05 (1.1875in)	42.41 - 46.25	Auto	0.0650
L40	45	MP3-05 (1.1875in)	42.41 - 46.25	Auto	0.0650
L40	46	MP3-05 (1.1875in)	42.41 - 46.25	Auto	0.0650
L40	48	MP3-03 (1.1875in)	46.25 - 48.50	Auto	0.0000
L40	49	MP3-03 (1.1875in)	46.25 - 48.50	Auto	0.0000
L40	50	MP3-03 (1.1875in)	46.25 - 48.50	Auto	0.0000
L40	66	(Area) CCI-65FP-060100 (H)	42.41 - 48.50	Auto	0.1764
L40	67	(Area) CCI-65FP-060100 (H)	42.41 - 48.50	Auto	0.1764
L40	68	(Area) CCI-65FP-060100 (H)	42.41 - 48.50	Auto	0.1764
L41	40	MP3-05 (1.1875in)	41.41 - 42.41	Auto	0.0315
L41	45	MP3-05 (1.1875in)	41.41 - 42.41	Auto	0.0315
L41	46	MP3-05 (1.1875in)	41.41 - 42.41	Auto	0.0315
L41	66	(Area) CCI-65FP-060100 (H)	41.41 - 42.41	Auto	0.1396
L41	67	(Area) CCI-65FP-060100 (H)	41.41 - 42.41	Auto	0.1396
L41	68	(Area) CCI-65FP-060100 (H)	41.41 - 42.41	Auto	0.1396
L42	40	MP3-05 (1.1875in)	36.41 - 41.41	Auto	0.0081
L42	45	MP3-05 (1.1875in)	36.41 - 41.41	Auto	0.0081
L42	46	MP3-05 (1.1875in)	36.41 - 41.41	Auto	0.0081
L42	66	(Area) CCI-65FP-060100 (H)	36.41 - 41.41	Auto	0.1172
L42	67	(Area) CCI-65FP-060100 (H)	36.41 - 41.41	Auto	0.1172
L42	68	(Area) CCI-65FP-060100 (H)	36.41 - 41.41	Auto	0.1172
L43	40	MP3-05 (1.1875in)	32.75 - 36.41	Auto	0.0000
L43	45	MP3-05 (1.1875in)	32.75 - 36.41	Auto	0.0000
L43	46	MP3-05 (1.1875in)	32.75 - 36.41	Auto	0.0000
L43	60	(Area) CCI-65FP-065125 (H)	32.75 - 36.25	Auto	0.1564
L43	62	(Area) CCI-65FP-065125 (Mod) (H)	32.75 - 36.25	Auto	0.0046
L43	64	(Area) CCI-65FP-065125 (H)	32.75 - 36.25	Auto	0.1564
L43	66	(Area) CCI-65FP-060100 (H)	36.25 - 36.41	Auto	0.0975
L43	67	(Area) CCI-65FP-060100 (H)	36.25 - 36.41	Auto	0.0975
L43	68	(Area) CCI-65FP-060100 (H)	36.25 - 36.41	Auto	0.0975
L44	40	MP3-05 (1.1875in)	32.50 - 32.75	Auto	0.0000
L44	45	MP3-05 (1.1875in)	32.50 - 32.75	Auto	0.0000
L44	46	MP3-05 (1.1875in)	32.50 - 32.75	Auto	0.0000
L44	60	(Area) CCI-65FP-065125 (H)	32.50 - 32.75	Auto	0.1591
L44	62	(Area) CCI-65FP-065125 (Mod) (H)	32.50 - 32.75	Auto	0.0062
L44	64	(Area) CCI-65FP-065125 (H)	32.50 - 32.75	Auto	0.1591
L45	40	MP3-05 (1.1875in)	31.25 - 32.50	Auto	0.0000
L45	45	MP3-05 (1.1875in)	31.25 - 32.50	Auto	0.0000
L45	46	MP3-05 (1.1875in)	31.25 - 32.50	Auto	0.0000
L45	60	(Area) CCI-65FP-065125 (H)	31.25 - 32.50	Auto	0.1548
L45	62	(Area) CCI-65FP-065125 (Mod) (H)	31.25 - 32.50	Auto	0.0017
L45	64	(Area) CCI-65FP-065125 (H)	31.25 - 32.50	Auto	0.1548
L46	40	MP3-05 (1.1875in)	31.00 - 31.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L46	42	MP3-05 (1.1875in)	31.00 - 31.25	Auto	0.0000
L46	43	MP3-05 (1.1875in)	31.00 - 31.25	Auto	0.0000
L46	60	(Area) CCI-65FP-065125 (H)	31.00 - 31.25	Auto	0.1471
L46	62	(Area) CCI-65FP-065125 (Mod) (H)	31.00 - 31.25	Auto	0.0000
L46	64	(Area) CCI-65FP-065125 (H)	31.00 - 31.25	Auto	0.1471
L47	40	MP3-05 (1.1875in)	26.00 - 31.00	Auto	0.0000
L47	42	MP3-05 (1.1875in)	26.00 - 31.00	Auto	0.0000
L47	43	MP3-05 (1.1875in)	26.00 - 31.00	Auto	0.0000
L47	60	(Area) CCI-65FP-065125 (H)	26.00 - 31.00	Auto	0.1285
L47	62	(Area) CCI-65FP-065125 (Mod) (H)	26.00 - 31.00	Auto	0.0000
L47	64	(Area) CCI-65FP-065125 (H)	26.00 - 31.00	Auto	0.1285
L48	38	MP3-05 (1.1875in)	21.00 - 21.25	Auto	0.0000
L48	40	MP3-05 (1.1875in)	21.00 - 26.00	Auto	0.0000
L48	42	MP3-05 (1.1875in)	21.00 - 26.00	Auto	0.0000
L48	43	MP3-05 (1.1875in)	21.00 - 26.00	Auto	0.0000
L48	60	(Area) CCI-65FP-065125 (H)	21.00 - 26.00	Auto	0.0997
L48	62	(Area) CCI-65FP-065125 (Mod) (H)	21.00 - 26.00	Auto	0.0000
L48	64	(Area) CCI-65FP-065125 (H)	21.00 - 26.00	Auto	0.0997
L49	38	MP3-05 (1.1875in)	18.75 - 21.00	Auto	0.0000
L49	40	MP3-05 (1.1875in)	18.75 - 21.00	Auto	0.0000
L49	42	MP3-05 (1.1875in)	18.75 - 21.00	Auto	0.0000
L49	43	MP3-05 (1.1875in)	18.75 - 21.00	Auto	0.0000
L49	60	(Area) CCI-65FP-065125 (H)	18.75 - 21.00	Auto	0.0755
L49	62	(Area) CCI-65FP-065125 (Mod) (H)	18.75 - 21.00	Auto	0.0000
L49	64	(Area) CCI-65FP-065125 (H)	18.75 - 21.00	Auto	0.0755
L50	38	MP3-05 (1.1875in)	18.50 - 18.75	Auto	0.0000
L50	40	MP3-05 (1.1875in)	18.50 - 18.75	Auto	0.0000
L50	42	MP3-05 (1.1875in)	18.50 - 18.75	Auto	0.0000
L50	43	MP3-05 (1.1875in)	18.50 - 18.75	Auto	0.0000
L50	60	(Area) CCI-65FP-065125 (H)	18.50 - 18.75	Auto	0.0649
L50	62	(Area) CCI-65FP-065125 (Mod) (H)	18.50 - 18.75	Auto	0.0000
L50	64	(Area) CCI-65FP-065125 (H)	18.50 - 18.75	Auto	0.0649
L51	38	MP3-05 (1.1875in)	15.00 - 18.50	Auto	0.0000
L51	40	MP3-05 (1.1875in)	16.25 - 18.50	Auto	0.0000
L51	42	MP3-05 (1.1875in)	15.00 - 18.50	Auto	0.0000
L51	43	MP3-05 (1.1875in)	15.00 - 18.50	Auto	0.0000
L51	60	(Area) CCI-65FP-065125 (H)	15.00 - 18.50	Auto	0.0507
L51	62	(Area) CCI-65FP-065125 (Mod) (H)	15.00 - 18.50	Auto	0.0000
L51	64	(Area) CCI-65FP-065125 (H)	15.00 - 18.50	Auto	0.0507
L52	38	MP3-05 (1.1875in)	14.75 - 15.00	Auto	0.0000
L52	42	MP3-05 (1.1875in)	14.75 - 15.00	Auto	0.0000
L52	43	MP3-05 (1.1875in)	14.75 - 15.00	Auto	0.0000
L52	60	(Area) CCI-65FP-065125 (H)	14.75 - 15.00	Auto	0.0128
L52	62	(Area) CCI-65FP-065125 (Mod) (H)	14.75 - 15.00	Auto	0.0000
L52	64	(Area) CCI-65FP-065125 (H)	14.75 - 15.00	Auto	0.0128
L53	38	MP3-05 (1.1875in)	9.75 - 14.75	Auto	0.0000
L53	42	MP3-05 (1.1875in)	9.75 - 14.75	Auto	0.0000
L53	43	MP3-05 (1.1875in)	9.75 - 14.75	Auto	0.0000
L53	60	(Area) CCI-65FP-065125 (H)	9.75 - 14.75	Auto	0.0019
L53	62	(Area) CCI-65FP-065125 (Mod) (H)	9.75 - 14.75	Auto	0.0000
L53	64	(Area) CCI-65FP-065125 (H)	11.50 - 14.75	Auto	0.0029
L54	38	MP3-05 (1.1875in)	4.75 - 9.75	Auto	0.0000
L54	42	MP3-05 (1.1875in)	4.75 - 9.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L54	43	MP3-05 (1.1875in)	4.75 - 9.75	Auto	0.0000
L54	60	(Area) CCI-65FP-065125 (H)	4.75 - 9.75	Auto	0.0000
L54	62	(Area) CCI-65FP-065125 (Mod) (H)	4.75 - 9.75	Auto	0.0000
L55	38	MP3-05 (1.1875in)	1.25 - 4.75	Auto	0.0000
L55	42	MP3-05 (1.1875in)	1.25 - 4.75	Auto	0.0000
L55	43	MP3-05 (1.1875in)	1.25 - 4.75	Auto	0.0000
L55	60	(Area) CCI-65FP-065125 (H)	1.25 - 4.75	Auto	0.0000
L55	62	(Area) CCI-65FP-065125 (Mod) (H)	1.25 - 4.75	Auto	0.0000
L56	38	MP3-05 (1.1875in)	1.00 - 1.25	Auto	0.0000
L56	42	MP3-05 (1.1875in)	1.00 - 1.25	Auto	0.0000
L56	43	MP3-05 (1.1875in)	1.00 - 1.25	Auto	0.0000
L56	60	(Area) CCI-65FP-065125 (H)	1.00 - 1.25	Auto	0.0000
L56	62	(Area) CCI-65FP-065125 (Mod) (H)	1.00 - 1.25	Auto	0.0000
L57	38	MP3-05 (1.1875in)	0.00 - 1.00	Auto	0.0000
L57	42	MP3-05 (1.1875in)	0.00 - 1.00	Auto	0.0000
L57	43	MP3-05 (1.1875in)	0.00 - 1.00	Auto	0.0000
L57	60	(Area) CCI-65FP-065125 (H)	0.00 - 1.00	Auto	0.0000
L57	62	(Area) CCI-65FP-065125 (Mod) (H)	0.00 - 1.00	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
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VV-65B-R1_TMO w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	5.82 6.37 6.94	3.48 4.00 4.54	0.07 0.12 0.19
VV-65B-R1_TMO w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	5.82 6.37 6.94	3.48 4.00 4.54	0.07 0.12 0.19
VV-65B-R1_TMO w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	5.82 6.37 6.94	3.48 4.00 4.54	0.07 0.12 0.19
AIR 6419 B41_TMO w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	6.58 7.06 7.57	3.50 3.90 4.32	0.11 0.16 0.22
AIR 6419 B41_TMO w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	6.58 7.06 7.57	3.50 3.90 4.32	0.11 0.16 0.22
AIR 6419 B41_TMO w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	6.58 7.06 7.57	3.50 3.90 4.32	0.11 0.16 0.22
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.18 0.31 0.45
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.18 0.31 0.45
APXVAALL24_43-U-NA20	C	From	4.00	0.00	152.00	No Ice	14.69	6.87	0.18

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
_TMO w/ Mount Pipe		Centroid-Leg	0.000 0.000			1/2" Ice 1" Ice	15.46 16.23	7.55 8.25	0.31 0.45
RADIO 4460 B2/B25 B66_TMO	A	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	B	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	C	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
Radio 4480_TMOV2	A	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
Radio 4480_TMOV2	B	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
Radio 4480_TMOV2	C	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
2.4" Dia x 4-ft Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	0.87 1.12 1.37	0.87 1.12 1.37	0.01 0.02 0.03
8' Ladder	C	From Centroid-Face	2.00 0.000 -2.000	0.00	152.00	No Ice 1/2" Ice 1" Ice	1.53 4.36 7.19	5.33 8.08 10.83	0.10 0.11 0.13
Platform Mount [LP 602-1]	C	None		0.00	152.00	No Ice 1/2" Ice 1" Ice	31.07 34.82 38.48	31.07 34.82 38.48	1.34 1.97 2.67
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7770.00 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 2.000	0.00	137.00	No Ice 1/2" Ice 1" Ice	3.39 3.75 4.12	2.32 2.66 3.02	0.06 0.10 0.15
7770.00 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 2.000	0.00	137.00	No Ice 1/2" Ice 1" Ice	3.39 3.75 4.12	2.32 2.66 3.02	0.06 0.10 0.15
7770.00 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 2.000	0.00	137.00	No Ice 1/2" Ice 1" Ice	3.39 3.75 4.12	2.32 2.66 3.02	0.06 0.10 0.15
(2) SBNH-1D6565C w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 2.000	0.00	137.00	No Ice 1/2" Ice 1" Ice	5.56 6.07 6.59	4.47 4.97 5.47	0.08 0.17 0.26
(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 2.000	0.00	137.00	No Ice 1/2" Ice 1" Ice	4.63 5.06 5.51	3.27 3.69 4.12	0.07 0.13 0.20
(2) SBNH-1D6565C w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 2.000	0.00	137.00	No Ice 1/2" Ice 1" Ice	5.56 6.07 6.59	4.47 4.97 5.47	0.08 0.17 0.26
7020.00	A	From Centroid-Leg	4.00 0.000 2.000	0.00	137.00	No Ice 1/2" Ice 1" Ice	0.10 0.15 0.20	0.17 0.24 0.31	0.00 0.01 0.01
7020.00	B	From Centroid-Leg	4.00 0.000 2.000	0.00	137.00	No Ice 1/2" Ice 1" Ice	0.10 0.15 0.20	0.17 0.24 0.31	0.00 0.01 0.01
7020.00	C	From Centroid-Leg	4.00 0.000	0.00	137.00	No Ice 1/2" Ice	0.10 0.15	0.17 0.24	0.00 0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		g	2.000			1" Ice	0.20	0.31	0.01
(2) LGP21901	A	From	4.00	0.00	137.00	No Ice	0.23	0.16	0.01
		Centroid-Le	0.000			1/2" Ice	0.29	0.21	0.01
		g	2.000			1" Ice	0.36	0.28	0.01
(2) LGP21901	B	From	4.00	0.00	137.00	No Ice	0.23	0.16	0.01
		Centroid-Le	0.000			1/2" Ice	0.29	0.21	0.01
		g	2.000			1" Ice	0.36	0.28	0.01
(2) LGP21901	C	From	4.00	0.00	137.00	No Ice	0.23	0.16	0.01
		Centroid-Le	0.000			1/2" Ice	0.29	0.21	0.01
		g	2.000			1" Ice	0.36	0.28	0.01
(2) DTMABP7819VG12A	A	From	4.00	0.00	137.00	No Ice	0.98	0.34	0.02
		Centroid-Le	0.000			1/2" Ice	1.10	0.42	0.03
		g	2.000			1" Ice	1.23	0.51	0.04
(2) DTMABP7819VG12A	B	From	4.00	0.00	137.00	No Ice	0.98	0.34	0.02
		Centroid-Le	0.000			1/2" Ice	1.10	0.42	0.03
		g	2.000			1" Ice	1.23	0.51	0.04
(2) DTMABP7819VG12A	C	From	4.00	0.00	137.00	No Ice	0.98	0.34	0.02
		Centroid-Le	0.000			1/2" Ice	1.10	0.42	0.03
		g	2.000			1" Ice	1.23	0.51	0.04
(2) DD1900 FULL BAND W/850 BY-PASS MASTHEAD	A	From	4.00	0.00	137.00	No Ice	1.10	0.29	0.02
		Centroid-Le	0.000			1/2" Ice	1.23	0.37	0.02
		g	2.000			1" Ice	1.37	0.46	0.03
(2) DD1900 FULL BAND W/850 BY-PASS MASTHEAD	B	From	4.00	0.00	137.00	No Ice	1.10	0.29	0.02
		Centroid-Le	0.000			1/2" Ice	1.23	0.37	0.02
		g	2.000			1" Ice	1.37	0.46	0.03
(2) DD1900 FULL BAND W/850 BY-PASS MASTHEAD	C	From	4.00	0.00	137.00	No Ice	1.10	0.29	0.02
		Centroid-Le	0.000			1/2" Ice	1.23	0.37	0.02
		g	2.000			1" Ice	1.37	0.46	0.03
DC6-48-60-18-8F	A	From	4.00	0.00	137.00	No Ice	0.85	0.85	0.02
		Centroid-Le	0.000			1/2" Ice	1.36	1.36	0.04
		g	2.000			1" Ice	1.53	1.53	0.05
2.4" Dia. x 6-ft	A	From	4.00	0.00	137.00	No Ice	1.43	1.43	0.02
		Centroid-Le	0.000			1/2" Ice	1.92	1.92	0.03
		g	0.000			1" Ice	2.29	2.29	0.05
2.4" Dia. x 6-ft	B	From	4.00	0.00	137.00	No Ice	1.43	1.43	0.02
		Centroid-Le	0.000			1/2" Ice	1.92	1.92	0.03
		g	0.000			1" Ice	2.29	2.29	0.05
2.4" Dia. x 6-ft	C	From	4.00	0.00	137.00	No Ice	1.43	1.43	0.02
		Centroid-Le	0.000			1/2" Ice	1.92	1.92	0.03
		g	0.000			1" Ice	2.29	2.29	0.05
Platform Mount [LP 714-1]	C	None		0.00	137.00	No Ice	37.51	37.51	1.60
						1/2" Ice	41.70	41.70	2.50
						1" Ice	45.89	45.89	3.46
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(2) RRUS 11 B12	A	From Leg	1.00	0.00	136.00	No Ice	2.79	1.19	0.05
			0.000			1/2" Ice	3.00	1.34	0.07
			0.000			1" Ice	3.21	1.50	0.10
(2) RRUS 11 B12	B	From Leg	1.00	0.00	136.00	No Ice	2.79	1.19	0.05
			0.000			1/2" Ice	3.00	1.34	0.07
			0.000			1" Ice	3.21	1.50	0.10
(2) RRUS 11 B12	C	From Leg	1.00	0.00	136.00	No Ice	2.79	1.19	0.05
			0.000			1/2" Ice	3.00	1.34	0.07
			0.000			1" Ice	3.21	1.50	0.10
DC6-48-60-18-8F	C	From Leg	1.00	0.00	136.00	No Ice	0.85	0.85	0.02
			0.000			1/2" Ice	1.36	1.36	0.04
			0.000			1" Ice	1.53	1.53	0.05
(2) Pipe Mount [PM 601-3]	C	None		0.00	136.00	No Ice	3.17	3.17	0.20

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1/2" Ice	3.79	3.79	0.23
						1" Ice	4.42	4.42	0.28
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(2) APL866513-42T0 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	3.96 4.44 4.93	4.25 4.74 5.25	0.03 0.07 0.12
(2) APL866513-42T0 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	3.96 4.44 4.93	4.25 4.74 5.25	0.03 0.07 0.12
(2) APL866513-42T0 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	3.96 4.44 4.93	4.25 4.74 5.25	0.03 0.07 0.12
(2) MX06FRO660-03 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	6.54 7.06 7.60	5.55 6.05 6.57	0.10 0.18 0.28
(2) MX06FRO660-03 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	6.54 7.06 7.60	5.55 6.05 6.57	0.10 0.18 0.28
(2) MX06FRO660-03 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	6.54 7.06 7.60	5.55 6.05 6.57	0.10 0.18 0.28
MT6407-77A w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	0.10 0.13 0.18
MT6407-77A w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	0.10 0.13 0.18
MT6407-77A w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	0.10 0.13 0.18
GPS_A	B	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	0.12 0.21 0.28	0.12 0.21 0.28	0.00 0.00 0.01
RF4439D-25A	A	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
RF4439D-25A	B	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
RF4439D-25A	C	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
RF4440D-13A	A	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.13 1.27 1.41	0.07 0.09 0.11
RF4440D-13A	B	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.13 1.27 1.41	0.07 0.09 0.11
RF4440D-13A	C	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.13 1.27 1.41	0.07 0.09 0.11
RVZDC-6627-PF-48_CCIV2	B	From Centroid-Leg	4.00 0.000 2.000	0.00	127.00	No Ice 1/2" Ice 1" Ice	4.06 4.32 4.58	3.10 3.34 3.58	0.03 0.07 0.11
RMQP-NP w/ HRK12	C	None		0.00	127.00	No Ice 1/2" Ice 1" Ice	31.60 38.57 45.53	29.33 36.09 42.97	1.49 1.83 2.29

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
***									
APXV18-206517S-C-A20	A	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	3.83 4.46 5.11	1.81 2.41 3.03	0.03 0.05 0.09
APXV18-206517S-C-A20	B	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	3.83 4.46 5.11	1.81 2.41 3.03	0.03 0.05 0.09
APXV18-206517S-C-A20	C	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	3.83 4.46 5.11	1.81 2.41 3.03	0.03 0.05 0.09
APXVAALL24_43-U-NA20	A	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
APXVAALL24_43-U-NA20	B	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
APXVAALL24_43-U-NA20	C	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
RADIO 4449 B12/B71	A	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.15 1.29 1.44	0.08 0.09 0.11
RADIO 4449 B12/B71	B	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.15 1.29 1.44	0.08 0.09 0.11
RADIO 4449 B12/B71	C	From Centroid-Leg	4.00 0.000 0.000	0.00	117.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.15 1.29 1.44	0.08 0.09 0.11
Platform Mount [LP 1302-1]	C	None		0.00	117.00	No Ice 1/2" Ice 1" Ice	56.40 67.50 78.60	56.40 67.50 78.60	2.41 3.13 3.85
***									
MX08FRO665-21 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.000 0.000	0.00	107.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.000 0.000	0.00	107.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.000 0.000	0.00	107.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
TA08025-B604	A	From Centroid-Leg	4.00 0.000 0.000	0.00	107.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	B	From Centroid-Leg	4.00 0.000 0.000	0.00	107.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	C	From Centroid-Leg	4.00 0.000 0.000	0.00	107.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B605	A	From Centroid-Leg	4.00 0.000 0.000	0.00	107.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	B	From Centroid-Leg	4.00 0.000 0.000	0.00	107.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	C	From	4.00	0.00	107.00	No Ice	1.96	1.13	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		Centroid-Leg	0.000			1/2" Ice	2.14	1.27	0.09
			0.000			1" Ice	2.32	1.41	0.11
RDIDC-9181-PF-48	A	From	4.00	0.00	107.00	No Ice	2.01	1.17	0.02
		Centroid-Leg	0.000			1/2" Ice	2.19	1.31	0.04
			0.000			1" Ice	2.37	1.46	0.06
(2) 2.4" x 8' Pipe	A	From	4.00	0.00	107.00	No Ice	1.90	1.90	0.03
		Centroid-Leg	0.000			1/2" Ice	2.73	2.73	0.05
			0.000			1" Ice	3.42	3.42	0.07
(2) 2.4" x 8' Pipe	B	From	4.00	0.00	107.00	No Ice	1.90	1.90	0.03
		Centroid-Leg	0.000			1/2" Ice	2.73	2.73	0.05
			0.000			1" Ice	3.42	3.42	0.07
(2) 2.4" x 8' Pipe	C	From	4.00	0.00	107.00	No Ice	1.90	1.90	0.03
		Centroid-Leg	0.000			1/2" Ice	2.73	2.73	0.05
			0.000			1" Ice	3.42	3.42	0.07
Commscope MC-PK8-DSH	C	None		0.00	107.00	No Ice	34.24	34.24	1.75
						1/2" Ice	62.95	62.95	2.10
						1" Ice	91.66	91.66	2.45
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OG-860/1920/GPS-A	C	From Leg	2.00	0.00	75.00	No Ice	0.31	0.37	0.00
			0.000			1/2" Ice	0.40	0.46	0.01
			0.000			1" Ice	0.49	0.55	0.01
Side Arm Mount [SO 701-1]	C	None		0.00	75.00	No Ice	0.85	1.67	0.07
						1/2" Ice	1.14	2.34	0.08
						1" Ice	1.43	3.01	0.09
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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
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

Comb. No.	Description
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	150 - 145	Pole	Max Tension	26	0.00	0.00	0.00
			Max. Compression	26	-7.18	-0.12	-0.37
			Max. Mx	8	-3.45	-32.18	-0.21
			Max. My	14	-3.48	-0.03	-31.64
			Max. Vy	20	-4.89	32.10	-0.21
			Max. Vx	14	4.74	-0.03	-31.64
			Max. Torque	20			0.51
L2	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-7.53	-0.12	-0.37
			Max. Mx	8	-3.69	-57.15	-0.22
			Max. My	14	-3.71	-0.03	-55.85
			Max. Vy	20	-5.10	57.06	-0.21
			Max. Vx	14	4.95	-0.03	-55.85
			Max. Torque	20			0.51
L3	140 - 135	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-15.75	0.39	0.05
			Max. Mx	20	-7.58	93.33	-0.08
			Max. My	14	-7.61	0.03	-91.07
			Max. Vy	20	-9.29	93.33	-0.08
			Max. Vx	14	9.13	0.03	-91.07
			Max. Torque	20			0.51
L4	135 - 130	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.20	0.39	0.05
			Max. Mx	20	-7.94	140.29	-0.05
			Max. My	14	-7.96	-0.00	-137.21
			Max. Vy	20	-9.50	140.29	-0.05
			Max. Vx	14	9.33	-0.00	-137.21

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	10			-0.33
L5	130 - 123.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.05	-0.03	-0.19
			Max. Mx	8	-11.52	-179.68	-0.31
			Max. My	14	-11.55	-0.16	-176.13
			Max. Vy	20	-13.71	179.60	-0.05
			Max. Vx	14	13.53	-0.16	-176.13
			Max. Torque	18			0.47
L6	123.42 - 122.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.82	-0.03	-0.19
			Max. Mx	8	-12.11	-239.61	-0.40
			Max. My	14	-12.14	-0.25	-235.27
			Max. Vy	20	-13.91	239.52	0.04
			Max. Vx	14	13.73	-0.25	-235.27
			Max. Torque	18			0.47
L7	122.25 - 122	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.86	-0.03	-0.19
			Max. Mx	8	-12.15	-243.08	-0.40
			Max. My	14	-12.18	-0.26	-238.70
			Max. Vy	20	-13.92	243.00	0.04
			Max. Vx	14	13.74	-0.26	-238.70
			Max. Torque	18			0.47
L8	122 - 120.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.18	-0.03	-0.19
			Max. Mx	8	-12.39	-267.51	-0.44
			Max. My	14	-12.42	-0.29	-262.81
			Max. Vy	20	-14.01	267.42	0.08
			Max. Vx	14	13.83	-0.29	-262.81
			Max. Torque	18			0.47
L9	120.25 - 120	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.24	-0.03	-0.19
			Max. Mx	8	-12.45	-271.01	-0.44
			Max. My	14	-12.47	-0.30	-266.27
			Max. Vy	20	-14.01	270.92	0.08
			Max. Vx	14	13.83	-0.30	-266.27
			Max. Torque	18			0.47
L10	120 - 115.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.48	-0.03	-0.19
			Max. Mx	8	-16.84	-344.37	-0.54
			Max. My	14	-16.87	-0.39	-338.78
			Max. Vy	20	-17.82	344.29	0.17
			Max. Vx	14	17.64	-0.39	-338.78
			Max. Torque	18			0.47
L11	115.25 - 115	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.54	-0.03	-0.19
			Max. Mx	8	-16.89	-348.83	-0.55
			Max. My	14	-16.91	-0.40	-343.19
			Max. Vy	20	-17.83	348.75	0.18
			Max. Vx	14	17.65	-0.40	-343.19
			Max. Torque	18			0.47
L12	115 - 114.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.60	-0.03	-0.19
			Max. Mx	8	-16.93	-353.29	-0.55
			Max. My	14	-16.96	-0.40	-347.60
			Max. Vy	20	-17.84	353.20	0.18
			Max. Vx	14	17.66	-0.40	-347.60
			Max. Torque	18			0.47
L13	114.75 - 109.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.81	-0.03	-0.19

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-17.88	-443.10	-0.66
			Max. My	14	-17.91	-0.51	-436.49
			Max. Vy	20	-18.09	443.01	0.29
			Max. Vx	14	17.91	-0.51	-436.49
			Max. Torque	18			0.47
L14	109.75 - 105.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.86	-0.02	0.07
			Max. Mx	8	-21.82	-529.43	-0.66
			Max. My	14	-21.85	-0.60	-521.94
			Max. Vy	20	-20.86	529.36	0.47
			Max. Vx	14	20.70	-0.60	-521.94
			Max. Torque	18			0.47
L15	105.25 - 105	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.94	-0.02	0.07
			Max. Mx	8	-21.90	-534.64	-0.67
			Max. My	14	-21.92	-0.60	-527.12
			Max. Vy	20	-20.87	534.57	0.47
			Max. Vx	14	20.71	-0.60	-527.12
			Max. Torque	18			0.36
L16	105 - 101.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.92	-0.00	0.08
			Max. Mx	8	-22.66	-599.16	-0.73
			Max. My	14	-22.69	-0.66	-591.13
			Max. Vy	20	-21.04	599.11	0.54
			Max. Vx	14	20.88	-0.66	-591.13
			Max. Torque	18			0.36
L17	101.92 - 101.67	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.01	-0.00	0.08
			Max. Mx	8	-22.73	-604.42	-0.73
			Max. My	14	-22.76	-0.66	-596.35
			Max. Vy	20	-21.05	604.37	0.54
			Max. Vx	14	20.89	-0.66	-596.35
			Max. Torque	18			0.36
L18	101.67 - 101.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.15	-0.00	0.08
			Max. Mx	8	-22.84	-613.27	-0.74
			Max. My	14	-22.87	-0.67	-605.12
			Max. Vy	20	-21.08	613.22	0.55
			Max. Vx	14	20.91	-0.67	-605.12
			Max. Torque	18			0.36
L19	101.25 - 101	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.23	0.00	0.08
			Max. Mx	8	-22.91	-618.54	-0.75
			Max. My	14	-22.93	-0.67	-610.35
			Max. Vy	20	-21.09	618.49	0.56
			Max. Vx	14	20.92	-0.67	-610.35
			Max. Torque	18			0.36
L20	101 - 100.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.48	0.01	0.08
			Max. Mx	8	-23.10	-634.36	-0.76
			Max. My	14	-23.13	-0.69	-626.05
			Max. Vy	20	-21.13	634.32	0.58
			Max. Vx	14	20.96	-0.69	-626.05
			Max. Torque	18			0.36
L21	100.25 - 100	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.56	0.01	0.08
			Max. Mx	8	-23.17	-639.65	-0.77
			Max. My	14	-23.19	-0.69	-631.29

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	-21.15	639.60	0.58
			Max. Vx	14	20.98	-0.69	-631.29
			Max. Torque	18			0.36
L22	100 - 95	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.22	0.04	0.10
			Max. Mx	8	-24.48	-745.99	-0.86
			Max. My	14	-24.50	-0.78	-736.79
			Max. Vy	20	-21.41	745.98	0.69
			Max. Vx	14	21.24	-0.78	-736.79
			Max. Torque	18			0.36
L23	95 - 85.96	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.89	0.07	0.12
			Max. Mx	20	-25.81	852.78	0.80
			Max. My	14	-25.83	-0.87	-842.74
			Max. Vy	20	-21.67	852.78	0.80
			Max. Vx	14	21.50	-0.87	-842.74
			Max. Torque	18			0.36
L24	85.96 - 85.04	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.73	0.10	0.13
			Max. Mx	20	-28.14	962.03	0.91
			Max. My	14	-28.16	-0.96	-951.11
			Max. Vy	20	-22.02	962.03	0.91
			Max. Vx	14	21.85	-0.96	-951.11
			Max. Torque	18			0.36
L25	85.04 - 82	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.87	0.11	0.15
			Max. Mx	20	-29.05	1029.19	0.98
			Max. My	14	-29.06	-1.01	-1017.74
			Max. Vy	20	-22.18	1029.19	0.98
			Max. Vx	14	22.01	-1.01	-1017.74
			Max. Torque	18			0.36
L26	82 - 81.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.98	0.12	0.15
			Max. Mx	20	-29.14	1034.73	0.99
			Max. My	14	-29.16	-1.02	-1023.24
			Max. Vy	20	-22.19	1034.73	0.99
			Max. Vx	2	-22.02	1.09	1023.09
			Max. Torque	18			0.36
L27	81.75 - 77.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.84	0.14	0.16
			Max. Mx	20	-30.63	1129.52	1.08
			Max. My	14	-30.64	-1.09	-1117.29
			Max. Vy	20	-22.43	1129.52	1.08
			Max. Vx	2	-22.26	1.19	1117.16
			Max. Torque	18			0.36
L28	77.5 - 77.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.94	0.14	0.16
			Max. Mx	20	-30.71	1135.13	1.09
			Max. My	14	-30.73	-1.09	-1122.86
			Max. Vy	20	-22.44	1135.13	1.09
			Max. Vx	2	-22.27	1.20	1122.73
			Max. Torque	18			0.36
L29	77.25 - 75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.87	0.16	0.17
			Max. Mx	20	-31.43	1185.74	1.14
			Max. My	14	-31.45	-1.13	-1173.09
			Max. Vy	20	-22.56	1185.74	1.14
			Max. Vx	2	-22.40	1.25	1172.97
			Max. Torque	18			0.36
L30	75 - 74.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.09	0.19	0.16

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	20	-31.59	1191.40	1.14
			Max. My	14	-31.61	-1.13	-1178.71
			Max. Vy	20	-22.63	1191.40	1.14
			Max. Vx	2	-22.48	1.26	1178.58
			Max. Torque	18			0.36
L31	74.75 - 74.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.20	0.19	0.16
			Max. Mx	20	-31.68	1197.06	1.15
			Max. My	14	-31.69	-1.14	-1184.33
			Max. Vy	20	-22.65	1197.06	1.15
			Max. Vx	2	-22.49	1.27	1184.20
			Max. Torque	18			0.36
L32	74.5 - 72.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.21	0.21	0.17
			Max. Mx	20	-32.46	1249.96	1.20
			Max. My	14	-32.48	-1.18	-1236.88
			Max. Vy	20	-22.78	1249.96	1.20
			Max. Vx	2	-22.63	1.33	1236.76
			Max. Torque	18			0.36
L33	72.17 - 71.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.32	0.21	0.17
			Max. Mx	20	-32.56	1255.65	1.21
			Max. My	14	-32.57	-1.18	-1242.53
			Max. Vy	20	-22.78	1255.65	1.21
			Max. Vx	2	-22.64	1.33	1242.42
			Max. Torque	18			0.36
L34	71.92 - 68.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.72	0.24	0.19
			Max. Mx	20	-33.66	1328.12	1.28
			Max. My	14	-33.67	-1.24	-1314.55
			Max. Vy	20	-22.95	1328.12	1.28
			Max. Vx	2	-22.82	1.41	1314.45
			Max. Torque	18			0.36
L35	68.75 - 68.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.84	0.24	0.19
			Max. Mx	20	-33.76	1333.85	1.29
			Max. My	14	-33.77	-1.25	-1320.25
			Max. Vy	20	-22.96	1333.85	1.29
			Max. Vx	2	-22.83	1.42	1320.15
			Max. Torque	18			0.36
L36	68.5 - 63.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.25	0.29	0.21
			Max. Mx	20	-35.68	1449.32	1.41
			Max. My	14	-35.70	-1.33	-1435.06
			Max. Vy	20	-23.24	1449.32	1.41
			Max. Vx	2	-23.12	1.55	1434.98
			Max. Torque	18			0.36
L37	63.5 - 58.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.68	0.33	0.24
			Max. Mx	20	-37.64	1566.14	1.52
			Max. My	14	-37.65	-1.42	-1551.26
			Max. Vy	20	-23.50	1566.14	1.52
			Max. Vx	2	-23.39	1.67	1551.20
			Max. Torque	18			0.36
L38	58.5 - 53.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.13	0.38	0.27
			Max. Mx	20	-39.62	1684.26	1.64
			Max. My	14	-39.63	-1.51	-1668.79
			Max. Vy	20	-23.76	1684.26	1.64
			Max. Vx	2	-23.65	1.80	1668.75
			Max. Torque	18			0.36

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L39	53.5 - 48.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.60	0.43	0.30
			Max. Mx	20	-41.62	1803.64	1.76
			Max. My	14	-41.63	-1.60	-1787.58
			Max. Vy	20	-24.01	1803.64	1.76
			Max. Vx	2	-23.90	1.93	1787.57
			Max. Torque	18			0.36
L40	48.5 - 42.41	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.06	0.44	0.30
			Max. Mx	20	-41.99	1825.74	1.78
			Max. My	14	-42.00	-1.61	-1809.58
			Max. Vy	20	-24.05	1825.74	1.78
			Max. Vx	2	-23.94	1.95	1809.57
			Max. Torque	18			0.36
L41	42.41 - 41.41	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.90	0.50	0.34
			Max. Mx	20	-46.07	1975.38	1.93
			Max. My	2	-46.08	2.11	1958.52
			Max. Vy	20	-24.45	1975.38	1.93
			Max. Vx	2	-24.34	2.11	1958.52
			Max. Torque	18			0.36
L42	41.41 - 36.41	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.10	0.55	0.37
			Max. Mx	20	-47.95	2098.02	2.05
			Max. My	2	-47.96	2.24	2080.61
			Max. Vy	20	-24.63	2098.02	2.05
			Max. Vx	2	-24.52	2.24	2080.61
			Max. Torque	18			0.36
L43	36.41 - 32.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.73	0.59	0.39
			Max. Mx	20	-49.34	2188.34	2.13
			Max. My	2	-49.35	2.33	2170.53
			Max. Vy	20	-24.76	2188.34	2.13
			Max. Vx	2	-24.65	2.33	2170.53
			Max. Torque	18			0.36
L44	32.75 - 32.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.85	0.59	0.39
			Max. Mx	20	-49.45	2194.53	2.14
			Max. My	2	-49.46	2.34	2176.68
			Max. Vy	20	-24.75	2194.53	2.14
			Max. Vx	2	-24.64	2.34	2176.68
			Max. Torque	18			0.36
L45	32.5 - 31.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.43	0.60	0.40
			Max. Mx	20	-49.95	2225.49	2.17
			Max. My	2	-49.95	2.37	2207.51
			Max. Vy	20	-24.81	2225.49	2.17
			Max. Vx	2	-24.70	2.37	2207.51
			Max. Torque	18			0.36
L46	31.25 - 31	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.55	0.60	0.40
			Max. Mx	20	-50.05	2231.69	2.17
			Max. My	2	-50.06	2.38	2213.68
			Max. Vy	20	-24.80	2231.69	2.17
			Max. Vx	2	-24.70	2.38	2213.68
			Max. Torque	18			0.36
L47	31 - 26	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-75.91	0.66	0.44
			Max. Mx	20	-52.08	2356.10	2.29
			Max. My	2	-52.08	2.50	2337.55
			Max. Vy	20	-24.98	2356.10	2.29

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	-24.87	2.50	2337.55
			Max. Torque	18			0.36
L48	26 - 21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.29	0.71	0.47
			Max. Mx	20	-54.13	2481.33	2.41
			Max. My	2	-54.14	2.63	2462.24
			Max. Vy	20	-25.14	2481.33	2.41
			Max. Vx	2	-25.04	2.63	2462.24
			Max. Torque	18			0.36
L49	21 - 18.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-79.38	0.72	0.47
			Max. Mx	20	-55.07	2537.95	2.46
			Max. My	2	-55.07	2.69	2518.62
			Max. Vy	20	-25.22	2537.95	2.46
			Max. Vx	2	-25.11	2.69	2518.62
			Max. Torque	18			0.36
L50	18.75 - 18.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-79.50	0.73	0.46
			Max. Mx	20	-55.18	2544.25	2.47
			Max. My	2	-55.19	2.69	2524.89
			Max. Vy	20	-25.21	2544.25	2.47
			Max. Vx	2	-25.11	2.69	2524.89
			Max. Torque	18			0.36
L51	18.5 - 15	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.20	0.77	0.46
			Max. Mx	20	-56.64	2632.66	2.55
			Max. My	2	-56.64	2.78	2612.94
			Max. Vy	20	-25.33	2632.66	2.55
			Max. Vx	2	-25.23	2.78	2612.94
			Max. Torque	18			0.36
L52	15 - 14.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.32	0.77	0.46
			Max. Mx	20	-56.75	2638.99	2.56
			Max. My	2	-56.75	2.79	2619.24
			Max. Vy	20	-25.33	2638.99	2.56
			Max. Vx	2	-25.22	2.79	2619.24
			Max. Torque	18			0.36
L53	14.75 - 9.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.56	0.86	0.45
			Max. Mx	20	-58.71	2765.90	2.67
			Max. My	2	-58.71	2.92	2745.63
			Max. Vy	20	-25.46	2765.90	2.67
			Max. Vx	2	-25.36	2.92	2745.63
			Max. Torque	18			0.36
L54	9.75 - 4.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.81	0.92	0.43
			Max. Mx	20	-60.70	2893.41	2.79
			Max. My	2	-60.70	3.04	2872.61
			Max. Vy	20	-25.58	2893.41	2.79
			Max. Vx	2	-25.48	3.04	2872.61
			Max. Torque	18			0.36
L55	4.75 - 1.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.37	0.96	0.42
			Max. Mx	20	-62.11	2983.01	2.87
			Max. My	2	-62.11	3.13	2961.86
			Max. Vy	20	-25.66	2983.01	2.87
			Max. Vx	2	-25.56	3.13	2961.86
			Max. Torque	18			0.36
L56	1.25 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.51	0.96	0.42
			Max. Mx	20	-62.24	2989.43	2.87

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	-62.24	3.14	2968.25
			Max. Vy	20	-25.65	2989.43	2.87
			Max. Vx	2	-25.55	3.14	2968.25
			Max. Torque	18			0.36
L57	1 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.04	0.97	0.41
			Max. Mx	20	-62.73	3015.09	2.90
			Max. My	2	-62.73	3.16	2993.82
			Max. Vy	20	-25.70	3015.09	2.90
			Max. Vx	2	-25.60	3.16	2993.82
			Max. Torque	18			0.36

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	88.04	0.00	0.00
	Max. H_x	20	62.74	25.68	0.02
	Max. H_z	2	62.74	0.02	25.58
	Max. M_x	2	2993.82	0.02	25.58
	Max. M_z	8	3014.32	-25.68	-0.02
	Max. Torsion	18	0.36	22.22	-12.75
	Min. Vert	13	47.05	-12.86	-22.12
	Min. H_x	8	62.74	-25.68	-0.02
	Min. H_z	14	62.74	-0.02	-25.58
	Min. M_x	14	-2993.57	-0.02	-25.58
	Min. M_z	20	-3015.09	25.68	0.02
	Min. Torsion	6	-0.35	-22.22	12.75

Tower Mast Reaction Summary

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
Dead Only	52.28	0.00	0.00	-0.11	0.31	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	62.74	-0.02	-25.58	-2993.82	3.16	0.11
0.9 Dead+1.0 Wind 0 deg - No Ice	47.05	-0.02	-25.58	-2949.08	3.02	0.12
1.2 Dead+1.0 Wind 30 deg - No Ice	62.74	12.88	-22.20	-2597.06	-1509.35	0.26
0.9 Dead+1.0 Wind 30 deg - No Ice	47.05	12.88	-22.20	-2558.26	-1486.88	0.26
1.2 Dead+1.0 Wind 60 deg - No Ice	62.74	22.22	-12.75	-1492.51	-2608.07	0.35
0.9 Dead+1.0 Wind 60 deg - No Ice	47.05	22.22	-12.75	-1470.19	-2569.14	0.35
1.2 Dead+1.0 Wind 90 deg - No Ice	62.74	25.68	0.02	2.65	-3014.32	0.34
0.9 Dead+1.0 Wind 90 deg - No Ice	47.05	25.68	0.02	2.63	-2969.31	0.34
1.2 Dead+1.0 Wind 120 deg -	62.74	22.24	12.78	1497.02	-2610.77	0.25

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
No Ice						
0.9 Dead+1.0 Wind 120 deg - No Ice	47.05	22.24	12.78	1474.68	-2571.79	0.24
1.2 Dead+1.0 Wind 150 deg - No Ice	62.74	12.86	22.12	2591.33	-1509.39	0.08
0.9 Dead+1.0 Wind 150 deg - No Ice	47.05	12.86	22.12	2552.64	-1486.90	0.08
1.2 Dead+1.0 Wind 180 deg - No Ice	62.74	0.02	25.58	2993.57	-2.38	-0.11
0.9 Dead+1.0 Wind 180 deg - No Ice	47.05	0.02	25.58	2948.89	-2.44	-0.11
1.2 Dead+1.0 Wind 210 deg - No Ice	62.74	-12.88	22.20	2596.81	1510.14	-0.27
0.9 Dead+1.0 Wind 210 deg - No Ice	47.05	-12.88	22.20	2558.07	1487.47	-0.27
1.2 Dead+1.0 Wind 240 deg - No Ice	62.74	-22.22	12.75	1492.26	2608.85	-0.36
0.9 Dead+1.0 Wind 240 deg - No Ice	47.05	-22.22	12.75	1470.00	2569.72	-0.36
1.2 Dead+1.0 Wind 270 deg - No Ice	62.74	-25.68	-0.02	-2.90	3015.09	-0.34
0.9 Dead+1.0 Wind 270 deg - No Ice	47.05	-25.68	-0.02	-2.82	2969.89	-0.34
1.2 Dead+1.0 Wind 300 deg - No Ice	62.74	-22.24	-12.78	-1497.27	2611.54	-0.24
0.9 Dead+1.0 Wind 300 deg - No Ice	47.05	-22.24	-12.78	-1474.87	2572.37	-0.23
1.2 Dead+1.0 Wind 330 deg - No Ice	62.74	-12.86	-22.12	-2591.57	1510.17	-0.07
0.9 Dead+1.0 Wind 330 deg - No Ice	47.05	-12.86	-22.12	-2552.82	1487.48	-0.07
1.2 Dead+1.0 Ice+1.0 Temp	88.04	0.00	0.00	-0.41	0.97	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	88.04	-0.00	-6.84	-798.97	1.59	0.02
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	88.04	3.43	-5.92	-691.72	-399.90	0.08
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	88.04	5.94	-3.41	-399.25	-693.96	0.12
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	88.04	6.86	0.00	0.09	-801.78	0.13
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	88.04	5.94	3.42	399.27	-694.50	0.10
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	88.04	3.43	5.92	691.36	-400.84	0.05
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	88.04	0.00	6.84	798.07	0.51	-0.02
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	88.04	-3.43	5.92	690.82	402.00	-0.08
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	88.04	-5.94	3.41	398.34	696.05	-0.12
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	88.04	-6.86	-0.00	-0.99	803.88	-0.13
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	88.04	-5.94	-3.42	-400.18	696.59	-0.10
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	88.04	-3.43	-5.92	-692.26	402.93	-0.05
Dead+Wind 0 deg - Service	52.28	-0.00	-6.23	-722.96	0.99	0.03
Dead+Wind 30 deg - Service	52.28	3.14	-5.41	-627.16	-364.22	0.06
Dead+Wind 60 deg - Service	52.28	5.41	-3.10	-360.46	-629.51	0.08
Dead+Wind 90 deg - Service	52.28	6.26	0.00	0.57	-727.61	0.08
Dead+Wind 120 deg - Service	52.28	5.42	3.11	361.40	-630.16	0.06

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+Wind 150 deg - Service	52.28	3.13	5.39	625.63	-364.22	0.02
Dead+Wind 180 deg - Service	52.28	0.00	6.23	722.75	-0.35	-0.03
Dead+Wind 210 deg - Service	52.28	-3.14	5.41	626.96	364.86	-0.06
Dead+Wind 240 deg - Service	52.28	-5.41	3.10	360.25	630.16	-0.08
Dead+Wind 270 deg - Service	52.28	-6.26	-0.00	-0.77	728.25	-0.08
Dead+Wind 300 deg - Service	52.28	-5.42	-3.11	-361.61	630.81	-0.06
Dead+Wind 330 deg - Service	52.28	-3.13	-5.39	-625.83	364.87	-0.02

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-52.28	0.00	0.00	52.28	0.00	0.000%
2	-0.02	-62.74	-25.58	0.02	62.74	25.58	0.000%
3	-0.02	-47.05	-25.58	0.02	47.05	25.58	0.000%
4	12.88	-62.74	-22.20	-12.88	62.74	22.20	0.000%
5	12.88	-47.05	-22.20	-12.88	47.05	22.20	0.000%
6	22.22	-62.74	-12.75	-22.22	62.74	12.75	0.000%
7	22.22	-47.05	-12.75	-22.22	47.05	12.75	0.000%
8	25.68	-62.74	0.02	-25.68	62.74	-0.02	0.000%
9	25.68	-47.05	0.02	-25.68	47.05	-0.02	0.000%
10	22.24	-62.74	12.78	-22.24	62.74	-12.78	0.000%
11	22.24	-47.05	12.78	-22.24	47.05	-12.78	0.000%
12	12.86	-62.74	22.12	-12.86	62.74	-22.12	0.000%
13	12.86	-47.05	22.12	-12.86	47.05	-22.12	0.000%
14	0.02	-62.74	25.58	-0.02	62.74	-25.58	0.000%
15	0.02	-47.05	25.58	-0.02	47.05	-25.58	0.000%
16	-12.88	-62.74	22.20	12.88	62.74	-22.20	0.000%
17	-12.88	-47.05	22.20	12.88	47.05	-22.20	0.000%
18	-22.22	-62.74	12.75	22.22	62.74	-12.75	0.000%
19	-22.22	-47.05	12.75	22.22	47.05	-12.75	0.000%
20	-25.68	-62.74	-0.02	25.68	62.74	0.02	0.000%
21	-25.68	-47.05	-0.02	25.68	47.05	0.02	0.000%
22	-22.24	-62.74	-12.78	22.24	62.74	12.78	0.000%
23	-22.24	-47.05	-12.78	22.24	47.05	12.78	0.000%
24	-12.86	-62.74	-22.12	12.86	62.74	22.12	0.000%
25	-12.86	-47.05	-22.12	12.86	47.05	22.12	0.000%
26	0.00	-88.04	0.00	0.00	88.04	0.00	0.000%
27	-0.00	-88.04	-6.84	0.00	88.04	6.84	0.000%
28	3.43	-88.04	-5.92	-3.43	88.04	5.92	0.000%
29	5.94	-88.04	-3.41	-5.94	88.04	3.41	0.000%
30	6.86	-88.04	0.00	-6.86	88.04	-0.00	0.000%
31	5.94	-88.04	3.42	-5.94	88.04	-3.42	0.000%
32	3.43	-88.04	5.92	-3.43	88.04	-5.92	0.000%
33	0.00	-88.04	6.84	-0.00	88.04	-6.84	0.000%
34	-3.43	-88.04	5.92	3.43	88.04	-5.92	0.000%
35	-5.94	-88.04	3.41	5.94	88.04	-3.41	0.000%
36	-6.86	-88.04	-0.00	6.86	88.04	0.00	0.000%
37	-5.94	-88.04	-3.42	5.94	88.04	3.42	0.000%
38	-3.43	-88.04	-5.92	3.43	88.04	5.92	0.000%
39	-0.00	-52.28	-6.23	0.00	52.28	6.23	0.000%
40	3.14	-52.28	-5.41	-3.14	52.28	5.41	0.000%
41	5.41	-52.28	-3.10	-5.41	52.28	3.10	0.000%
42	6.26	-52.28	0.00	-6.26	52.28	-0.00	0.000%
43	5.42	-52.28	3.11	-5.42	52.28	-3.11	0.000%
44	3.13	-52.28	5.39	-3.13	52.28	-5.39	0.000%
45	0.00	-52.28	6.23	-0.00	52.28	-6.23	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
46	-3.14	-52.28	5.41	3.14	52.28	-5.41	0.000%
47	-5.41	-52.28	3.10	5.41	52.28	-3.10	0.000%
48	-6.26	-52.28	-0.00	6.26	52.28	0.00	0.000%
49	-5.42	-52.28	-3.11	5.42	52.28	3.11	0.000%
50	-3.13	-52.28	-5.39	3.13	52.28	5.39	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00040364
3	Yes	5	0.00000001	0.00015536
4	Yes	7	0.00000001	0.00014575
5	Yes	6	0.00000001	0.00079164
6	Yes	7	0.00000001	0.00014370
7	Yes	6	0.00000001	0.00078013
8	Yes	5	0.00000001	0.00063152
9	Yes	5	0.00000001	0.00028762
10	Yes	7	0.00000001	0.00014606
11	Yes	6	0.00000001	0.00079312
12	Yes	7	0.00000001	0.00014480
13	Yes	6	0.00000001	0.00078643
14	Yes	5	0.00000001	0.00045365
15	Yes	5	0.00000001	0.00018796
16	Yes	7	0.00000001	0.00014427
17	Yes	6	0.00000001	0.00078309
18	Yes	7	0.00000001	0.00014584
19	Yes	6	0.00000001	0.00079214
20	Yes	5	0.00000001	0.00051865
21	Yes	5	0.00000001	0.00022527
22	Yes	7	0.00000001	0.00014473
23	Yes	6	0.00000001	0.00078566
24	Yes	7	0.00000001	0.00014521
25	Yes	6	0.00000001	0.00078856
26	Yes	4	0.00000001	0.00000001
27	Yes	6	0.00000001	0.00098017
28	Yes	7	0.00000001	0.00013981
29	Yes	7	0.00000001	0.00013984
30	Yes	6	0.00000001	0.00098562
31	Yes	7	0.00000001	0.00014034
32	Yes	7	0.00000001	0.00013975
33	Yes	6	0.00000001	0.00097935
34	Yes	7	0.00000001	0.00013971
35	Yes	7	0.00000001	0.00014039
36	Yes	6	0.00000001	0.00098770
37	Yes	7	0.00000001	0.00014044
38	Yes	7	0.00000001	0.00014032
39	Yes	5	0.00000001	0.00007329
40	Yes	5	0.00000001	0.00051016
41	Yes	5	0.00000001	0.00049241
42	Yes	5	0.00000001	0.00007686
43	Yes	5	0.00000001	0.00051148
44	Yes	5	0.00000001	0.00050131
45	Yes	5	0.00000001	0.00007352
46	Yes	5	0.00000001	0.00049645

47	Yes	5	0.00000001	0.00051276
48	Yes	5	0.00000001	0.00007636
49	Yes	5	0.00000001	0.00049894
50	Yes	5	0.00000001	0.00050492

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 145	22.40	48	1.50	0.00
L2	145 - 140	20.84	48	1.47	0.00
L3	140 - 135	19.32	48	1.43	0.00
L4	135 - 130	17.86	48	1.37	0.00
L5	130 - 123.42	16.47	48	1.28	0.00
L6	126.59 - 122.25	15.58	48	1.22	0.00
L7	122.25 - 122	14.49	48	1.16	0.00
L8	122 - 120.25	14.43	48	1.16	0.00
L9	120.25 - 120	14.01	48	1.14	0.00
L10	120 - 115.25	13.95	48	1.14	0.00
L11	115.25 - 115	12.84	48	1.09	0.00
L12	115 - 114.75	12.79	48	1.09	0.00
L13	114.75 - 109.75	12.73	48	1.08	0.00
L14	109.75 - 105.25	11.62	48	1.03	0.00
L15	105.25 - 105	10.68	48	0.97	0.00
L16	105 - 101.92	10.63	48	0.97	0.00
L17	101.92 - 101.67	10.02	48	0.94	0.00
L18	101.67 - 101.25	9.97	48	0.93	0.00
L19	101.25 - 101	9.89	48	0.93	0.00
L20	101 - 100.25	9.84	48	0.93	0.00
L21	100.25 - 100	9.70	48	0.92	0.00
L22	100 - 95	9.65	48	0.92	0.00
L23	95 - 85.96	8.71	48	0.87	0.00
L24	90.04 - 85.04	7.84	48	0.81	0.00
L25	85.04 - 82	7.01	48	0.78	0.00
L26	82 - 81.75	6.52	48	0.75	0.00
L27	81.75 - 77.5	6.48	48	0.74	0.00
L28	77.5 - 77.25	5.84	48	0.71	0.00
L29	77.25 - 75	5.80	48	0.70	0.00
L30	75 - 74.75	5.48	48	0.68	0.00
L31	74.75 - 74.5	5.44	48	0.68	0.00
L32	74.5 - 72.17	5.40	48	0.67	0.00
L33	72.17 - 71.92	5.08	48	0.65	0.00
L34	71.92 - 68.75	5.05	48	0.65	0.00
L35	68.75 - 68.5	4.63	48	0.62	0.00
L36	68.5 - 63.5	4.59	48	0.62	0.00
L37	63.5 - 58.5	3.97	48	0.57	0.00
L38	58.5 - 53.5	3.39	48	0.53	0.00
L39	53.5 - 48.5	2.86	48	0.49	0.00
L40	48.5 - 42.41	2.37	48	0.44	0.00
L41	47.58 - 41.41	2.29	48	0.44	0.00
L42	41.41 - 36.41	1.75	48	0.40	0.00
L43	36.41 - 32.75	1.35	48	0.35	0.00
L44	32.75 - 32.5	1.10	48	0.31	0.00
L45	32.5 - 31.25	1.08	48	0.31	0.00
L46	31.25 - 31	1.00	48	0.30	0.00
L47	31 - 26	0.98	48	0.30	0.00
L48	26 - 21	0.70	48	0.25	0.00
L49	21 - 18.75	0.46	48	0.21	0.00
L50	18.75 - 18.5	0.36	48	0.19	0.00

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L51	18.5 - 15	0.35	48	0.18	0.00
L52	15 - 14.75	0.23	48	0.15	0.00
L53	14.75 - 9.75	0.22	48	0.15	0.00
L54	9.75 - 4.75	0.10	48	0.10	0.00
L55	4.75 - 1.25	0.02	48	0.04	0.00
L56	1.25 - 1	0.00	48	0.01	0.00
L57	1 - 0	0.00	48	0.01	0.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.00	VV-65B-R1_TMO w/ Mount Pipe	48	22.40	1.50	0.00	7888
137.00	7770.00 w/ Mount Pipe	48	18.44	1.39	0.00	4526
136.00	(2) RRUS 11 B12	48	18.15	1.38	0.00	4247
127.00	(2) APL866513-42T0 w/ Mount Pipe	48	15.68	1.22	0.00	3731
117.00	APXV18-206517S-C-A20	48	13.25	1.11	0.00	5453
107.00	MX08FRO665-21 w/ Mount Pipe	48	11.04	0.99	0.00	4806
75.00	OG-860/1920/GPS-A	48	5.48	0.68	0.00	5756

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 145	92.81	20	6.21	0.01
L2	145 - 140	86.37	20	6.11	0.01
L3	140 - 135	80.08	20	5.92	0.01
L4	135 - 130	74.01	20	5.66	0.00
L5	130 - 123.42	68.26	20	5.32	0.00
L6	126.59 - 122.25	64.56	20	5.05	0.00
L7	122.25 - 122	60.06	20	4.83	0.00
L8	122 - 120.25	59.81	20	4.81	0.00
L9	120.25 - 120	58.07	20	4.73	0.00
L10	120 - 115.25	57.82	20	4.72	0.00
L11	115.25 - 115	53.23	20	4.52	0.00
L12	115 - 114.75	52.99	20	4.50	0.00
L13	114.75 - 109.75	52.76	20	4.49	0.00
L14	109.75 - 105.25	48.18	20	4.25	0.00
L15	105.25 - 105	44.29	20	4.02	0.00
L16	105 - 101.92	44.08	20	4.01	0.00
L17	101.92 - 101.67	41.53	20	3.88	0.00
L18	101.67 - 101.25	41.33	20	3.87	0.00
L19	101.25 - 101	40.99	20	3.86	0.00
L20	101 - 100.25	40.79	20	3.85	0.00
L21	100.25 - 100	40.19	20	3.82	0.00
L22	100 - 95	39.99	20	3.81	0.00
L23	95 - 85.96	36.12	20	3.59	0.00
L24	90.04 - 85.04	32.51	20	3.37	0.00
L25	85.04 - 82	29.05	20	3.23	0.00

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L26	82 - 81.75	27.03	20	3.09	0.00
L27	81.75 - 77.5	26.87	20	3.09	0.00
L28	77.5 - 77.25	24.20	20	2.93	0.00
L29	77.25 - 75	24.04	20	2.92	0.00
L30	75 - 74.75	22.69	20	2.82	0.00
L31	74.75 - 74.5	22.54	20	2.81	0.00
L32	74.5 - 72.17	22.40	20	2.80	0.00
L33	72.17 - 71.92	21.06	20	2.70	0.00
L34	71.92 - 68.75	20.92	20	2.69	0.00
L35	68.75 - 68.5	19.17	20	2.57	0.00
L36	68.5 - 63.5	19.04	20	2.56	0.00
L37	63.5 - 58.5	16.45	20	2.38	0.00
L38	58.5 - 53.5	14.06	20	2.20	0.00
L39	53.5 - 48.5	11.85	20	2.02	0.00
L40	48.5 - 42.41	9.83	20	1.84	0.00
L41	47.58 - 41.41	9.48	20	1.80	0.00
L42	41.41 - 36.41	7.23	20	1.66	0.00
L43	36.41 - 32.75	5.60	20	1.45	0.00
L44	32.75 - 32.5	4.54	20	1.30	0.00
L45	32.5 - 31.25	4.47	20	1.29	0.00
L46	31.25 - 31	4.14	20	1.25	0.00
L47	31 - 26	4.08	20	1.24	0.00
L48	26 - 21	2.88	20	1.04	0.00
L49	21 - 18.75	1.89	20	0.86	0.00
L50	18.75 - 18.5	1.51	20	0.77	0.00
L51	18.5 - 15	1.47	20	0.76	0.00
L52	15 - 14.75	0.96	20	0.63	0.00
L53	14.75 - 9.75	0.93	20	0.62	0.00
L54	9.75 - 4.75	0.39	20	0.40	0.00
L55	4.75 - 1.25	0.09	20	0.19	0.00
L56	1.25 - 1	0.01	20	0.04	0.00
L57	1 - 0	0.00	20	0.03	0.00

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.00	VV-65B-R1_TMO w/ Mount Pipe	20	92.81	6.21	0.01	1968
137.00	7770.00 w/ Mount Pipe	20	76.41	5.77	0.01	1114
136.00	(2) RRUS 11 B12	20	75.20	5.72	0.01	1045
127.00	(2) APL866513-42T0 w/ Mount Pipe	20	65.00	5.08	0.00	914
117.00	APXV18-206517S-C-A20	20	54.90	4.61	0.00	1332
107.00	MX08FRO665-21 w/ Mount Pipe	20	45.77	4.10	0.00	1170
75.00	OG-860/1920/GPS-A	20	22.69	2.82	0.00	1393

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	150 - 145 (1)	TP16.08x15x0.19	5.00	0.00	0.0	9.46	-3.45	553.29	0.006
L2	145 - 140 (2)	TP17.16x16.08x0.19	5.00	0.00	0.0	10.10	-3.69	590.88	0.006
L3	140 - 135 (3)	TP18.24x17.16x0.19	5.00	0.00	0.0	10.74	-7.58	628.47	0.012
L4	135 - 130 (4)	TP19.32x18.24x0.19	5.00	0.00	0.0	11.39	-7.94	666.06	0.012
L5	130 - 123.42 (5)	TP20.74x19.32x0.19	6.58	0.00	0.0	11.82	-11.52	691.70	0.017
L6	123.42 - 122.25 (6)	TP20.6x19.68x0.25	4.34	0.00	0.0	16.15	-12.11	944.79	0.013
L7	122.25 - 122 (7)	TP20.66x20.6x0.41	0.25	0.00	0.0	26.50	-12.15	1550.54	0.008
L8	122 - 120.25 (8)	TP21.03x20.66x0.41	1.75	0.00	0.0	26.99	-12.39	1579.04	0.008
L9	120.25 - 120 (9)	TP21.08x21.03x0.58	0.25	0.00	0.0	37.43	-12.45	2189.41	0.006
L10	120 - 115.25 (10)	TP22.09x21.08x0.56	4.75	0.00	0.0	38.44	-16.84	2248.61	0.007
L11	115.25 - 115 (11)	TP22.14x22.09x0.4	0.25	0.00	0.0	27.61	-16.89	1615.03	0.010
L12	115 - 114.75 (12)	TP22.2x22.14x0.55	0.25	0.00	0.0	37.79	-16.93	2210.78	0.008
L13	114.75 - 109.75 (13)	TP23.26x22.2x0.54	5.00	0.00	0.0	38.77	-17.88	2267.89	0.008
L14	109.75 - 105.25 (14)	TP24.22x23.26x0.53	4.50	0.00	0.0	39.48	-21.82	2309.65	0.009
L15	105.25 - 105 (15)	TP24.27x24.22x0.74	0.25	0.00	0.0	55.09	-21.90	3222.68	0.007
L16	105 - 101.92 (16)	TP24.93x24.27x0.73	3.08	0.00	0.0	55.69	-22.66	3257.91	0.007
L17	101.92 - 101.67 (17)	TP24.98x24.93x0.75	0.25	0.00	0.0	57.68	-22.73	3374.17	0.007
L18	101.67 - 101.25 (18)	TP25.07x24.98x0.75	0.42	0.00	0.0	57.89	-22.84	3386.61	0.007
L19	101.25 - 101 (19)	TP25.12x25.07x0.75	0.25	0.00	0.0	58.02	-22.91	3394.01	0.007
L20	101 - 100.25 (20)	TP25.28x25.12x0.75	0.75	0.00	0.0	58.40	-23.10	3416.22	0.007
L21	100.25 - 100 (21)	TP25.33x25.28x0.74	0.25	0.00	0.0	57.58	-23.17	3368.28	0.007
L22	100 - 95 (22)	TP26.4x25.33x0.71	5.00	0.00	0.0	58.09	-24.48	3398.06	0.007
L23	95 - 85.96 (23)	TP28.32x26.4x0.7	9.04	0.00	0.0	59.44	-25.81	3477.16	0.007
L24	85.96 - 85.04 (24)	TP28.02x26.95x0.75	5.00	0.00	0.0	64.91	-28.14	3797.28	0.007
L25	85.04 - 82 (25)	TP28.67x28.02x0.74	3.04	0.00	0.0	65.37	-29.05	3824.39	0.008
L26	82 - 81.75 (26)	TP28.72x28.67x0.93	0.25	0.00	0.0	81.60	-29.14	4773.64	0.006
L27	81.75 - 77.5 (27)	TP29.62x28.72x0.91	4.25	0.00	0.0	83.16	-30.63	4864.66	0.006
L28	77.5 - 77.25 (28)	TP29.68x29.62x0.79	0.25	0.00	0.0	72.21	-30.71	4224.34	0.007
L29	77.25 - 75 (29)	TP30.16x29.68x0.78	2.25	0.00	0.0	72.27	-31.43	4228.06	0.007
L30	75 - 74.75 (30)	TP30.21x30.16x0.71	0.25	0.00	0.0	66.71	-31.59	3902.40	0.008
L31	74.75 - 74.5 (31)	TP30.26x30.21x0.83	0.25	0.00	0.0	77.09	-31.68	4509.50	0.007
L32	74.5 - 72.17	TP30.76x30.26x0.81	2.33	0.00	0.0	77.23	-32.46	4517.95	0.007

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	(32)								
L33	72.17 - 71.92	TP30.81x30.76x0.84	0.25	0.00	0.0	79.68	-32.56	4661.36	0.007
	(33)								
L34	71.92 - 68.75	TP31.49x30.81x0.81	3.17	0.00	0.0	79.11	-33.66	4627.87	0.007
	(34)								
L35	68.75 - 68.5	TP31.54x31.49x0.94	0.25	0.00	0.0	91.07	-33.76	5327.37	0.006
	(35)								
L36	68.5 - 63.5 (36)	TP32.61x31.54x0.91	5.00	0.00	0.0	91.80	-35.68	5370.03	0.007
L37	63.5 - 58.5 (37)	TP33.67x32.61x0.89	5.00	0.00	0.0	92.35	-37.64	5402.57	0.007
L38	58.5 - 53.5 (38)	TP34.74x33.67x0.86	5.00	0.00	0.0	92.73	-39.62	5424.98	0.007
L39	53.5 - 48.5 (39)	TP35.8x34.74x0.84	5.00	0.00	0.0	92.94	-41.62	5437.28	0.008
L40	48.5 - 42.41	TP37.1x35.8x0.84	6.09	0.00	0.0	93.47	-41.99	5467.76	0.008
	(40)								
L41	42.41 - 41.41	TP36.69x35.37x0.73	6.17	0.00	0.0	82.75	-46.07	4841.07	0.010
	(41)								
L42	41.41 - 36.41	TP37.75x36.69x0.71	5.00	0.00	0.0	83.76	-47.95	4900.04	0.010
	(42)								
L43	36.41 - 32.75	TP38.53x37.75x0.7	3.66	0.00	0.0	84.05	-49.34	4916.94	0.010
	(43)								
L44	32.75 - 32.5	TP38.58x38.53x0.75	0.25	0.00	0.0	89.93	-49.35	5261.19	0.009
	(44)								
L45	32.5 - 31.25	TP38.85x38.58x0.75	1.25	0.00	0.0	90.06	-49.46	5268.60	0.009
	(45)								
L46	31.25 - 31 (46)	TP38.9x38.85x0.74	0.25	0.00	0.0	89.21	-49.96	5218.93	0.010
L47	31 - 26 (47)	TP39.97x38.9x0.73	5.00	0.00	0.0	87.85	-50.07	5139.32	0.010
L48	26 - 21 (48)	TP41.03x39.97x0.73	5.00	0.00	0.0	90.30	-52.10	5282.57	0.010
L49	21 - 18.75 (49)	TP41.51x41.03x0.71	2.25	0.00	0.0	91.18	-54.15	5333.93	0.010
L50	18.75 - 18.5	TP41.56x41.51x0.7	0.25	0.00	0.0	90.67	-55.08	5304.22	0.010
	(50)								
L51	18.5 - 15 (51)	TP42.31x41.56x0.69	3.50	0.00	0.0	89.19	-55.19	5217.89	0.011
L52	15 - 14.75 (52)	TP42.36x42.31x0.59	0.25	0.00	0.0	77.80	-56.65	4551.09	0.012
L53	14.75 - 9.75	TP43.42x42.36x0.58	5.00	0.00	0.0	77.08	-56.76	4509.09	0.013
	(53)								
L54	9.75 - 4.75 (54)	TP44.49x43.42x0.58	5.00	0.00	0.0	78.20	-58.73	4574.89	0.013
L55	4.75 - 1.25 (55)	TP45.23x44.49x0.58	3.50	0.00	0.0	80.15	-60.72	4688.50	0.013
L56	1.25 - 1 (56)	TP45.29x45.23x0.75	0.25	0.00	0.0	105.89	-62.12	6194.80	0.010
L57	1 - 0 (57)	TP45.5x45.29x0.75	1.00	0.00	0.0	106.02	-62.25	6202.21	0.010

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	150 - 145 (1)	TP16.08x15x0.19	32.18	228.74	0.141	0.00	228.74	0.000
L2	145 - 140 (2)	TP17.16x16.08x0.19	57.15	261.07	0.219	0.00	261.07	0.000
L3	140 - 135 (3)	TP18.24x17.16x0.19	93.33	294.64	0.317	0.00	294.64	0.000
L4	135 - 130 (4)	TP19.32x18.24x0.19	140.29	326.33	0.430	0.00	326.33	0.000
L5	130 - 123.42	TP20.74x19.32x0.19	179.69	348.54	0.516	0.00	348.54	0.000
	(5)							
L6	123.42 -	TP20.6x19.68x0.25	239.61	500.00	0.479	0.00	500.00	0.000
	122.25 (6)							
L7	122.25 - 122	TP20.66x20.6x0.41	243.09	809.68	0.300	0.00	809.68	0.000
	(7)							
L8	122 - 120.25	TP21.03x20.66x0.41	267.51	840.02	0.318	0.00	840.02	0.000
	(8)							
L9	120.25 - 120	TP21.08x21.03x0.58	271.01	1149.50	0.236	0.00	1149.50	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 $\frac{M_{uy}}{\phi M_{ny}}$
	(9)							
L10	120 - 115.25 (10)	TP22.09x21.08x0.56	344.38	1241.77	0.277	0.00	1241.77	0.000
L11	115.25 - 115 (11)	TP22.14x22.09x0.4	348.83	907.65	0.384	0.00	907.65	0.000
L12	115 - 114.75 (12)	TP22.2x22.14x0.55	353.29	1228.47	0.288	0.00	1228.47	0.000
L13	114.75 - 109.75 (13)	TP23.26x22.2x0.54	443.10	1325.09	0.334	0.00	1325.09	0.000
L14	109.75 - 105.25 (14)	TP24.22x23.26x0.53	529.43	1409.12	0.376	0.00	1409.12	0.000
L15	105.25 - 105 (15)	TP24.27x24.22x0.74	534.64	1935.56	0.276	0.00	1935.56	0.000
L16	105 - 101.92 (16)	TP24.93x24.27x0.73	599.16	2014.90	0.297	0.00	2014.90	0.000
L17	101.92 - 101.67 (17)	TP24.98x24.93x0.75	604.42	2087.22	0.290	0.00	2087.22	0.000
L18	101.67 - 101.25 (18)	TP25.07x24.98x0.75	613.27	2102.86	0.292	0.00	2102.86	0.000
L19	101.25 - 101 (19)	TP25.12x25.07x0.75	618.54	2112.20	0.293	0.00	2112.20	0.000
L20	101 - 100.25 (20)	TP25.28x25.12x0.75	634.36	2140.35	0.296	0.00	2140.35	0.000
L21	100.25 - 100 (21)	TP25.33x25.28x0.74	639.65	2117.18	0.302	0.00	2117.18	0.000
L22	100 - 95 (22)	TP26.4x25.33x0.71	745.99	2235.26	0.334	0.00	2235.26	0.000
L23	95 - 85.96 (23)	TP28.32x26.4x0.7	852.78	2385.97	0.357	0.00	2385.97	0.000
L24	85.96 - 85.04 (24)	TP28.02x26.95x0.75	962.02	2652.36	0.363	0.00	2652.36	0.000
L25	85.04 - 82 (25)	TP28.67x28.02x0.74	1029.19	2738.90	0.376	0.00	2738.90	0.000
L26	82 - 81.75 (26)	TP28.72x28.67x0.93	1034.73	3379.66	0.306	0.00	3379.66	0.000
L27	81.75 - 77.5 (27)	TP29.62x28.72x0.91	1129.52	3563.02	0.317	0.00	3563.02	0.000
L28	77.5 - 77.25 (28)	TP29.68x29.62x0.79	1135.13	3126.94	0.363	0.00	3126.94	0.000
L29	77.25 - 75 (29)	TP30.16x29.68x0.78	1185.73	3185.72	0.372	0.00	3185.72	0.000
L30	75 - 74.75 (30)	TP30.21x30.16x0.71	1191.40	2958.33	0.403	0.00	2958.33	0.000
L31	74.75 - 74.5 (31)	TP30.26x30.21x0.83	1197.06	3398.86	0.352	0.00	3398.86	0.000
L32	74.5 - 72.17 (32)	TP30.76x30.26x0.81	1249.96	3467.11	0.361	0.00	3467.11	0.000
L33	72.17 - 71.92 (33)	TP30.81x30.76x0.84	1255.65	3577.72	0.351	0.00	3577.72	0.000
L34	71.92 - 68.75 (34)	TP31.49x30.81x0.81	1328.12	3640.16	0.365	0.00	3640.16	0.000
L35	68.75 - 68.5 (35)	TP31.54x31.49x0.94	1333.85	4163.73	0.320	0.00	4163.73	0.000
L36	68.5 - 63.5 (36)	TP32.61x31.54x0.91	1449.32	4354.38	0.333	0.00	4354.38	0.000
L37	63.5 - 58.5 (37)	TP33.67x32.61x0.89	1566.14	4539.05	0.345	0.00	4539.05	0.000
L38	58.5 - 53.5 (38)	TP34.74x33.67x0.86	1684.26	4716.84	0.357	0.00	4716.84	0.000
L39	53.5 - 48.5 (39)	TP35.8x34.74x0.84	1803.64	4886.88	0.369	0.00	4886.88	0.000
L40	48.5 - 42.41 (40)	TP37.1x35.8x0.84	1825.74	4942.47	0.369	0.00	4942.47	0.000
L41	42.41 - 41.41 (41)	TP36.69x35.37x0.73	1975.38	4491.68	0.440	0.00	4491.68	0.000
L42	41.41 - 36.41 (42)	TP37.75x36.69x0.71	2098.02	4686.75	0.448	0.00	4686.75	0.000
L43	36.41 - 32.75 (43)	TP38.53x37.75x0.7	2188.34	4806.88	0.455	0.00	4806.88	0.000
L44	32.75 - 32.5	TP38.58x38.53x0.75	2188.34	5129.82	0.427	0.00	5129.82	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 $\frac{M_{uy}}{\phi M_{ny}}$
	(44)							
L45	32.5 - 31.25 (45)	TP38.85x38.58x0.75	2194.53	5144.43	0.427	0.00	5144.43	0.000
L46	31.25 - 31 (46)	TP38.9x38.85x0.74	2225.49	5135.82	0.433	0.00	5135.82	0.000
L47	31 - 26 (47)	TP39.97x38.9x0.73	2231.69	5068.00	0.440	0.00	5068.00	0.000
L48	26 - 21 (48)	TP41.03x39.97x0.73	2356.10	5357.18	0.440	0.00	5357.18	0.000
L49	21 - 18.75 (49)	TP41.51x41.03x0.71	2481.32	5562.06	0.446	0.00	5562.06	0.000
L50	18.75 - 18.5 (50)	TP41.56x41.51x0.7	2537.95	5601.34	0.453	0.00	5601.34	0.000
L51	18.5 - 15 (51)	TP42.31x41.56x0.69	2544.25	5520.86	0.461	0.00	5520.86	0.000
L52	15 - 14.75 (52)	TP42.36x42.31x0.59	2632.66	4928.14	0.534	0.00	4928.14	0.000
L53	14.75 - 9.75 (53)	TP43.42x42.36x0.58	2638.99	4890.44	0.540	0.00	4890.44	0.000
L54	9.75 - 4.75 (54)	TP44.49x43.42x0.58	2765.90	5091.40	0.543	0.00	5091.40	0.000
L55	4.75 - 1.25 (55)	TP45.23x44.49x0.58	2893.41	5349.14	0.541	0.00	5349.14	0.000
L56	1.25 - 1 (56)	TP45.29x45.23x0.75	2983.02	7132.90	0.418	0.00	7132.90	0.000
L57	1 - 0 (57)	TP45.5x45.29x0.75	2989.43	7150.12	0.418	0.00	7150.12	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	150 - 145 (1)	TP16.08x15x0.19	4.89	165.99	0.029	0.50	231.01	0.002
L2	145 - 140 (2)	TP17.16x16.08x0.19	5.10	177.26	0.029	0.50	263.47	0.002
L3	140 - 135 (3)	TP18.24x17.16x0.19	9.29	188.54	0.049	0.27	298.06	0.001
L4	135 - 130 (4)	TP19.32x18.24x0.19	9.50	199.82	0.048	0.27	334.78	0.001
L5	130 - 123.42 (5)	TP20.74x19.32x0.19	13.71	207.51	0.066	0.46	361.05	0.001
L6	123.42 - 122.25 (6)	TP20.6x19.68x0.25	13.91	283.44	0.049	0.45	505.21	0.001
L7	122.25 - 122 (7)	TP20.66x20.6x0.41	13.92	465.16	0.030	0.45	824.67	0.001
L8	122 - 120.25 (8)	TP21.03x20.66x0.41	14.01	473.71	0.030	0.45	855.27	0.001
L9	120.25 - 120 (9)	TP21.08x21.03x0.58	14.01	656.82	0.021	0.45	1179.58	0.000
L10	120 - 115.25 (10)	TP22.09x21.08x0.56	17.82	674.58	0.026	0.45	1271.88	0.000
L11	115.25 - 115 (11)	TP22.14x22.09x0.4	17.83	484.51	0.037	0.45	922.66	0.000
L12	115 - 114.75 (12)	TP22.2x22.14x0.55	17.84	663.23	0.027	0.45	1257.38	0.000
L13	114.75 - 109.75 (13)	TP23.26x22.2x0.54	18.09	680.37	0.027	0.45	1353.96	0.000
L14	109.75 - 105.25 (14)	TP24.22x23.26x0.53	20.86	692.89	0.030	0.33	1437.71	0.000
L15	105.25 - 105 (15)	TP24.27x24.22x0.74	20.87	966.80	0.022	0.33	1992.56	0.000
L16	105 - 101.92 (16)	TP24.93x24.27x0.73	21.04	977.37	0.022	0.33	2071.47	0.000
L17	101.92 - 101.67 (17)	TP24.98x24.93x0.75	21.05	1012.25	0.021	0.33	2147.88	0.000
L18	101.67 - 101.25 (18)	TP25.07x24.98x0.75	21.08	1015.98	0.021	0.33	2163.75	0.000
L19	101.25 - 101	TP25.12x25.07x0.75	21.09	1018.20	0.021	0.33	2173.22	0.000

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 $\frac{T_u}{\phi T_n}$
	(19)							
L20	101 - 100.25	TP25.28x25.12x0.75	21.13	1024.87	0.021	0.33	2201.76	0.000
	(20)							
L21	100.25 - 100	TP25.33x25.28x0.74	21.15	1010.48	0.021	0.33	2176.67	0.000
	(21)							
L22	100 - 95 (22)	TP26.4x25.33x0.71	21.41	1019.42	0.021	0.33	2293.07	0.000
L23	95 - 85.96 (23)	TP28.32x26.4x0.7	21.67	1043.15	0.021	0.33	2443.93	0.000
L24	85.96 - 85.04	TP28.02x26.95x0.75	22.02	1139.18	0.019	0.33	2720.33	0.000
	(24)							
L25	85.04 - 82 (25)	TP28.67x28.02x0.74	22.18	1147.32	0.019	0.33	2806.08	0.000
L26	82 - 81.75 (26)	TP28.72x28.67x0.93	22.19	1432.09	0.015	0.33	3485.75	0.000
L27	81.75 - 77.5	TP29.62x28.72x0.91	22.43	1459.40	0.015	0.33	3669.53	0.000
	(27)							
L28	77.5 - 77.25	TP29.68x29.62x0.79	22.44	1267.30	0.018	0.33	3206.31	0.000
	(28)							
L29	77.25 - 75 (29)	TP30.16x29.68x0.78	22.56	1268.42	0.018	0.33	3263.77	0.000
L30	75 - 74.75 (30)	TP30.21x30.16x0.71	22.63	1170.72	0.019	0.35	3024.25	0.000
L31	74.75 - 74.5	TP30.26x30.21x0.83	22.65	1352.85	0.017	0.35	3487.72	0.000
	(31)							
L32	74.5 - 72.17	TP30.76x30.26x0.81	22.78	1355.38	0.017	0.35	3554.66	0.000
	(32)							
L33	72.17 - 71.92	TP30.81x30.76x0.84	22.78	1398.41	0.016	0.35	3670.95	0.000
	(33)							
L34	71.92 - 68.75	TP31.49x30.81x0.81	22.95	1388.36	0.017	0.35	3729.73	0.000
	(34)							
L35	68.75 - 68.5	TP31.54x31.49x0.94	22.96	1598.21	0.014	0.35	4283.44	0.000
	(35)							
L36	68.5 - 63.5 (36)	TP32.61x31.54x0.91	23.24	1611.01	0.014	0.35	4471.56	0.000
L37	63.5 - 58.5 (37)	TP33.67x32.61x0.89	23.50	1620.77	0.015	0.35	4653.40	0.000
L38	58.5 - 53.5 (38)	TP34.74x33.67x0.86	23.76	1627.49	0.015	0.35	4828.10	0.000
L39	53.5 - 48.5 (39)	TP35.8x34.74x0.84	24.01	1631.18	0.015	0.35	4994.78	0.000
L40	48.5 - 42.41	TP37.1x35.8x0.84	24.05	1640.33	0.015	0.34	5050.94	0.000
	(40)							
L41	42.41 - 41.41	TP36.69x35.37x0.73	24.45	1452.32	0.017	0.34	4573.86	0.000
	(41)							
L42	41.41 - 36.41	TP37.75x36.69x0.71	24.63	1470.01	0.017	0.34	4768.18	0.000
	(42)							
L43	36.41 - 32.75	TP38.53x37.75x0.7	24.76	1475.08	0.017	0.34	4886.87	0.000
	(43)							
L44	32.75 - 32.5	TP38.58x38.53x0.75	24.75	1580.58	0.016	0.34	5222.09	0.000
	(44)							
L45	32.5 - 31.25	TP38.85x38.58x0.75	24.81	1591.69	0.016	0.34	5236.82	0.000
	(45)							
L46	31.25 - 31 (46)	TP38.9x38.85x0.74	24.80	1567.86	0.016	0.34	5225.64	0.000
L47	31 - 26 (47)	TP39.97x38.9x0.73	24.85	1550.39	0.016	0.34	5154.80	0.000
L48	26 - 21 (48)	TP41.03x39.97x0.73	25.01	1593.37	0.016	0.34	5446.18	0.000
L49	21 - 18.75 (49)	TP41.51x41.03x0.71	25.18	1609.68	0.016	0.34	5650.00	0.000
L50	18.75 - 18.5	TP41.56x41.51x0.7	25.21	1593.34	0.016	0.34	5687.00	0.000
	(50)							
L51	18.5 - 15 (51)	TP42.31x41.56x0.69	25.26	1574.88	0.016	0.34	5603.45	0.000
L52	15 - 14.75 (52)	TP42.36x42.31x0.59	25.33	1367.07	0.019	0.34	4988.40	0.000
L53	14.75 - 9.75	TP43.42x42.36x0.58	25.36	1359.62	0.019	0.34	4949.41	0.000
	(53)							
L54	9.75 - 4.75 (54)	TP44.49x43.42x0.58	25.48	1379.28	0.018	0.34	5150.29	0.000
L55	4.75 - 1.25 (55)	TP45.23x44.49x0.58	25.61	1414.50	0.018	0.34	5409.27	0.000
L56	1.25 - 1 (56)	TP45.29x45.23x0.75	25.65	1860.66	0.014	0.34	7239.89	0.000
L57	1 - 0 (57)	TP45.5x45.29x0.75	25.70	1869.56	0.014	0.34	7257.22	0.000

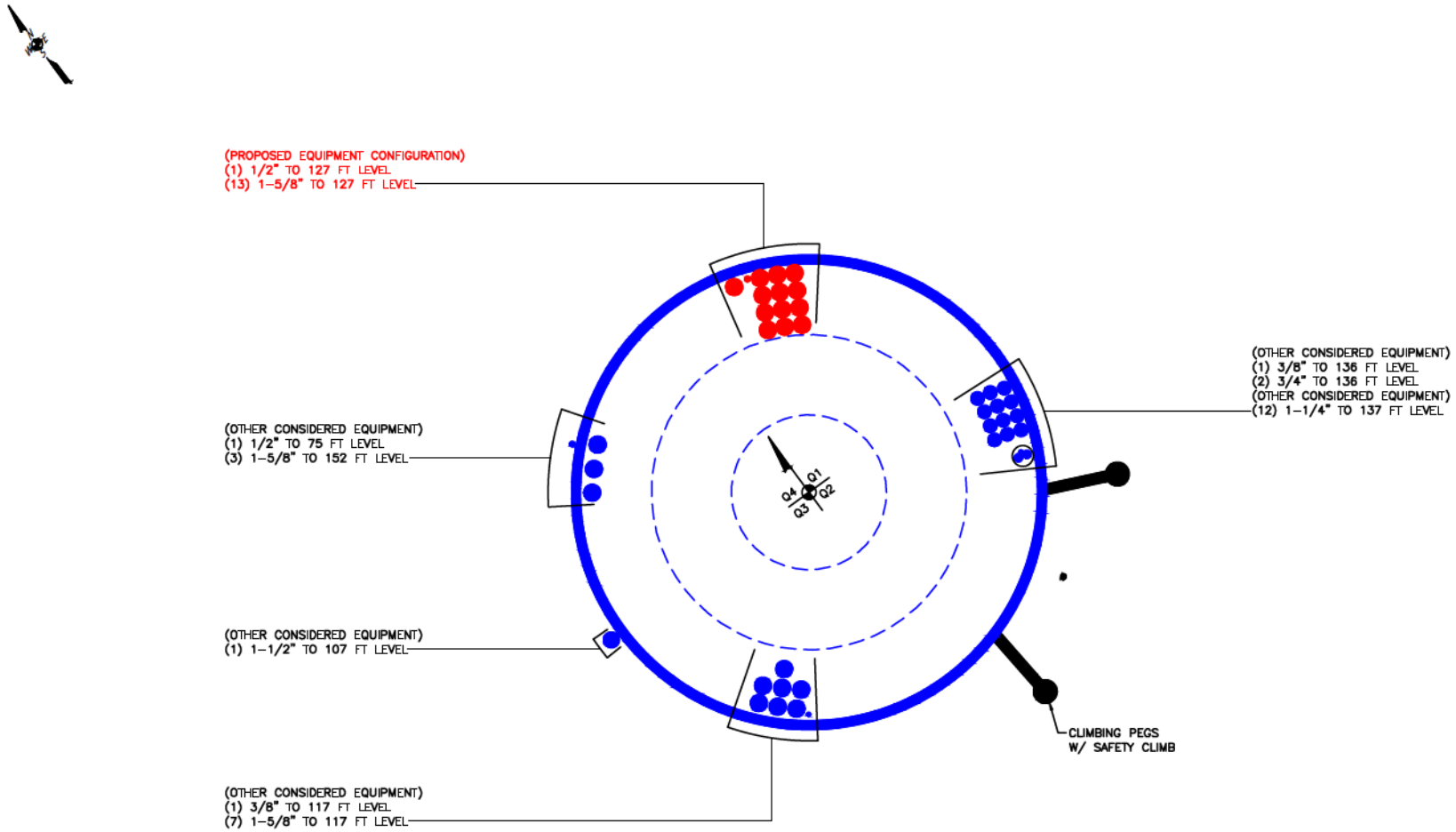
Pole Interaction Design Data

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
L1	150 - 145 (1)	0.006	0.141	0.000	0.029	0.002	0.148	1.050	4.8.2
L2	145 - 140 (2)	0.006	0.219	0.000	0.029	0.002	0.226	1.050	4.8.2
L3	140 - 135 (3)	0.012	0.317	0.000	0.049	0.001	0.331	1.050	4.8.2
L4	135 - 130 (4)	0.012	0.430	0.000	0.048	0.001	0.444	1.050	4.8.2
L5	130 - 123.42 (5)	0.017	0.516	0.000	0.066	0.001	0.537	1.050	4.8.2
L6	123.42 - 122.25 (6)	0.013	0.479	0.000	0.049	0.001	0.495	1.050	4.8.2
L7	122.25 - 122 (7)	0.008	0.300	0.000	0.030	0.001	0.309	1.050	4.8.2
L8	122 - 120.25 (8)	0.008	0.318	0.000	0.030	0.001	0.327	1.050	4.8.2
L9	120.25 - 120 (9)	0.006	0.236	0.000	0.021	0.000	0.242	1.050	4.8.2
L10	120 - 115.25 (10)	0.007	0.277	0.000	0.026	0.000	0.286	1.050	4.8.2
L11	115.25 - 115 (11)	0.010	0.384	0.000	0.037	0.000	0.396	1.050	4.8.2
L12	115 - 114.75 (12)	0.008	0.288	0.000	0.027	0.000	0.296	1.050	4.8.2
L13	114.75 - 109.75 (13)	0.008	0.334	0.000	0.027	0.000	0.343	1.050	4.8.2
L14	109.75 - 105.25 (14)	0.009	0.376	0.000	0.030	0.000	0.386	1.050	4.8.2
L15	105.25 - 105 (15)	0.007	0.276	0.000	0.022	0.000	0.283	1.050	4.8.2
L16	105 - 101.92 (16)	0.007	0.297	0.000	0.022	0.000	0.305	1.050	4.8.2
L17	101.92 - 101.67 (17)	0.007	0.290	0.000	0.021	0.000	0.297	1.050	4.8.2
L18	101.67 - 101.25 (18)	0.007	0.292	0.000	0.021	0.000	0.299	1.050	4.8.2
L19	101.25 - 101 (19)	0.007	0.293	0.000	0.021	0.000	0.300	1.050	4.8.2
L20	101 - 100.25 (20)	0.007	0.296	0.000	0.021	0.000	0.304	1.050	4.8.2
L21	100.25 - 100 (21)	0.007	0.302	0.000	0.021	0.000	0.309	1.050	4.8.2
L22	100 - 95 (22)	0.007	0.334	0.000	0.021	0.000	0.341	1.050	4.8.2
L23	95 - 85.96 (23)	0.007	0.357	0.000	0.021	0.000	0.365	1.050	4.8.2
L24	85.96 - 85.04 (24)	0.007	0.363	0.000	0.019	0.000	0.370	1.050	4.8.2
L25	85.04 - 82 (25)	0.008	0.376	0.000	0.019	0.000	0.384	1.050	4.8.2
L26	82 - 81.75 (26)	0.006	0.306	0.000	0.015	0.000	0.313	1.050	4.8.2
L27	81.75 - 77.5 (27)	0.006	0.317	0.000	0.015	0.000	0.324	1.050	4.8.2
L28	77.5 - 77.25 (28)	0.007	0.363	0.000	0.018	0.000	0.371	1.050	4.8.2
L29	77.25 - 75 (29)	0.007	0.372	0.000	0.018	0.000	0.380	1.050	4.8.2
L30	75 - 74.75 (30)	0.008	0.403	0.000	0.019	0.000	0.411	1.050	4.8.2
L31	74.75 - 74.5 (31)	0.007	0.352	0.000	0.017	0.000	0.360	1.050	4.8.2
L32	74.5 - 72.17 (32)	0.007	0.361	0.000	0.017	0.000	0.368	1.050	4.8.2
L33	72.17 - 71.92 (33)	0.007	0.351	0.000	0.016	0.000	0.358	1.050	4.8.2
L34	71.92 - 68.75	0.007	0.365	0.000	0.017	0.000	0.372	1.050	4.8.2

Section No.	Elevation ft	Ratio $P_u/\phi P_n$	Ratio $M_{ux}/\phi M_{nx}$	Ratio $M_{uy}/\phi M_{ny}$	Ratio $V_u/\phi V_n$	Ratio $T_u/\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	(34)								
L35	68.75 - 68.5 (35)	0.006	0.320	0.000	0.014	0.000	0.327	1.050	4.8.2
L36	68.5 - 63.5 (36)	0.007	0.333	0.000	0.014	0.000	0.340	1.050	4.8.2
L37	63.5 - 58.5 (37)	0.007	0.345	0.000	0.015	0.000	0.352	1.050	4.8.2
L38	58.5 - 53.5 (38)	0.007	0.357	0.000	0.015	0.000	0.365	1.050	4.8.2
L39	53.5 - 48.5 (39)	0.008	0.369	0.000	0.015	0.000	0.377	1.050	4.8.2
L40	48.5 - 42.41 (40)	0.008	0.369	0.000	0.015	0.000	0.377	1.050	4.8.2
L41	42.41 - 41.41 (41)	0.010	0.440	0.000	0.017	0.000	0.450	1.050	4.8.2
L42	41.41 - 36.41 (42)	0.010	0.448	0.000	0.017	0.000	0.458	1.050	4.8.2
L43	36.41 - 32.75 (43)	0.010	0.455	0.000	0.017	0.000	0.466	1.050	4.8.2
L44	32.75 - 32.5 (44)	0.009	0.427	0.000	0.016	0.000	0.436	1.050	4.8.2
L45	32.5 - 31.25 (45)	0.009	0.427	0.000	0.016	0.000	0.436	1.050	4.8.2
L46	31.25 - 31 (46)	0.010	0.433	0.000	0.016	0.000	0.443	1.050	4.8.2
L47	31 - 26 (47)	0.010	0.440	0.000	0.016	0.000	0.450	1.050	4.8.2
L48	26 - 21 (48)	0.010	0.440	0.000	0.016	0.000	0.450	1.050	4.8.2
L49	21 - 18.75 (49)	0.010	0.446	0.000	0.016	0.000	0.457	1.050	4.8.2
L50	18.75 - 18.5 (50)	0.010	0.453	0.000	0.016	0.000	0.464	1.050	4.8.2
L51	18.5 - 15 (51)	0.011	0.461	0.000	0.016	0.000	0.472	1.050	4.8.2
L52	15 - 14.75 (52)	0.012	0.534	0.000	0.019	0.000	0.547	1.050	4.8.2
L53	14.75 - 9.75 (53)	0.013	0.540	0.000	0.019	0.000	0.553	1.050	4.8.2
L54	9.75 - 4.75 (54)	0.013	0.543	0.000	0.018	0.000	0.556	1.050	4.8.2
L55	4.75 - 1.25 (55)	0.013	0.541	0.000	0.018	0.000	0.554	1.050	4.8.2
L56	1.25 - 1 (56)	0.010	0.418	0.000	0.014	0.000	0.428	1.050	4.8.2
L57	1 - 0 (57)	0.010	0.418	0.000	0.014	0.000	0.428	1.050	4.8.2

APPENDIX B

BASE LEVEL DRAWING


(PROPOSED EQUIPMENT CONFIGURATION)
(1) 1/2" TO 127 FT LEVEL
(13) 1-5/8" TO 127 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 136 FT LEVEL
(2) 3/4" TO 136 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(12) 1-1/4" TO 137 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 75 FT LEVEL
(3) 1-5/8" TO 152 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/2" TO 107 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 117 FT LEVEL
(7) 1-5/8" TO 117 FT LEVEL
CLIMBING PEGS
W/ SAFETY CLIMB
Q1
Q2
Q3
Q4

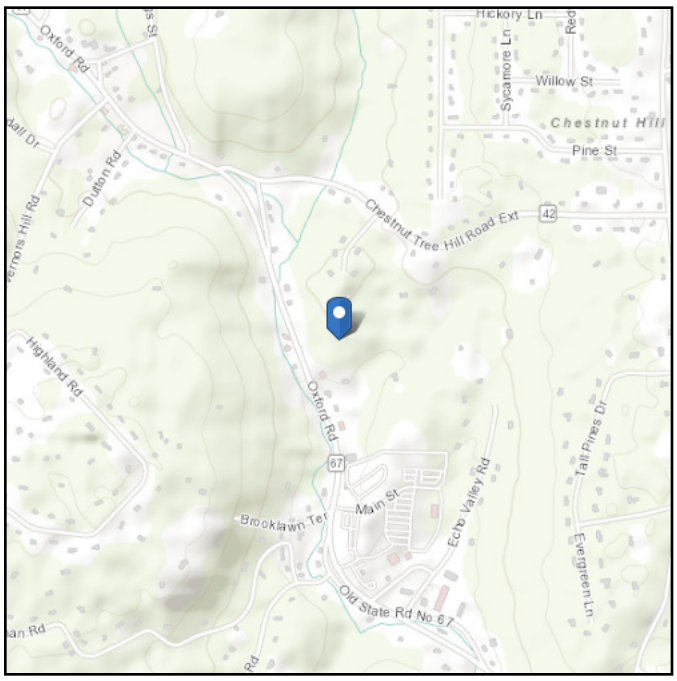
APPENDIX C

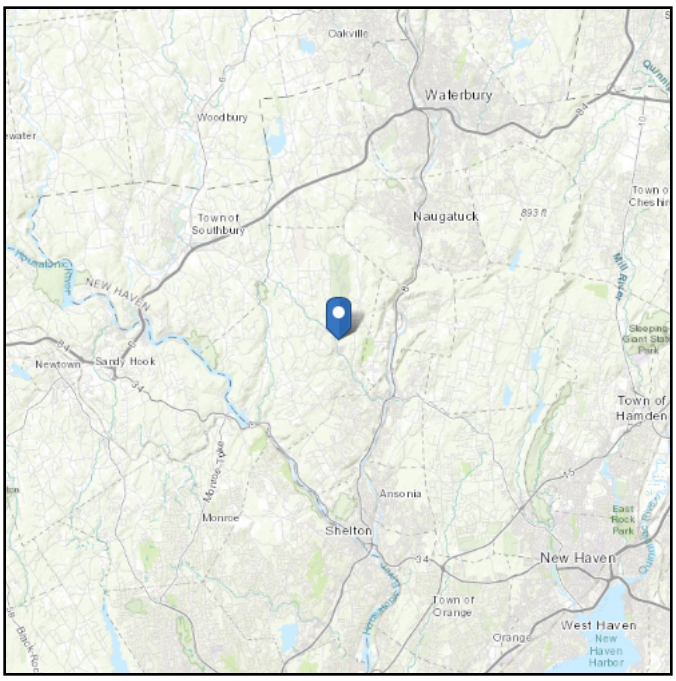
ADDITIONAL CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.427992
Risk Category:	II	**Longitude:**	-73.108542
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	372.75 ft (NAVD 88)





Wind

Results:

Wind Speed	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 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:	Tue Jan 31 2023

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.

Seismic

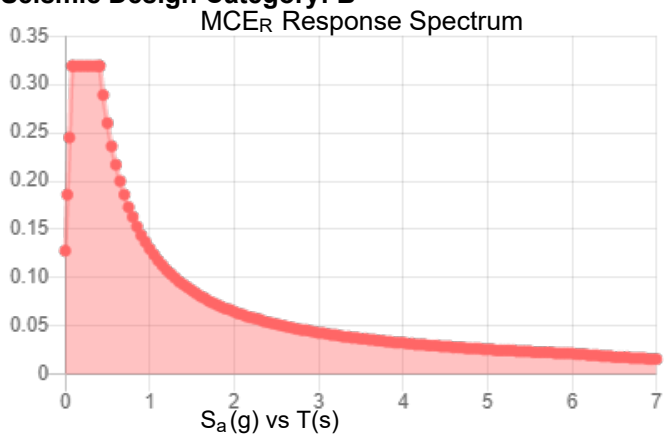
D - Default (see Section 11.4.3)

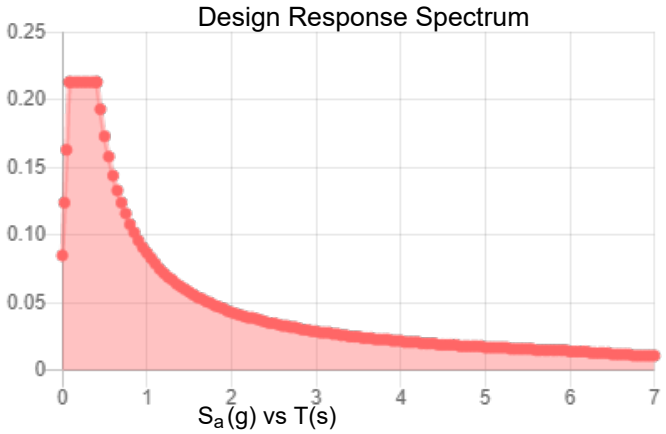
Site Soil Class:

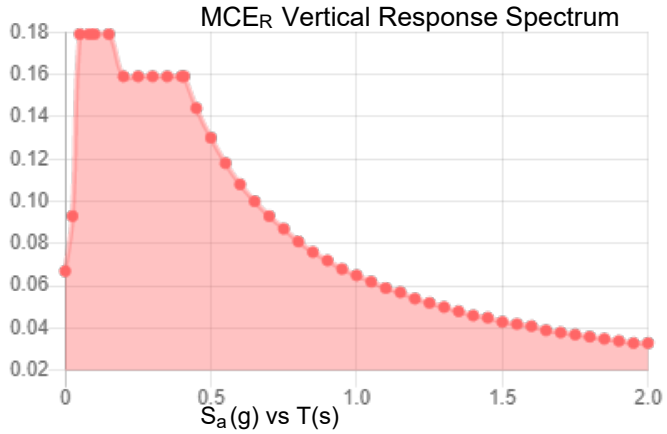
Results:

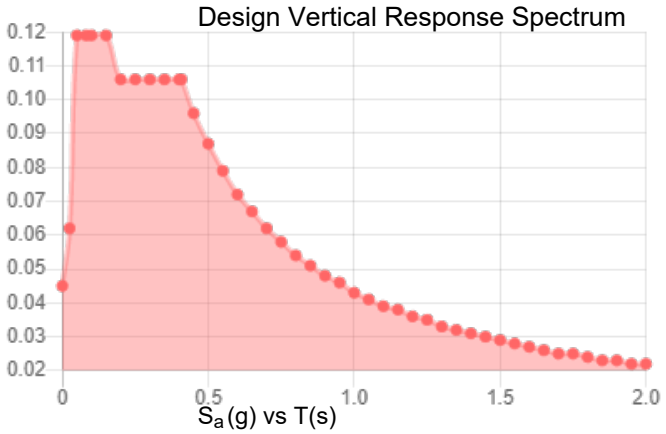
S_S :	0.199	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.111
F_v :	2.4	PGA_M :	0.176
S_{MS} :	0.319	F_{PGA} :	1.577
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.213	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Tue Jan 31 2023**

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.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Tue Jan 31 2023

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.

CCIpole

per TIA-222- H

Site BU: 876362

Work Order: 2200964

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	150	26.58	3.17	18	15	20.74	0.1875	Auto	A572-65
2	126.59	40.63	4.08	18	19.68	28.32	0.25	Auto	A572-65
3	90.04	47.63	5.17	18	26.95	37.1	0.3125	Auto	A572-65
4	47.58	47.58	0	18	35.37	45.5	0.375	Auto	A572-65

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	44.17	72.17	plate	Bar #1	3		x						x						x				
2	72.17	101.92	plate	Bar #2	3		x						x						x				
3	101.92	105.25	plate	Bar #3	3		x						x						x				
4	47.25	74.75	channel	MP3-03 (1.1875in)	3						x						x						x
5	0	1.25	plate	(TS) 1.25x6.00	2	c																x	
6	1.25	18.75	channel	MP3-05 (1.1875in)	1		x																
7	18.75	46.25	channel	MP3-05 (1.1875in)	1				x														
8	1.25	31.25	channel	MP3-05 (1.1875in)	2										x						x		
9	31.25	46.25	channel	MP3-05 (1.1875in)	2										x						x		
10	46.25	75	channel	MP3-03 (1.1875in)	3				x						x						x		
11	77.5	101.25	channel	MP3-03 (1.1875in)	3				x						x						x		
12	101.25	115	channel	MP3-03 (1.1875in)	3				x						x						x		
13	0	1.25	plate	(ARB) 1.25x9.00	3						c						1						c
14	1.25	32.75	plate	CCI-AFP-065125	1							x											
15	1.25	32.75	plate	CCI-AFP-065125 (Mod	1	x																	
16	15	32.75	plate	CCI-CFP-065125	1													x					
17	32.75	68.75	plate	CCI-AFP-060100	3	x						x						x					
18	68.75	100.25	plate	CCI-SFP-040075	3	x						x						x					
19	100.25	120.25	plate	CCI-SFP-040075	3	x						x						x					
20	0	1.25	plate	(ARB) 1.25x9.00 (2)	1											-1							
21	75	82	plate	CCI-SFP-045100	3					x						x						x	
22	115.25	122.25	plate	CCI-AFP-040075	3					x						x						x	
23																							

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	4.25	1.25	5.3125	0.625	PC 8.8 - M20 (100)	21	PC 8.8 - M20 (100)	21.000	21.000	3.750	1.1875	A572-65
2	3.875	1.25	4.84375	0.625	PC 8.8 - M20 (100)	21	PC 8.8 - M20 (100)	18.000	21.000	3.281	1.1875	A572-65
3	3.375	1.25	4.21875	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	15.000	24.000	2.656	1.1875	A572-65
4	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
5	1.25	5.25	6.5625	3.375	Welded	0	Welded	0.000	0.750	6.563	0.0000	A572-65
6	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
7	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
8	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
9	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
10	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
11	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
12	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
13	1.25	8.25	10.3125	4.875	Welded	0	Welded	0.000	0.750	10.313	0.0000	A572-65
14	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	42	PC 8.8 - M20 (100)	42.000	19.000	6.563	1.1875	A572-65
15	5.5	1.25	6.875	0.625	PC 8.8 - M20 (100)	42	PC 8.8 - M20 (100)	42.000	19.000	5.313	1.1875	A572-65
16	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	42	PC 8.8 - M20 (100)	42.000	19.000	6.563	1.1875	A572-65
17	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
18	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.000	2.063	1.1875	A572-65
19	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.000	2.063	1.1875	A572-65
20	1.25	8.25	10.3125	4.875	Welded	0	Welded	0.000	0.750	10.313	0.0000	A572-65
21	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
22	4	0.75	3	0.375	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	16.000	2.063	1.1875	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
BAR #1	Top	7	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	7	N	3	3	-	-	-	-	-	-	-	-	-
BAR #2	Top	6	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	7	N	3	3	-	-	-	-	-	-	-	-	-
BAR #3	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	-	-	-	-	-	-	-	-	-
(TS) 1.25x6.00	Top	0	-	0	0	80	None	-	-	-	-	24	0.375	-
	Bottom	0	-	0	0	80	PJP Groove	10.5	0.625	45	0.625	-	-	-
(ARB) 1.25x9.00	Top	0	-	0	0	80	None	-	-	-	-	36	0.375	-
	Bottom	0	-	0	0	80	CJP Groove	16.5	0.625	45	0.625	-	-	-
CCI-AFP-065125 (Mod)	Top	14	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	14	N	3	3	-	-	-	-	-	-	-	-	-
CCI-CFP-065125	Top	14	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	14	N	3	3	-	-	-	-	-	-	-	-	-
(ARB) 1.25x9.00 (2)	Top	0	-	0	0	80	None	-	-	-	-	36	0.375	-
	Bottom	0	-	0	0	80	CJP Groove	16.5	0.625	45	0.625	-	-	-

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	150 - 145	5		18	15.000	16.080	0.1875	A572-65	1.000
2	145 - 140	5		18	16.080	17.160	0.1875	A572-65	1.000
3	140 - 135	5		18	17.160	18.239	0.1875	A572-65	1.000
4	135 - 130	5		18	18.239	19.319	0.1875	A572-65	1.000
5	130 - 126.59	6.58	3.17	18	19.319	20.740	0.1875	A572-65	1.000
6	126.59 - 122.25	4.34		18	19.680	20.603	0.25	A572-65	1.000
7	122.25 - 122	0.25		18	20.603	20.656	0.4125	A572-65	0.950
8	122 - 120.25	1.75		18	20.656	21.029	0.4125	A572-65	0.944
9	120.25 - 120	0.25		18	21.029	21.082	0.575	A572-65	0.923
10	120 - 115.25	4.75		18	21.082	22.092	0.5625	A572-65	0.919
11	115.25 - 115	0.25		18	22.092	22.145	0.4	A572-65	0.955
12	115 - 114.75	0.25		18	22.145	22.198	0.55	A572-65	0.931
13	114.75 - 109.75	5		18	22.198	23.261	0.5375	A572-65	0.929
14	109.75 - 105.25	4.5		18	23.261	24.218	0.525	A572-65	0.932
15	105.25 - 105	0.25		18	24.218	24.271	0.7375	A572-65	0.898
16	105 - 101.92	3.08		18	24.271	24.926	0.725	A572-65	0.898
17	101.92 - 101.67	0.25		18	24.926	24.979	0.75	A572-65	0.900
18	101.67 - 101.25	0.42		18	24.979	25.069	0.75	A572-65	0.898
19	101.25 - 101	0.25		18	25.069	25.122	0.75	A572-65	0.897
20	101 - 100.25	0.75		18	25.122	25.281	0.75	A572-65	0.893
21	100.25 - 100	0.25		18	25.281	25.335	0.7375	A572-65	0.907
22	100 - 95	5		18	25.335	26.398	0.7125	A572-65	0.913
23	95 - 90.04	9.04	4.08	18	26.398	28.320	0.7	A572-65	0.906
24	90.04 - 85.04	5		18	26.952	28.018	0.75	A572-65	0.921
25	85.04 - 82	3.04		18	28.018	28.665	0.7375	A572-65	0.924
26	82 - 81.75	0.25		18	28.665	28.719	0.925	A572-65	0.906
27	81.75 - 77.5	4.25		18	28.719	29.624	0.9125	A572-65	0.900
28	77.5 - 77.25	0.25		18	29.624	29.677	0.7875	A572-65	0.916
29	77.25 - 75	2.25		18	29.677	30.157	0.775	A572-65	0.922
30	75 - 74.75	0.25		18	30.157	30.210	0.7125	A572-65	0.929
31	74.75 - 74.5	0.25		18	30.210	30.263	0.825	A572-65	0.918
32	74.5 - 72.17	2.33		18	30.263	30.760	0.8125	A572-65	0.923
33	72.17 - 71.92	0.25		18	30.760	30.813	0.8375	A572-65	0.913
34	71.92 - 68.75	3.17		18	30.813	31.488	0.8125	A572-65	0.928
35	68.75 - 68.5	0.25		18	31.488	31.542	0.9375	A572-65	0.905
36	68.5 - 63.5	5		18	31.542	32.607	0.9125	A572-65	0.910
37	63.5 - 58.5	5		18	32.607	33.672	0.8875	A572-65	0.915
38	58.5 - 53.5	5		18	33.672	34.737	0.8625	A572-65	0.923
39	53.5 - 48.5	5		18	34.737	35.803	0.8375	A572-65	0.932
40	48.5 - 47.58	6.09	5.17	18	35.803	37.100	0.8375	A572-65	0.929
41	47.58 - 41.41	6.17		18	35.374	36.687	0.725	A572-65	0.945
42	41.41 - 36.41	5		18	36.687	37.751	0.7125	A572-65	0.948
43	36.41 - 32.75	3.66		18	37.751	38.530	0.7	A572-65	0.956
44	32.75 - 32.5	0.25		18	38.530	38.583	0.75	A572-65	0.950
45	32.5 - 31.25	1.25		18	38.583	38.849	0.75	A572-65	0.947
46	31.25 - 31	0.25		18	38.849	38.902	0.7375	A572-65	0.962
47	31 - 26	5		18	38.902	39.966	0.725	A572-65	0.966
48	26 - 21	5		18	39.966	41.031	0.725	A572-65	0.954
49	21 - 18.75	2.25		18	41.031	41.509	0.7125	A572-65	0.965
50	18.75 - 18.5	0.25		18	41.509	41.563	0.7	A572-65	0.981
51	18.5 - 15	3.5		18	41.563	42.308	0.6875	A572-65	0.991
52	15 - 14.75	0.25		18	42.308	42.361	0.5875	A572-65	1.052
53	14.75 - 9.75	5		18	42.361	43.425	0.58125	A572-65	1.052
54	9.75 - 4.75	5		18	43.425	44.489	0.575	A572-65	1.054
55	4.75 - 1.25	3.5		18	44.489	45.234	0.575	A572-65	1.047
56	1.25 - 1	0.25		18	45.234	45.287	0.75	A572-65	1.017
57	1 - 0	1		18	45.287	45.500	0.75	A572-65	1.015

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	150 - 145	3.45	32.19	4.89
2	145 - 140	3.69	57.16	5.10
3	140 - 135	7.60	93.50	9.34
4	135 - 130	7.95	140.68	9.54
5	130 - 126.59	11.54	180.20	13.76
6	126.59 - 122.25	12.13	240.32	13.96
7	122.25 - 122	12.17	243.81	13.96
8	122 - 120.25	12.41	268.31	14.05
9	120.25 - 120	12.46	271.82	14.06
10	120 - 115.25	16.86	345.40	17.87
11	115.25 - 115	16.90	349.87	17.88
12	115 - 114.75	16.95	354.34	17.89
13	114.75 - 109.75	17.90	444.38	18.14
14	109.75 - 105.25	21.84	530.92	20.91
15	105.25 - 105	21.91	536.15	20.92
16	105 - 101.92	22.68	600.81	21.09
17	101.92 - 101.67	22.75	606.08	21.10
18	101.67 - 101.25	22.86	614.94	21.12
19	101.25 - 101	22.93	620.22	21.14
20	101 - 100.25	23.12	636.08	21.18
21	100.25 - 100	23.19	641.38	21.19
22	100 - 95	24.50	747.98	21.46
23	95 - 90.04	25.83	855.01	21.72
24	90.04 - 85.04	28.16	964.49	22.07
25	85.04 - 82	29.06	1031.79	22.22
26	82 - 81.75	29.16	1037.35	22.23
27	81.75 - 77.5	30.65	1132.33	22.48
28	77.5 - 77.25	30.73	1137.95	22.49
29	77.25 - 75	31.45	1188.66	22.61
30	75 - 74.75	31.61	1194.33	22.68
31	74.75 - 74.5	31.70	1200.00	22.69
32	74.5 - 72.17	32.48	1253.01	22.82
33	72.17 - 71.92	32.58	1258.71	22.83
34	71.92 - 68.75	33.68	1331.32	23.00
35	68.75 - 68.5	33.78	1337.07	23.01
36	68.5 - 63.5	35.70	1452.77	23.28
37	63.5 - 58.5	37.66	1569.81	23.55
38	58.5 - 53.5	39.64	1688.16	23.81
39	53.5 - 48.5	41.64	1807.76	24.05
40	48.5 - 47.58	42.01	1829.90	24.10
41	47.58 - 41.41	46.10	1979.82	24.49
42	41.41 - 36.41	47.97	2102.68	24.67
43	36.41 - 32.75	49.36	2193.17	24.80
44	32.75 - 32.5	49.47	2199.36	24.80
45	32.5 - 31.25	49.97	2230.38	24.85
46	31.25 - 31	50.08	2236.59	24.85
47	31 - 26	52.10	2361.22	25.02
48	26 - 21	54.16	2486.67	25.18
49	21 - 18.75	55.09	2543.38	25.26
50	18.75 - 18.5	55.20	2549.69	25.25
51	18.5 - 15	56.66	2638.26	25.38
52	15 - 14.75	56.77	2644.60	25.37
53	14.75 - 9.75	58.73	2771.72	25.50
54	9.75 - 4.75	60.72	2899.44	25.62
55	4.75 - 1.25	62.13	2989.19	25.71
56	1.25 - 1	62.27	2995.61	25.69
57	1 - 0	62.76	3021.32	25.74

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP16.08x15x0.1875	Pole	14.1%	Pass
145 - 140	Pole	TP17.16x16.08x0.1875	Pole	21.5%	Pass
140 - 135	Pole	TP18.239x17.16x0.1875	Pole	31.6%	Pass
135 - 130	Pole	TP19.319x18.239x0.1875	Pole	42.4%	Pass
130 - 126.59	Pole	TP20.74x19.319x0.1875	Pole	51.2%	Pass
126.59 - 122.25	Pole	TP20.603x19.68x0.25	Pole	47.2%	Pass
122.25 - 122	Pole + Reinf.	TP20.656x20.603x0.4125	Reinf. 22 Tension Rupture	53.6%	Pass
122 - 120.25	Pole + Reinf.	TP21.029x20.656x0.4125	Reinf. 22 Tension Rupture	57.2%	Pass
120.25 - 120	Pole + Reinf.	TP21.082x21.029x0.575	Reinf. 22 Tension Rupture	42.0%	Pass
120 - 115.25	Pole + Reinf.	TP22.092x21.082x0.5625	Reinf. 22 Tension Rupture	49.9%	Pass
115.25 - 115	Pole + Reinf.	TP22.145x22.092x0.4	Reinf. 19 Tension Rupture	68.6%	Pass
115 - 114.75	Pole + Reinf.	TP22.198x22.145x0.55	Reinf. 19 Tension Rupture	50.8%	Pass
114.75 - 109.75	Pole + Reinf.	TP23.261x22.198x0.5375	Reinf. 19 Tension Rupture	59.3%	Pass
109.75 - 105.25	Pole + Reinf.	TP24.218x23.261x0.525	Reinf. 19 Tension Rupture	66.8%	Pass
105.25 - 105	Pole + Reinf.	TP24.271x24.218x0.7375	Reinf. 3 Tension Rupture	54.6%	Pass
105 - 101.92	Pole + Reinf.	TP24.926x24.271x0.725	Reinf. 3 Tension Rupture	59.0%	Pass
101.92 - 101.67	Pole + Reinf.	TP24.979x24.926x0.75	Reinf. 2 Tension Rupture	53.1%	Pass
101.67 - 101.25	Pole + Reinf.	TP25.069x24.979x0.75	Reinf. 2 Tension Rupture	53.6%	Pass
101.25 - 101	Pole + Reinf.	TP25.122x25.069x0.75	Reinf. 2 Tension Rupture	53.9%	Pass
101 - 100.25	Pole + Reinf.	TP25.281x25.122x0.75	Reinf. 2 Tension Rupture	54.8%	Pass
100.25 - 100	Pole + Reinf.	TP25.335x25.281x0.7375	Reinf. 2 Tension Rupture	55.1%	Pass
100 - 95	Pole + Reinf.	TP26.398x25.335x0.7125	Reinf. 2 Tension Rupture	60.7%	Pass
95 - 90.04	Pole + Reinf.	TP28.32x26.398x0.7	Reinf. 2 Tension Rupture	65.7%	Pass
90.04 - 85.04	Pole + Reinf.	TP28.018x26.952x0.75	Reinf. 2 Tension Rupture	65.9%	Pass
85.04 - 82	Pole + Reinf.	TP28.665x28.018x0.7375	Reinf. 2 Tension Rupture	68.2%	Pass
82 - 81.75	Pole + Reinf.	TP28.719x28.665x0.925	Reinf. 2 Tension Rupture	55.5%	Pass
81.75 - 77.5	Pole + Reinf.	TP29.624x28.719x0.9125	Reinf. 2 Tension Rupture	58.1%	Pass
77.5 - 77.25	Pole + Reinf.	TP29.677x29.624x0.7875	Reinf. 2 Tension Rupture	66.3%	Pass
77.25 - 75	Pole + Reinf.	TP30.157x29.677x0.775	Reinf. 2 Tension Rupture	67.7%	Pass
75 - 74.75	Pole + Reinf.	TP30.21x30.157x0.7125	Reinf. 2 Tension Rupture	73.1%	Pass
74.75 - 74.5	Pole + Reinf.	TP30.263x30.21x0.825	Reinf. 2 Tension Rupture	63.8%	Pass
74.5 - 72.17	Pole + Reinf.	TP30.76x30.263x0.8125	Reinf. 2 Tension Rupture	65.1%	Pass
72.17 - 71.92	Pole + Reinf.	TP30.813x30.76x0.8375	Reinf. 18 Tension Rupture	62.1%	Pass
71.92 - 68.75	Pole + Reinf.	TP31.488x30.813x0.8125	Reinf. 18 Tension Rupture	63.7%	Pass
68.75 - 68.5	Pole + Reinf.	TP31.542x31.488x0.9375	Reinf. 1 Tension Rupture	55.9%	Pass
68.5 - 63.5	Pole + Reinf.	TP32.607x31.542x0.9125	Reinf. 1 Tension Rupture	58.0%	Pass
63.5 - 58.5	Pole + Reinf.	TP33.672x32.607x0.8875	Reinf. 1 Tension Rupture	60.0%	Pass
58.5 - 53.5	Pole + Reinf.	TP34.737x33.672x0.8625	Reinf. 1 Tension Rupture	61.9%	Pass
53.5 - 48.5	Pole + Reinf.	TP35.803x34.737x0.8375	Reinf. 1 Tension Rupture	63.5%	Pass
48.5 - 47.58	Pole + Reinf.	TP37.1x35.803x0.8375	Reinf. 1 Tension Rupture	63.8%	Pass
47.58 - 41.41	Pole + Reinf.	TP36.687x35.374x0.725	Reinf. 17 Tension Rupture	67.4%	Pass
41.41 - 36.41	Pole + Reinf.	TP37.751x36.687x0.7125	Reinf. 17 Tension Rupture	68.5%	Pass
36.41 - 32.75	Pole + Reinf.	TP38.53x37.751x0.7	Reinf. 17 Tension Rupture	69.2%	Pass
32.75 - 32.5	Pole + Reinf.	TP38.583x38.53x0.75	Reinf. 15 Tension Rupture	68.7%	Pass
32.5 - 31.25	Pole + Reinf.	TP38.849x38.583x0.75	Reinf. 15 Tension Rupture	68.9%	Pass
31.25 - 31	Pole + Reinf.	TP38.902x38.849x0.7375	Reinf. 15 Tension Rupture	69.0%	Pass
31 - 26	Pole + Reinf.	TP39.966x38.902x0.725	Reinf. 15 Tension Rupture	69.9%	Pass
26 - 21	Pole + Reinf.	TP41.031x39.966x0.725	Reinf. 15 Tension Rupture	70.7%	Pass
21 - 18.75	Pole + Reinf.	TP41.509x41.031x0.7125	Reinf. 15 Tension Rupture	71.0%	Pass
18.75 - 18.5	Pole + Reinf.	TP41.563x41.509x0.7	Reinf. 14 Tension Rupture	70.7%	Pass
18.5 - 15	Pole + Reinf.	TP42.308x41.563x0.6875	Reinf. 14 Tension Rupture	71.2%	Pass
15 - 14.75	Pole + Reinf.	TP42.361x42.308x0.5875	Reinf. 8 Tension Rupture	74.1%	Pass
14.75 - 9.75	Pole + Reinf.	TP43.425x42.361x0.5813	Reinf. 8 Tension Rupture	74.4%	Pass
9.75 - 4.75	Pole + Reinf.	TP44.489x43.425x0.575	Reinf. 8 Tension Rupture	74.7%	Pass
4.75 - 1.25	Pole + Reinf.	TP45.234x44.489x0.575	Reinf. 8 Tension Rupture	74.9%	Pass
1.25 - 1	Pole + Reinf.	TP45.287x45.234x0.75	Reinf. 13 Compression	63.5%	Pass
1 - 0	Pole + Reinf.	TP45.5x45.287x0.75	Reinf. 13 Compression	63.6%	Pass
				Summary	
			Pole	57.5%	Pass
			Reinforcement	74.9%	Pass
			Overall	74.9%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity* (100% Max. Allowable)																					
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22
150 - 145	302	n/a	302	9.46	n/a	9.46	14.1%																						
145 - 140	367	n/a	367	10.10	n/a	10.10	21.5%																						
140 - 135	442	n/a	442	10.74	n/a	10.74	31.6%																						
135 - 130	526	n/a	526	11.39	n/a	11.39	42.4%																						
130 - 126.59	589	n/a	589	11.82	n/a	11.82	51.2%																						
126.59 - 122.25	845	n/a	845	16.15	n/a	16.15	47.2%																						
122.25 - 122	852	522	1373	16.19	9.00	25.19	29.1%																						53.6%
122 - 120.25	899	540	1439	16.49	9.00	25.49	31.1%																						57.2%
120.25 - 120	906	1085	1991	16.53	18.00	34.53	22.9%																			42.0%			42.0%
120 - 115.25	1044	1186	2231	17.33	18.00	35.33	27.3%																			49.9%			49.9%
115.25 - 115	1052	596	1648	17.37	9.00	26.37	37.4%																			68.6%			
115 - 114.75	1060	1200	2259	17.42	17.76	35.18	27.7%												43.1%							50.8%			
114.75 - 109.75	1221	1312	2533	18.26	17.76	36.02	32.3%												50.2%							59.3%			
109.75 - 105.25	1380	1417	2797	19.02	17.76	36.78	36.6%												56.6%							66.8%			
105.25 - 105	1389	2460	3849	19.06	30.42	49.48	26.9%			54.6%									41.6%							49.1%			
105 - 101.92	1506	2588	4094	19.58	30.42	50.00	29.3%			59.0%									44.9%							53.1%			
101.92 - 101.67	1516	2763	4278	19.62	32.29	51.91	28.3%		53.1%										43.4%							51.3%			
101.67 - 101.25	1532	2782	4314	19.69	32.29	51.98	28.6%		53.6%										43.8%							51.8%			
101.25 - 101	1542	2793	4335	19.74	32.29	52.03	28.8%		53.9%									44.1%								52.1%			
101 - 100.25	1572	2827	4398	19.86	32.29	52.15	29.3%		54.8%									44.8%								53.0%			
100.25 - 100	1582	2838	4420	19.90	32.29	52.20	29.5%		55.1%									45.1%							53.3%				
100 - 95	1792	3069	4861	20.75	32.29	53.04	32.9%		60.7%									49.7%							58.8%				
95 - 90.04	2017	3308	5325	21.58	32.29	53.88	36.0%		65.7%									53.7%							63.6%				
90.04 - 85.04	2664	3439	6103	27.48	32.29	59.77	34.9%		65.9%									53.9%							63.9%				
85.04 - 82	2855	3593	6449	28.12	32.29	60.41	36.2%		68.2%									55.8%							66.1%				
82 - 81.75	2871	5108	7980	28.17	45.79	73.97	29.5%		55.5%									45.4%							53.8%			51.7%	
81.75 - 77.5	3155	5422	8577	29.07	45.79	74.86	30.9%		58.1%									47.5%							56.3%			54.1%	
77.5 - 77.25	3172	4395	7567	29.13	37.03	66.16	35.2%		66.3%																64.3%			61.7%	
77.25 - 75	3330	4533	7862	29.60	37.03	66.63	36.0%		67.7%																65.6%			63.0%	
75 - 74.75	3348	3974	7322	29.65	32.29	61.94	38.9%		73.1%								59.8%								70.9%				
74.75 - 74.5	3366	5073	8438	29.71	41.05	70.76	34.0%		63.8%		52.2%						52.2%								61.9%				
74.5 - 72.17	3536	5234	8770	30.20	41.05	71.25	34.9%		65.1%		53.3%						53.3%								63.2%				
72.17 - 71.92	3554	5435	8989	30.25	42.46	72.71	34.2%	61.4%			52.3%						52.3%								62.1%				
71.92 - 68.75	3796	5666	9462	30.92	42.46	73.38	35.4%	63.0%			53.7%						53.7%								63.7%				
68.75 - 68.5	3815	6916	10731	30.97	51.46	82.43	31.4%	55.9%			47.6%						47.6%							49.5%					
68.5 - 63.5	4219	7371	11590	32.03	51.46	83.49	32.9%	58.0%			49.5%						49.5%							51.5%					
63.5 - 58.5	4651	7841	12491	33.09	51.46	84.54	34.4%	60.0%			51.2%						51.2%							53.2%					
58.5 - 53.5	5110	8325	13436	34.14	51.46	85.60	35.8%	61.9%			52.7%						52.7%							54.9%					
53.5 - 48.5	5600	8824	14424	35.20	51.46	86.66	37.1%	63.5%			54.1%						54.1%							56.4%					
48.5 - 47.58	5693	8917	14610	35.39	51.46	86.85	37.3%	63.8%			54.4%						54.4%							56.6%					
47.58 - 41.41	7197	6337	13534	43.22	34.95	78.17	42.5%							62.8%		62.8%								67.4%					
41.41 - 36.41	7849	6695	14543	44.48	34.95	79.43	43.5%							63.8%		63.8%								68.5%					
36.41 - 32.75	8350	6963	15313	45.41	34.95	80.36	44.3%							64.4%		64.4%								69.2%					
32.75 - 32.5	8389	7800	16189	45.48	40.08	85.55	42.7%							60.3%		60.3%					62.9%	68.7%	62.9%						
32.5 - 31.25	8565	7904	16469	45.79	40.08	85.87	42.9%							60.5%		60.5%					63.2%	68.9%	63.2%						
31.25 - 31	8601	7924	16525	45.86	40.08	85.93	43.0%							60.5%	60.6%						63.2%	69.0%	63.2%						
31 - 26	9333	8346	17679	47.12	40.08	87.20	43.9%							61.3%	61.4%						64.1%	69.9%	64.1%						
26 - 21	10106	8778	18884	48.39	40.08	88.46	44.7%							62.1%	62.1%						64.9%	70.7%	64.9%						
21 - 18.75	10467	8976	19443	48.96	40.08	89.03	45.1%							62.3%	62.4%						65.2%	71.0%	65.2%						
18.75 - 18.5	10533	8545	19078	49.02	40.08	89.10	47.6%						60.4%		62.2%						70.7%	63.9%	68.1%						
18.5 - 15	11114	8843	19957	49.91	40.08	89.98	48.2%						60.8%		62.6%						71.2%	64.4%	68.6%						
15 - 14.75	11159	6029	17188	49.97	31.95	81.92	55.6%						65.9%		74.1%						73.1%	65.5%							
14.75 - 9.75	12028	6325	18353	51.24	31.95	83.19	56.3%						66.4%		74.4%						73.6%	66.1%							
9.75 - 4.75	12941	6629	19570	52.50	31.95	84.45	57.0%						66.8%		74.7%						74.0%	66.6%							
4.75 - 1.25	13607	6845	20452	53.39	31.95	85.34	57.5%						67.0%		74.9%						74.2%	67.0%							
1.25 - 1	13706	13196	26902	53.45	54.38	107.83	44.7%					47.4%								63.5%							41.7%		
1 - 0	13901	13299	27201	53.71	54.38	108.08	44.8%					56.6%								63.6%							41.8%		

Note: Section capacity checked assuming all reinforcements are effective and using 5 degree increments.

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

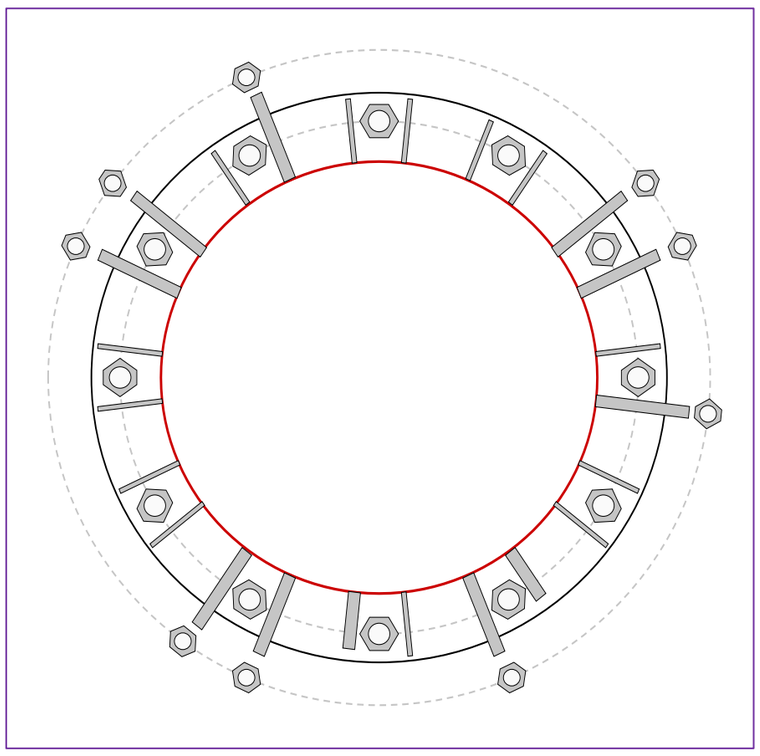
Monopole Base Plate Connection

Site Info	
BU #	876362
Site Name	Oxford / Fritz Property
Order #	644522 Rev. 0

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

Applied Loads	
Moment (kip-ft)	3015.10
Axial Force (kips)	62.73
Shear Force (kips)	25.70

**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 54" BC
GROUP 2: (3) 1-3/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 69" BC
GROUP 3: (3) 1-3/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 69" BC
pos. (deg): 36.4, 156.4, 293.6

GROUP 4: (3) 1-3/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 69" BC
pos. (deg): 23.6, 143.6, 246.4

Base Plate Data

60" OD x 1.75" Plate (A871-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

Group 1: (13) 13.75"H x 6.75"W x 0.5"T, Notch: 0.75"
plate: Fy= 50 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.25" groove, 45° dbl bevel, 0.375" fillet
vert. weld: 0.375" fillet

Group 2: (3) 54"H x 9.75"W x 1.25"T, Notch: 0.75"
plate: Fy= 65 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.625" groove, 45° dbl bevel, 0.625" fillet
vert. weld: 0.375" fillet

Group 3: (2) 54"H x 6"W x 1.25"T, Notch: 0.75"
plate: Fy= 65 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.625" groove, 45° dbl bevel, 0.625" fillet
vert. weld: 0.375" fillet

Group 4: (3) 69"H x 9"W x 1.25"T, Notch: 0.75"
plate: Fy= 65 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.625" groove, 45° dbl bevel, 0.625" fillet
vert. weld: 0.375" fillet

Group 5: (3) 51"H x 9"W x 1.25"T, Notch: 0.75"
plate: Fy= 65 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.625" groove, 45° dbl bevel, 0.625" fillet
vert. weld: 0.375" fillet

Pole Data

45.5" x 0.75" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

GROUP 1:		
Pu_c = 139.91	ϕPn_c = 268.39	**Stress Rating**
Vu = 2.14	ϕVn = 120.77	**52.1%**
Mu = 3.31	ϕMn = 128.14	**Pass**
GROUP 2:		
Pu_t = 98.59	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**52.7%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 3:		
Pu_t = 99.57	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**53.2%**
Mu = 0	ϕMn = 84.41	**Pass**
GROUP 4:		
Pu_t = 99.57	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**53.2%**
Mu = 0	ϕMn = 84.41	**Pass**

Base Plate Summary

Max Stress (ksi):	6.66	(Shear)
Allowable Stress (ksi):	33.75	
Stress Rating:	**18.8%**	**Pass**

Stiffener Summary

Horizontal Weld:	**19.2%**	**Pass**
Vertical Weld:	**12.6%**	**Pass**
Plate Flexure+Shear:	**8.2%**	**Pass**
Plate Tension+Shear:	**19.6%**	**Pass**
Plate Compression:	**27.7%**	**Pass**

Pole Summary

Punching Shear:	**2.5%**	**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	Yes	No	
3	No	No	No	No	No	
4	No	No	No	No	No	

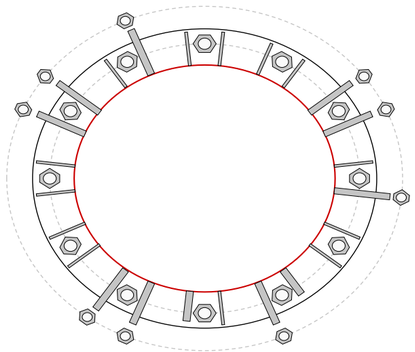
Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, n:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	2.25	A615-75	54	0.5	2.375	N-Included		No
2	1	30	2.25	A615-75	54	0.5	2.375	N-Included		No
3	1	60	2.25	A615-75	54	0.5	2.375	N-Included		No
4	1	90	2.25	A615-75	54	0.5	2.375	N-Included		No
5	1	120	2.25	A615-75	54	0.5	2.375	N-Included		No
6	1	150	2.25	A615-75	54	0.5	2.375	N-Included		No
7	1	180	2.25	A615-75	54	0.5	2.375	N-Included		No
8	1	210	2.25	A615-75	54	0.5	2.375	N-Included		No
9	1	240	2.25	A615-75	54	0.5	2.375	N-Included		No
10	1	270	2.25	A615-75	54	0.5	2.375	N-Included		No
11	1	300	2.25	A615-75	54	0.5	2.375	N-Included		No
12	1	330	2.25	A615-75	54	0.5	2.375	N-Included		No
13	2	353.623658	1.75	A193 Gr. B7	69	0.5	5.125	N-Included		No
14	2	113.623658	1.75	A193 Gr. B7	69	0.5	5.125	N-Included		No
15	2	233.623658	1.75	A193 Gr. B7	69	0.5	5.125	N-Included		No
16	3	36.3763424	1.75	A193 Gr. B7	69	0.5	10.125	N-Included		No
17	3	156.376342	1.75	A193 Gr. B7	69	0.5	10.125	N-Included		No
18	3	293.623658	1.75	A193 Gr. B7	69	0.5	10.125	N-Included		No
19	4	23.6236576	1.75	A193 Gr. B7	69	0.5	10.125	N-Included		No
20	4	143.623658	1.75	A193 Gr. B7	69	0.5	10.125	N-Included		No
21	4	246.376342	1.75	A193 Gr. B7	69	0.5	10.125	N-Included		No

Custom Stiffener Connection

Stiffener	Stiffener Group ID	Location (deg.)	Width (in)	Height (in)	Thickness (in)	H. Notch (in)	V. Notch (in)	Grade (ksi)	Weld Type	Groove Depth (in)	Groove Angle (deg.)	H. Fillet Weld Size (in)	V. Fillet Weld Size (in)	Weld Strength (ksi)
1	1	6.3763424	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
2	5	23.6236576	9	51	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
3	4	36.3763424	9	69	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
4	1	53.6236576	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
5	1	66.3763424	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
6	1	83.6236576	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
7	1	96.3763424	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
8	2	113.623658	9.75	54	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
9	1	126.376342	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
10	5	143.623658	9	51	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
11	4	156.376342	9	69	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
12	1	173.623658	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
13	1	186.376342	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
14	1	203.623658	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
15	1	216.376342	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
16	2	233.623658	9.75	54	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
17	5	246.376342	9	51	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
18	3	263.623658	6	54	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
19	1	276.376342	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
20	4	293.623658	9	69	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
21	3	306.376342	6	54	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80
22	1	323.623658	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
23	1	336.376342	6.75	13.75	0.5	0.75	0.75	50	Both	0.25	45	0.375	0.375	80
24	2	353.623658	9.75	54	1.25	0.75	0.75	65	Both	0.625	45	0.625	0.375	80

Plot Graphic



Monopole on Mat Foundation with Rock Anchors - TIA-222-H

Site Data	
Site Name:	Oxford / Fritz Property
Site Number:	BU 876362
TEP Job Number:	25611.739139

Factored Reactions from TNX		
Axial	63	k
Shear	26	k
Moment	3015	k-ft

Mat and Pier Properties		
Mat Width	22.75	ft
Mat Length	22.75	ft
Mat Thickness	4.5	ft
Pier Type	Square	
Pier Width/Diam.	6.0	ft
Pier Height	1.5	ft

Mat Foundation Results		
Bearing Stress	2.0	ksf
Bearing Capacity, ϕq_{allow}	45.4	ksf
% Capacity*	4.3%	**Pass**

Soil Properties		
q_{allow}	30.3	ksf
FS	2.0	
Subgrade Mod.	1090	kcf
Rock Weight	160	pcf
Rock Cone Angle	45	deg

Mat and Pier Structural Results		
Bending Moment	583.2	kft
Clearance	3	in
Rebar Fy	60	ksi
Rebar Diameter	1	in
Rebar Spacing	8.9	in
Concrete F'c	4	ksi
Flexural Capacity, ϕMn	5446.5	kft
% Capacity*	10.2%	**Pass**

Rock Anchor Properties		
Type of Bar	Dywidag150	
Bar Size	1.25	in
Net Area	1.25	in^2
Ultimate Stress, Fu	150.0	ksi
Yield Stress, Fy	120.0	ksi
Bar Diameter	1.250	in
Steel/Grout Bond[1]	290	psi
Grout/Rock Allow Bond	450	psi
FS	2	
Drilled Shaft Diam.	3.50	in

[1] Ultimate Bond Values

Rock Anchor Steel Results		
Max Tension Force	3.2	k
Anchor Capacity, ϕPn	135.0	k
% Capacity*	2.3%	**Pass**

Rock Anchor Pullout Results		
Req. Bond Length, ld	13.2	ft
Req. Cone Height, h	9.6	ft
Total Req. Embedment	16.2	ft
Actual Embedment	20.5	ft

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