



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

May 15, 2024

Jeffrey Barbadora
Permitting Specialist
Crown Castle
1800 West Park Drive
Westborough, MA 01581
Jeff.Barbadora@crowncastle.com

RE: **EM-VER-008-230830** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 755 Amity Road, Bethany, Connecticut.
Request for Project Change.

Dear Jeffrey Barbadora:

The Connecticut Siting Council (Council) is in receipt of the correspondence dated May 8, 2024 and the associated Structural Analysis dated October 25, 2023, regarding a project change for the above-referenced exempt modification request acknowledged by the Council on September 25, 2023.

Pursuant to Condition No. 1 of the Council's September 25, 2023 exempt modification approval, the request to increase the number of Kaelus interference mitigation filters to be installed from three to six is hereby approved.

This approval applies only to the project change in the correspondence dated May 8, 2024.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/ANM/laf

c: The Honorable Paula Cofrancesco, First Selectperson, Town of Bethany (pcofrancesco@bethany-ct.com)

From: Barbadora, Jeff <Jeff.Barbadora@crowncastle.com>
Sent: Wednesday, May 8, 2024 9:43 AM
To: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: EM-VER-008-230830 - 755 Amity Road, Bethany, CT - 842295

Good Morning,

Would the CSC please update the approval for EM-VER-008-230830 to include a total of 6 filters?

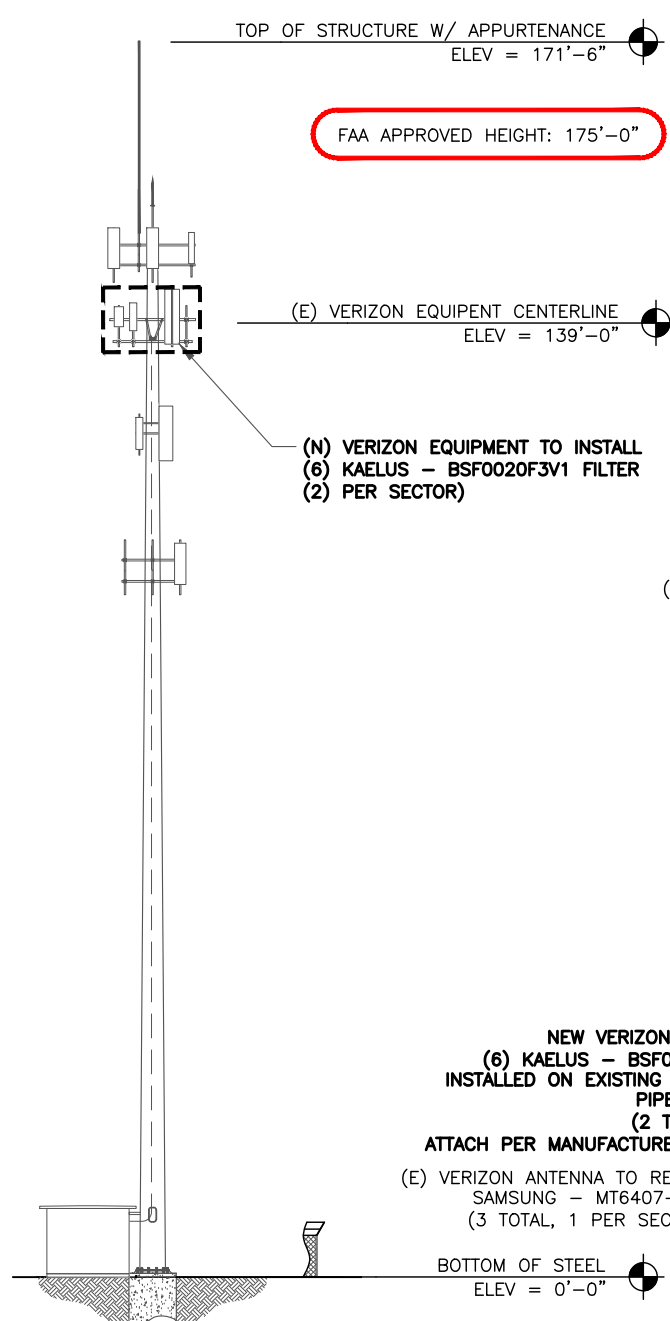
The original SA submitted with the application and dated 7/24/2023 stated only 3 filters and should have stated 6 filters.

Please see updated SA stating 6 filters and let me know if you have any questions

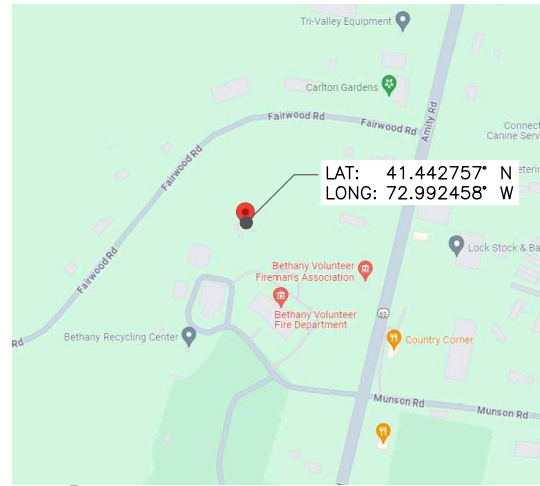
Thanks,

Jeffrey Barbadora
Permitting Specialist
781-970-0053

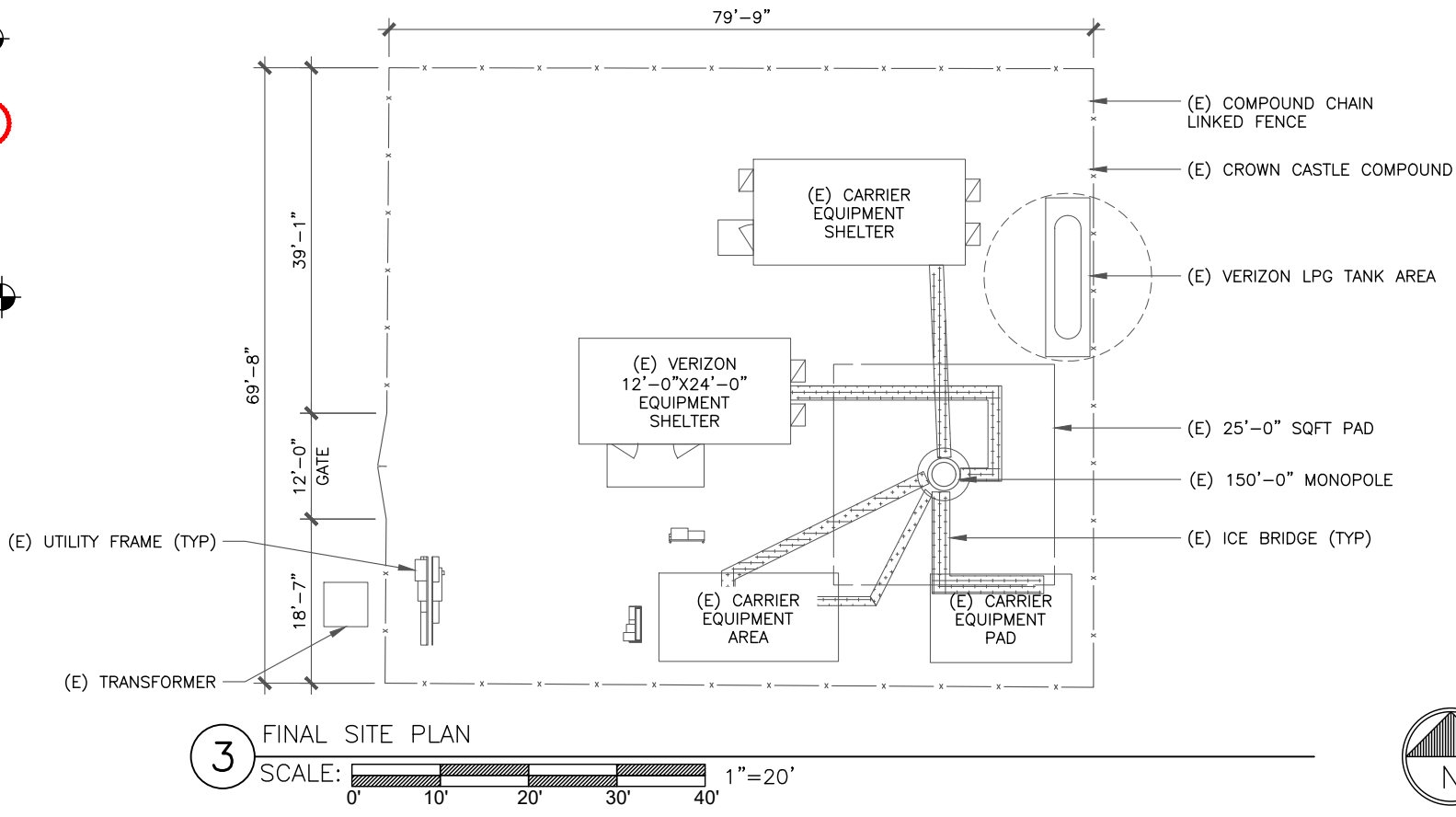
Crown Castle
1800 W. Park Drive, Suite 250
Westborough, MA 01581



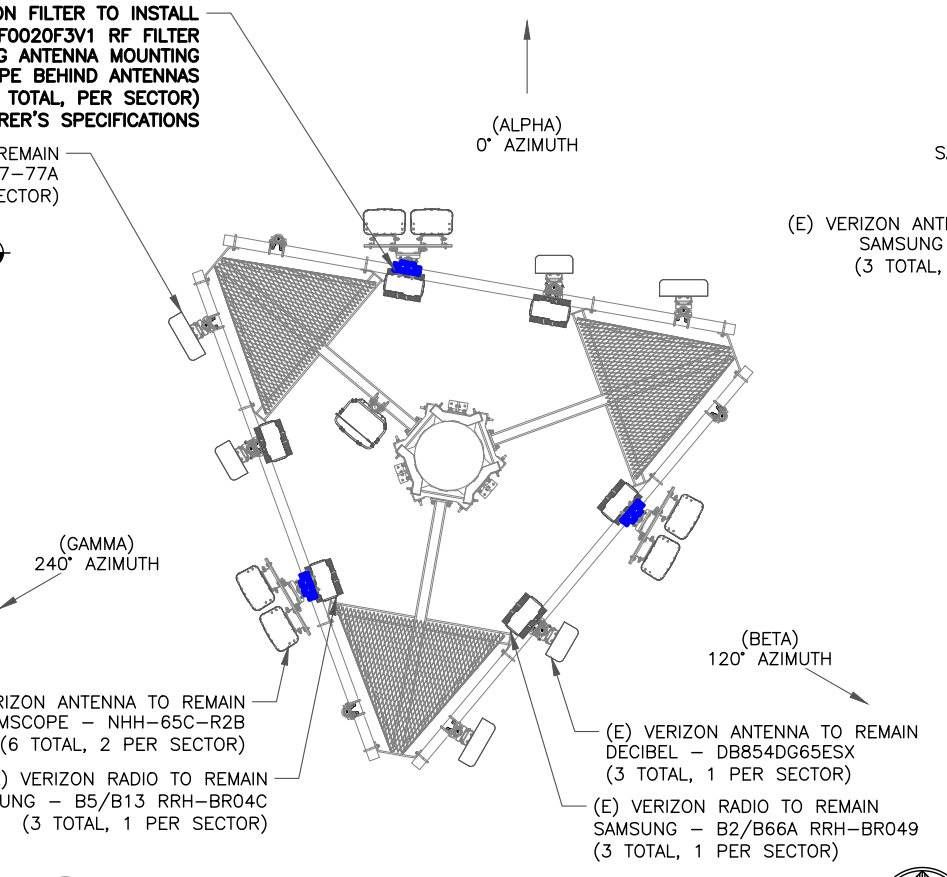
1 FINAL TOWER ELEVATION
SCALE: NOT TO SCALE



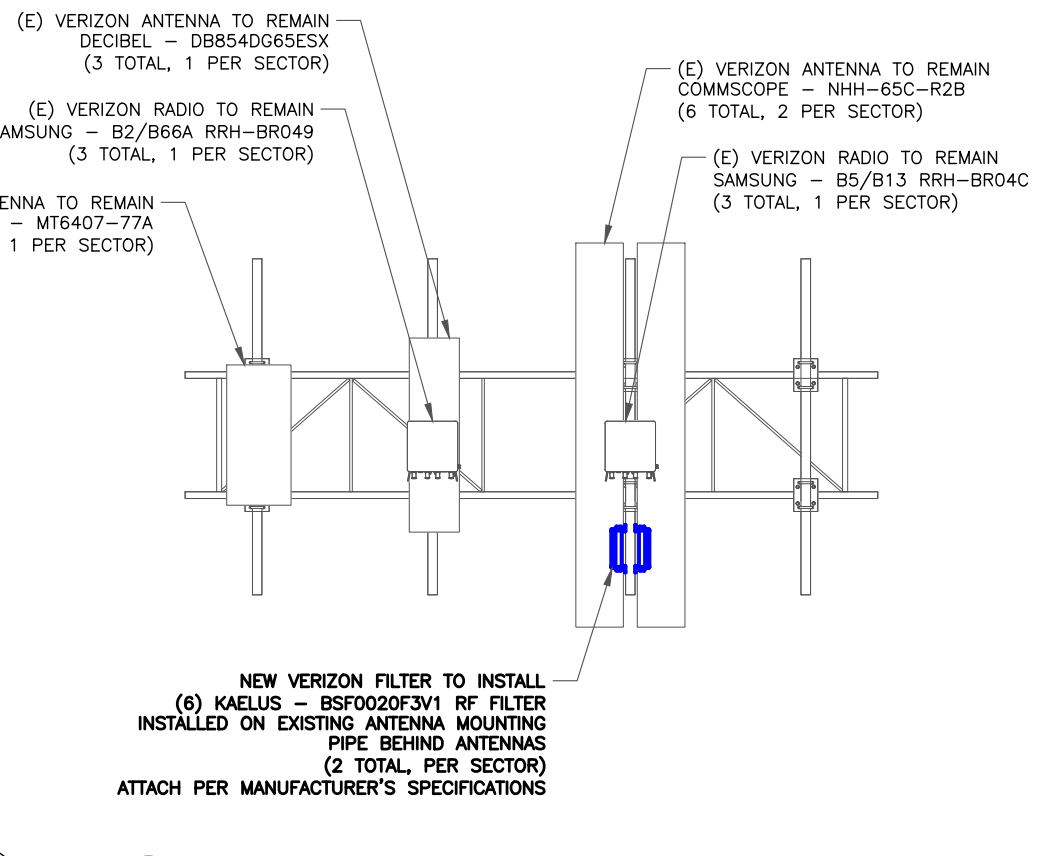
2 LOCATION MAP
SCALE: NOT TO SCALE



3 FINAL SITE PLAN
SCALE: 1"=20'



4 FINAL ANTENNA PLAN
SCALE: 1"=16'



5 FINAL RF FILTER ELEVATION
SCALE: 1"=10'

NOTE:
AN ANALYSIS OF THE CAPACITY OF THE STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS NOT BEEN COMPLETED BY CROWN CASTLE. DRAWINGS ARE SUBJECT TO CHANGE PENDING OUTCOME OF A STRUCTURAL ANALYSIS.

LEASE EXHIBIT:
THIS LEASE EXHIBIT IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF THE SITE SURVEY AND FACILITY DESIGN.



VERIZON SITE NUMBER:
5000384721

BU #: **841295**

CROWN CASTLE SITE NAME
BETHANY NORTH CT

755 AMITY RD
BETHANY, CT 06524

EXISTING 150'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/27/2024	WS	LEASE EXHIBIT	MB

DocuSigned by:
Maham Barimani
6DB7630923A0480

4/2/2024 | 7:31:34 AM CDT

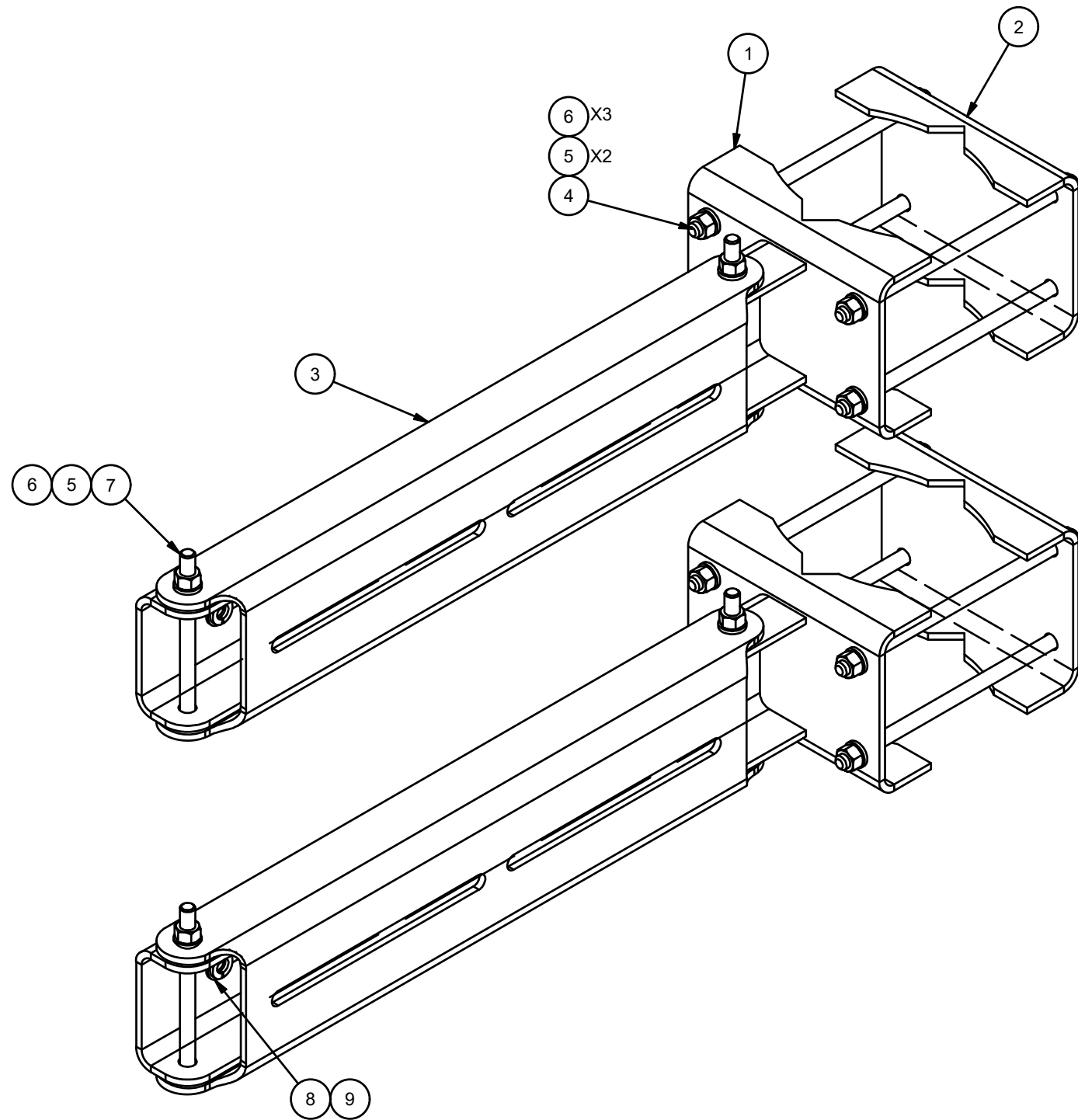
CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION #PEC.000110

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

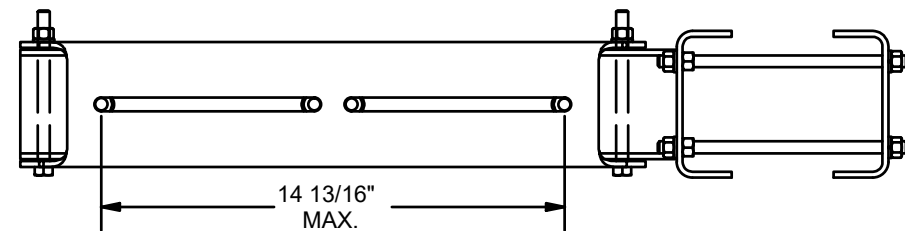
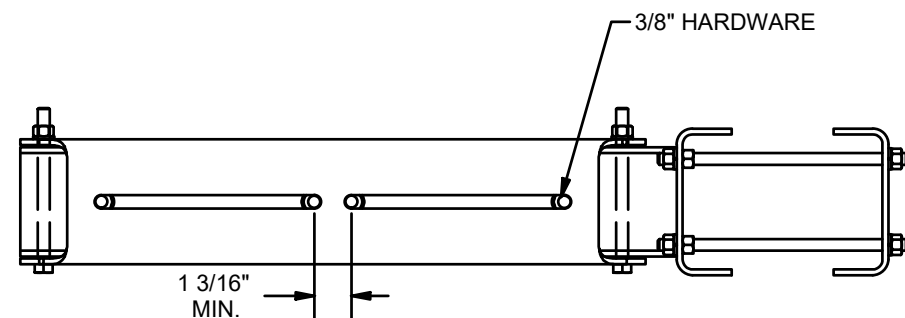
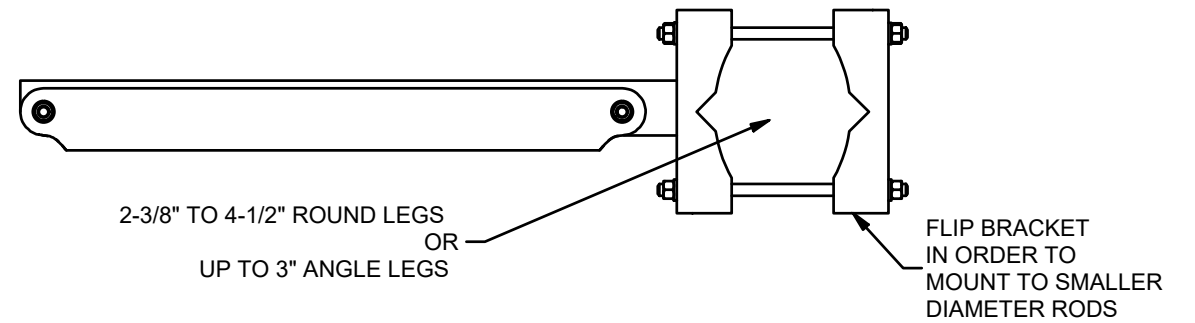
SHEET NUMBER: **LE-1**

REVISION: **0**

VERIZON_WB_WA_SOVA_TRIST_ANTENNA_AMENDMENT



PARTS LIST					
ITEM	QTY	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	MOUNTING ARM		8.99	17.97
2	2	CLAMP PLATE		2.35	4.69
3	2	SWIVEL MOUNT		6.65	13.30
4	8	3/8"-16 UNC X 8" GALV. THREADED ROD		0.25	2.00
5	20	3/8" GALV LOCK WASHER		0.01	0.13
6	28	3/8"-16 UNC GALV HEX NUT		0.02	0.52
7	4	3/8" X 5" GALV BOLT		0.18	0.71
8	8	3/8" SS FLAT WASHER		0.01	0.06
9	8	3/8" SS LOCK WASHER		0.01	0.05
				TOTAL WT. #	39.43



TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES (± 0.030 "")
 DRILLED AND GAS CUT HOLES (± 0.030 "") - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES (± 0.010 "") - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING (± 0.030 "")
 ALL OTHER ASSEMBLY (± 0.060 "")

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION
**RRU
 DUAL SWIVEL MOUNT**

SITE PRO 1
 Engineering Support Team:
 1-888-753-7446

Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

A valmont COMPANY

CPD NO.	DRAWN BY CEK 1/12/2015	ENG. APPROVAL
CLASS 81	SUB 01	DRAWING USAGE SHOP
	CHECKED BY BMC 2/3/2015	

PART NO. RRUDSM	PAGE 1 OF 1
DWG. NO. RRUDSM	

Certificate Of Completion

Envelope Id: 3172FE447C734712BE7DA6C3EF8D61EB	Status: Completed
Subject: Complete with DocuSign: 841295_658782_VRZ_RF FILTER_REV0_03.27.24.pdf	
Source Envelope:	
Document Pages: 2	Signatures: 1
Certificate Pages: 1	Initials: 0
AutoNav: Enabled	Envelope Originator:
Envelope Stamping: Enabled	Lisa McCabe
Time Zone: (UTC-06:00) Central Time (US & Canada)	2000 Corporate Drive
	Canonsburg, PA 15317
	Lisa.McCabe@crowncastle.com
	IP Address: 4.7.101.195

Record Tracking

Status: Original	Holder: Lisa McCabe	Location: DocuSign
4/1/2024 5:38:28 PM	Lisa.McCabe@crowncastle.com	

Signer Events

Maham Barimani
 Maham.Barimani@crowncastle.com
 Security Level: Email, Account Authentication (None)

Signature

DocuSigned by:

 6DB7630923AD4B1...
 Signature Adoption: Pre-selected Style
 Using IP Address: 64.213.130.18

Timestamp

Sent: 4/1/2024 5:39:40 PM
 Viewed: 4/2/2024 7:02:07 AM
 Signed: 4/2/2024 7:31:34 AM

Electronic Record and Signature Disclosure:
 Not Offered via DocuSign

In Person Signer Events

Signature

Timestamp

Editor Delivery Events

Status

Timestamp

Agent Delivery Events

Status

Timestamp

Intermediary Delivery Events

Status

Timestamp

Certified Delivery Events

Status

Timestamp

Carbon Copy Events

Status

Timestamp

Jordan Stanga
 Jordan.Stanga@crowncastle.com
 Crown Castle International Corp.
 Security Level: Email, Account Authentication (None)

COPIED

Sent: 4/1/2024 5:39:40 PM

Electronic Record and Signature Disclosure:
 Not Offered via DocuSign

Witness Events

Signature

Timestamp

Notary Events

Signature

Timestamp

Envelope Summary Events

Status

Timestamps

Envelope Sent	Hashed/Encrypted	4/1/2024 5:39:40 PM
Certified Delivered	Security Checked	4/2/2024 7:02:07 AM
Signing Complete	Security Checked	4/2/2024 7:31:34 AM
Completed	Security Checked	4/2/2024 7:31:34 AM

Payment Events

Status

Timestamps

Date: **October 25, 2023**



Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject: **Structural Analysis Report**

Carrier Designation: **Verizon Wireless Co-Locate**
Site Number: 5000384721
Site Name: BETHANY NORTH CT

Crown Castle Designation: **BU Number:** 841295
Site Name: BETHANY
JDE Job Number: 2103465
Work Order Number: 2264943
Order Number: 658782 Rev. 1

Engineering Firm Designation: **Crown Castle Project Number:** 2264943

Site Data: **755 AMITY RD, BETHANY, NEW HAVEN County, CT**
Latitude 41° 26' 33.93", Longitude -72° 59' 32.86"
151 Foot - Monopole Tower

Crown Castle 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:

LC5: Proposed Equipment Configuration

Sufficient Capacity-70.4%

This analysis has been performed in accordance with the 2022 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 118 mph. Applicable Standard references and design criteria are listed in Section 2 - "Analysis Criteria".

Structural analysis prepared by: Matthew Hussak

Respectfully submitted by:

Rohit Soni, P.E.
Senior Project Engineer

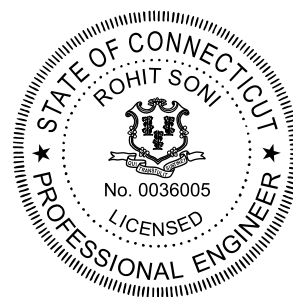


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 - Tower Component Stresses vs. Capacity - LC5

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 151 ft Monopole tower designed by VALMONT. The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	118 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 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)
138.0	139.0	6	commscope	NHH-65C-R2B w/ Mount Pipe	13	1-5/8
		3	decibel	DB854DG65ESX w/ Mount Pipe		
		6	kaelus	BSF0020F3V1		
		1	raycap	RVZDC-6627-PF-48		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RFV01U-D1A		
	3	samsung telecommunications	RFV01U-D2A			
	138.0	1	tower mounts	Platform Mount [LP 303-1_HR-1]		

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)
148.0	160.0	1	dbspectra	DS1F03F36D-N	6 6 2 3 4	1-5/8 7/8 3/4 3/8 conduit
	149.0	3	cci antennas	DMP65R-BU6D w/ Mount Pipe		
		3	cci antennas	OPA65R-BU6D w/ Mount Pipe		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14_CCIV2		
		3	ericsson	RRUS 8843 B2/B66A_CCIV2		
		3	kathrein	800 10121 w/ Mount Pipe		
		6	powerwave technologies	LGP21401		
		2	raycap	DC6-48-60-18-8C-EV		
	1	raycap	DC6-48-60-18-8F			
	148.0	1	tower mounts	Platform Mount [LP 713-1_KCKR]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
122.0	123.0	3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	8	1-5/8
	122.0	3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		1	tower mounts	T-Arm Mount [TA 702-3]		
	121.0	3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
102.0	104.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
	1	raycap	RDIDC-9181-PF-48			
	103.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
	102.0	1	tower mounts	Commscope MC-PK8-DSH		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	5135898	CCISITES
4-POST-MODIFICATION INSPECTION	5135928	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	5135917	CCISITES
4-TOWER MANUFACTURER DRAWINGS	6133951	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5135907	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4945157	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.4.0), 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. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

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

3.2) Assumptions

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

This analysis may be affected if any assumptions are not valid or have been made in error. Crown Castle 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
151 - 146	Pole	TP18.526x17.59x0.2188	Pole	6.7%	Pass
146 - 141	Pole	TP19.461x18.526x0.2188	Pole	14.7%	Pass
141 - 136	Pole	TP20.397x19.461x0.2188	Pole	24.7%	Pass
136 - 131	Pole	TP21.332x20.397x0.2188	Pole	34.8%	Pass
131 - 126	Pole	TP22.268x21.332x0.2188	Pole	43.9%	Pass
126 - 121	Pole	TP23.203x22.268x0.2188	Pole	52.7%	Pass
121 - 118.5	Pole	TP23.671x23.203x0.2188	Pole	57.3%	Pass
118.5 - 118.25	Pole + Reinf.	TP23.718x23.671x0.4938	Reinf. 9 Bolt-Shaft Bearing	38.0%	Pass
118.25 - 113.25	Pole + Reinf.	TP24.653x23.718x0.4813	Reinf. 9 Tension Rupture	43.0%	Pass
113.25 - 108.25	Pole + Reinf.	TP25.589x24.653x0.4688	Reinf. 9 Tension Rupture	48.5%	Pass
108.25 - 103.25	Pole + Reinf.	TP26.524x25.589x0.4625	Reinf. 9 Tension Rupture	53.6%	Pass
103.25 - 100.95	Pole + Reinf.	TP27.6x26.524x0.4563	Reinf. 9 Tension Rupture	56.3%	Pass
100.95 - 95.95	Pole + Reinf.	TP27.442x26.517x0.55	Reinf. 9 Tension Rupture	52.8%	Pass
95.95 - 95	Pole + Reinf.	TP27.617x27.442x0.55	Reinf. 9 Tension Rupture	53.7%	Pass
95 - 94.75	Pole + Reinf.	TP27.663x27.617x0.8	Reinf. 9 Tension Rupture	38.1%	Pass
94.75 - 92.5	Pole + Reinf.	TP28.079x27.663x0.7875	Reinf. 9 Tension Rupture	39.6%	Pass
92.5 - 92.25	Pole + Reinf.	TP28.126x28.079x0.55	Reinf. 8 Tension Rupture	56.2%	Pass
92.25 - 87.75	Pole + Reinf.	TP28.958x28.126x0.5375	Reinf. 8 Tension Rupture	60.0%	Pass
87.75 - 87.5	Pole + Reinf.	TP29.004x28.958x0.8625	Reinf. 8 Tension Rupture	38.7%	Pass
87.5 - 84	Pole + Reinf.	TP29.651x29.004x0.85	Reinf. 8 Tension Rupture	40.7%	Pass
84 - 83.75	Pole + Reinf.	TP29.697x29.651x0.6125	Reinf. 7 Tension Rupture	54.3%	Pass
83.75 - 78.75	Pole + Reinf.	TP30.622x29.697x0.6	Reinf. 7 Tension Rupture	57.7%	Pass
78.75 - 73.75	Pole + Reinf.	TP31.546x30.622x0.5875	Reinf. 7 Tension Rupture	60.9%	Pass
73.75 - 68.75	Pole + Reinf.	TP32.471x31.546x0.5875	Reinf. 7 Tension Rupture	63.9%	Pass
68.75 - 64.75	Pole + Reinf.	TP33.21x32.471x0.575	Reinf. 7 Tension Rupture	66.2%	Pass
64.75 - 64.5	Pole + Reinf.	TP33.257x33.21x0.85	Reinf. 7 Tension Rupture	45.9%	Pass
64.5 - 63.25	Pole + Reinf.	TP33.488x33.257x0.85	Reinf. 7 Tension Rupture	46.5%	Pass
63.25 - 63	Pole + Reinf.	TP33.534x33.488x0.575	Reinf. 6 Tension Rupture	67.1%	Pass
63 - 58	Pole + Reinf.	TP34.459x33.534x0.5625	Reinf. 6 Tension Rupture	69.8%	Pass
58 - 56.75	Pole + Reinf.	TP34.69x34.459x0.5625	Reinf. 6 Tension Rupture	70.4%	Pass
56.75 - 56.5	Pole + Reinf.	TP34.736x34.69x0.9125	Reinf. 6 Tension Rupture	45.0%	Pass
56.5 - 55.25	Pole + Reinf.	TP34.967x34.736x0.9125	Reinf. 6 Tension Rupture	45.4%	Pass
55.25 - 55	Pole + Reinf.	TP35.013x34.967x0.6375	Reinf. 5 Compression	59.8%	Pass
55 - 52.05	Pole + Reinf.	TP36.4x35.013x0.6375	Reinf. 5 Compression	61.0%	Pass
52.05 - 47.05	Pole + Reinf.	TP35.88x34.934x0.7	Reinf. 5 Compression	58.9%	Pass
47.05 - 42.05	Pole + Reinf.	TP36.825x35.88x0.6875	Reinf. 5 Compression	60.6%	Pass

42.05 - 37.05	Pole + Reinf.	TP37.771x36.825x0.675	Reinf. 5 Compression	62.2%	Pass
37.05 - 34.95	Pole + Reinf.	TP38.169x37.771x0.675	Reinf. 5 Compression	62.8%	Pass
34.95 - 34.7	Pole + Reinf.	TP38.216x38.169x0.9875	Reinf. 4 Bolt Shear	45.6%	Pass
34.7 - 34.25	Pole + Reinf.	TP38.301x38.216x0.975	Reinf. 5 Bolt Shear	45.7%	Pass
34.25 - 34	Pole + Reinf.	TP38.348x38.301x0.675	Reinf. 4 Compression	63.1%	Pass
34 - 29	Pole + Reinf.	TP39.294x38.348x0.6625	Reinf. 4 Compression	64.5%	Pass
29 - 26.75	Pole + Reinf.	TP39.72x39.294x0.6625	Reinf. 4 Compression	65.1%	Pass
26.75 - 26.5	Pole + Reinf.	TP39.767x39.72x0.95	Reinf. 2 Bolt Shear	47.6%	Pass
26.5 - 25.25	Pole + Reinf.	TP40.003x39.767x0.95	Reinf. 4 Bolt Shear	47.8%	Pass
25.25 - 25	Pole + Reinf.	TP40.051x40.003x0.6625	Reinf. 2 Compression	65.5%	Pass
25 - 20	Pole + Reinf.	TP40.997x40.051x0.65	Reinf. 2 Compression	66.7%	Pass
20 - 16.75	Pole + Reinf.	TP41.611x40.997x0.65	Reinf. 2 Compression	67.5%	Pass
16.75 - 16.5	Pole + Reinf.	TP41.659x41.611x0.7625	Reinf. 3 Compression	62.0%	Pass
16.5 - 14.25	Pole + Reinf.	TP42.084x41.659x0.7625	Reinf. 3 Compression	62.5%	Pass
14.25 - 14	Pole + Reinf.	TP42.132x42.084x0.725	Reinf. 3 Compression	63.0%	Pass
14 - 9	Pole + Reinf.	TP43.077x42.132x0.7125	Reinf. 3 Compression	64.0%	Pass
9 - 4	Pole + Reinf.	TP44.023x43.077x0.7125	Reinf. 3 Compression	65.0%	Pass
4 - 0	Pole + Reinf.	TP44.78x44.023x0.7	Reinf. 3 Bolt Shear	68.0%	Pass
				Summary	
			Pole	57.3%	Pass
			Reinforcement	70.4%	Pass
			Overall	70.4%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	52.2	Pass
1	Base Plate	0	43.5	Pass
1	Base Foundation (Structure)	0	38.2	Pass
1	Base Foundation (Soil Interaction)	0	52.9	Pass

Structure Rating (max from all components) =	70.4%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity listed.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

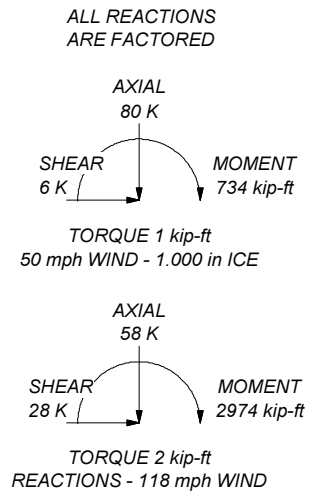
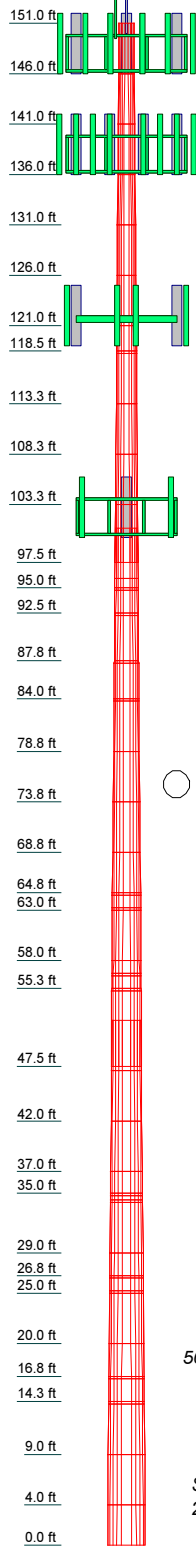
MATERIAL STRENGTH


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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 118 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TOWER RATING: 70.4%

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Weight (K)	Grade
1	5.000	12	0.219	3.450	0.219	A572-65
2	5.000	12	0.219	3.450	0.219	A572-65
3	5.000	12	0.219	3.450	0.219	A572-65
4	5.000	12	0.219	3.450	0.219	A572-65
5	5.000	12	0.219	3.450	0.219	A572-65
6	5.000	12	0.219	3.450	0.219	A572-65
7	5.000	12	0.219	3.450	0.219	A572-65
8	5.000	12	0.219	3.450	0.219	A572-65
9	5.000	12	0.219	3.450	0.219	A572-65
10	5.000	12	0.219	3.450	0.219	A572-65
11	5.000	12	0.219	3.450	0.219	A572-65
12	5.000	12	0.219	3.450	0.219	A572-65
13	5.000	12	0.219	3.450	0.219	A572-65
14	5.000	12	0.219	3.450	0.219	A572-65
15	5.000	12	0.219	3.450	0.219	A572-65
16	5.000	12	0.219	3.450	0.219	A572-65
17	5.000	12	0.219	3.450	0.219	A572-65
18	5.000	12	0.219	3.450	0.219	A572-65
19	5.000	12	0.219	3.450	0.219	A572-65
20	5.000	12	0.219	3.450	0.219	A572-65
21	5.000	12	0.219	3.450	0.219	A572-65
22	5.000	12	0.219	3.450	0.219	A572-65
23	5.000	12	0.219	3.450	0.219	A572-65
24	5.000	12	0.219	3.450	0.219	A572-65
25	5.000	12	0.219	3.450	0.219	A572-65
26	5.000	12	0.219	3.450	0.219	A572-65
27	5.000	12	0.219	3.450	0.219	A572-65
28	5.000	12	0.219	3.450	0.219	A572-65
29	5.000	12	0.219	3.450	0.219	A572-65
30	5.000	12	0.219	3.450	0.219	A572-65
31	5.000	12	0.219	3.450	0.219	A572-65
32	5.000	12	0.219	3.450	0.219	A572-65
33	5.000	12	0.219	3.450	0.219	A572-65
34	5.000	12	0.219	3.450	0.219	A572-65
35	5.000	12	0.219	3.450	0.219	A572-65
36	5.000	12	0.219	3.450	0.219	A572-65
37	5.000	12	0.219	3.450	0.219	A572-65
38	5.000	12	0.219	3.450	0.219	A572-65
39	5.000	12	0.219	3.450	0.219	A572-65
40	5.000	12	0.219	3.450	0.219	A572-65
41	5.000	12	0.219	3.450	0.219	A572-65
42	5.000	12	0.219	3.450	0.219	A572-65
43	5.000	12	0.219	3.450	0.219	A572-65
44	5.000	12	0.219	3.450	0.219	A572-65
45	5.000	12	0.219	3.450	0.219	A572-65
46	5.000	12	0.219	3.450	0.219	A572-65
47	5.000	12	0.219	3.450	0.219	A572-65
48	5.000	12	0.219	3.450	0.219	A572-65
49	5.000	12	0.219	3.450	0.219	A572-65
50	5.000	12	0.219	3.450	0.219	A572-65
51	5.000	12	0.219	3.450	0.219	A572-65
52	5.000	12	0.219	3.450	0.219	A572-65
53	5.000	12	0.219	3.450	0.219	A572-65
54	5.000	12	0.219	3.450	0.219	A572-65



 <p>Crown Castle The Pathway to Possible</p>	<p>2000 Corporate Drive Canonsburg, PA 15317</p>		<p>Job: BU# 841295</p>
	<p>Phone: (724) 416-2000</p>		<p>Project:</p>
	<p>FAX:</p>		<p>Client: Crown Castle</p>
	<p>Phone: (724) 416-2000</p>		<p>Drawn by: MHussak</p>
	<p>FAX:</p>		<p>Date: 10/25/23</p>
<p>Phone: (724) 416-2000</p>		<p>Code: TIA-222-H</p>	<p>App'd:</p>
<p>FAX:</p>		<p>Path: C:\WP\841295\WO 2264943 - SAI\Prod\841295.eri</p>	<p>Scale: NTS</p>
<p>FAX:</p>		<p>Dwg No. E-1</p>	<p></p>

Tower Input Data

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

- Tower is located in New Haven County, Connecticut.
- Tower base elevation above sea level: 743.000 ft.
- Basic wind speed of 118 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- Nominal ice thickness of 1.000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.000 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50.000 °F.
- Deflections calculated using a wind speed of 60 mph.
- TOWER RATING: 70.4%.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios ✓ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules Calculate Forces in Supporting Bracing Members Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <div style="background-color: #e0e0e0; text-align: center; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
--	---	--

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	151.000-	5.000	0.000	12	17.590	18.526	0.219	0.875	A572-65

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
L2	146.000-141.000	5.000	0.000	12	18.526	19.461	0.219	0.875	(65 ksi) A572-65
L3	141.000-136.000	5.000	0.000	12	19.461	20.397	0.219	0.875	(65 ksi) A572-65
L4	136.000-131.000	5.000	0.000	12	20.397	21.332	0.219	0.875	(65 ksi) A572-65
L5	131.000-126.000	5.000	0.000	12	21.332	22.268	0.219	0.875	(65 ksi) A572-65
L6	126.000-121.000	5.000	0.000	12	22.268	23.203	0.219	0.875	(65 ksi) A572-65
L7	121.000-118.500	2.500	0.000	12	23.203	23.671	0.219	0.875	(65 ksi) A572-65
L8	118.500-118.250	0.250	0.000	12	23.671	23.718	0.494	1.975	(65 ksi) A572-65
L9	118.250-113.250	5.000	0.000	12	23.718	24.653	0.481	1.925	(65 ksi) A572-65
L10	113.250-108.250	5.000	0.000	12	24.653	25.589	0.469	1.875	(65 ksi) A572-65
L11	108.250-103.250	5.000	0.000	12	25.589	26.524	0.463	1.850	(65 ksi) A572-65
L12	103.250-97.500	5.750	3.450	12	26.524	27.600	0.456	1.825	(65 ksi) A572-65
L13	97.500-95.950	5.000	0.000	12	26.517	27.442	0.550	2.200	(65 ksi) A572-65
L14	95.950-95.000	0.950	0.000	12	27.442	27.617	0.550	2.200	(65 ksi) A572-65
L15	95.000-94.750	0.250	0.000	12	27.617	27.663	0.800	3.200	(65 ksi) A572-65
L16	94.750-92.500	2.250	0.000	12	27.663	28.079	0.787	3.150	(65 ksi) A572-65
L17	92.500-92.250	0.250	0.000	12	28.079	28.126	0.550	2.200	(65 ksi) A572-65
L18	92.250-87.750	4.500	0.000	12	28.126	28.958	0.537	2.150	(65 ksi) A572-65
L19	87.750-87.500	0.250	0.000	12	28.958	29.004	0.863	3.450	(65 ksi) A572-65
L20	87.500-84.000	3.500	0.000	12	29.004	29.651	0.850	3.400	(65 ksi) A572-65
L21	84.000-83.750	0.250	0.000	12	29.651	29.697	0.613	2.450	(65 ksi) A572-65
L22	83.750-78.750	5.000	0.000	12	29.697	30.622	0.600	2.400	(65 ksi) A572-65
L23	78.750-73.750	5.000	0.000	12	30.622	31.546	0.588	2.350	(65 ksi) A572-65
L24	73.750-68.750	5.000	0.000	12	31.546	32.471	0.588	2.350	(65 ksi) A572-65
L25	68.750-64.750	4.000	0.000	12	32.471	33.210	0.575	2.300	(65 ksi) A572-65
L26	64.750-64.500	0.250	0.000	12	33.210	33.257	0.850	3.400	(65 ksi) A572-65
L27	64.500-63.250	1.250	0.000	12	33.257	33.488	0.850	3.400	(65 ksi) A572-65
L28	63.250-63.000	0.250	0.000	12	33.488	33.534	0.575	2.300	(65 ksi) A572-65
L29	63.000-58.000	5.000	0.000	12	33.534	34.459	0.563	2.250	(65 ksi) A572-65
L30	58.000-56.750	1.250	0.000	12	34.459	34.690	0.563	2.250	(65 ksi) A572-65
L31	56.750-56.500	0.250	0.000	12	34.690	34.736	0.912	3.650	(65 ksi) A572-65
L32	56.500-55.250	1.250	0.000	12	34.736	34.967	0.912	3.650	(65 ksi) A572-65
L33	55.250-55.000	0.250	0.000	12	34.967	35.013	0.637	2.550	(65 ksi) A572-65
L34	55.000-47.500	7.500	4.550	12	35.013	36.400	0.637	2.550	(65 ksi) A572-65
L35	47.500-47.050	5.000	0.000	12	34.934	35.880	0.700	2.800	(65 ksi) A572-65

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
L36	47.050-42.050	5.000	0.000	12	35.880	36.825	0.688	2.750	A572-65 (65 ksi)
L37	42.050-37.050	5.000	0.000	12	36.825	37.771	0.675	2.700	A572-65 (65 ksi)
L38	37.050-34.950	2.100	0.000	12	37.771	38.169	0.675	2.700	A572-65 (65 ksi)
L39	34.950-34.700	0.250	0.000	12	38.169	38.216	0.988	3.950	A572-65 (65 ksi)
L40	34.700-34.250	0.450	0.000	12	38.216	38.301	0.975	3.900	A572-65 (65 ksi)
L41	34.250-34.000	0.250	0.000	12	38.301	38.348	0.675	2.700	A572-65 (65 ksi)
L42	34.000-29.000	5.000	0.000	12	38.348	39.294	0.662	2.650	A572-65 (65 ksi)
L43	29.000-26.750	2.250	0.000	12	39.294	39.720	0.662	2.650	A572-65 (65 ksi)
L44	26.750-26.500	0.250	0.000	12	39.720	39.767	0.950	3.800	A572-65 (65 ksi)
L45	26.500-25.250	1.250	0.000	12	39.767	40.003	0.950	3.800	A572-65 (65 ksi)
L46	25.250-25.000	0.250	0.000	12	40.003	40.051	0.662	2.650	A572-65 (65 ksi)
L47	25.000-20.000	5.000	0.000	12	40.051	40.997	0.650	2.600	A572-65 (65 ksi)
L48	20.000-16.750	3.250	0.000	12	40.997	41.611	0.650	2.600	A572-65 (65 ksi)
L49	16.750-16.500	0.250	0.000	12	41.611	41.659	0.762	3.050	A572-65 (65 ksi)
L50	16.500-14.250	2.250	0.000	12	41.659	42.084	0.762	3.050	A572-65 (65 ksi)
L51	14.250-14.000	0.250	0.000	12	42.084	42.132	0.725	2.900	A572-65 (65 ksi)
L52	14.000-9.000	5.000	0.000	12	42.132	43.077	0.713	2.850	A572-65 (65 ksi)
L53	9.000-4.000	5.000	0.000	12	43.077	44.023	0.713	2.850	A572-65 (65 ksi)
L54	4.000-0.000	4.000		12	44.023	44.780	0.700	2.800	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	18.133	12.236	471.284	6.219	9.112	51.723	954.950	6.022	4.128	18.87
	19.102	12.895	551.600	6.554	9.596	57.481	1117.692	6.346	4.379	20.016
L2	19.102	12.895	551.600	6.554	9.596	57.481	1117.692	6.346	4.379	20.016
	20.070	13.554	640.559	6.889	10.081	63.542	1297.947	6.671	4.629	21.163
L3	20.070	13.554	640.559	6.889	10.081	63.542	1297.947	6.671	4.629	21.163
	21.039	14.213	738.603	7.224	10.565	69.908	1496.609	6.995	4.880	22.309
L4	21.039	14.213	738.603	7.224	10.565	69.908	1496.609	6.995	4.880	22.309
	22.007	14.872	846.172	7.559	11.050	76.577	1714.574	7.319	5.131	23.455
L5	22.007	14.872	846.172	7.559	11.050	76.577	1714.574	7.319	5.131	23.455
	22.976	15.531	963.709	7.893	11.535	83.549	1952.736	7.644	5.381	24.601
L6	22.976	15.531	963.709	7.893	11.535	83.549	1952.736	7.644	5.381	24.601
	23.944	16.190	1091.656	8.228	12.019	90.826	2211.990	7.968	5.632	25.747
L7	23.944	16.190	1091.656	8.228	12.019	90.826	2211.990	7.968	5.632	25.747
	24.429	16.519	1159.670	8.396	12.261	94.578	2349.807	8.130	5.758	26.32
L8	24.429	16.519	1159.670	8.396	12.261	94.578	2349.807	8.130	5.758	26.32
	24.332	36.849	2526.537	8.297	12.261	206.055	5119.449	18.136	5.021	10.168
	24.380	36.923	2541.865	8.314	12.286	206.896	5150.508	18.172	5.033	10.194
L9	24.385	36.008	2481.517	8.319	12.286	201.984	5028.226	17.722	5.067	10.528
	25.353	37.457	2793.469	8.654	12.770	218.747	5660.326	18.435	5.317	11.049
L10	25.357	36.503	2725.135	8.658	12.770	213.396	5521.862	17.966	5.351	11.415
	26.326	37.915	3053.772	8.993	13.255	230.388	6187.769	18.661	5.602	11.95
L11	26.328	37.419	3015.304	8.995	13.255	227.486	6109.824	18.417	5.618	12.148
	27.297	38.812	3364.804	9.330	13.740	244.900	6818.005	19.102	5.869	12.69

151 Ft Monopole Tower Structural Analysis
Project Number 2264943, Order 658782, Revision 1

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
L12	27.299	38.297	3321.722	9.332	13.740	241.764	6730.709	18.849	5.886	12.9
	28.413	39.878	3750.198	9.717	14.297	262.310	7598.919	19.627	6.174	13.532
L13	27.919	45.988	3957.944	9.296	13.736	288.148	8019.867	22.634	5.633	10.241
	28.216	47.625	4395.921	9.627	14.215	309.252	8907.327	23.440	5.880	10.691
L14	28.216	47.625	4395.921	9.627	14.215	309.252	8907.327	23.440	5.880	10.691
	28.397	47.936	4482.627	9.690	14.306	313.346	9083.018	23.593	5.927	10.777
L15	28.309	69.081	6341.182	9.601	14.306	443.263	12848.954	34.000	5.257	6.572
	28.357	69.200	6374.030	9.617	14.330	444.815	12915.513	34.058	5.270	6.587
L16	28.361	68.151	6283.199	9.622	14.330	438.476	12731.464	33.542	5.303	6.734
	28.792	69.205	6579.524	9.771	14.545	452.352	13331.899	34.061	5.415	6.876
L17	28.876	48.755	4716.236	9.856	14.545	324.248	9556.372	23.996	6.051	11.002
	28.924	48.836	4740.033	9.872	14.569	325.349	9604.593	24.036	6.064	11.025
L18	28.928	47.748	4638.608	9.877	14.569	318.387	9399.077	23.500	6.097	11.344
	29.790	49.188	5071.094	10.174	15.000	338.071	10275.412	24.209	6.320	11.758
L19	29.675	78.027	7861.353	10.058	15.000	524.087	15929.233	38.403	5.449	6.318
	29.723	78.156	7900.220	10.075	15.024	525.839	16007.987	38.466	5.462	6.332
L20	29.727	77.057	7796.103	10.079	15.024	518.909	15797.019	37.925	5.495	6.465
	30.397	78.829	8346.169	10.311	15.359	543.397	16911.601	38.797	5.668	6.669
L21	30.481	57.271	6164.163	10.396	15.359	401.332	12490.266	28.187	6.305	10.294
	30.529	57.363	6193.647	10.412	15.383	402.624	12550.009	28.232	6.317	10.314
L22	30.533	56.216	6075.072	10.417	15.383	394.916	12309.744	27.668	6.351	10.585
	31.490	58.002	6672.737	10.748	15.862	420.672	13520.774	28.547	6.599	10.998
L23	31.495	56.817	6541.886	10.752	15.862	412.422	13255.635	27.964	6.632	11.289
	32.452	58.566	7164.785	11.083	16.341	438.455	14517.796	28.825	6.880	11.71
L24	32.452	58.566	7164.785	11.083	16.341	438.455	14517.796	28.825	6.880	11.71
	33.409	60.315	7826.019	11.414	16.820	465.284	15857.637	29.685	7.128	12.132
L25	33.413	59.055	7668.521	11.419	16.820	455.920	15538.502	29.065	7.161	12.454
	34.179	60.425	8214.445	11.683	17.203	477.500	16644.692	29.739	7.359	12.799
L26	34.082	88.571	11838.703	11.585	17.203	688.176	23988.422	43.592	6.622	7.791
	34.130	88.697	11889.508	11.602	17.227	690.169	24091.367	43.654	6.635	7.806
L27	34.130	88.697	11889.508	11.602	17.227	690.169	24091.367	43.654	6.635	7.806
	34.369	89.330	12145.719	11.684	17.347	700.175	24610.519	43.965	6.697	7.879
L28	34.466	60.938	8425.661	11.783	17.347	485.722	17072.674	29.992	7.434	12.928
	34.514	61.024	8461.212	11.799	17.371	487.099	17144.709	30.034	7.446	12.95
L29	34.519	59.720	8286.694	11.804	17.371	477.052	16791.088	29.392	7.480	13.297
	35.476	61.394	9003.489	12.135	17.850	504.411	18243.510	30.216	7.727	13.738
L30	35.476	61.394	9003.489	12.135	17.850	504.411	18243.510	30.216	7.727	13.738
	35.715	61.813	9188.925	12.218	17.969	511.370	18619.254	30.422	7.789	13.848
L31	35.591	99.246	14452.534	12.092	17.969	804.293	29284.753	48.846	6.851	7.508
	35.639	99.382	14511.952	12.109	17.993	806.525	29405.149	48.913	6.864	7.522
L32	35.639	99.382	14511.952	12.109	17.993	806.525	29405.149	48.913	6.864	7.522
	35.879	100.061	14811.486	12.192	18.113	817.731	30012.087	49.247	6.926	7.59
L33	35.976	70.470	10600.464	12.290	18.113	585.243	21479.413	34.683	7.663	12.02
	36.023	70.565	10643.342	12.307	18.137	586.835	21566.297	34.730	7.675	12.039
L34	36.023	70.565	10643.342	12.307	18.137	586.835	21566.297	34.730	7.675	12.039
	37.459	73.411	11984.105	12.803	18.855	635.586	24283.047	36.131	8.047	12.622
L35	36.810	77.163	11542.537	12.256	18.096	637.862	23388.309	37.977	7.486	10.695
	36.898	79.295	12525.948	12.594	18.586	673.960	25380.966	39.026	7.740	11.057
L36	36.903	77.906	12315.388	12.599	18.586	662.630	24954.316	38.343	7.773	11.306
	37.882	80.000	13335.312	12.937	19.076	699.079	27020.958	39.374	8.027	11.675
L37	37.886	78.573	13106.443	12.942	19.076	687.081	26557.207	38.671	8.060	11.941
	38.866	80.629	14162.358	13.280	19.566	723.843	28696.776	39.683	8.314	12.317
L38	38.866	80.629	14162.358	13.280	19.566	723.843	28696.776	39.683	8.314	12.317
	39.277	81.492	14622.234	13.423	19.771	739.569	29628.610	40.108	8.420	12.474
L39	39.167	118.226	20861.345	13.311	19.771	1055.133	42270.740	58.187	7.583	7.679
	39.216	118.377	20941.051	13.328	19.796	1057.854	42432.246	58.261	7.595	7.691
L40	39.220	116.917	20696.808	13.332	19.796	1045.516	41937.344	57.543	7.629	7.824
	39.308	117.185	20839.061	13.363	19.840	1050.362	42225.587	57.675	7.652	7.848
L41	39.414	81.780	14777.709	13.470	19.840	744.849	29943.645	40.250	8.456	12.527
	39.463	81.883	14833.503	13.487	19.864	746.739	30056.698	40.300	8.468	12.546
L42	39.467	80.393	14573.305	13.491	19.864	733.640	29529.467	39.567	8.502	12.833
	40.447	82.411	15698.374	13.830	20.354	771.255	31809.162	40.560	8.755	13.216
L43	40.447	82.411	15698.374	13.830	20.354	771.255	31809.162	40.560	8.755	13.216
	40.887	83.319	16222.995	13.982	20.575	788.488	32872.185	41.007	8.869	13.388
L44	40.786	118.597	22753.214	13.880	20.575	1105.878	46104.180	58.370	8.099	8.525
	40.835	118.741	22836.582	13.896	20.599	1108.609	46273.106	58.441	8.112	8.538
L45	40.835	118.741	22836.582	13.896	20.599	1108.609	46273.106	58.441	8.112	8.538
	41.080	119.465	23256.471	13.981	20.722	1122.320	47123.915	58.797	8.175	8.605
L46	41.181	83.924	16579.155	14.084	20.722	800.083	33593.863	41.305	8.945	13.503
	41.230	84.025	16639.018	14.101	20.746	802.024	33715.162	41.355	8.958	13.522

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
L47	41.234	82.466	16340.622	14.105	20.746	787.641	33110.530	40.587	8.992	13.833
	42.214	84.445	17545.912	14.444	21.236	826.225	35552.774	41.561	9.245	14.223
L48	42.214	84.445	17545.912	14.444	21.236	826.225	35552.774	41.561	9.245	14.223
	42.850	85.732	18360.292	14.664	21.555	851.800	37202.929	42.195	9.410	14.477
L49	42.810	100.294	21361.060	14.624	21.555	991.016	43283.299	49.362	9.108	11.945
	42.859	100.410	21435.337	14.641	21.579	993.333	43433.804	49.419	9.121	11.962
L50	42.859	100.410	21435.337	14.641	21.579	993.333	43433.804	49.419	9.121	11.962
	43.300	101.455	22111.601	14.793	21.800	1014.308	44804.098	49.933	9.235	12.112
L51	43.313	96.553	21081.436	14.807	21.800	967.052	42716.704	47.521	9.336	12.877
	43.362	96.664	21153.836	14.824	21.824	969.284	42863.407	47.575	9.348	12.894
L52	43.367	95.026	20807.948	14.828	21.824	953.436	42162.545	46.769	9.382	13.167
	44.346	97.196	22266.265	15.167	22.314	997.855	45117.489	47.837	9.635	13.523
L53	44.346	97.196	22266.265	15.167	22.314	997.855	45117.489	47.837	9.635	13.523
	45.325	99.366	23791.176	15.505	22.804	1043.286	48207.373	48.905	9.889	13.879
L54	45.329	97.651	23394.031	15.510	22.804	1025.870	47402.648	48.061	9.922	14.175
	46.113	99.356	24641.357	15.781	23.196	1062.309	49930.070	48.900	10.125	14.464

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1 151.000- 146.000				1	1	1			
L2 146.000- 141.000				1	1	1			
L3 141.000- 136.000				1	1	1			
L4 136.000- 131.000				1	1	1			
L5 131.000- 126.000				1	1	1			
L6 126.000- 121.000				1	1	1			
L7 121.000- 118.500				1	1	1			
L8 118.500- 118.250				1	1	0.936483			
L9 118.250- 113.250				1	1	0.940717			
L10 113.250- 108.250				1	1	0.946734			
L11 108.250- 103.250				1	1	0.941832			
L12 103.250- 97.500				1	1	0.94679			
L13 97.500- 95.950				1	1	0.951696			
L14 95.950- 95.000				1	1	0.949207			
L15 95.000- 94.750				1	1	0.91869			
L16 94.750- 92.500				1	1	0.924668			
L17 92.500- 92.250				1	1	0.942181			
L18 92.250- 87.750				1	1	0.952464			
L19 87.750- 87.500				1	1	0.912364			
L20 87.500- 84.000				1	1	0.912838			
L21 84.000- 83.750				1	1	0.941005			
L22 83.750- 78.750				1	1	0.946667			
L23 78.750- 73.750				1	1	0.953431			
L24 73.750-				1	1	0.941208			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	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
ft	ft ²	in							
L25 68.750-64.750				1	1	0.951824			
L26 64.750-64.500				1	1	0.924157			
L27 64.500-63.250				1	1	0.920216			
L28 63.250-63.000				1	1	0.947815			
L29 63.000-58.000				1	1	0.957247			
L30 58.000-56.750				1	1	0.954526			
L31 56.750-56.500				1	1	0.915353			
L32 56.500-55.250				1	1	0.911464			
L33 55.250-55.000				1	1	0.947191			
L34 55.000-47.500				1	1	0.940053			
L35 47.500-47.050				1	1	0.943221			
L36 47.050-42.050				1	1	0.949179			
L37 42.050-37.050				1	1	0.955946			
L38 37.050-34.950				1	1	0.951704			
L39 34.950-34.700				1	1	0.925302			
L40 34.700-34.250				1	1	0.935591			
L41 34.250-34.000				1	1	0.949814			
L42 34.000-29.000				1	1	0.957587			
L43 29.000-26.750				1	1	0.95332			
L44 26.750-26.500				1	1	0.938236			
L45 26.500-25.250				1	1	0.934945			
L46 25.250-25.000				1	1	0.950065			
L47 25.000-20.000				1	1	0.958859			
L48 20.000-16.750				1	1	0.953127			
L49 16.750-16.500				1	1	1.0263			
L50 16.500-14.250				1	1	1.02079			
L51 14.250-14.000				1	1	0.961912			
L52 14.000-9.000				1	1	0.968397			
L53 9.000-4.000				1	1	0.958743			
L54 4.000-0.000				1	1	0.968031			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
* LDF7-50A(1-5/8)	B	No	Surface Ar (CaAa)	122.000 - 0.000	8	4	0.000 0.250	1.980		0.001
* CU12PSM9P6XXX(1-1/2)	B	No	Surface Ar (CaAa)	102.000 - 0.000	1	1	0.250 0.300	1.600		0.002
* Safety Line 3/8	A	No	Surface Ar (CaAa)	151.000 - 0.000	1	1	-0.480 -0.480	0.375		0.000
* Sabre MS-850 (8.5" x 1.25" Plate)	C	No	Surface Af (CaAa)	20.500 - 0.000	1	1	0.150 0.175	8.500	19.500	0.000
Sabre MS-850 (8.5" x 1.25" Plate)	C	No	Surface Af (CaAa)	20.500 - 0.000	1	1	-0.175 -0.150	8.500	19.500	0.000
* Sabre MS-850 (8.5" x 1.25" Plate)	A	No	Surface Af (CaAa)	30.500 - 0.000	1	1	0.100 0.125	8.500	19.500	0.000
Sabre MS-850 (8.5" x 1.25" Plate)	B	No	Surface Af (CaAa)	30.500 - 0.000	1	1	0.100 0.125	8.500	19.500	0.000
Sabre MS-850 (8.5" x 1.25" Plate)	C	No	Surface Af (CaAa)	30.500 - 10.500	1	1	0.100 0.125	8.500	19.500	0.000
* Sabre MS-850 (8.5" x 1.25" Plate)	A	No	Surface Af (CaAa)	38.700 - 21.500	1	1	0.150 0.175	8.500	19.500	0.000
Sabre MS-850 (8.5" x 1.25" Plate)	B	No	Surface Af (CaAa)	38.700 - 21.500	1	1	0.150 0.175	8.500	19.500	0.000
Sabre MS-850 (8.5" x 1.25" Plate)	C	No	Surface Af (CaAa)	38.700 - 21.500	1	1	0.150 0.175	8.500	19.500	0.000
* Sabre MS-850 (8.5" x 1.25" Plate)	A	No	Surface Af (CaAa)	60.500 - 30.500	1	1	0.100 0.125	8.500	19.500	0.000
Sabre MS-850 (8.5" x 1.25" Plate)	B	No	Surface Af (CaAa)	60.500 - 30.500	1	1	0.100 0.125	8.500	19.500	0.000
Sabre MS-850 (8.5" x 1.25" Plate)	C	No	Surface Af (CaAa)	60.500 - 30.500	1	1	0.100 0.125	8.500	19.500	0.000
* Sabre MS-650 (6.5" x 1.25" Plate)	A	No	Surface Af (CaAa)	67.500 - 52.500	1	1	0.150 0.175	6.500	15.500	0.000
Sabre MS-650 (6.5" x 1.25" Plate)	B	No	Surface Af (CaAa)	67.500 - 52.500	1	1	0.150 0.175	6.500	15.500	0.000
Sabre MS-650 (6.5" x 1.25" Plate)	C	No	Surface Af (CaAa)	67.500 - 52.500	1	1	0.150 0.175	6.500	15.500	0.000
* Sabre MS-650 (6.5" x 1.25" Plate)	A	No	Surface Af (CaAa)	90.500 - 60.500	1	1	0.100 0.125	6.500	15.500	0.000
Sabre MS-650 (6.5" x 1.25" Plate)	B	No	Surface Af (CaAa)	90.500 - 60.500	1	1	0.100 0.125	6.500	15.500	0.000
Sabre MS-650 (6.5" x 1.25" Plate)	C	No	Surface Af (CaAa)	90.500 - 60.500	1	1	0.100 0.125	6.500	15.500	0.000
* Sabre MS-600 (6" x 1" Plate)	A	No	Surface Af (CaAa)	97.000 - 82.000	1	1	0.150 0.175	6.000	14.000	0.000
Sabre MS-600 (6" x 1" Plate)	B	No	Surface Af (CaAa)	97.000 - 82.000	1	1	0.150 0.175	6.000	14.000	0.000
Sabre MS-600 (6" x 1" Plate)	C	No	Surface Af (CaAa)	97.000 - 82.000	1	1	0.150 0.175	6.000	14.000	0.000
* Sabre MS-600 (6" x 1" Plate)	A	No	Surface Af (CaAa)	120.500 - 90.500	1	1	0.100 0.125	6.000	14.000	0.000
Sabre MS-600 (6" x 1" Plate)	B	No	Surface Af (CaAa)	120.500 - 90.500	1	1	0.100 0.125	6.000	14.000	0.000
Sabre MS-600 (6" x 1" Plate)	C	No	Surface Af (CaAa)	120.500 - 90.500	1	1	0.100 0.125	6.000	14.000	0.000
* MP3-03 (Surface Af)	A	No	Surface Af (CaAa)	126.500 - 116.500	1	1	0.200 0.225	4.060	11.260	0.010
MP3-03 (Surface Af)	B	No	Surface Af (CaAa)	126.500 - 116.500	1	1	0.200 0.225	4.060	11.260	0.010

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
MP3-03 (Surface Af)	C	No	Surface Af (CaAa)	126.500 - 116.500	1	1	0.200 - 0.225	4.060	11.260	0.010
*										

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} ft ² /ft	Weight klf	
LDF7-50A(1-5/8)	A	No	No	Inside Pole	148.000 - 0.000	6	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001	
2" Rigid Conduit	C	No	No	Inside Pole	148.000 - 0.000	4	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.003 0.003 0.003	
810921-001(7/8)	C	No	No	Inside Pole	148.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	
WR-VG66ST-BRD_CCIV2(7/8)	C	No	No	Inside Pole	148.000 - 0.000	4	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001	
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	148.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001	
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	148.000 - 0.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	
*										
LDF7-50A(1-5/8)	B	No	No	Inside Pole	138.000 - 0.000	12	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001	
HB158-U12S24-XXX-LI(1-5/8)	B	No	No	Inside Pole	138.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.003 0.003 0.003	
*										
*										

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	151.000-146.000	A	0.000	0.000	0.188	0.000	0.011
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.034
L2	146.000-141.000	A	0.000	0.000	0.188	0.000	0.026
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.084
L3	141.000-136.000	A	0.000	0.000	0.188	0.000	0.026
		B	0.000	0.000	0.000	0.000	0.026
		C	0.000	0.000	0.000	0.000	0.084
L4	136.000-131.000	A	0.000	0.000	0.188	0.000	0.026
		B	0.000	0.000	0.000	0.000	0.065
		C	0.000	0.000	0.000	0.000	0.084
L5	131.000-126.000	A	0.000	0.000	0.526	0.000	0.031
		B	0.000	0.000	0.338	0.000	0.070
		C	0.000	0.000	0.338	0.000	0.089
L6	126.000-121.000	A	0.000	0.000	3.571	0.000	0.075
		B	0.000	0.000	4.175	0.000	0.121

Tower Sectio n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L7	121.000-118.500	C	0.000	0.000	3.383	0.000	0.134
		A	0.000	0.000	3.785	0.000	0.038
		B	0.000	0.000	5.672	0.000	0.074
L8	118.500-118.250	C	0.000	0.000	3.692	0.000	0.067
		A	0.000	0.000	0.429	0.000	0.004
		B	0.000	0.000	0.617	0.000	0.007
L9	118.250-113.250	C	0.000	0.000	0.419	0.000	0.007
		A	0.000	0.000	6.372	0.000	0.043
		B	0.000	0.000	10.144	0.000	0.115
L10	113.250-108.250	C	0.000	0.000	6.184	0.000	0.102
		A	0.000	0.000	5.188	0.000	0.026
		B	0.000	0.000	8.960	0.000	0.098
L11	108.250-103.250	C	0.000	0.000	5.000	0.000	0.084
		A	0.000	0.000	5.188	0.000	0.026
		B	0.000	0.000	8.960	0.000	0.098
L12	103.250-97.500	C	0.000	0.000	5.000	0.000	0.084
		A	0.000	0.000	5.966	0.000	0.030
		B	0.000	0.000	11.024	0.000	0.123
L13	97.500-95.950	C	0.000	0.000	5.750	0.000	0.097
		A	0.000	0.000	2.658	0.000	0.008
		B	0.000	0.000	4.076	0.000	0.034
L14	95.950-95.000	C	0.000	0.000	2.600	0.000	0.026
		A	0.000	0.000	1.936	0.000	0.005
		B	0.000	0.000	2.804	0.000	0.021
L15	95.000-94.750	C	0.000	0.000	1.900	0.000	0.016
		A	0.000	0.000	0.509	0.000	0.001
		B	0.000	0.000	0.738	0.000	0.005
L16	94.750-92.500	C	0.000	0.000	0.500	0.000	0.004
		A	0.000	0.000	4.584	0.000	0.012
		B	0.000	0.000	6.642	0.000	0.049
L17	92.500-92.250	C	0.000	0.000	4.500	0.000	0.038
		A	0.000	0.000	0.509	0.000	0.001
		B	0.000	0.000	0.738	0.000	0.005
L18	92.250-87.750	C	0.000	0.000	0.500	0.000	0.004
		A	0.000	0.000	9.398	0.000	0.023
		B	0.000	0.000	13.513	0.000	0.099
L19	87.750-87.500	C	0.000	0.000	9.229	0.000	0.076
		A	0.000	0.000	0.530	0.000	0.001
		B	0.000	0.000	0.759	0.000	0.005
L20	87.500-84.000	C	0.000	0.000	0.521	0.000	0.004
		A	0.000	0.000	7.423	0.000	0.018
		B	0.000	0.000	10.624	0.000	0.077
L21	84.000-83.750	C	0.000	0.000	7.292	0.000	0.059
		A	0.000	0.000	0.530	0.000	0.001
		B	0.000	0.000	0.759	0.000	0.005
L22	83.750-78.750	C	0.000	0.000	0.521	0.000	0.004
		A	0.000	0.000	7.354	0.000	0.026
		B	0.000	0.000	11.927	0.000	0.110
L23	78.750-73.750	C	0.000	0.000	7.167	0.000	0.084
		A	0.000	0.000	5.604	0.000	0.026
		B	0.000	0.000	10.177	0.000	0.110
L24	73.750-68.750	C	0.000	0.000	5.417	0.000	0.084
		A	0.000	0.000	5.604	0.000	0.026
		B	0.000	0.000	10.177	0.000	0.110
L25	68.750-64.750	C	0.000	0.000	5.417	0.000	0.084
		A	0.000	0.000	7.462	0.000	0.021
		B	0.000	0.000	11.121	0.000	0.088
L26	64.750-64.500	C	0.000	0.000	7.313	0.000	0.067
		A	0.000	0.000	0.551	0.000	0.001
		B	0.000	0.000	0.780	0.000	0.005
L27	64.500-63.250	C	0.000	0.000	0.542	0.000	0.004
		A	0.000	0.000	2.755	0.000	0.006
		B	0.000	0.000	3.898	0.000	0.027
L28	63.250-63.000	C	0.000	0.000	2.708	0.000	0.021
		A	0.000	0.000	0.551	0.000	0.001
		B	0.000	0.000	0.780	0.000	0.005
L29	63.000-58.000	C	0.000	0.000	0.542	0.000	0.004
		A	0.000	0.000	11.854	0.000	0.026
		B	0.000	0.000	16.427	0.000	0.110

Tower Sectio n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L30	58.000-56.750	C	0.000	0.000	11.667	0.000	0.084
		A	0.000	0.000	3.172	0.000	0.006
		B	0.000	0.000	4.315	0.000	0.027
L31	56.750-56.500	C	0.000	0.000	3.125	0.000	0.021
		A	0.000	0.000	0.634	0.000	0.001
		B	0.000	0.000	0.863	0.000	0.005
L32	56.500-55.250	C	0.000	0.000	0.625	0.000	0.004
		A	0.000	0.000	3.172	0.000	0.006
		B	0.000	0.000	4.315	0.000	0.027
L33	55.250-55.000	C	0.000	0.000	3.125	0.000	0.021
		A	0.000	0.000	0.634	0.000	0.001
		B	0.000	0.000	0.863	0.000	0.005
L34	55.000-47.500	C	0.000	0.000	0.625	0.000	0.004
		A	0.000	0.000	13.615	0.000	0.039
		B	0.000	0.000	20.473	0.000	0.165
L35	47.500-47.050	C	0.000	0.000	13.333	0.000	0.126
		A	0.000	0.000	0.654	0.000	0.002
		B	0.000	0.000	1.066	0.000	0.010
L36	47.050-42.050	C	0.000	0.000	0.637	0.000	0.008
		A	0.000	0.000	7.271	0.000	0.026
		B	0.000	0.000	11.843	0.000	0.110
L37	42.050-37.050	C	0.000	0.000	7.083	0.000	0.084
		A	0.000	0.000	9.570	0.000	0.026
		B	0.000	0.000	14.143	0.000	0.110
L38	37.050-34.950	C	0.000	0.000	9.383	0.000	0.084
		A	0.000	0.000	5.980	0.000	0.011
		B	0.000	0.000	7.901	0.000	0.046
L39	34.950-34.700	C	0.000	0.000	5.902	0.000	0.035
		A	0.000	0.000	0.712	0.000	0.001
		B	0.000	0.000	0.941	0.000	0.005
L40	34.700-34.250	C	0.000	0.000	0.703	0.000	0.004
		A	0.000	0.000	1.282	0.000	0.002
		B	0.000	0.000	1.693	0.000	0.010
L41	34.250-34.000	C	0.000	0.000	1.265	0.000	0.008
		A	0.000	0.000	0.712	0.000	0.001
		B	0.000	0.000	0.941	0.000	0.005
L42	34.000-29.000	C	0.000	0.000	0.703	0.000	0.004
		A	0.000	0.000	14.239	0.000	0.026
		B	0.000	0.000	18.811	0.000	0.110
L43	29.000-26.750	C	0.000	0.000	14.051	0.000	0.084
		A	0.000	0.000	6.408	0.000	0.012
		B	0.000	0.000	8.465	0.000	0.049
L44	26.750-26.500	C	0.000	0.000	6.323	0.000	0.038
		A	0.000	0.000	0.712	0.000	0.001
		B	0.000	0.000	0.941	0.000	0.005
L45	26.500-25.250	C	0.000	0.000	0.703	0.000	0.004
		A	0.000	0.000	3.560	0.000	0.006
		B	0.000	0.000	4.703	0.000	0.027
L46	25.250-25.000	C	0.000	0.000	3.513	0.000	0.021
		A	0.000	0.000	0.712	0.000	0.001
		B	0.000	0.000	0.941	0.000	0.005
L47	25.000-20.000	C	0.000	0.000	0.703	0.000	0.004
		A	0.000	0.000	12.149	0.000	0.026
		B	0.000	0.000	16.721	0.000	0.110
L48	20.000-16.750	C	0.000	0.000	13.378	0.000	0.084
		A	0.000	0.000	4.726	0.000	0.017
		B	0.000	0.000	7.698	0.000	0.071
L49	16.750-16.500	C	0.000	0.000	13.813	0.000	0.055
		A	0.000	0.000	0.364	0.000	0.001
		B	0.000	0.000	0.592	0.000	0.005
L50	16.500-14.250	C	0.000	0.000	1.063	0.000	0.004
		A	0.000	0.000	3.272	0.000	0.012
		B	0.000	0.000	5.330	0.000	0.049
L51	14.250-14.000	C	0.000	0.000	9.563	0.000	0.038
		A	0.000	0.000	0.364	0.000	0.001
		B	0.000	0.000	0.592	0.000	0.005
L52	14.000-9.000	C	0.000	0.000	1.063	0.000	0.004
		A	0.000	0.000	7.271	0.000	0.026
		B	0.000	0.000	11.843	0.000	0.110

Tower Section	Tower Elevation	Face	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
L53	9.000-4.000	C	0.000	0.000	19.125	0.000	0.084
		A	0.000	0.000	7.271	0.000	0.026
		B	0.000	0.000	11.843	0.000	0.110
L54	4.000-0.000	C	0.000	0.000	14.167	0.000	0.084
		A	0.000	0.000	5.817	0.000	0.021
		B	0.000	0.000	9.475	0.000	0.088
		C	0.000	0.000	11.333	0.000	0.067

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
L1	151.000-146.000	A	0.988	0.000	0.000	1.175	0.000	0.019
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.034
L2	146.000-141.000	A	0.985	0.000	0.000	1.172	0.000	0.034
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.084
L3	141.000-136.000	A	0.981	0.000	0.000	1.169	0.000	0.034
		B		0.000	0.000	0.000	0.000	0.026
		C		0.000	0.000	0.000	0.000	0.084
L4	136.000-131.000	A	0.977	0.000	0.000	1.165	0.000	0.034
		B		0.000	0.000	0.000	0.000	0.065
		C		0.000	0.000	0.000	0.000	0.084
L5	131.000-126.000	A	0.974	0.000	0.000	1.567	0.000	0.042
		B		0.000	0.000	0.406	0.000	0.073
		C		0.000	0.000	0.406	0.000	0.092
L6	126.000-121.000	A	0.970	0.000	0.000	5.211	0.000	0.111
		B		0.000	0.000	5.286	0.000	0.161
		C		0.000	0.000	4.054	0.000	0.162
L7	121.000-118.500	A	0.967	0.000	0.000	4.990	0.000	0.069
		B		0.000	0.000	7.492	0.000	0.130
		C		0.000	0.000	4.413	0.000	0.094
L8	118.500-118.250	A	0.966	0.000	0.000	0.559	0.000	0.007
		B		0.000	0.000	0.809	0.000	0.013
		C		0.000	0.000	0.501	0.000	0.010
L9	118.250-113.250	A	0.964	0.000	0.000	8.533	0.000	0.094
		B		0.000	0.000	13.536	0.000	0.217
		C		0.000	0.000	7.381	0.000	0.144
L10	113.250-108.250	A	0.959	0.000	0.000	7.106	0.000	0.066
		B		0.000	0.000	12.109	0.000	0.189
		C		0.000	0.000	5.959	0.000	0.117
L11	108.250-103.250	A	0.955	0.000	0.000	7.097	0.000	0.066
		B		0.000	0.000	12.099	0.000	0.189
		C		0.000	0.000	5.955	0.000	0.117
L12	103.250-97.500	A	0.950	0.000	0.000	8.151	0.000	0.076
		B		0.000	0.000	15.476	0.000	0.240
		C		0.000	0.000	6.842	0.000	0.134
L13	97.500-95.950	A	0.947	0.000	0.000	3.433	0.000	0.027
		B		0.000	0.000	5.525	0.000	0.073
		C		0.000	0.000	3.080	0.000	0.043
L14	95.950-95.000	A	0.945	0.000	0.000	2.462	0.000	0.019
		B		0.000	0.000	3.744	0.000	0.047
		C		0.000	0.000	2.247	0.000	0.028
L15	95.000-94.750	A	0.945	0.000	0.000	0.648	0.000	0.005
		B		0.000	0.000	0.985	0.000	0.012
		C		0.000	0.000	0.591	0.000	0.007
L16	94.750-92.500	A	0.943	0.000	0.000	5.829	0.000	0.044
		B		0.000	0.000	8.863	0.000	0.111
		C		0.000	0.000	5.320	0.000	0.067
L17	92.500-92.250	A	0.942	0.000	0.000	0.648	0.000	0.005
		B		0.000	0.000	0.985	0.000	0.012
		C		0.000	0.000	0.591	0.000	0.007
L18	92.250-87.750	A	0.940	0.000	0.000	11.879	0.000	0.089
		B		0.000	0.000	17.943	0.000	0.223

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L19	87.750-87.500	C		0.000	0.000	10.865	0.000	0.135
		A	0.937	0.000	0.000	0.668	0.000	0.005
		B		0.000	0.000	1.004	0.000	0.012
L20	87.500-84.000	C		0.000	0.000	0.612	0.000	0.008
		A	0.935	0.000	0.000	9.345	0.000	0.070
		B		0.000	0.000	14.057	0.000	0.173
L21	84.000-83.750	C		0.000	0.000	8.559	0.000	0.106
		A	0.933	0.000	0.000	0.667	0.000	0.005
		B		0.000	0.000	1.004	0.000	0.012
L22	83.750-78.750	C		0.000	0.000	0.611	0.000	0.008
		A	0.930	0.000	0.000	9.520	0.000	0.079
		B		0.000	0.000	16.245	0.000	0.226
L23	78.750-73.750	C		0.000	0.000	8.402	0.000	0.130
		A	0.924	0.000	0.000	7.453	0.000	0.067
		B		0.000	0.000	14.170	0.000	0.214
L24	73.750-68.750	C		0.000	0.000	6.341	0.000	0.118
		A	0.918	0.000	0.000	7.440	0.000	0.067
		B		0.000	0.000	14.150	0.000	0.214
L25	68.750-64.750	C		0.000	0.000	6.335	0.000	0.118
		A	0.912	0.000	0.000	9.298	0.000	0.072
		B		0.000	0.000	14.660	0.000	0.189
L26	64.750-64.500	C		0.000	0.000	8.419	0.000	0.113
		A	0.909	0.000	0.000	0.676	0.000	0.005
		B		0.000	0.000	1.011	0.000	0.012
L27	64.500-63.250	C		0.000	0.000	0.621	0.000	0.008
		A	0.908	0.000	0.000	3.380	0.000	0.025
		B		0.000	0.000	5.054	0.000	0.061
L28	63.250-63.000	C		0.000	0.000	3.106	0.000	0.038
		A	0.907	0.000	0.000	0.676	0.000	0.005
		B		0.000	0.000	1.011	0.000	0.012
L29	63.000-58.000	C		0.000	0.000	0.621	0.000	0.008
		A	0.903	0.000	0.000	14.340	0.000	0.103
		B		0.000	0.000	21.032	0.000	0.249
L30	58.000-56.750	C		0.000	0.000	13.250	0.000	0.154
		A	0.898	0.000	0.000	3.790	0.000	0.026
		B		0.000	0.000	5.462	0.000	0.063
L31	56.750-56.500	C		0.000	0.000	3.519	0.000	0.039
		A	0.897	0.000	0.000	0.758	0.000	0.005
		B		0.000	0.000	1.092	0.000	0.013
L32	56.500-55.250	C		0.000	0.000	0.704	0.000	0.008
		A	0.896	0.000	0.000	3.789	0.000	0.026
		B		0.000	0.000	5.460	0.000	0.063
L33	55.250-55.000	C		0.000	0.000	3.518	0.000	0.039
		A	0.895	0.000	0.000	0.758	0.000	0.005
		B		0.000	0.000	1.092	0.000	0.013
L34	55.000-47.500	C		0.000	0.000	0.704	0.000	0.008
		A	0.888	0.000	0.000	16.615	0.000	0.124
		B		0.000	0.000	26.625	0.000	0.342
L35	47.500-47.050	C		0.000	0.000	15.002	0.000	0.202
		A	0.881	0.000	0.000	0.814	0.000	0.006
		B		0.000	0.000	1.415	0.000	0.020
L36	47.050-42.050	C		0.000	0.000	0.717	0.000	0.011
		A	0.876	0.000	0.000	9.023	0.000	0.071
		B		0.000	0.000	15.680	0.000	0.216
L37	42.050-37.050	C		0.000	0.000	7.959	0.000	0.123
		A	0.866	0.000	0.000	11.455	0.000	0.083
		B		0.000	0.000	18.100	0.000	0.227
L38	37.050-34.950	C		0.000	0.000	10.402	0.000	0.135
		A	0.857	0.000	0.000	6.895	0.000	0.045
		B		0.000	0.000	9.681	0.000	0.105
L39	34.950-34.700	C		0.000	0.000	6.456	0.000	0.067
		A	0.855	0.000	0.000	0.820	0.000	0.005
		B		0.000	0.000	1.152	0.000	0.013
L40	34.700-34.250	C		0.000	0.000	0.768	0.000	0.008
		A	0.854	0.000	0.000	1.477	0.000	0.010
		B		0.000	0.000	2.073	0.000	0.023
L41	34.250-34.000	C		0.000	0.000	1.383	0.000	0.014
		A	0.853	0.000	0.000	0.820	0.000	0.005
		B		0.000	0.000	1.152	0.000	0.013

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L42	34.000-29.000	C		0.000	0.000	0.768	0.000	0.008
		A	0.846	0.000	0.000	16.387	0.000	0.107
		B		0.000	0.000	23.007	0.000	0.249
		C		0.000	0.000	15.340	0.000	0.159
L43	29.000-26.750	A	0.836	0.000	0.000	7.362	0.000	0.047
		B		0.000	0.000	10.336	0.000	0.111
		C		0.000	0.000	6.884	0.000	0.071
L44	26.750-26.500	A	0.832	0.000	0.000	0.818	0.000	0.005
		B		0.000	0.000	1.148	0.000	0.012
		C		0.000	0.000	0.765	0.000	0.008
L45	26.500-25.250	A	0.830	0.000	0.000	4.086	0.000	0.026
		B		0.000	0.000	5.736	0.000	0.062
		C		0.000	0.000	3.823	0.000	0.039
L46	25.250-25.000	A	0.827	0.000	0.000	0.817	0.000	0.005
		B		0.000	0.000	1.147	0.000	0.012
		C		0.000	0.000	0.764	0.000	0.008
L47	25.000-20.000	A	0.818	0.000	0.000	14.093	0.000	0.093
		B		0.000	0.000	20.678	0.000	0.234
		C		0.000	0.000	14.633	0.000	0.153
L48	20.000-16.750	A	0.802	0.000	0.000	5.768	0.000	0.043
		B		0.000	0.000	10.035	0.000	0.134
		C		0.000	0.000	15.346	0.000	0.123
L49	16.750-16.500	A	0.794	0.000	0.000	0.443	0.000	0.003
		B		0.000	0.000	0.771	0.000	0.010
		C		0.000	0.000	1.180	0.000	0.009
L50	16.500-14.250	A	0.787	0.000	0.000	3.981	0.000	0.030
		B		0.000	0.000	6.927	0.000	0.092
		C		0.000	0.000	10.609	0.000	0.084
L51	14.250-14.000	A	0.781	0.000	0.000	0.442	0.000	0.003
		B		0.000	0.000	0.769	0.000	0.010
		C		0.000	0.000	1.178	0.000	0.009
L52	14.000-9.000	A	0.765	0.000	0.000	8.801	0.000	0.064
		B		0.000	0.000	15.319	0.000	0.202
		C		0.000	0.000	21.164	0.000	0.174
L53	9.000-4.000	A	0.722	0.000	0.000	8.716	0.000	0.062
		B		0.000	0.000	15.181	0.000	0.197
		C		0.000	0.000	15.602	0.000	0.147
L54	4.000-0.000	A	0.642	0.000	0.000	6.844	0.000	0.046
		B		0.000	0.000	11.936	0.000	0.150
		C		0.000	0.000	12.361	0.000	0.111

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	151.000-146.000	-0.203	0.106	-0.837	0.437
L2	146.000-141.000	-0.203	0.106	-0.842	0.440
L3	141.000-136.000	-0.203	0.106	-0.846	0.442
L4	136.000-131.000	-0.203	0.106	-0.850	0.444
L5	131.000-126.000	-0.182	0.095	-0.782	0.409
L6	126.000-121.000	0.413	-0.087	0.154	0.068
L7	121.000-118.500	1.313	-0.339	1.406	-0.314
L8	118.500-118.250	1.227	-0.316	1.321	-0.295
L9	118.250-113.250	1.474	-0.380	1.571	-0.350
L10	113.250-108.250	1.691	-0.436	1.769	-0.394
L11	108.250-103.250	1.731	-0.446	1.804	-0.402
L12	103.250-97.500	1.960	-0.422	2.233	-0.374
L13	97.500-95.950	1.564	-0.322	1.849	-0.288
L14	95.950-95.000	1.416	-0.292	1.687	-0.263
L15	95.000-94.750	1.421	-0.292	1.693	-0.264
L16	94.750-92.500	1.428	-0.294	1.702	-0.266
L17	92.500-92.250	1.434	-0.295	1.710	-0.267
L18	92.250-87.750	1.425	-0.293	1.706	-0.266
L19	87.750-87.500	1.426	-0.293	1.711	-0.267

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L20	87.500-84.000	1.436	-0.295	1.724	-0.269
L21	84.000-83.750	1.445	-0.297	1.736	-0.271
L22	83.750-78.750	1.797	-0.369	2.133	-0.333
L23	78.750-73.750	2.083	-0.428	2.454	-0.383
L24	73.750-68.750	2.112	-0.433	2.493	-0.390
L25	68.750-64.750	1.652	-0.339	2.003	-0.313
L26	64.750-64.500	1.509	-0.310	1.845	-0.289
L27	64.500-63.250	1.513	-0.310	1.850	-0.289
L28	63.250-63.000	1.515	-0.311	1.854	-0.290
L29	63.000-58.000	1.461	-0.300	1.803	-0.282
L30	58.000-56.750	1.415	-0.290	1.759	-0.276
L31	56.750-56.500	1.420	-0.291	1.765	-0.277
L32	56.500-55.250	1.423	-0.292	1.769	-0.277
L33	55.250-55.000	1.426	-0.292	1.772	-0.278
L34	55.000-47.500	1.773	-0.363	2.157	-0.339
L35	47.500-47.050	2.014	-0.413	2.404	-0.377
L36	47.050-42.050	2.034	-0.417	2.422	-0.382
L37	42.050-37.050	1.776	-0.364	2.165	-0.342
L38	37.050-34.950	1.398	-0.286	1.766	-0.280
L39	34.950-34.700	1.404	-0.287	1.774	-0.281
L40	34.700-34.250	1.406	-0.288	1.776	-0.281
L41	34.250-34.000	1.407	-0.288	1.776	-0.282
L42	34.000-29.000	1.422	-0.291	1.792	-0.288
L43	29.000-26.750	1.442	-0.295	1.815	-0.298
L44	26.750-26.500	1.449	-0.296	1.822	-0.299
L45	26.500-25.250	1.453	-0.297	1.826	-0.300
L46	25.250-25.000	1.456	-0.298	1.829	-0.300
L47	25.000-20.000	1.593	0.079	1.969	0.057
L48	20.000-16.750	1.689	3.908	2.027	3.552
L49	16.750-16.500	1.699	3.933	2.036	3.574
L50	16.500-14.250	1.706	3.950	2.042	3.588
L51	14.250-14.000	1.713	3.967	2.048	3.601
L52	14.000-9.000	2.155	3.400	2.459	3.070
L53	9.000-4.000	3.328	1.853	3.534	1.645
L54	4.000-0.000	3.374	1.879	3.563	1.662

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	20	Safety Line 3/8	146.00 - 151.00	1.0000	1.0000
L2	20	Safety Line 3/8	141.00 - 146.00	1.0000	1.0000
L3	20	Safety Line 3/8	136.00 - 141.00	1.0000	1.0000
L4	20	Safety Line 3/8	131.00 - 136.00	1.0000	1.0000
L5	20	Safety Line 3/8	126.00 - 131.00	1.0000	1.0000
L5	53	MP3-03 (Surface Af)	126.00 - 126.50	1.0000	1.0000
L5	54	MP3-03 (Surface Af)	126.00 - 126.50	1.0000	1.0000
L5	55	MP3-03 (Surface Af)	126.00 - 126.50	1.0000	1.0000
L6	16	LDF7-50A(1-5/8)	121.00 - 122.00	1.0000	1.0000
L6	20	Safety Line 3/8	121.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L6	53	MP3-03 (Surface Af)	126.00 121.00 - 126.00	1.0000	1.0000
L6	54	MP3-03 (Surface Af)	121.00 - 126.00	1.0000	1.0000
L6	55	MP3-03 (Surface Af)	121.00 - 126.00	1.0000	1.0000
L7	16	LDF7-50A(1-5/8)	118.50 - 121.00	1.0000	1.0000
L7	20	Safety Line 3/8	118.50 - 121.00	1.0000	1.0000
L7	49	Sabre MS-600 (6" x 1" Plate)	118.50 - 120.50	1.0000	1.0000
L7	50	Sabre MS-600 (6" x 1" Plate)	118.50 - 120.50	1.0000	1.0000
L7	51	Sabre MS-600 (6" x 1" Plate)	118.50 - 120.50	1.0000	1.0000
L7	53	MP3-03 (Surface Af)	118.50 - 121.00	1.0000	1.0000
L7	54	MP3-03 (Surface Af)	118.50 - 121.00	1.0000	1.0000
L7	55	MP3-03 (Surface Af)	118.50 - 121.00	1.0000	1.0000
L8	16	LDF7-50A(1-5/8)	118.25 - 118.50	1.0000	1.0000
L8	20	Safety Line 3/8	118.25 - 118.50	1.0000	1.0000
L8	49	Sabre MS-600 (6" x 1" Plate)	118.25 - 118.50	1.0000	1.0000
L8	50	Sabre MS-600 (6" x 1" Plate)	118.25 - 118.50	1.0000	1.0000
L8	51	Sabre MS-600 (6" x 1" Plate)	118.25 - 118.50	1.0000	1.0000
L8	53	MP3-03 (Surface Af)	118.25 - 118.50	1.0000	1.0000
L8	54	MP3-03 (Surface Af)	118.25 - 118.50	1.0000	1.0000
L8	55	MP3-03 (Surface Af)	118.25 - 118.50	1.0000	1.0000
L9	16	LDF7-50A(1-5/8)	113.25 - 118.25	1.0000	1.0000
L9	20	Safety Line 3/8	113.25 - 118.25	1.0000	1.0000
L9	49	Sabre MS-600 (6" x 1" Plate)	113.25 - 118.25	1.0000	1.0000
L9	50	Sabre MS-600 (6" x 1" Plate)	113.25 - 118.25	1.0000	1.0000
L9	51	Sabre MS-600 (6" x 1" Plate)	113.25 - 118.25	1.0000	1.0000
L9	53	MP3-03 (Surface Af)	116.50 - 118.25	1.0000	1.0000
L9	54	MP3-03 (Surface Af)	116.50 - 118.25	1.0000	1.0000
L9	55	MP3-03 (Surface Af)	116.50 - 118.25	1.0000	1.0000
L10	16	LDF7-50A(1-5/8)	108.25 - 113.25	1.0000	1.0000
L10	20	Safety Line 3/8	108.25 - 113.25	1.0000	1.0000
L10	49	Sabre MS-600 (6" x 1" Plate)	108.25 - 113.25	1.0000	1.0000
L10	50	Sabre MS-600 (6" x 1" Plate)	108.25 - 113.25	1.0000	1.0000
L10	51	Sabre MS-600 (6" x 1" Plate)	108.25 - 113.25	1.0000	1.0000
L11	16	LDF7-50A(1-5/8)	103.25 - 108.25	1.0000	1.0000
L11	20	Safety Line 3/8	103.25 - 108.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L11	49	Sabre MS-600 (6" x 1" Plate)	103.25 - 108.25	1.0000	1.0000
L11	50	Sabre MS-600 (6" x 1" Plate)	103.25 - 108.25	1.0000	1.0000
L11	51	Sabre MS-600 (6" x 1" Plate)	103.25 - 108.25	1.0000	1.0000
L12	16	LDF7-50A(1-5/8)	97.50 - 103.25	1.0000	1.0000
L12	18	CU12PSM9P6XXX(1-1/2)	97.50 - 102.00	1.0000	1.0000
L12	20	Safety Line 3/8	97.50 - 103.25	1.0000	1.0000
L12	49	Sabre MS-600 (6" x 1" Plate)	97.50 - 103.25	1.0000	1.0000
L12	50	Sabre MS-600 (6" x 1" Plate)	97.50 - 103.25	1.0000	1.0000
L12	51	Sabre MS-600 (6" x 1" Plate)	97.50 - 103.25	1.0000	1.0000
L13	16	LDF7-50A(1-5/8)	95.95 - 97.50	1.0000	1.0000
L13	18	CU12PSM9P6XXX(1-1/2)	95.95 - 97.50	1.0000	1.0000
L13	20	Safety Line 3/8	95.95 - 97.50	1.0000	1.0000
L13	45	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.00	1.0000	1.0000
L13	46	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.00	1.0000	1.0000
L13	47	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.00	1.0000	1.0000
L13	49	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.50	1.0000	1.0000
L13	50	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.50	1.0000	1.0000
L13	51	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.50	1.0000	1.0000
L14	16	LDF7-50A(1-5/8)	95.00 - 95.95	1.0000	1.0000
L14	18	CU12PSM9P6XXX(1-1/2)	95.00 - 95.95	1.0000	1.0000
L14	20	Safety Line 3/8	95.00 - 95.95	1.0000	1.0000
L14	45	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	1.0000	1.0000
L14	46	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	1.0000	1.0000
L14	47	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	1.0000	1.0000
L14	49	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	1.0000	1.0000
L14	50	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	1.0000	1.0000
L14	51	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	1.0000	1.0000
L15	16	LDF7-50A(1-5/8)	94.75 - 95.00	1.0000	1.0000
L15	18	CU12PSM9P6XXX(1-1/2)	94.75 - 95.00	1.0000	1.0000
L15	20	Safety Line 3/8	94.75 - 95.00	1.0000	1.0000
L15	45	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	1.0000	1.0000
L15	46	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	1.0000	1.0000
L15	47	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	1.0000	1.0000
L15	49	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	1.0000	1.0000
L15	50	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L15	51	Plate) Sabre MS-600 (6" x 1"	95.00 94.75 -	1.0000	1.0000
L16	16	Plate) LDF7-50A(1-5/8)	95.00 92.50 -	1.0000	1.0000
L16	18	CU12PSM9P6XXX(1-1/2)	94.75 92.50 -	1.0000	1.0000
L16	20	Safety Line 3/8	94.75 92.50 -	1.0000	1.0000
L16	45	Sabre MS-600 (6" x 1"	94.75 92.50 -	1.0000	1.0000
L16	46	Plate) Sabre MS-600 (6" x 1"	94.75 92.50 -	1.0000	1.0000
L16	47	Plate) Sabre MS-600 (6" x 1"	94.75 92.50 -	1.0000	1.0000
L16	49	Plate) Sabre MS-600 (6" x 1"	94.75 92.50 -	1.0000	1.0000
L16	50	Plate) Sabre MS-600 (6" x 1"	94.75 92.50 -	1.0000	1.0000
L16	51	Plate) Sabre MS-600 (6" x 1"	94.75 92.50 -	1.0000	1.0000
L17	16	Plate) LDF7-50A(1-5/8)	94.75 92.25 -	1.0000	1.0000
L17	18	CU12PSM9P6XXX(1-1/2)	92.50 92.25 -	1.0000	1.0000
L17	20	Safety Line 3/8	92.50 92.25 -	1.0000	1.0000
L17	45	Sabre MS-600 (6" x 1"	92.50 92.25 -	1.0000	1.0000
L17	46	Plate) Sabre MS-600 (6" x 1"	92.50 92.25 -	1.0000	1.0000
L17	47	Plate) Sabre MS-600 (6" x 1"	92.50 92.25 -	1.0000	1.0000
L17	49	Plate) Sabre MS-600 (6" x 1"	92.50 92.25 -	1.0000	1.0000
L17	50	Plate) Sabre MS-600 (6" x 1"	92.50 92.25 -	1.0000	1.0000
L17	51	Plate) Sabre MS-600 (6" x 1"	92.50 92.25 -	1.0000	1.0000
L18	16	Plate) LDF7-50A(1-5/8)	92.50 87.75 -	1.0000	1.0000
L18	18	CU12PSM9P6XXX(1-1/2)	92.25 87.75 -	1.0000	1.0000
L18	20	Safety Line 3/8	92.25 87.75 -	1.0000	1.0000
L18	41	Sabre MS-650 (6.5" x 1.25" Plate)	90.50 87.75 -	1.0000	1.0000
L18	42	Sabre MS-650 (6.5" x 1.25" Plate)	90.50 87.75 -	1.0000	1.0000
L18	43	Sabre MS-650 (6.5" x 1.25" Plate)	90.50 87.75 -	1.0000	1.0000
L18	45	Sabre MS-600 (6" x 1"	90.50 87.75 -	1.0000	1.0000
L18	46	Plate) Sabre MS-600 (6" x 1"	92.25 87.75 -	1.0000	1.0000
L18	47	Plate) Sabre MS-600 (6" x 1"	92.25 87.75 -	1.0000	1.0000
L18	49	Plate) Sabre MS-600 (6" x 1"	92.25 90.50 -	1.0000	1.0000
L18	50	Plate) Sabre MS-600 (6" x 1"	92.25 90.50 -	1.0000	1.0000
L18	51	Plate) Sabre MS-600 (6" x 1"	92.25 90.50 -	1.0000	1.0000
L19	16	Plate) LDF7-50A(1-5/8)	92.25 87.50 -	1.0000	1.0000
L19	18	CU12PSM9P6XXX(1-1/2)	87.75 87.50 -	1.0000	1.0000
L19	20	Safety Line 3/8	87.75 87.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L19	41	Sabre MS-650 (6.5" x 1.25" Plate)	87.50 - 87.75	1.0000	1.0000
L19	42	Sabre MS-650 (6.5" x 1.25" Plate)	87.50 - 87.75	1.0000	1.0000
L19	43	Sabre MS-650 (6.5" x 1.25" Plate)	87.50 - 87.75	1.0000	1.0000
L19	45	Sabre MS-600 (6" x 1" Plate)	87.50 - 87.75	1.0000	1.0000
L19	46	Sabre MS-600 (6" x 1" Plate)	87.50 - 87.75	1.0000	1.0000
L19	47	Sabre MS-600 (6" x 1" Plate)	87.50 - 87.75	1.0000	1.0000
L20	16	LDF7-50A(1-5/8)	84.00 - 87.50	1.0000	1.0000
L20	18	CU12PSM9P6XXX(1-1/2)	84.00 - 87.50	1.0000	1.0000
L20	20	Safety Line 3/8	84.00 - 87.50	1.0000	1.0000
L20	41	Sabre MS-650 (6.5" x 1.25" Plate)	84.00 - 87.50	1.0000	1.0000
L20	42	Sabre MS-650 (6.5" x 1.25" Plate)	84.00 - 87.50	1.0000	1.0000
L20	43	Sabre MS-650 (6.5" x 1.25" Plate)	84.00 - 87.50	1.0000	1.0000
L20	45	Sabre MS-600 (6" x 1" Plate)	84.00 - 87.50	1.0000	1.0000
L20	46	Sabre MS-600 (6" x 1" Plate)	84.00 - 87.50	1.0000	1.0000
L20	47	Sabre MS-600 (6" x 1" Plate)	84.00 - 87.50	1.0000	1.0000
L21	16	LDF7-50A(1-5/8)	83.75 - 84.00	1.0000	1.0000
L21	18	CU12PSM9P6XXX(1-1/2)	83.75 - 84.00	1.0000	1.0000
L21	20	Safety Line 3/8	83.75 - 84.00	1.0000	1.0000
L21	41	Sabre MS-650 (6.5" x 1.25" Plate)	83.75 - 84.00	1.0000	1.0000
L21	42	Sabre MS-650 (6.5" x 1.25" Plate)	83.75 - 84.00	1.0000	1.0000
L21	43	Sabre MS-650 (6.5" x 1.25" Plate)	83.75 - 84.00	1.0000	1.0000
L21	45	Sabre MS-600 (6" x 1" Plate)	83.75 - 84.00	1.0000	1.0000
L21	46	Sabre MS-600 (6" x 1" Plate)	83.75 - 84.00	1.0000	1.0000
L21	47	Sabre MS-600 (6" x 1" Plate)	83.75 - 84.00	1.0000	1.0000
L22	16	LDF7-50A(1-5/8)	78.75 - 83.75	1.0000	1.0000
L22	18	CU12PSM9P6XXX(1-1/2)	78.75 - 83.75	1.0000	1.0000
L22	20	Safety Line 3/8	78.75 - 83.75	1.0000	1.0000
L22	41	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 - 83.75	1.0000	1.0000
L22	42	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 - 83.75	1.0000	1.0000
L22	43	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 - 83.75	1.0000	1.0000
L22	45	Sabre MS-600 (6" x 1" Plate)	82.00 - 83.75	1.0000	1.0000
L22	46	Sabre MS-600 (6" x 1" Plate)	82.00 - 83.75	1.0000	1.0000
L22	47	Sabre MS-600 (6" x 1" Plate)	82.00 - 83.75	1.0000	1.0000
L23	16	LDF7-50A(1-5/8)	73.75 - 78.75	1.0000	1.0000
L23	18	CU12PSM9P6XXX(1-1/2)	73.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L23	20	Safety Line 3/8	78.75 73.75 -	1.0000	1.0000
L23	41	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 73.75 -	1.0000	1.0000
L23	42	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 73.75 -	1.0000	1.0000
L23	43	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 73.75 -	1.0000	1.0000
L24	16	LDF7-50A(1-5/8)	68.75 - 73.75	1.0000	1.0000
L24	18	CU12PSM9P6XXX(1-1/2)	68.75 - 73.75	1.0000	1.0000
L24	20	Safety Line 3/8	68.75 - 73.75	1.0000	1.0000
L24	41	Sabre MS-650 (6.5" x 1.25" Plate)	68.75 - 73.75	1.0000	1.0000
L24	42	Sabre MS-650 (6.5" x 1.25" Plate)	68.75 - 73.75	1.0000	1.0000
L24	43	Sabre MS-650 (6.5" x 1.25" Plate)	68.75 - 73.75	1.0000	1.0000
L25	16	LDF7-50A(1-5/8)	64.75 - 68.75	1.0000	1.0000
L25	18	CU12PSM9P6XXX(1-1/2)	64.75 - 68.75	1.0000	1.0000
L25	20	Safety Line 3/8	64.75 - 68.75	1.0000	1.0000
L25	37	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 67.50	1.0000	1.0000
L25	38	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 67.50	1.0000	1.0000
L25	39	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 67.50	1.0000	1.0000
L25	41	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 68.75	1.0000	1.0000
L25	42	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 68.75	1.0000	1.0000
L25	43	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 68.75	1.0000	1.0000
L26	16	LDF7-50A(1-5/8)	64.50 - 64.75	1.0000	1.0000
L26	18	CU12PSM9P6XXX(1-1/2)	64.50 - 64.75	1.0000	1.0000
L26	20	Safety Line 3/8	64.50 - 64.75	1.0000	1.0000
L26	37	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	1.0000	1.0000
L26	38	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	1.0000	1.0000
L26	39	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	1.0000	1.0000
L26	41	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	1.0000	1.0000
L26	42	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	1.0000	1.0000
L26	43	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	1.0000	1.0000
L27	16	LDF7-50A(1-5/8)	63.25 - 64.50	1.0000	1.0000
L27	18	CU12PSM9P6XXX(1-1/2)	63.25 - 64.50	1.0000	1.0000
L27	20	Safety Line 3/8	63.25 - 64.50	1.0000	1.0000
L27	37	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	1.0000	1.0000
L27	38	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	1.0000	1.0000
L27	39	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L27	41	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	1.0000	1.0000
L27	42	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	1.0000	1.0000
L27	43	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	1.0000	1.0000
L28	16	LDF7-50A(1-5/8)	63.00 - 63.25	1.0000	1.0000
L28	18	CU12PSM9P6XXX(1-1/2)	63.00 - 63.25	1.0000	1.0000
L28	20	Safety Line 3/8	63.00 - 63.25	1.0000	1.0000
L28	37	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	1.0000	1.0000
L28	38	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	1.0000	1.0000
L28	39	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	1.0000	1.0000
L28	41	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	1.0000	1.0000
L28	42	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	1.0000	1.0000
L28	43	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	1.0000	1.0000
L29	16	LDF7-50A(1-5/8)	58.00 - 63.00	1.0000	1.0000
L29	18	CU12PSM9P6XXX(1-1/2)	58.00 - 63.00	1.0000	1.0000
L29	20	Safety Line 3/8	58.00 - 63.00	1.0000	1.0000
L29	33	Sabre MS-850 (8.5" x 1.25" Plate)	58.00 - 60.50	1.0000	1.0000
L29	34	Sabre MS-850 (8.5" x 1.25" Plate)	58.00 - 60.50	1.0000	1.0000
L29	35	Sabre MS-850 (8.5" x 1.25" Plate)	58.00 - 60.50	1.0000	1.0000
L29	37	Sabre MS-650 (6.5" x 1.25" Plate)	58.00 - 63.00	1.0000	1.0000
L29	38	Sabre MS-650 (6.5" x 1.25" Plate)	58.00 - 63.00	1.0000	1.0000
L29	39	Sabre MS-650 (6.5" x 1.25" Plate)	58.00 - 63.00	1.0000	1.0000
L29	41	Sabre MS-650 (6.5" x 1.25" Plate)	60.50 - 63.00	1.0000	1.0000
L29	42	Sabre MS-650 (6.5" x 1.25" Plate)	60.50 - 63.00	1.0000	1.0000
L29	43	Sabre MS-650 (6.5" x 1.25" Plate)	60.50 - 63.00	1.0000	1.0000
L30	16	LDF7-50A(1-5/8)	56.75 - 58.00	1.0000	1.0000
L30	18	CU12PSM9P6XXX(1-1/2)	56.75 - 58.00	1.0000	1.0000
L30	20	Safety Line 3/8	56.75 - 58.00	1.0000	1.0000
L30	33	Sabre MS-850 (8.5" x 1.25" Plate)	56.75 - 58.00	1.0000	1.0000
L30	34	Sabre MS-850 (8.5" x 1.25" Plate)	56.75 - 58.00	1.0000	1.0000
L30	35	Sabre MS-850 (8.5" x 1.25" Plate)	56.75 - 58.00	1.0000	1.0000
L30	37	Sabre MS-650 (6.5" x 1.25" Plate)	56.75 - 58.00	1.0000	1.0000
L30	38	Sabre MS-650 (6.5" x 1.25" Plate)	56.75 - 58.00	1.0000	1.0000
L30	39	Sabre MS-650 (6.5" x 1.25" Plate)	56.75 - 58.00	1.0000	1.0000
L31	16	LDF7-50A(1-5/8)	56.50 - 56.75	1.0000	1.0000
L31	18	CU12PSM9P6XXX(1-1/2)	56.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			56.75		
L31	20	Safety Line 3/8	56.50 -	1.0000	1.0000
			56.75		
L31	33	Sabre MS-850 (8.5" x 1.25" Plate)	56.50 -	1.0000	1.0000
			56.75		
L31	34	Sabre MS-850 (8.5" x 1.25" Plate)	56.50 -	1.0000	1.0000
			56.75		
L31	35	Sabre MS-850 (8.5" x 1.25" Plate)	56.50 -	1.0000	1.0000
			56.75		
L31	37	Sabre MS-650 (6.5" x 1.25" Plate)	56.50 -	1.0000	1.0000
			56.75		
L31	38	Sabre MS-650 (6.5" x 1.25" Plate)	56.50 -	1.0000	1.0000
			56.75		
L31	39	Sabre MS-650 (6.5" x 1.25" Plate)	56.50 -	1.0000	1.0000
			56.75		
L32	16	LDF7-50A(1-5/8)	55.25 -	1.0000	1.0000
			56.50		
L32	18	CU12PSM9P6XXX(1-1/2)	55.25 -	1.0000	1.0000
			56.50		
L32	20	Safety Line 3/8	55.25 -	1.0000	1.0000
			56.50		
L32	33	Sabre MS-850 (8.5" x 1.25" Plate)	55.25 -	1.0000	1.0000
			56.50		
L32	34	Sabre MS-850 (8.5" x 1.25" Plate)	55.25 -	1.0000	1.0000
			56.50		
L32	35	Sabre MS-850 (8.5" x 1.25" Plate)	55.25 -	1.0000	1.0000
			56.50		
L32	37	Sabre MS-650 (6.5" x 1.25" Plate)	55.25 -	1.0000	1.0000
			56.50		
L32	38	Sabre MS-650 (6.5" x 1.25" Plate)	55.25 -	1.0000	1.0000
			56.50		
L32	39	Sabre MS-650 (6.5" x 1.25" Plate)	55.25 -	1.0000	1.0000
			56.50		
L33	16	LDF7-50A(1-5/8)	55.00 -	1.0000	1.0000
			55.25		
L33	18	CU12PSM9P6XXX(1-1/2)	55.00 -	1.0000	1.0000
			55.25		
L33	20	Safety Line 3/8	55.00 -	1.0000	1.0000
			55.25		
L33	33	Sabre MS-850 (8.5" x 1.25" Plate)	55.00 -	1.0000	1.0000
			55.25		
L33	34	Sabre MS-850 (8.5" x 1.25" Plate)	55.00 -	1.0000	1.0000
			55.25		
L33	35	Sabre MS-850 (8.5" x 1.25" Plate)	55.00 -	1.0000	1.0000
			55.25		
L33	37	Sabre MS-650 (6.5" x 1.25" Plate)	55.00 -	1.0000	1.0000
			55.25		
L33	38	Sabre MS-650 (6.5" x 1.25" Plate)	55.00 -	1.0000	1.0000
			55.25		
L33	39	Sabre MS-650 (6.5" x 1.25" Plate)	55.00 -	1.0000	1.0000
			55.25		
L34	16	LDF7-50A(1-5/8)	47.50 -	1.0000	1.0000
			55.00		
L34	18	CU12PSM9P6XXX(1-1/2)	47.50 -	1.0000	1.0000
			55.00		
L34	20	Safety Line 3/8	47.50 -	1.0000	1.0000
			55.00		
L34	33	Sabre MS-850 (8.5" x 1.25" Plate)	47.50 -	1.0000	1.0000
			55.00		
L34	34	Sabre MS-850 (8.5" x 1.25" Plate)	47.50 -	1.0000	1.0000
			55.00		
L34	35	Sabre MS-850 (8.5" x 1.25" Plate)	47.50 -	1.0000	1.0000
			55.00		
L34	37	Sabre MS-650 (6.5" x 1.25" Plate)	52.50 -	1.0000	1.0000
			55.00		
L34	38	Sabre MS-650 (6.5" x 1.25" Plate)	52.50 -	1.0000	1.0000
			55.00		
L34	39	Sabre MS-650 (6.5" x 1.25" Plate)	52.50 -	1.0000	1.0000
			55.00		

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L35	16	LDF7-50A(1-5/8)	47.05 - 47.50	1.0000	1.0000
L35	18	CU12PSM9P6XXX(1-1/2)	47.05 - 47.50	1.0000	1.0000
L35	20	Safety Line 3/8	47.05 - 47.50	1.0000	1.0000
L35	33	Sabre MS-850 (8.5" x 1.25" Plate)	47.05 - 47.50	1.0000	1.0000
L35	34	Sabre MS-850 (8.5" x 1.25" Plate)	47.05 - 47.50	1.0000	1.0000
L35	35	Sabre MS-850 (8.5" x 1.25" Plate)	47.05 - 47.50	1.0000	1.0000
L36	16	LDF7-50A(1-5/8)	42.05 - 47.05	1.0000	1.0000
L36	18	CU12PSM9P6XXX(1-1/2)	42.05 - 47.05	1.0000	1.0000
L36	20	Safety Line 3/8	42.05 - 47.05	1.0000	1.0000
L36	33	Sabre MS-850 (8.5" x 1.25" Plate)	42.05 - 47.05	1.0000	1.0000
L36	34	Sabre MS-850 (8.5" x 1.25" Plate)	42.05 - 47.05	1.0000	1.0000
L36	35	Sabre MS-850 (8.5" x 1.25" Plate)	42.05 - 47.05	1.0000	1.0000
L37	16	LDF7-50A(1-5/8)	37.05 - 42.05	1.0000	1.0000
L37	18	CU12PSM9P6XXX(1-1/2)	37.05 - 42.05	1.0000	1.0000
L37	20	Safety Line 3/8	37.05 - 42.05	1.0000	1.0000
L37	29	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 38.70	1.0000	1.0000
L37	30	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 38.70	1.0000	1.0000
L37	31	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 38.70	1.0000	1.0000
L37	33	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 42.05	1.0000	1.0000
L37	34	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 42.05	1.0000	1.0000
L37	35	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 42.05	1.0000	1.0000
L38	16	LDF7-50A(1-5/8)	34.95 - 37.05	1.0000	1.0000
L38	18	CU12PSM9P6XXX(1-1/2)	34.95 - 37.05	1.0000	1.0000
L38	20	Safety Line 3/8	34.95 - 37.05	1.0000	1.0000
L38	29	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	1.0000	1.0000
L38	30	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	1.0000	1.0000
L38	31	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	1.0000	1.0000
L38	33	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	1.0000	1.0000
L38	34	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	1.0000	1.0000
L38	35	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	1.0000	1.0000
L39	16	LDF7-50A(1-5/8)	34.70 - 34.95	1.0000	1.0000
L39	18	CU12PSM9P6XXX(1-1/2)	34.70 - 34.95	1.0000	1.0000
L39	20	Safety Line 3/8	34.70 - 34.95	1.0000	1.0000
L39	29	Sabre MS-850 (8.5" x 1.25" Plate)	34.70 - 34.95	1.0000	1.0000
L39	30	Sabre MS-850 (8.5" x	34.70 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
		1.25" Plate)	34.95		
L39	31	Sabre MS-850 (8.5" x	34.70 -	1.0000	1.0000
		1.25" Plate)	34.95		
L39	33	Sabre MS-850 (8.5" x	34.70 -	1.0000	1.0000
		1.25" Plate)	34.95		
L39	34	Sabre MS-850 (8.5" x	34.70 -	1.0000	1.0000
		1.25" Plate)	34.95		
L39	35	Sabre MS-850 (8.5" x	34.70 -	1.0000	1.0000
		1.25" Plate)	34.95		
L40	16	LDF7-50A(1-5/8)	34.25 -	1.0000	1.0000
			34.70		
L40	18	CU12PSM9P6XXX(1-1/2)	34.25 -	1.0000	1.0000
			34.70		
L40	20	Safety Line 3/8	34.25 -	1.0000	1.0000
			34.70		
L40	29	Sabre MS-850 (8.5" x	34.25 -	1.0000	1.0000
		1.25" Plate)	34.70		
L40	30	Sabre MS-850 (8.5" x	34.25 -	1.0000	1.0000
		1.25" Plate)	34.70		
L40	31	Sabre MS-850 (8.5" x	34.25 -	1.0000	1.0000
		1.25" Plate)	34.70		
L40	33	Sabre MS-850 (8.5" x	34.25 -	1.0000	1.0000
		1.25" Plate)	34.70		
L40	34	Sabre MS-850 (8.5" x	34.25 -	1.0000	1.0000
		1.25" Plate)	34.70		
L40	35	Sabre MS-850 (8.5" x	34.25 -	1.0000	1.0000
		1.25" Plate)	34.70		
L41	16	LDF7-50A(1-5/8)	34.00 -	1.0000	1.0000
			34.25		
L41	18	CU12PSM9P6XXX(1-1/2)	34.00 -	1.0000	1.0000
			34.25		
L41	20	Safety Line 3/8	34.00 -	1.0000	1.0000
			34.25		
L41	29	Sabre MS-850 (8.5" x	34.00 -	1.0000	1.0000
		1.25" Plate)	34.25		
L41	30	Sabre MS-850 (8.5" x	34.00 -	1.0000	1.0000
		1.25" Plate)	34.25		
L41	31	Sabre MS-850 (8.5" x	34.00 -	1.0000	1.0000
		1.25" Plate)	34.25		
L41	33	Sabre MS-850 (8.5" x	34.00 -	1.0000	1.0000
		1.25" Plate)	34.25		
L41	34	Sabre MS-850 (8.5" x	34.00 -	1.0000	1.0000
		1.25" Plate)	34.25		
L41	35	Sabre MS-850 (8.5" x	34.00 -	1.0000	1.0000
		1.25" Plate)	34.25		
L42	16	LDF7-50A(1-5/8)	29.00 -	1.0000	1.0000
			34.00		
L42	18	CU12PSM9P6XXX(1-1/2)	29.00 -	1.0000	1.0000
			34.00		
L42	20	Safety Line 3/8	29.00 -	1.0000	1.0000
			34.00		
L42	25	Sabre MS-850 (8.5" x	29.00 -	1.0000	1.0000
		1.25" Plate)	30.50		
L42	26	Sabre MS-850 (8.5" x	29.00 -	1.0000	1.0000
		1.25" Plate)	30.50		
L42	27	Sabre MS-850 (8.5" x	29.00 -	1.0000	1.0000
		1.25" Plate)	30.50		
L42	29	Sabre MS-850 (8.5" x	29.00 -	1.0000	1.0000
		1.25" Plate)	34.00		
L42	30	Sabre MS-850 (8.5" x	29.00 -	1.0000	1.0000
		1.25" Plate)	34.00		
L42	31	Sabre MS-850 (8.5" x	29.00 -	1.0000	1.0000
		1.25" Plate)	34.00		
L42	33	Sabre MS-850 (8.5" x	30.50 -	1.0000	1.0000
		1.25" Plate)	34.00		
L42	34	Sabre MS-850 (8.5" x	30.50 -	1.0000	1.0000
		1.25" Plate)	34.00		
L42	35	Sabre MS-850 (8.5" x	30.50 -	1.0000	1.0000
		1.25" Plate)	34.00		

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L43	16	LDF7-50A(1-5/8)	26.75 - 29.00	1.0000	1.0000
L43	18	CU12PSM9P6XXX(1-1/2)	26.75 - 29.00	1.0000	1.0000
L43	20	Safety Line 3/8	26.75 - 29.00	1.0000	1.0000
L43	25	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	1.0000	1.0000
L43	26	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	1.0000	1.0000
L43	27	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	1.0000	1.0000
L43	29	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	1.0000	1.0000
L43	30	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	1.0000	1.0000
L43	31	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	1.0000	1.0000
L44	16	LDF7-50A(1-5/8)	26.50 - 26.75	1.0000	1.0000
L44	18	CU12PSM9P6XXX(1-1/2)	26.50 - 26.75	1.0000	1.0000
L44	20	Safety Line 3/8	26.50 - 26.75	1.0000	1.0000
L44	25	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	1.0000	1.0000
L44	26	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	1.0000	1.0000
L44	27	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	1.0000	1.0000
L44	29	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	1.0000	1.0000
L44	30	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	1.0000	1.0000
L44	31	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	1.0000	1.0000
L45	16	LDF7-50A(1-5/8)	25.25 - 26.50	1.0000	1.0000
L45	18	CU12PSM9P6XXX(1-1/2)	25.25 - 26.50	1.0000	1.0000
L45	20	Safety Line 3/8	25.25 - 26.50	1.0000	1.0000
L45	25	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	1.0000	1.0000
L45	26	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	1.0000	1.0000
L45	27	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	1.0000	1.0000
L45	29	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	1.0000	1.0000
L45	30	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	1.0000	1.0000
L45	31	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	1.0000	1.0000
L46	16	LDF7-50A(1-5/8)	25.00 - 25.25	1.0000	1.0000
L46	18	CU12PSM9P6XXX(1-1/2)	25.00 - 25.25	1.0000	1.0000
L46	20	Safety Line 3/8	25.00 - 25.25	1.0000	1.0000
L46	25	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	1.0000	1.0000
L46	26	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	1.0000	1.0000
L46	27	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	1.0000	1.0000
L46	29	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	1.0000	1.0000
L46	30	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L46	31	1.25" Plate) Sabre MS-850 (8.5" x	25.25 25.00 -	1.0000	1.0000
L47	16	1.25" Plate) LDF7-50A(1-5/8)	25.25 20.00 -	1.0000	1.0000
L47	18	CU12PSM9P6XXX(1-1/2)	25.00 - 25.00	1.0000	1.0000
L47	20	Safety Line 3/8	20.00 - 25.00	1.0000	1.0000
L47	22	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 20.50	1.0000	1.0000
L47	23	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 20.50	1.0000	1.0000
L47	25	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 25.00	1.0000	1.0000
L47	26	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 25.00	1.0000	1.0000
L47	27	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 25.00	1.0000	1.0000
L47	29	Sabre MS-850 (8.5" x 1.25" Plate)	21.50 - 25.00	1.0000	1.0000
L47	30	Sabre MS-850 (8.5" x 1.25" Plate)	21.50 - 25.00	1.0000	1.0000
L47	31	Sabre MS-850 (8.5" x 1.25" Plate)	21.50 - 25.00	1.0000	1.0000
L48	16	LDF7-50A(1-5/8)	16.75 - 20.00	1.0000	1.0000
L48	18	CU12PSM9P6XXX(1-1/2)	16.75 - 20.00	1.0000	1.0000
L48	20	Safety Line 3/8	16.75 - 20.00	1.0000	1.0000
L48	22	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	1.0000	1.0000
L48	23	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	1.0000	1.0000
L48	25	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	1.0000	1.0000
L48	26	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	1.0000	1.0000
L48	27	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	1.0000	1.0000
L49	16	LDF7-50A(1-5/8)	16.50 - 16.75	1.0000	1.0000
L49	18	CU12PSM9P6XXX(1-1/2)	16.50 - 16.75	1.0000	1.0000
L49	20	Safety Line 3/8	16.50 - 16.75	1.0000	1.0000
L49	22	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	1.0000	1.0000
L49	23	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	1.0000	1.0000
L49	25	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	1.0000	1.0000
L49	26	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	1.0000	1.0000
L49	27	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	1.0000	1.0000
L50	16	LDF7-50A(1-5/8)	14.25 - 16.50	1.0000	1.0000
L50	18	CU12PSM9P6XXX(1-1/2)	14.25 - 16.50	1.0000	1.0000
L50	20	Safety Line 3/8	14.25 - 16.50	1.0000	1.0000
L50	22	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	1.0000	1.0000
L50	23	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	1.0000	1.0000
L50	25	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L50	26	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	1.0000	1.0000
L50	27	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	1.0000	1.0000
L51	16	LDF7-50A(1-5/8)	14.00 - 14.25	1.0000	1.0000
L51	18	CU12PSM9P6XXX(1-1/2)	14.00 - 14.25	1.0000	1.0000
L51	20	Safety Line 3/8	14.00 - 14.25	1.0000	1.0000
L51	22	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	1.0000	1.0000
L51	23	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	1.0000	1.0000
L51	25	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	1.0000	1.0000
L51	26	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	1.0000	1.0000
L51	27	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	1.0000	1.0000
L52	16	LDF7-50A(1-5/8)	9.00 - 14.00	1.0000	1.0000
L52	18	CU12PSM9P6XXX(1-1/2)	9.00 - 14.00	1.0000	1.0000
L52	20	Safety Line 3/8	9.00 - 14.00	1.0000	1.0000
L52	22	Sabre MS-850 (8.5" x 1.25" Plate)	9.00 - 14.00	1.0000	1.0000
L52	23	Sabre MS-850 (8.5" x 1.25" Plate)	9.00 - 14.00	1.0000	1.0000
L52	25	Sabre MS-850 (8.5" x 1.25" Plate)	9.00 - 14.00	1.0000	1.0000
L52	26	Sabre MS-850 (8.5" x 1.25" Plate)	9.00 - 14.00	1.0000	1.0000
L52	27	Sabre MS-850 (8.5" x 1.25" Plate)	10.50 - 14.00	1.0000	1.0000
L53	16	LDF7-50A(1-5/8)	4.00 - 9.00	1.0000	1.0000
L53	18	CU12PSM9P6XXX(1-1/2)	4.00 - 9.00	1.0000	1.0000
L53	20	Safety Line 3/8	4.00 - 9.00	1.0000	1.0000
L53	22	Sabre MS-850 (8.5" x 1.25" Plate)	4.00 - 9.00	1.0000	1.0000
L53	23	Sabre MS-850 (8.5" x 1.25" Plate)	4.00 - 9.00	1.0000	1.0000
L53	25	Sabre MS-850 (8.5" x 1.25" Plate)	4.00 - 9.00	1.0000	1.0000
L53	26	Sabre MS-850 (8.5" x 1.25" Plate)	4.00 - 9.00	1.0000	1.0000
L54	16	LDF7-50A(1-5/8)	0.00 - 4.00	1.0000	1.0000
L54	18	CU12PSM9P6XXX(1-1/2)	0.00 - 4.00	1.0000	1.0000
L54	20	Safety Line 3/8	0.00 - 4.00	1.0000	1.0000
L54	22	Sabre MS-850 (8.5" x 1.25" Plate)	0.00 - 4.00	1.0000	1.0000
L54	23	Sabre MS-850 (8.5" x 1.25" Plate)	0.00 - 4.00	1.0000	1.0000
L54	25	Sabre MS-850 (8.5" x 1.25" Plate)	0.00 - 4.00	1.0000	1.0000
L54	26	Sabre MS-850 (8.5" x 1.25" Plate)	0.00 - 4.00	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L5	53	MP3-03 (Surface Af)	126.00 - 126.50	Auto	0.0000
L5	54	MP3-03 (Surface Af)	126.00 - 126.50	Auto	0.0000
L5	55	MP3-03 (Surface Af)	126.00 - 126.50	Auto	0.0000
L6	53	MP3-03 (Surface Af)	121.00 - 126.00	Auto	0.0000
L6	54	MP3-03 (Surface Af)	121.00 - 126.00	Auto	0.0000
L6	55	MP3-03 (Surface Af)	121.00 - 126.00	Auto	0.0000
L7	49	Sabre MS-600 (6" x 1" Plate)	118.50 - 120.50	Auto	0.0488
L7	50	Sabre MS-600 (6" x 1" Plate)	118.50 - 120.50	Auto	0.0488
L7	51	Sabre MS-600 (6" x 1" Plate)	118.50 - 120.50	Auto	0.0488
L7	53	MP3-03 (Surface Af)	118.50 - 121.00	Auto	0.0000
L7	54	MP3-03 (Surface Af)	118.50 - 121.00	Auto	0.0000
L7	55	MP3-03 (Surface Af)	118.50 - 121.00	Auto	0.0000
L8	49	Sabre MS-600 (6" x 1" Plate)	118.25 - 118.50	Auto	0.1622
L8	50	Sabre MS-600 (6" x 1" Plate)	118.25 - 118.50	Auto	0.1622
L8	51	Sabre MS-600 (6" x 1" Plate)	118.25 - 118.50	Auto	0.1622
L8	53	MP3-03 (Surface Af)	118.25 - 118.50	Auto	0.0000
L8	54	MP3-03 (Surface Af)	118.25 - 118.50	Auto	0.0000
L8	55	MP3-03 (Surface Af)	118.25 - 118.50	Auto	0.0000
L9	49	Sabre MS-600 (6" x 1" Plate)	113.25 - 118.25	Auto	0.1347
L9	50	Sabre MS-600 (6" x 1" Plate)	113.25 - 118.25	Auto	0.1347
L9	51	Sabre MS-600 (6" x 1" Plate)	113.25 - 118.25	Auto	0.1347
L9	53	MP3-03 (Surface Af)	116.50 - 118.25	Auto	0.0000
L9	54	MP3-03 (Surface Af)	116.50 - 118.25	Auto	0.0000
L9	55	MP3-03 (Surface Af)	116.50 - 118.25	Auto	0.0000
L10	49	Sabre MS-600 (6" x 1" Plate)	108.25 - 113.25	Auto	0.0873
L10	50	Sabre MS-600 (6" x 1" Plate)	108.25 - 113.25	Auto	0.0873
L10	51	Sabre MS-600 (6" x 1" Plate)	108.25 - 113.25	Auto	0.0873
L11	49	Sabre MS-600 (6" x 1" Plate)	103.25 - 108.25	Auto	0.0427
L11	50	Sabre MS-600 (6" x 1" Plate)	103.25 - 108.25	Auto	0.0427
L11	51	Sabre MS-600 (6" x 1" Plate)	103.25 - 108.25	Auto	0.0427
L12	49	Sabre MS-600 (6" x 1" Plate)	97.50 - 103.25	Auto	0.0038
L12	50	Sabre MS-600 (6" x 1" Plate)	97.50 - 103.25	Auto	0.0038
L12	51	Sabre MS-600 (6" x 1" Plate)	97.50 - 103.25	Auto	0.0038
L13	45	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.00	Auto	0.0243

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L13	46	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.00	Auto	0.0243
L13	47	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.00	Auto	0.0243
L13	49	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.50	Auto	0.0263
L13	50	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.50	Auto	0.0263
L13	51	Sabre MS-600 (6" x 1" Plate)	95.95 - 97.50	Auto	0.0263
L14	45	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	Auto	0.0160
L14	46	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	Auto	0.0160
L14	47	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	Auto	0.0160
L14	49	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	Auto	0.0160
L14	50	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	Auto	0.0160
L14	51	Sabre MS-600 (6" x 1" Plate)	95.00 - 95.95	Auto	0.0160
L15	45	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	Auto	0.1227
L15	46	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	Auto	0.1227
L15	47	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	Auto	0.1227
L15	49	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	Auto	0.1227
L15	50	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	Auto	0.1227
L15	51	Sabre MS-600 (6" x 1" Plate)	94.75 - 95.00	Auto	0.1227
L16	45	Sabre MS-600 (6" x 1" Plate)	92.50 - 94.75	Auto	0.1068
L16	46	Sabre MS-600 (6" x 1" Plate)	92.50 - 94.75	Auto	0.1068
L16	47	Sabre MS-600 (6" x 1" Plate)	92.50 - 94.75	Auto	0.1068
L16	49	Sabre MS-600 (6" x 1" Plate)	92.50 - 94.75	Auto	0.1068
L16	50	Sabre MS-600 (6" x 1" Plate)	92.50 - 94.75	Auto	0.1068
L16	51	Sabre MS-600 (6" x 1" Plate)	92.50 - 94.75	Auto	0.1068
L17	45	Sabre MS-600 (6" x 1" Plate)	92.25 - 92.50	Auto	0.0000
L17	46	Sabre MS-600 (6" x 1" Plate)	92.25 - 92.50	Auto	0.0000
L17	47	Sabre MS-600 (6" x 1" Plate)	92.25 - 92.50	Auto	0.0000
L17	49	Sabre MS-600 (6" x 1" Plate)	92.25 - 92.50	Auto	0.0000
L17	50	Sabre MS-600 (6" x 1" Plate)	92.25 - 92.50	Auto	0.0000
L17	51	Sabre MS-600 (6" x 1" Plate)	92.25 - 92.50	Auto	0.0000
L18	41	Sabre MS-650 (6.5" x 1.25" Plate)	87.75 - 90.50	Auto	0.0381
L18	42	Sabre MS-650 (6.5" x 1.25" Plate)	87.75 - 90.50	Auto	0.0381
L18	43	Sabre MS-650 (6.5" x 1.25" Plate)	87.75 - 90.50	Auto	0.0381
L18	45	Sabre MS-600 (6" x 1" Plate)	87.75 - 92.25	Auto	0.0000
L18	46	Sabre MS-600 (6" x 1" Plate)	87.75 - 92.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L18	47	Sabre MS-600 (6" x 1" Plate)	87.75 - 92.25	Auto	0.0000
L18	49	Sabre MS-600 (6" x 1" Plate)	90.50 - 92.25	Auto	0.0000
L18	50	Sabre MS-600 (6" x 1" Plate)	90.50 - 92.25	Auto	0.0000
L18	51	Sabre MS-600 (6" x 1" Plate)	90.50 - 92.25	Auto	0.0000
L19	41	Sabre MS-650 (6.5" x 1.25" Plate)	87.50 - 87.75	Auto	0.1607
L19	42	Sabre MS-650 (6.5" x 1.25" Plate)	87.50 - 87.75	Auto	0.1607
L19	43	Sabre MS-650 (6.5" x 1.25" Plate)	87.50 - 87.75	Auto	0.1607
L19	45	Sabre MS-600 (6" x 1" Plate)	87.50 - 87.75	Auto	0.0908
L19	46	Sabre MS-600 (6" x 1" Plate)	87.50 - 87.75	Auto	0.0908
L19	47	Sabre MS-600 (6" x 1" Plate)	87.50 - 87.75	Auto	0.0908
L20	41	Sabre MS-650 (6.5" x 1.25" Plate)	84.00 - 87.50	Auto	0.1413
L20	42	Sabre MS-650 (6.5" x 1.25" Plate)	84.00 - 87.50	Auto	0.1413
L20	43	Sabre MS-650 (6.5" x 1.25" Plate)	84.00 - 87.50	Auto	0.1413
L20	45	Sabre MS-600 (6" x 1" Plate)	84.00 - 87.50	Auto	0.0697
L20	46	Sabre MS-600 (6" x 1" Plate)	84.00 - 87.50	Auto	0.0697
L20	47	Sabre MS-600 (6" x 1" Plate)	84.00 - 87.50	Auto	0.0697
L21	41	Sabre MS-650 (6.5" x 1.25" Plate)	83.75 - 84.00	Auto	0.0290
L21	42	Sabre MS-650 (6.5" x 1.25" Plate)	83.75 - 84.00	Auto	0.0290
L21	43	Sabre MS-650 (6.5" x 1.25" Plate)	83.75 - 84.00	Auto	0.0290
L21	45	Sabre MS-600 (6" x 1" Plate)	83.75 - 84.00	Auto	0.0000
L21	46	Sabre MS-600 (6" x 1" Plate)	83.75 - 84.00	Auto	0.0000
L21	47	Sabre MS-600 (6" x 1" Plate)	83.75 - 84.00	Auto	0.0000
L22	41	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 - 83.75	Auto	0.0069
L22	42	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 - 83.75	Auto	0.0069
L22	43	Sabre MS-650 (6.5" x 1.25" Plate)	78.75 - 83.75	Auto	0.0069
L22	45	Sabre MS-600 (6" x 1" Plate)	82.00 - 83.75	Auto	0.0000
L22	46	Sabre MS-600 (6" x 1" Plate)	82.00 - 83.75	Auto	0.0000
L22	47	Sabre MS-600 (6" x 1" Plate)	82.00 - 83.75	Auto	0.0000
L23	41	Sabre MS-650 (6.5" x 1.25" Plate)	73.75 - 78.75	Auto	0.0000
L23	42	Sabre MS-650 (6.5" x 1.25" Plate)	73.75 - 78.75	Auto	0.0000
L23	43	Sabre MS-650 (6.5" x 1.25" Plate)	73.75 - 78.75	Auto	0.0000
L24	41	Sabre MS-650 (6.5" x 1.25" Plate)	68.75 - 73.75	Auto	0.0000
L24	42	Sabre MS-650 (6.5" x 1.25" Plate)	68.75 - 73.75	Auto	0.0000
L24	43	Sabre MS-650 (6.5" x 1.25" Plate)	68.75 - 73.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L25	37	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 67.50	Auto	0.0000
L25	38	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 67.50	Auto	0.0000
L25	39	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 67.50	Auto	0.0000
L25	41	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 68.75	Auto	0.0000
L25	42	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 68.75	Auto	0.0000
L25	43	Sabre MS-650 (6.5" x 1.25" Plate)	64.75 - 68.75	Auto	0.0000
L26	37	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	Auto	0.0000
L26	38	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	Auto	0.0000
L26	39	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	Auto	0.0000
L26	41	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	Auto	0.0000
L26	42	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	Auto	0.0000
L26	43	Sabre MS-650 (6.5" x 1.25" Plate)	64.50 - 64.75	Auto	0.0000
L27	37	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	Auto	0.0000
L27	38	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	Auto	0.0000
L27	39	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	Auto	0.0000
L27	41	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	Auto	0.0000
L27	42	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	Auto	0.0000
L27	43	Sabre MS-650 (6.5" x 1.25" Plate)	63.25 - 64.50	Auto	0.0000
L28	37	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	Auto	0.0000
L28	38	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	Auto	0.0000
L28	39	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	Auto	0.0000
L28	41	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	Auto	0.0000
L28	42	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	Auto	0.0000
L28	43	Sabre MS-650 (6.5" x 1.25" Plate)	63.00 - 63.25	Auto	0.0000
L29	33	Sabre MS-850 (8.5" x 1.25" Plate)	58.00 - 60.50	Auto	0.0982
L29	34	Sabre MS-850 (8.5" x 1.25" Plate)	58.00 - 60.50	Auto	0.0982
L29	35	Sabre MS-850 (8.5" x 1.25" Plate)	58.00 - 60.50	Auto	0.0982
L29	37	Sabre MS-650 (6.5" x 1.25" Plate)	58.00 - 63.00	Auto	0.0000
L29	38	Sabre MS-650 (6.5" x 1.25" Plate)	58.00 - 63.00	Auto	0.0000
L29	39	Sabre MS-650 (6.5" x 1.25" Plate)	58.00 - 63.00	Auto	0.0000
L29	41	Sabre MS-650 (6.5" x 1.25" Plate)	60.50 - 63.00	Auto	0.0000
L29	42	Sabre MS-650 (6.5" x 1.25" Plate)	60.50 - 63.00	Auto	0.0000
L29	43	Sabre MS-650 (6.5" x 1.25" Plate)	60.50 - 63.00	Auto	0.0000
L30	33	Sabre MS-850 (8.5" x 1.25" Plate)	56.75 - 58.00	Auto	0.0873

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L30	34	Sabre MS-850 (8.5" x 1.25" Plate)	56.75 - 58.00	Auto	0.0873
L30	35	Sabre MS-850 (8.5" x 1.25" Plate)	56.75 - 58.00	Auto	0.0873
L30	37	Sabre MS-650 (6.5" x 1.25" Plate)	56.75 - 58.00	Auto	0.0000
L30	38	Sabre MS-650 (6.5" x 1.25" Plate)	56.75 - 58.00	Auto	0.0000
L30	39	Sabre MS-650 (6.5" x 1.25" Plate)	56.75 - 58.00	Auto	0.0000
L31	33	Sabre MS-850 (8.5" x 1.25" Plate)	56.50 - 56.75	Auto	0.1932
L31	34	Sabre MS-850 (8.5" x 1.25" Plate)	56.50 - 56.75	Auto	0.1932
L31	35	Sabre MS-850 (8.5" x 1.25" Plate)	56.50 - 56.75	Auto	0.1932
L31	37	Sabre MS-650 (6.5" x 1.25" Plate)	56.50 - 56.75	Auto	0.0000
L31	38	Sabre MS-650 (6.5" x 1.25" Plate)	56.50 - 56.75	Auto	0.0000
L31	39	Sabre MS-650 (6.5" x 1.25" Plate)	56.50 - 56.75	Auto	0.0000
L32	33	Sabre MS-850 (8.5" x 1.25" Plate)	55.25 - 56.50	Auto	0.1889
L32	34	Sabre MS-850 (8.5" x 1.25" Plate)	55.25 - 56.50	Auto	0.1889
L32	35	Sabre MS-850 (8.5" x 1.25" Plate)	55.25 - 56.50	Auto	0.1889
L32	37	Sabre MS-650 (6.5" x 1.25" Plate)	55.25 - 56.50	Auto	0.0000
L32	38	Sabre MS-650 (6.5" x 1.25" Plate)	55.25 - 56.50	Auto	0.0000
L32	39	Sabre MS-650 (6.5" x 1.25" Plate)	55.25 - 56.50	Auto	0.0000
L33	33	Sabre MS-850 (8.5" x 1.25" Plate)	55.00 - 55.25	Auto	0.0978
L33	34	Sabre MS-850 (8.5" x 1.25" Plate)	55.00 - 55.25	Auto	0.0978
L33	35	Sabre MS-850 (8.5" x 1.25" Plate)	55.00 - 55.25	Auto	0.0978
L33	37	Sabre MS-650 (6.5" x 1.25" Plate)	55.00 - 55.25	Auto	0.0000
L33	38	Sabre MS-650 (6.5" x 1.25" Plate)	55.00 - 55.25	Auto	0.0000
L33	39	Sabre MS-650 (6.5" x 1.25" Plate)	55.00 - 55.25	Auto	0.0000
L34	33	Sabre MS-850 (8.5" x 1.25" Plate)	47.50 - 55.00	Auto	0.0752
L34	34	Sabre MS-850 (8.5" x 1.25" Plate)	47.50 - 55.00	Auto	0.0752
L34	35	Sabre MS-850 (8.5" x 1.25" Plate)	47.50 - 55.00	Auto	0.0752
L34	37	Sabre MS-650 (6.5" x 1.25" Plate)	52.50 - 55.00	Auto	0.0000
L34	38	Sabre MS-650 (6.5" x 1.25" Plate)	52.50 - 55.00	Auto	0.0000
L34	39	Sabre MS-650 (6.5" x 1.25" Plate)	52.50 - 55.00	Auto	0.0000
L35	33	Sabre MS-850 (8.5" x 1.25" Plate)	47.05 - 47.50	Auto	0.0908
L35	34	Sabre MS-850 (8.5" x 1.25" Plate)	47.05 - 47.50	Auto	0.0908
L35	35	Sabre MS-850 (8.5" x 1.25" Plate)	47.05 - 47.50	Auto	0.0908
L36	33	Sabre MS-850 (8.5" x 1.25" Plate)	42.05 - 47.05	Auto	0.0706
L36	34	Sabre MS-850 (8.5" x 1.25" Plate)	42.05 - 47.05	Auto	0.0706

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L36	35	Sabre MS-850 (8.5" x 1.25" Plate)	42.05 - 47.05	Auto	0.0706
L37	29	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 38.70	Auto	0.0268
L37	30	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 38.70	Auto	0.0268
L37	31	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 38.70	Auto	0.0268
L37	33	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 42.05	Auto	0.0368
L37	34	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 42.05	Auto	0.0368
L37	35	Sabre MS-850 (8.5" x 1.25" Plate)	37.05 - 42.05	Auto	0.0368
L38	29	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	Auto	0.0157
L38	30	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	Auto	0.0157
L38	31	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	Auto	0.0157
L38	33	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	Auto	0.0157
L38	34	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	Auto	0.0157
L38	35	Sabre MS-850 (8.5" x 1.25" Plate)	34.95 - 37.05	Auto	0.0157
L39	29	Sabre MS-850 (8.5" x 1.25" Plate)	34.70 - 34.95	Auto	0.1072
L39	30	Sabre MS-850 (8.5" x 1.25" Plate)	34.70 - 34.95	Auto	0.1072
L39	31	Sabre MS-850 (8.5" x 1.25" Plate)	34.70 - 34.95	Auto	0.1072
L39	33	Sabre MS-850 (8.5" x 1.25" Plate)	34.70 - 34.95	Auto	0.1072
L39	34	Sabre MS-850 (8.5" x 1.25" Plate)	34.70 - 34.95	Auto	0.1072
L39	35	Sabre MS-850 (8.5" x 1.25" Plate)	34.70 - 34.95	Auto	0.1072
L40	29	Sabre MS-850 (8.5" x 1.25" Plate)	34.25 - 34.70	Auto	0.1011
L40	30	Sabre MS-850 (8.5" x 1.25" Plate)	34.25 - 34.70	Auto	0.1011
L40	31	Sabre MS-850 (8.5" x 1.25" Plate)	34.25 - 34.70	Auto	0.1011
L40	33	Sabre MS-850 (8.5" x 1.25" Plate)	34.25 - 34.70	Auto	0.1011
L40	34	Sabre MS-850 (8.5" x 1.25" Plate)	34.25 - 34.70	Auto	0.1011
L40	35	Sabre MS-850 (8.5" x 1.25" Plate)	34.25 - 34.70	Auto	0.1011
L41	29	Sabre MS-850 (8.5" x 1.25" Plate)	34.00 - 34.25	Auto	0.0045
L41	30	Sabre MS-850 (8.5" x 1.25" Plate)	34.00 - 34.25	Auto	0.0045
L41	31	Sabre MS-850 (8.5" x 1.25" Plate)	34.00 - 34.25	Auto	0.0045
L41	33	Sabre MS-850 (8.5" x 1.25" Plate)	34.00 - 34.25	Auto	0.0045
L41	34	Sabre MS-850 (8.5" x 1.25" Plate)	34.00 - 34.25	Auto	0.0045
L41	35	Sabre MS-850 (8.5" x 1.25" Plate)	34.00 - 34.25	Auto	0.0045
L42	25	Sabre MS-850 (8.5" x 1.25" Plate)	29.00 - 30.50	Auto	0.0000
L42	26	Sabre MS-850 (8.5" x 1.25" Plate)	29.00 - 30.50	Auto	0.0000
L42	27	Sabre MS-850 (8.5" x 1.25" Plate)	29.00 - 30.50	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L42	29	Sabre MS-850 (8.5" x 1.25" Plate)	29.00 - 34.00	Auto	0.0000
L42	30	Sabre MS-850 (8.5" x 1.25" Plate)	29.00 - 34.00	Auto	0.0000
L42	31	Sabre MS-850 (8.5" x 1.25" Plate)	29.00 - 34.00	Auto	0.0000
L42	33	Sabre MS-850 (8.5" x 1.25" Plate)	30.50 - 34.00	Auto	0.0000
L42	34	Sabre MS-850 (8.5" x 1.25" Plate)	30.50 - 34.00	Auto	0.0000
L42	35	Sabre MS-850 (8.5" x 1.25" Plate)	30.50 - 34.00	Auto	0.0000
L43	25	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	Auto	0.0000
L43	26	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	Auto	0.0000
L43	27	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	Auto	0.0000
L43	29	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	Auto	0.0000
L43	30	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	Auto	0.0000
L43	31	Sabre MS-850 (8.5" x 1.25" Plate)	26.75 - 29.00	Auto	0.0000
L44	25	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	Auto	0.0464
L44	26	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	Auto	0.0464
L44	27	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	Auto	0.0464
L44	29	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	Auto	0.0464
L44	30	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	Auto	0.0464
L44	31	Sabre MS-850 (8.5" x 1.25" Plate)	26.50 - 26.75	Auto	0.0464
L45	25	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	Auto	0.0420
L45	26	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	Auto	0.0420
L45	27	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	Auto	0.0420
L45	29	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	Auto	0.0420
L45	30	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	Auto	0.0420
L45	31	Sabre MS-850 (8.5" x 1.25" Plate)	25.25 - 26.50	Auto	0.0420
L46	25	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	Auto	0.0000
L46	26	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	Auto	0.0000
L46	27	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	Auto	0.0000
L46	29	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	Auto	0.0000
L46	30	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	Auto	0.0000
L46	31	Sabre MS-850 (8.5" x 1.25" Plate)	25.00 - 25.25	Auto	0.0000
L47	22	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 20.50	Auto	0.0000
L47	23	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 20.50	Auto	0.0000
L47	25	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 25.00	Auto	0.0000
L47	26	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 25.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L47	27	Sabre MS-850 (8.5" x 1.25" Plate)	20.00 - 25.00	Auto	0.0000
L47	29	Sabre MS-850 (8.5" x 1.25" Plate)	21.50 - 25.00	Auto	0.0000
L47	30	Sabre MS-850 (8.5" x 1.25" Plate)	21.50 - 25.00	Auto	0.0000
L47	31	Sabre MS-850 (8.5" x 1.25" Plate)	21.50 - 25.00	Auto	0.0000
L48	22	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	Auto	0.0000
L48	23	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	Auto	0.0000
L48	25	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	Auto	0.0000
L48	26	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	Auto	0.0000
L48	27	Sabre MS-850 (8.5" x 1.25" Plate)	16.75 - 20.00	Auto	0.0000
L49	22	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	Auto	0.0000
L49	23	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	Auto	0.0000
L49	25	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	Auto	0.0000
L49	26	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	Auto	0.0000
L49	27	Sabre MS-850 (8.5" x 1.25" Plate)	16.50 - 16.75	Auto	0.0000
L50	22	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	Auto	0.0000
L50	23	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	Auto	0.0000
L50	25	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	Auto	0.0000
L50	26	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	Auto	0.0000
L50	27	Sabre MS-850 (8.5" x 1.25" Plate)	14.25 - 16.50	Auto	0.0000
L51	22	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	Auto	0.0000
L51	23	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	Auto	0.0000
L51	25	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	Auto	0.0000
L51	26	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	Auto	0.0000
L51	27	Sabre MS-850 (8.5" x 1.25" Plate)	14.00 - 14.25	Auto	0.0000
L52	22	Sabre MS-850 (8.5" x 1.25" Plate)	9.00 - 14.00	Auto	0.0000
L52	23	Sabre MS-850 (8.5" x 1.25" Plate)	9.00 - 14.00	Auto	0.0000
L52	25	Sabre MS-850 (8.5" x 1.25" Plate)	9.00 - 14.00	Auto	0.0000
L52	26	Sabre MS-850 (8.5" x 1.25" Plate)	9.00 - 14.00	Auto	0.0000
L52	27	Sabre MS-850 (8.5" x 1.25" Plate)	10.50 - 14.00	Auto	0.0000
L53	22	Sabre MS-850 (8.5" x 1.25" Plate)	4.00 - 9.00	Auto	0.0000
L53	23	Sabre MS-850 (8.5" x 1.25" Plate)	4.00 - 9.00	Auto	0.0000
L53	25	Sabre MS-850 (8.5" x 1.25" Plate)	4.00 - 9.00	Auto	0.0000
L53	26	Sabre MS-850 (8.5" x 1.25" Plate)	4.00 - 9.00	Auto	0.0000
L54	22	Sabre MS-850 (8.5" x 1.25" Plate)	0.00 - 4.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L54	23	Sabre MS-850 (8.5" x 1.25" Plate)	0.00 - 4.00	Auto	0.0000
L54	25	Sabre MS-850 (8.5" x 1.25" Plate)	0.00 - 4.00	Auto	0.0000
L54	26	Sabre MS-850 (8.5" x 1.25" Plate)	0.00 - 4.00	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement
			Horz	Lateral		
			ft	ft	°	ft
Lightning Rod 5/8" x 4' on 4' Pole	C	From Leg	0.500	0.000	0.000	151.000
			3.500			
* DS1F03F36D-N	A	From Leg	4.000	0.000	0.000	148.000
			12.000			
* 800 10121 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	148.000
			1.000			
800 10121 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	148.000
			1.000			
800 10121 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	148.000
			1.000			
OPA65R-BU6D w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	148.000
			1.000			
OPA65R-BU6D w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	148.000
			1.000			
OPA65R-BU6D w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	148.000
			1.000			
DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	148.000
			1.000			
DMP65R-BU6D w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	148.000
			1.000			
DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	148.000
			1.000			
(2) LGP21401	A	From Leg	4.000	0.000	0.000	148.000
			1.000			
(2) LGP21401	B	From Leg	4.000	0.000	0.000	148.000
			1.000			
(2) LGP21401	C	From Leg	4.000	0.000	0.000	148.000
			1.000			
RRUS 4478 B14_CCIV2	A	From Leg	4.000	0.000	0.000	148.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.000		
RRUS 4478 B14_CCIV2	B	From Leg	1.000 4.000	0.000	148.000
			0.000		
RRUS 4478 B14_CCIV2	C	From Leg	1.000 4.000	0.000	148.000
			0.000		
RRUS 8843 B2/B66A_CCIV2	A	From Leg	1.000 4.000	0.000	148.000
			0.000		
RRUS 8843 B2/B66A_CCIV2	B	From Leg	1.000 4.000	0.000	148.000
			0.000		
RRUS 8843 B2/B66A_CCIV2	C	From Leg	1.000 4.000	0.000	148.000
			0.000		
RRUS 4449 B5/B12	A	From Leg	1.000 4.000	0.000	148.000
			0.000		
RRUS 4449 B5/B12	B	From Leg	1.000 4.000	0.000	148.000
			0.000		
RRUS 4449 B5/B12	C	From Leg	1.000 4.000	0.000	148.000
			0.000		
DC6-48-60-18-8F	A	From Leg	1.000 2.000	0.000	148.000
			0.000		
DC6-48-60-18-8C-EV	B	From Leg	1.000 2.000	0.000	148.000
			0.000		
DC6-48-60-18-8C-EV	C	From Leg	1.000 2.000	0.000	148.000
			0.000		
Platform Mount [LP 713-1_KCKR]	C	None	1.000	0.000	148.000
(3) 5' x 2" Pipe Mount	A	From Leg	4.000	0.000	148.000
			0.000		
(3) 5' x 2" Pipe Mount	B	From Leg	0.000 4.000	0.000	148.000
			0.000		
(3) 5' x 2" Pipe Mount	C	From Leg	0.000 4.000	0.000	148.000
			0.000		
6' x 2" Mount Pipe	A	From Leg	0.000 2.000	0.000	148.000
			0.000		
6' x 2" Mount Pipe	B	From Leg	1.000 2.000	0.000	148.000
			0.000		
6' x 2" Mount Pipe	C	From Leg	1.000 2.000	0.000	148.000
			0.000		
5' x 2" Pipe Mount	A	From Leg	1.000 4.000	0.000	148.000
			0.000		
6' x 2" Mount Pipe	A	From Leg	6.000 4.000	0.000	148.000
			0.000		
12' x 2" Pipe Mount	A	From Leg	6.000 4.000	0.000	148.000
			0.000		
(2) L3x3x1/4x5'	A	From Leg	6.000 4.000	0.000	148.000
			0.000		

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
(2) L3x3x1/4x5'	B	From Leg	0.000 4.000 0.000	0.000	148.000
(2) L3x3x1/4x5'	C	From Leg	0.000 4.000 0.000	0.000	148.000
8' x 2" Mount Pipe	B	From Leg	0.000 4.000 0.000	0.000	148.000
8' x 2" Mount Pipe	C	From Leg	1.000 4.000 0.000	0.000	148.000
*			1.000		
MT6407-77A w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	138.000
MT6407-77A w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	138.000
MT6407-77A w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	138.000
(2) NHH-65C-R2B w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	138.000
(2) NHH-65C-R2B w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	138.000
(2) NHH-65C-R2B w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	138.000
DB854DG65ESX w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	138.000
DB854DG65ESX w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	138.000
DB854DG65ESX w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	138.000
RVZDC-6627-PF-48	A	From Leg	4.000 0.000 1.000	0.000	138.000
(2) BSF0020F3V1	A	From Leg	4.000 0.000 1.000	0.000	138.000
(2) BSF0020F3V1	B	From Leg	4.000 0.000 1.000	0.000	138.000
(2) BSF0020F3V1	C	From Leg	4.000 0.000 1.000	0.000	138.000
RFV01U-D1A	A	From Leg	4.000 0.000 1.000	0.000	138.000
RFV01U-D1A	B	From Leg	4.000 0.000 1.000	0.000	138.000
RFV01U-D1A	C	From Leg	4.000 0.000 1.000	0.000	138.000
RFV01U-D2A	A	From Leg	4.000 0.000 1.000	0.000	138.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
RFV01U-D2A	B	From Leg	4.000 0.000 1.000	0.000	138.000
RFV01U-D2A	C	From Leg	4.000 0.000 1.000	0.000	138.000
Platform Mount [LP 303-1_HR-1] 4' x 2" Pipe Mount	C A	None From Leg	2.000 0.000 1.000	0.000 0.000	138.000 138.000
8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	138.000
8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	138.000
8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	138.000
(2) L 2.5x2.5x1/4x6.25'	A	From Leg	4.000 0.000 0.000	0.000	138.000
(2) L 2.5x2.5x1/4x6.25'	B	From Leg	4.000 0.000 0.000	0.000	138.000
(2) L 2.5x2.5x1/4x6.25'	C	From Leg	4.000 0.000 0.000	0.000	138.000
6' x 2" Horizontal Mount Pipe	A	From Leg	3.000 0.000 2.000	0.000	138.000
6' x 2" Horizontal Mount Pipe	B	From Leg	3.000 0.000 2.000	0.000	138.000
6' x 2" Horizontal Mount Pipe	C	From Leg	3.000 0.000 2.000	0.000	138.000
* * *					
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	3.000 0.000 0.000	0.000	122.000
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	3.000 0.000 0.000	0.000	122.000
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	3.000 0.000 0.000	0.000	122.000
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	3.000 0.000 1.000	0.000	122.000
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	3.000 0.000 1.000	0.000	122.000
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	3.000 0.000 1.000	0.000	122.000
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	3.000 0.000 -1.000	0.000	122.000
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	3.000 0.000 -1.000	0.000	122.000
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	3.000	0.000	122.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.000		
			-1.000		
T-Arm Mount [TA 702-3]	C	None		0.000	122.000
6' x 2" Horizontal Mount Pipe	A	From Leg	3.000	0.000	122.000
			0.000		
			2.000		
6' x 2" Horizontal Mount Pipe	B	From Leg	3.000	0.000	122.000
			0.000		
			2.000		
6' x 2" Horizontal Mount Pipe	C	From Leg	3.000	0.000	122.000
			0.000		
			2.000		
4' x 2" Horizontal Mount Pipe	A	From Leg	3.000	0.000	122.000
			0.000		
			1.000		
4' x 2" Horizontal Mount Pipe	B	From Leg	3.000	0.000	122.000
			0.000		
			1.000		
4' x 2" Horizontal Mount Pipe	C	From Leg	3.000	0.000	122.000
			0.000		
			1.000		
4' x 2" Horizontal Mount Pipe	A	From Leg	3.000	0.000	122.000
			0.000		
			-1.000		
4' x 2" Horizontal Mount Pipe	B	From Leg	3.000	0.000	122.000
			0.000		
			-1.000		
4' x 2" Horizontal Mount Pipe	C	From Leg	3.000	0.000	122.000
			0.000		
			-1.000		
*					
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000	0.000	102.000
			0.000		
			1.000		
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000	0.000	102.000
			0.000		
			1.000		
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000	0.000	102.000
			0.000		
			1.000		
TA08025-B604	A	From Leg	4.000	0.000	102.000
			0.000		
			2.000		
TA08025-B604	B	From Leg	4.000	0.000	102.000
			0.000		
			2.000		
TA08025-B604	C	From Leg	4.000	0.000	102.000
			0.000		
			2.000		
TA08025-B605	A	From Leg	4.000	0.000	102.000
			0.000		
			2.000		
TA08025-B605	B	From Leg	4.000	0.000	102.000
			0.000		
			2.000		
TA08025-B605	C	From Leg	4.000	0.000	102.000
			0.000		
			2.000		
RDIDC-9181-PF-48	B	From Leg	2.000	0.000	102.000
			0.000		
			2.000		
Commscope MC-PK8-DSH 6' x 2" Mount Pipe	C	None		0.000	102.000
	B	From Leg	2.000	0.000	102.000
			0.000		
			1.000		

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
(2) 8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	102.000
(2) 8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	102.000
(2) 8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	102.000
*					

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
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

Comb. No.	Description
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	151 - 146	Pole	Max Tension	2	0.000	0.000	-0.000
			Max. Compression	26	-10.037	0.139	1.462
			Max. Mx	20	-4.794	21.626	0.474
			Max. My	2	-4.765	0.079	22.234
			Max. Vy	8	6.636	-21.456	0.474
			Max. Vx	2	-6.656	0.079	22.234
			Max. Torque	8			2.002
L2	146 - 141	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-10.570	0.142	1.493
			Max. Mx	20	-5.175	55.607	0.501
			Max. My	2	-5.145	0.080	56.321
			Max. Vy	8	6.959	-55.436	0.499
			Max. Vx	2	-6.981	0.080	56.321
			Max. Torque	8			2.002
L3	141 - 136	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-18.512	0.143	2.174
			Max. Mx	20	-9.577	100.681	0.774
			Max. My	2	-9.527	0.080	101.942
			Max. Vy	8	10.872	-100.510	0.770
			Max. Vx	2	-10.950	0.080	101.942
			Max. Torque	8			2.456
L4	136 - 131	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-19.161	0.143	2.216
			Max. Mx	20	-10.096	155.828	0.805
			Max. My	2	-10.045	0.080	157.485
			Max. Vy	8	11.195	-155.658	0.799
			Max. Vx	2	-11.274	0.080	157.485
			Max. Torque	8			2.456
L5	131 - 126	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-19.855	0.142	2.254
			Max. Mx	20	-10.659	212.574	0.831
			Max. My	2	-10.608	0.079	214.636
			Max. Vy	8	11.515	-212.405	0.823
			Max. Vx	2	-11.597	0.079	214.636
			Max. Torque	8			2.455
L6	126 - 121	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-24.427	0.122	2.300
			Max. Mx	20	-13.277	272.987	0.857
			Max. My	2	-13.217	0.071	275.486
			Max. Vy	8	13.705	-272.836	0.846
			Max. Vx	2	-13.796	0.071	275.486
			Max. Torque	8			2.454
L7	121 - 118.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-24.997	0.072	2.346
			Max. Mx	20	-13.684	307.405	0.879
			Max. My	2	-13.616	0.052	310.305
			Max. Vy	8	13.865	-307.294	0.866
			Max. Vx	2	-14.069	0.052	310.305
			Max. Torque	8			2.452
L8	118.5 - 118.25	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L9	118.25 - 113.25	Pole	Max. Compression	26	-25.073	0.066	2.352
			Max. Mx	20	-13.752	310.869	0.881
			Max. My	2	-13.683	0.049	313.825
			Max. Vy	8	13.875	-310.762	0.868
			Max. Vx	2	-14.092	0.049	313.825
			Max. Torque	8			2.452
			Max Tension	1	0.000	0.000	0.000
			L10	113.25 - 108.25	Pole	Max. Compression	26
Max. Mx	20	-14.783				381.134	0.924
Max. My	2	-14.697				0.010	385.746
Max. Vy	8	14.256				-381.110	0.909
Max. Vx	2	-14.678				0.010	385.746
Max. Torque	8						2.452
Max Tension	1	0.000				0.000	0.000
L11	108.25 - 103.25	Pole				Max. Compression	26
			Max. Mx	8	-15.774	-453.331	0.948
			Max. My	2	-15.684	-0.032	460.264
			Max. Vy	8	14.628	-453.331	0.948
			Max. Vx	2	-15.132	-0.032	460.264
			Max. Torque	8			2.451
			Max Tension	1	0.000	0.000	0.000
			L12	103.25 - 97.5	Pole	Max. Compression	26
Max. Mx	8	-16.786				-527.408	0.986
Max. My	2	-16.692				-0.077	537.033
Max. Vy	8	14.999				-527.408	0.986
Max. Vx	2	-15.580				-0.077	537.033
Max. Torque	8						2.450
Max Tension	1	0.000				0.000	0.000
L13	97.5 - 95.95	Pole				Max. Compression	26
			Max. Mx	8	-20.358	-566.048	0.902
			Max. My	2	-20.250	-0.200	576.867
			Max. Vy	8	17.699	-566.048	0.902
			Max. Vx	2	-18.381	-0.200	576.867
			Max. Torque	8			2.449
			Max Tension	1	0.000	0.000	0.000
			L14	95.95 - 95	Pole	Max. Compression	26
Max. Mx	8	-22.070				-655.675	0.899
Max. My	2	-21.947				-0.206	670.456
Max. Vy	8	18.132				-655.675	0.899
Max. Vx	2	-19.047				-0.206	670.456
Max. Torque	20						-2.335
Max Tension	1	0.000				0.000	0.000
L15	95 - 94.75	Pole				Max. Compression	26
			Max. Mx	8	-22.308	-672.932	0.899
			Max. My	2	-22.183	-0.208	688.600
			Max. Vy	8	18.197	-672.932	0.899
			Max. Vx	2	-19.158	-0.208	688.600
			Max. Torque	20			-2.335
			Max Tension	1	0.000	0.000	0.000
			L16	94.75 - 92.5	Pole	Max. Compression	26
Max. Mx	8	-22.392				-677.485	0.899
Max. My	2	-22.267				-0.209	693.394
Max. Vy	8	18.211				-677.485	0.899
Max. Vx	2	-19.188				-0.209	693.394
Max. Torque	20						-2.335
Max Tension	1	0.000				0.000	0.000
L17	92.5 - 92.25	Pole				Max. Compression	26
			Max. Mx	8	-23.101	-718.689	0.898
			Max. My	2	-22.970	-0.213	736.903
			Max. Vy	8	18.400	-718.689	0.898
			Max. Vx	2	-19.486	-0.213	736.903
			Max. Torque	20			-2.334
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-38.132	-0.871	2.694
Max. Mx	8	-23.167	-723.293	0.898			

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L18	92.25 - 87.75	Pole	Max. My	2	-23.036	-0.214	741.779
			Max. Vy	8	18.414	-723.293	0.898
			Max. Vx	2	-19.515	-0.214	741.779
			Max. Torque	20			-2.334
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-39.623	-1.005	2.795
			Max. Mx	8	-24.290	-806.925	0.895
			Max. My	2	-24.149	-0.224	830.825
			Max. Vy	8	18.745	-806.925	0.895
			Max. Vx	2	-20.066	-0.224	830.825
L19	87.75 - 87.5	Pole	Max. Torque	20			-2.334
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-39.732	-1.014	2.804
			Max. Mx	8	-24.384	-811.614	0.895
			Max. My	2	-24.244	-0.225	835.845
			Max. Vy	8	18.757	-811.614	0.895
			Max. Vx	2	-20.093	-0.225	835.845
			Max. Torque	20			-2.333
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.252	-1.120	2.883
L20	87.5 - 84	Pole	Max. Mx	8	-25.599	-877.809	0.894
			Max. My	2	-25.451	-0.233	906.990
			Max. Vy	8	19.054	-877.809	0.894
			Max. Vx	2	-20.561	-0.233	906.990
			Max. Torque	20			-2.333
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.343	-1.129	2.890
			Max. Mx	8	-25.674	-882.576	0.894
			Max. My	2	-25.525	-0.234	912.134
			Max. Vy	8	19.067	-882.576	0.894
L21	84 - 83.75	Pole	Max. Vx	2	-20.590	-0.234	912.134
			Max. Torque	20			-2.333
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.343	-1.129	2.890
			Max. Mx	8	-25.674	-882.576	0.894
			Max. My	2	-25.525	-0.234	912.134
			Max. Vy	8	19.067	-882.576	0.894
			Max. Vx	2	-20.590	-0.234	912.134
			Max. Torque	20			-2.333
			Max Tension	1	0.000	0.000	0.000
L22	83.75 - 78.75	Pole	Max. Compression	26	-43.107	-1.284	3.006
			Max. Mx	8	-27.084	-978.880	0.892
			Max. My	2	-26.929	-0.248	1016.596
			Max. Vy	8	19.442	-978.880	0.892
			Max. Vx	2	-21.198	-0.248	1016.596
			Max. Torque	20			-2.333
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-44.859	-1.443	3.123
			Max. Mx	8	-28.523	-1077.007	0.889
			Max. My	2	-28.371	-0.265	1123.735
L23	78.75 - 73.75	Pole	Max. Vy	8	19.803	-1077.007	0.889
			Max. Vx	2	-21.665	-0.265	1123.735
			Max. Torque	20			-2.332
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-46.633	-1.605	3.242
			Max. Mx	8	-29.984	-1176.923	0.887
			Max. My	2	-29.836	-0.284	1233.192
			Max. Vy	8	20.159	-1176.923	0.887
			Max. Vx	2	-22.126	-0.284	1233.192
			Max. Torque	20			-2.331
L24	73.75 - 68.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.125	-1.734	3.333
			Max. Mx	8	-31.171	-1258.122	0.885
			Max. My	2	-31.024	-0.299	1322.613
			Max. Vy	8	20.437	-1258.122	0.885
			Max. Vx	2	-22.594	-0.299	1322.613
			Max. Torque	20			-2.331
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.245	-1.744	3.341
			Max. Mx	8	-31.276	-1263.234	0.885
L25	68.75 - 64.75	Pole	Max. My	2	-31.130	-0.300	1328.265
			Max. Vy	8	20.437	-1258.122	0.885
			Max. Vx	2	-22.594	-0.299	1322.613
L26	64.75 - 64.5	Pole	Max. Torque	20			-2.331
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.245	-1.744	3.341
			Max. Mx	8	-31.276	-1263.234	0.885
			Max. My	2	-31.130	-0.300	1328.265

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L27	64.5 - 63.25	Pole	Max. Vy	8	20.447	-1263.234	0.885
			Max. Vx	2	-22.619	-0.300	1328.265
			Max. Torque	20			-2.330
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.847	-1.780	3.363
			Max. Mx	8	-31.764	-1288.869	0.885
			Max. My	2	-31.616	-0.305	1356.642
			Max. Vy	8	20.555	-1288.869	0.885
L28	63.25 - 63	Pole	Max. Vx	2	-22.785	-0.305	1356.642
			Max. Torque	20			-2.330
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.943	-1.789	3.370
			Max. Mx	8	-31.844	-1294.011	0.884
			Max. My	2	-31.697	-0.306	1362.341
			Max. Vy	8	20.564	-1294.011	0.884
			Max. Vx	2	-22.810	-0.306	1362.341
L29	63 - 58	Pole	Max. Torque	20			-2.330
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-50.873	-1.943	3.470
			Max. Mx	8	-33.350	-1397.722	0.882
			Max. My	2	-33.205	-0.327	1477.825
			Max. Vy	8	20.908	-1397.722	0.882
			Max. Vx	2	-23.389	-0.327	1477.825
			Max. Torque	20			-2.330
L30	58 - 56.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.363	-1.982	3.495
			Max. Mx	8	-33.730	-1423.911	0.882
			Max. My	2	-33.586	-0.332	1507.143
			Max. Vy	8	20.994	-1423.911	0.882
			Max. Vx	2	-23.533	-0.332	1507.143
			Max. Torque	20			-2.329
			Max Tension	1	0.000	0.000	0.000
L31	56.75 - 56.5	Pole	Max. Compression	26	-51.494	-1.991	3.504
			Max. Mx	8	-33.847	-1429.162	0.882
			Max. My	2	-33.704	-0.334	1513.029
			Max. Vy	8	21.000	-1429.162	0.882
			Max. Vx	2	-23.554	-0.334	1513.029
			Max. Torque	20			-2.329
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-52.253	-2.038	3.534
L32	56.5 - 55.25	Pole	Max. Mx	8	-34.469	-1460.769	0.881
			Max. My	2	-34.237	-0.339	1542.573
			Max. Vy	8	21.107	-1455.489	0.881
			Max. Vx	2	-23.717	-0.339	1542.573
			Max. Torque	20			-2.329
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-52.253	-2.038	3.534
			Max. Mx	8	-34.469	-1460.769	0.881
L33	55.25 - 55	Pole	Max. My	2	-34.327	-0.341	1548.505
			Max. Vy	8	21.117	-1460.769	0.881
			Max. Vx	2	-23.735	-0.341	1548.505
			Max. Torque	20			-2.329
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-53.467	-2.132	3.593
			Max. Mx	8	-35.456	-1523.390	0.881
			Max. My	2	-35.318	-0.355	1618.900
L34	55 - 47.5	Pole	Max. Vy	8	21.330	-1523.390	0.881
			Max. Vx	2	-23.999	-0.355	1618.900
			Max. Torque	20			-2.329
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-57.115	-2.293	3.699
			Max. Mx	8	-38.526	-1631.132	0.880
			Max. My	2	-38.393	-0.380	1740.199
			Max. Vy	8	21.751	-1631.132	0.880
L35	47.5 - 47.05	Pole	Max. Vx	2	-24.517	-0.380	1740.199
			Max. Torque	20			-2.329
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-59.303	-2.455	3.804
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
			Max. Torque	20			-2.329
			Max Tension	1	0.000	0.000	0.000
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740.199
L36	47.05 - 42.05	Pole	Max. Vy	8	21.751	-1631.132	0.880
			Max. Vx	2	-24.517	-0.380	1740

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L37	42.05 - 37.05	Pole	Max. Mx	8	-40.376	-1740.731	0.879
			Max. My	2	-40.254	-0.406	1863.772
			Max. Vy	8	22.077	-1740.731	0.879
			Max. Vx	2	-24.916	-0.406	1863.772
			Max. Torque	20			-2.329
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-61.553	-2.620	3.912
			Max. Mx	8	-42.256	-1851.888	0.878
			Max. My	2	-42.146	-0.434	1989.276
			Max. Vy	8	22.382	-1851.888	0.878
L38	37.05 - 34.95	Pole	Max. Vx	2	-25.297	-0.434	1989.276
			Max. Torque	20			-2.328
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-62.539	-2.690	3.958
			Max. Mx	8	-43.055	-1899.024	0.878
			Max. My	2	-42.950	-0.446	2042.557
			Max. Vy	8	22.506	-1899.024	0.878
			Max. Vx	2	-25.459	-0.446	2042.557
			Max. Torque	20			-2.328
			Max Tension	1	0.000	0.000	0.000
L39	34.95 - 34.7	Pole	Max. Compression	26	-62.689	-2.700	3.966
			Max. Mx	8	-43.188	-1904.653	0.878
			Max. My	2	-43.085	-0.448	2048.924
			Max. Vy	8	22.512	-1904.653	0.878
			Max. Vx	2	-25.472	-0.448	2048.924
			Max. Torque	20			-2.328
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-62.960	-2.714	3.974
			Max. Mx	8	-43.416	-1914.797	0.878
			Max. My	2	-43.313	-0.450	2060.396
L40	34.7 - 34.25	Pole	Max. Vy	8	22.544	-1914.797	0.878
			Max. Vx	2	-25.510	-0.450	2060.396
			Max. Torque	20			-2.328
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-63.078	-2.723	3.980
			Max. Mx	8	-43.512	-1920.437	0.878
			Max. My	2	-43.410	-0.452	2066.777
			Max. Vy	8	22.558	-1920.437	0.878
			Max. Vx	2	-25.531	-0.452	2066.777
			Max. Torque	20			-2.328
L41	34.25 - 34	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-65.438	-2.891	4.089
			Max. Mx	8	-45.428	-2033.980	0.877
			Max. My	2	-45.339	-0.482	2195.341
			Max. Vy	8	22.846	-2033.980	0.877
			Max. Vx	2	-25.899	-0.482	2195.341
			Max. Torque	20			-2.328
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-66.509	-2.968	4.139
			Max. Mx	8	-46.302	-2085.524	0.878
L42	34 - 29	Pole	Max. My	2	-46.219	-0.496	2253.775
			Max. Vy	8	22.970	-2085.524	0.878
			Max. Vx	2	-26.058	-0.496	2253.775
			Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-66.660	-2.978	4.146
			Max. Mx	8	-46.438	-2091.269	0.877
			Max. My	2	-46.357	-0.498	2260.290
			Max. Vy	8	22.972	-2091.269	0.877
			Max. Vx	2	-26.065	-0.498	2260.290
L43	29 - 26.75	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-67.420	-3.020	4.172
			Max. Mx	8	-47.078	-2120.051	0.878
			Max. My	2	-46.998	-0.506	2292.940
			Max. Vy	8	23.064	-2120.051	0.878
			Max. Vx	2	-26.175	-0.506	2292.940
			Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-67.420	-3.020	4.172

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L46	25.25 - 25	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-67.539	-3.029	4.179
			Max. Mx	8	-47.181	-2125.820	0.878
			Max. My	2	-47.103	-0.507	2299.485
			Max. Vy	8	23.068	-2125.820	0.878
			Max. Vx	2	-26.185	-0.507	2299.485
L47	25 - 20	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-69.908	-3.202	4.278
			Max. Mx	8	-49.142	-2241.894	0.878
			Max. My	2	-49.078	-0.540	2431.253
			Max. Vy	8	23.348	-2241.894	0.878
			Max. Vx	2	-26.527	-0.540	2431.253
L48	20 - 16.75	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-71.451	-3.316	4.270
			Max. Mx	8	-50.434	-2318.063	0.879
			Max. My	2	-50.381	-0.563	2517.769
			Max. Vy	8	23.524	-2318.063	0.879
			Max. Vx	2	-26.729	-0.563	2517.769
L49	16.75 - 16.5	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-71.592	-3.325	4.271
			Max. Mx	8	-50.562	-2323.945	0.879
			Max. My	2	-50.511	-0.565	2524.452
			Max. Vy	8	23.525	-2323.945	0.879
			Max. Vx	2	-26.733	-0.565	2524.452
L50	16.5 - 14.25	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-72.859	-3.404	4.265
			Max. Mx	8	-51.648	-2377.057	0.879
			Max. My	2	-51.602	-0.580	2584.780
			Max. Vy	8	23.670	-2377.057	0.879
			Max. Vx	2	-26.895	-0.580	2584.780
L51	14.25 - 14	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-72.989	-3.413	4.266
			Max. Mx	8	-51.765	-2382.977	0.879
			Max. My	2	-51.721	-0.582	2591.504
			Max. Vy	8	23.672	-2382.977	0.879
			Max. Vx	2	-26.900	-0.582	2591.504
L52	14 - 9	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-75.581	-3.593	4.275
			Max. Mx	8	-53.988	-2502.115	0.881
			Max. My	2	-53.958	-0.619	2726.825
			Max. Vy	8	23.967	-2502.115	0.881
			Max. Vx	2	-27.230	-0.619	2726.825
L53	9 - 4	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-78.155	-3.781	4.329
			Max. Mx	8	-56.241	-2622.673	0.883
			Max. My	2	-56.226	-0.657	2863.733
			Max. Vy	8	24.251	-2622.673	0.883
			Max. Vx	2	-27.546	-0.657	2863.733
L54	4 - 0	Pole	Max. Torque	20			-2.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.199	-3.927	4.374
			Max. Mx	8	-58.063	-2720.137	0.885
			Max. My	2	-58.061	-0.688	2974.386
			Max. Vy	8	24.476	-2720.137	0.885
			Max. Vx	2	-27.793	-0.688	2974.386
			Max. Torque	20			-2.327

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	80.199	-0.000	0.000
	Max. H _x	20	58.069	24.460	0.010
	Max. H _z	2	58.069	0.010	27.776
	Max. M _x	2	2974.386	0.010	27.776
	Max. M _z	8	2720.137	-24.460	-0.010
	Max. Torsion	8	2.326	-24.460	-0.010
	Min. Vert	19	43.552	21.178	-12.235
	Min. H _x	8	58.069	-24.460	-0.010
	Min. H _z	14	58.069	-0.010	-27.776
	Min. M _x	14	-2970.379	-0.010	-27.776
	Min. M _z	20	-2716.570	24.460	0.010
	Min. Torsion	20	-2.326	24.460	0.010

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	48.391	0.000	0.000	-1.573	-1.426	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	58.069	-0.010	-27.776	-2974.386	-0.688	0.365
0.9 Dead+1.0 Wind 0 deg - No Ice	43.552	-0.010	-27.776	-2933.352	-0.239	0.366
1.2 Dead+1.0 Wind 30 deg - No Ice	58.069	12.221	-21.201	-2359.398	-1360.020	-1.050
0.9 Dead+1.0 Wind 30 deg - No Ice	43.552	12.221	-21.201	-2325.911	-1340.570	-1.039
1.2 Dead+1.0 Wind 60 deg - No Ice	58.069	21.178	-12.235	-1362.402	-2355.409	-1.949
0.9 Dead+1.0 Wind 60 deg - No Ice	43.552	21.178	-12.235	-1342.855	-2322.049	-1.930
1.2 Dead+1.0 Wind 90 deg - No Ice	58.069	24.460	0.010	-0.885	-2720.137	-2.326
0.9 Dead+1.0 Wind 90 deg - No Ice	43.552	24.460	0.010	-0.373	-2681.684	-2.304
1.2 Dead+1.0 Wind 120 deg - No Ice	58.069	21.203	12.261	1361.379	-2358.306	-2.079
0.9 Dead+1.0 Wind 120 deg - No Ice	43.552	21.203	12.261	1342.849	-2324.915	-2.061
1.2 Dead+1.0 Wind 150 deg - No Ice	58.069	13.078	22.665	2477.794	-1431.926	-1.308
0.9 Dead+1.0 Wind 150 deg - No Ice	43.552	13.078	22.665	2444.074	-1411.721	-1.298
1.2 Dead+1.0 Wind 180 deg - No Ice	58.069	0.010	27.776	2970.379	-2.879	-0.366
0.9 Dead+1.0 Wind 180 deg - No Ice	43.552	0.010	27.776	2930.408	-2.404	-0.367
1.2 Dead+1.0 Wind 210 deg - No Ice	58.069	-12.221	21.201	2355.403	1356.428	1.049
0.9 Dead+1.0 Wind 210 deg - No Ice	43.552	-12.221	21.201	2322.975	1337.910	1.038
1.2 Dead+1.0 Wind 240 deg - No Ice	58.069	-21.178	12.235	1358.431	2351.820	1.949
0.9 Dead+1.0 Wind 240 deg - No Ice	43.552	-21.178	12.235	1339.937	2319.390	1.930
1.2 Dead+1.0 Wind 270 deg - No Ice	58.069	-24.460	-0.010	-3.076	2716.570	2.326
0.9 Dead+1.0 Wind 270 deg - No Ice	43.552	-24.460	-0.010	-2.538	2679.040	2.305
1.2 Dead+1.0 Wind 300 deg - No Ice	58.069	-21.203	-12.261	-1365.354	2354.759	2.080
0.9 Dead+1.0 Wind 300 deg	43.552	-21.203	-12.261	-1345.769	2322.285	2.062

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
- No Ice						
1.2 Dead+1.0 Wind 330 deg	58.069	-13.078	-22.665	-2481.791	1428.378	1.309
- No Ice						
0.9 Dead+1.0 Wind 330 deg	43.552	-13.078	-22.665	-2447.011	1409.092	1.298
- No Ice						
1.2 Dead+1.0 Ice+1.0 Temp	80.199	0.000	-0.000	-4.374	-3.927	-0.000
1.2 Dead+1.0 Wind 0	80.199	-0.002	-6.409	-734.021	-3.820	0.097
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 30	80.199	3.039	-5.269	-610.430	-353.303	-0.322
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 60	80.199	5.265	-3.041	-354.216	-609.198	-0.586
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 90	80.199	6.081	0.002	-4.302	-702.940	-0.693
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 120	80.199	5.267	3.045	345.552	-609.414	-0.615
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 150	80.199	3.069	5.318	607.546	-357.108	-0.381
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 180	80.199	0.002	6.409	724.976	-4.256	-0.098
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210	80.199	-3.039	5.269	601.386	345.223	0.322
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240	80.199	-5.265	3.041	345.175	601.120	0.586
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	80.199	-6.081	-0.002	-4.738	694.864	0.693
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	80.199	-5.267	-3.045	-354.594	601.340	0.615
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	80.199	-3.069	-5.318	-616.591	349.034	0.381
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	48.391	-0.002	-6.768	-720.352	-1.213	0.090
Dead+Wind 30 deg - Service	48.391	2.978	-5.167	-571.530	-329.815	-0.256
Dead+Wind 60 deg - Service	48.391	5.161	-2.981	-330.519	-570.440	-0.475
Dead+Wind 90 deg - Service	48.391	5.961	0.002	-1.389	-658.611	-0.567
Dead+Wind 120 deg - Service	48.391	5.167	2.988	327.925	-571.145	-0.507
Dead+Wind 150 deg - Service	48.391	3.187	5.523	597.874	-347.241	-0.319
Dead+Wind 180 deg - Service	48.391	0.002	6.768	717.043	-1.743	-0.090
Dead+Wind 210 deg - Service	48.391	-2.978	5.167	568.221	326.858	0.256
Dead+Wind 240 deg - Service	48.391	-5.161	2.981	327.211	567.483	0.475
Dead+Wind 270 deg - Service	48.391	-5.961	-0.002	-1.918	655.655	0.567
Dead+Wind 300 deg - Service	48.391	-5.167	-2.988	-331.232	568.190	0.507
Dead+Wind 330 deg - Service	48.391	-3.187	-5.523	-601.183	344.286	0.319

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-48.391	0.000	0.000	48.391	0.000	0.000%
2	-0.010	-58.069	-27.776	0.010	58.069	27.776	0.000%
3	-0.010	-43.552	-27.776	0.010	43.552	27.776	0.000%
4	12.221	-58.069	-21.201	-12.221	58.069	21.201	0.000%
5	12.221	-43.552	-21.201	-12.221	43.552	21.201	0.000%
6	21.178	-58.069	-12.235	-21.178	58.069	12.235	0.000%
7	21.178	-43.552	-12.235	-21.178	43.552	12.235	0.000%
8	24.460	-58.069	0.010	-24.460	58.069	-0.010	0.000%
9	24.460	-43.552	0.010	-24.460	43.552	-0.010	0.000%
10	21.203	-58.069	12.261	-21.203	58.069	-12.261	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
11	21.203	-43.552	12.261	-21.203	43.552	-12.261	0.000%
12	13.078	-58.069	22.665	-13.078	58.069	-22.665	0.000%
13	13.078	-43.552	22.665	-13.078	43.552	-22.665	0.000%
14	0.010	-58.069	27.776	-0.010	58.069	-27.776	0.000%
15	0.010	-43.552	27.776	-0.010	43.552	-27.776	0.000%
16	-12.221	-58.069	21.201	12.221	58.069	-21.201	0.000%
17	-12.221	-43.552	21.201	12.221	43.552	-21.201	0.000%
18	-21.178	-58.069	12.235	21.178	58.069	-12.235	0.000%
19	-21.178	-43.552	12.235	21.178	43.552	-12.235	0.000%
20	-24.460	-58.069	-0.010	24.460	58.069	0.010	0.000%
21	-24.460	-43.552	-0.010	24.460	43.552	0.010	0.000%
22	-21.203	-58.069	-12.261	21.203	58.069	12.261	0.000%
23	-21.203	-43.552	-12.261	21.203	43.552	12.261	0.000%
24	-13.078	-58.069	-22.665	13.078	58.069	22.665	0.000%
25	-13.078	-43.552	-22.665	13.078	43.552	22.665	0.000%
26	0.000	-80.199	0.000	-0.000	80.199	0.000	0.000%
27	-0.002	-80.199	-6.409	0.002	80.199	6.409	0.000%
28	3.039	-80.199	-5.269	-3.039	80.199	5.269	0.000%
29	5.265	-80.199	-3.041	-5.265	80.199	3.041	0.000%
30	6.081	-80.199	0.002	-6.081	80.199	-0.002	0.000%
31	5.267	-80.199	3.045	-5.267	80.199	-3.045	0.000%
32	3.069	-80.199	5.318	-3.069	80.199	-5.318	0.000%
33	0.002	-80.199	6.409	-0.002	80.199	-6.409	0.000%
34	-3.039	-80.199	5.269	3.039	80.199	-5.269	0.000%
35	-5.265	-80.199	3.041	5.265	80.199	-3.041	0.000%
36	-6.081	-80.199	-0.002	6.081	80.199	0.002	0.000%
37	-5.267	-80.199	-3.045	5.267	80.199	3.045	0.000%
38	-3.069	-80.199	-5.318	3.069	80.199	5.318	0.000%
39	-0.002	-48.391	-6.768	0.002	48.391	6.768	0.000%
40	2.978	-48.391	-5.167	-2.978	48.391	5.167	0.000%
41	5.161	-48.391	-2.981	-5.161	48.391	2.981	0.000%
42	5.961	-48.391	0.002	-5.961	48.391	-0.002	0.000%
43	5.167	-48.391	2.988	-5.167	48.391	-2.988	0.000%
44	3.187	-48.391	5.523	-3.187	48.391	-5.523	0.000%
45	0.002	-48.391	6.768	-0.002	48.391	-6.768	0.000%
46	-2.978	-48.391	5.167	2.978	48.391	-5.167	0.000%
47	-5.161	-48.391	2.981	5.161	48.391	-2.981	0.000%
48	-5.961	-48.391	-0.002	5.961	48.391	0.002	0.000%
49	-5.167	-48.391	-2.988	5.167	48.391	2.988	0.000%
50	-3.187	-48.391	-5.523	3.187	48.391	5.523	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00050928
3	Yes	5	0.00000001	0.00021745
4	Yes	7	0.00000001	0.00010683
5	Yes	6	0.00000001	0.00058116
6	Yes	7	0.00000001	0.00011432
7	Yes	6	0.00000001	0.00062340
8	Yes	6	0.00000001	0.00016093
9	Yes	6	0.00000001	0.00005923
10	Yes	7	0.00000001	0.00010451
11	Yes	6	0.00000001	0.00056875
12	Yes	7	0.00000001	0.00012118
13	Yes	6	0.00000001	0.00065676
14	Yes	5	0.00000001	0.00054259
15	Yes	5	0.00000001	0.00023601
16	Yes	7	0.00000001	0.00011135
17	Yes	6	0.00000001	0.00060756
18	Yes	7	0.00000001	0.00010421
19	Yes	6	0.00000001	0.00056752
20	Yes	6	0.00000001	0.00016388

21	Yes	6	0.00000001	0.00006033
22	Yes	7	0.00000001	0.00011479
23	Yes	6	0.00000001	0.00062622
24	Yes	7	0.00000001	0.00011490
25	Yes	6	0.00000001	0.00062137
26	Yes	4	0.00000001	0.00082084
27	Yes	6	0.00000001	0.00095066
28	Yes	7	0.00000001	0.00012127
29	Yes	7	0.00000001	0.00012207
30	Yes	6	0.00000001	0.00092041
31	Yes	7	0.00000001	0.00011871
32	Yes	7	0.00000001	0.00012072
33	Yes	6	0.00000001	0.00092871
34	Yes	7	0.00000001	0.00011822
35	Yes	7	0.00000001	0.00011758
36	Yes	6	0.00000001	0.00091189
37	Yes	7	0.00000001	0.00012107
38	Yes	7	0.00000001	0.00012163
39	Yes	5	0.00000001	0.00007479
40	Yes	5	0.00000001	0.00036496
41	Yes	5	0.00000001	0.00044071
42	Yes	5	0.00000001	0.00014296
43	Yes	5	0.00000001	0.00034704
44	Yes	5	0.00000001	0.00045603
45	Yes	5	0.00000001	0.00007436
46	Yes	5	0.00000001	0.00040477
47	Yes	5	0.00000001	0.00034461
48	Yes	5	0.00000001	0.00014296
49	Yes	5	0.00000001	0.00044311
50	Yes	5	0.00000001	0.00039615

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	151 - 146	22.459	39	1.432	0.011
L2	146 - 141	20.961	39	1.427	0.010
L3	141 - 136	19.478	39	1.404	0.009
L4	136 - 131	18.027	39	1.365	0.007
L5	131 - 126	16.626	39	1.308	0.006
L6	126 - 121	15.293	39	1.236	0.005
L7	121 - 118.5	14.041	39	1.154	0.004
L8	118.5 - 118.25	13.449	39	1.109	0.003
L9	118.25 - 113.25	13.391	39	1.107	0.003
L10	113.25 - 108.25	12.255	39	1.061	0.003
L11	108.25 - 103.25	11.170	39	1.010	0.002
L12	103.25 - 97.5	10.140	39	0.957	0.002
L13	100.95 - 95.95	9.686	39	0.931	0.002
L14	95.95 - 95	8.726	39	0.896	0.002
L15	95 - 94.75	8.549	39	0.886	0.002
L16	94.75 - 92.5	8.503	39	0.884	0.002
L17	92.5 - 92.25	8.090	39	0.867	0.002
L18	92.25 - 87.75	8.045	39	0.864	0.002
L19	87.75 - 87.5	7.254	39	0.814	0.002
L20	87.5 - 84	7.212	39	0.812	0.002
L21	84 - 83.75	6.626	39	0.786	0.001
L22	83.75 - 78.75	6.585	39	0.784	0.001
L23	78.75 - 73.75	5.791	39	0.732	0.001
L24	73.75 - 68.75	5.053	39	0.678	0.001
L25	68.75 - 64.75	4.372	39	0.624	0.001
L26	64.75 - 64.5	3.867	39	0.580	0.001
L27	64.5 - 63.25	3.837	39	0.578	0.001
L28	63.25 - 63	3.687	39	0.568	0.001
L29	63 - 58	3.657	39	0.565	0.001
L30	58 - 56.75	3.095	39	0.509	0.001
L31	56.75 - 56.5	2.964	39	0.495	0.001
L32	56.5 - 55.25	2.938	39	0.493	0.001

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L33	55.25 - 55	2.810	39	0.484	0.001
L34	55 - 47.5	2.784	39	0.482	0.001
L35	52.05 - 47.05	2.496	39	0.452	0.001
L36	47.05 - 42.05	2.035	39	0.426	0.001
L37	42.05 - 37.05	1.614	39	0.377	0.000
L38	37.05 - 34.95	1.244	39	0.329	0.000
L39	34.95 - 34.7	1.104	39	0.309	0.000
L40	34.7 - 34.25	1.088	39	0.307	0.000
L41	34.25 - 34	1.059	39	0.304	0.000
L42	34 - 29	1.044	39	0.302	0.000
L43	29 - 26.75	0.753	39	0.253	0.000
L44	26.75 - 26.5	0.639	39	0.232	0.000
L45	26.5 - 25.25	0.627	39	0.230	0.000
L46	25.25 - 25	0.568	39	0.221	0.000
L47	25 - 20	0.556	39	0.219	0.000
L48	20 - 16.75	0.352	39	0.171	0.000
L49	16.75 - 16.5	0.246	39	0.140	0.000
L50	16.5 - 14.25	0.239	39	0.138	0.000
L51	14.25 - 14	0.178	39	0.120	0.000
L52	14 - 9	0.172	39	0.118	0.000
L53	9 - 4	0.071	39	0.075	0.000
L54	4 - 0	0.014	39	0.033	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
151.000	Lightning Rod 5/8" x 4' on 4' Pole	39	22.459	1.432	0.011	20448
148.000	DS1F03F36D-N	39	21.559	1.430	0.010	20448
138.000	MT6407-77A w/ Mount Pipe	39	18.602	1.382	0.008	6937
122.000	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	39	14.285	1.173	0.004	3445
102.000	MX08FRO665-21 w/ Mount Pipe	39	9.892	0.942	0.002	6262

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	151 - 146	92.701	2	5.897	0.044
L2	146 - 141	86.539	2	5.880	0.042
L3	141 - 136	80.435	2	5.788	0.036
L4	136 - 131	74.460	2	5.630	0.030
L5	131 - 126	68.688	2	5.398	0.025
L6	126 - 121	63.191	2	5.106	0.020
L7	121 - 118.5	58.024	2	4.769	0.015
L8	118.5 - 118.25	55.578	2	4.583	0.014
L9	118.25 - 113.25	55.338	2	4.575	0.013
L10	113.25 - 108.25	50.649	2	4.386	0.012
L11	108.25 - 103.25	46.168	2	4.178	0.010
L12	103.25 - 97.5	41.912	2	3.956	0.009
L13	100.95 - 95.95	40.034	2	3.849	0.008
L14	95.95 - 95	36.069	2	3.705	0.008
L15	95 - 94.75	35.337	2	3.664	0.007
L16	94.75 - 92.5	35.145	2	3.656	0.007
L17	92.5 - 92.25	33.440	2	3.585	0.007
L18	92.25 - 87.75	33.253	2	3.574	0.007
L19	87.75 - 87.5	29.984	2	3.366	0.006
L20	87.5 - 84	29.808	2	3.359	0.006
L21	84 - 83.75	27.387	2	3.251	0.006

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L22	83.75 - 78.75	27.217	2	3.241	0.006
L23	78.75 - 73.75	23.937	2	3.026	0.005
L24	73.75 - 68.75	20.886	2	2.804	0.005
L25	68.75 - 64.75	18.068	2	2.580	0.004
L26	64.75 - 64.5	15.984	2	2.397	0.004
L27	64.5 - 63.25	15.859	2	2.389	0.004
L28	63.25 - 63	15.239	2	2.349	0.003
L29	63 - 58	15.116	2	2.338	0.003
L30	58 - 56.75	12.791	2	2.104	0.003
L31	56.75 - 56.5	12.248	2	2.047	0.003
L32	56.5 - 55.25	12.141	2	2.039	0.003
L33	55.25 - 55	11.612	2	2.002	0.003
L34	55 - 47.5	11.507	2	1.992	0.003
L35	52.05 - 47.05	10.314	2	1.870	0.002
L36	47.05 - 42.05	8.409	2	1.760	0.002
L37	42.05 - 37.05	6.671	2	1.560	0.002
L38	37.05 - 34.95	5.142	2	1.359	0.002
L39	34.95 - 34.7	4.563	2	1.276	0.002
L40	34.7 - 34.25	4.496	2	1.269	0.002
L41	34.25 - 34	4.377	2	1.256	0.002
L42	34 - 29	4.312	2	1.246	0.001
L43	29 - 26.75	3.112	2	1.046	0.001
L44	26.75 - 26.5	2.640	2	0.957	0.001
L45	26.5 - 25.25	2.590	2	0.950	0.001
L46	25.25 - 25	2.346	2	0.915	0.001
L47	25 - 20	2.298	2	0.905	0.001
L48	20 - 16.75	1.455	2	0.706	0.001
L49	16.75 - 16.5	1.017	2	0.579	0.001
L50	16.5 - 14.25	0.987	2	0.571	0.001
L51	14.25 - 14	0.736	2	0.495	0.001
L52	14 - 9	0.710	2	0.487	0.001
L53	9 - 4	0.293	2	0.311	0.000
L54	4 - 0	0.058	2	0.138	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
151.000	Lightning Rod 5/8" x 4' on 4' Pole	2	92.701	5.897	0.044	5356
148.000	DS1F03F36D-N	2	89.001	5.894	0.043	5356
138.000	MT6407-77A w/ Mount Pipe	2	76.830	5.701	0.032	1750
122.000	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	2	59.029	4.848	0.016	850
102.000	MX08FRO665-21 w/ Mount Pipe	2	40.886	3.894	0.009	1530

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	151 - 146 (1)	TP18.526x17.59x0.219	5.000	0.000	0.0	12.895	-4.765	754.347	0.006
L2	146 - 141 (2)	TP19.461x18.526x0.219	5.000	0.000	0.0	13.554	-5.145	792.896	0.006
L3	141 - 136 (3)	TP20.397x19.461x0.219	5.000	0.000	0.0	14.213	-9.527	831.445	0.011
L4	136 - 131 (4)	TP21.332x20.397x0.219	5.000	0.000	0.0	14.872	-10.045	869.994	0.012
L5	131 - 126 (5)	TP22.268x21.332x0.219	5.000	0.000	0.0	15.531	-10.608	908.542	0.012

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L6	126 - 121 (6)	TP23.203x22.268x0.219	5.000	0.000	0.0	16.190	-13.217	947.091	0.014
L7	121 - 118.5 (7)	TP23.671x23.203x0.219	2.500	0.000	0.0	16.519	-13.616	966.365	0.014
L8	118.5 - 118.25 (8)	TP23.718x23.671x0.494	0.250	0.000	0.0	36.923	-13.683	2160.000	0.006
L9	118.25 - 113.25 (9)	TP24.653x23.718x0.481	5.000	0.000	0.0	37.457	-14.697	2191.260	0.007
L10	113.25 - 108.25 (10)	TP25.589x24.653x0.469	5.000	0.000	0.0	37.915	-15.684	2218.050	0.007
L11	108.25 - 103.25 (11)	TP26.524x25.589x0.463	5.000	0.000	0.0	38.812	-16.692	2270.520	0.007
L12	103.25 - 97.5 (12)	TP27.6x26.524x0.456	5.750	0.000	0.0	38.929	-20.250	2277.360	0.009
L13	97.5 - 95.95 (13)	TP27.442x26.517x0.55	5.000	0.000	0.0	47.625	-21.947	2786.050	0.008
L14	95.95 - 95 (14)	TP27.617x27.442x0.55	0.950	0.000	0.0	47.936	-22.183	2804.250	0.008
L15	95 - 94.75 (15)	TP27.663x27.617x0.8	0.250	0.000	0.0	69.200	-22.267	4048.210	0.006
L16	94.75 - 92.5 (16)	TP28.079x27.663x0.788	2.250	0.000	0.0	69.205	-22.970	4048.520	0.006
L17	92.5 - 92.25 (17)	TP28.126x28.079x0.55	0.250	0.000	0.0	48.836	-23.036	2856.930	0.008
L18	92.25 - 87.75 (18)	TP28.958x28.126x0.538	4.500	0.000	0.0	49.188	-24.149	2877.510	0.008
L19	87.75 - 87.5 (19)	TP29.004x28.958x0.863	0.250	0.000	0.0	78.156	-24.244	4572.110	0.005
L20	87.5 - 84 (20)	TP29.651x29.004x0.85	3.500	0.000	0.0	78.829	-25.451	4611.470	0.006
L21	84 - 83.75 (21)	TP29.697x29.651x0.613	0.250	0.000	0.0	57.362	-25.525	3355.710	0.008
L22	83.75 - 78.75 (22)	TP30.622x29.697x0.6	5.000	0.000	0.0	58.002	-26.929	3393.130	0.008
L23	78.75 - 73.75 (23)	TP31.546x30.622x0.588	5.000	0.000	0.0	58.566	-28.371	3426.130	0.008
L24	73.75 - 68.75 (24)	TP32.471x31.546x0.588	5.000	0.000	0.0	60.315	-29.836	3528.450	0.008
L25	68.75 - 64.75 (25)	TP33.21x32.471x0.575	4.000	0.000	0.0	60.424	-31.024	3534.830	0.009
L26	64.75 - 64.5 (26)	TP33.257x33.21x0.85	0.250	0.000	0.0	88.697	-31.130	5188.780	0.006
L27	64.5 - 63.25 (27)	TP33.488x33.257x0.85	1.250	0.000	0.0	89.330	-31.616	5225.780	0.006
L28	63.25 - 63 (28)	TP33.534x33.488x0.575	0.250	0.000	0.0	61.024	-31.697	3569.880	0.009
L29	63 - 58 (29)	TP34.459x33.534x0.563	5.000	0.000	0.0	61.394	-33.205	3591.560	0.009
L30	58 - 56.75 (30)	TP34.69x34.459x0.563	1.250	0.000	0.0	61.813	-33.586	3616.050	0.009
L31	56.75 - 56.5 (31)	TP34.736x34.69x0.913	0.250	0.000	0.0	99.382	-33.704	5813.820	0.006
L32	56.5 - 55.25 (32)	TP34.967x34.736x0.913	1.250	0.000	0.0	100.06	-34.237	5853.550	0.006
L33	55.25 - 55 (33)	TP35.013x34.967x0.638	0.250	0.000	0.0	70.565	-34.327	4128.040	0.008
L34	55 - 47.5 (34)	TP36.4x35.013x0.638	7.500	0.000	0.0	71.685	-35.318	4193.540	0.008
L35	47.5 - 47.05 (35)	TP35.88x34.934x0.7	5.000	0.000	0.0	79.295	-38.393	4638.740	0.008
L36	47.05 - 42.05 (36)	TP36.825x35.88x0.688	5.000	0.000	0.0	80.000	-40.254	4680.020	0.009
L37	42.05 - 37.05 (37)	TP37.771x36.825x0.675	5.000	0.000	0.0	80.629	-42.146	4716.780	0.009
L38	37.05 - 34.95 (38)	TP38.169x37.771x0.675	2.100	0.000	0.0	81.492	-42.950	4767.290	0.009
L39	34.95 - 34.7 (39)	TP38.216x38.169x0.988	0.250	0.000	0.0	118.37	-43.085	6925.040	0.006
L40	34.7 - 34.25 (40)	TP38.301x38.216x0.975	0.450	0.000	0.0	117.18	-43.313	6855.310	0.006
L41	34.25 - 34 (41)	TP38.348x38.301x0.675	0.250	0.000	0.0	81.883	-43.410	4790.140	0.009
L42	34 - 29 (42)	TP39.294x38.348x0.663	5.000	0.000	0.0	82.411	-45.339	4821.030	0.009

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L43	29 - 26.75 (43)	TP39.72x39.294x0.663	2.250	0.000	0.0	83.319	-46.218	4874.150	0.009
L44	26.75 - 26.5 (44)	TP39.767x39.72x0.95	0.250	0.000	0.0	118.74	-46.357	6946.360	0.007
L45	26.5 - 25.25 (45)	TP40.003x39.767x0.95	1.250	0.000	0.0	119.46	-46.999	6988.670	0.007
L46	25.25 - 25 (46)	TP40.051x40.003x0.663	0.250	0.000	0.0	84.025	-47.103	4915.460	0.010
L47	25 - 20 (47)	TP40.997x40.051x0.65	5.000	0.000	0.0	84.445	-49.078	4940.060	0.010
L48	20 - 16.75 (48)	TP41.611x40.997x0.65	3.250	0.000	0.0	85.732	-50.381	5015.330	0.010
L49	16.75 - 16.5 (49)	TP41.659x41.611x0.763	0.250	0.000	0.0	100.41	-50.511	5874.010	0.009
L50	16.5 - 14.25 (50)	TP42.084x41.659x0.763	2.250	0.000	0.0	101.45	-51.602	5935.140	0.009
L51	14.25 - 14 (51)	TP42.132x42.084x0.725	0.250	0.000	0.0	96.664	-51.721	5654.830	0.009
L52	14 - 9 (52)	TP43.077x42.132x0.713	5.000	0.000	0.0	97.196	-53.958	5685.960	0.009
L53	9 - 4 (53)	TP44.023x43.077x0.713	5.000	0.000	0.0	99.366	-56.226	5812.900	0.010
L54	4 - 0 (54)	TP44.78x44.023x0.7	4.000	0.000	0.0	99.356	-58.061	5812.340	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio M _{ux} / φM _{nx}	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio M _{uy} / φM _{ny}
L1	151 - 146 (1)	TP18.526x17.59x0.219	22.235	351.018	0.063	0.000	351.018	0.000
L2	146 - 141 (2)	TP19.461x18.526x0.219	56.321	382.076	0.147	0.000	382.076	0.000
L3	141 - 136 (3)	TP20.397x19.461x0.219	101.942	413.796	0.246	0.000	413.796	0.000
L4	136 - 131 (4)	TP21.332x20.397x0.219	157.485	446.091	0.353	0.000	446.091	0.000
L5	131 - 126 (5)	TP22.268x21.332x0.219	214.637	478.878	0.448	0.000	478.878	0.000
L6	126 - 121 (6)	TP23.203x22.268x0.219	275.487	512.069	0.538	0.000	512.069	0.000
L7	121 - 118.5 (7)	TP23.671x23.203x0.219	310.305	528.791	0.587	0.000	528.791	0.000
L8	118.5 - 118.25 (8)	TP23.718x23.671x0.494	313.825	1270.858	0.247	0.000	1270.858	0.000
L9	118.25 - 113.25 (9)	TP24.653x23.718x0.481	385.747	1343.650	0.287	0.000	1343.650	0.000
L10	113.25 - 108.25 (10)	TP25.589x24.653x0.469	460.264	1415.158	0.325	0.000	1415.158	0.000
L11	108.25 - 103.25 (11)	TP26.524x25.589x0.463	537.033	1504.300	0.357	0.000	1504.300	0.000
L12	103.25 - 97.5 (12)	TP27.6x26.524x0.456	576.867	1534.900	0.376	0.000	1534.900	0.000
L13	97.5 - 95.95 (13)	TP27.442x26.517x0.55	670.456	1899.575	0.353	0.000	1899.575	0.000
L14	95.95 - 95 (14)	TP27.617x27.442x0.55	688.600	1924.725	0.358	0.000	1924.725	0.000
L15	95 - 94.75 (15)	TP27.663x27.617x0.8	693.394	2732.275	0.254	0.000	2732.275	0.000
L16	94.75 - 92.5 (16)	TP28.079x27.663x0.788	736.903	2778.575	0.265	0.000	2778.575	0.000
L17	92.5 - 92.25 (17)	TP28.126x28.079x0.55	741.779	1998.458	0.371	0.000	1998.458	0.000
L18	92.25 - 87.75 (18)	TP28.958x28.126x0.538	830.825	2076.600	0.400	0.000	2076.600	0.000
L19	87.75 - 87.5 (19)	TP29.004x28.958x0.863	835.842	3229.967	0.259	0.000	3229.967	0.000
L20	87.5 - 84 (20)	TP29.651x29.004x0.85	906.992	3337.817	0.272	0.000	3337.817	0.000
L21	84 - 83.75 (21)	TP29.697x29.651x0.613	912.133	2473.117	0.369	0.000	2473.117	0.000
L22	83.75 - 78.75 (22)	TP30.622x29.697x0.6	1016.600	2583.975	0.393	0.000	2583.975	0.000
L23	78.75 - 73.75 (23)	TP31.546x30.622x0.588	1123.733	2693.208	0.417	0.000	2693.208	0.000

Section No.	Elevation ft	Size	M_{ux}	ϕM_{nx}	Ratio	M_{uy} kip-ft	ϕM_{ny}	Ratio
			kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{nx}}$		kip-ft	$\frac{M_{uy}}{\phi M_{ny}}$
L24	73.75 - 68.75 (24)	TP32.471x31.546x0.588	1233.192	2858.008	0.431	0.000	2858.008	0.000
L25	68.75 - 64.75 (25)	TP33.21x32.471x0.575	1322.617	2933.050	0.451	0.000	2933.050	0.000
L26	64.75 - 64.5 (26)	TP33.257x33.21x0.85	1328.267	4239.367	0.313	0.000	4239.367	0.000
L27	64.5 - 63.25 (27)	TP33.488x33.257x0.85	1356.642	4300.825	0.315	0.000	4300.825	0.000
L28	63.25 - 63 (28)	TP33.534x33.488x0.575	1362.342	2992.008	0.455	0.000	2992.008	0.000
L29	63 - 58 (29)	TP34.459x33.534x0.563	1477.825	3098.342	0.477	0.000	3098.342	0.000
L30	58 - 56.75 (30)	TP34.69x34.459x0.563	1507.142	3141.092	0.480	0.000	3141.092	0.000
L31	56.75 - 56.5 (31)	TP34.736x34.69x0.913	1513.025	4954.075	0.305	0.000	4954.075	0.000
L32	56.5 - 55.25 (32)	TP34.967x34.736x0.913	1542.575	5022.908	0.307	0.000	5022.908	0.000
L33	55.25 - 55 (33)	TP35.013x34.967x0.638	1548.508	3604.633	0.430	0.000	3604.633	0.000
L34	55 - 47.5 (34)	TP36.4x35.013x0.638	1618.900	3720.992	0.435	0.000	3720.992	0.000
L35	47.5 - 47.05 (35)	TP35.88x34.934x0.7	1740.200	4139.800	0.420	0.000	4139.800	0.000
L36	47.05 - 42.05 (36)	TP36.825x35.88x0.688	1863.775	4294.092	0.434	0.000	4294.092	0.000
L37	42.05 - 37.05 (37)	TP37.771x36.825x0.675	1989.275	4446.208	0.447	0.000	4446.208	0.000
L38	37.05 - 34.95 (38)	TP38.169x37.771x0.675	2042.558	4542.800	0.450	0.000	4542.800	0.000
L39	34.95 - 34.7 (39)	TP38.216x38.169x0.988	2048.925	6497.867	0.315	0.000	6497.867	0.000
L40	34.7 - 34.25 (40)	TP38.301x38.216x0.975	2060.400	6451.850	0.319	0.000	6451.850	0.000
L41	34.25 - 34 (41)	TP38.348x38.301x0.675	2066.775	4586.842	0.451	0.000	4586.842	0.000
L42	34 - 29 (42)	TP39.294x38.348x0.663	2195.342	4737.433	0.463	0.000	4737.433	0.000
L43	29 - 26.75 (43)	TP39.72x39.294x0.663	2253.775	4843.292	0.465	0.000	4843.292	0.000
L44	26.75 - 26.5 (44)	TP39.767x39.72x0.95	2260.292	6809.633	0.332	0.000	6809.633	0.000
L45	26.5 - 25.25 (45)	TP40.003x39.767x0.95	2292.942	6893.850	0.333	0.000	6893.850	0.000
L46	25.25 - 25 (46)	TP40.051x40.003x0.663	2299.483	4926.433	0.467	0.000	4926.433	0.000
L47	25 - 20 (47)	TP40.997x40.051x0.65	2431.250	5075.083	0.479	0.000	5075.083	0.000
L48	20 - 16.75 (48)	TP41.611x40.997x0.65	2517.767	5232.183	0.481	0.000	5232.183	0.000
L49	16.75 - 16.5 (49)	TP41.659x41.611x0.763	2524.450	6101.550	0.414	0.000	6101.550	0.000
L50	16.5 - 14.25 (50)	TP42.084x41.659x0.763	2584.783	6230.391	0.415	0.000	6230.391	0.000
L51	14.25 - 14 (51)	TP42.132x42.084x0.725	2591.508	5953.833	0.435	0.000	5953.833	0.000
L52	14 - 9 (52)	TP43.077x42.132x0.713	2726.825	6129.325	0.445	0.000	6129.325	0.000
L53	9 - 4 (53)	TP44.023x43.077x0.713	2863.733	6408.383	0.447	0.000	6408.383	0.000
L54	4 - 0 (54)	TP44.78x44.023x0.7	2974.383	6525.233	0.456	0.000	6525.233	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual	ϕV_n	Ratio	Actual	ϕT_n	Ratio
			V_u K	K	$\frac{V_u}{\phi V_n}$	T_u kip-ft	kip-ft	$\frac{T_u}{\phi T_n}$
L1	151 - 146 (1)	TP18.526x17.59x0.219	6.656	226.304	0.029	0.065	364.422	0.000
L2	146 - 141 (2)	TP19.461x18.526x0.219	6.981	237.869	0.029	0.065	402.618	0.000
L3	141 - 136 (3)	TP20.397x19.461x0.219	10.950	249.433	0.044	0.065	442.719	0.000
L4	136 - 131 (4)	TP21.332x20.397x0.219	11.274	260.998	0.043	0.065	484.723	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L5	131 - 126 (5)	TP22.268x21.332x0.219	11.597	272.563	0.043	0.065	528.630	0.000
L6	126 - 121 (6)	TP23.203x22.268x0.219	13.796	284.127	0.049	0.066	574.440	0.000
L7	121 - 118.5 (7)	TP23.671x23.203x0.219	14.069	289.910	0.049	0.060	598.059	0.000
L8	118.5 - 118.25 (8)	TP23.718x23.671x0.494	14.092	647.999	0.022	0.055	1323.758	0.000
L9	118.25 - 113.25 (9)	TP24.653x23.718x0.481	14.678	657.377	0.022	0.037	1397.733	0.000
L10	113.25 - 108.25 (10)	TP25.589x24.653x0.469	15.132	665.414	0.023	0.033	1470.317	0.000
L11	108.25 - 103.25 (11)	TP26.524x25.589x0.463	15.579	681.156	0.023	0.033	1561.525	0.000
L12	103.25 - 97.5 (12)	TP27.6x26.524x0.456	18.381	683.208	0.027	0.179	1592.467	0.000
L13	97.5 - 95.95 (13)	TP27.442x26.517x0.55	19.047	826.908	0.023	0.211	1977.083	0.000
L14	95.95 - 95 (14)	TP27.617x27.442x0.55	19.158	835.816	0.023	0.215	2003.000	0.000
L15	95 - 94.75 (15)	TP27.663x27.617x0.8	19.188	1212.370	0.016	0.216	2869.750	0.000
L16	94.75 - 92.5 (16)	TP28.079x27.663x0.788	19.486	1205.300	0.016	0.227	2915.758	0.000
L17	92.5 - 92.25 (17)	TP28.126x28.079x0.55	19.515	855.643	0.023	0.228	2078.967	0.000
L18	92.25 - 87.75 (18)	TP28.958x28.126x0.538	20.066	856.936	0.023	0.250	2158.067	0.000
L19	87.75 - 87.5 (19)	TP29.004x28.958x0.863	20.093	1369.380	0.015	0.251	3395.350	0.000
L20	87.5 - 84 (20)	TP29.651x29.004x0.85	20.561	1373.080	0.015	0.268	3504.850	0.000
L21	84 - 83.75 (21)	TP29.697x29.651x0.613	20.590	1005.110	0.020	0.269	2575.558	0.000
L22	83.75 - 78.75 (22)	TP30.622x29.697x0.6	21.198	1011.670	0.021	0.300	2688.175	0.000
L23	78.75 - 73.75 (23)	TP31.546x30.622x0.588	21.665	1021.700	0.021	0.300	2799.042	0.000
L24	73.75 - 68.75 (24)	TP32.471x31.546x0.588	22.126	1052.390	0.021	0.300	2968.717	0.000
L25	68.75 - 64.75 (25)	TP33.21x32.471x0.575	22.594	1054.440	0.021	0.322	3044.242	0.000
L26	64.75 - 64.5 (26)	TP33.257x33.21x0.85	22.619	1554.410	0.015	0.323	4437.317	0.000
L27	64.5 - 63.25 (27)	TP33.488x33.257x0.85	22.785	1556.630	0.015	0.329	4500.842	0.000
L28	63.25 - 63 (28)	TP33.534x33.488x0.575	22.810	1069.460	0.021	0.331	3104.908	0.000
L29	63 - 58 (29)	TP34.459x33.534x0.563	23.389	1071.590	0.022	0.354	3212.575	0.000
L30	58 - 56.75 (30)	TP34.69x34.459x0.563	23.533	1077.470	0.022	0.359	3256.533	0.000
L31	56.75 - 56.5 (31)	TP34.736x34.69x0.913	23.554	1741.760	0.014	0.360	5189.192	0.000
L32	56.5 - 55.25 (32)	TP34.967x34.736x0.913	23.717	1744.150	0.014	0.366	5260.358	0.000
L33	55.25 - 55 (33)	TP35.013x34.967x0.638	23.735	1236.750	0.019	0.366	3744.700	0.000
L34	55 - 47.5 (34)	TP36.4x35.013x0.638	23.999	1248.240	0.019	0.366	3864.483	0.000
L35	47.5 - 47.05 (35)	TP35.88x34.934x0.7	24.517	1388.250	0.018	0.366	4306.367	0.000
L36	47.05 - 42.05 (36)	TP36.825x35.88x0.688	24.916	1396.660	0.018	0.365	4463.042	0.000
L37	42.05 - 37.05 (37)	TP37.771x36.825x0.675	25.297	1407.820	0.018	0.365	4617.392	0.000
L38	37.05 - 34.95 (38)	TP38.169x37.771x0.675	25.459	1422.610	0.018	0.365	4716.817	0.000
L39	34.95 - 34.7 (39)	TP38.216x38.169x0.988	25.471	2074.870	0.012	0.365	6803.250	0.000
L40	34.7 - 34.25 (40)	TP38.301x38.216x0.975	25.511	2051.900	0.012	0.365	6752.408	0.000
L41	34.25 - 34 (41)	TP38.348x38.301x0.675	25.531	1435.240	0.018	0.365	4762.142	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L42	34 - 29 (42)	TP39.294x38.348x0.663	25.899	1439.230	0.018	0.365	4914.775	0.000
L43	29 - 26.75 (43)	TP39.72x39.294x0.663	26.058	1454.280	0.018	0.365	5023.667	0.000
L44	26.75 - 26.5 (44)	TP39.767x39.72x0.95	26.065	2081.370	0.013	0.365	7115.417	0.000
L45	26.5 - 25.25 (45)	TP40.003x39.767x0.95	26.175	2083.910	0.013	0.365	7202.367	0.000
L46	25.25 - 25 (46)	TP40.051x40.003x0.663	26.185	1472.870	0.018	0.365	5109.192	0.000
L47	25 - 20 (47)	TP40.997x40.051x0.65	26.527	1475.070	0.018	0.365	5259.692	0.000
L48	20 - 16.75 (48)	TP41.611x40.997x0.65	26.729	1497.070	0.018	0.365	5421.208	0.000
L49	16.75 - 16.5 (49)	TP41.659x41.611x0.763	26.733	1760.160	0.015	0.365	6339.258	0.000
L50	16.5 - 14.25 (50)	TP42.084x41.659x0.763	26.895	1771.370	0.015	0.365	6471.900	0.000
L51	14.25 - 14 (51)	TP42.132x42.084x0.725	26.900	1694.510	0.016	0.365	6178.891	0.000
L52	14 - 9 (52)	TP43.077x42.132x0.713	27.230	1698.170	0.016	0.365	6356.700	0.000
L53	9 - 4 (53)	TP44.023x43.077x0.713	27.546	1736.250	0.016	0.365	6643.708	0.000
L54	4 - 0 (54)	TP44.78x44.023x0.7	27.793	1736.220	0.016	0.365	6761.050	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L1	151 - 146 (1)	0.006	0.063	0.000	0.029	0.000	0.071	1.050	4.8.2
L2	146 - 141 (2)	0.006	0.147	0.000	0.029	0.000	0.155	1.050	4.8.2
L3	141 - 136 (3)	0.011	0.246	0.000	0.044	0.000	0.260	1.050	4.8.2
L4	136 - 131 (4)	0.012	0.353	0.000	0.043	0.000	0.366	1.050	4.8.2
L5	131 - 126 (5)	0.012	0.448	0.000	0.043	0.000	0.462	1.050	4.8.2
L6	126 - 121 (6)	0.014	0.538	0.000	0.049	0.000	0.554	1.050	4.8.2
L7	121 - 118.5 (7)	0.014	0.587	0.000	0.049	0.000	0.603	1.050	4.8.2
L8	118.5 - 118.25 (8)	0.006	0.247	0.000	0.022	0.000	0.254	1.050	4.8.2
L9	118.25 - 113.25 (9)	0.007	0.287	0.000	0.022	0.000	0.294	1.050	4.8.2
L10	113.25 - 108.25 (10)	0.007	0.325	0.000	0.023	0.000	0.333	1.050	4.8.2
L11	108.25 - 103.25 (11)	0.007	0.357	0.000	0.023	0.000	0.365	1.050	4.8.2
L12	103.25 - 97.5 (12)	0.009	0.376	0.000	0.027	0.000	0.385	1.050	4.8.2
L13	97.5 - 95.95 (13)	0.008	0.353	0.000	0.023	0.000	0.361	1.050	4.8.2
L14	95.95 - 95 (14)	0.008	0.358	0.000	0.023	0.000	0.366	1.050	4.8.2
L15	95 - 94.75 (15)	0.006	0.254	0.000	0.016	0.000	0.260	1.050	4.8.2
L16	94.75 - 92.5 (16)	0.006	0.265	0.000	0.016	0.000	0.271	1.050	4.8.2
L17	92.5 - 92.25 (17)	0.008	0.371	0.000	0.023	0.000	0.380	1.050	4.8.2
L18	92.25 - 87.75 (18)	0.008	0.400	0.000	0.023	0.000	0.409	1.050	4.8.2
L19	87.75 - 87.5 (19)	0.005	0.259	0.000	0.015	0.000	0.264	1.050	4.8.2
L20	87.5 - 84 (20)	0.006	0.272	0.000	0.015	0.000	0.277	1.050	4.8.2
L21	84 - 83.75 (21)	0.008	0.369	0.000	0.020	0.000	0.377	1.050	4.8.2
L22	83.75 - 78.75	0.008	0.393	0.000	0.021	0.000	0.402	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L23	78.75 - 73.75 (22)	0.008	0.417	0.000	0.021	0.000	0.426	1.050	4.8.2
L24	73.75 - 68.75 (23)	0.008	0.431	0.000	0.021	0.000	0.440	1.050	4.8.2
L25	68.75 - 64.75 (24)	0.009	0.451	0.000	0.021	0.000	0.460	1.050	4.8.2
L26	64.75 - 64.5 (25)	0.006	0.313	0.000	0.015	0.000	0.320	1.050	4.8.2
L27	64.5 - 63.25 (26)	0.006	0.315	0.000	0.015	0.000	0.322	1.050	4.8.2
L28	63.25 - 63 (27)	0.009	0.455	0.000	0.021	0.000	0.465	1.050	4.8.2
L29	63 - 58 (28)	0.009	0.477	0.000	0.022	0.000	0.487	1.050	4.8.2
L30	58 - 56.75 (29)	0.009	0.480	0.000	0.022	0.000	0.490	1.050	4.8.2
L31	56.75 - 56.5 (30)	0.006	0.305	0.000	0.014	0.000	0.311	1.050	4.8.2
L32	56.5 - 55.25 (31)	0.006	0.307	0.000	0.014	0.000	0.313	1.050	4.8.2
L33	55.25 - 55 (32)	0.008	0.430	0.000	0.019	0.000	0.438	1.050	4.8.2
L34	55 - 47.5 (33)	0.008	0.435	0.000	0.019	0.000	0.444	1.050	4.8.2
L35	47.5 - 47.05 (34)	0.008	0.420	0.000	0.018	0.000	0.429	1.050	4.8.2
L36	47.05 - 42.05 (35)	0.009	0.434	0.000	0.018	0.000	0.443	1.050	4.8.2
L37	42.05 - 37.05 (36)	0.009	0.447	0.000	0.018	0.000	0.457	1.050	4.8.2
L38	37.05 - 34.95 (37)	0.009	0.450	0.000	0.018	0.000	0.459	1.050	4.8.2
L39	34.95 - 34.7 (38)	0.006	0.315	0.000	0.012	0.000	0.322	1.050	4.8.2
L40	34.7 - 34.25 (39)	0.006	0.319	0.000	0.012	0.000	0.326	1.050	4.8.2
L41	34.25 - 34 (40)	0.009	0.451	0.000	0.018	0.000	0.460	1.050	4.8.2
L42	34 - 29 (41)	0.009	0.463	0.000	0.018	0.000	0.473	1.050	4.8.2
L43	29 - 26.75 (42)	0.009	0.465	0.000	0.018	0.000	0.475	1.050	4.8.2
L44	26.75 - 26.5 (43)	0.007	0.332	0.000	0.013	0.000	0.339	1.050	4.8.2
L45	26.5 - 25.25 (44)	0.007	0.333	0.000	0.013	0.000	0.339	1.050	4.8.2
L46	25.25 - 25 (45)	0.010	0.467	0.000	0.018	0.000	0.477	1.050	4.8.2
L47	25 - 20 (46)	0.010	0.479	0.000	0.018	0.000	0.489	1.050	4.8.2
L48	20 - 16.75 (47)	0.010	0.481	0.000	0.018	0.000	0.492	1.050	4.8.2
L49	16.75 - 16.5 (48)	0.009	0.414	0.000	0.015	0.000	0.423	1.050	4.8.2
L50	16.5 - 14.25 (49)	0.009	0.415	0.000	0.015	0.000	0.424	1.050	4.8.2
L51	14.25 - 14 (50)	0.009	0.435	0.000	0.016	0.000	0.445	1.050	4.8.2
L52	14 - 9 (51)	0.009	0.445	0.000	0.016	0.000	0.455	1.050	4.8.2
L53	9 - 4 (52)	0.010	0.447	0.000	0.016	0.000	0.457	1.050	4.8.2
L54	4 - 0 (53)	0.010	0.456	0.000	0.016	0.000	0.466	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	σP_{allow} K	% Capacity	Pass Fail	
L1	151 - 146	Pole	TP18.526x17.59x0.219	1	-4.765	792.064	6.7	Pass	
L2	146 - 141	Pole	TP19.461x18.526x0.219	2	-5.145	832.541	14.7	Pass	
L3	141 - 136	Pole	TP20.397x19.461x0.219	3	-9.527	873.017	24.7	Pass	
L4	136 - 131	Pole	TP21.332x20.397x0.219	4	-10.045	913.494	34.9	Pass	
L5	131 - 126	Pole	TP22.268x21.332x0.219	5	-10.608	953.969	44.0	Pass	
L6	126 - 121	Pole	TP23.203x22.268x0.219	6	-13.217	994.446	52.8	Pass	
L7	121 - 118.5	Pole	TP23.671x23.203x0.219	7	-13.616	1014.683	57.5	Pass	
L8	118.5 - 118.25	Pole	TP23.718x23.671x0.494	8	-13.683	2268.000	24.2	Pass	
L9	118.25 - 113.25	Pole	TP24.653x23.718x0.481	9	-14.697	2300.823	28.0	Pass	
L10	113.25 - 108.25	Pole	TP25.589x24.653x0.469	10	-15.684	2328.952	31.7	Pass	
L11	108.25 - 103.25	Pole	TP26.524x25.589x0.463	11	-16.692	2384.046	34.8	Pass	
L12	103.25 - 97.5	Pole	TP27.6x26.524x0.456	12	-20.250	2391.228	36.7	Pass	
L13	97.5 - 95.95	Pole	TP27.442x26.517x0.55	13	-21.947	2925.352	34.4	Pass	
L14	95.95 - 95	Pole	TP27.617x27.442x0.55	14	-22.183	2944.462	34.9	Pass	
L15	95 - 94.75	Pole	TP27.663x27.617x0.8	15	-22.267	4250.620	24.7	Pass	
L16	94.75 - 92.5	Pole	TP28.079x27.663x0.788	16	-22.970	4250.946	25.8	Pass	
L17	92.5 - 92.25	Pole	TP28.126x28.079x0.55	17	-23.036	2999.776	36.2	Pass	
L18	92.25 - 87.75	Pole	TP28.958x28.126x0.538	18	-24.149	3021.385	39.0	Pass	
L19	87.75 - 87.5	Pole	TP29.004x28.958x0.863	19	-24.244	4800.715	25.2	Pass	
L20	87.5 - 84	Pole	TP29.651x29.004x0.85	20	-25.451	4842.043	26.4	Pass	
L21	84 - 83.75	Pole	TP29.697x29.651x0.613	21	-25.525	3523.495	35.9	Pass	
L22	83.75 - 78.75	Pole	TP30.622x29.697x0.6	22	-26.929	3562.786	38.3	Pass	
L23	78.75 - 73.75	Pole	TP31.546x30.622x0.588	23	-28.371	3597.436	40.6	Pass	
L24	73.75 - 68.75	Pole	TP32.471x31.546x0.588	24	-29.836	3704.872	41.9	Pass	
L25	68.75 - 64.75	Pole	TP33.21x32.471x0.575	25	-31.024	3711.571	43.8	Pass	
L26	64.75 - 64.5	Pole	TP33.257x33.21x0.85	26	-31.130	5448.219	30.4	Pass	
L27	64.5 - 63.25	Pole	TP33.488x33.257x0.85	27	-31.616	5487.069	30.6	Pass	
L28	63.25 - 63	Pole	TP33.534x33.488x0.575	28	-31.697	3748.374	44.3	Pass	
L29	63 - 58	Pole	TP34.459x33.534x0.563	29	-33.205	3771.138	46.4	Pass	
L30	58 - 56.75	Pole	TP34.69x34.459x0.563	30	-33.586	3796.852	46.6	Pass	
L31	56.75 - 56.5	Pole	TP34.736x34.69x0.913	31	-33.704	6104.511	29.7	Pass	
L32	56.5 - 55.25	Pole	TP34.967x34.736x0.913	32	-34.237	6146.227	29.8	Pass	
L33	55.25 - 55	Pole	TP35.013x34.967x0.638	33	-34.327	4334.442	41.7	Pass	
L34	55 - 47.5	Pole	TP36.4x35.013x0.638	34	-35.318	4403.217	42.3	Pass	
L35	47.5 - 47.05	Pole	TP35.88x34.934x0.7	35	-38.393	4870.677	40.9	Pass	
L36	47.05 - 42.05	Pole	TP36.825x35.88x0.688	36	-40.254	4914.021	42.2	Pass	
L37	42.05 - 37.05	Pole	TP37.771x36.825x0.675	37	-42.146	4952.619	43.5	Pass	
L38	37.05 - 34.95	Pole	TP38.169x37.771x0.675	38	-42.950	5005.654	43.7	Pass	
L39	34.95 - 34.7	Pole	TP38.216x38.169x0.988	39	-43.085	7271.292	30.6	Pass	
L40	34.7 - 34.25	Pole	TP38.301x38.216x0.975	40	-43.313	7198.075	31.0	Pass	
L41	34.25 - 34	Pole	TP38.348x38.301x0.675	41	-43.410	5029.647	43.8	Pass	
L42	34 - 29	Pole	TP39.294x38.348x0.663	42	-45.339	5062.081	45.1	Pass	
L43	29 - 26.75	Pole	TP39.72x39.294x0.663	43	-46.218	5117.857	45.3	Pass	
L44	26.75 - 26.5	Pole	TP39.767x39.72x0.95	44	-46.357	7293.678	32.3	Pass	
L45	26.5 - 25.25	Pole	TP40.003x39.767x0.95	45	-46.999	7338.103	32.3	Pass	
L46	25.25 - 25	Pole	TP40.051x40.003x0.663	46	-47.103	5161.233	45.4	Pass	
L47	25 - 20	Pole	TP40.997x40.051x0.65	47	-49.078	5187.063	46.6	Pass	
L48	20 - 16.75	Pole	TP41.611x40.997x0.65	48	-50.381	5266.096	46.8	Pass	
L49	16.75 - 16.5	Pole	TP41.659x41.611x0.763	49	-50.511	6167.710	40.2	Pass	
L50	16.5 - 14.25	Pole	TP42.084x41.659x0.763	50	-51.602	6231.897	40.4	Pass	
L51	14.25 - 14	Pole	TP42.132x42.084x0.725	51	-51.721	5937.571	42.3	Pass	
L52	14 - 9	Pole	TP43.077x42.132x0.713	52	-53.958	5970.258	43.3	Pass	
L53	9 - 4	Pole	TP44.023x43.077x0.713	53	-56.226	6103.545	43.5	Pass	
L54	4 - 0	Pole	TP44.78x44.023x0.7	54	-58.061	6102.957	44.4	Pass	
							Summary		
							Pole (L7)	57.5	Pass
							RATING =	57.5	Pass

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

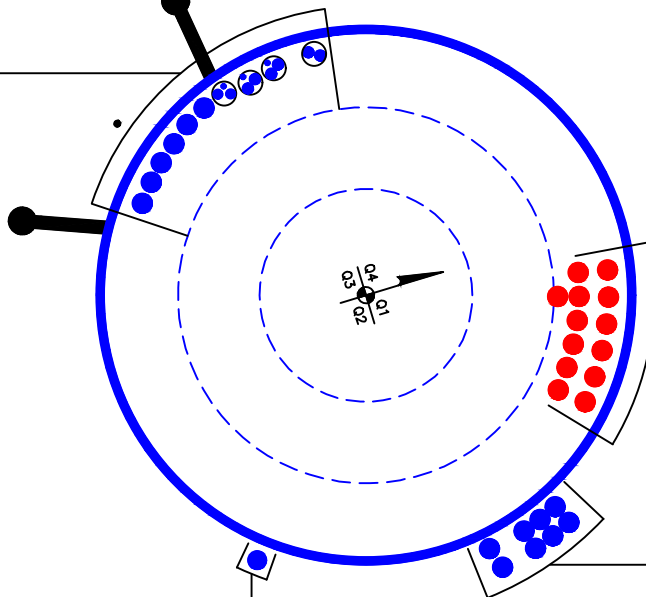
APPENDIX B
BASE LEVEL DRAWING



(OTHER CONSIDERED EQUIPMENT—IN CONDUIT)
(2) 7/8" TO 148 FT LEVEL

(OTHER CONSIDERED EQUIPMENT—IN (3) CONDUITS)
(3) 3/8" TO 148 FT LEVEL
(2) 3/4" TO 148 FT LEVEL
(4) 7/8" TO 148 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(6) 1-5/8" TO 148 FT LEVEL

CLIMBING PEGS
W/ SAFETY CLIMB



(PROPOSED EQUIPMENT CONFIGURATION)
(13) 1-5/8" TO 138 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(8) 1-5/8" TO 122 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/2" TO 102 FT LEVEL

APPENDIX C
ADDITIONAL CALCULATIONS

Site BU: 841295
Work Order: 2264943



Copyright © 2019 Crown Castle

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	151	53.5	3.45	12	17.59	27.6	0.21875	Auto	A572-65
2	100.95	53.45	4.55	12	26.52	36.4	0.3125	Auto	A572-65
3	52.05	52.05	0	12	34.93	44.78	0.375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	0	16.75	plate	MS-850 (1.1875")	2									E1		E1	
2	14.25	26.75	plate	MS-850 (1.1875")	1										E1		
3	0	26.75	plate	MS-850 (1.1875")	2		E1				E1						
4	25.25	34.95	plate	MS-850 (1.1875")	3			E1				E1				E1	
5	34.25	56.75	plate	MS-850 (1.1875")	3		E1				E1				E1		
6	55.25	64.75	plate	MS-650 (1.1875")	3			E1				E1				E1	
7	63.25	87.75	plate	MS-650 (1.1875")	3		E1				E1				E1		
8	84	95	plate	MS-600 (1.1875")	3			E1				E1				E1	
9	92.5	118.5	plate	MS-600 (1.1875")	3		E1				E1				E1		
10																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	45	PC 8.8 - M20 (100)	45.000	17.250	9.063	1.1875	A572-65
2	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	45	PC 8.8 - M20 (100)	45.000	17.250	9.063	1.1875	A572-65
3	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	45	PC 8.8 - M20 (100)	45.000	17.250	9.063	1.1875	A572-65
4	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	45	PC 8.8 - M20 (100)	45.000	17.250	9.063	1.1875	A572-65
5	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	45	PC 8.8 - M20 (100)	45.000	17.250	9.063	1.1875	A572-65
6	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.250	6.563	1.1875	A572-65
7	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.250	6.563	1.1875	A572-65
8	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.375	4.750	1.1875	A572-65
9	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.375	4.750	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5 [Export to TNX](#)

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	151 - 146	5		12	17.590	18.526	0.21875	A572-65	1.000
2	146 - 141	5		12	18.526	19.461	0.21875	A572-65	1.000
3	141 - 136	5		12	19.461	20.397	0.21875	A572-65	1.000
4	136 - 131	5		12	20.397	21.332	0.21875	A572-65	1.000
5	131 - 126	5		12	21.332	22.268	0.21875	A572-65	1.000
6	126 - 121	5		12	22.268	23.203	0.21875	A572-65	1.000
7	121 - 118.5	2.5		12	23.203	23.671	0.21875	A572-65	1.000
8	118.5 - 118.25	0.25		12	23.671	23.718	0.49375	A572-65	0.936
9	118.25 - 113.25	5		12	23.718	24.653	0.48125	A572-65	0.941
10	113.25 - 108.25	5		12	24.653	25.589	0.46875	A572-65	0.947
11	108.25 - 103.25	5		12	25.589	26.524	0.4625	A572-65	0.942
12	103.25 - 100.95	5.75	3.45	12	26.524	27.600	0.45625	A572-65	0.947
13	100.95 - 95.95	5		12	26.517	27.442	0.55	A572-65	0.952
14	95.95 - 95	0.95		12	27.442	27.617	0.55	A572-65	0.949
15	95 - 94.75	0.25		12	27.617	27.663	0.8	A572-65	0.919
16	94.75 - 92.5	2.25		12	27.663	28.079	0.7875	A572-65	0.925
17	92.5 - 92.25	0.25		12	28.079	28.126	0.55	A572-65	0.942
18	92.25 - 87.75	4.5		12	28.126	28.958	0.5375	A572-65	0.952
19	87.75 - 87.5	0.25		12	28.958	29.004	0.8625	A572-65	0.912
20	87.5 - 84	3.5		12	29.004	29.651	0.85	A572-65	0.913
21	84 - 83.75	0.25		12	29.651	29.697	0.6125	A572-65	0.941
22	83.75 - 78.75	5		12	29.697	30.622	0.6	A572-65	0.947
23	78.75 - 73.75	5		12	30.622	31.546	0.5875	A572-65	0.953
24	73.75 - 68.75	5		12	31.546	32.471	0.5875	A572-65	0.941
25	68.75 - 64.75	4		12	32.471	33.210	0.575	A572-65	0.952
26	64.75 - 64.5	0.25		12	33.210	33.257	0.85	A572-65	0.924
27	64.5 - 63.25	1.25		12	33.257	33.488	0.85	A572-65	0.920
28	63.25 - 63	0.25		12	33.488	33.534	0.575	A572-65	0.948
29	63 - 58	5		12	33.534	34.459	0.5625	A572-65	0.957
30	58 - 56.75	1.25		12	34.459	34.690	0.5625	A572-65	0.955
31	56.75 - 56.5	0.25		12	34.690	34.736	0.9125	A572-65	0.915
32	56.5 - 55.25	1.25		12	34.736	34.967	0.9125	A572-65	0.911
33	55.25 - 55	0.25		12	34.967	35.013	0.6375	A572-65	0.947
34	55 - 52.05	7.5	4.55	12	35.013	36.400	0.6375	A572-65	0.940
35	52.05 - 47.05	5		12	34.934	35.880	0.7	A572-65	0.943
36	47.05 - 42.05	5		12	35.880	36.825	0.6875	A572-65	0.949
37	42.05 - 37.05	5		12	36.825	37.771	0.675	A572-65	0.956
38	37.05 - 34.95	2.1		12	37.771	38.169	0.675	A572-65	0.952
39	34.95 - 34.7	0.25		12	38.169	38.216	0.9875	A572-65	0.925
40	34.7 - 34.25	0.45		12	38.216	38.301	0.975	A572-65	0.936
41	34.25 - 34	0.25		12	38.301	38.348	0.675	A572-65	0.950
42	34 - 29	5		12	38.348	39.294	0.6625	A572-65	0.958
43	29 - 26.75	2.25		12	39.294	39.720	0.6625	A572-65	0.953
44	26.75 - 26.5	0.25		12	39.720	39.767	0.95	A572-65	0.938
45	26.5 - 25.25	1.25		12	39.767	40.003	0.95	A572-65	0.935
46	25.25 - 25	0.25		12	40.003	40.051	0.6625	A572-65	0.950
47	25 - 20	5		12	40.051	40.997	0.65	A572-65	0.959
48	20 - 16.75	3.25		12	40.997	41.611	0.65	A572-65	0.953
49	16.75 - 16.5	0.25		12	41.611	41.659	0.7625	A572-65	1.026
50	16.5 - 14.25	2.25		12	41.659	42.084	0.7625	A572-65	1.021
51	14.25 - 14	0.25		12	42.084	42.132	0.725	A572-65	0.962
52	14 - 9	5		12	42.132	43.077	0.7125	A572-65	0.968
53	9 - 4	5		12	43.077	44.023	0.7125	A572-65	0.959
54	4 - 0	4		12	44.023	44.780	0.7	A572-65	0.968

TNX Section Forces

Increment (ft):		TNX Output			
	5	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)
1	151 - 146	4.77	22.23	6.66	
2	146 - 141	5.15	56.32	6.98	
3	141 - 136	9.53	101.94	10.95	
4	136 - 131	10.04	157.48	11.27	
5	131 - 126	10.61	214.64	11.60	
6	126 - 121	13.22	275.49	13.80	
7	121 - 118.5	13.62	310.31	14.07	
8	118.5 - 118.25	13.68	313.82	14.09	
9	118.25 - 113.25	14.70	385.75	14.68	
10	113.25 - 108.25	15.68	460.26	15.13	
11	108.25 - 103.25	16.69	537.03	15.58	
12	103.25 - 100.95	20.25	576.87	18.38	
13	100.95 - 95.95	21.95	670.46	19.05	
14	95.95 - 95	22.18	688.60	19.16	
15	95 - 94.75	22.27	693.39	19.19	
16	94.75 - 92.5	22.97	736.90	19.49	
17	92.5 - 92.25	23.04	741.78	19.51	
18	92.25 - 87.75	24.15	830.83	20.07	
19	87.75 - 87.5	24.24	835.85	20.09	
20	87.5 - 84	25.45	906.99	20.56	
21	84 - 83.75	25.53	912.13	20.59	
22	83.75 - 78.75	26.93	1016.60	21.20	
23	78.75 - 73.75	28.37	1123.73	21.66	
24	73.75 - 68.75	29.84	1233.19	22.13	
25	68.75 - 64.75	31.02	1322.61	22.59	
26	64.75 - 64.5	31.13	1328.27	22.62	
27	64.5 - 63.25	31.62	1356.64	22.78	
28	63.25 - 63	31.70	1362.34	22.81	
29	63 - 58	33.20	1477.83	23.39	
30	58 - 56.75	33.59	1507.14	23.53	
31	56.75 - 56.5	33.70	1513.03	23.55	
32	56.5 - 55.25	34.24	1542.57	23.72	
33	55.25 - 55	34.33	1548.50	23.74	
34	55 - 52.05	35.32	1618.90	24.00	
35	52.05 - 47.05	38.39	1740.20	24.52	
36	47.05 - 42.05	40.25	1863.77	24.92	
37	42.05 - 37.05	42.15	1989.28	25.30	
38	37.05 - 34.95	42.95	2042.56	25.46	
39	34.95 - 34.7	43.09	2048.92	25.47	
40	34.7 - 34.25	43.31	2060.40	25.51	
41	34.25 - 34	43.41	2066.78	25.53	
42	34 - 29	45.34	2195.34	25.90	
43	29 - 26.75	46.22	2253.78	26.06	
44	26.75 - 26.5	46.36	2260.29	26.07	
45	26.5 - 25.25	47.00	2292.94	26.17	
46	25.25 - 25	47.10	2299.49	26.18	
47	25 - 20	49.08	2431.25	26.53	
48	20 - 16.75	50.38	2517.77	26.73	
49	16.75 - 16.5	50.51	2524.45	26.73	
50	16.5 - 14.25	51.60	2584.78	26.89	
51	14.25 - 14	51.72	2591.50	26.90	
52	14 - 9	53.96	2726.82	27.23	
53	9 - 4	56.23	2863.73	27.55	
54	4 - 0	58.06	2974.39	27.79	

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
151 - 146	Pole	TP18.526x17.59x0.2188	Pole	6.7%	Pass
146 - 141	Pole	TP19.461x18.526x0.2188	Pole	14.7%	Pass
141 - 136	Pole	TP20.397x19.461x0.2188	Pole	24.7%	Pass
136 - 131	Pole	TP21.332x20.397x0.2188	Pole	34.8%	Pass
131 - 126	Pole	TP22.268x21.332x0.2188	Pole	43.9%	Pass
126 - 121	Pole	TP23.203x22.268x0.2188	Pole	52.7%	Pass
121 - 118.5	Pole	TP23.671x23.203x0.2188	Pole	57.3%	Pass
118.5 - 118.25	Pole + Reinf.	TP23.718x23.671x0.4938	Reinf. 9 Bolt-Shaft Bearing	38.0%	Pass
118.25 - 113.25	Pole + Reinf.	TP24.653x23.718x0.4813	Reinf. 9 Tension Rupture	43.0%	Pass
113.25 - 108.25	Pole + Reinf.	TP25.589x24.653x0.4688	Reinf. 9 Tension Rupture	48.5%	Pass
108.25 - 103.25	Pole + Reinf.	TP26.524x25.589x0.4625	Reinf. 9 Tension Rupture	53.6%	Pass
103.25 - 100.95	Pole + Reinf.	TP27.6x26.524x0.4563	Reinf. 9 Tension Rupture	56.3%	Pass
100.95 - 95.95	Pole + Reinf.	TP27.442x26.517x0.55	Reinf. 9 Tension Rupture	52.8%	Pass
95.95 - 95	Pole + Reinf.	TP27.617x27.442x0.55	Reinf. 9 Tension Rupture	53.7%	Pass
95 - 94.75	Pole + Reinf.	TP27.663x27.617x0.8	Reinf. 9 Tension Rupture	38.1%	Pass
94.75 - 92.5	Pole + Reinf.	TP28.079x27.663x0.7875	Reinf. 9 Tension Rupture	39.6%	Pass
92.5 - 92.25	Pole + Reinf.	TP28.126x28.079x0.55	Reinf. 8 Tension Rupture	56.2%	Pass
92.25 - 87.75	Pole + Reinf.	TP28.958x28.126x0.5375	Reinf. 8 Tension Rupture	60.0%	Pass
87.75 - 87.5	Pole + Reinf.	TP29.004x28.958x0.8625	Reinf. 8 Tension Rupture	38.7%	Pass
87.5 - 84	Pole + Reinf.	TP29.651x29.004x0.85	Reinf. 8 Tension Rupture	40.7%	Pass
84 - 83.75	Pole + Reinf.	TP29.697x29.651x0.6125	Reinf. 7 Tension Rupture	54.3%	Pass
83.75 - 78.75	Pole + Reinf.	TP30.622x29.697x0.6	Reinf. 7 Tension Rupture	57.7%	Pass
78.75 - 73.75	Pole + Reinf.	TP31.546x30.622x0.5875	Reinf. 7 Tension Rupture	60.9%	Pass
73.75 - 68.75	Pole + Reinf.	TP32.471x31.546x0.5875	Reinf. 7 Tension Rupture	63.9%	Pass
68.75 - 64.75	Pole + Reinf.	TP33.21x32.471x0.575	Reinf. 7 Tension Rupture	66.2%	Pass
64.75 - 64.5	Pole + Reinf.	TP33.257x33.21x0.85	Reinf. 7 Tension Rupture	45.9%	Pass
64.5 - 63.25	Pole + Reinf.	TP33.488x33.257x0.85	Reinf. 7 Tension Rupture	46.5%	Pass
63.25 - 63	Pole + Reinf.	TP33.534x33.488x0.575	Reinf. 6 Tension Rupture	67.1%	Pass
63 - 58	Pole + Reinf.	TP34.459x33.534x0.5625	Reinf. 6 Tension Rupture	69.8%	Pass
58 - 56.75	Pole + Reinf.	TP34.69x34.459x0.5625	Reinf. 6 Tension Rupture	70.4%	Pass
56.75 - 56.5	Pole + Reinf.	TP34.736x34.69x0.9125	Reinf. 6 Tension Rupture	45.0%	Pass
56.5 - 55.25	Pole + Reinf.	TP34.967x34.736x0.9125	Reinf. 6 Tension Rupture	45.4%	Pass
55.25 - 55	Pole + Reinf.	TP35.013x34.967x0.6375	Reinf. 5 Compression	59.8%	Pass
55 - 52.05	Pole + Reinf.	TP36.4x35.013x0.6375	Reinf. 5 Compression	61.0%	Pass
52.05 - 47.05	Pole + Reinf.	TP35.88x34.934x0.7	Reinf. 5 Compression	58.9%	Pass
47.05 - 42.05	Pole + Reinf.	TP36.825x35.88x0.6875	Reinf. 5 Compression	60.6%	Pass
42.05 - 37.05	Pole + Reinf.	TP37.771x36.825x0.675	Reinf. 5 Compression	62.2%	Pass
37.05 - 34.95	Pole + Reinf.	TP38.169x37.771x0.675	Reinf. 5 Compression	62.8%	Pass
34.95 - 34.7	Pole + Reinf.	TP38.216x38.169x0.9875	Reinf. 4 Bolt Shear	45.6%	Pass
34.7 - 34.25	Pole + Reinf.	TP38.301x38.216x0.975	Reinf. 5 Bolt Shear	45.7%	Pass
34.25 - 34	Pole + Reinf.	TP38.348x38.301x0.675	Reinf. 4 Compression	63.1%	Pass
34 - 29	Pole + Reinf.	TP39.294x38.348x0.6625	Reinf. 4 Compression	64.5%	Pass
29 - 26.75	Pole + Reinf.	TP39.72x39.294x0.6625	Reinf. 4 Compression	65.1%	Pass
26.75 - 26.5	Pole + Reinf.	TP39.767x39.72x0.95	Reinf. 2 Bolt Shear	47.6%	Pass
26.5 - 25.25	Pole + Reinf.	TP40.003x39.767x0.95	Reinf. 4 Bolt Shear	47.8%	Pass
25.25 - 25	Pole + Reinf.	TP40.051x40.003x0.6625	Reinf. 2 Compression	65.5%	Pass
25 - 20	Pole + Reinf.	TP40.997x40.051x0.65	Reinf. 2 Compression	66.7%	Pass
20 - 16.75	Pole + Reinf.	TP41.611x40.997x0.65	Reinf. 2 Compression	67.5%	Pass
16.75 - 16.5	Pole + Reinf.	TP41.659x41.611x0.7625	Reinf. 3 Compression	62.0%	Pass
16.5 - 14.25	Pole + Reinf.	TP42.084x41.659x0.7625	Reinf. 3 Compression	62.5%	Pass
14.25 - 14	Pole + Reinf.	TP42.132x42.084x0.725	Reinf. 3 Compression	63.0%	Pass
14 - 9	Pole + Reinf.	TP43.077x42.132x0.7125	Reinf. 3 Compression	64.0%	Pass
9 - 4	Pole + Reinf.	TP44.023x43.077x0.7125	Reinf. 3 Compression	65.0%	Pass
4 - 0	Pole + Reinf.	TP44.78x44.023x0.7	Reinf. 3 Bolt Shear	68.0%	Pass
				Summary	
			Pole	57.3%	Pass
			Reinforcement	70.4%	Pass
			Overall	70.4%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity* (100% Max. Allowable)									
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9
151 - 146	552	n/a	552	12.88	n/a	12.88	6.7%									
146 - 141	641	n/a	641	13.53	n/a	13.53	14.7%									
141 - 136	740	n/a	740	14.19	n/a	14.19	24.7%									
136 - 131	847	n/a	847	14.85	n/a	14.85	34.8%									
131 - 126	965	n/a	965	15.51	n/a	15.51	43.9%									
126 - 121	1093	n/a	1093	16.17	n/a	16.17	52.7%									
121 - 118.5	1161	n/a	1161	16.50	n/a	16.50	57.3%									
118.5 - 118.25	1168	1402	2571	16.53	18.00	34.53	25.4%									38.0%
118.25 - 113.25	1313	1508	2822	17.19	18.00	35.19	30.0%									43.0%
113.25 - 108.25	1470	1618	3088	17.84	18.00	35.84	34.4%									48.5%
108.25 - 103.25	1639	1732	3371	18.50	18.00	36.50	38.8%									53.6%
103.25 - 100.95	1720	1786	3506	18.81	18.00	36.81	41.2%									56.3%
100.95 - 95.95	2568	1848	4416	27.26	18.00	45.26	33.7%									52.8%
95.95 - 95	2618	1870	4489	27.44	18.00	45.44	34.4%									53.7%
95 - 94.75	2631	3753	6384	27.48	36.00	63.48	24.4%								38.1%	38.1%
94.75 - 92.5	2753	3861	6614	27.90	36.00	63.90	25.5%								39.6%	39.6%
92.5 - 92.25	2767	1936	4704	27.95	18.00	45.95	36.2%								56.2%	
92.25 - 87.75	3023	2047	5070	28.78	18.00	46.78	39.0%								60.0%	
87.75 - 87.5	3038	4887	7924	28.83	42.38	71.20	25.2%							38.3%	38.7%	
87.5 - 84	3248	5095	8343	29.48	42.38	71.85	26.7%							40.3%	40.7%	
84 - 83.75	3263	2963	6226	29.53	24.38	53.90	36.1%							54.3%		
83.75 - 78.75	3581	3140	6721	30.46	24.38	54.83	38.8%							57.7%		
78.75 - 73.75	3919	3322	7241	31.38	24.38	55.76	41.5%							60.9%		
73.75 - 68.75	4277	3509	7786	32.31	24.38	56.69	44.0%							63.9%		
68.75 - 64.75	4579	3663	8242	33.06	24.38	57.43	46.0%							66.2%		
64.75 - 64.5	4598	7345	11943	33.10	48.75	81.85	32.0%					45.9%	45.9%			
64.5 - 63.25	4696	7442	12138	33.33	48.75	82.08	32.4%					46.5%	46.5%			
63.25 - 63	4716	3731	8447	33.38	24.38	57.76	46.9%							67.1%		
63 - 58	5120	3930	9050	34.31	24.38	58.69	49.3%							69.8%		
58 - 56.75	5225	3980	9205	34.54	24.38	58.92	49.9%					70.4%				
56.75 - 56.5	5246	9248	14494	34.59	56.25	90.84	31.9%				44.4%	45.0%				
56.5 - 55.25	5352	9365	14718	34.82	56.25	91.07	32.4%					43.3%	45.4%			
55.25 - 55	5374	5338	10712	34.87	31.88	66.74	44.7%					59.8%				
55 - 52.05	5631	5496	11128	35.42	31.88	67.29	46.0%							61.0%		
52.05 - 47.05	6907	5591	12498	42.81	31.88	74.69	41.5%					58.9%				
47.05 - 42.05	7474	5874	13349	43.95	31.88	75.83	43.1%					60.6%				
42.05 - 37.05	8071	6165	14236	45.09	31.88	76.97	44.6%					62.2%				
37.05 - 34.95	8331	6289	14620	45.57	31.88	77.45	45.3%					62.8%				
34.95 - 34.7	8363	12608	20970	45.63	63.75	109.38	31.7%				45.6%	44.0%				
34.7 - 34.25	8419	12661	21081	45.73	63.75	109.48	31.8%				44.1%	45.7%				
34.25 - 34	8451	6346	14796	45.79	31.88	77.66	45.6%					63.1%				
34 - 29	9098	6648	15746	46.93	31.88	78.80	47.0%					64.5%				
29 - 26.75	9400	6786	16186	47.44	31.88	79.32	47.7%					65.1%				
26.75 - 26.5	9434	13603	23036	47.50	63.75	111.25	33.7%		47.6%	47.6%	45.9%					
26.5 - 25.25	9605	13758	23362	47.78	63.75	111.53	34.0%		46.2%	46.2%	47.8%					
25.25 - 25	9639	6894	16533	47.84	31.88	79.71	48.2%		65.5%	65.5%						
25 - 20	10345	7209	17554	48.98	31.88	80.86	49.6%		66.7%	66.7%						
20 - 16.75	10822	7418	18240	49.72	31.88	81.60	50.5%		67.5%	67.5%						
16.75 - 16.5	11042	10621	21663	49.78	53.13	102.90	46.5%	47.9%	42.2%	62.0%						
16.5 - 14.25	11385	10831	22216	50.29	53.13	103.42	47.1%	46.7%	44.1%	62.5%						
14.25 - 14	11291	9973	21264	50.35	42.50	92.85	48.5%	56.4%		63.0%						
14 - 9	12075	10408	22483	51.49	42.50	93.99	49.8%	57.4%		64.0%						
9 - 4	12893	10853	23746	52.63	42.50	95.13	51.1%	58.3%		65.0%						
4 - 0	13574	11216	24790	53.54	42.50	96.04	52.1%	61.1%		68.0%						

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

Monopole Base Plate Connection

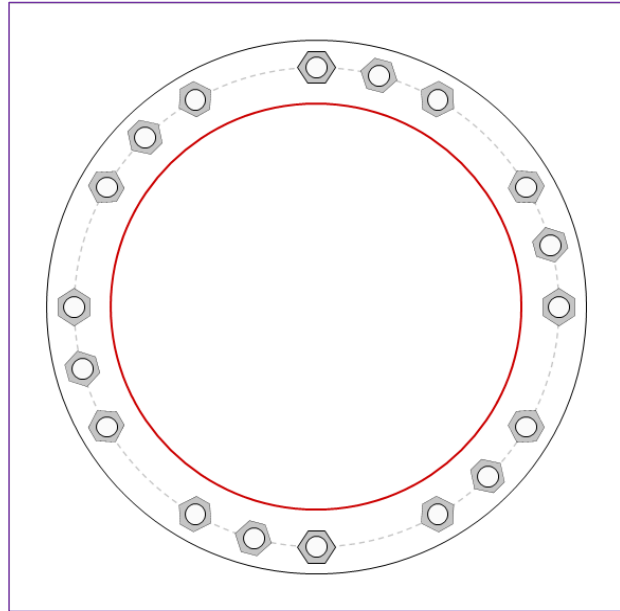


Site Info	
BU #	841295
Site Name	BETHANY, CT
Order #	658782 Rev. 1

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

Applied Loads	
Moment (kip-ft)	2974.39
Axial Force (kips)	58.06
Shear Force (kips)	27.79

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results		
Anchor Rod Data <hr/> GROUP 1: (12) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 52.75" BC GROUP 2: (6) 2-1/4" ϕ bolts (Williams N; $F_y=127.7$ ksi, $F_u=125$ ksi) on 52.75" BC	Anchor Rod Summary <i>(units of kips, kip-in)</i>		
Base Plate Data <hr/> 58.75" OD x 3" Plate (S-128; $F_y=60$ ksi, $F_u=80$ ksi)	GROUP 1: $P_{u_t} = 133.62$ $\phi P_{n_t} = 243.75$ Stress Rating $V_u = 2.32$ $\phi V_n = 149.1$ 52.2% $M_u = n/a$ $\phi M_n = n/a$ Pass		
Stiffener Data <hr/> N/A	GROUP 2: $P_{u_t} = 173.81$ $\phi P_{n_t} = 382.5$ Stress Rating $V_u = 0$ $\phi V_n = 191.25$ 43.3% $M_u = n/a$ $\phi M_n = n/a$ Pass		
Pole Data <hr/> 44.78" x 0.375" 12-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)	Base Plate Summary <hr/> Max Stress (ksi): 24.68 (Flexural) $\text{Allowable Stress (ksi):}$ 54 Stress Rating: 43.5% Pass		

CCIplate

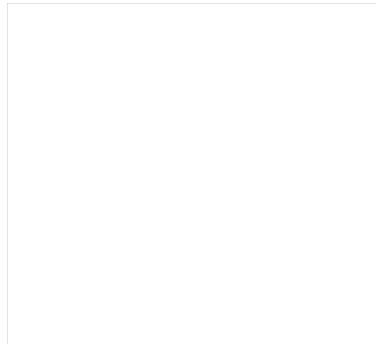
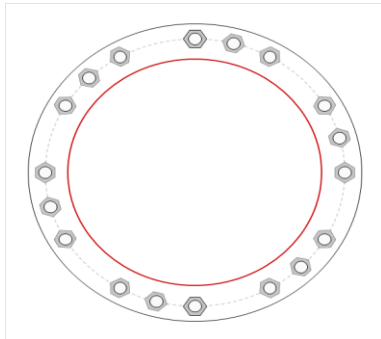
Elevation (ft) 0 (Base)

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

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

Custom Bolt Connection										
Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η :	l_{ar} (in):	Thread Type	Area Override, in ²	Tension Only
1	1	0	2.25	A615-75	52.75	0.55	0	N-Included		No
2	1	30	2.25	A615-75	52.75	0.55	0	N-Included		No
3	1	60	2.25	A615-75	52.75	0.55	0	N-Included		No
4	1	90	2.25	A615-75	52.75	0.55	0	N-Included		No
5	1	120	2.25	A615-75	52.75	0.55	0	N-Included		No
6	1	150	2.25	A615-75	52.75	0.55	0	N-Included		No
7	1	180	2.25	A615-75	52.75	0.55	0	N-Included		No
8	1	210	2.25	A615-75	52.75	0.55	0	N-Included		No
9	1	240	2.25	A615-75	52.75	0.55	0	N-Included		No
10	1	270	2.25	A615-75	52.75	0.55	0	N-Included		No
11	1	300	2.25	A615-75	52.75	0.55	0	N-Included		No
12	1	330	2.25	A615-75	52.75	0.55	0	N-Included		No
13	2	15	2.25	Williams	52.75	0.55	0	N-Included	4.08	No
14	2	75	2.25	Williams	52.75	0.55	0	N-Included	4.08	No
15	2	135	2.25	Williams	52.75	0.55	0	N-Included	4.08	No
16	2	195	2.25	Williams	52.75	0.55	0	N-Included	4.08	No
17	2	255	2.25	Williams	52.75	0.55	0	N-Included	4.08	No
18	2	315	2.25	Williams	52.75	0.55	0	N-Included	4.08	No

Plot Graphic



Pier and Pad Foundation



BU # :	841295
Site Name:	BETHANY, CT
App. Number:	658782 Rev. 1

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	<input checked="" type="checkbox"/>
Block Foundation?:	<input type="checkbox"/>
Rectangular Pad?:	<input type="checkbox"/>

Superstructure Analysis Reactions		
Compression, P_{comp} :	58.07	kips
Base Shear, V_{u_comp} :	27.78	kips
Moment, M_u :	2974.39	ft-kips
Tower Height, H :	151	ft
BP Dist. Above Fdn, bp_{dist} :	3.75	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	283.84	27.78	9.3%	Pass
Bearing Pressure (ksf)	22.50	1.98	8.8%	Pass
Overtuning (kip*ft)	6053.74	3205.31	52.9%	Pass
Pier Flexure (Comp.) (kip*ft)	7549.95	3029.95	38.2%	Pass
Pier Compression (kip)	17184.96	71.03	0.4%	Pass
Pad Flexure (kip*ft)	5523.95	1233.87	21.3%	Pass
Pad Shear - 1-way (kips)	1594.39	126.26	7.5%	Pass
Pad Shear - 2-way (Comp) (ksi)	0.164	0.010	6.0%	Pass
Flexural 2-way (Comp) (kip*ft)	8671.41	1817.97	20.0%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$:	6	ft
Ext. Above Grade, E :	0.4	ft
Pier Rebar Size, Sc :	11	
Pier Rebar Quantity, mc :	40	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	9	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Structural Rating*:	38.2%
Soil Rating*:	52.9%

Pad Properties		
Depth, D :	7.6	ft
Pad Width, W_1 :	25	ft
Pad Thickness, T :	6	ft
Pad Rebar Size (Top dir. 2), Sp_{top2} :	7	
Pad Rebar Quantity (Top dir. 2), mp_{top2} :	20	
Pad Rebar Size (Bottom dir. 2), Sp_2 :	7	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	32	
Pad Clear Cover, cc_{pad} :	6	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	3	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	100	pcf
Ultimate Gross Bearing, Q_{ult} :	30.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	30	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :	0.5	
Neglected Depth, N :	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	3.3	ft

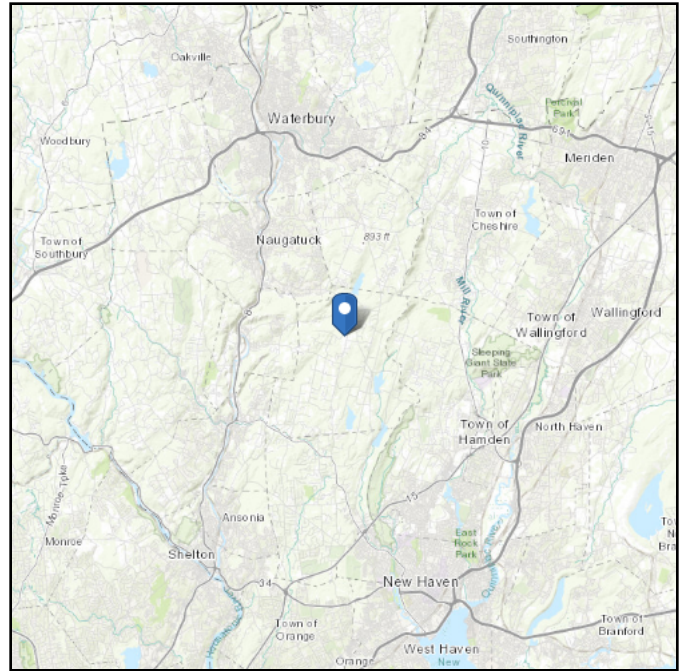
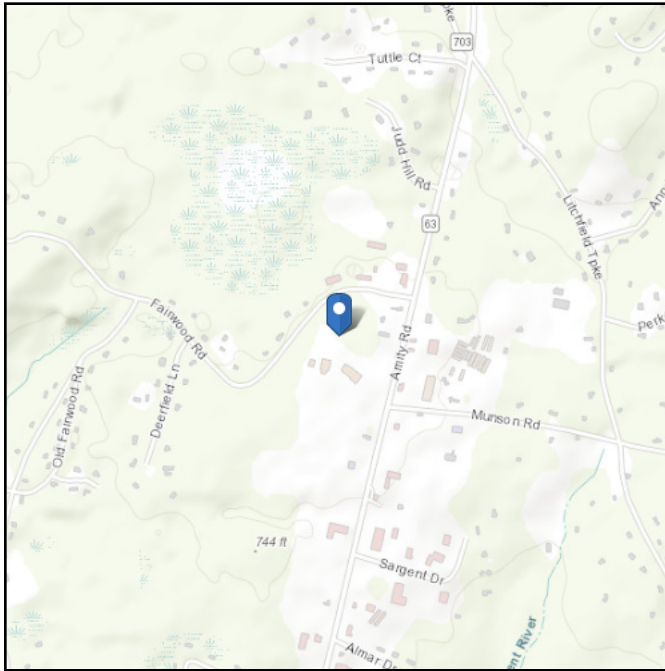
--Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Latitude: 41.442758
Longitude: -72.992461
Elevation: 742.8784245201404 ft (NAVD 88)



Wind

Results:

Wind Speed	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Fri Oct 20 2023

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

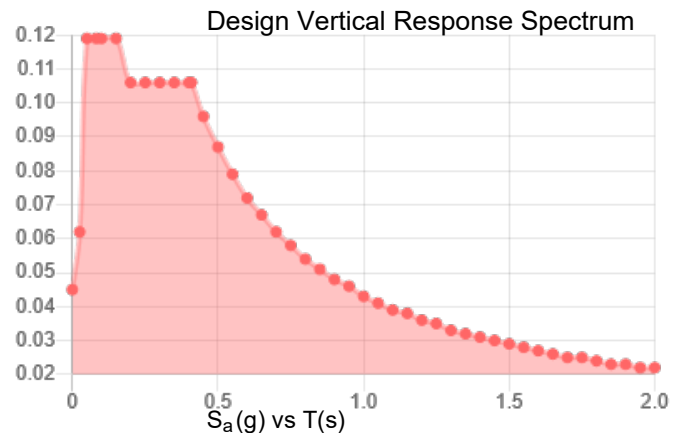
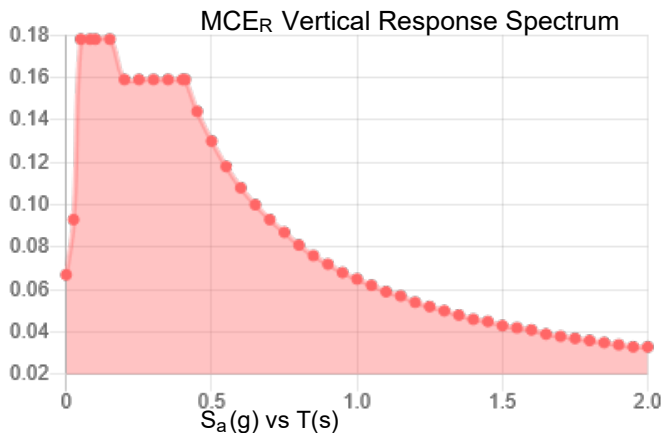
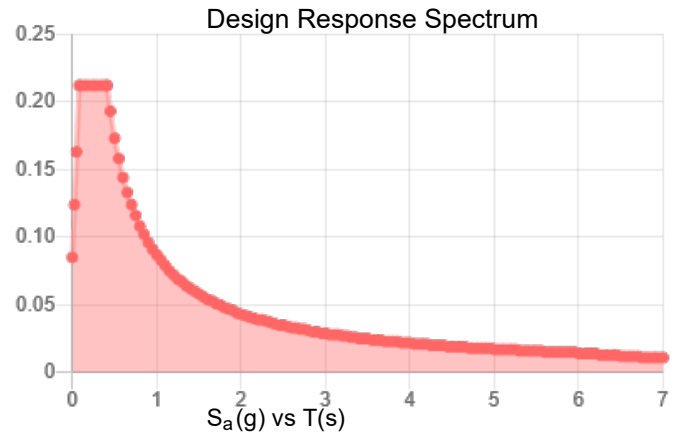
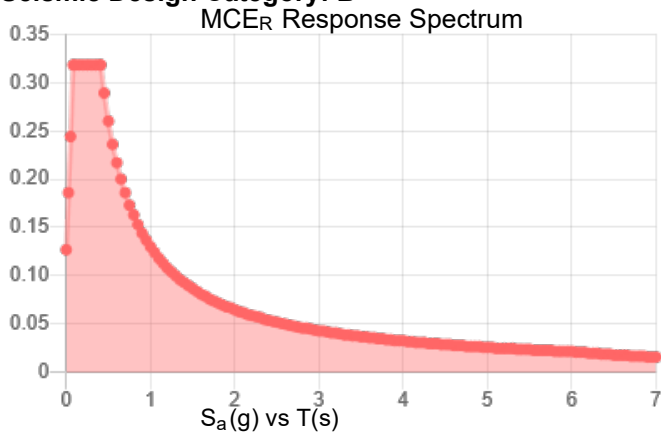
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class:

Results:

S_s :	0.199	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.111
F_v :	2.4	PGA _M :	0.175
S_{MS} :	0.318	F_{PGA} :	1.579
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.212	C_v :	0.7

Seismic Design Category: B



Data Accessed:

Fri Oct 20 2023

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 15 F

Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Fri Oct 20 2023

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

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

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.