STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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E-Mail: siting.council@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL

March 15, 2019

Jeffrey Barbadora
Real Estate Specialist
Crown Castle
12 Gill Street, Suite 5800
Woburn, MA 01801

RE: **EM-SPRINT-141-190207** – Sprint notice of intent to modify an existing telecommunications facility located at 720 Thompson Road, Thompson, Connecticut.

Dear Mr. Barbadora

The Connecticut Siting Council (Council) is in receipt of your correspondence of March 13, 2019 submitted in response to the Council's March 1, 2019 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/IN/emr

Robidoux, Evan

From: Barbadora, Jeff <Jeff.Barbadora@crowncastle.com>
Sent: Wednesday, March 13, 2019 9:27 AM
To: Robidoux, Evan
Subject: FW: Council Incomplete Letter for EM-SPRINT-141-190207-ThompsonRd-Thompson
Attachments: REVISED-SA.pdf

Good morning Evan,

Attached is the updated structural analysis as requested by the Council.

Please let me know if you need a hard copy mailed.

Thanks,

Jeffrey Barbadora
781-970-0053
12 Gill Street, Suite 5800, Woburn, MA 01801
CrownCastle.com

From: Badawi, Nesmet (Contractor) <Nesmet.Badawi.Contractor@crowncastle.com>
Sent: Wednesday, March 6, 2019 10:07 AM
To: Barbadora, Jeff <Jeff.Barbadora@crowncastle.com>
Subject: FW: Council Incomplete Letter for EM-SPRINT-141-190207-ThompsonRd-Thompson

Good morning Jeff,

We have received an incomplete notice for this site.

Best Regards.

NESMET BADAWI
Real Estate Specialist - NEM
Office (201) 514-7374
Mobile (201) 300-9621
Fax (201) 236-9270

CROWN CASTLE
1200 MacArthur Blvd. Ste 200
Mahwah, New Jersey 07430

From: Robidoux, Evan <Evan.Robidoux@ct.gov>
Sent: Wednesday, March 6, 2019 8:47 AM
To: Badawi, Nesmet (Contractor) <Nesmet.Badawi.Contractor@crowncastle.com>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: Council Incomplete Letter for EM-SPRINT-141-190207-ThompsonRd-Thompson

PAUL J. FORD & COMPANY

Date: **March 12, 2019**

Cheryl Schultz
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277

Paul J. Ford and Company
250 East Broad St., Suite 600
Columbus, OH 43215
(614) 221-6679

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Sprint PCS* Co-Locate**	
	Carrier Site Number:	CT23XC410
	Carrier Site Name:	CT23XC410
Crown Castle Designation:	**Crown Castle BU Number:**	828402
	Crown Castle Site Name:	Thompson/ I-395 X99_1
	Crown Castle JDE Job Number:	505910
	Crown Castle Work Order Number:	1656212
	Crown Castle Order Number:	441412 Rev. 2 REVISED
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37518-0348.006.7805
Site Data:	**720 Thompson Rd, Thompson, Windham County, CT** **Latitude *41° 58' 39.74"*, Longitude *-71° 50' 47.55"*** **156 Foot - Monopole Tower**	

Dear Cheryl Schultz,

Paul J. Ford and Company 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:

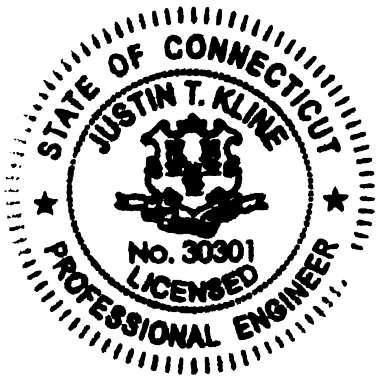
LC4.7: Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph from the 2018 Connecticut State Building Code per section 1609.3 and Appendix N. Applicable Standards referenced, and design criteria are listed in Section 2 – Analysis Criteria.

All modifications and equipment proposed in this report shall be installed in accordance with the proposed modifications drawings, referenced in Table 3 of this report, for the determined available structural capacity to be effective.

Respectfully submitted by:

Aaron E. Pike, E.I.
Structural Designer
apike@pauljford.com



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1) INTRODUCTION

This tower is a 156 ft Monopole tower designed by FRED A. NUDD CORPORATION.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	130 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
150.0	150.0	3	alcatel lucent	PCS 1900MHZ 4X45W-65MHZ	4	1-1/4
		6	alcatel lucent	RRH2X50-800		
		3	alcatel lucent	TD-RRH8X20-25		
		3	commscope	NNVV-65B-R4		
		3	rfs celwave	APXVTM14-ALU-I20		
		2	SitePro1	USD-NPL		

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)
143.0	143.0	1	tower mounts	Platform Mount [LP 701-1]	4	1-1/4
	140.0	4	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe		
		4	ericsson	RRUS 11 B12		
		4	ericsson	RRUS 11 B4		
		4	rfs celwave	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe		
		4	rfs celwave	APXVAA24_43-U-A20 w/ Mount Pipe		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH, 1424JV1600, 3/25/2014	4726392	CCISITES
4-POST-MODIFICATION INSPECTION	Robert E. Adar, P.E., 10/11/2005	3675131	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Fred A. Nudd, 98-5979-1, 4/29/1998	3918434	CCISITES
4-TOWER MANUFACTURER MAPPING	FDH, 1424CT1500, 3/21/2014	3508519	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	APT, CT107593, 5/6/2005	3675126	CCISITES
4-PROPOSED TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 37518-0348.002.7700, 7/25/2018	7744596	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.4.0), 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.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) The monopole manufacturer drawings did not match the geometry of the FDH tower mapping (CCI Ref# 3508519). We have based our geometry off the FDH tower mapping; we have also assumed the pole shaft and base plate steel yield strength(s) (Fy) as shown in the attached calculations. Anchor rods are assumed to be 2.0" diam, (Fu = 58 ksi, Fy = 42 ksi).
5) Monopole was modified in conformance with the referenced modification drawings.
6) Monopole will be modified in conformance with the attached proposed modification drawings.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
156 - 151	Pole	TP10.75x10.75x0.365	Pole	0.5%	Pass
151 - 146	Pole	TP10.75x10.75x0.365	Pole	19.5%	Pass
146 - 144.5	Pole	TP10.75x10.75x0.365	Pole	25.9%	Pass
144.5 - 144	Pole	TP18x10.75x0.365	Pole	9.9%	Pass
144 - 139	Pole	TP18.944x18x0.25	Pole	31.8%	Pass
139 - 134	Pole	TP19.887x18.944x0.25	Pole	56.6%	Pass
134 - 129	Pole	TP20.831x19.887x0.25	Pole	77.6%	Pass
129 - 128.25	Pole	TP20.972x20.831x0.25	Pole	80.5%	Pass
128.25 - 128	Pole + Reinf.	TP21.019x20.972x0.575	Pole	36.7%	Pass
128 - 123	Pole + Reinf.	TP21.963x21.019x0.5625	Pole	45.9%	Pass
123 - 118	Pole + Reinf.	TP22.906x21.963x0.55	Pole	54.4%	Pass
118 - 113	Pole + Reinf.	TP23.85x22.906x0.525	Pole	62.2%	Pass
113 - 108	Pole + Reinf.	TP24.793x23.85x0.5125	Pole	69.4%	Pass
108 - 103	Pole + Reinf.	TP25.737x24.793x0.5	Pole	76.1%	Pass
103 - 98	Pole + Reinf.	TP26.68x25.737x0.4938	Pole	82.3%	Pass
98 - 96.5	Pole + Reinf.	TP27.624x26.68x0.4875	Pole	84.1%	Pass
96.5 - 92	Pole + Reinf.	TP27.313x26.464x0.7	Pole	65.9%	Pass
92 - 87	Pole + Reinf.	TP28.257x27.313x0.675	Pole	70.9%	Pass
87 - 82	Pole + Reinf.	TP29.201x28.257x0.65	Pole	75.9%	Pass
82 - 77.5	Pole + Reinf.	TP30.05x29.201x0.6375	Pole	80.3%	Pass
77.5 - 72.5	Pole + Reinf.	TP30.994x30.05x0.6875	Pole	74.5%	Pass
72.5 - 70.58	Pole + Reinf.	TP31.356x30.994x0.6875	Pole	75.7%	Pass
70.58 - 70.33	Pole + Reinf.	TP31.403x31.356x0.6875	Pole	75.9%	Pass
70.33 - 67.08	Pole + Reinf.	TP32.016x31.403x0.675	Pole	77.9%	Pass
67.08 - 66.83	Pole + Reinf.	TP32.063x32.016x0.975	Pole	55.9%	Pass
66.83 - 61.83	Pole + Reinf.	TP33.007x32.063x0.95	Pole	58.3%	Pass
61.83 - 61.75	Pole + Reinf.	TP33.824x33.007x0.95	Pole	58.4%	Pass
61.75 - 56.75	Pole + Reinf.	TP33.341x32.397x0.9375	Pole	62.2%	Pass
56.75 - 51.75	Pole + Reinf.	TP34.284x33.341x0.9125	Pole	64.6%	Pass
51.75 - 46.75	Pole + Reinf.	TP35.228x34.284x0.9	Pole	67.3%	Pass
46.75 - 41.75	Pole + Reinf.	TP36.171x35.228x0.8875	Pole	70.1%	Pass
41.75 - 39.8	Pole + Reinf.	TP36.539x36.171x0.875	Pole	71.1%	Pass
39.8 - 39.33	Pole + Reinf.	TP36.628x36.539x0.95	Pole	65.3%	Pass
39.33 - 39.08	Pole + Reinf.	TP36.675x36.628x0.9375	Pole	65.4%	Pass
39.08 - 38.33	Pole + Reinf.	TP36.816x36.675x0.9375	Pole	65.6%	Pass
38.33 - 38.08	Pole + Reinf.	TP36.864x36.816x0.8875	Pole	70.8%	Pass
38.08 - 33.08	Pole + Reinf.	TP37.807x36.864x0.875	Pole	72.7%	Pass
33.08 - 30.75	Pole + Reinf.	TP38.247x37.807x0.8625	Pole	73.6%	Pass
30.75 - 30.5	Pole + Reinf.	TP38.294x38.247x0.9375	Pole	68.0%	Pass
30.5 - 25.5	Pole + Reinf.	TP39.238x38.294x0.925	Pole	69.7%	Pass
25.5 - 20.5	Pole + Reinf.	TP40.182x39.238x0.9	Pole	71.4%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
20.5 - 15.5	Pole + Reinf.	TP41.125x40.182x0.8875	Pole	73.0%	Pass
15.5 - 15.05	Pole + Reinf.	TP42.201x41.125x0.8875	Pole	73.2%	Pass
15.05 - 8.8	Pole + Reinf.	TP41.639x40.46x0.875	Pole	77.3%	Pass
8.8 - 8.25	Pole + Reinf.	TP41.743x41.639x0.875	Pole	77.5%	Pass
8.25 - 8	Pole + Reinf.	TP41.79x41.743x0.875	Pole	78.2%	Pass
8 - 4.25	Pole + Reinf.	TP42.498x41.79x0.875	Pole	79.7%	Pass
4.25 - 4	Pole + Reinf.	TP42.545x42.498x1.05	Pole	66.7%	Pass
4 - 3	Pole + Reinf.	TP42.734x42.545x1.05	Pole	67.1%	Pass
3 - 2.75	Pole + Reinf.	TP42.781x42.734x1.15	Pole	62.1%	Pass
2.75 - 0	Pole + Reinf.	TP43.3x42.781x1.125	Pole	63.1%	Pass
				Summary	
			Pole	84.1%	Pass
			Reinforcement	72.5%	Pass
			Overall	84.1%	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC4.7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	89.5	Pass
1	Base Plate	0	89.3	Pass
1	Base Foundation Steel	0	90.8	Pass
1	Base Foundation Soil Interaction	0	28.5	Pass
1	Flange Connection	144	4.8	Pass

Structure Rating (max from all components) =	90.8%

- All structural ratings are per TIA-222-H Section 15.5

Notes:

1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

4.1) Recommendations

The monopole and its foundation will have sufficient capacity to carry the proposed loading configuration once the proposed modifications are installed.

- Install the modifications as per the proposed modification drawings referenced in Table 3.

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

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

1) Tower is located in Windham County, Connecticut.
2) Tower base elevation above sea level: 538 ft.
3) Basic wind speed of 130 mph.
4) Risk Category II.
5) Exposure Category C.
6) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
7) Topographic Category: 1.
8) Crest Height 0.0000 ft.
9) Nominal ice thickness of 1.2750 in.
10) Ice thickness is considered to increase with height.
11) Ice density of 56.00 pcf.
12) A wind speed of 50 mph is used in combination with ice.
13) Temperature drop of 50 °F.
14) Deflections calculated using a wind speed of 60 mph.
15) TIA-222-H Annex S.
16) A non-linear (P-delta) analysis was used.
17) Pressures are calculated at each section.
18) Stress ratio used in pole design is 1.05.
19) 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	156.0000-151.0000	5.0000	0.00	Round	10.7500	10.7500	0.3650		A53-B-35 (35 ksi)
L2	151.0000-146.0000	5.0000	0.00	Round	10.7500	10.7500	0.3650		A53-B-35 (35 ksi)
L3	146.0000-144.5000	1.5000	0.00	Round	10.7500	10.7500	0.3650		A53-B-35 (35 ksi)
L4	144.5000-144.0000	0.5000	0.00	Round	10.7500	18.0000	0.3650		A53-B-35 (35 ksi)
L5	144.0000-139.0000	5.0000	0.00	12	18.0000	18.9435	0.2500	1.0000	A36 (36 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
L6	139.0000-134.0000	5.0000	0.00	12	18.9435	19.8871	0.2500	1.0000	A36 (36 ksi)
L7	134.0000-129.0000	5.0000	0.00	12	19.8871	20.8306	0.2500	1.0000	A36 (36 ksi)
L8	129.0000-128.2500	0.7500	0.00	12	20.8306	20.9721	0.2500	1.0000	A36 (36 ksi)
L9	128.2500-128.0000	0.2500	0.00	12	20.9721	21.0193	0.5750	2.3000	A36 (36 ksi)
L10	128.0000-123.0000	5.0000	0.00	12	21.0193	21.9628	0.5625	2.2500	A36 (36 ksi)
L11	123.0000-118.0000	5.0000	0.00	12	21.9628	22.9064	0.5500	2.2000	A36 (36 ksi)
L12	118.0000-113.0000	5.0000	0.00	12	22.9064	23.8499	0.5250	2.1000	A36 (36 ksi)
L13	113.0000-108.0000	5.0000	0.00	12	23.8499	24.7934	0.5125	2.0500	A36 (36 ksi)
L14	108.0000-103.0000	5.0000	0.00	12	24.7934	25.7369	0.5000	2.0000	A36 (36 ksi)
L15	103.0000-98.0000	5.0000	0.00	12	25.7369	26.6805	0.4938	1.9750	A36 (36 ksi)
L16	98.0000-93.0000	5.0000	3.50	12	26.6805	27.6240	0.4875	1.9500	A36 (36 ksi)
L17	93.0000-92.0000	4.5000	0.00	12	26.4635	27.3130	0.7000	2.8000	A36 (36 ksi)
L18	92.0000-87.0000	5.0000	0.00	12	27.3130	28.2568	0.6750	2.7000	A36 (36 ksi)
L19	87.0000-82.0000	5.0000	0.00	12	28.2568	29.2006	0.6500	2.6000	A36 (36 ksi)
L20	82.0000-77.5000	4.5000	0.00	12	29.2006	30.0500	0.6375	2.5500	A36 (36 ksi)
L21	77.5000-72.5000	5.0000	0.00	12	30.0500	30.9935	0.6875	2.7500	A36 (36 ksi)
L22	72.5000-70.5800	1.9200	0.00	12	30.9935	31.3558	0.6875	2.7500	A36 (36 ksi)
L23	70.5800-70.3300	0.2500	0.00	12	31.3558	31.4030	0.6875	2.7500	A36 (36 ksi)
L24	70.3300-67.0800	3.2500	0.00	12	31.4030	32.0163	0.6750	2.7000	A36 (36 ksi)
L25	67.0800-66.8300	0.2500	0.00	12	32.0163	32.0634	0.9750	3.9000	A36 (36 ksi)
L26	66.8300-61.8300	5.0000	0.00	12	32.0634	33.0069	0.9500	3.8000	A36 (36 ksi)
L27	61.8300-57.5000	4.3300	4.25	12	33.0069	33.8240	0.9500	3.8000	A36 (36 ksi)
L28	57.5000-56.7500	5.0000	0.00	12	32.3970	33.3405	0.9375	3.7500	A36 (36 ksi)
L29	56.7500-51.7500	5.0000	0.00	12	33.3405	34.2840	0.9125	3.6500	A36 (36 ksi)
L30	51.7500-46.7500	5.0000	0.00	12	34.2840	35.2275	0.9000	3.6000	A36 (36 ksi)
L31	46.7500-41.7500	5.0000	0.00	12	35.2275	36.1710	0.8875	3.5500	A36 (36 ksi)
L32	41.7500-39.8000	1.9500	0.00	12	36.1710	36.5390	0.8750	3.5000	A36 (36 ksi)
L33	39.8000-39.3300	0.4700	0.00	12	36.5390	36.6277	0.9500	3.8000	A36 (36 ksi)
L34	39.3300-39.0800	0.2500	0.00	12	36.6277	36.6749	0.9375	3.7500	A36 (36 ksi)
L35	39.0800-38.3300	0.7500	0.00	12	36.6749	36.8164	0.9375	3.7500	A36 (36 ksi)
L36	38.3300-38.0800	0.2500	0.00	12	36.8164	36.8636	0.8875	3.5500	A36 (36 ksi)
L37	38.0800-33.0800	5.0000	0.00	12	36.8636	37.8073	0.8750	3.5000	A36 (36 ksi)
L38	33.0800-30.7500	2.3300	0.00	12	37.8073	38.2470	0.8625	3.4500	A36 (36 ksi)
L39	30.7500-30.5000	0.2500	0.00	12	38.2470	38.2942	0.9375	3.7500	A36 (36 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
L40	30.5000-25.5000	5.0000	0.00	12	38.2942	39.2379	0.9250	3.7000	A36 (36 ksi)
L41	25.5000-20.5000	5.0000	0.00	12	39.2379	40.1816	0.9000	3.6000	A36 (36 ksi)
L42	20.5000-15.5000	5.0000	0.00	12	40.1816	41.1252	0.8875	3.5500	A36 (36 ksi)
L43	15.5000-9.8000	5.7000	5.25	12	41.1252	42.2010	0.8875	3.5500	A36 (36 ksi)
L44	9.8000-8.8000	6.2500	0.00	12	40.4601	41.6395	0.8750	3.5000	A36 (36 ksi)
L45	8.8000-8.2500	0.5500	0.00	12	41.6395	41.7433	0.8750	3.5000	A36 (36 ksi)
L46	8.2500-8.0000	0.2500	0.00	12	41.7433	41.7904	0.8750	3.5000	A36 (36 ksi)
L47	8.0000-4.2500	3.7500	0.00	12	41.7904	42.4980	0.8750	3.5000	A36 (36 ksi)
L48	4.2500-4.0000	0.2500	0.00	12	42.4980	42.5452	1.0500	4.2000	A36 (36 ksi)
L49	4.0000-3.0000	1.0000	0.00	12	42.5452	42.7339	1.0500	4.2000	A36 (36 ksi)
L50	3.0000-2.7500	0.2500	0.00	12	42.7339	42.7811	1.1500	4.6000	A36 (36 ksi)
L51	2.7500-0.0000	2.7500		12	42.7811	43.3000	1.1250	4.5000	A36 (36 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	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
L2	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
L3	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
L4	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
	18.0000	20.2217	786.4392	6.2362	9.0000	87.3821	1572.8784	10.1048	0.0000	0
L5	18.5468	14.2888	574.6149	6.3545	9.3240	61.6275	1164.3256	7.0325	4.1540	16.616
	19.5236	15.0483	671.2058	6.6923	9.8127	68.4014	1360.0450	7.4063	4.4069	17.627
L6	19.5236	15.0483	671.2058	6.6923	9.8127	68.4014	1360.0450	7.4063	4.4069	17.627
	20.5004	15.8078	778.0566	7.0301	10.3015	75.5285	1576.5535	7.7801	4.6597	18.639
L7	20.5004	15.8078	778.0566	7.0301	10.3015	75.5285	1576.5535	7.7801	4.6597	18.639
	21.4772	16.5674	895.6847	7.3679	10.7902	83.0088	1814.9001	8.1540	4.9126	19.65
L8	21.4772	16.5674	895.6847	7.3679	10.7902	83.0088	1814.9001	8.1540	4.9126	19.65
	21.6237	16.6813	914.2906	7.4185	10.8636	84.1613	1852.6006	8.2100	4.9505	19.802
L9	21.5091	37.7653	2005.4696	7.3022	10.8636	184.6052	4063.6252	18.5869	4.0795	7.095
	21.5579	37.8526	2019.4171	7.3191	10.8880	185.4719	4091.8864	18.6299	4.0922	7.117
L10	21.5623	37.0524	1979.1425	7.3235	10.8880	181.7729	4010.2793	18.2360	4.1257	7.335
	22.5392	38.7613	2265.8199	7.6613	11.3767	199.1624	4591.1655	19.0772	4.3785	7.784
L11	22.5436	37.9221	2219.3528	7.6658	11.3767	195.0781	4497.0106	18.6641	4.4120	8.022
	23.5204	39.5931	2525.8490	8.0036	11.8655	212.8735	5118.0549	19.4865	4.6649	8.482
L12	23.5292	37.8357	2419.1352	8.0125	11.8655	203.8799	4901.8237	18.6216	4.7319	9.013
	24.5060	39.4307	2738.1642	8.3503	12.3542	221.6376	5548.2631	19.4066	4.9848	9.495
L13	24.5104	38.5125	2677.2695	8.3548	12.3542	216.7086	5424.8739	18.9547	5.0183	9.792
	25.4872	40.0696	3015.3010	8.6926	12.8430	234.7819	6109.8174	19.7210	5.2711	10.285
L14	25.4916	39.1124	2946.3028	8.6970	12.8430	229.4095	5970.0082	19.2499	5.3046	10.609
	26.4685	40.6315	3303.1018	9.0348	13.3317	247.7623	6692.9798	19.9976	5.5575	11.115
L15	26.4707	40.1335	3264.2371	9.0371	13.3317	244.8471	6614.2293	19.7525	5.5743	11.29
	27.4475	41.6336	3644.1168	9.3748	13.8205	263.6751	7383.9687	20.4908	5.8271	11.802
L16	27.4497	41.1164	3600.5656	9.3771	13.8205	260.5238	7295.7221	20.2362	5.8439	11.987
	28.4265	42.5975	4003.8513	9.7149	14.3092	279.8090	8112.8882	20.9652	6.0967	12.506
L17	27.8341	58.0710	4919.8959	9.2233	13.7081	358.9041	9969.0430	28.5808	5.2162	7.452
	28.0295	59.9856	5422.7459	9.5274	14.1481	383.2841	10987.9535	29.5231	5.4439	7.777
L18	28.0383	57.8976	5243.8268	9.5364	14.1481	370.6379	10625.4147	28.4954	5.5109	8.164

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
	29.0154	59.9490	5821.1898	9.8743	14.6370	397.7036	11795.3086	29.5051	5.7638	8.539
L19	29.0243	57.7810	5620.8466	9.8832	14.6370	384.0162	11389.3591	28.4380	5.8308	8.97
	30.0014	59.7563	6217.2691	10.2211	15.1259	411.0347	12597.8728	29.4103	6.0838	9.36
L20	30.0058	58.6328	6105.7188	10.2256	15.1259	403.6600	12371.8417	28.8573	6.1173	9.596
	30.8852	60.3765	6666.8062	10.5297	15.5659	428.2956	13508.7569	29.7155	6.3449	9.953
L21	30.8675	65.0012	7153.0888	10.5118	15.5659	459.5358	14494.0971	31.9916	6.2109	9.034
	31.8443	67.0899	7865.0300	10.8495	16.0546	489.8916	15936.6830	33.0196	6.4638	9.402
L22	31.8443	67.0899	7865.0300	10.8495	16.0546	489.8916	15936.6830	33.0196	6.4638	9.402
	32.2194	67.8920	8150.4916	10.9793	16.2423	501.8063	16515.1056	33.4144	6.5609	9.543
L23	32.2194	67.8920	8150.4916	10.9793	16.2423	501.8063	16515.1056	33.4144	6.5609	9.543
	32.2682	67.9964	8188.1615	10.9961	16.2667	503.3682	16591.4352	33.4658	6.5735	9.561
L24	32.2726	66.7873	8049.1049	11.0006	16.2667	494.8197	16309.6687	32.8707	6.6070	9.788
	32.9076	68.1202	8540.7243	11.2202	16.5844	514.9848	17305.8229	33.5267	6.7714	10.032
L25	32.8017	97.4540	11985.7223	11.1128	16.5844	722.7098	24286.3228	47.9639	5.9674	6.12
	32.8506	97.6021	12040.4513	11.1297	16.6089	724.9416	24397.2187	48.0368	5.9800	6.133
L26	32.8594	95.1760	11760.0470	11.1386	16.6089	708.0588	23829.0436	46.8427	6.0470	6.365
	33.8362	98.0621	12862.6713	11.4764	17.0976	752.3091	26063.2594	48.2632	6.2999	6.631
L27	33.8362	98.0621	12862.6713	11.4764	17.0976	752.3091	26063.2594	48.2632	6.2999	6.631
	34.6821	100.5616	13871.4889	11.7689	17.5208	791.7141	28107.3973	49.4933	6.5188	6.862
L28	34.0394	94.9684	11996.9150	11.2625	16.7817	714.8825	24309.0023	46.7406	6.1699	6.581
	34.1859	97.8166	13109.0085	11.6003	17.2704	759.0452	26562.4053	48.1424	6.4228	6.851
L29	34.1948	95.2817	12788.9907	11.6092	17.2704	740.5153	25913.9625	46.8947	6.4898	7.112
	35.1715	98.0539	13938.0831	11.9470	17.7591	784.8405	28242.3352	48.2591	6.7426	7.389
L30	35.1760	96.7469	13762.6041	11.9515	17.7591	774.9595	27886.7672	47.6159	6.7761	7.529
	36.1527	99.4812	14962.7725	12.2893	18.2479	819.9740	30318.6337	48.9616	7.0290	7.81
L31	36.1571	98.1352	14771.0807	12.2937	18.2479	809.4691	29930.2141	48.2992	7.0625	7.958
	37.1339	100.8315	16022.3574	12.6315	18.7366	855.1371	32465.6401	49.6262	7.3153	8.243
L32	37.1383	99.4466	15813.4854	12.6360	18.7366	843.9893	32042.4087	48.9446	7.3488	8.399
	37.5193	100.4833	16313.2326	12.7677	18.9272	861.8935	33055.0320	49.4548	7.4475	8.511
L33	37.4928	108.8668	17600.0046	12.7409	18.9272	929.8788	35662.3810	53.5809	7.2465	7.628
	37.5847	109.1381	17731.9361	12.7726	18.9732	934.5804	35929.7099	53.7145	7.2702	7.653
L34	37.5891	107.7398	17517.0200	12.7771	18.9732	923.2531	35494.2316	53.0263	7.3037	7.791
	37.6379	107.8822	17586.5852	12.7940	18.9976	925.7271	35635.1896	53.0964	7.3164	7.804
L35	37.6379	107.8822	17586.5852	12.7940	18.9976	925.7271	35635.1896	53.0964	7.3164	7.804
	37.7845	108.3095	17796.3868	12.8447	19.0709	933.1690	36060.3046	53.3067	7.3543	7.845

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
L36	37.8021	102.6759	16917.7781	12.8626	19.0709	887.0984	34280.0051	50.5340	7.4883	8.438
	37.8510	102.8108	16984.5165	12.8795	19.0954	889.4580	34415.2352	50.6003	7.5010	8.452
L37	37.8554	101.3979	16762.7587	12.8839	19.0954	877.8448	33965.8937	49.9050	7.5345	8.611
	38.8323	104.0567	18116.2588	13.2218	19.5842	925.0458	36708.4518	51.2136	7.7874	8.9
L38	38.8367	102.6049	17875.5932	13.2262	19.5842	912.7570	36220.7981	50.4990	7.8209	9.068
	39.2920	103.8262	18521.5336	13.3837	19.8120	934.8661	37529.6486	51.1001	7.9387	9.204
L39	39.2655	112.6282	20011.1790	13.3568	19.8120	1010.0552	40548.0740	55.4322	7.7377	8.254
	39.3144	112.7706	20087.1957	13.3737	19.8364	1012.6429	40702.1043	55.5023	7.7504	8.267
L40	39.3188	111.3042	19839.2684	13.3782	19.8364	1000.1443	40199.7365	54.7806	7.7839	8.415
	40.2957	114.1149	21380.5164	13.7160	20.3252	1051.9203	43322.7228	56.1639	8.0368	8.688
L41	40.3046	111.1032	20843.4138	13.7250	20.3252	1025.4948	42234.4073	54.6816	8.1038	9.004
	41.2815	113.8379	22420.7574	14.0628	20.8140	1077.1937	45430.5330	56.0276	8.3567	9.285
L42	41.2859	112.2926	22130.4713	14.0673	20.8140	1063.2470	44842.3348	55.2670	8.3902	9.454
	42.2629	114.9893	23763.4929	14.4051	21.3029	1115.5070	48151.2792	56.5943	8.6431	9.739
L43	42.2629	114.9893	23763.4929	14.4051	21.3029	1115.5070	48151.2792	56.5943	8.6431	9.739
	43.3766	118.0637	25720.8994	14.7902	21.8601	1176.6130	52117.5155	58.1073	8.9314	10.064
L44	42.6044	111.5312	22307.2873	14.1715	20.9584	1064.3624	45200.6118	54.8922	8.4983	9.712
	42.7997	114.8540	24361.0450	14.5937	21.5693	1129.4337	49362.0819	56.5276	8.8144	10.074
L45	42.7997	114.8540	24361.0450	14.5937	21.5693	1129.4337	49362.0819	56.5276	8.8144	10.074
	42.9071	115.1464	24547.5809	14.6308	21.6230	1135.2525	49740.0541	56.6715	8.8422	10.105
L46	42.9071	115.1464	24547.5809	14.6308	21.6230	1135.2525	49740.0541	56.6715	8.8422	10.105
	42.9560	115.2793	24632.6827	14.6477	21.6475	1137.9023	49912.4933	56.7369	8.8548	10.12
L47	42.9560	115.2793	24632.6827	14.6477	21.6475	1137.9023	49912.4933	56.7369	8.8548	10.12
	43.6886	117.2729	25932.9275	14.9011	22.0140	1178.0204	52547.1419	57.7182	9.0445	10.337
L48	43.6268	140.1359	30728.6442	14.8384	22.0140	1395.8689	62264.5641	68.9706	8.5755	8.167
	43.6757	140.2953	30833.6849	14.8553	22.0384	1399.0875	62477.4050	69.0491	8.5881	8.179
L49	43.6757	140.2953	30833.6849	14.8553	22.0384	1399.0875	62477.4050	69.0491	8.5881	8.179
	43.8710	140.9333	31256.2368	14.9228	22.1362	1411.9985	63333.6097	69.3631	8.6387	8.227
L50	43.8357	153.9852	33987.2361	14.8870	22.1362	1535.3712	68867.3547	75.7869	8.3707	7.279
	43.8846	154.1599	34103.0357	14.9039	22.1606	1538.9036	69101.9960	75.8728	8.3833	7.29
L51	43.8934	150.8992	33421.8037	14.9129	22.1606	1508.1630	67721.6355	74.2680	8.4503	7.511
	44.4306	152.7789	34686.4312	15.0986	22.4294	1546.4716	70284.1135	75.1931	8.5894	7.635

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 156.0000-151.0000				1	1	1			
L2 151.0000-146.0000				1	1	1			
L3 146.0000-144.5000				1	1	1			
L4 144.5000-144.0000				1	1	1			
L5 144.0000-139.0000				1	1	1			
L6 139.0000-134.0000				1	1	1			
L7 134.0000-129.0000				1	1	1			
L8 129.0000-128.2500				1	1	1			
L9 128.2500-128.0000				1	1	0.917905			
L10 128.0000-123.0000				1	1	0.915981			
L11 123.0000-118.0000				1	1	0.915921			
L12 118.0000-113.0000				1	1	0.938956			
L13 113.0000-108.0000				1	1	0.942941			
L14 108.0000-103.0000				1	1	0.948594			
L15 103.0000-98.0000				1	1	0.944005			
L16 98.0000-93.0000				1	1	0.951143			
L17 93.0000-92.0000				1	1	0.895321			
L18 92.0000-87.0000				1	1	0.908542			
L19 87.0000-82.0000				1	1	0.924185			
L20 82.0000-77.5000				1	1	0.926017			
L21 77.5000-72.5000				1	1	0.93596			
L22 72.5000-70.5800				1	1	0.930273			
L23 70.5800-70.3300				1	1	0.929542			
L24 70.3300-67.0800				1	1	0.936911			
L25 67.0800-66.8300				1	1	0.904489			
L26 66.8300-61.8300				1	1	0.909927			
L27 61.8300-57.5000				1	1	0.909654			
L28 57.5000-56.7500				1	1	0.915643			
L29 56.7500-51.7500				1	1	0.92311			
L30 51.7500-46.7500				1	1	0.919409			

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
L31 46.7500-41.7500				1	1	0.916512			
L32 41.7500-39.8000				1	1	0.923373			
L33 39.8000-39.3300				1	1	0.91724			
L34 39.3300-39.0800				1	1	0.928445			
L35 39.0800-38.3300				1	1	0.92636			
L36 38.3300-38.0800				1	1	0.952109			
L37 38.0800-33.0800				1	1	0.951659			
L38 33.0800-30.7500				1	1	0.958886			
L39 30.7500-30.5000				1	1	0.94994			
L40 30.5000-25.5000				1	1	0.948734			
L41 25.5000-20.5000				1	1	0.961052			
L42 20.5000-15.5000				1	1	0.961339			
L43 15.5000-9.8000				1	1	0.960204			
L44 9.8000-8.8000				1	1	0.967879			
L45 8.8000-8.2500				1	1	0.966509			
L46 8.2500-8.0000				1	1	1.03647			
L47 8.0000-4.2500				1	1	1.02614			
L48 4.2500-4.0000				1	1	0.938457			
L49 4.0000-3.0000				1	1	0.935825			
L50 3.0000-2.7500				1	1	0.904623			
L51 2.7500-0.0000				1	1	0.916902			

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
****									
HB114-13U3M12-XXXF(1-1/4)	B	No	No	Inside Pole	150.0000 - 0.0000	4	No Ice 1/2" Ice 1" Ice 2" Ice	0.0000 0.0000 0.0000 0.0000	0.99 0.99 0.99 0.99
****									
HB114-U6S12-XXX-LI(1-1/4)	B	No	No	Inside Pole	143.0000 - 0.0000	4	No Ice 1/2" Ice 1" Ice 2" Ice	0.0000 0.0000 0.0000 0.0000	1.70 1.70 1.70 1.70
******									
****									
1 1/4" Flat Reinforcement	B	No	No	CaAa (Out Of Face)	100.6600 - 0.0000	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.2083 0.3194 0.4306 0.6528	0.00 0.00 0.00 0.00

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1" Flat Reinforcement	B	No	No	CaAa (Out Of Face)	130.7500 - 100.6600	1	No Ice	0.1667	0.00
							1/2" Ice	0.2778	0.00
							1" Ice	0.3889	0.00
							2" Ice	0.6111	0.00
1 1/4" Flat Reinforcement	B	No	No	CaAa (Out Of Face)	65.5833 - 0.0000	1	No Ice	0.2083	0.00
							1/2" Ice	0.3194	0.00
							1" Ice	0.4306	0.00
							2" Ice	0.6528	0.00

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	156.0000-151.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L2	151.0000-146.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
L3	146.0000-144.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
L4	144.5000-144.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L5	144.0000-139.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
L6	139.0000-134.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
L7	134.0000-129.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.292	0.05
		C	0.000	0.000	0.000	0.000	0.00
L8	129.0000-128.2500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.125	0.01
		C	0.000	0.000	0.000	0.000	0.00
L9	128.2500-128.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.042	0.00
		C	0.000	0.000	0.000	0.000	0.00
L10	128.0000-123.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.833	0.05
		C	0.000	0.000	0.000	0.000	0.00
L11	123.0000-118.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.833	0.05
		C	0.000	0.000	0.000	0.000	0.00
L12	118.0000-113.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.833	0.05
		C	0.000	0.000	0.000	0.000	0.00
L13	113.0000-108.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.833	0.05
		C	0.000	0.000	0.000	0.000	0.00
L14	108.0000-103.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.833	0.05
		C	0.000	0.000	0.000	0.000	0.00
L15	103.0000-98.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.944	0.05
		C	0.000	0.000	0.000	0.000	0.00
L16	98.0000-93.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.042	0.05
		C	0.000	0.000	0.000	0.000	0.00
L17	93.0000-92.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.208	0.01
		C	0.000	0.000	0.000	0.000	0.00
L18	92.0000-87.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.042	0.05

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	0.00
L19	87.0000-82.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.042	0.05
		C	0.000	0.000	0.000	0.000	0.00
L20	82.0000-77.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.937	0.05
		C	0.000	0.000	0.000	0.000	0.00
L21	77.5000-72.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.042	0.05
		C	0.000	0.000	0.000	0.000	0.00
L22	72.5000-70.5800	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.400	0.02
		C	0.000	0.000	0.000	0.000	0.00
L23	70.5800-70.3300	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.052	0.00
		C	0.000	0.000	0.000	0.000	0.00
L24	70.3300-67.0800	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.677	0.03
		C	0.000	0.000	0.000	0.000	0.00
L25	67.0800-66.8300	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.052	0.00
		C	0.000	0.000	0.000	0.000	0.00
L26	66.8300-61.8300	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.824	0.05
		C	0.000	0.000	0.000	0.000	0.00
L27	61.8300-57.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.804	0.05
		C	0.000	0.000	0.000	0.000	0.00
L28	57.5000-56.7500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.312	0.01
		C	0.000	0.000	0.000	0.000	0.00
L29	56.7500-51.7500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	2.083	0.05
		C	0.000	0.000	0.000	0.000	0.00
L30	51.7500-46.7500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	2.083	0.05
		C	0.000	0.000	0.000	0.000	0.00
L31	46.7500-41.7500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	2.083	0.05
		C	0.000	0.000	0.000	0.000	0.00
L32	41.7500-39.8000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.812	0.02
		C	0.000	0.000	0.000	0.000	0.00
L33	39.8000-39.3300	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.196	0.01
		C	0.000	0.000	0.000	0.000	0.00
L34	39.3300-39.0800	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.104	0.00
		C	0.000	0.000	0.000	0.000	0.00
L35	39.0800-38.3300	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.312	0.01
		C	0.000	0.000	0.000	0.000	0.00
L36	38.3300-38.0800	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.104	0.00
		C	0.000	0.000	0.000	0.000	0.00
L37	38.0800-33.0800	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	2.083	0.05
		C	0.000	0.000	0.000	0.000	0.00
L38	33.0800-30.7500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.971	0.03
		C	0.000	0.000	0.000	0.000	0.00
L39	30.7500-30.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.104	0.00
		C	0.000	0.000	0.000	0.000	0.00
L40	30.5000-25.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	2.083	0.05
		C	0.000	0.000	0.000	0.000	0.00
L41	25.5000-20.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	2.083	0.05

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	0.00
L42	20.5000-15.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	2.083	0.05
		C	0.000	0.000	0.000	0.000	0.00
L43	15.5000-9.8000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	2.375	0.06
		C	0.000	0.000	0.000	0.000	0.00
L44	9.8000-8.8000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.417	0.01
		C	0.000	0.000	0.000	0.000	0.00
L45	8.8000-8.2500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.229	0.01
		C	0.000	0.000	0.000	0.000	0.00
L46	8.2500-8.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.104	0.00
		C	0.000	0.000	0.000	0.000	0.00
L47	8.0000-4.2500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.562	0.04
		C	0.000	0.000	0.000	0.000	0.00
L48	4.2500-4.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.104	0.00
		C	0.000	0.000	0.000	0.000	0.00
L49	4.0000-3.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.417	0.01
		C	0.000	0.000	0.000	0.000	0.00
L50	3.0000-2.7500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.104	0.00
		C	0.000	0.000	0.000	0.000	0.00
L51	2.7500-0.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.146	0.03
		C	0.000	0.000	0.000	0.000	0.00

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	156.0000-	A	1.487	0.000	0.000	0.000	0.000	0.00
	151.0000	B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L2	151.0000-	A	1.482	0.000	0.000	0.000	0.000	0.00
	146.0000	B		0.000	0.000	0.000	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.00
L3	146.0000-	A	1.479	0.000	0.000	0.000	0.000	0.00
	144.5000	B		0.000	0.000	0.000	0.000	0.01
		C		0.000	0.000	0.000	0.000	0.00
L4	144.5000-	A	1.478	0.000	0.000	0.000	0.000	0.00
	144.0000	B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L5	144.0000-	A	1.475	0.000	0.000	0.000	0.000	0.00
	139.0000	B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.00
L6	139.0000-	A	1.469	0.000	0.000	0.000	0.000	0.00
	134.0000	B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.00
L7	134.0000-	A	1.464	0.000	0.000	0.000	0.000	0.00
	129.0000	B		0.000	0.000	0.000	0.861	0.05
		C		0.000	0.000	0.000	0.000	0.00
L8	129.0000-	A	1.461	0.000	0.000	0.000	0.000	0.00
	128.2500	B		0.000	0.000	0.000	0.368	0.01
		C		0.000	0.000	0.000	0.000	0.00
L9	128.2500-	A	1.460	0.000	0.000	0.000	0.000	0.00
	128.0000	B		0.000	0.000	0.000	0.123	0.00
		C		0.000	0.000	0.000	0.000	0.00
L10	128.0000-	A	1.457	0.000	0.000	0.000	0.000	0.00
	123.0000	B		0.000	0.000	0.000	2.452	0.05
		C		0.000	0.000	0.000	0.000	0.00

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
L11	123.0000-118.0000	A	1.451	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.446	0.05
		C		0.000	0.000	0.000	0.000	0.00
L12	118.0000-113.0000	A	1.445	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.439	0.05
		C		0.000	0.000	0.000	0.000	0.00
L13	113.0000-108.0000	A	1.439	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.432	0.05
		C		0.000	0.000	0.000	0.000	0.00
L14	108.0000-103.0000	A	1.432	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.425	0.05
		C		0.000	0.000	0.000	0.000	0.00
L15	103.0000-98.0000	A	1.425	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.528	0.05
		C		0.000	0.000	0.000	0.000	0.00
L16	98.0000-93.0000	A	1.418	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.617	0.05
		C		0.000	0.000	0.000	0.000	0.00
L17	93.0000-92.0000	A	1.413	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.523	0.01
		C		0.000	0.000	0.000	0.000	0.00
L18	92.0000-87.0000	A	1.409	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.607	0.05
		C		0.000	0.000	0.000	0.000	0.00
L19	87.0000-82.0000	A	1.401	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.598	0.05
		C		0.000	0.000	0.000	0.000	0.00
L20	82.0000-77.5000	A	1.393	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.330	0.05
		C		0.000	0.000	0.000	0.000	0.00
L21	77.5000-72.5000	A	1.384	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.580	0.05
		C		0.000	0.000	0.000	0.000	0.00
L22	72.5000-70.5800	A	1.378	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.988	0.02
		C		0.000	0.000	0.000	0.000	0.00
L23	70.5800-70.3300	A	1.375	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.128	0.00
		C		0.000	0.000	0.000	0.000	0.00
L24	70.3300-67.0800	A	1.372	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	1.668	0.03
		C		0.000	0.000	0.000	0.000	0.00
L25	67.0800-66.8300	A	1.368	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.128	0.00
		C		0.000	0.000	0.000	0.000	0.00
L26	66.8300-61.8300	A	1.363	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	4.475	0.05
		C		0.000	0.000	0.000	0.000	0.00
L27	61.8300-57.5000	A	1.353	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	4.408	0.05
		C		0.000	0.000	0.000	0.000	0.00
L28	57.5000-56.7500	A	1.347	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.763	0.01
		C		0.000	0.000	0.000	0.000	0.00
L29	56.7500-51.7500	A	1.340	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	5.061	0.05
		C		0.000	0.000	0.000	0.000	0.00
L30	51.7500-46.7500	A	1.327	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	5.032	0.05
		C		0.000	0.000	0.000	0.000	0.00
L31	46.7500-41.7500	A	1.313	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	5.001	0.05
		C		0.000	0.000	0.000	0.000	0.00
L32	41.7500-39.8000	A	1.302	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	1.941	0.02
		C		0.000	0.000	0.000	0.000	0.00
L33	39.8000-39.3300	A	1.298	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.467	0.01
		C		0.000	0.000	0.000	0.000	0.00

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
L34	39.3300-39.0800	A	1.297	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.248	0.00
		C		0.000	0.000	0.000	0.000	0.00
L35	39.0800-38.3300	A	1.295	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.744	0.01
		C		0.000	0.000	0.000	0.000	0.00
L36	38.3300-38.0800	A	1.294	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.248	0.00
		C		0.000	0.000	0.000	0.000	0.00
L37	38.0800-33.0800	A	1.285	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	4.938	0.05
		C		0.000	0.000	0.000	0.000	0.00
L38	33.0800-30.7500	A	1.271	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.287	0.03
		C		0.000	0.000	0.000	0.000	0.00
L39	30.7500-30.5000	A	1.266	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.245	0.00
		C		0.000	0.000	0.000	0.000	0.00
L40	30.5000-25.5000	A	1.254	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	4.870	0.05
		C		0.000	0.000	0.000	0.000	0.00
L41	25.5000-20.5000	A	1.230	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	4.816	0.05
		C		0.000	0.000	0.000	0.000	0.00
L42	20.5000-15.5000	A	1.200	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	4.750	0.05
		C		0.000	0.000	0.000	0.000	0.00
L43	15.5000-9.8000	A	1.158	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	5.309	0.06
		C		0.000	0.000	0.000	0.000	0.00
L44	9.8000-8.8000	A	1.123	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.931	0.01
		C		0.000	0.000	0.000	0.000	0.00
L45	8.8000-8.2500	A	1.114	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.501	0.01
		C		0.000	0.000	0.000	0.000	0.00
L46	8.2500-8.0000	A	1.108	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.227	0.00
		C		0.000	0.000	0.000	0.000	0.00
L47	8.0000-4.2500	A	1.077	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	3.358	0.04
		C		0.000	0.000	0.000	0.000	0.00
L48	4.2500-4.0000	A	1.036	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.219	0.00
		C		0.000	0.000	0.000	0.000	0.00
L49	4.0000-3.0000	A	1.019	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.869	0.01
		C		0.000	0.000	0.000	0.000	0.00
L50	3.0000-2.7500	A	0.999	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.215	0.00
		C		0.000	0.000	0.000	0.000	0.00
L51	2.7500-0.0000	A	0.928	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.280	0.03
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	156.0000-151.0000	0.0000	0.0000	0.0000	0.0000
L2	151.0000-146.0000	0.0000	0.0000	0.0000	0.0000
L3	146.0000-144.5000	0.0000	0.0000	0.0000	0.0000
L4	144.5000-144.0000	0.0000	0.0000	0.0000	0.0000

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L5	144.0000-139.0000	0.0000	0.0000	0.0000	0.0000
L6	139.0000-134.0000	0.0000	0.0000	0.0000	0.0000
L7	134.0000-129.0000	0.3035	0.1752	0.6010	0.3470
L8	129.0000-128.2500	0.8055	0.4650	1.5132	0.8736
L9	128.2500-128.0000	0.8097	0.4675	1.5206	0.8779
L10	128.0000-123.0000	0.8110	0.4683	1.5281	0.8822
L11	123.0000-118.0000	0.8136	0.4697	1.5416	0.8900
L12	118.0000-113.0000	0.8158	0.4710	1.5535	0.8969
L13	113.0000-108.0000	0.8180	0.4723	1.5646	0.9033
L14	108.0000-103.0000	0.8201	0.4735	1.5745	0.9090
L15	103.0000-98.0000	0.9234	0.5331	1.6462	0.9504
L16	98.0000-93.0000	1.0121	0.5843	1.7091	0.9867
L17	93.0000-92.0000	1.0148	0.5859	1.7136	0.9893
L18	92.0000-87.0000	1.0161	0.5867	1.7159	0.9907
L19	87.0000-82.0000	1.0184	0.5880	1.7232	0.9949
L20	82.0000-77.5000	1.0206	0.5892	1.7294	0.9985
L21	77.5000-72.5000	1.0233	0.5908	1.7357	1.0021
L22	72.5000-70.5800	1.0248	0.5917	1.7392	1.0041
L23	70.5800-70.3300	1.0253	0.5919	1.7401	1.0047
L24	70.3300-67.0800	1.0259	0.5923	1.7414	1.0054
L25	67.0800-66.8300	1.0297	0.5945	1.7473	1.0088
L26	66.8300-61.8300	1.7127	0.9888	2.8048	1.6193
L27	61.8300-57.5000	1.9269	1.1125	3.1241	1.8037
L28	57.5000-56.7500	1.9256	1.1117	3.1202	1.8015
L29	56.7500-51.7500	1.9290	1.1137	3.1209	1.8019
L30	51.7500-46.7500	1.9353	1.1174	3.1307	1.8075
L31	46.7500-41.7500	1.9413	1.1208	3.1378	1.8116
L32	41.7500-39.8000	1.9453	1.1231	3.1412	1.8136
L33	39.8000-39.3300	1.9479	1.1246	3.1437	1.8150
L34	39.3300-39.0800	1.9481	1.1247	3.1437	1.8150
L35	39.0800-38.3300	1.9487	1.1251	3.1440	1.8152
L36	38.3300-38.0800	1.9485	1.1249	3.1431	1.8147
L37	38.0800-33.0800	1.9512	1.1265	3.1437	1.8150
L38	33.0800-30.7500	1.9551	1.1288	3.1429	1.8145
L39	30.7500-30.5000	1.9576	1.1302	3.1438	1.8151
L40	30.5000-25.5000	1.9602	1.1317	3.1410	1.8135
L41	25.5000-20.5000	1.9650	1.1345	3.1318	1.8081
L42	20.5000-15.5000	1.9697	1.1372	3.1156	1.7988
L43	15.5000-9.8000	1.9747	1.1401	3.0862	1.7818
L44	9.8000-8.8000	1.9740	1.1397	3.0841	1.7806
L45	8.8000-8.2500	1.9747	1.1401	3.0366	1.7532
L46	8.2500-8.0000	1.9750	1.1403	3.0317	1.7503
L47	8.0000-4.2500	1.9769	1.1413	3.0022	1.7333
L48	4.2500-4.0000	1.9812	1.1438	2.9631	1.7108
L49	4.0000-3.0000	1.9817	1.1441	2.9452	1.7004
L50	3.0000-2.7500	1.9837	1.1453	2.9256	1.6891
L51	2.7500-0.0000	1.9846	1.1458	2.8449	1.6425

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

Discrete Tower Loads

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
NNVV-65B-R4	A	From Leg	4.0000		0.00	150.0000	No Ice	12.2711	5.7500	0.08
			0.00				1/2" Ice	12.7660	6.2069	0.15
			0.00				1" Ice	13.2679	6.6713	0.23
							2" Ice	14.2927	7.6222	0.41
NNVV-65B-R4	B	From Leg	4.0000		0.00	150.0000	No Ice	12.2711	5.7500	0.08
			0.00				1/2" Ice	12.7660	6.2069	0.15
			0.00				1" Ice	13.2679	6.6713	0.23
							2" Ice	14.2927	7.6222	0.41
NNVV-65B-R4	C	From Leg	4.0000		0.00	150.0000	No Ice	12.2711	5.7500	0.08
			0.00				1/2" Ice	12.7660	6.2069	0.15
			0.00				1" Ice	13.2679	6.6713	0.23
							2" Ice	14.2927	7.6222	0.41
APXVTM14-ALU-I20	A	From Leg	4.0000		0.00	150.0000	No Ice	6.3424	3.6074	0.06
			0.00				1/2" Ice	6.7164	3.9666	0.10
			0.00				1" Ice	7.0974	4.3332	0.14
							2" Ice	7.8804	5.0713	0.25
APXVTM14-ALU-I20	B	From Leg	4.0000		0.00	150.0000	No Ice	6.3424	3.6074	0.06
			0.00				1/2" Ice	6.7164	3.9666	0.10
			0.00				1" Ice	7.0974	4.3332	0.14
							2" Ice	7.8804	5.0713	0.25
APXVTM14-ALU-I20	C	From Leg	4.0000		0.00	150.0000	No Ice	6.3424	3.6074	0.06
			0.00				1/2" Ice	6.7164	3.9666	0.10
			0.00				1" Ice	7.0974	4.3332	0.14
							2" Ice	7.8804	5.0713	0.25
TD-RRH8X20-25	A	From Leg	4.0000		0.00	150.0000	No Ice	4.0455	1.5345	0.07
			0.00				1/2" Ice	4.2975	1.7142	0.10
			0.00				1" Ice	4.5570	1.9008	0.13
							2" Ice	5.0981	2.2951	0.20
TD-RRH8X20-25	A	From Leg	4.0000		0.00	150.0000	No Ice	4.0455	1.5345	0.07
			0.00				1/2" Ice	4.2975	1.7142	0.10
			0.00				1" Ice	4.5570	1.9008	0.13
							2" Ice	5.0981	2.2951	0.20
TD-RRH8X20-25	B	From Leg	4.0000		0.00	150.0000	No Ice	4.0455	1.5345	0.07
			0.00				1/2" Ice	4.2975	1.7142	0.10
			0.00				1" Ice	4.5570	1.9008	0.13
							2" Ice	5.0981	2.2951	0.20
PCS 1900MHZ 4X45W-65MHZ	A	From Leg	4.0000		0.00	150.0000	No Ice	2.3218	2.2381	0.06
			0.00				1/2" Ice	2.5266	2.4407	0.08
			0.00				1" Ice	2.7388	2.6507	0.11
							2" Ice	3.1855	3.0929	0.17
PCS 1900MHZ 4X45W-65MHZ	A	From Leg	4.0000		0.00	150.0000	No Ice	2.3218	2.2381	0.06
			0.00				1/2" Ice	2.5266	2.4407	0.08
			0.00				1" Ice	2.7388	2.6507	0.11
							2" Ice	3.1855	3.0929	0.17
PCS 1900MHZ 4X45W-65MHZ	B	From Leg	4.0000		0.00	150.0000	No Ice	2.3218	2.2381	0.06
			0.00				1/2" Ice	2.5266	2.4407	0.08
			0.00				1" Ice	2.7388	2.6507	0.11
							2" Ice	3.1855	3.0929	0.17
(2) RRH2X50-800	A	From Leg	4.0000		0.00	150.0000	No Ice	1.7008	1.2822	0.05
			0.00					1.8640	1.4275	0.07

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
			0.00			1/2" Ice	2.0345	1.5803	0.09
						1" Ice	2.3979	1.9081	0.14
						2" Ice			
(2) RRH2X50-800	A	From Leg	4.0000	0.00	150.0000	No Ice	1.7008	1.2822	0.05
			0.00			1/2" Ice	1.8640	1.4275	0.07
			0.00			1" Ice	2.0345	1.5803	0.09
						2" Ice	2.3979	1.9081	0.14
(2) RRH2X50-800	B	From Leg	4.0000	0.00	150.0000	No Ice	1.7008	1.2822	0.05
			0.00			1/2" Ice	1.8640	1.4275	0.07
			0.00			1" Ice	2.0345	1.5803	0.09
						2" Ice	2.3979	1.9081	0.14
Side Arm Mount [SO 104-3]	A	None		0.00	150.0000	No Ice	3.3000	3.3000	0.29
						1/2" Ice	4.1300	4.1300	0.32
						1" Ice	4.9600	4.9600	0.35
						2" Ice	6.6200	6.6200	0.41
(2) 2 3/8" OD x 6 ft mount pipe	A	None		0.00	150.0000	No Ice	1.4250	1.4250	0.00
						1/2" Ice	1.9250	1.9250	0.01
						1" Ice	2.2939	2.2939	0.03
						2" Ice	3.0596	3.0596	0.07
(2) 2 3/8" OD x 6 ft mount pipe	B	None		0.00	150.0000	No Ice	1.4250	1.4250	0.00
						1/2" Ice	1.9250	1.9250	0.01
						1" Ice	2.2939	2.2939	0.03
						2" Ice	3.0596	3.0596	0.07
(2) 2 3/8" OD x 6 ft mount pipe	C	None		0.00	150.0000	No Ice	1.4250	1.4250	0.00
						1/2" Ice	1.9250	1.9250	0.01
						1" Ice	2.2939	2.2939	0.03
						2" Ice	3.0596	3.0596	0.07
6' x 2" Horizontal Pipe	A	None		0.00	150.0000	No Ice	1.2000	0.0333	0.02
						1/2" Ice	1.6148	0.0593	0.03
						1" Ice	2.0370	0.0926	0.05
						2" Ice	2.9037	0.1815	0.10
6' x 2" Horizontal Pipe	B	None		0.00	150.0000	No Ice	1.2000	0.0333	0.02
						1/2" Ice	1.6148	0.0593	0.03
						1" Ice	2.0370	0.0926	0.05
						2" Ice	2.9037	0.1815	0.10
6' x 2" Horizontal Pipe	C	None		0.00	150.0000	No Ice	1.2000	0.0333	0.02
						1/2" Ice	1.6148	0.0593	0.03
						1" Ice	2.0370	0.0926	0.05
						2" Ice	2.9037	0.1815	0.10
***									
RRUS 11 B12	A	From Leg	4.0000	0.00	143.0000	No Ice	2.8333	1.1821	0.05
			0.00			1/2" Ice	3.0426	1.3299	0.07
			-3.00			1" Ice	3.2593	1.4848	0.10
						2" Ice	3.7148	1.8259	0.15
RRUS 11 B12	B	From Leg	4.0000	-45.00	143.0000	No Ice	2.8333	1.1821	0.05
			0.00			1/2" Ice	3.0426	1.3299	0.07
			-3.00			1" Ice	3.2593	1.4848	0.10
						2" Ice	3.7148	1.8259	0.15
RRUS 11 B12	B	From Leg	4.0000	60.00	143.0000	No Ice	2.8333	1.1821	0.05
			0.00			1/2" Ice	3.0426	1.3299	0.07
			-3.00			1" Ice	3.2593	1.4848	0.10
						2" Ice	3.7148	1.8259	0.15

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
RRUS 11 B12	C	From Leg	4.0000 0.00 -3.00	40.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.8333 3.0426 3.2593 3.7148	1.1821 1.3299 1.4848 1.8259	0.05 0.07 0.10 0.15
RRUS 11 B4	A	From Leg	4.0000 0.00 -3.00	0.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.8333 3.0426 3.2593 3.7148	1.1821 1.3299 1.4848 1.8259	0.05 0.07 0.10 0.15
RRUS 11 B4	B	From Leg	4.0000 0.00 -3.00	-45.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.8333 3.0426 3.2593 3.7148	1.1821 1.3299 1.4848 1.8259	0.05 0.07 0.10 0.15
RRUS 11 B4	B	From Leg	4.0000 0.00 -3.00	60.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.8333 3.0426 3.2593 3.7148	1.1821 1.3299 1.4848 1.8259	0.05 0.07 0.10 0.15
RRUS 11 B4	C	From Leg	4.0000 0.00 -3.00	40.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.8333 3.0426 3.2593 3.7148	1.1821 1.3299 1.4848 1.8259	0.05 0.07 0.10 0.15
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Leg	4.0000 0.00 -3.00	0.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.8239 7.2751 7.7192 8.6333	3.4938 4.2631 4.9598 6.4031	0.06 0.11 0.16 0.30
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	4.0000 0.00 -3.00	-45.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.8239 7.2751 7.7192 8.6333	3.4938 4.2631 4.9598 6.4031	0.06 0.11 0.16 0.30
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	4.0000 0.00 -3.00	60.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.8239 7.2751 7.7192 8.6333	3.4938 4.2631 4.9598 6.4031	0.06 0.11 0.16 0.30
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Leg	4.0000 0.00 -3.00	40.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.8239 7.2751 7.7192 8.6333	3.4938 4.2631 4.9598 6.4031	0.06 0.11 0.16 0.30
APXVAA24_43-U-A20 w/ Mount Pipe	A	From Leg	4.0000 0.00 -3.00	0.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	20.5042 21.2552 22.0151 23.4705	10.8819 12.4078 13.9578 16.3111	0.13 0.27 0.42 0.75
APXVAA24_43-U-A20 w/ Mount Pipe	B	From Leg	4.0000 0.00 -3.00	-45.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	20.5042 21.2552 22.0151 23.4705	10.8819 12.4078 13.9578 16.3111	0.13 0.27 0.42 0.75
APXVAA24_43-U-A20 w/ Mount Pipe	B	From Leg	4.0000 0.00 -3.00	60.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	20.5042 21.2552 22.0151 23.4705	10.8819 12.4078 13.9578 16.3111	0.13 0.27 0.42 0.75
APXVAA24_43-U-A20 w/ Mount Pipe	C	From Leg	4.0000 0.00 -3.00	40.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	20.5042 21.2552 22.0151 23.4705	10.8819 12.4078 13.9578 16.3111	0.13 0.27 0.42 0.75

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
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.0000 0.00 -3.00	0.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.7474 7.2017 7.6475 8.5651	6.0700 6.8671 7.5828 9.0629	0.15 0.21 0.28 0.44
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.0000 0.00 -3.00	-45.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.7474 7.2017 7.6475 8.5651	6.0700 6.8671 7.5828 9.0629	0.15 0.21 0.28 0.44
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.0000 0.00 -3.00	60.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.7474 7.2017 7.6475 8.5651	6.0700 6.8671 7.5828 9.0629	0.15 0.21 0.28 0.44
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.0000 0.00 -3.00	40.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.7474 7.2017 7.6475 8.5651	6.0700 6.8671 7.5828 9.0629	0.15 0.21 0.28 0.44
Platform Mount [LP 701-1]	B	None		0.00	143.0000	No Ice 1/2" Ice 1" Ice 2" Ice	59.1500 71.1200 83.0900 107.0300	59.1500 71.1200 83.0900 107.0300	2.75 3.42 4.10 5.45
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Tower Pressures - No Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 156.0000-151.0000	153.5000	1.385	52.88	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
					B	0.000	4.479		100.00	0.000	0.000
					C	0.000	4.479		100.00	0.000	0.000
L2 151.0000-146.0000	148.5000	1.375	52.51	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
					B	0.000	4.479		100.00	0.000	0.000
					C	0.000	4.479		100.00	0.000	0.000
L3 146.0000-144.5000	145.2500	1.369	52.27	1.344	A	0.000	1.344	1.344	100.00	0.000	0.000
					B	0.000	1.344		100.00	0.000	0.000
					C	0.000	1.344		100.00	0.000	0.000
L4 144.5000-144.0000	144.2290	1.367	52.19	0.599	A	0.000	0.599	0.599	100.00	0.000	0.000
					B	0.000	0.599		100.00	0.000	0.000
					C	0.000	0.599		100.00	0.000	0.000
L5 144.0000-139.0000	141.4787	1.362	51.98	7.931	A	0.000	7.931	7.931	100.00	0.000	0.000
					B	0.000	7.931		100.00	0.000	0.000
					C	0.000	7.931		100.00	0.000	0.000
L6 139.0000-134.0000	136.4798	1.351	51.59	8.338	A	0.000	8.338	8.338	100.00	0.000	0.000
					B	0.000	8.338		100.00	0.000	0.000
					C	0.000	8.338		100.00	0.000	0.000
L7 134.0000-129.0000	131.4807	1.341	51.18	8.745	A	0.000	8.745	8.745	100.00	0.000	0.000
					B	0.000	8.745		100.00	0.000	0.292
					C	0.000	8.745		100.00	0.000	0.000
L8 129.0000-128.2500	128.6246	1.334	50.95	1.347	A	0.000	1.347	1.347	100.00	0.000	0.000
					B	0.000	1.347		100.00	0.000	0.125
					C	0.000	1.347		100.00	0.000	0.000
L9 128.2500-128.0000	128.1250	1.333	50.90	0.449	A	0.000	0.449	0.449	100.00	0.000	0.000
					B	0.000	0.449		100.00	0.000	0.042
					C	0.000	0.449		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L10 128.0000-123.0000	125.4817	1.328	50.68	9.188	A	0.000	9.188	9.188	100.00	0.000	0.000
					B	0.000	9.188		100.00	0.000	0.833
					C	0.000	9.188		100.00	0.000	0.000
L11 123.0000-118.0000	120.4825	1.316	50.25	9.597	A	0.000	9.597	9.597	100.00	0.000	0.000
					B	0.000	9.597		100.00	0.000	0.833
					C	0.000	9.597		100.00	0.000	0.000
L12 118.0000-113.0000	115.4832	1.305	49.80	10.007	A	0.000	10.007	10.007	100.00	0.000	0.000
					B	0.000	10.007		100.00	0.000	0.833
					C	0.000	10.007		100.00	0.000	0.000
L13 113.0000-108.0000	110.4838	1.292	49.34	10.416	A	0.000	10.416	10.416	100.00	0.000	0.000
					B	0.000	10.416		100.00	0.000	0.833
					C	0.000	10.416		100.00	0.000	0.000
L14 108.0000-103.0000	105.4844	1.28	48.86	10.825	A	0.000	10.825	10.825	100.00	0.000	0.000
					B	0.000	10.825		100.00	0.000	0.833
					C	0.000	10.825		100.00	0.000	0.000
L15 103.0000-98.0000	100.4850	1.267	48.37	11.233	A	0.000	11.233	11.233	100.00	0.000	0.000
					B	0.000	11.233		100.00	0.000	0.944
					C	0.000	11.233		100.00	0.000	0.000
L16 98.0000-93.0000	95.4855	1.253	47.85	11.641	A	0.000	11.641	11.641	100.00	0.000	0.000
					B	0.000	11.641		100.00	0.000	1.042
					C	0.000	11.641		100.00	0.000	0.000
L17 93.0000-92.0000	92.4994	1.245	47.53	2.328	A	0.000	2.328	2.328	100.00	0.000	0.000
					B	0.000	2.328		100.00	0.000	0.208
					C	0.000	2.328		100.00	0.000	0.000
L18 92.0000-87.0000	89.4858	1.236	47.20	11.886	A	0.000	11.886	11.886	100.00	0.000	0.000
					B	0.000	11.886		100.00	0.000	1.042
					C	0.000	11.886		100.00	0.000	0.000
L19 87.0000-82.0000	84.4863	1.221	46.63	12.297	A	0.000	12.297	12.297	100.00	0.000	0.000
					B	0.000	12.297		100.00	0.000	1.042
					C	0.000	12.297		100.00	0.000	0.000
L20 82.0000-77.5000	79.7392	1.207	46.07	11.417	A	0.000	11.417	11.417	100.00	0.000	0.000
					B	0.000	11.417		100.00	0.000	0.937
					C	0.000	11.417		100.00	0.000	0.000
L21 77.5000-72.5000	74.9871	1.191	45.48	13.065	A	0.000	13.065	13.065	100.00	0.000	0.000
					B	0.000	13.065		100.00	0.000	1.042
					C	0.000	13.065		100.00	0.000	0.000
L22 72.5000-70.5800	71.5381	1.179	45.03	5.125	A	0.000	5.125	5.125	100.00	0.000	0.000
					B	0.000	5.125		100.00	0.000	0.400
					C	0.000	5.125		100.00	0.000	0.000
L23 70.5800-70.3300	70.4550	1.176	44.88	0.672	A	0.000	0.672	0.672	100.00	0.000	0.000
					B	0.000	0.672		100.00	0.000	0.052
					C	0.000	0.672		100.00	0.000	0.000
L24 70.3300-67.0800	68.6998	1.169	44.64	8.826	A	0.000	8.826	8.826	100.00	0.000	0.000
					B	0.000	8.826		100.00	0.000	0.677
					C	0.000	8.826		100.00	0.000	0.000
L25 67.0800-66.8300	66.9550	1.163	44.40	0.684	A	0.000	0.684	0.684	100.00	0.000	0.000
					B	0.000	0.684		100.00	0.000	0.052
					C	0.000	0.684		100.00	0.000	0.000
L26 66.8300-61.8300	64.3179	1.153	44.03	13.895	A	0.000	13.895	13.895	100.00	0.000	0.000
					B	0.000	13.895		100.00	0.000	1.824
					C	0.000	13.895		100.00	0.000	0.000
L27 61.8300-57.5000	59.6562	1.135	43.34	12.362	A	0.000	12.362	12.362	100.00	0.000	0.000
					B	0.000	12.362		100.00	0.000	1.804
					C	0.000	12.362		100.00	0.000	0.000
L28 57.5000-56.7500	57.1247	1.125	42.94	2.132	A	0.000	2.132	2.132	100.00	0.000	0.000
					B	0.000	2.132		100.00	0.000	0.312
					C	0.000	2.132		100.00	0.000	0.000
L29 56.7500-51.7500	54.2384	1.113	42.48	14.451	A	0.000	14.451	14.451	100.00	0.000	0.000
					B	0.000	14.451		100.00	0.000	2.083
					C	0.000	14.451		100.00	0.000	0.000
L30 51.7500-46.7500	49.2387	1.09	41.62	14.860	A	0.000	14.860	14.860	100.00	0.000	0.000
					B	0.000	14.860		100.00	0.000	2.083
					C	0.000	14.860		100.00	0.000	0.000
L31 46.7500-41.7500	44.2390	1.066	40.69	15.269	A	0.000	15.269	15.269	100.00	0.000	0.000
					B	0.000	15.269		100.00	0.000	2.083
					C	0.000	15.269		100.00	0.000	0.000
L32 41.7500-39.8000	40.7734	1.048	40.00	6.066	A	0.000	6.066	6.066	100.00	0.000	0.000
					B	0.000	6.066		100.00	0.000	0.812

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					C	0.000	6.066		100.00	0.000	0.000
L33 39.8000-39.3300	39.5649	1.041	39.75	1.470	A	0.000	1.470	1.470	100.00	0.000	0.000
					B	0.000	1.470		100.00	0.000	0.196
					C	0.000	1.470		100.00	0.000	0.000
L34 39.3300-39.0800	39.2050	1.039	39.67	0.784	A	0.000	0.784	0.784	100.00	0.000	0.000
					B	0.000	0.784		100.00	0.000	0.104
					C	0.000	0.784		100.00	0.000	0.000
L35 39.0800-38.3300	38.7048	1.036	39.57	2.357	A	0.000	2.357	2.357	100.00	0.000	0.000
					B	0.000	2.357		100.00	0.000	0.312
					C	0.000	2.357		100.00	0.000	0.000
L36 38.3300-38.0800	38.2050	1.034	39.46	0.788	A	0.000	0.788	0.788	100.00	0.000	0.000
					B	0.000	0.788		100.00	0.000	0.104
					C	0.000	0.788		100.00	0.000	0.000
L37 38.0800-33.0800	35.5695	1.018	38.87	15.977	A	0.000	15.977	15.977	100.00	0.000	0.000
					B	0.000	15.977		100.00	0.000	2.083
					C	0.000	15.977		100.00	0.000	0.000
L38 33.0800-30.7500	31.9128	0.995	37.99	7.585	A	0.000	7.585	7.585	100.00	0.000	0.000
					B	0.000	7.585		100.00	0.000	0.971
					C	0.000	7.585		100.00	0.000	0.000
L39 30.7500-30.5000	30.6250	0.987	37.66	0.819	A	0.000	0.819	0.819	100.00	0.000	0.000
					B	0.000	0.819		100.00	0.000	0.104
					C	0.000	0.819		100.00	0.000	0.000
L40 30.5000-25.5000	27.9899	0.968	36.96	16.586	A	0.000	16.586	16.586	100.00	0.000	0.000
					B	0.000	16.586		100.00	0.000	2.083
					C	0.000	16.586		100.00	0.000	0.000
L41 25.5000-20.5000	22.9901	0.929	35.46	16.997	A	0.000	16.997	16.997	100.00	0.000	0.000
					B	0.000	16.997		100.00	0.000	2.083
					C	0.000	16.997		100.00	0.000	0.000
L42 20.5000-15.5000	17.9903	0.882	33.67	17.406	A	0.000	17.406	17.406	100.00	0.000	0.000
					B	0.000	17.406		100.00	0.000	2.083
					C	0.000	17.406		100.00	0.000	0.000
L43 15.5000-9.8000	12.6377	0.85	32.45	20.339	A	0.000	20.339	20.339	100.00	0.000	0.000
					B	0.000	20.339		100.00	0.000	2.375
					C	0.000	20.339		100.00	0.000	0.000
L44 9.8000-8.8000	9.2996	0.85	32.45	3.559	A	0.000	3.559	3.559	100.00	0.000	0.000
					B	0.000	3.559		100.00	0.000	0.417
					C	0.000	3.559		100.00	0.000	0.000
L45 8.8000-8.2500	8.5249	0.85	32.45	1.964	A	0.000	1.964	1.964	100.00	0.000	0.000
					B	0.000	1.964		100.00	0.000	0.229
					C	0.000	1.964		100.00	0.000	0.000
L46 8.2500-8.0000	8.1250	0.85	32.45	0.894	A	0.000	0.894	0.894	100.00	0.000	0.000
					B	0.000	0.894		100.00	0.000	0.104
					C	0.000	0.894		100.00	0.000	0.000
L47 8.0000-4.2500	6.1198	0.85	32.45	13.538	A	0.000	13.538	13.538	100.00	0.000	0.000
					B	0.000	13.538		100.00	0.000	1.562
					C	0.000	13.538		100.00	0.000	0.000
L48 4.2500-4.0000	4.1250	0.85	32.45	0.909	A	0.000	0.909	0.909	100.00	0.000	0.000
					B	0.000	0.909		100.00	0.000	0.104
					C	0.000	0.909		100.00	0.000	0.000
L49 4.0000-3.0000	3.4996	0.85	32.45	3.648	A	0.000	3.648	3.648	100.00	0.000	0.000
					B	0.000	3.648		100.00	0.000	0.417
					C	0.000	3.648		100.00	0.000	0.000
L50 3.0000-2.7500	2.8750	0.85	32.45	0.914	A	0.000	0.914	0.914	100.00	0.000	0.000
					B	0.000	0.914		100.00	0.000	0.104
					C	0.000	0.914		100.00	0.000	0.000
L51 2.7500-0.0000	1.3722	0.85	32.45	10.120	A	0.000	10.120	10.120	100.00	0.000	0.000
					B	0.000	10.120		100.00	0.000	1.146
					C	0.000	10.120		100.00	0.000	0.000

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 156.0000-151.0000	153.5000	1.385	7.82	1.4869	5.718	A	0.000	5.718	5.718	100.00	0.000	0.000
						B	0.000	5.718		100.00	0.000	0.000
						C	0.000	5.718		100.00	0.000	0.000
L2 151.0000-146.0000	148.5000	1.375	7.77	1.4819	5.714	A	0.000	5.714	5.714	100.00	0.000	0.000
						B	0.000	5.714		100.00	0.000	0.000
						C	0.000	5.714		100.00	0.000	0.000
L3 146.0000-144.5000	145.2500	1.369	7.73	1.4787	1.713	A	0.000	1.713	1.713	100.00	0.000	0.000
						B	0.000	1.713		100.00	0.000	0.000
						C	0.000	1.713		100.00	0.000	0.000
L4 144.5000-144.0000	144.2290	1.367	7.72	1.4776	0.722	A	0.000	0.722	0.722	100.00	0.000	0.000
						B	0.000	0.722		100.00	0.000	0.000
						C	0.000	0.722		100.00	0.000	0.000
L5 144.0000-139.0000	141.4787	1.362	7.69	1.4748	9.160	A	0.000	9.160	9.160	100.00	0.000	0.000
						B	0.000	9.160		100.00	0.000	0.000
						C	0.000	9.160		100.00	0.000	0.000
L6 139.0000-134.0000	136.4798	1.351	7.63	1.4695	9.563	A	0.000	9.563	9.563	100.00	0.000	0.000
						B	0.000	9.563		100.00	0.000	0.000
						C	0.000	9.563		100.00	0.000	0.000
L7 134.0000-129.0000	131.4807	1.341	7.57	1.4640	9.965	A	0.000	9.965	9.965	100.00	0.000	0.000
						B	0.000	9.965		100.00	0.000	0.861
						C	0.000	9.965		100.00	0.000	0.000
L8 129.0000-128.2500	128.6246	1.334	7.54	1.4608	1.530	A	0.000	1.530	1.530	100.00	0.000	0.000
						B	0.000	1.530		100.00	0.000	0.368
						C	0.000	1.530		100.00	0.000	0.000
L9 128.2500-128.0000	128.1250	1.333	7.53	1.4602	0.509	A	0.000	0.509	0.509	100.00	0.000	0.000
						B	0.000	0.509		100.00	0.000	0.123
						C	0.000	0.509		100.00	0.000	0.000
L10 128.0000-123.0000	125.4817	1.328	7.50	1.4572	10.402	A	0.000	10.402	10.402	100.00	0.000	0.000
						B	0.000	10.402		100.00	0.000	2.452
						C	0.000	10.402		100.00	0.000	0.000
L11 123.0000-118.0000	120.4825	1.316	7.43	1.4513	10.806	A	0.000	10.806	10.806	100.00	0.000	0.000
						B	0.000	10.806		100.00	0.000	2.446
						C	0.000	10.806		100.00	0.000	0.000
L12 118.0000-113.0000	115.4832	1.305	7.37	1.4451	11.212	A	0.000	11.212	11.212	100.00	0.000	0.000
						B	0.000	11.212		100.00	0.000	2.439
						C	0.000	11.212		100.00	0.000	0.000
L13 113.0000-108.0000	110.4838	1.292	7.30	1.4388	11.615	A	0.000	11.615	11.615	100.00	0.000	0.000
						B	0.000	11.615		100.00	0.000	2.432
						C	0.000	11.615		100.00	0.000	0.000
L14 108.0000-103.0000	105.4844	1.28	7.23	1.4321	12.018	A	0.000	12.018	12.018	100.00	0.000	0.000
						B	0.000	12.018		100.00	0.000	2.425
						C	0.000	12.018		100.00	0.000	0.000
L15 103.0000-98.0000	100.4850	1.267	7.15	1.4252	12.421	A	0.000	12.421	12.421	100.00	0.000	0.000
						B	0.000	12.421		100.00	0.000	2.528
						C	0.000	12.421		100.00	0.000	0.000
L16 98.0000-93.0000	95.4855	1.253	7.08	1.4179	12.822	A	0.000	12.822	12.822	100.00	0.000	0.000
						B	0.000	12.822		100.00	0.000	2.617
						C	0.000	12.822		100.00	0.000	0.000
L17 93.0000-92.0000	92.4994	1.245	7.03	1.4134	2.564	A	0.000	2.564	2.564	100.00	0.000	0.000
						B	0.000	2.564		100.00	0.000	0.523
						C	0.000	2.564		100.00	0.000	0.000
L18 92.0000-87.0000	89.4858	1.236	6.98	1.4088	13.060	A	0.000	13.060	13.060	100.00	0.000	0.000
						B	0.000	13.060		100.00	0.000	2.607
						C	0.000	13.060		100.00	0.000	0.000
L19 87.0000-82.0000	84.4863	1.221	6.90	1.4007	13.464	A	0.000	13.464	13.464	100.00	0.000	0.000
						B	0.000	13.464		100.00	0.000	2.598
						C	0.000	13.464		100.00	0.000	0.000
L20 82.0000-77.5000	79.7392	1.207	6.81	1.3926	12.461	A	0.000	12.461	12.461	100.00	0.000	0.000
						B	0.000	12.461		100.00	0.000	2.330
						C	0.000	12.461		100.00	0.000	0.000
L21 77.5000-72.5000	74.9871	1.191	6.73	1.3841	14.218	A	0.000	14.218	14.218	100.00	0.000	0.000
						B	0.000	14.218		100.00	0.000	2.580
						C	0.000	14.218		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L22 72.5000-70.5800	71.5381	1.179	6.66	1.3776	5.566	A	0.000	5.566	5.566	100.00	0.000	0.000
						B	0.000	5.566		100.00	0.000	0.988
						C	0.000	5.566		100.00	0.000	0.000
L23 70.5800-70.3300	70.4550	1.176	6.64	1.3755	0.729	A	0.000	0.729	0.729	100.00	0.000	0.000
						B	0.000	0.729		100.00	0.000	0.128
						C	0.000	0.729		100.00	0.000	0.000
L24 70.3300-67.0800	68.6998	1.169	6.60	1.3720	9.570	A	0.000	9.570	9.570	100.00	0.000	0.000
						B	0.000	9.570		100.00	0.000	1.668
						C	0.000	9.570		100.00	0.000	0.000
L25 67.0800-66.8300	66.9550	1.163	6.57	1.3685	0.741	A	0.000	0.741	0.741	100.00	0.000	0.000
						B	0.000	0.741		100.00	0.000	0.128
						C	0.000	0.741		100.00	0.000	0.000
L26 66.8300-61.8300	64.3179	1.153	6.51	1.3630	15.031	A	0.000	15.031	15.031	100.00	0.000	0.000
						B	0.000	15.031		100.00	0.000	4.475
						C	0.000	15.031		100.00	0.000	0.000
L27 61.8300-57.5000	59.6562	1.135	6.41	1.3528	13.338	A	0.000	13.338	13.338	100.00	0.000	0.000
						B	0.000	13.338		100.00	0.000	4.408
						C	0.000	13.338		100.00	0.000	0.000
L28 57.5000-56.7500	57.1247	1.125	6.35	1.3469	2.301	A	0.000	2.301	2.301	100.00	0.000	0.000
						B	0.000	2.301		100.00	0.000	0.763
						C	0.000	2.301		100.00	0.000	0.000
L29 56.7500-51.7500	54.2384	1.113	6.28	1.3400	15.568	A	0.000	15.568	15.568	100.00	0.000	0.000
						B	0.000	15.568		100.00	0.000	5.061
						C	0.000	15.568		100.00	0.000	0.000
L30 51.7500-46.7500	49.2387	1.09	6.16	1.3271	15.966	A	0.000	15.966	15.966	100.00	0.000	0.000
						B	0.000	15.966		100.00	0.000	5.032
						C	0.000	15.966		100.00	0.000	0.000
L31 46.7500-41.7500	44.2390	1.066	6.02	1.3129	16.363	A	0.000	16.363	16.363	100.00	0.000	0.000
						B	0.000	16.363		100.00	0.000	5.001
						C	0.000	16.363		100.00	0.000	0.000
L32 41.7500-39.8000	40.7734	1.048	5.92	1.3023	6.489	A	0.000	6.489	6.489	100.00	0.000	0.000
						B	0.000	6.489		100.00	0.000	1.941
						C	0.000	6.489		100.00	0.000	0.000
L33 39.8000-39.3300	39.5649	1.041	5.88	1.2983	1.572	A	0.000	1.572	1.572	100.00	0.000	0.000
						B	0.000	1.572		100.00	0.000	0.467
						C	0.000	1.572		100.00	0.000	0.000
L34 39.3300-39.0800	39.2050	1.039	5.87	1.2972	0.838	A	0.000	0.838	0.838	100.00	0.000	0.000
						B	0.000	0.838		100.00	0.000	0.248
						C	0.000	0.838		100.00	0.000	0.000
L35 39.0800-38.3300	38.7048	1.036	5.85	1.2955	2.519	A	0.000	2.519	2.519	100.00	0.000	0.000
						B	0.000	2.519		100.00	0.000	0.744
						C	0.000	2.519		100.00	0.000	0.000
L36 38.3300-38.0800	38.2050	1.034	5.84	1.2938	0.842	A	0.000	0.842	0.842	100.00	0.000	0.000
						B	0.000	0.842		100.00	0.000	0.248
						C	0.000	0.842		100.00	0.000	0.000
L37 38.0800-33.0800	35.5695	1.018	5.75	1.2846	17.047	A	0.000	17.047	17.047	100.00	0.000	0.000
						B	0.000	17.047		100.00	0.000	4.938
						C	0.000	17.047		100.00	0.000	0.000
L38 33.0800-30.7500	31.9128	0.995	5.62	1.2707	8.078	A	0.000	8.078	8.078	100.00	0.000	0.000
						B	0.000	8.078		100.00	0.000	2.287
						C	0.000	8.078		100.00	0.000	0.000
L39 30.7500-30.5000	30.6250	0.987	5.57	1.2655	0.871	A	0.000	0.871	0.871	100.00	0.000	0.000
						B	0.000	0.871		100.00	0.000	0.245
						C	0.000	0.871		100.00	0.000	0.000
L40 30.5000-25.5000	27.9899	0.968	5.47	1.2542	17.632	A	0.000	17.632	17.632	100.00	0.000	0.000
						B	0.000	17.632		100.00	0.000	4.870
						C	0.000	17.632		100.00	0.000	0.000
L41 25.5000-20.5000	22.9901	0.929	5.24	1.2297	18.022	A	0.000	18.022	18.022	100.00	0.000	0.000
						B	0.000	18.022		100.00	0.000	4.816
						C	0.000	18.022		100.00	0.000	0.000
L42 20.5000-15.5000	17.9903	0.882	4.98	1.1999	18.406	A	0.000	18.406	18.406	100.00	0.000	0.000
						B	0.000	18.406		100.00	0.000	4.750
						C	0.000	18.406		100.00	0.000	0.000
L43 15.5000-9.8000	12.6377	0.85	4.80	1.1583	21.440	A	0.000	21.440	21.440	100.00	0.000	0.000
						B	0.000	21.440		100.00	0.000	5.309
						C	0.000	21.440		100.00	0.000	0.000
L44 9.8000-8.8000	9.2996	0.85	4.80	1.1233	3.752	A	0.000	3.752	3.752	100.00	0.000	0.000
						B	0.000	3.752		100.00	0.000	0.931

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	0.000	3.752		100.00	0.000	0.000
L45 8.8000-8.2500	8.5249	0.85	4.80	1.1136	2.066	A	0.000	2.066	2.066	100.00	0.000	0.000
						B	0.000	2.066		100.00	0.000	0.501
						C	0.000	2.066		100.00	0.000	0.000
L46 8.2500-8.0000	8.1250	0.85	4.80	1.1083	0.941	A	0.000	0.941	0.941	100.00	0.000	0.000
						B	0.000	0.941		100.00	0.000	0.227
						C	0.000	0.941		100.00	0.000	0.000
L47 8.0000-4.2500	6.1198	0.85	4.80	1.0773	14.212	A	0.000	14.212	14.212	100.00	0.000	0.000
						B	0.000	14.212		100.00	0.000	3.358
						C	0.000	14.212		100.00	0.000	0.000
L48 4.2500-4.0000	4.1250	0.85	4.80	1.0356	0.953	A	0.000	0.953	0.953	100.00	0.000	0.000
						B	0.000	0.953		100.00	0.000	0.219
						C	0.000	0.953		100.00	0.000	0.000
L49 4.0000-3.0000	3.4996	0.85	4.80	1.0187	3.818	A	0.000	3.818	3.818	100.00	0.000	0.000
						B	0.000	3.818		100.00	0.000	0.869
						C	0.000	3.818		100.00	0.000	0.000
L50 3.0000-2.7500	2.8750	0.85	4.80	0.9989	0.955	A	0.000	0.955	0.955	100.00	0.000	0.000
						B	0.000	0.955		100.00	0.000	0.215
						C	0.000	0.955		100.00	0.000	0.000
L51 2.7500-0.0000	1.3722	0.85	4.80	0.9277	10.546	A	0.000	10.546	10.546	100.00	0.000	0.000
						B	0.000	10.546		100.00	0.000	2.280
						C	0.000	10.546		100.00	0.000	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 156.0000-151.0000	153.5000	1.385	10.08	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
					B	0.000	4.479		100.00	0.000	0.000
					C	0.000	4.479		100.00	0.000	0.000
L2 151.0000-146.0000	148.5000	1.375	10.01	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
					B	0.000	4.479		100.00	0.000	0.000
					C	0.000	4.479		100.00	0.000	0.000
L3 146.0000-144.5000	145.2500	1.369	9.96	1.344	A	0.000	1.344	1.344	100.00	0.000	0.000
					B	0.000	1.344		100.00	0.000	0.000
					C	0.000	1.344		100.00	0.000	0.000
L4 144.5000-144.0000	144.2290	1.367	9.95	0.599	A	0.000	0.599	0.599	100.00	0.000	0.000
					B	0.000	0.599		100.00	0.000	0.000
					C	0.000	0.599		100.00	0.000	0.000
L5 144.0000-139.0000	141.4787	1.362	9.91	7.931	A	0.000	7.931	7.931	100.00	0.000	0.000
					B	0.000	7.931		100.00	0.000	0.000
					C	0.000	7.931		100.00	0.000	0.000
L6 139.0000-134.0000	136.4798	1.351	9.83	8.338	A	0.000	8.338	8.338	100.00	0.000	0.000
					B	0.000	8.338		100.00	0.000	0.000
					C	0.000	8.338		100.00	0.000	0.000
L7 134.0000-129.0000	131.4807	1.341	9.76	8.745	A	0.000	8.745	8.745	100.00	0.000	0.000
					B	0.000	8.745		100.00	0.000	0.292
					C	0.000	8.745		100.00	0.000	0.000
L8 129.0000-128.2500	128.6246	1.334	9.71	1.347	A	0.000	1.347	1.347	100.00	0.000	0.000
					B	0.000	1.347		100.00	0.000	0.125
					C	0.000	1.347		100.00	0.000	0.000
L9 128.2500-128.0000	128.1250	1.333	9.70	0.449	A	0.000	0.449	0.449	100.00	0.000	0.000
					B	0.000	0.449		100.00	0.000	0.042
					C	0.000	0.449		100.00	0.000	0.000
L10 128.0000-123.0000	125.4817	1.328	9.66	9.188	A	0.000	9.188	9.188	100.00	0.000	0.000
					B	0.000	9.188		100.00	0.000	0.833
					C	0.000	9.188		100.00	0.000	0.000
L11 123.0000-118.0000	120.4825	1.316	9.58	9.597	A	0.000	9.597	9.597	100.00	0.000	0.000
					B	0.000	9.597		100.00	0.000	0.833
					C	0.000	9.597		100.00	0.000	0.000
L12 118.0000-113.0000	115.4832	1.305	9.49	10.007	A	0.000	10.007	10.007	100.00	0.000	0.000
					B	0.000	10.007		100.00	0.000	0.833
					C	0.000	10.007		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L13	110.4838	1.292	9.40	10.416	A	0.000	10.416	10.416	100.00	0.000	0.000
113.0000-108.0000					B	0.000	10.416		100.00	0.000	0.833
					C	0.000	10.416		100.00	0.000	0.000
L14	105.4844	1.28	9.31	10.825	A	0.000	10.825	10.825	100.00	0.000	0.000
108.0000-103.0000					B	0.000	10.825		100.00	0.000	0.833
					C	0.000	10.825		100.00	0.000	0.000
L15	100.4850	1.267	9.22	11.233	A	0.000	11.233	11.233	100.00	0.000	0.000
103.0000-98.0000					B	0.000	11.233		100.00	0.000	0.944
					C	0.000	11.233		100.00	0.000	0.000
L16 98.0000-93.0000	95.4855	1.253	9.12	11.641	A	0.000	11.641	11.641	100.00	0.000	0.000
					B	0.000	11.641		100.00	0.000	1.042
					C	0.000	11.641		100.00	0.000	0.000
L17 93.0000-92.0000	92.4994	1.245	9.06	2.328	A	0.000	2.328	2.328	100.00	0.000	0.000
					B	0.000	2.328		100.00	0.000	0.208
					C	0.000	2.328		100.00	0.000	0.000
L18 92.0000-87.0000	89.4858	1.236	9.00	11.886	A	0.000	11.886	11.886	100.00	0.000	0.000
					B	0.000	11.886		100.00	0.000	1.042
					C	0.000	11.886		100.00	0.000	0.000
L19 87.0000-82.0000	84.4863	1.221	8.89	12.297	A	0.000	12.297	12.297	100.00	0.000	0.000
					B	0.000	12.297		100.00	0.000	1.042
					C	0.000	12.297		100.00	0.000	0.000
L20 82.0000-77.5000	79.7392	1.207	8.78	11.417	A	0.000	11.417	11.417	100.00	0.000	0.000
					B	0.000	11.417		100.00	0.000	0.937
					C	0.000	11.417		100.00	0.000	0.000
L21 77.5000-72.5000	74.9871	1.191	8.67	13.065	A	0.000	13.065	13.065	100.00	0.000	0.000
					B	0.000	13.065		100.00	0.000	1.042
					C	0.000	13.065		100.00	0.000	0.000
L22 72.5000-70.5800	71.5381	1.179	8.58	5.125	A	0.000	5.125	5.125	100.00	0.000	0.000
					B	0.000	5.125		100.00	0.000	0.400
					C	0.000	5.125		100.00	0.000	0.000
L23 70.5800-70.3300	70.4550	1.176	8.55	0.672	A	0.000	0.672	0.672	100.00	0.000	0.000
					B	0.000	0.672		100.00	0.000	0.052
					C	0.000	0.672		100.00	0.000	0.000
L24 70.3300-67.0800	68.6998	1.169	8.51	8.826	A	0.000	8.826	8.826	100.00	0.000	0.000
					B	0.000	8.826		100.00	0.000	0.677
					C	0.000	8.826		100.00	0.000	0.000
L25 67.0800-66.8300	66.9550	1.163	8.46	0.684	A	0.000	0.684	0.684	100.00	0.000	0.000
					B	0.000	0.684		100.00	0.000	0.052
					C	0.000	0.684		100.00	0.000	0.000
L26 66.8300-61.8300	64.3179	1.153	8.39	13.895	A	0.000	13.895	13.895	100.00	0.000	0.000
					B	0.000	13.895		100.00	0.000	1.824
					C	0.000	13.895		100.00	0.000	0.000
L27 61.8300-57.5000	59.6562	1.135	8.26	12.362	A	0.000	12.362	12.362	100.00	0.000	0.000
					B	0.000	12.362		100.00	0.000	1.804
					C	0.000	12.362		100.00	0.000	0.000
L28 57.5000-56.7500	57.1247	1.125	8.18	2.132	A	0.000	2.132	2.132	100.00	0.000	0.000
					B	0.000	2.132		100.00	0.000	0.312
					C	0.000	2.132		100.00	0.000	0.000
L29 56.7500-51.7500	54.2384	1.113	8.10	14.451	A	0.000	14.451	14.451	100.00	0.000	0.000
					B	0.000	14.451		100.00	0.000	2.083
					C	0.000	14.451		100.00	0.000	0.000
L30 51.7500-46.7500	49.2387	1.09	7.93	14.860	A	0.000	14.860	14.860	100.00	0.000	0.000
					B	0.000	14.860		100.00	0.000	2.083
					C	0.000	14.860		100.00	0.000	0.000
L31 46.7500-41.7500	44.2390	1.066	7.76	15.269	A	0.000	15.269	15.269	100.00	0.000	0.000
					B	0.000	15.269		100.00	0.000	2.083
					C	0.000	15.269		100.00	0.000	0.000
L32 41.7500-39.8000	40.7734	1.048	7.62	6.066	A	0.000	6.066	6.066	100.00	0.000	0.000
					B	0.000	6.066		100.00	0.000	0.812
					C	0.000	6.066		100.00	0.000	0.000
L33 39.8000-39.3300	39.5649	1.041	7.58	1.470	A	0.000	1.470	1.470	100.00	0.000	0.000
					B	0.000	1.470		100.00	0.000	0.196
					C	0.000	1.470		100.00	0.000	0.000
L34 39.3300-39.0800	39.2050	1.039	7.56	0.784	A	0.000	0.784	0.784	100.00	0.000	0.000
					B	0.000	0.784		100.00	0.000	0.104
					C	0.000	0.784		100.00	0.000	0.000
L35 39.0800-38.3300	38.7048	1.036	7.54	2.357	A	0.000	2.357	2.357	100.00	0.000	0.000
					B	0.000	2.357		100.00	0.000	0.312

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					C	0.000	2.357		100.00	0.000	0.000
L36 38.3300-38.0800	38.2050	1.034	7.52	0.788	A	0.000	0.788	0.788	100.00	0.000	0.000
					B	0.000	0.788		100.00	0.000	0.104
					C	0.000	0.788		100.00	0.000	0.000
L37 38.0800-33.0800	35.5695	1.018	7.41	15.977	A	0.000	15.977	15.977	100.00	0.000	0.000
					B	0.000	15.977		100.00	0.000	2.083
					C	0.000	15.977		100.00	0.000	0.000
L38 33.0800-30.7500	31.9128	0.995	7.24	7.585	A	0.000	7.585	7.585	100.00	0.000	0.000
					B	0.000	7.585		100.00	0.000	0.971
					C	0.000	7.585		100.00	0.000	0.000
L39 30.7500-30.5000	30.6250	0.987	7.18	0.819	A	0.000	0.819	0.819	100.00	0.000	0.000
					B	0.000	0.819		100.00	0.000	0.104
					C	0.000	0.819		100.00	0.000	0.000
L40 30.5000-25.5000	27.9899	0.968	7.04	16.586	A	0.000	16.586	16.586	100.00	0.000	0.000
					B	0.000	16.586		100.00	0.000	2.083
					C	0.000	16.586		100.00	0.000	0.000
L41 25.5000-20.5000	22.9901	0.929	6.76	16.997	A	0.000	16.997	16.997	100.00	0.000	0.000
					B	0.000	16.997		100.00	0.000	2.083
					C	0.000	16.997		100.00	0.000	0.000
L42 20.5000-15.5000	17.9903	0.882	6.42	17.406	A	0.000	17.406	17.406	100.00	0.000	0.000
					B	0.000	17.406		100.00	0.000	2.083
					C	0.000	17.406		100.00	0.000	0.000
L43 15.5000-9.8000	12.6377	0.85	6.18	20.339	A	0.000	20.339	20.339	100.00	0.000	0.000
					B	0.000	20.339		100.00	0.000	2.375
					C	0.000	20.339		100.00	0.000	0.000
L44 9.8000-8.8000	9.2996	0.85	6.18	3.559	A	0.000	3.559	3.559	100.00	0.000	0.000
					B	0.000	3.559		100.00	0.000	0.417
					C	0.000	3.559		100.00	0.000	0.000
L45 8.8000-8.2500	8.5249	0.85	6.18	1.964	A	0.000	1.964	1.964	100.00	0.000	0.000
					B	0.000	1.964		100.00	0.000	0.229
					C	0.000	1.964		100.00	0.000	0.000
L46 8.2500-8.0000	8.1250	0.85	6.18	0.894	A	0.000	0.894	0.894	100.00	0.000	0.000
					B	0.000	0.894		100.00	0.000	0.104
					C	0.000	0.894		100.00	0.000	0.000
L47 8.0000-4.2500	6.1198	0.85	6.18	13.538	A	0.000	13.538	13.538	100.00	0.000	0.000
					B	0.000	13.538		100.00	0.000	1.562
					C	0.000	13.538		100.00	0.000	0.000
L48 4.2500-4.0000	4.1250	0.85	6.18	0.909	A	0.000	0.909	0.909	100.00	0.000	0.000
					B	0.000	0.909		100.00	0.000	0.104
					C	0.000	0.909		100.00	0.000	0.000
L49 4.0000-3.0000	3.4996	0.85	6.18	3.648	A	0.000	3.648	3.648	100.00	0.000	0.000
					B	0.000	3.648		100.00	0.000	0.417
					C	0.000	3.648		100.00	0.000	0.000
L50 3.0000-2.7500	2.8750	0.85	6.18	0.914	A	0.000	0.914	0.914	100.00	0.000	0.000
					B	0.000	0.914		100.00	0.000	0.104
					C	0.000	0.914		100.00	0.000	0.000
L51 2.7500-0.0000	1.3722	0.85	6.18	10.120	A	0.000	10.120	10.120	100.00	0.000	0.000
					B	0.000	10.120		100.00	0.000	1.146
					C	0.000	10.120		100.00	0.000	0.000

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

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	156 - 151	Pole	Max Tension	1	0.00	0.00	-0.00
			Max. Compression	26	-0.35	-0.00	0.00
			Max. Mx	8	-0.23	-0.45	-0.00
			Max. My	2	-0.23	-0.00	0.45
			Max. Vy	8	0.18	-0.45	-0.00
			Max. Vx	2	-0.18	-0.00	0.45
			Max. Torque	16			-0.00
L2	151 - 146	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-5.01	-2.26	3.85
			Max. Mx	8	-1.83	-18.85	1.34
			Max. My	2	-1.80	-0.72	20.59
			Max. Vy	8	4.36	-18.85	1.34
			Max. Vx	2	-4.60	-0.72	20.59
			Max. Torque	10			2.47
L3	146 - 144.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-5.12	-2.27	3.85
			Max. Mx	8	-1.91	-25.43	1.23
			Max. My	2	-1.88	-0.63	27.53
			Max. Vy	8	4.41	-25.43	1.23
			Max. Vx	2	-4.65	-0.63	27.53
			Max. Torque	10			2.47
L4	144.5 - 144	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-5.17	-2.27	3.85
			Max. Mx	8	-1.95	-27.63	1.19
			Max. My	2	-1.91	-0.60	29.86
			Max. Vy	8	4.43	-27.63	1.19

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	-4.67	-0.60	29.86
			Max. Torque	10			2.47
L5	144 - 139	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.96	-8.54	0.31
			Max. Mx	8	-6.76	-74.27	0.33
			Max. My	2	-6.70	-1.79	74.45
			Max. Vy	8	14.41	-74.27	0.33
			Max. Vx	2	-14.81	-1.79	74.45
			Max. Torque	16			10.57
L6	139 - 134	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.54	-8.65	0.31
			Max. Mx	8	-7.15	-147.43	0.23
			Max. My	2	-7.08	-1.88	149.61
			Max. Vy	8	14.86	-147.43	0.23
			Max. Vx	2	-15.27	-1.88	149.61
			Max. Torque	16			10.57
L7	134 - 129	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-18.13	-8.74	0.31
			Max. Mx	8	-7.58	-222.93	0.14
			Max. My	2	-7.51	-1.94	227.11
			Max. Vy	8	15.34	-222.93	0.14
			Max. Vx	2	-15.74	-1.94	227.11
			Max. Torque	16			10.58
L8	129 - 128.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-18.22	-8.76	0.31
			Max. Mx	8	-7.65	-234.46	0.13
			Max. My	2	-7.59	-1.95	238.95
			Max. Vy	8	15.42	-234.46	0.13
			Max. Vx	2	-15.82	-1.95	238.95
			Max. Torque	16			10.58
L9	128.25 - 128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-18.27	-8.76	0.31
			Max. Mx	8	-7.69	-238.32	0.12
			Max. My	2	-7.63	-1.95	242.90
			Max. Vy	8	15.45	-238.32	0.12
			Max. Vx	2	-15.85	-1.95	242.90
			Max. Torque	16			10.58
L10	128 - 123	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.25	-8.84	0.32
			Max. Mx	8	-8.46	-316.96	0.04
			Max. My	2	-8.40	-1.99	323.56
			Max. Vy	8	16.02	-316.96	0.04
			Max. Vx	2	-16.42	-1.99	323.56
			Max. Torque	16			10.62
L11	123 - 118	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.26	-8.91	0.32
			Max. Mx	8	-9.27	-398.49	-0.03
			Max. My	2	-9.21	-2.02	407.09
			Max. Vy	8	16.60	-398.49	-0.03
			Max. Vx	2	-17.00	-2.02	407.09
			Max. Torque	16			10.66
L12	118 - 113	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-21.29	-8.98	0.32
			Max. Mx	8	-10.09	-482.93	-0.11
			Max. My	2	-10.04	-2.05	493.55
			Max. Vy	8	17.19	-482.93	-0.11
			Max. Vx	2	-17.59	-2.05	493.55
			Max. Torque	16			10.70
L13	113 - 108	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.34	-9.04	0.32
			Max. Mx	8	-10.95	-570.33	-0.17
			Max. My	2	-10.89	-2.06	582.96
			Max. Vy	8	17.78	-570.33	-0.17
			Max. Vx	2	-18.19	-2.06	582.96
			Max. Torque	16			10.74
L14	108 - 103	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.42	-9.09	0.33
			Max. Mx	8	-11.83	-660.70	-0.24
			Max. My	2	-11.78	-2.07	675.35

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	18.38	-660.70	-0.24
			Max. Vx	2	-18.79	-2.07	675.35
			Max. Torque	16			10.78
L15	103 - 98	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.52	-9.14	0.33
			Max. Mx	8	-12.74	-754.10	-0.30
			Max. My	2	-12.69	-2.07	770.77
			Max. Vy	8	18.99	-754.10	-0.30
			Max. Vx	2	-19.40	-2.07	770.77
			Max. Torque	16			10.83
L16	98 - 93	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.86	-9.16	0.33
			Max. Mx	8	-13.01	-782.71	-0.32
			Max. My	2	-12.96	-2.07	799.99
			Max. Vy	8	19.18	-782.71	-0.32
			Max. Vx	2	-19.58	-2.07	799.99
			Max. Torque	16			10.85
L17	93 - 92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.86	-9.20	0.33
			Max. Mx	8	-14.63	-870.43	-0.37
			Max. My	2	-14.58	-2.07	889.53
			Max. Vy	8	19.81	-870.43	-0.37
			Max. Vx	2	-20.22	-2.07	889.53
			Max. Torque	16			10.90
L18	92 - 87	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.28	-9.24	0.33
			Max. Mx	8	-15.83	-971.05	-0.43
			Max. My	2	-15.78	-2.07	992.17
			Max. Vy	8	20.45	-971.05	-0.43
			Max. Vx	2	-20.86	-2.07	992.17
			Max. Torque	16			10.96
L19	87 - 82	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.72	-9.28	0.33
			Max. Mx	8	-17.05	-1074.88	-0.48
			Max. My	2	-17.01	-2.06	1098.03
			Max. Vy	8	21.10	-1074.88	-0.48
			Max. Vx	2	-21.50	-2.06	1098.03
			Max. Torque	16			11.02
L20	82 - 77.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.03	-9.32	0.33
			Max. Mx	8	-18.18	-1171.08	-0.53
			Max. My	2	-18.14	-2.04	1196.04
			Max. Vy	8	21.68	-1171.08	-0.53
			Max. Vx	2	-22.08	-2.04	1196.04
			Max. Torque	16			11.07
L21	77.5 - 72.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.63	-9.35	0.33
			Max. Mx	8	-19.56	-1281.04	-0.58
			Max. My	2	-19.53	-2.02	1308.03
			Max. Vy	8	22.33	-1281.04	-0.58
			Max. Vx	2	-22.73	-2.02	1308.03
			Max. Torque	16			11.13
L22	72.5 - 70.58	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.26	-9.36	0.34
			Max. Mx	8	-20.10	-1324.14	-0.60
			Max. My	2	-20.06	-2.02	1351.90
			Max. Vy	8	22.59	-1324.14	-0.60
			Max. Vx	2	-22.99	-2.02	1351.90
			Max. Torque	16			11.16
L23	70.58 - 70.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.34	-9.36	0.34
			Max. Mx	8	-20.18	-1329.79	-0.60
			Max. My	2	-20.15	-2.02	1357.65
			Max. Vy	8	22.61	-1329.79	-0.60
			Max. Vx	2	-23.01	-2.02	1357.65
			Max. Torque	16			11.16
L24	70.33 - 67.08	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-34.40	-9.38	0.34
			Max. Mx	8	-21.10	-1403.94	-0.63
			Max. My	2	-21.07	-2.00	1433.11
			Max. Vy	8	23.04	-1403.94	-0.63
			Max. Vx	2	-23.44	-2.00	1433.11
			Max. Torque	16			11.20
L25	67.08 - 66.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.51	-9.38	0.34
			Max. Mx	8	-21.20	-1409.70	-0.63
			Max. My	2	-21.17	-2.00	1438.97
			Max. Vy	8	23.07	-1409.70	-0.63
			Max. Vx	2	-23.47	-2.00	1438.97
			Max. Torque	16			11.21
L26	66.83 - 61.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.66	-9.41	0.34
			Max. Mx	8	-23.10	-1526.84	-0.68
			Max. My	2	-23.07	-1.98	1558.12
			Max. Vy	8	23.80	-1526.84	-0.68
			Max. Vx	2	-24.20	-1.98	1558.12
			Max. Torque	16			11.32
L27	61.83 - 57.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.70	-9.41	0.34
			Max. Mx	8	-23.14	-1528.74	-0.68
			Max. My	2	-23.11	-1.98	1560.06
			Max. Vy	8	23.81	-1528.74	-0.68
			Max. Vx	2	-24.21	-1.98	1560.06
			Max. Torque	16			11.33
L28	57.5 - 56.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.67	-9.44	0.34
			Max. Mx	8	-26.58	-1649.83	-0.73
			Max. My	2	-26.55	-1.96	1683.17
			Max. Vy	8	24.62	-1649.83	-0.73
			Max. Vx	2	-25.03	-1.96	1683.17
			Max. Torque	16			11.46
L29	56.75 - 51.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.85	-9.46	0.34
			Max. Mx	8	-28.52	-1774.69	-0.78
			Max. My	2	-28.49	-1.93	1810.05
			Max. Vy	8	25.34	-1774.69	-0.78
			Max. Vx	2	-25.74	-1.93	1810.05
			Max. Torque	16			11.60
L30	51.75 - 46.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.06	-9.49	0.34
			Max. Mx	8	-30.49	-1903.08	-0.82
			Max. My	2	-30.46	-1.90	1940.46
			Max. Vy	8	26.04	-1903.08	-0.82
			Max. Vx	2	-26.44	-1.90	1940.46
			Max. Torque	16			11.73
L31	46.75 - 41.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.29	-9.49	0.34
			Max. Mx	8	-32.48	-2034.94	-0.86
			Max. My	2	-32.46	-1.87	2074.33
			Max. Vy	8	26.73	-2034.94	-0.86
			Max. Vx	2	-27.13	-1.87	2074.33
			Max. Torque	16			11.87
L32	41.75 - 39.8	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.17	-9.49	0.34
			Max. Mx	8	-33.26	-2087.30	-0.88
			Max. My	2	-33.24	-1.86	2127.47
			Max. Vy	8	27.00	-2087.30	-0.88
			Max. Vx	2	-27.41	-1.86	2127.47
			Max. Torque	16			11.92
L33	39.8 - 39.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.40	-9.49	0.34

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	-33.47	-2100.00	-0.88
			Max. My	2	-33.45	-1.85	2140.36
			Max. Vy	8	27.05	-2100.00	-0.88
			Max. Vx	2	-27.45	-1.85	2140.36
			Max. Torque	16			11.94
L34	39.33 - 39.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.52	-9.49	0.34
			Max. Mx	8	-33.58	-2106.76	-0.89
			Max. My	2	-33.56	-1.85	2147.23
			Max. Vy	8	27.09	-2106.76	-0.89
			Max. Vx	2	-27.49	-1.85	2147.23
			Max. Torque	16			11.94
L35	39.08 - 38.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.88	-9.49	0.34
			Max. Mx	8	-33.91	-2127.12	-0.89
			Max. My	2	-33.89	-1.85	2167.88
			Max. Vy	8	27.19	-2127.12	-0.89
			Max. Vx	2	-27.59	-1.85	2167.88
			Max. Torque	16			11.96
L36	38.33 - 38.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.00	-9.49	0.34
			Max. Mx	8	-34.02	-2133.92	-0.89
			Max. My	2	-34.00	-1.84	2174.78
			Max. Vy	8	27.22	-2133.92	-0.89
			Max. Vx	2	-27.62	-1.84	2174.78
			Max. Torque	16			11.97
L37	38.08 - 33.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.37	-9.49	0.34
			Max. Mx	8	-36.14	-2271.68	-0.94
			Max. My	2	-36.13	-1.81	2314.55
			Max. Vy	8	27.90	-2271.68	-0.94
			Max. Vx	2	-28.30	-1.81	2314.55
			Max. Torque	16			12.11
L38	33.08 - 30.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.49	-9.49	0.34
			Max. Mx	8	-37.15	-2337.01	-0.95
			Max. My	2	-37.13	-1.79	2380.81
			Max. Vy	8	28.20	-2337.01	-0.95
			Max. Vx	2	-28.60	-1.79	2380.81
			Max. Torque	16			12.17
L39	30.75 - 30.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.62	-9.49	0.34
			Max. Mx	8	-37.27	-2344.06	-0.96
			Max. My	2	-37.26	-1.79	2387.96
			Max. Vy	8	28.23	-2344.06	-0.96
			Max. Vx	2	-28.63	-1.79	2387.96
			Max. Torque	16			12.18
L40	30.5 - 25.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.18	-9.49	0.34
			Max. Mx	8	-39.58	-2486.79	-1.00
			Max. My	2	-39.57	-1.75	2532.68
			Max. Vy	8	28.88	-2486.79	-1.00
			Max. Vx	2	-29.28	-1.75	2532.68
			Max. Torque	16			12.31
L41	25.5 - 20.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.77	-9.49	0.34
			Max. Mx	8	-41.93	-2632.69	-1.03
			Max. My	2	-41.92	-1.71	2680.56
			Max. Vy	8	29.50	-2632.69	-1.03
			Max. Vx	2	-29.90	-1.71	2680.56
			Max. Torque	16			12.45
L42	20.5 - 15.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.37	-9.49	0.34
			Max. Mx	8	-44.31	-2781.58	-1.07

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	-44.30	-1.67	2831.43
			Max. Vy	8	30.08	-2781.58	-1.07
			Max. Vx	2	-30.48	-1.67	2831.43
			Max. Torque	16			12.58
L43	15.5 - 9.8	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.61	-9.49	0.34
			Max. Mx	8	-44.53	-2795.12	-1.08
			Max. My	2	-44.52	-1.67	2845.15
			Max. Vy	8	30.13	-2795.12	-1.08
			Max. Vx	2	-30.52	-1.67	2845.15
			Max. Torque	16			12.59
L44	9.8 - 8.8	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.59	-9.49	0.34
			Max. Mx	8	-49.86	-2985.87	-1.12
			Max. My	2	-49.86	-1.62	3038.35
			Max. Vy	8	30.91	-2985.87	-1.12
			Max. Vx	2	-31.31	-1.62	3038.35
			Max. Torque	16			12.75
L45	8.8 - 8.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.88	-9.49	0.34
			Max. Mx	8	-50.14	-3002.88	-1.13
			Max. My	2	-50.13	-1.61	3055.58
			Max. Vy	8	30.97	-3002.88	-1.13
			Max. Vx	2	-31.36	-1.61	3055.58
			Max. Torque	16			12.76
L46	8.25 - 8	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.02	-9.49	0.34
			Max. Mx	8	-50.27	-3010.62	-1.13
			Max. My	2	-50.26	-1.61	3063.42
			Max. Vy	8	30.99	-3010.62	-1.13
			Max. Vx	2	-31.38	-1.61	3063.42
			Max. Torque	16			12.77
L47	8 - 4.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.11	-9.49	0.34
			Max. Mx	8	-52.20	-3127.57	-1.16
			Max. My	2	-52.20	-1.58	3181.84
			Max. Vy	8	31.41	-3127.57	-1.16
			Max. Vx	2	-31.80	-1.58	3181.84
			Max. Torque	16			12.87
L48	4.25 - 4	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.27	-9.49	0.34
			Max. Mx	8	-52.35	-3135.43	-1.16
			Max. My	2	-52.35	-1.57	3189.79
			Max. Vy	8	31.42	-3135.43	-1.16
			Max. Vx	2	-31.81	-1.57	3189.79
			Max. Torque	16			12.87
L49	4 - 3	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.87	-9.49	0.34
			Max. Mx	8	-52.91	-3166.90	-1.16
			Max. My	2	-52.91	-1.56	3221.66
			Max. Vy	8	31.54	-3166.90	-1.16
			Max. Vx	2	-31.93	-1.56	3221.66
			Max. Torque	16			12.90
L50	3 - 2.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.03	-9.49	0.34
			Max. Mx	8	-53.07	-3174.79	-1.17
			Max. My	2	-53.07	-1.56	3229.64
			Max. Vy	8	31.56	-3174.79	-1.17
			Max. Vx	2	-31.95	-1.56	3229.64
			Max. Torque	16			12.91
L51	2.75 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.77	-9.49	0.34
			Max. Mx	8	-54.70	-3262.01	-1.19
			Max. My	2	-54.70	-1.54	3317.94
			Max. Vy	8	31.89	-3262.01	-1.19
			Max. Vx	2	-32.28	-1.54	3317.94
			Max. Torque	16			12.98

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	71.77	0.00	-0.00
	Max. H_x	20	54.71	31.88	0.01
	Max. H_z	3	41.03	0.01	32.26
	Max. M_x	2	3317.94	0.01	32.26
	Max. M_z	8	3262.01	-31.88	-0.01
	Max. Torsion	16	12.98	15.93	-27.94
	Min. Vert	9	41.03	-31.88	-0.01
	Min. H_x	8	54.71	-31.88	-0.01
	Min. H_z	15	41.03	-0.01	-32.26
	Min. M_x	14	-3316.68	-0.01	-32.26
	Min. M_z	20	-3255.08	31.88	0.01
	Min. Torsion	4	-12.96	-15.93	27.94

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	45.59	-0.00	0.00	-0.48	-2.65	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	54.71	-0.01	-32.26	-3317.94	-1.54	11.22
0.9 Dead+1.0 Wind 0 deg - No Ice	41.03	-0.01	-32.26	-3290.05	-0.66	11.13
1.2 Dead+1.0 Wind 30 deg - No Ice	54.71	15.93	-27.94	-2872.66	-1630.99	12.96
0.9 Dead+1.0 Wind 30 deg - No Ice	41.03	15.93	-27.94	-2848.49	-1616.55	12.89
1.2 Dead+1.0 Wind 60 deg - No Ice	54.71	27.60	-16.13	-1657.81	-2824.45	11.23
0.9 Dead+1.0 Wind 60 deg - No Ice	41.03	27.60	-16.13	-1643.78	-2800.05	11.21
1.2 Dead+1.0 Wind 90 deg - No Ice	54.71	31.88	0.01	1.18	-3262.01	6.49
0.9 Dead+1.0 Wind 90 deg - No Ice	41.03	31.88	0.01	1.34	-3233.95	6.51
1.2 Dead+1.0 Wind 120 deg - No Ice	54.71	27.61	16.14	1659.70	-2826.35	-0.01
0.9 Dead+1.0 Wind 120 deg - No Ice	41.03	27.61	16.14	1645.98	-2801.92	0.05
1.2 Dead+1.0 Wind 150 deg - No Ice	54.71	15.94	27.95	2873.23	-1634.26	-6.51
0.9 Dead+1.0 Wind 150 deg - No Ice	41.03	15.94	27.95	2849.37	-1619.77	-6.43
1.2 Dead+1.0 Wind 180 deg - No Ice	54.71	0.01	32.26	3316.68	-5.27	-11.26
0.9 Dead+1.0 Wind 180 deg - No Ice	41.03	0.01	32.26	3289.13	-4.35	-11.18
1.2 Dead+1.0 Wind 210 deg - No Ice	54.71	-15.93	27.94	2871.32	1624.20	-12.98
0.9 Dead+1.0 Wind 210 deg - No Ice	41.03	-15.93	27.94	2847.51	1611.55	-12.91
1.2 Dead+1.0 Wind 240 deg - No Ice	54.71	-27.60	16.13	1656.42	2817.59	-11.21
0.9 Dead+1.0 Wind 240 deg - No Ice	41.03	-27.60	16.13	1642.76	2795.01	-11.19
1.2 Dead+1.0 Wind 270 deg - No Ice	54.71	-31.88	-0.01	-2.55	3255.08	-6.45
0.9 Dead+1.0 Wind 270 deg - No Ice	41.03	-31.88	-0.01	-2.35	3228.85	-6.47
1.2 Dead+1.0 Wind 300 deg - No Ice	54.71	-27.61	-16.14	-1660.98	2819.40	0.03
0.9 Dead+1.0 Wind 300 deg - No Ice	41.03	-27.61	-16.14	-1646.93	2796.80	-0.03

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 330 deg - No Ice	54.71	-15.94	-27.95	-2874.46	1627.38	6.49
0.9 Dead+1.0 Wind 330 deg - No Ice	41.03	-15.94	-27.95	-2850.28	1614.70	6.41
1.2 Dead+1.0 Ice+1.0 Temp	71.77	-0.00	0.00	-0.34	-9.49	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	71.77	-0.00	-6.91	-724.68	-8.88	2.50
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	71.77	3.42	-5.98	-627.28	-366.70	2.74
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	71.77	5.93	-3.45	-361.90	-628.83	2.24
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	71.77	6.85	0.00	0.36	-725.05	1.15
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	71.77	5.93	3.46	362.44	-629.55	-0.26
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	71.77	3.43	5.98	627.30	-367.93	-1.59
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	71.77	0.00	6.91	723.99	-10.30	-2.50
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	71.77	-3.42	5.98	626.59	347.52	-2.74
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	71.77	-5.93	3.45	361.20	609.65	-2.24
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	71.77	-6.85	-0.00	-1.06	705.86	-1.14
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	71.77	-5.93	-3.46	-363.13	610.36	0.26
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	71.77	-3.43	-5.98	-627.99	348.75	1.59
Dead+Wind 0 deg - Service	45.59	-0.00	-6.17	-632.63	-2.52	2.15
Dead+Wind 30 deg - Service	45.59	3.04	-5.34	-547.77	-313.03	2.49
Dead+Wind 60 deg - Service	45.59	5.28	-3.08	-316.27	-540.44	2.16
Dead+Wind 90 deg - Service	45.59	6.09	0.00	-0.17	-623.80	1.25
Dead+Wind 120 deg - Service	45.59	5.28	3.08	315.83	-540.78	0.00
Dead+Wind 150 deg - Service	45.59	3.05	5.34	547.08	-313.65	-1.24
Dead+Wind 180 deg - Service	45.59	0.00	6.17	631.59	-3.22	-2.16
Dead+Wind 210 deg - Service	45.59	-3.04	5.34	546.73	307.29	-2.49
Dead+Wind 240 deg - Service	45.59	-5.28	3.08	315.23	534.70	-2.16
Dead+Wind 270 deg - Service	45.59	-6.09	-0.00	-0.88	618.05	-1.25
Dead+Wind 300 deg - Service	45.59	-5.28	-3.08	-316.88	535.04	-0.00
Dead+Wind 330 deg - Service	45.59	-3.05	-5.34	-548.11	307.90	1.24

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-45.59	0.00	0.00	45.59	-0.00	0.003%
2	-0.01	-54.71	-32.26	0.01	54.71	32.26	0.000%
3	-0.01	-41.03	-32.26	0.01	41.03	32.26	0.000%
4	15.93	-54.71	-27.94	-15.93	54.71	27.94	0.000%
5	15.93	-41.03	-27.94	-15.93	41.03	27.94	0.000%
6	27.60	-54.71	-16.13	-27.60	54.71	16.13	0.000%
7	27.60	-41.03	-16.13	-27.60	41.03	16.13	0.000%
8	31.88	-54.71	0.01	-31.88	54.71	-0.01	0.000%
9	31.88	-41.03	0.01	-31.88	41.03	-0.01	0.000%
10	27.61	-54.71	16.14	-27.61	54.71	-16.14	0.000%
11	27.61	-41.03	16.14	-27.61	41.03	-16.14	0.000%
12	15.94	-54.71	27.95	-15.94	54.71	-27.95	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
13	15.94	-41.03	27.95	-15.94	41.03	-27.95	0.000%
14	0.01	-54.71	32.26	-0.01	54.71	-32.26	0.000%
15	0.01	-41.03	32.26	-0.01	41.03	-32.26	0.000%
16	-15.93	-54.71	27.94	15.93	54.71	-27.94	0.000%
17	-15.93	-41.03	27.94	15.93	41.03	-27.94	0.000%
18	-27.60	-54.71	16.13	27.60	54.71	-16.13	0.000%
19	-27.60	-41.03	16.13	27.60	41.03	-16.13	0.000%
20	-31.88	-54.71	-0.01	31.88	54.71	0.01	0.000%
21	-31.88	-41.03	-0.01	31.88	41.03	0.01	0.000%
22	-27.61	-54.71	-16.14	27.61	54.71	16.14	0.000%
23	-27.61	-41.03	-16.14	27.61	41.03	16.14	0.000%
24	-15.94	-54.71	-27.95	15.94	54.71	27.95	0.000%
25	-15.94	-41.03	-27.95	15.94	41.03	27.95	0.000%
26	0.00	-71.77	0.00	0.00	71.77	-0.00	0.000%
27	-0.00	-71.77	-6.91	0.00	71.77	6.91	0.000%
28	3.42	-71.77	-5.98	-3.42	71.77	5.98	0.000%
29	5.93	-71.77	-3.45	-5.93	71.77	3.45	0.000%
30	6.85	-71.77	0.00	-6.85	71.77	-0.00	0.000%
31	5.93	-71.77	3.46	-5.93	71.77	-3.46	0.000%
32	3.43	-71.77	5.98	-3.43	71.77	-5.98	0.000%
33	0.00	-71.77	6.91	-0.00	71.77	-6.91	0.000%
34	-3.42	-71.77	5.98	3.42	71.77	-5.98	0.000%
35	-5.93	-71.77	3.45	5.93	71.77	-3.45	0.000%
36	-6.85	-71.77	-0.00	6.85	71.77	0.00	0.000%
37	-5.93	-71.77	-3.46	5.93	71.77	3.46	0.000%
38	-3.43	-71.77	-5.98	3.43	71.77	5.98	0.000%
39	-0.00	-45.59	-6.17	0.00	45.59	6.17	0.000%
40	3.04	-45.59	-5.34	-3.04	45.59	5.34	0.000%
41	5.28	-45.59	-3.08	-5.28	45.59	3.08	0.000%
42	6.09	-45.59	0.00	-6.09	45.59	-0.00	0.000%
43	5.28	-45.59	3.08	-5.28	45.59	-3.08	0.000%
44	3.05	-45.59	5.34	-3.05	45.59	-5.34	0.000%
45	0.00	-45.59	6.17	-0.00	45.59	-6.17	0.000%
46	-3.04	-45.59	5.34	3.04	45.59	-5.34	0.000%
47	-5.28	-45.59	3.08	5.28	45.59	-3.08	0.000%
48	-6.09	-45.59	-0.00	6.09	45.59	0.00	0.000%
49	-5.28	-45.59	-3.08	5.28	45.59	3.08	0.000%
50	-3.05	-45.59	-5.34	3.05	45.59	5.34	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00003357
2	Yes	23	0.00000001	0.00014271
3	Yes	23	0.00000001	0.00010813
4	Yes	25	0.00000001	0.00011728
5	Yes	25	0.00000001	0.00000000
6	Yes	25	0.00000001	0.00007888
7	Yes	24	0.00000001	0.00011684
8	Yes	23	0.00000001	0.00008187
9	Yes	22	0.00000001	0.00012617
10	Yes	25	0.00000001	0.00008919
11	Yes	24	0.00000001	0.00013208
12	Yes	25	0.00000001	0.00010231
13	Yes	25	0.00000001	0.00000000
14	Yes	23	0.00000001	0.00014430
15	Yes	23	0.00000001	0.00010934
16	Yes	25	0.00000001	0.00007688
17	Yes	24	0.00000001	0.00011407
18	Yes	25	0.00000001	0.00011036
19	Yes	25	0.00000001	0.00000000
20	Yes	23	0.00000001	0.00007978
21	Yes	22	0.00000001	0.00012316
22	Yes	25	0.00000001	0.00008864
23	Yes	24	0.00000001	0.00013119
24	Yes	25	0.00000001	0.00008061
25	Yes	24	0.00000001	0.00011915
26	Yes	18	0.00000001	0.00010430
27	Yes	23	0.00000001	0.00012437
28	Yes	23	0.00000001	0.00013518
29	Yes	23	0.00000001	0.00013395
30	Yes	23	0.00000001	0.00012593
31	Yes	23	0.00000001	0.00013371
32	Yes	23	0.00000001	0.00013415
33	Yes	23	0.00000001	0.00012395
34	Yes	23	0.00000001	0.00012746
35	Yes	23	0.00000001	0.00012599
36	Yes	23	0.00000001	0.00011663
37	Yes	23	0.00000001	0.00012557
38	Yes	23	0.00000001	0.00012775
39	Yes	19	0.00000001	0.00009953
40	Yes	19	0.00000001	0.00014828
41	Yes	19	0.00000001	0.00009356
42	Yes	18	0.00000001	0.00011074
43	Yes	18	0.00000001	0.00011684
44	Yes	19	0.00000001	0.00009821
45	Yes	19	0.00000001	0.00009925
46	Yes	19	0.00000001	0.00010232
47	Yes	19	0.00000001	0.00012859
48	Yes	18	0.00000001	0.00010752
49	Yes	18	0.00000001	0.00011363
50	Yes	18	0.00000001	0.00011957

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	156 - 151	18.30	40	1.17	0.03
L2	151 - 146	17.08	40	1.17	0.03
L3	146 - 144.5	15.87	39	1.14	0.03
L4	144.5 - 144	15.52	39	1.13	0.03
L5	144 - 139	15.40	39	1.13	0.03
L6	139 - 134	14.24	39	1.10	0.02
L7	134 - 129	13.10	39	1.06	0.02
L8	129 - 128.25	12.03	39	1.00	0.02
L9	128.25 - 128	11.87	39	0.99	0.01

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L10	128 - 123	11.82	39	0.98	0.01
L11	123 - 118	10.81	39	0.95	0.01
L12	118 - 113	9.84	39	0.90	0.01
L13	113 - 108	8.92	39	0.86	0.01
L14	108 - 103	8.05	39	0.81	0.01
L15	103 - 98	7.24	39	0.75	0.01
L16	98 - 93	6.48	39	0.69	0.01
L17	96.5 - 92	6.26	39	0.68	0.01
L18	92 - 87	5.64	39	0.65	0.01
L19	87 - 82	4.98	39	0.60	0.01
L20	82 - 77.5	4.38	39	0.55	0.00
L21	77.5 - 72.5	3.87	39	0.51	0.00
L22	72.5 - 70.58	3.36	39	0.47	0.00
L23	70.58 - 70.33	3.18	39	0.45	0.00
L24	70.33 - 67.08	3.16	39	0.45	0.00
L25	67.08 - 66.83	2.86	39	0.42	0.00
L26	66.83 - 61.83	2.84	39	0.42	0.00
L27	61.83 - 57.5	2.42	39	0.38	0.00
L28	61.75 - 56.75	2.42	39	0.38	0.00
L29	56.75 - 51.75	2.03	39	0.36	0.00
L30	51.75 - 46.75	1.67	39	0.33	0.00
L31	46.75 - 41.75	1.34	39	0.29	0.00
L32	41.75 - 39.8	1.06	39	0.26	0.00
L33	39.8 - 39.33	0.96	39	0.24	0.00
L34	39.33 - 39.08	0.93	39	0.24	0.00
L35	39.08 - 38.33	0.92	39	0.24	0.00
L36	38.33 - 38.08	0.88	39	0.23	0.00
L37	38.08 - 33.08	0.87	39	0.23	0.00
L38	33.08 - 30.75	0.65	39	0.20	0.00
L39	30.75 - 30.5	0.56	39	0.18	0.00
L40	30.5 - 25.5	0.55	39	0.18	0.00
L41	25.5 - 20.5	0.38	39	0.15	0.00
L42	20.5 - 15.5	0.24	39	0.11	0.00
L43	15.5 - 9.8	0.14	39	0.08	0.00
L44	15.05 - 8.8	0.13	39	0.08	0.00
L45	8.8 - 8.25	0.05	39	0.05	0.00
L46	8.25 - 8	0.04	39	0.05	0.00
L47	8 - 4.25	0.04	39	0.05	0.00
L48	4.25 - 4	0.01	39	0.02	0.00
L49	4 - 3	0.01	39	0.02	0.00
L50	3 - 2.75	0.00	39	0.02	0.00
L51	2.75 - 0	0.00	39	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
150.0000	NNVV-65B-R4	40	16.84	1.17	0.03	19108
143.0000	RRUS 11 B12	39	15.16	1.12	0.03	10616

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	156 - 151	95.54	2	5.99	0.15
L2	151 - 146	89.27	2	5.99	0.15
L3	146 - 144.5	83.04	2	5.91	0.15
L4	144.5 - 144	81.19	2	5.84	0.15
L5	144 - 139	80.58	2	5.84	0.15
L6	139 - 134	74.52	2	5.74	0.13
L7	134 - 129	68.62	2	5.53	0.10
L8	129 - 128.25	63.00	2	5.21	0.08
L9	128.25 - 128	62.19	2	5.15	0.08

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L10	128 - 123	61.92	2	5.14	0.08
L11	123 - 118	56.64	2	4.95	0.07
L12	118 - 113	51.57	2	4.73	0.06
L13	113 - 108	46.74	2	4.49	0.05
L14	108 - 103	42.19	2	4.22	0.05
L15	103 - 98	37.93	2	3.93	0.04
L16	98 - 93	33.97	2	3.63	0.03
L17	96.5 - 92	32.84	2	3.54	0.03
L18	92 - 87	29.56	2	3.40	0.03
L19	87 - 82	26.13	2	3.16	0.03
L20	82 - 77.5	22.95	2	2.91	0.02
L21	77.5 - 72.5	20.32	2	2.68	0.02
L22	72.5 - 70.58	17.64	2	2.44	0.02
L23	70.58 - 70.33	16.68	2	2.35	0.02
L24	70.33 - 67.08	16.55	2	2.34	0.02
L25	67.08 - 66.83	15.01	2	2.19	0.02
L26	66.83 - 61.83	14.90	2	2.18	0.02
L27	61.83 - 57.5	12.71	2	2.00	0.01
L28	61.75 - 56.75	12.68	2	2.00	0.01
L29	56.75 - 51.75	10.63	2	1.90	0.01
L30	51.75 - 46.75	8.74	2	1.71	0.01
L31	46.75 - 41.75	7.04	2	1.53	0.01
L32	41.75 - 39.8	5.54	2	1.34	0.01
L33	39.8 - 39.33	5.01	2	1.27	0.01
L34	39.33 - 39.08	4.89	2	1.25	0.01
L35	39.08 - 38.33	4.82	2	1.24	0.01
L36	38.33 - 38.08	4.63	2	1.22	0.01
L37	38.08 - 33.08	4.56	2	1.21	0.01
L38	33.08 - 30.75	3.39	2	1.03	0.01
L39	30.75 - 30.5	2.91	2	0.94	0.01
L40	30.5 - 25.5	2.86	2	0.93	0.01
L41	25.5 - 20.5	1.98	2	0.76	0.00
L42	20.5 - 15.5	1.27	2	0.59	0.00
L43	15.5 - 9.8	0.74	2	0.42	0.00
L44	15.05 - 8.8	0.70	2	0.41	0.00
L45	8.8 - 8.25	0.24	2	0.28	0.00
L46	8.25 - 8	0.21	2	0.26	0.00
L47	8 - 4.25	0.20	2	0.25	0.00
L48	4.25 - 4	0.05	2	0.12	0.00
L49	4 - 3	0.05	2	0.11	0.00
L50	3 - 2.75	0.03	2	0.08	0.00
L51	2.75 - 0	0.02	2	0.08	0.00

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.0000	NNVV-65B-R4	2	88.02	5.99	0.15	6135
143.0000	RRUS 11 B12	2	79.36	5.83	0.15	2627

Compression Checks
Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K
L1	156 - 151 (1)	TP10.75x10.75x0.365	5.0000	0.0000	0.0	11.9083	-0.23
L2	151 - 146 (2)	TP10.75x10.75x0.365	5.0000	0.0000	0.0	11.9083	-1.80
L3	146 - 144.5 (3)	TP10.75x10.75x0.365	1.5000	0.0000	0.0	11.9083	-1.88
L4	144.5 - 144 (4)	TP18x10.75x0.365	0.5000	0.0000	0.0	11.9083	-1.90

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K
L5	144 - 139 (5)	TP18.9435x18x0.25	5.0000	0.0000	0.0	15.0483	-6.71
L6	139 - 134 (6)	TP19.8871x18.9435x0.25	5.0000	0.0000	0.0	15.8078	-7.10
L7	134 - 129 (7)	TP20.8306x19.8871x0.25	5.0000	0.0000	0.0	16.5674	-7.51
L8	129 - 128.25 (8)	TP20.9721x20.8306x0.25	0.7500	0.0000	0.0	16.6813	-7.59
L9	128.25 - 128 (9)	TP21.0193x20.9721x0.575	0.2500	0.0000	0.0	37.8526	-7.63
L10	128 - 123 (10)	TP21.9628x21.0193x0.5625	5.0000	0.0000	0.0	38.7613	-8.40
L11	123 - 118 (11)	TP22.9064x21.9628x0.55	5.0000	0.0000	0.0	39.5931	-9.21
L12	118 - 113 (12)	TP23.8499x22.9064x0.525	5.0000	0.0000	0.0	39.4307	-10.04
L13	113 - 108 (13)	TP24.7934x23.8499x0.5125	5.0000	0.0000	0.0	40.0696	-10.89
L14	108 - 103 (14)	TP25.7369x24.7934x0.5	5.0000	0.0000	0.0	40.6315	-11.78
L15	103 - 98 (15)	TP26.6805x25.7369x0.4938	5.0000	0.0000	0.0	41.6336	-12.69
L16	98 - 93 (16)	TP27.624x26.6805x0.4875	5.0000	0.0000	0.0	41.5607	-12.96
L17	93 - 92 (17)	TP27.313x26.4635x0.7	4.5000	0.0000	0.0	59.9856	-14.58
L18	92 - 87 (18)	TP28.2568x27.313x0.675	5.0000	0.0000	0.0	59.9490	-15.78
L19	87 - 82 (19)	TP29.2006x28.2568x0.65	5.0000	0.0000	0.0	59.7563	-17.01
L20	82 - 77.5 (20)	TP30.05x29.2006x0.6375	4.5000	0.0000	0.0	60.3765	-18.14
L21	77.5 - 72.5 (21)	TP30.9935x30.05x0.6875	5.0000	0.0000	0.0	67.0899	-19.53
L22	72.5 - 70.58 (22)	TP31.3558x30.9935x0.6875	1.9200	0.0000	0.0	67.8920	-20.06
L23	70.58 - 70.33 (23)	TP31.403x31.3558x0.6875	0.2500	0.0000	0.0	67.9964	-20.15
L24	70.33 - 67.08 (24)	TP32.0163x31.403x0.675	3.2500	0.0000	0.0	68.1202	-21.07
L25	67.08 - 66.83 (25)	TP32.0634x32.0163x0.975	0.2500	0.0000	0.0	97.6021	-21.17
L26	66.83 - 61.83 (26)	TP33.0069x32.0634x0.95	5.0000	0.0000	0.0	98.0621	-23.07
L27	61.83 - 57.5 (27)	TP33.824x33.0069x0.95	4.3300	0.0000	0.0	98.1083	-23.11
L28	57.5 - 56.75 (28)	TP33.3405x32.397x0.9375	5.0000	0.0000	0.0	97.8166	-26.55
L29	56.75 - 51.75 (29)	TP34.284x33.3405x0.9125	5.0000	0.0000	0.0	98.0539	-28.49
L30	51.75 - 46.75 (30)	TP35.2275x34.284x0.9	5.0000	0.0000	0.0	99.4812	-30.46
L31	46.75 - 41.75 (31)	TP36.171x35.2275x0.8875	5.0000	0.0000	0.0	100.8320	-32.46
L32	41.75 - 39.8 (32)	TP36.539x36.171x0.875	1.9500	0.0000	0.0	100.4830	-33.24
L33	39.8 - 39.33 (33)	TP36.6277x36.539x0.95	0.4700	0.0000	0.0	109.1380	-33.45
L34	39.33 - 39.08 (34)	TP36.6749x36.6277x0.9375	0.2500	0.0000	0.0	107.8820	-33.56
L35	39.08 - 38.33 (35)	TP36.8164x36.6749x0.9375	0.7500	0.0000	0.0	108.3100	-33.89
L36	38.33 - 38.08 (36)	TP36.8636x36.8164x0.8875	0.2500	0.0000	0.0	102.8110	-34.00
L37	38.08 - 33.08 (37)	TP37.8073x36.8636x0.875	5.0000	0.0000	0.0	104.0570	-36.13
L38	33.08 - 30.75 (38)	TP38.247x37.8073x0.8625	2.3300	0.0000	0.0	103.8260	-37.13
L39	30.75 - 30.5 (39)	TP38.2942x38.247x0.9375	0.2500	0.0000	0.0	112.7710	-37.26

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K
L40	30.5 - 25.5 (40)	TP39.2379x38.2942x0.925	5.0000	0.0000	0.0	114.1150	-39.57
L41	25.5 - 20.5 (41)	TP40.1816x39.2379x0.9	5.0000	0.0000	0.0	113.8380	-41.92
L42	20.5 - 15.5 (42)	TP41.1252x40.1816x0.8875	5.0000	0.0000	0.0	114.9890	-44.30
L43	15.5 - 9.8 (43)	TP42.201x41.1252x0.8875	5.7000	0.0000	0.0	115.2320	-44.52
L44	9.8 - 8.8 (44)	TP41.6395x40.4602x0.875	6.2500	0.0000	0.0	114.8540	-49.86
L45	8.8 - 8.25 (45)	TP41.7433x41.6395x0.875	0.5500	0.0000	0.0	115.1460	-50.13
L46	8.25 - 8 (46)	TP41.7904x41.7433x0.875	0.2500	0.0000	0.0	115.2790	-50.26
L47	8 - 4.25 (47)	TP42.498x41.7904x0.875	3.7500	0.0000	0.0	117.2730	-52.20
L48	4.25 - 4 (48)	TP42.5452x42.498x1.05	0.2500	0.0000	0.0	140.2950	-52.35
L49	4 - 3 (49)	TP42.7339x42.5452x1.05	1.0000	0.0000	0.0	140.9330	-52.91
L50	3 - 2.75 (50)	TP42.7811x42.7339x1.15	0.2500	0.0000	0.0	154.1600	-53.07
L51	2.75 - 0 (51)	TP43.3x42.7811x1.125	2.7500	0.0000	0.0	152.7790	-54.70

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft
L1	156 - 151 (1)	TP10.75x10.75x0.365	0.45
L2	151 - 146 (2)	TP10.75x10.75x0.365	20.61
L3	146 - 144.5 (3)	TP10.75x10.75x0.365	27.53
L4	144.5 - 144 (4)	TP18x10.75x0.365	27.53
L5	144 - 139 (5)	TP18.9435x18x0.25	74.67
L6	139 - 134 (6)	TP19.8871x18.9435x0.25	149.31
L7	134 - 129 (7)	TP20.8306x19.8871x0.25	227.12
L8	129 - 128.25 (8)	TP20.9721x20.8306x0.25	238.95
L9	128.25 - 128 (9)	TP21.0193x20.9721x0.575	242.91
L10	128 - 123 (10)	TP21.9628x21.0193x0.5625	323.56
L11	123 - 118 (11)	TP22.9064x21.9628x0.55	407.10
L12	118 - 113 (12)	TP23.8499x22.9064x0.525	493.55
L13	113 - 108 (13)	TP24.7934x23.8499x0.5125	582.96
L14	108 - 103 (14)	TP25.7369x24.7934x0.5	675.36
L15	103 - 98 (15)	TP26.6805x25.7369x0.4938	770.77
L16	98 - 93 (16)	TP27.624x26.6805x0.4875	799.99
L17	93 - 92 (17)	TP27.313x26.4635x0.7	889.52
L18	92 - 87 (18)	TP28.2568x27.313x0.675	992.17
L19	87 - 82 (19)	TP29.2006x28.2568x0.65	1098.03
L20	82 - 77.5 (20)	TP30.05x29.2006x0.6375	1196.04
L21	77.5 - 72.5 (21)	TP30.9935x30.05x0.6875	1308.03
L22	72.5 - 70.58 (22)	TP31.3558x30.9935x0.6875	1351.90
L23	70.58 - 70.33 (23)	TP31.403x31.3558x0.6875	1357.65
L24	70.33 - 67.08 (24)	TP32.0163x31.403x0.675	1433.12
L25	67.08 - 66.83 (25)	TP32.0634x32.0163x0.975	1438.97

Section No.	Elevation ft	Size	M_{ux} kip-ft
L26	66.83 - 61.83 (26)	TP33.0069x32.0634x0.95	1558.13
L27	61.83 - 57.5 (27)	TP33.824x33.0069x0.95	1560.06
L28	57.5 - 56.75 (28)	TP33.3405x32.397x0.937 5	1683.18
L29	56.75 - 51.75 (29)	TP34.284x33.3405x0.912 5	1810.06
L30	51.75 - 46.75 (30)	TP35.2275x34.284x0.9	1940.46
L31	46.75 - 41.75 (31)	TP36.171x35.2275x0.887 5	2074.33
L32	41.75 - 39.8 (32)	TP36.539x36.171x0.875	2127.47
L33	39.8 - 39.33 (33)	TP36.6277x36.539x0.95	2140.36
L34	39.33 - 39.08 (34)	TP36.6749x36.6277x0.93 75	2147.22
L35	39.08 - 38.33 (35)	TP36.8164x36.6749x0.93 75	2167.88
L36	38.33 - 38.08 (36)	TP36.8636x36.8164x0.88 75	2174.78
L37	38.08 - 33.08 (37)	TP37.8073x36.8636x0.87 5	2314.55
L38	33.08 - 30.75 (38)	TP38.247x37.8073x0.862 5	2380.81
L39	30.75 - 30.5 (39)	TP38.2942x38.247x0.937 5	2387.96
L40	30.5 - 25.5 (40)	TP39.2379x38.2942x0.92 5	2532.68
L41	25.5 - 20.5 (41)	TP40.1816x39.2379x0.9	2680.56
L42	20.5 - 15.5 (42)	TP41.1252x40.1816x0.88 75	2831.43
L43	15.5 - 9.8 (43)	TP42.201x41.1252x0.887 5	2845.15
L44	9.8 - 8.8 (44)	TP41.6395x40.4602x0.87 5	3038.35
L45	8.8 - 8.25 (45)	TP41.7433x41.6395x0.87 5	3055.58
L46	8.25 - 8 (46)	TP41.7904x41.7433x0.87 5	3063.43
L47	8 - 4.25 (47)	TP42.498x41.7904x0.875	3181.84
L48	4.25 - 4 (48)	TP42.5452x42.498x1.05	3189.79
L49	4 - 3 (49)	TP42.7339x42.5452x1.05	3221.66
L50	3 - 2.75 (50)	TP42.7811x42.7339x1.15	3229.64
L51	2.75 - 0 (51)	TP43.3x42.7811x1.125	3317.93

Pole Shear Design Data

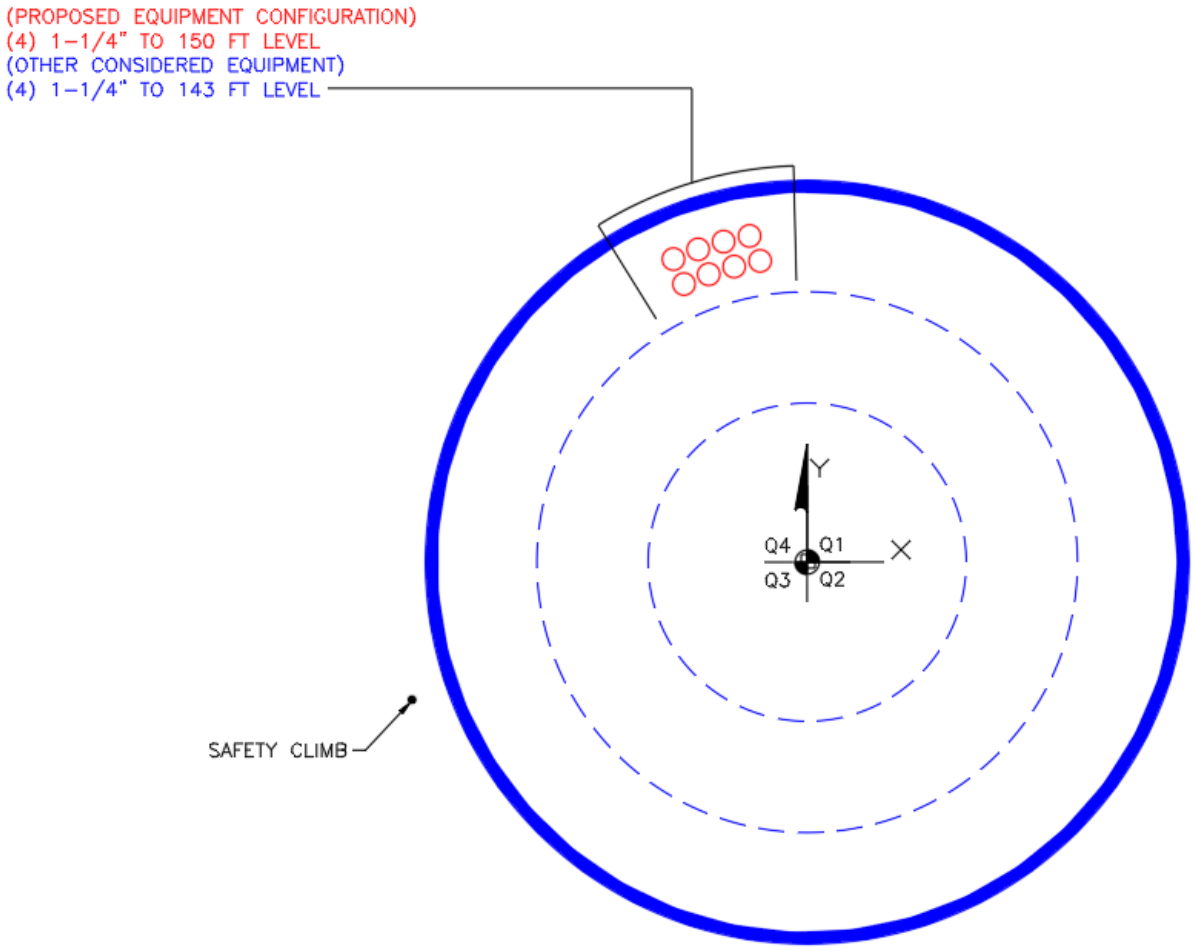
Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
L1	156 - 151 (1)	TP10.75x10.75x0.365	0.18	0.00
L2	151 - 146 (2)	TP10.75x10.75x0.365	4.60	1.23
L3	146 - 144.5 (3)	TP10.75x10.75x0.365	4.65	1.23
L4	144.5 - 144 (4)	TP18x10.75x0.365	4.67	1.23
L5	144 - 139 (5)	TP18.9435x18x0.25	14.70	10.55
L6	139 - 134 (6)	TP19.8871x18.9435x0.25	15.16	10.55
L7	134 - 129 (7)	TP20.8306x19.8871x0.25	15.74	9.14
L8	129 - 128.25 (8)	TP20.9721x20.8306x0.25	15.82	9.14
L9	128.25 - 128 (9)	TP21.0193x20.9721x0.57 5	15.85	9.14
L10	128 - 123 (10)	TP21.9628x21.0193x0.56 25	16.42	9.18

Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
L11	123 - 118 (11)	TP22.9064x21.9628x0.55	17.00	9.21
L12	118 - 113 (12)	TP23.8499x22.9064x0.525	17.59	9.24
L13	113 - 108 (13)	TP24.7934x23.8499x0.5125	18.19	9.28
L14	108 - 103 (14)	TP25.7369x24.7934x0.5	18.79	9.31
L15	103 - 98 (15)	TP26.6805x25.7369x0.4938	19.40	9.36
L16	98 - 93 (16)	TP27.624x26.6805x0.4875	19.58	9.37
L17	93 - 92 (17)	TP27.313x26.4635x0.7	20.22	9.42
L18	92 - 87 (18)	TP28.2568x27.313x0.675	20.86	9.47
L19	87 - 82 (19)	TP29.2006x28.2568x0.65	21.50	9.52
L20	82 - 77.5 (20)	TP30.05x29.2006x0.6375	22.08	9.57
L21	77.5 - 72.5 (21)	TP30.9935x30.05x0.6875	22.73	9.62
L22	72.5 - 70.58 (22)	TP31.3558x30.9935x0.6875	22.99	9.64
L23	70.58 - 70.33 (23)	TP31.403x31.3558x0.6875	23.01	9.64
L24	70.33 - 67.08 (24)	TP32.0163x31.403x0.675	23.44	9.68
L25	67.08 - 66.83 (25)	TP32.0634x32.0163x0.975	23.47	9.68
L26	66.83 - 61.83 (26)	TP33.0069x32.0634x0.95	24.20	9.78
L27	61.83 - 57.5 (27)	TP33.824x33.0069x0.95	24.21	9.79
L28	57.5 - 56.75 (28)	TP33.3405x32.397x0.9375	25.03	9.90
L29	56.75 - 51.75 (29)	TP34.284x33.3405x0.9125	25.74	10.02
L30	51.75 - 46.75 (30)	TP35.2275x34.284x0.9	26.44	10.14
L31	46.75 - 41.75 (31)	TP36.171x35.2275x0.8875	27.13	10.26
L32	41.75 - 39.8 (32)	TP36.539x36.171x0.875	27.41	10.30
L33	39.8 - 39.33 (33)	TP36.6277x36.539x0.95	27.45	10.31
L34	39.33 - 39.08 (34)	TP36.6749x36.6277x0.9375	27.49	10.32
L35	39.08 - 38.33 (35)	TP36.8164x36.6749x0.9375	27.59	10.34
L36	38.33 - 38.08 (36)	TP36.8636x36.8164x0.8875	27.62	10.34
L37	38.08 - 33.08 (37)	TP37.8073x36.8636x0.875	28.30	10.46
L38	33.08 - 30.75 (38)	TP38.247x37.8073x0.8625	28.60	10.52
L39	30.75 - 30.5 (39)	TP38.2942x38.247x0.9375	28.63	10.52
L40	30.5 - 25.5 (40)	TP39.2379x38.2942x0.925	29.28	10.64
L41	25.5 - 20.5 (41)	TP40.1816x39.2379x0.9	29.90	10.76
L42	20.5 - 15.5 (42)	TP41.1252x40.1816x0.8875	30.48	10.87
L43	15.5 - 9.8 (43)	TP42.201x41.1252x0.8875	30.52	10.88
L44	9.8 - 8.8 (44)	TP41.6395x40.4602x0.875	31.31	11.02
L45	8.8 - 8.25 (45)	TP41.7433x41.6395x0.875	31.36	11.03
L46	8.25 - 8 (46)	TP41.7904x41.7433x0.875	31.38	11.04
L47	8 - 4.25 (47)	TP42.498x41.7904x0.875	31.80	11.12
L48	4.25 - 4 (48)	TP42.5452x42.498x1.05	31.81	11.13
L49	4 - 3 (49)	TP42.7339x42.5452x1.05	31.93	11.15

Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
L50	3 - 2.75 (50)	TP42.7811x42.7339x1.15	31.95	11.15
L51	2.75 - 0 (51)	TP43.3x42.7811x1.125	32.28	11.22

APPENDIX B

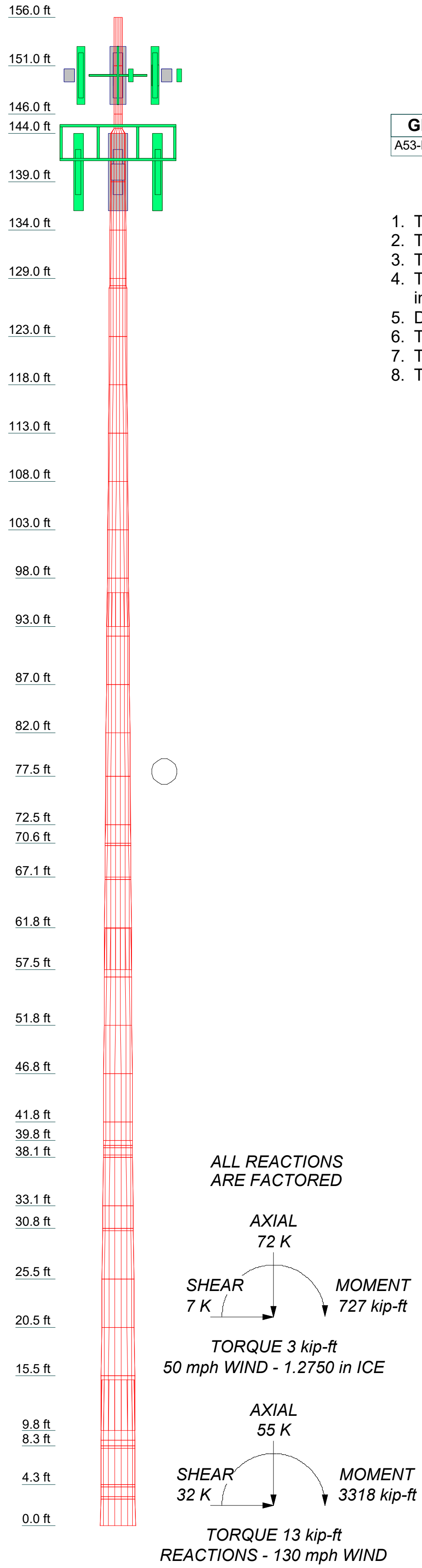
BASE LEVEL DRAWING


(PROPOSED EQUIPMENT CONFIGURATION)
(4) 1-1/4" TO 150 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(4) 1-1/4" TO 143 FT LEVEL
Y
Q4
Q1
X
Q3
Q2
SAFETY CLIMB

APPENDIX C

ADDITIONAL CALCULATIONS

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.0000	0	0.3650		10.7500	10.7500	A53-B-35	0.2
2	[illegible]	0	0.3650		10.7500	10.7500		0.2
3	[illegible]	0	[illegible]		[illegible]	[illegible]		0.1
4	[illegible]	0	[illegible]		[illegible]	[illegible]		[illegible]
5	5.0000	12	0.2500		18.0000	18.9435		0.2
6	5.0000	12	0.2500		18.9435	19.8871	A36	0.3
7	[illegible]	12	[illegible]		[illegible]	[illegible]		0.3
8	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
9	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
10	5.0000	12	[illegible]		[illegible]	[illegible]		0.6
11	5.0000	12	0.5500		21.9628	22.9064		0.6
12	5.0000	12	0.5250		22.9064	23.8499		0.6
13	5.0000	12	0.5125		23.8499	24.7934		0.6
14	5.0000	12	0.5000		24.7934	25.7369		0.6
15	5.0000	12	0.4938		25.7369	26.6805		0.7
16	[illegible]	12	0.4875	3.5000	26.6805	27.6240		0.7
17	[illegible]	12	[illegible]		[illegible]	[illegible]		0.8
18	5.0000	12	0.6750		[illegible]	[illegible]		0.9
19	5.0000	12	0.6500		28.2568	29.2006		0.9
20	4.5000	12	0.6375		29.2006	30.0500		0.8
21	5.0000	12	0.6875		30.0500	[illegible]		1.1
22	[illegible]	12	[illegible]		[illegible]	[illegible]		0.4
23	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
24	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
25	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
26	5.0000	12	[illegible]		[illegible]	[illegible]		1.5
27	[illegible]	12	[illegible]	4.2500	[illegible]	[illegible]		1.3
28	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
29	5.0000	12	[illegible]		[illegible]	[illegible]		1.5
30	5.0000	12	0.9000		34.2840	35.2275		1.5
31	5.0000	12	0.8875		35.2275	[illegible]		1.6
32	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
33	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
34	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
35	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
36	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
37	5.0000	12	[illegible]		[illegible]	[illegible]		1.7
38	[illegible]	12	[illegible]		[illegible]	[illegible]		0.8
39	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
40	5.0000	12	[illegible]		[illegible]	[illegible]		1.8
41	5.0000	12	0.9000		39.2379	40.1816		1.8
42	5.0000	12	0.8875		40.1816	41.1252		1.9
43	[illegible]	12	0.8875	5.2500	41.1252	[illegible]		2.2
44	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
45	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
46	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
47	[illegible]	12	[illegible]		[illegible]	[illegible]		1.5
48	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
49	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
50	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
51	[illegible]	12	[illegible]		[illegible]	[illegible]		1.3
								38.0



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	60 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 130 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.27 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 0.0000 ft
8. TIA-222-H Annex S

Paul J. Ford and Company
250 East Broad st., Suite 600
Columbus, OH 43215
Phone: (614) 221-6679
FAX:

Job: 156' MP; Thompson/ I-395 X99_1; Thompson, C
Project: PJF# 37518-0348 / BU# 828402
Client: CCI | Drawn by: apike | App'd:
Code: TIA-222-H | Date: 11/01/18 | Scale: NTS
Path: | Dwg No. E-1

CCIpole

per TIA-222- H

Site BU: 828402

Work Order: _____

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	156	11.5	0	0	10.75	10.75	0.365		A53-B-35
2	144.5	0.5	0	0	10.75	18	0.365		A53-B-35
3	144	51	3.5	12	18.00	27.624	0.25	Auto	A36
4	96.5	19	0	12	26.46	30.05	0.25	Auto	A36
5	77.5	20	4.25	12	30.05	33.824	0.3125	Auto	A36
6	61.75	21.95	0	12	32.40	36.539	0.3125	Auto	A36
7	39.8	30	5.25	12	36.54	42.201	0.375	Auto	A36
8	15.05	15.05	0	12	40.46	43.3	0.375	Auto	A36

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
1	4.25	39.33	plate	I-085125; (1) (1.1875)	2	o				o							
2	8.25	38.33	plate	CCI-SFP-065125	1									o			
3	39.33	70.58	plate	CCI-AFP-085125	2	o				o							
4	38.33	70.58	plate	CCI-AFP-085125	1									o			
5	70.58	94.67	plate	I-085125; (1) (1.1875)	3	o				o				o			
6	94.67	128.25	plate	CCI-AFP-060100	3	o				o				o			
7	3	30.75	plate	I-085125; (1) (1.1875)	3				o				o				o
8	30.75	67.08	plate	CCI-AFP-065125	3				o				o				o
9	0	4.25	plate	FP 1.25 x 6.5_1	4	o			c	o							c
10	0	8.25	plate	FP 1.25 x 6.5_1	2							c	c				
11	0	3	plate	FP 1.25 x 3.5_1	9		o	o	o		o	o	o		o	o	o
12																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	8.5	1.25	10.625	0.625	n/a	n/a	17.000	9.063	1.1875	A572-65
2	6.5	1.25	8.125	0.625	33.000	33.000	19.000	6.563	1.1875	A572-65
3	8.5	1.25	10.625	0.625	51.000	51.000	17.000	9.063	1.1875	A572-65
4	8.5	1.25	10.625	0.625	51.000	51.000	17.000	9.063	1.1875	A572-65
5	8.5	1.25	10.625	0.625	60.000	60.000	17.000	9.063	1.1875	A572-65
6	6	1	6	0.5	30.000	30.000	16.000	4.750	1.1875	A572-65
7	8.5	1.25	10.625	0.625	n/a	n/a	17.000	9.063	1.1875	A572-65
8	6.5	1.25	8.125	0.625	42.000	42.000	19.000	6.563	1.1875	A572-65
9	1.25	6.5	8.125	3.25	n/a	n/a	0.000	8.125	0.0000	A572-65
10	1.25	6.5	8.125	3.25	n/a	n/a	0.000	8.125	0.0000	A572-65
11	1.25	3.5	4.375	1.75	n/a	n/a	0.000	4.375	0.0000	A572-65

TNX Geometry Input

Increment (ft): 5

	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	156 - 151	5		0	10.750	10.750	0.365	A53-B-35	1.000
2	151 - 146	5		0	10.750	10.750	0.365	A53-B-35	1.000
3	146 - 144.5	1.5	0	0	10.750	10.750	0.365	A53-B-35	1.000
4	144.5 - 144	0.5	0	0	10.750	18.000	0.365	A53-B-35	1.000
5	144 - 139	5		12	18.000	18.944	0.25	A36	1.000
6	139 - 134	5		12	18.944	19.887	0.25	A36	1.000
7	134 - 129	5		12	19.887	20.831	0.25	A36	1.000
8	129 - 128.25	0.75		12	20.831	20.972	0.25	A36	1.000
9	128.25 - 128	0.25		12	20.972	21.019	0.575	A36	0.918
10	128 - 123	5		12	21.019	21.963	0.5625	A36	0.916
11	123 - 118	5		12	21.963	22.906	0.55	A36	0.916
12	118 - 113	5		12	22.906	23.850	0.525	A36	0.939
13	113 - 108	5		12	23.850	24.793	0.5125	A36	0.943
14	108 - 103	5		12	24.793	25.737	0.5	A36	0.949
15	103 - 98	5		12	25.737	26.680	0.49375	A36	0.944
16	98 - 96.5	5	3.5	12	26.680	27.624	0.4875	A36	0.951
17	96.5 - 92	4.5		12	26.464	27.313	0.7	A36	0.895
18	92 - 87	5		12	27.313	28.257	0.675	A36	0.909
19	87 - 82	5		12	28.257	29.201	0.65	A36	0.924
20	82 - 77.5	4.5	0	12	29.201	30.050	0.6375	A36	0.926
21	77.5 - 72.5	5		12	30.050	30.994	0.6875	A36	0.936
22	72.5 - 70.58	1.92		12	30.994	31.356	0.6875	A36	0.930
23	70.58 - 70.33	0.25		12	31.356	31.403	0.6875	A36	0.930
24	70.33 - 67.08	3.25		12	31.403	32.016	0.675	A36	0.937
25	67.08 - 66.83	0.25		12	32.016	32.063	0.975	A36	0.904
26	66.83 - 61.83	5		12	32.063	33.007	0.95	A36	0.910
27	61.83 - 61.75	4.33	4.25	12	33.007	33.824	0.95	A36	0.910
28	61.75 - 56.75	5		12	32.397	33.341	0.9375	A36	0.916
29	56.75 - 51.75	5		12	33.341	34.284	0.9125	A36	0.923
30	51.75 - 46.75	5		12	34.284	35.228	0.9	A36	0.919
31	46.75 - 41.75	5		12	35.228	36.171	0.8875	A36	0.917
32	41.75 - 39.8	1.95	0	12	36.171	36.539	0.875	A36	0.923
33	39.8 - 39.33	0.47		12	36.539	36.628	0.95	A36	0.917
34	39.33 - 39.08	0.25		12	36.628	36.675	0.9375	A36	0.928
35	39.08 - 38.33	0.75		12	36.675	36.816	0.9375	A36	0.926
36	38.33 - 38.08	0.25		12	36.816	36.864	0.8875	A36	0.952
37	38.08 - 33.08	5		12	36.864	37.807	0.875	A36	0.952
38	33.08 - 30.75	2.33		12	37.807	38.247	0.8625	A36	0.959
39	30.75 - 30.5	0.25		12	38.247	38.294	0.9375	A36	0.950
40	30.5 - 25.5	5		12	38.294	39.238	0.925	A36	0.949
41	25.5 - 20.5	5		12	39.238	40.182	0.9	A36	0.961
42	20.5 - 15.5	5		12	40.182	41.125	0.8875	A36	0.961
43	15.5 - 15.05	5.7	5.25	12	41.125	42.201	0.8875	A36	0.960
44	15.05 - 8.8	6.25		12	40.460	41.639	0.875	A36	0.968
45	8.8 - 8.25	0.55		12	41.639	41.743	0.875	A36	0.967
46	8.25 - 8	0.25		12	41.743	41.790	0.875	A36	1.036
47	8 - 4.25	3.75		12	41.790	42.498	0.875	A36	1.026
48	4.25 - 4	0.25		12	42.498	42.545	1.05	A36	0.938
49	4 - 3	1		12	42.545	42.734	1.05	A36	0.936
50	3 - 2.75	0.25		12	42.734	42.781	1.15	A36	0.905
51	2.75 - 0	2.75		12	42.781	43.300	1.125	A36	0.917

TNX Section Forces

Increment (ft): 5		TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	156 - 151	0.23	0.45	0.18
2	151 - 146	1.80	20.61	4.60
3	146 - 144.5	1.88	27.53	4.65
4	144.5 - 144	1.91	29.86	4.67
5	144 - 139	6.71	74.89	14.71
6	139 - 134	7.10	149.62	15.26
7	134 - 129	7.53	227.12	15.74
8	129 - 128.25	7.59	238.95	15.82
9	128.25 - 128	7.63	242.91	15.85
10	128 - 123	8.40	323.56	16.42
11	123 - 118	9.21	407.10	17.00
12	118 - 113	10.04	493.55	17.59
13	113 - 108	10.89	582.96	18.19
14	108 - 103	11.78	675.36	18.79
15	103 - 98	12.69	770.77	19.40
16	98 - 96.5	12.96	799.99	19.58
17	96.5 - 92	14.58	889.53	20.22
18	92 - 87	15.78	992.17	20.86
19	87 - 82	17.01	1098.03	21.50
20	82 - 77.5	18.14	1196.04	22.08
21	77.5 - 72.5	19.53	1308.03	22.73
22	72.5 - 70.58	20.06	1351.90	22.99
23	70.58 - 70.33	20.15	1357.65	23.01
24	70.33 - 67.08	21.07	1433.11	23.44
25	67.08 - 66.83	21.17	1438.97	23.47
26	66.83 - 61.83	23.07	1558.12	24.20
27	61.83 - 61.75	23.11	1560.06	24.21
28	61.75 - 56.75	26.55	1683.17	25.03
29	56.75 - 51.75	28.49	1810.05	25.74
30	51.75 - 46.75	30.46	1940.46	26.44
31	46.75 - 41.75	32.46	2074.33	27.13
32	41.75 - 39.8	33.24	2127.47	27.41
33	39.8 - 39.33	33.45	2140.36	27.45
34	39.33 - 39.08	33.56	2147.23	27.49
35	39.08 - 38.33	33.89	2167.88	27.59
36	38.33 - 38.08	34.00	2174.78	27.62
37	38.08 - 33.08	36.13	2314.55	28.30
38	33.08 - 30.75	37.13	2380.81	28.60
39	30.75 - 30.5	37.26	2387.96	28.63
40	30.5 - 25.5	39.57	2532.68	29.28
41	25.5 - 20.5	41.92	2680.56	29.90
42	20.5 - 15.5	44.30	2831.43	30.48
43	15.5 - 15.05	44.52	2845.15	30.52
44	15.05 - 8.8	49.86	3038.35	31.31
45	8.8 - 8.25	50.13	3055.58	31.36
46	8.25 - 8	50.26	3063.42	31.38
47	8 - 4.25	52.20	3181.84	31.80
48	4.25 - 4	52.35	3189.79	31.81
49	4 - 3	52.91	3221.66	31.93
50	3 - 2.75	53.07	3229.64	31.95
51	2.75 - 0	54.70	3317.94	32.28

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
156 - 151	Pole	TP10.75x10.75x0.365	Pole	0.5%	Pass
151 - 146	Pole	TP10.75x10.75x0.365	Pole	19.5%	Pass
146 - 144.5	Pole	TP10.75x10.75x0.365	Pole	25.9%	Pass
144.5 - 144	Pole	TP18x10.75x0.365	Pole	9.9%	Pass
144 - 139	Pole	TP18.944x18x0.25	Pole	31.8%	Pass
139 - 134	Pole	TP19.887x18.944x0.25	Pole	56.6%	Pass
134 - 129	Pole	TP20.831x19.887x0.25	Pole	77.6%	Pass
129 - 128.25	Pole	TP20.972x20.831x0.25	Pole	80.5%	Pass
128.25 - 128	Pole + Reinf.	TP21.019x20.972x0.575	Pole	36.7%	Pass
128 - 123	Pole + Reinf.	TP21.963x21.019x0.5625	Pole	45.9%	Pass
123 - 118	Pole + Reinf.	TP22.906x21.963x0.55	Pole	54.4%	Pass
118 - 113	Pole + Reinf.	TP23.85x22.906x0.525	Pole	62.2%	Pass
113 - 108	Pole + Reinf.	TP24.793x23.85x0.5125	Pole	69.4%	Pass
108 - 103	Pole + Reinf.	TP25.737x24.793x0.5	Pole	76.1%	Pass
103 - 98	Pole + Reinf.	TP26.68x25.737x0.4938	Pole	82.3%	Pass
98 - 96.5	Pole + Reinf.	TP27.624x26.68x0.4875	Pole	84.1%	Pass
96.5 - 92	Pole + Reinf.	TP27.313x26.464x0.7	Pole	65.9%	Pass
92 - 87	Pole + Reinf.	TP28.257x27.313x0.675	Pole	70.9%	Pass
87 - 82	Pole + Reinf.	TP29.201x28.257x0.65	Pole	75.9%	Pass
82 - 77.5	Pole + Reinf.	TP30.05x29.201x0.6375	Pole	80.3%	Pass
77.5 - 72.5	Pole + Reinf.	TP30.994x30.05x0.6875	Pole	74.5%	Pass
72.5 - 70.58	Pole + Reinf.	TP31.356x30.994x0.6875	Pole	75.7%	Pass
70.58 - 70.33	Pole + Reinf.	TP31.403x31.356x0.6875	Pole	75.9%	Pass
70.33 - 67.08	Pole + Reinf.	TP32.016x31.403x0.675	Pole	77.9%	Pass
67.08 - 66.83	Pole + Reinf.	TP32.063x32.016x0.975	Pole	55.9%	Pass
66.83 - 61.83	Pole + Reinf.	TP33.007x32.063x0.95	Pole	58.3%	Pass
61.83 - 61.75	Pole + Reinf.	TP33.824x33.007x0.95	Pole	58.4%	Pass
61.75 - 56.75	Pole + Reinf.	TP33.341x32.397x0.9375	Pole	62.2%	Pass
56.75 - 51.75	Pole + Reinf.	TP34.284x33.341x0.9125	Pole	64.6%	Pass
51.75 - 46.75	Pole + Reinf.	TP35.228x34.284x0.9	Pole	67.3%	Pass
46.75 - 41.75	Pole + Reinf.	TP36.171x35.228x0.8875	Pole	70.1%	Pass
41.75 - 39.8	Pole + Reinf.	TP36.539x36.171x0.875	Pole	71.1%	Pass
39.8 - 39.33	Pole + Reinf.	TP36.628x36.539x0.95	Pole	65.3%	Pass
39.33 - 39.08	Pole + Reinf.	TP36.675x36.628x0.9375	Pole	65.4%	Pass
39.08 - 38.33	Pole + Reinf.	TP36.816x36.675x0.9375	Pole	65.6%	Pass
38.33 - 38.08	Pole + Reinf.	TP36.864x36.816x0.8875	Pole	70.8%	Pass
38.08 - 33.08	Pole + Reinf.	TP37.807x36.864x0.875	Pole	72.7%	Pass
33.08 - 30.75	Pole + Reinf.	TP38.247x37.807x0.8625	Pole	73.6%	Pass
30.75 - 30.5	Pole + Reinf.	TP38.294x38.247x0.9375	Pole	68.0%	Pass
30.5 - 25.5	Pole + Reinf.	TP39.238x38.294x0.925	Pole	69.7%	Pass
25.5 - 20.5	Pole + Reinf.	TP40.182x39.238x0.9	Pole	71.4%	Pass
20.5 - 15.5	Pole + Reinf.	TP41.125x40.182x0.8875	Pole	73.0%	Pass
15.5 - 15.05	Pole + Reinf.	TP42.201x41.125x0.8875	Pole	73.2%	Pass
15.05 - 8.8	Pole + Reinf.	TP41.639x40.46x0.875	Pole	77.3%	Pass
8.8 - 8.25	Pole + Reinf.	TP41.743x41.639x0.875	Pole	77.5%	Pass
8.25 - 8	Pole + Reinf.	TP41.79x41.743x0.875	Pole	78.2%	Pass
8 - 4.25	Pole + Reinf.	TP42.498x41.79x0.875	Pole	79.7%	Pass
4.25 - 4	Pole + Reinf.	TP42.545x42.498x1.05	Pole	66.7%	Pass
4 - 3	Pole + Reinf.	TP42.734x42.545x1.05	Pole	67.1%	Pass
3 - 2.75	Pole + Reinf.	TP42.781x42.734x1.15	Pole	62.1%	Pass
2.75 - 0	Pole + Reinf.	TP43.3x42.781x1.125	Pole	63.1%	Pass
				Summary	
			Pole	84.1%	Pass
			Reinforcement	72.5%	Pass
			Overall	84.1%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*											
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
156 - 151	161	n/a	161	11.91	n/a	11.91	0.5%											
151 - 146	161	n/a	161	11.91	n/a	11.91	19.5%											
146 - 144.5	161	n/a	161	11.91	n/a	11.91	25.9%											
144.5 - 144	786	n/a	786	20.22	n/a	20.22	9.9%											
144 - 139	672	n/a	672	15.03	n/a	15.03	31.8%											
139 - 134	779	n/a	779	15.79	n/a	15.79	56.6%											
134 - 129	897	n/a	897	16.54	n/a	16.54	77.6%											
129 - 128.25	916	n/a	916	16.66	n/a	16.66	80.5%											
128.25 - 128	922	1119	2040	16.70	18.00	34.70	36.7%						32.0%					
128 - 123	1053	1214	2267	17.45	18.00	35.45	45.9%						40.0%					
123 - 118	1197	1314	2510	18.21	18.00	36.21	54.4%						47.2%					
118 - 113	1352	1417	2770	18.97	18.00	36.97	62.2%						53.9%					
113 - 108	1521	1525	3046	19.73	18.00	37.73	69.4%						60.0%					
108 - 103	1703	1636	3340	20.49	18.00	38.49	76.1%						65.7%					
103 - 98	1900	1752	3651	21.25	18.00	39.25	82.3%						71.0%					
98 - 96.5	1961	1787	3749	21.47	18.00	39.47	84.1%						72.5%					
96.5 - 92	2039	3349	5388	21.75	31.88	53.63	65.9%					53.3%						
92 - 87	2260	3567	5827	22.51	31.88	54.39	70.9%					56.8%						
87 - 82	2497	3792	6289	23.27	31.88	55.15	75.9%					60.1%						
82 - 77.5	2723	4001	6724	23.95	31.88	55.83	80.3%					62.9%						
77.5 - 72.5	3714	4240	7955	30.83	31.88	62.70	74.5%					59.9%						
72.5 - 70.58	3848	4334	8182	31.19	31.88	63.07	75.7%					60.9%						
70.58 - 70.33	3865	4346	8211	31.24	31.88	63.12	75.9%			61.0%	61.0%							
70.33 - 67.08	4098	4507	8606	31.86	31.88	63.73	77.9%			62.6%	62.6%							
67.08 - 66.83	4117	7946	12062	31.90	56.25	88.15	55.9%			44.9%	44.9%				47.4%			
66.83 - 61.83	4495	8394	12889	32.85	56.25	89.10	58.3%			46.8%	46.8%				49.4%			
61.83 - 61.75	4501	8401	12902	32.87	56.25	89.12	58.4%			46.9%	46.9%				49.4%			
61.75 - 56.75	4634	8555	13189	33.19	56.25	89.44	62.2%			50.0%	50.0%				52.7%			
56.75 - 51.75	5042	9021	14063	34.13	56.25	90.38	64.6%			51.8%	51.8%				54.6%			
51.75 - 46.75	5474	9498	14972	35.08	56.25	91.33	67.3%			53.5%	53.5%				56.4%			
46.75 - 41.75	5930	9989	15919	36.03	56.25	92.28	70.1%			55.3%	55.3%				58.2%			
41.75 - 39.8	6114	10183	16298	36.40	56.25	92.65	71.1%			55.9%	55.9%				58.9%			
39.8 - 39.33	7353	10230	17584	43.71	56.25	99.96	65.3%			52.2%	52.2%				55.1%			
39.33 - 39.08	7382	10256	17638	43.77	56.25	100.02	65.4%	52.6%			52.3%				55.1%			
39.08 - 38.33	7469	10331	17800	43.94	56.25	100.19	65.6%	52.8%			52.5%				55.4%			
38.33 - 38.08	7508	9475	16983	44.00	53.75	97.75	70.8%	53.0%	60.0%						59.1%			
38.08 - 33.08	8105	9944	18048	45.13	53.75	98.88	72.7%	54.4%	61.5%						60.6%			
33.08 - 30.75	8394	10166	18559	45.67	53.75	99.42	73.6%	55.1%	62.2%						61.3%			
30.75 - 30.5	8424	11712	20136	45.72	61.25	106.97	68.0%	51.1%	57.5%					54.0%				
30.5 - 25.5	9068	12269	21337	46.86	61.25	108.11	69.7%	52.5%	58.9%					55.4%				
25.5 - 20.5	9745	12838	22583	48.00	61.25	109.25	71.4%	53.7%	60.3%					56.7%				
20.5 - 15.5	10454	13421	23875	49.14	61.25	110.39	73.0%	54.9%	61.6%					57.9%				
15.5 - 15.05	10520	13474	23994	49.24	61.25	110.49	73.2%	55.0%	61.7%					58.1%				
15.05 - 8.8	10855	13744	24599	49.76	61.25	111.01	77.3%	58.0%	65.0%					61.1%				
8.8 - 8.25	10937	13810	24747	49.88	61.25	111.13	77.5%	58.1%	65.1%					61.3%				
8.25 - 8	10985	13756	24742	49.94	69.38	119.31	78.2%	58.0%						59.9%			56.4%	
8 - 4.25	11558	14204	25761	50.79	69.38	120.17	79.7%	58.8%						60.7%			57.3%	
4.25 - 4	11603	19429	31033	50.85	80.63	131.47	66.7%							49.3%		54.8%	55.1%	
4 - 3	11760	19585	31345	51.08	80.63	131.70	67.1%							49.5%		55.0%	55.4%	
3 - 2.75	11796	22374	34170	51.13	88.13	139.26	62.1%									51.1%	51.5%	45.4%
2.75 - 0	12234	22861	35095	51.76	88.13	139.88	63.1%									51.7%	52.1%	45.9%

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

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v4.5.1 - Effective 09-27-18

Date: 11/1/2018
PJF Project: 37518-0348.005.7805
Client Ref. # 828402
Site Name: Site Name
Description: 144' Micro Jump Connection
Owner: CCI
Engineer: RCK

Asymmetric Bolt Analysis

Moment =	30	k-ft	TIA Ref.	H		η =	N/A	for Base Plates, Rev. G Sect. 4.9.9
Axial =	1.9	kips (+Comp, -Tension)	ASIF =	N/A		Threads =	N-Included	for Flange Plates, Rev. G & H
Shear =	4.7	kips	Max Ratio =	100.0%		lar =	0.00	in, for Base Plates, Rev. H Sect 4.9.9 (Max of Original Items)
Anchor Qty =	10		Location =	Flange Plate		Grout =	0.00	psi, for Base Plates, Rev. H Sect 4.9.9 (Note)

** For Flange Plates: Prying action is not considered in the bolt loads. **

Item	Nominal Bolt Dia, in	Spec	Fy, ksi	Fu, ksi	Location, degrees	Bolt Circle, in	Type	Area Override, in^2	Area, in^2	Max Net Comp, kips	Max Net Tension, kips	Tension Override, kips	Comp Override, kips	Tension Cap, kips	Comp Cap, kips	Capacity Ratio
1	0.750	A325	92	120	0.0	19.88	Original	0.00	0.44	0.91	0.77	20.34	20.34	20.34		0.1%
2	0.750	A325	92	120	60.0	19.88	Original	0.00	0.44	0.91	0.77	20.34	20.34	20.34		0.1%
3	0.750	A325	92	120	120.0	19.88	Original	0.00	0.44	0.91	0.77	20.34	20.34	20.34		0.1%
4	0.750	A325	92	120	180.0	19.88	Original	0.00	0.44	0.91	0.77	20.34	20.34	20.34		0.1%
5	0.750	A325	92	120	240.0	19.88	Original	0.00	0.44	0.91	0.77	20.34	20.34	20.34		0.1%
6	0.750	A325	92	120	300.0	19.88	Original	0.00	0.44	0.91	0.77	20.34	20.34	20.34		0.1%
7	1.750	A193 Gr B7	105	125	15.0	38.00	Original	0.00	2.41	9.13	8.38	100.00	100.00	100.00		0.7%
8	1.750	A193 Gr B7	105	125	105.0	38.00	Original	0.00	2.41	9.13	8.38	100.00	100.00	100.00		0.7%
9	1.750	A193 Gr B7	105	125	195.0	38.00	Original	0.00	2.41	9.13	8.38	100.00	100.00	100.00		0.7%
10	1.750	A193 Gr B7	105	125	285.0	38.00	Original	0.00	2.41	9.13	8.38	100.00	100.00	100.00		0.7%
									12.27							

Monopole Flange Plate Connection

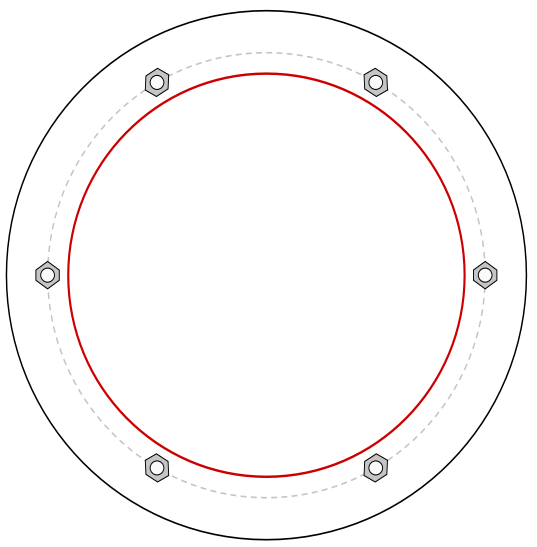
Elevation = 144 ft.

BU #	828402
Site Name	Thompson
Order #	
TIA-222 Revision	H

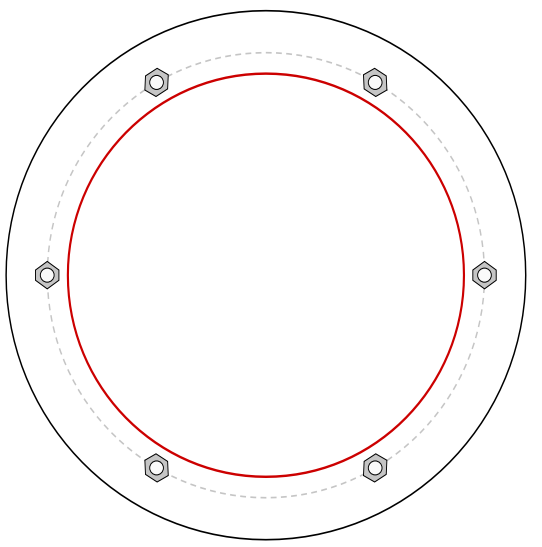
Applied Loads	
Moment (kip-ft)	2.10
Axial Force (kips)	0.40
Shear Force (kips)	1.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(6) 5/8" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 19.875" BC

Top Plate Data

23.625" OD x 1.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

18" x 0.365" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Bottom Plate Data

23.625" OD x 0.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

18" x 0.25" 12-sided pole (A36; Fy=36 ksi, Fu=58 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	0.78	
Allowable (kips)	20.34	
Stress Rating:	**3.6%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	0.18	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**0.5%**	**Pass**
Tension Side Stress Rating:	**0.2%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	1.62	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**4.8%**	**Pass**
Tension Side Stress Rating:	**1.8%**	**Pass**

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v4.5.1 - Effective 09-27-18

Date: 11/1/2018
PJF Project: 37518-0348.005.7805
Client Ref. # 1/31/4168
Site Name: Site Name
Description: Description
Owner: CCI
Engineer: RCK

Asymmetric Anchor Rod Analysis

Moment =	3318	k-ft	TIA Ref.	H	η =	N/A	for Base Plates, Rev. G Sect. 4.9.9
Axial =	54.7	kips (+Comp, -Tension)	ASIF =	N/A	Threads =	N/A	for Flange Plates, Rev. G & H
Shear =	32.3	kips	Max Ratio =	100.0%	lar =	1.13	in, for Base Plates, Rev. H Sect 4.9.9 (Max of Original Items)
Anchor Qty =	27		Location =	Base Plate	Grout =	0.00	psi, for Base Plates, Rev. H Sect 4.9.9 (Note)

** For Post Installed Anchors: Check anchors for embedment, epoxy/grout bond, and capacity based on proof load. **

Item	Nominal Anchor Dia, in	Spec	Fy, ksi	Fu, ksi	Location, degrees	Anchor Circle, in	Type	Area Override, in^2	Area, in^2	Max Net Comp, kips	Max Net Tension, kips	Tension Override, kips	Comp Override, kips	Tension Cap, kips	Comp Cap, kips	Capacity Ratio
1	2.000	Other	42	60	0.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
2	2.000	Other	42	60	20.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
3	2.000	Other	42	60	40.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
4	2.000	Other	42	60	60.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
5	2.000	Other	42	60	80.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
6	2.000	Other	42	60	100.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
7	2.000	Other	42	60	120.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
8	2.000	Other	42	60	140.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
9	2.000	Other	42	60	160.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
10	2.000	Other	42	60	180.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
11	2.000	Other	42	60	200.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
12	2.000	Other	42	60	220.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
13	2.000	Other	42	60	240.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
14	2.000	Other	42	60	260.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
15	2.000	Other	42	60	280.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
16	2.000	Other	42	60	300.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
17	2.000	Other	42	60	320.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
18	2.000	Other	42	60	340.0	51.00	Original	0.00	3.14	98.37	92.29	0.00	0.00	112.42	104.93	89.6%
19	2.250	A193 Gr B7	105	125	30.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
20	2.250	A193 Gr B7	105	125	51.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
21	2.250	A193 Gr B7	105	125	90.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
22	2.250	A193 Gr B7	105	125	150.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
23	2.250	A193 Gr B7	105	125	171.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
24	2.250	A193 Gr B7	105	125	210.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
25	2.250	A193 Gr B7	105	125	270.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
26	2.250	A193 Gr B7	105	125	291.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
27	2.250	A193 Gr B7	105	125	330.0	58.00	Post-Installed	0.00	3.98	137.21	137.21	0.00	0.00	304.47	341.01	38.3%
									92.33							

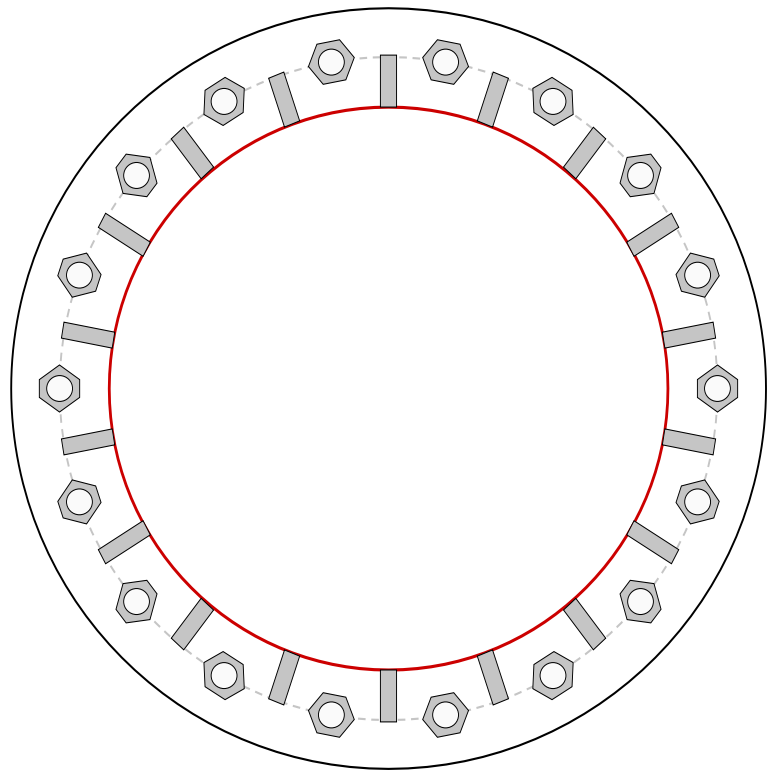
Monopole Base Plate Connection

Site Info	
BU #	828402
Site Name	Thompson
Order #	

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.125

Applied Loads	
Moment (kip-ft)	1823.20
Axial Force (kips)	54.70
Shear Force (kips)	32.28

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(18) 2" ø bolts (A572-42 N; Fy=42 ksi, Fu=60 ksi) on 51" BC

Base Plate Data

58.5" OD x 1.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

(18) 18"H x 4"W x 1.25"T, Notch: 1"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.625" fillet
vert. weld: 0.375" fillet

Pole Data

43.3" x 0.375" 12-sided pole (A36; Fy=36 ksi, Fu=58 ksi)

Analysis Results

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

Pu_c = 98.31	ϕPn_c = 105	**Stress Rating**
Vu = 1.79	ϕVn = 31.5	**89.5%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	30.37	(Roark's Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	**89.3%**	**Pass**

Stiffener Summary

Horizontal Weld:	**74.3%**	**Pass**
Vertical Weld:	**23.0%**	**Pass**
Plate Flexure+Shear:	**5.3%**	**Pass**
Plate Tension+Shear:	**52.6%**	**Pass**
Plate Compression:	**85.7%**	**Pass**

Pole Summary

Punching Shear:	**8.7%**	**Pass**

Drilled Pier Foundation

BU # :	828402
Site Name:	Thompson
Order Number:	

TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	3317.94	
Axial Force (kips)	54.7	
Shear Force (kips)	32.28	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi

Pier Design Data		
Depth	25.25	ft
Ext. Above Grade	0.25	ft
Pier Section 1		
From 0.25' above grade to 25.25' below grade		
Pier Diameter	6	ft
Rebar Quantity	34	
Rebar Size	8	
Clear Cover to Ties	3	in
Tie Size	4	

Analysis Results		
Soil Lateral Capacity	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	6.90	-
Soil Safety Factor	4.44	-
Max Moment (kip-ft)	3505.12	-
Rating*	*28.5%*	-
Soil Vertical Capacity	*Compression*	*Uplift*
Skin Friction (kips)	557.71	-
End Bearing (kips)	566.19	-
Weight of Concrete (kips)	129.78	-
Total Capacity (kips)	1123.90	-
Axial (kips)	184.48	-
Rating*	*15.6%*	-
Reinforced Concrete Capacity	*Compression*	*Uplift*
Critical Depth (ft from TOC)	6.69	-
Critical Moment (kip-ft)	3504.81	-
Critical Moment Capacity	3677.74	-
Rating*	*90.8%*	-

Soil Interaction Rating*	**28.5%**
Structural Foundation Rating*	**90.8%**

Check Limitation	
Apply TIA-222-H Section 15.5:	☑

*Rating per TIA-222-H Section 15.5

Soil Profile

Groundwater Depth	N/A	ft	# of Layers	5

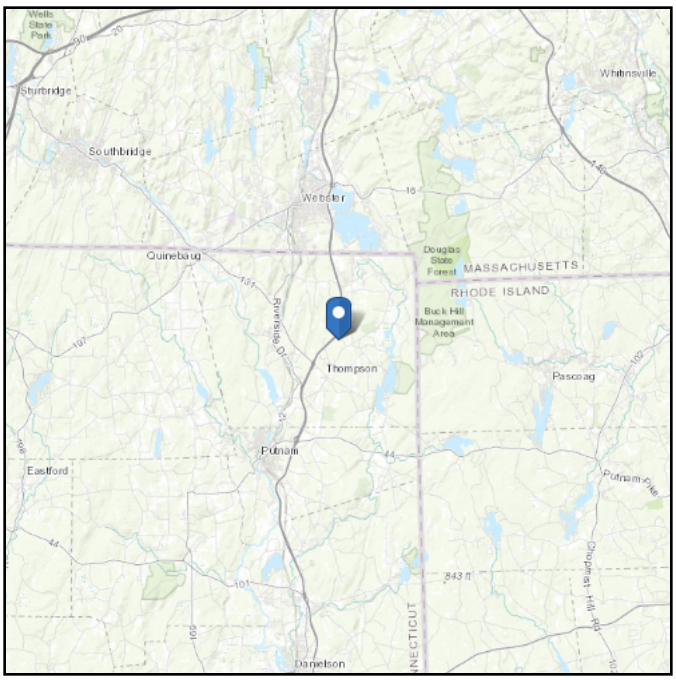
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	4	4	140	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	4	8	4	130	150		38	0.000	0.000	0.90	0.90			Cohesionless
3	8	15	7	140	150		42	0.000	0.000	1.60	1.60			Cohesionless
4	15	20	5	140	150		42	0.000	0.000	2.20	2.20			Cohesionless
5	20	25.25	5.25	140	150		42	0.000	0.000	2.60	2.60	26.7		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 538.27 ft (NAVD 88)
Latitude: 41.977706
Longitude: -71.855



Wind

Results:

Wind Speed:	127 Vmph
10-year MRI	78 Vmph
25-year MRI	88 Vmph
50-year MRI	96 Vmph
100-year MRI	103 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Thu Nov 01 2018

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 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

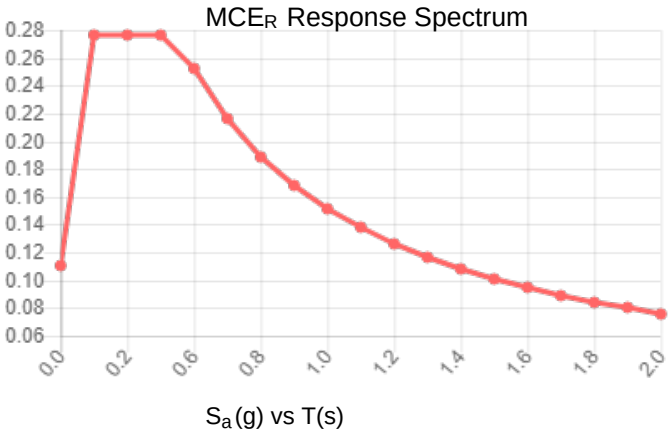
Seismic

Site Soil Class: D - Stiff Soil

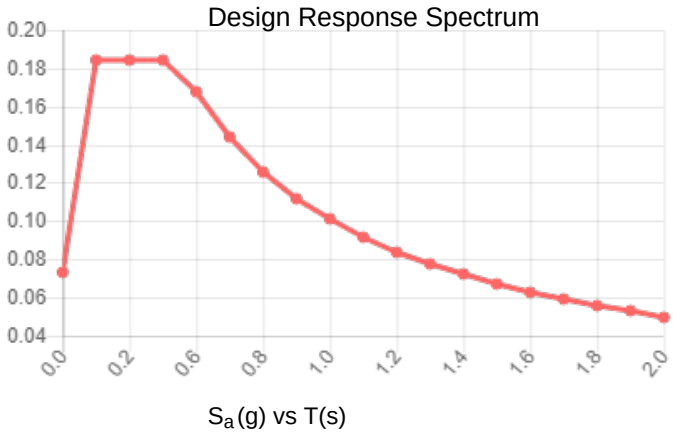
Results:

S_S :	0.172	S_{DS} :	0.184
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.600	T_L :	6.000
F_v :	2.400	PGA :	0.085
S_{MS} :	0.276	PGA_M :	0.136
S_{M1} :	0.151	F_{PGA} :	1.600
		I_e :	1

Seismic Design Category B



Sa(g) vs T(s)



Sa(g) vs T(s)

Data Accessed: Thu Nov 01 2018

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Nov 01 2018

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 50-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.