Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

September 18, 2019

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: **Notice of Exempt Modification for Verizon Wireless: 876355**
Verizon Site ID:467249
3 A Birdseye Rd, Farmington, CT 06030
Latitude: 41° -42' 56.94"/ Longitude: -72° -48' 37.42"

Dear Ms. Bachman:

Verizon currently maintains twelve (12) antennas at the 110-foot level of the existing 140-foot monopole tower at 3 A Birdseye Rd, Farmington, CT 06030. The tower is owned by Crown Castle and the land is owned by GOIS Holdings of Connecticut, LLC. Verizon now intends to replace six (6) remote radios.

This facility was approved by a Federal Judge on 11/4/1997 per the attached email provided by the Town of Farmington.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j- 73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.S.C.A. § 16-50j-73, a copy of this letter is being sent to the Town Manager, Ms. Kathleen Blonski and Director of Public Works/Town Engineer, Mr. Russell Arnold, Town of Farmington. Notice will also be sent to the property owner, GOIS Holdings of Connecticut, LLC and Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Verizon respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,

Jeffrey Barbadora
Real Estate Specialist
12 Gill Street, Suite 5800, Woburn, MA 01801
781-729-0053
Jeff.Barbadora@crowncastle.com

Attachments:

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
Tab 2: Exhibit-2: Structural Modification Report
Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

Town Manager – Ms. Kathleen Blonski
Town of Farmington
1 Monteith Drive
Farmington, CT 06032
860-675-2350

Director of Public Works/Town Engineer-Mr. Russell Arnold
Town of Farmington
1 Monteith Drive
Farmington, CT 06032
860-675-2325

GOIS Holdings of Connecticut, LLC
125 Brookside Drive
Uxbridge, MA 01569

Mark Roberts

From: Sandra Michaud <michauds@farmington-ct.org>
Sent: Monday, February 27, 2017 4:16 PM
To: Mark Roberts
Subject: 130 Birdseye Road

Hi Mark

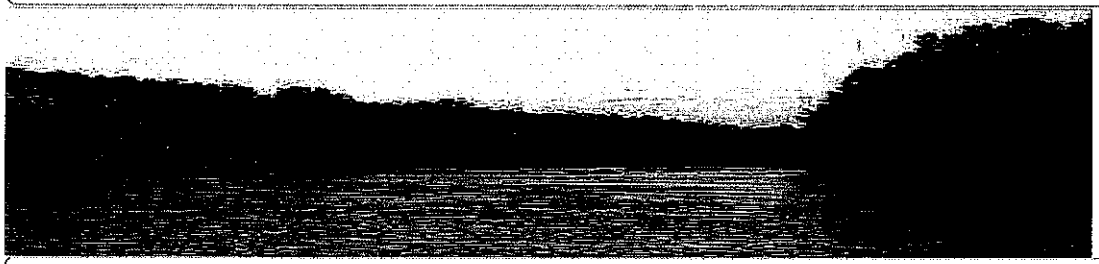
I was able to go through documents for this address and it appears on November 4, 1997 a federal judge ordered the Town (within 20 days) to issue a zoning permit so that Sprint Spectrum could install a 140 foot high communications tower. I do not have an approval letter from the Plan & Zoning Commission as it appears they did not formally make a decision in support of the Court's Order but a zoning permit was issued on November 26, 1997.

The Town did appeal this Order but did later withdraw in March 1998.

Sandy

Sandra Michaud
Land Use Coordinator
Town of Farmington
Planning Division
Department of Public Works
1 Monteith Drive
Farmington, CT 06032
860.675.2325 Office
860.675.2319 Fax

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2017.



Information on the Property Records for the Municipality of Farmington was last updated on 9/17/2019.

Parcel Information

Location:	8040 BIRDSEYE RD	Property Use:	Vacant Land	Primary Use:	Commercial Vacant Land
Unique ID:	01358040	Map Block Lot:	0119 3A	Acres:	13.53
490 Acres:	0.00	Zone:	R80	Volume / Page:	0928/0470
Developers Map / Lot:		Census:	4602-02		

Value Information

	Appraised Value	Assessed Value
Land	375,540	262,880
Buildings	0	0
Detached Outbuildings	0	0
Total	375,540	262,880

Owner's Information

Owner's Data
GOIS HOLDINGS OF CONNECTICUT LLC IVON GOIS 125 BROOKSIDE DR UXBRIDGE, MA 01569

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
GOIS HOLDINGS OF CONNECTICUT	0928	0470	04/09/2008		No	$518,000
CELL TOWER LEASE	0862	0083	12/07/2005		No	$0
UNISON SITE MANAGEMENT LLC	0862	0062	12/07/2005		No	$385,000
FREEDON COMMUNICATIONS OF	0809	0324	06/15/2004		No	$280,000
MEGA BROADCASTING	0530	0225	12/17/1996		No	$75,000
MEGA COMMUNICATIONS OC NB LL	0585	0272			No	$0
AMERICAN RADIO SYSTEMS INC	0484	0674			No	$0

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
759		03/23/2017		Closed	Antenna

Information Published With Permission From The Assessor

Town of Farmington, Connecticut - Assessment Parcel Map

UNIQUE ID: 01358040 **Address:** 01358040

Map Produced Aug 2018

Approximate Scale: 1 inch = 200 feet

General Power Density

Site Name: New Britain 5, CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	6230	6230	110	0.1852	1.0	18.52%
VZW Cellular LTE	869	1	1950	1950	110	0.0580	0.579333333	10.00%
VZW Cellular	869	3	409	1227	110	0.0365	0.579333333	6.29%
VZW AWS	2145	1	6220	6220	110	0.1849	1.0	18.49%
VZW 700	746	1	2860	2860	110	0.0850	0.497333333	17.09%

Total Percentage of Maximum Permissible Exposure 70.39%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:
1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.

-1992

Date: **August 22, 2019**

Denice Nicholson
Crown Castle
3 Corporate Dr, Suite 101
Clifton Park, NY 12065

FDH INFRASTRUCTURE SERVICES
ENGINEERING INNOVATION
FDH Infrastructure Services, LLC
6521 Meridien Drive
Raleigh, North Carolina 27616
(919) 755-1012

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Carrier Site Number:	64052
	Carrier Site Name:	New Britain 5 CT
Crown Castle Designation:	**Crown Castle BU Number:**	876335
	Crown Castle Site Name:	EAST FARMINGTON
	Crown Castle JDE Job Number:	582368
	Crown Castle Work Order Number:	1764806
	Crown Castle Order Number:	499011 Rev. 0
Engineering Firm Designation:	**FDH-IS Project Number:**	19BOZR1400
Site Data:	**3 A Birdseye Road, Farmington, Hartford County, CT** **Latitude *41° 42' 56.94"*, Longitude *-72° 48' 37.42"*** **140 Foot - Monopole Tower**	

Dear Denice Nicholson,

FDH Infrastructure Services, LLC is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 88.8%**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

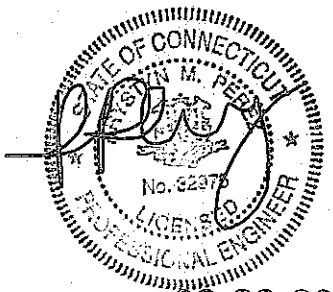
Eric D Schaub

Eric D. Schaub, EIT
Project Engineer I

Reviewed by:

Krystyn Perez

Krystyn M. Perez, PE
Vice President, Structural Engineering
CT PE License No. 32975



08-22-2019

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1) INTRODUCTION

This tower is a 140 ft Monopole tower designed by Summit Manufacturing Inc.

The tower has been modified multiple times to accommodate additional loading. Base transfer stiffeners were considered ineffective and were excluded from the analysis. Flat plates from 30.5 ft to 45.5 ft on flats 5 and 9 and flat plate from 31.7 ft to 46.7 ft on flat 1 were considered ineffective due to improper termination at splice plate.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	2 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)
108.0	109.0	6	andrew	SBNHH-1D65B	7	1-5/8
		6	antel	BXA-70063-4CF-EDIN-X		
		1	rfs celwave	DB-T1-6Z-8AB-0Z		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
	108.0	1	-	12.5 ft Low Profile Platform		
		1	sitepro 1	Kicker Support [P/N: PRK-1245]		

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)
139.0	140.0	3	alcatel lucent	TD-RRH8x20-25	3	1-1/4
		3	rfs celwave	APXV9ERR18-C-A20		
		3	rfs celwave	APXVTM14-C-120		
	139.0	1	-	Platform Mount [LP 1201-1_HR-3]		
137.0	140.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	-	-
	137.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
		1	-	Side Arm Mount [SO 102-3]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
130.0	130.0	1	-	Side Arm Mount [SO 102-3]	-	-
		3	ericsson	RRUS 11		
		3	ericsson	RRUS 32 B2		
128.0	130.0	2	cci antennas	HPA-65R-BUU-H6	6 3 9 1	3/4 3/8 7/8 Conduit
		1	cci antennas	HPA-65R-BUU-H8		
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 4426 B66		
		3	ericsson	RRUS 4478 B5		
		3	kmw comm	EPBQ-654L8H8-L2		
		3	powerwave technologies	7770.00		
		6	powerwave technologies	LGP21401		
		1	raycap	DC6-48-60-18-8F		
		2	raycap	DC6-48-60-18-8C		
	128.0	1	-	T-Arm Mount [TA 602-3]		
100.0	100.0	1	-	T-Arm Mount [TA 602-3]	11 1 1	7/8 1-3/8 1-5/8
		3	ericsson	AIR 32 B2A/B66AA		
		3	ericsson	ERICSSON AIR 21 B2A B4P		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APXVAARR24_43-U-NA20		
70.0	72.0	2	lucent	KS24019-L112A	2	5/16
	70.0	2	-	Side Arm Mount [SO 701-1]		
49.0	51.0	1	lucent	KS24019-L112A	1	1/2
	49.0	1	-	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH Engineering, Inc.	1531892	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Paul J. Ford & Company	1440555	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Summit Manufacturing, Inc.	1615361	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	B+T Group	2397525	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	B+T Group	3262310	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	B+T Group	3672042	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	B+T Group	4456376	CCISITES
4-POST-MODIFICATION INSPECTION	B+T Group	2397526	CCISITES
4-POST-MODIFICATION INSPECTION	Tower Engineering Professionals	3413367	CCISITES
4-POST-MODIFICATION INSPECTION	Tower Engineering Professionals	4836319	CCISITES
4-POST-MODIFICATION INSPECTION	Tower Engineering Professionals	5400317	CCISITES
4-TOWER STRUCTURAL ANALYSIS REPORT	B+T Group	7932623	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), 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.

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

3.2) Assumptions

1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) The base plate must be grouted in accordance with Crown standards. Grout was considered in this analysis. Grout must be maintained and inspected periodically and must be replaced if damaged or cracked. Refer to Crown Castle document ENG-STD-10323, Base Plate Grout.

This analysis may be affected if any assumptions are not valid or have been made in error. FDH Infrastructure Services, LLC 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[2]	Pass / Fail
140 - 135	Pole	TP17.025x16x0.25	Pole	5.1%	Pass
135 - 130	Pole	TP18.05x17.025x0.25	Pole	9.9%	Pass
130 - 125	Pole	TP19.075x18.05x0.25	Pole	19.6%	Pass
125 - 120	Pole	TP20.099x19.075x0.25	Pole	27.8%	Pass
120 - 115	Pole	TP21.124x20.099x0.25	Pole	34.7%	Pass
115 - 110	Pole	TP22.149x21.124x0.25	Pole	40.8%	Pass
110 - 105	Pole	TP23.174x22.149x0.25	Pole	49.1%	Pass
105 - 102	Pole	TP23.789x23.174x0.25	Pole	53.7%	Pass
102 - 101.75	Pole + Reinf.	TP23.84x23.789x0.3938	Reinf. 10 Tension Rupture	48.5%	Pass
101.75 - 96.75	Pole + Reinf.	TP24.865x23.84x0.3875	Reinf. 10 Tension Rupture	56.3%	Pass
96.75 - 95	Pole + Reinf.	TP25.89x24.865x0.3875	Reinf. 10 Tension Rupture	59.0%	Pass
95 - 90.75	Pole + Reinf.	TP25.595x24.724x0.3563	Pole	50.6%	Pass
90.75 - 85.75	Pole + Reinf.	TP26.62x25.595x0.3563	Pole	55.5%	Pass
85.75 - 85.33	Pole + Reinf.	TP26.706x26.62x0.3563	Pole	56.0%	Pass
85.33 - 85.08	Pole + Reinf.	TP26.758x26.706x0.3688	Pole	54.6%	Pass
85.08 - 82.5	Pole + Reinf.	TP27.287x26.758x0.3688	Pole	57.0%	Pass
82.5 - 82.25	Pole + Reinf.	TP27.338x27.287x0.525	Reinf. 8 Tension Rupture	50.3%	Pass
82.25 - 82	Pole + Reinf.	TP27.389x27.338x0.525	Reinf. 8 Tension Rupture	50.5%	Pass
82 - 81.75	Pole + Reinf.	TP27.44x27.389x0.55	Reinf. 9 Tension Rupture	56.6%	Pass
81.75 - 78.17	Pole + Reinf.	TP28.174x27.44x0.55	Reinf. 9 Tension Rupture	59.7%	Pass
78.17 - 77.92	Pole + Reinf.	TP28.226x28.174x0.65	Reinf. 6 Tension Rupture	50.6%	Pass
77.92 - 77.67	Pole + Reinf.	TP28.277x28.226x0.65	Reinf. 6 Tension Rupture	50.8%	Pass
77.67 - 77.42	Pole + Reinf.	TP28.328x28.277x0.525	Reinf. 6 Tension Rupture	61.5%	Pass
77.42 - 77.17	Pole + Reinf.	TP28.38x28.328x0.525	Reinf. 6 Tension Rupture	61.7%	Pass
77.17 - 72.17	Pole + Reinf.	TP29.406x28.38x0.5125	Reinf. 6 Tension Rupture	65.8%	Pass
72.17 - 67.17	Pole + Reinf.	TP30.431x29.406x0.5125	Reinf. 6 Tension Rupture	69.6%	Pass
67.17 - 66.48	Pole + Reinf.	TP30.571x30.431x0.625	Reinf. 6 Tension Rupture	53.6%	Pass
66.48 - 66.23	Pole + Reinf.	TP30.623x30.571x0.625	Reinf. 6 Tension Rupture	53.8%	Pass
66.23 - 65.5	Pole + Reinf.	TP30.773x30.623x0.625	Reinf. 6 Tension Rupture	54.2%	Pass
65.5 - 65.25	Pole + Reinf.	TP30.824x30.773x0.5125	Reinf. 4 Tension Rupture	62.8%	Pass
65.25 - 62.67	Pole + Reinf.	TP31.353x30.824x0.5125	Reinf. 4 Tension Rupture	64.5%	Pass
62.67 - 62.42	Pole + Reinf.	TP31.405x31.353x0.5125	Reinf. 4 Tension Rupture	65.8%	Pass
62.42 - 60	Pole + Reinf.	TP31.901x31.405x0.5063	Reinf. 4 Tension Rupture	67.3%	Pass
60 - 59.75	Pole + Reinf.	TP31.952x31.901x0.5	Reinf. 4 Tension Rupture	67.5%	Pass
59.75 - 54.75	Pole + Reinf.	TP32.978x31.952x0.5	Reinf. 4 Tension Rupture	70.3%	Pass
54.75 - 53.42	Pole + Reinf.	TP33.251x32.978x0.5	Reinf. 4 Tension Rupture	71.1%	Pass
53.42 - 53.17	Pole + Reinf.	TP33.302x33.251x0.6875	Reinf. 4 Tension Rupture	52.4%	Pass
53.17 - 51.42	Pole + Reinf.	TP33.661x33.302x0.6875	Reinf. 4 Tension Rupture	53.2%	Pass
51.42 - 51.17	Pole + Reinf.	TP33.713x33.661x0.5125	Reinf. 5 Tension Rupture	72.2%	Pass
51.17 - 51	Pole + Reinf.	TP34.67x33.713x0.5125	Reinf. 5 Tension Rupture	72.3%	Pass
51 - 45.5	Pole + Reinf.	TP34.25x33.122x0.55	Reinf. 5 Tension Rupture	68.8%	Pass
45.5 - 43.67	Pole + Reinf.	TP34.626x34.25x0.55	Reinf. 5 Tension Rupture	69.5%	Pass
43.67 - 43.42	Pole + Reinf.	TP34.677x34.626x0.6125	Reinf. 5 Tension Rupture	66.2%	Pass
43.42 - 43.25	Pole + Reinf.	TP34.711x34.677x0.6125	Reinf. 5 Tension Rupture	66.3%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity[2]	Pass / Fail
43.25 - 43	Pole	TP34.762x34.711x0.375	Pole	73.0%	Pass
43 - 38	Pole	TP35.788x34.762x0.375	Pole	75.1%	Pass
38 - 33	Pole	TP36.813x35.788x0.375	Pole	77.0%	Pass
33 - 29.25	Pole	TP37.582x36.813x0.375	Pole	78.4%	Pass
29.25 - 29	Pole + Reinf.	TP37.633x37.582x0.475	Reinf. 12 Tension Rupture	77.4%	Pass
29 - 28.08	Pole + Reinf.	TP37.822x37.633x0.475	Reinf. 12 Tension Rupture	77.7%	Pass
28.08 - 27.73	Pole + Reinf.	TP37.894x37.822x0.6375	Reinf. 2 Tension Rupture	64.4%	Pass
27.73 - 27.5	Pole + Reinf.	TP37.941x37.894x0.6375	Reinf. 2 Tension Rupture	64.5%	Pass
27.5 - 24.08	Pole + Reinf.	TP38.642x37.941x0.6375	Reinf. 2 Tension Rupture	65.4%	Pass
24.08 - 23.83	Pole + Reinf.	TP38.693x38.642x0.65	Reinf. 2 Tension Rupture	65.6%	Pass
23.83 - 22.67	Pole + Reinf.	TP38.932x38.693x0.65	Reinf. 2 Tension Rupture	65.9%	Pass
22.67 - 22.42	Pole + Reinf.	TP38.983x38.932x0.525	Reinf. 3 Tension Rupture	76.6%	Pass
22.42 - 18.92	Pole + Reinf.	TP39.701x38.983x0.525	Reinf. 3 Tension Rupture	77.5%	Pass
18.92 - 18.67	Pole + Reinf.	TP39.752x39.701x0.525	Reinf. 3 Tension Rupture	77.6%	Pass
18.67 - 18.08	Pole + Reinf.	TP39.872x39.752x0.525	Reinf. 3 Tension Rupture	77.8%	Pass
18.08 - 17.83	Pole + Reinf.	TP39.923x39.872x0.6625	Reinf. 3 Tension Rupture	69.8%	Pass
17.83 - 14.08	Pole + Reinf.	TP40.693x39.923x0.65	Reinf. 3 Tension Rupture	70.7%	Pass
14.08 - 13.83	Pole + Reinf.	TP40.744x40.693x0.625	Reinf. 3 Tension Rupture	71.3%	Pass
13.83 - 8.83	Pole + Reinf.	TP41.769x40.744x0.625	Reinf. 3 Tension Rupture	72.5%	Pass
8.83 - 3.83	Pole + Reinf.	TP42.795x41.769x0.6125	Reinf. 3 Tension Rupture	73.6%	Pass
3.83 - 3.25	Pole + Reinf.	TP42.914x42.795x0.6125	Reinf. 3 Tension Rupture	73.7%	Pass
3.25 - 3	Pole + Reinf.	TP42.965x42.914x0.5625	Reinf. 3 Tension Rupture	77.0%	Pass
3 - 2.17	Pole + Reinf.	TP43.135x42.965x0.5563	Reinf. 3 Tension Rupture	77.2%	Pass
2.17 - 1.92	Pole	TP43.186x43.135x0.375	Pole	87.5%	Pass
1.92 - 0	Pole	TP43.58x43.186x0.375	Pole	88.0%	Pass
				Summary	
			Pole	88.0%	Pass
			Reinforcement	77.8%	Pass
			Overall	**88.0%**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rods	0.0	68.2	Pass
1,2	Base Plate		69.3	Pass
1,2	Base Foundation		39.7	Pass
1,2	Base Foundation Soil Interaction		57.1	Pass

Structure Rating (max from all components) =	88.8%[2]

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

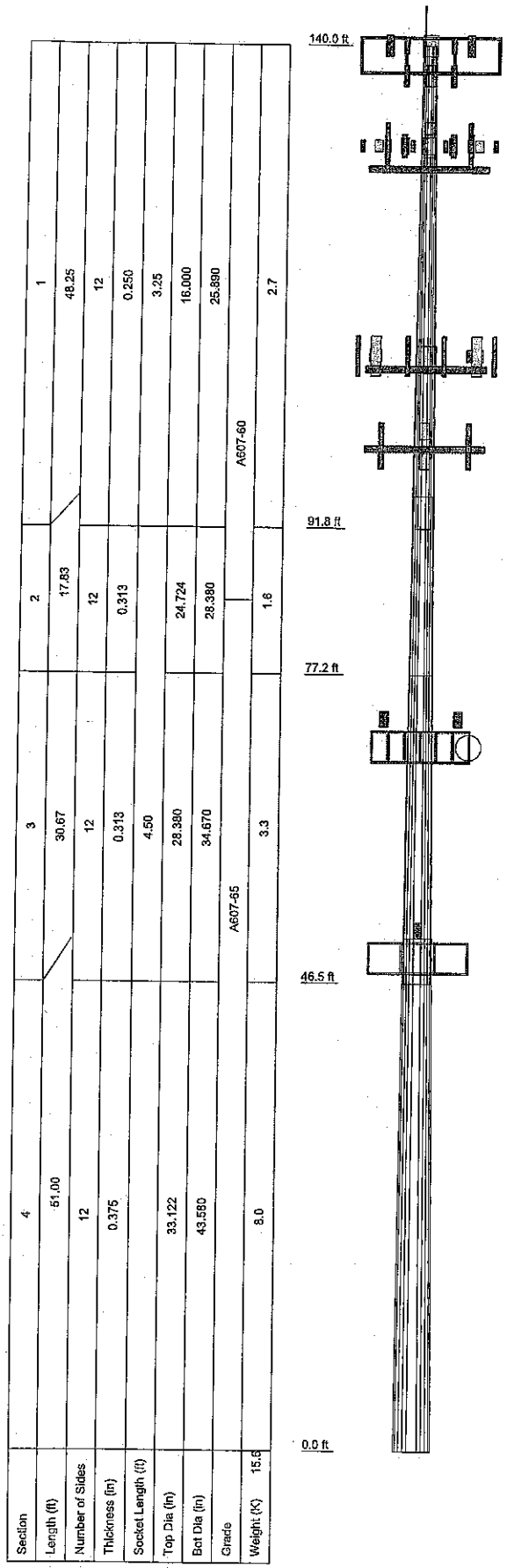
4.1) Recommendations

The base plate must be grouted in accordance with Crown standards. Grout was considered in this analysis. Grout must be maintained and inspected periodically and must be replaced if damaged or cracked. Refer to Crown Castle document ENG-STD-10323, Base Plate Grout.

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

APPENDIX A

TNXTOWER OUTPUT



Section	1	2	3	4
Length (ft)	48.25	17.83	30.67	51.00
Number of Sides	12	12	12	12
Thickness (in)	0.250	0.313	0.313	0.375
Socket Length (ft)	3.25		4.50	
Top Dia (in)	16.000	24.724	28.380	33.122
Bot Dia (in)	25.890	28.380	34.670	43.580
Grade	A607-60		A607-65	
Weight (K)	2.7	1.6	3.3	8.0

15.6

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

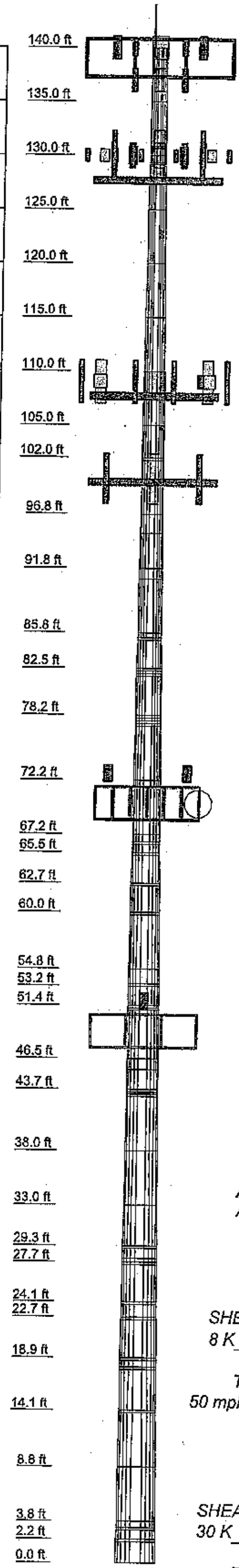
1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TIA-222-H Annex S.

FDH-IS

FDH Infrastructure Services, LLC
6521 Meridien Drive
Raleigh, North Carolina 27616
Phone: (919) 755-1012
FAX: (919) 755-1031

Job: *East Farmington, BU# 876335*			
Project: *19BOZR1400*			
Client: Crown Castle	Drawn by: Eric Schaub		App'd:
Code: TIA-222-H	Date: 08/20/19		Scale: NTS
Path:			Dwg No. E-1

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	12	0.250		16.000	17.025	A607-60	0.2
2	5.00	12	0.250		17.025	18.050	A607-60	0.2
3	5.00	12	0.250		18.050	19.075	A607-60	0.3
4	5.00	12	0.250		19.075	20.099	A607-60	0.3
5	5.00	12	0.250		20.099	21.124	A607-60	0.3
6	5.00	12	0.250		21.124	22.149	A607-60	0.3
7	5.00	12	0.250		22.149	23.174	A607-60	0.3
8–9	[illegible]	12	[illegible]		[illegible]	[illegible]	A607-60	[illegible]
10	5.00	12	[illegible]		[illegible]	[illegible]	A607-60	0.5
11	[illegible]	12	0.388	3.25	24.865	25.890	A607-60	0.5
12	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
13	5.00	12	[illegible]		[illegible]	[illegible]	A607-65	0.6
14–19	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	A607-65	[illegible]
20	[illegible]	12	[illegible]		[illegible]	[illegible]	A607-65	0.6
21–24	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	A607-65	[illegible]
25	5.00	12	[illegible]		[illegible]	[illegible]	A607-65	0.9
26	5.00	12	0.512		29.406	30.431	A607-65	0.9
27–34	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	A607-65	[illegible]
35	5.00	12	[illegible]		[illegible]	[illegible]	A607-65	0.8
36–39	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	A607-65	[illegible]
40	[illegible]	12	[illegible]	4.50	[illegible]	[illegible]	A607-65	0.9
41–45	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	A607-65	[illegible]
46	5.00	12	[illegible]		[illegible]	[illegible]	A607-65	0.7
47	5.00	12	0.375		35.788	36.813	A607-65	0.7
48	[illegible]	12	[illegible]		[illegible]	[illegible]	A607-65	0.6
49–62	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	A607-65	[illegible]
63	5.00	12	[illegible]		[illegible]	[illegible]	A607-65	1.4
64	5.00	12	[illegible]		[illegible]	[illegible]	A607-65	1.4
65–69	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	A607-65	[illegible]
								22.2



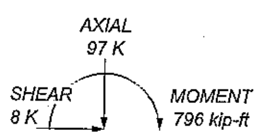
MATERIAL STRENGTH

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

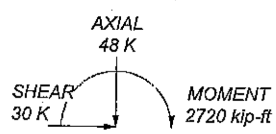
TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TIA-222-H Annex S.

ALL REACTIONS ARE FACTORED



TORQUE 1 kip-ft
50 mph WIND - 2.000 in ICE



TORQUE 2 kip-ft
REACTIONS - 125 mph WIND

FDH-IS

FDH Infrastructure Services, LLC
6521 Meridien Drive
Raleigh, North Carolina 27616
Phone: (919) 755-1012
FAX: (919) 755-1031

Job: *East Farmington, BU# 876335*		
Project: *19BOZR1400*		
Client: Crown Castle	Drawn by: Eric Schaub	App'd:
Code: TIA-222-H	Date: 08/22/19	Scale: NTS
Path:		Dwg No. E-1

Tower Input Data

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

Tower is located in Hartford County, Connecticut.
Tower base elevation above sea level: 414.00 ft.
Basic wind speed of 125 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 2.000 in.
Ice thickness is considered to increase with height.
Ice density of 56.00 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.
TIA-222-H Annex S..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.05.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	140.00-135.00	5.00	0.00	12	16.000	17.025	0.250	1.000	A607-60 (60 ksi)
L2	135.00-130.00	5.00	0.00	12	17.025	18.050	0.250	1.000	A607-60 (60 ksi)
L3	130.00-125.00	5.00	0.00	12	18.050	19.075	0.250	1.000	A607-60 (60 ksi)
L4	125.00-120.00	5.00	0.00	12	19.075	20.099	0.250	1.000	A607-60 (60 ksi)
L5	120.00-115.00	5.00	0.00	12	20.099	21.124	0.250	1.000	A607-60 (60 ksi)
L6	115.00-110.00	5.00	0.00	12	21.124	22.149	0.250	1.000	A607-60 (60 ksi)
L7	110.00-105.00	5.00	0.00	12	22.149	23.174	0.250	1.000	A607-60 (60 ksi)
L8	105.00-102.00	3.00	0.00	12	23.174	23.789	0.250	1.000	A607-60 (60 ksi)
L9	102.00-101.75	0.25	0.00	12	23.789	23.840	0.394	1.575	A607-60 (60 ksi)
L10	101.75-96.75	5.00	0.00	12	23.840	24.865	0.388	1.550	A607-60 (60 ksi)
L11	96.75-91.75	5.00	3.25	12	24.865	25.890	0.388	1.550	A607-60 (60 ksi)
L12	91.75-90.75	4.25	0.00	12	24.724	25.595	0.356	1.425	A607-65 (65 ksi)
L13	90.75-85.75	5.00	0.00	12	25.595	26.620	0.356	1.425	A607-65 (65 ksi)
L14	85.75-85.33	0.42	0.00	12	26.620	26.706	0.356	1.425	A607-65 (65 ksi)
L15	85.33-85.08	0.25	0.00	12	26.706	26.758	0.369	1.475	A607-65 (65 ksi)
L16	85.08-82.50	2.58	0.00	12	26.758	27.287	0.369	1.475	A607-65 (65 ksi)
L17	82.50-82.25	0.25	0.00	12	27.287	27.338	0.525	2.100	A607-65 (65 ksi)
L18	82.25-82.00	0.25	0.00	12	27.338	27.389	0.525	2.100	A607-65 (65 ksi)
L19	82.00-81.75	0.25	0.00	12	27.389	27.440	0.550	2.200	A607-65 (65 ksi)
L20	81.75-78.17	3.58	0.00	12	27.440	28.174	0.550	2.200	A607-65 (65 ksi)
L21	78.17-77.92	0.25	0.00	12	28.174	28.226	0.650	2.600	A607-65 (65 ksi)
L22	77.92-77.67	0.25	0.00	12	28.226	28.277	0.650	2.600	A607-65 (65 ksi)
L23	77.67-77.42	0.25	0.00	12	28.277	28.328	0.525	2.100	A607-65 (65 ksi)
L24	77.42-77.17	0.25	0.00	12	28.328	28.380	0.525	2.100	A607-65 (65 ksi)
L25	77.17-72.17	5.00	0.00	12	28.380	29.406	0.512	2.050	A607-65 (65 ksi)
L26	72.17-67.17	5.00	0.00	12	29.406	30.431	0.512	2.050	A607-65 (65 ksi)
L27	67.17-66.48	0.68	0.00	12	30.431	30.571	0.625	2.500	A607-65 (65 ksi)
L28	66.48-66.23	0.25	0.00	12	30.571	30.623	0.625	2.500	A607-65 (65 ksi)
L29	66.23-65.50	0.73	0.00	12	30.623	30.773	0.625	2.500	A607-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L30	65.50-65.25	0.25	0.00	12	30.773	30.824	0.512	2.050	A607-65 (65 ksi)
L31	65.25-62.67	2.58	0.00	12	30.824	31.353	0.512	2.050	A607-65 (65 ksi)
L32	62.67-62.42	0.25	0.00	12	31.353	31.405	0.512	2.050	A607-65 (65 ksi)
L33	62.42-60.00	2.42	0.00	12	31.405	31.901	0.506	2.025	A607-65 (65 ksi)
L34	60.00-59.75	0.25	0.00	12	31.901	31.952	0.500	2.000	A607-65 (65 ksi)
L35	59.75-54.75	5.00	0.00	12	31.952	32.978	0.500	2.000	A607-65 (65 ksi)
L36	54.75-53.42	1.33	0.00	12	32.978	33.251	0.500	2.000	A607-65 (65 ksi)
L37	53.42-53.17	0.25	0.00	12	33.251	33.302	0.688	2.750	A607-65 (65 ksi)
L38	53.17-51.42	1.75	0.00	12	33.302	33.661	0.688	2.750	A607-65 (65 ksi)
L39	51.42-51.17	0.25	0.00	12	33.661	33.713	0.512	2.050	A607-65 (65 ksi)
L40	51.17-46.50	4.67	4.50	12	33.713	34.670	0.512	2.050	A607-65 (65 ksi)
L41	46.50-45.50	5.50	0.00	12	33.122	34.250	0.550	2.200	A607-65 (65 ksi)
L42	45.50-43.67	1.83	0.00	12	34.250	34.626	0.550	2.200	A607-65 (65 ksi)
L43	43.67-43.42	0.25	0.00	12	34.626	34.677	0.613	2.450	A607-65 (65 ksi)
L44	43.42-43.25	0.17	0.00	12	34.677	34.711	0.613	2.450	A607-65 (65 ksi)
L45	43.25-43.00	0.25	0.00	12	34.711	34.762	0.375	1.500	A607-65 (65 ksi)
L46	43.00-38.00	5.00	0.00	12	34.762	35.788	0.375	1.500	A607-65 (65 ksi)
L47	38.00-33.00	5.00	0.00	12	35.788	36.813	0.375	1.500	A607-65 (65 ksi)
L48	33.00-29.25	3.75	0.00	12	36.813	37.582	0.375	1.500	A607-65 (65 ksi)
L49	29.25-29.00	0.25	0.00	12	37.582	37.633	0.475	1.900	A607-65 (65 ksi)
L50	29.00-28.08	0.92	0.00	12	37.633	37.822	0.475	1.900	A607-65 (65 ksi)
L51	28.08-27.73	0.35	0.00	12	37.822	37.894	0.637	2.550	A607-65 (65 ksi)
L52	27.73-27.50	0.23	0.00	12	37.894	37.941	0.637	2.550	A607-65 (65 ksi)
L53	27.50-24.08	3.42	0.00	12	37.941	38.642	0.637	2.550	A607-65 (65 ksi)
L54	24.08-23.83	0.25	0.00	12	38.642	38.693	0.650	2.600	A607-65 (65 ksi)
L55	23.83-22.67	1.17	0.00	12	38.693	38.932	0.650	2.600	A607-65 (65 ksi)
L56	22.67-22.42	0.25	0.00	12	38.932	38.983	0.525	2.100	A607-65 (65 ksi)
L57	22.42-18.92	3.50	0.00	12	38.983	39.701	0.525	2.100	A607-65 (65 ksi)
L58	18.92-18.67	0.25	0.00	12	39.701	39.752	0.525	2.100	A607-65 (65 ksi)
L59	18.67-18.08	0.58	0.00	12	39.752	39.872	0.525	2.100	A607-65 (65 ksi)
L60	18.08-17.83	0.25	0.00	12	39.872	39.923	0.662	2.650	A607-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L61	17.83-14.08	3.75	0.00	12	39.923	40.693	0.650	2.600	(65 ksi) A607-65
L62	14.08-13.83	0.25	0.00	12	40.693	40.744	0.625	2.500	(65 ksi) A607-65
L63	13.83-8.83	5.00	0.00	12	40.744	41.769	0.625	2.500	(65 ksi) A607-65
L64	8.83-3.83	5.00	0.00	12	41.769	42.795	0.613	2.450	(65 ksi) A607-65
L65	3.83-3.25	0.58	0.00	12	42.795	42.914	0.613	2.450	(65 ksi) A607-65
L66	3.25-3.00	0.25	0.00	12	42.914	42.965	0.563	2.250	(65 ksi) A607-65
L67	3.00-2.17	0.83	0.00	12	42.965	43.135	0.556	2.225	(65 ksi) A607-65
L68	2.17-1.92	0.25	0.00	12	43.135	43.186	0.375	1.500	(65 ksi) A607-65
L69	1.92-0.00	1.92		12	43.186	43.580	0.375	1.500	(65 ksi) A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	16.476	12.679	401.443	5.638	8.288	48.437	813.432	6.240	3.618	14.472
	17.537	13.504	485.020	6.005	8.819	54.998	982.781	6.646	3.893	15.571
L2	17.537	13.504	485.020	6.005	8.819	54.998	982.781	6.646	3.893	15.571
	18.598	14.329	579.459	6.372	9.350	61.976	1174.141	7.052	4.167	16.669
L3	18.598	14.329	579.459	6.372	9.350	61.976	1174.141	7.052	4.167	16.669
	19.659	15.154	685.425	6.739	9.881	69.370	1388.857	7.458	4.442	17.768
L4	19.659	15.154	685.425	6.739	9.881	69.370	1388.857	7.458	4.442	17.768
	20.720	15.979	803.580	7.106	10.412	77.182	1628.272	7.864	4.717	18.867
L5	20.720	15.979	803.580	7.106	10.412	77.182	1628.272	7.864	4.717	18.867
	21.781	16.804	934.589	7.473	10.942	85.410	1893.732	8.270	4.991	19.965
L6	21.781	16.804	934.589	7.473	10.942	85.410	1893.732	8.270	4.991	19.965
	22.842	17.629	1079.116	7.840	11.473	94.055	2186.581	8.676	5.266	21.064
L7	22.842	17.629	1079.116	7.840	11.473	94.055	2186.581	8.676	5.266	21.064
	23.903	18.454	1237.822	8.207	12.004	103.116	2508.164	9.082	5.541	22.163
L8	23.903	18.454	1237.822	8.207	12.004	103.116	2508.164	9.082	5.541	22.163
	24.540	18.949	1340.129	8.427	12.323	108.753	2715.465	9.326	5.705	22.822
L9	24.489	29.662	2072.270	8.376	12.323	168.167	4198.981	14.599	5.320	13.512
	24.542	29.727	2085.917	8.394	12.349	168.910	4226.633	14.631	5.334	13.547
L10	24.545	29.263	2054.449	8.396	12.349	166.362	4162.871	14.402	5.351	13.808
	25.606	30.542	2335.724	8.763	12.880	181.343	4732.811	15.032	5.625	14.517
L11	25.606	30.542	2335.724	8.763	12.880	181.343	4732.811	15.032	5.625	14.517
	26.667	31.821	2641.568	9.130	13.411	196.970	5352.533	15.661	5.900	15.226
L12	26.160	27.953	2118.528	8.724	12.807	165.420	4292.711	13.757	5.671	15.919
	26.372	28.952	2354.016	9.036	13.258	177.550	4769.876	14.249	5.905	16.575
L13	26.372	28.952	2354.016	9.036	13.258	177.550	4769.876	14.249	5.905	16.575
	27.434	30.128	2652.659	9.403	13.789	192.371	5375.006	14.828	6.179	17.346
L14	27.434	30.128	2652.659	9.403	13.789	192.371	5375.006	14.828	6.179	17.346
	27.523	30.227	2678.836	9.433	13.834	193.643	5428.047	14.877	6.203	17.411
L15	27.518	31.273	2768.885	9.429	13.834	200.152	5610.513	15.391	6.169	16.73
	27.571	31.334	2785.083	9.447	13.860	200.937	5643.332	15.421	6.183	16.767
L16	27.571	31.334	2785.083	9.447	13.860	200.937	5643.332	15.421	6.183	16.767
	28.119	31.962	2955.941	9.637	14.134	209.130	5989.537	15.731	6.325	17.151

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
L17	28.064	45.241	4135.596	9.581	14.134	292.589	8379.838	22.266	5.906	11.249
	28.117	45.327	4159.404	9.599	14.161	293.722	8428.079	22.309	5.920	11.275
L18	28.117	45.327	4159.404	9.599	14.161	293.722	8428.079	22.309	5.920	11.275
	28.170	45.414	4183.303	9.617	14.188	294.857	8476.505	22.351	5.933	11.301
L19	28.161	47.532	4370.284	9.608	14.188	308.036	8855.380	23.394	5.866	10.666
	28.214	47.623	4395.370	9.627	14.214	309.226	8906.211	23.439	5.880	10.691
L20	28.214	47.623	4395.370	9.627	14.214	309.226	8906.211	23.439	5.880	10.691
	28.974	48.923	4765.202	9.890	14.594	326.511	9655.591	24.078	6.077	11.049
L21	28.939	57.608	5570.664	9.854	14.594	381.701	11287.676	28.353	5.809	8.937
	28.992	57.716	5601.843	9.872	14.621	383.140	11350.853	28.406	5.822	8.958
L22	28.992	57.716	5601.843	9.872	14.621	383.140	11350.853	28.406	5.822	8.958
	29.045	57.823	5633.138	9.890	14.647	384.582	11414.265	28.459	5.836	8.979
L23	29.089	46.915	4611.881	9.935	14.647	314.860	9344.920	23.090	6.171	11.755
	29.142	47.001	4637.481	9.954	14.674	316.035	9396.794	23.133	6.185	11.781
L24	29.142	47.001	4637.481	9.954	14.674	316.035	9396.794	23.133	6.185	11.781
	29.196	47.089	4663.485	9.972	14.701	317.226	9449.486	23.176	6.199	11.807
L25	29.200	45.988	4558.581	9.977	14.701	310.090	9236.922	22.634	6.232	12.161
	30.262	47.681	5080.601	10.344	15.232	333.546	10294.674	23.467	6.507	12.697
L26	30.262	47.681	5080.601	10.344	15.232	333.546	10294.674	23.467	6.507	12.697
	31.324	49.373	5641.024	10.711	15.763	357.858	11430.244	24.300	6.782	13.233
L27	31.284	59.985	6801.986	10.671	15.763	431.508	13782.668	29.523	6.481	10.369
	31.429	60.267	6898.487	10.721	15.836	435.622	13978.205	29.662	6.518	10.429
L28	31.429	60.267	6898.487	10.721	15.836	435.622	13978.205	29.662	6.518	10.429
	31.482	60.370	6933.984	10.739	15.863	437.130	14050.132	29.712	6.532	10.451
L29	31.482	60.370	6933.984	10.739	15.863	437.130	14050.132	29.712	6.532	10.451
	31.638	60.673	7038.763	10.793	15.940	441.567	14262.443	29.861	6.572	10.515
L30	31.678	49.937	5836.641	10.833	15.940	366.154	11826.618	24.578	6.874	13.412
	31.731	50.022	5866.362	10.852	15.967	367.406	11886.841	24.619	6.887	13.439
L31	31.731	50.022	5866.362	10.852	15.967	367.406	11886.841	24.619	6.887	13.439
	32.279	50.895	6178.998	11.041	16.241	380.455	12520.324	25.049	7.029	13.716
L32	32.279	50.895	6178.998	11.041	16.241	380.455	12520.324	25.049	7.029	13.716
	32.332	50.980	6209.869	11.059	16.268	381.731	12582.878	25.091	7.043	13.742
L33	32.334	50.368	6137.862	11.062	16.268	377.305	12436.973	24.790	7.060	13.945
	32.848	51.177	6438.438	11.239	16.525	389.624	13046.022	25.188	7.193	14.208
L34	32.850	50.556	6362.750	11.242	16.525	385.044	12892.657	24.882	7.209	14.419
	32.903	50.638	6393.971	11.260	16.551	386.312	12955.919	24.923	7.223	14.446
L35	32.903	50.638	6393.971	11.260	16.551	386.312	12955.919	24.923	7.223	14.446
	33.965	52.289	7040.030	11.627	17.083	412.119	14265.009	25.735	7.498	14.996
L36	33.965	52.289	7040.030	11.627	17.083	412.119	14265.009	25.735	7.498	14.996
	34.247	52.729	7218.918	11.725	17.224	419.124	14627.486	25.951	7.571	15.142
L37	34.181	72.087	9756.505	11.658	17.224	566.453	19769.325	35.479	7.069	10.282
	34.234	72.200	9802.668	11.676	17.250	568.257	19862.863	35.535	7.082	10.302
L38	34.234	72.200	9802.668	11.676	17.250	568.257	19862.863	35.535	7.082	10.302
	34.606	72.996	10130.458	11.805	17.437	580.986	20527.055	35.926	7.179	10.442
L39	34.668	54.704	7672.672	11.867	17.437	440.031	15546.914	26.924	7.648	14.922
	34.721	54.789	7708.333	11.886	17.463	441.404	15619.172	26.965	7.662	14.949
L40	34.721	54.789	7708.333	11.886	17.463	441.404	15619.172	26.965	7.662	14.949
	35.712	56.368	8394.482	12.228	17.959	467.423	17009.497	27.743	7.918	15.45
L41	35.052	57.685	7811.575	11.661	17.157	455.294	15828.369	28.391	7.403	13.459
	35.264	59.682	8651.434	12.065	17.741	487.641	17530.151	29.374	7.705	14.009
L42	35.264	59.682	8651.434	12.065	17.741	487.641	17530.151	29.374	7.705	14.009
	35.653	60.348	8944.157	12.199	17.936	498.667	18123.287	29.701	7.806	14.192
L43	35.631	67.083	9905.832	12.177	17.936	552.284	20071.900	33.016	7.638	12.471
	35.684	67.184	9950.689	12.195	17.963	553.965	20162.794	33.066	7.652	12.493
L44	35.684	67.184	9950.689	12.195	17.963	553.965	20162.794	33.066	7.652	12.493
	35.720	67.251	9980.729	12.207	17.980	555.089	20223.664	33.099	7.661	12.508
L45	35.803	41.461	6239.225	12.292	17.980	347.001	12642.362	20.406	8.298	22.127
	35.856	41.523	6267.213	12.311	18.007	348.044	12699.073	20.436	8.311	22.164
L46	35.856	41.523	6267.213	12.311	18.007	348.044	12699.073	20.436	8.311	22.164
	36.918	42.761	6844.680	12.678	18.538	369.223	13869.178	21.046	8.586	22.896
L47	36.918	42.761	6844.680	12.678	18.538	369.223	13869.178	21.046	8.586	22.896
	37.979	43.999	7456.573	13.045	19.069	391.028	15109.038	21.655	8.861	23.629

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
L48	37.979	43.999	7456.573	13.045	19.069	391.028	15109.038	21.655	8.861	23.629
	38.776	44.928	7938.684	13.320	19.467	407.792	16085.926	22.112	9.067	24.179
L49	38.740	56.755	9974.805	13.284	19.467	512.383	20211.659	27.933	8.799	18.524
	38.793	56.834	10016.204	13.303	19.494	513.808	20295.544	27.972	8.813	18.553
L50	38.793	56.834	10016.204	13.303	19.494	513.808	20295.544	27.972	8.813	18.553
	38.989	57.122	10169.537	13.370	19.592	519.072	20606.240	28.114	8.863	18.66
L51	38.931	76.330	13471.205	13.312	19.592	687.595	27296.313	37.568	8.428	13.22
	39.006	76.478	13549.359	13.338	19.629	690.274	27454.674	37.640	8.447	13.25
L52	39.006	76.478	13549.359	13.338	19.629	690.274	27454.674	37.640	8.447	13.25
	39.054	76.575	13600.881	13.355	19.653	692.038	27559.072	37.688	8.460	13.27
L53	39.054	76.575	13600.881	13.355	19.653	692.038	27559.072	37.688	8.460	13.27
	39.780	78.013	14381.779	13.605	20.016	718.502	29141.384	38.396	8.647	13.565
L54	39.775	79.516	14649.310	13.601	20.016	731.868	29683.475	39.136	8.614	13.252
	39.828	79.624	14708.692	13.619	20.043	733.861	29803.799	39.188	8.628	13.273
L55	39.828	79.624	14708.692	13.619	20.043	733.861	29803.799	39.188	8.628	13.273
	40.076	80.124	14987.770	13.705	20.167	743.192	30369.286	39.435	8.692	13.372
L56	40.120	64.927	12224.477	13.750	20.167	606.170	24770.104	31.955	9.027	17.194
	40.173	65.014	12273.493	13.768	20.193	607.800	24869.424	31.998	9.040	17.22
L57	40.173	65.014	12273.493	13.768	20.193	607.800	24869.424	31.998	9.040	17.22
	40.916	66.227	12973.537	14.025	20.565	630.853	26287.904	32.595	9.233	17.586
L58	40.916	66.227	12973.537	14.025	20.565	630.853	26287.904	32.595	9.233	17.586
	40.969	66.314	13024.535	14.043	20.592	632.516	26391.238	32.638	9.247	17.613
L59	40.969	66.314	13024.535	14.043	20.592	632.516	26391.238	32.638	9.247	17.613
	41.093	66.516	13144.184	14.086	20.654	636.409	26633.681	32.737	9.279	17.674
L60	41.045	83.644	16413.426	14.037	20.654	794.698	33258.051	41.167	8.910	13.449
	41.098	83.753	16477.890	14.055	20.680	796.795	33388.672	41.221	8.924	13.47
L61	41.102	82.199	16182.433	14.060	20.680	782.508	32789.997	40.456	8.957	13.781
	41.899	83.810	17152.513	14.335	21.079	813.731	34755.642	41.249	9.164	14.098
L62	41.908	80.636	16523.711	14.344	21.079	783.900	33481.519	39.687	9.231	14.769
	41.961	80.740	16587.216	14.363	21.105	785.922	33610.197	39.738	9.244	14.791
L63	41.961	80.740	16587.216	14.363	21.105	785.922	33610.197	39.738	9.244	14.791
	43.022	82.803	17891.714	14.730	21.637	826.922	36253.464	40.753	9.519	15.231
L64	43.027	81.172	17549.866	14.734	21.637	811.123	35560.786	39.950	9.553	15.596
	44.088	83.194	18894.409	15.101	22.168	852.343	38285.196	40.945	9.827	16.045
L65	44.088	83.194	18894.409	15.101	22.168	852.343	38285.196	40.945	9.827	16.045
	44.211	83.428	19054.680	15.144	22.229	857.191	38609.949	41.061	9.859	16.097
L66	44.229	76.708	17561.322	15.162	22.229	790.011	35584.000	37.754	9.993	17.766
	44.282	76.801	17625.172	15.180	22.256	791.937	35713.376	37.799	10.007	17.79
L67	44.284	75.959	17437.045	15.182	22.256	783.484	35332.180	37.385	10.024	18.02
	44.460	76.264	17647.829	15.243	22.344	789.826	35759.286	37.535	10.069	18.102
L68	44.524	51.633	12049.996	15.308	22.344	539.296	24416.558	25.412	10.555	28.147
	44.577	51.695	12093.387	15.326	22.370	540.595	24504.482	25.443	10.569	28.184
L69	44.577	51.695	12093.387	15.326	22.370	540.595	24504.482	25.443	10.569	28.184
	44.985	52.170	12430.114	15.467	22.574	550.628	25186.781	25.677	10.674	28.465

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 140.00-135.00				1	1	1			
L2 135.00-130.00				1	1	1			
L3 130.00-125.00				1	1	1			
L4 125.00-120.00				1	1	1			
L5 120.00-115.00				1	1	1			
L6				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
115.00-110.00									
L7									
110.00-105.00				1	1	1			
L8									
105.00-102.00				1	1	1			
L9									
102.00-101.75				1	1	0.933915			
L10									
101.75-96.75				1	1	0.936015			
L11									
96.75-91.75				1	1	0.931814			
L12									
91.75-90.75				1	1	1.29378			
L13									
90.75-85.75				1	1	1.27752			
L14									
85.75-85.33				1	1	1.27622			
L15									
85.33-85.08				1	1	1.32611			
L16									
85.08-82.50				1	1	1.31671			
L17									
82.50-82.25				1	1	1.19471			
L18									
82.25-82.00				1	1	1.19357			
L19									
82.00-81.75				1	1	1.00975			
L20									
81.75-78.17				1	1	0.998018			
L21									
78.17-77.92				1	1	0.998859			
L22									
77.92-77.67				1	1	0.997897			
L23									
77.67-77.42				1	1	1.10433			
L24									
77.42-77.17				1	1	1.10338			
L25									
77.17-72.17				1	1	1.11133			
L26									
72.17-67.17				1	1	1.09413			
L27									
67.17-66.48				1	1	0.980951			
L28									
66.48-66.23				1	1	0.980129			
L29									
66.23-65.50				1	1	0.977735			
L30									
65.50-65.25				1	1	1.01157			
L31									
65.25-62.67				1	1	1.00468			
L32									
62.67-62.42				1	1	0.946665			
L33									
62.42-60.00				1	1	0.952769			
L34									
60.00-59.75				1	1	0.963933			
L35									
59.75-54.75				1	1	0.953231			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
L36 54.75-53.42				1	1	0.950497			
L37 53.42-53.17				1	1	1.01319			
L38 53.17-51.42				1	1	1.0071			
L39 51.42-51.17				1	1	1.03291			
L40 51.17-46.50				1	1	1.03248			
L41 46.50-45.50				1	1	0.969769			
L42 45.50-43.67				1	1	0.966593			
L43 43.67-43.42				1	1	1.04804			
L44 43.42-43.25				1	1	1.0476			
L45 43.25-43.00				1	1	1			
L46 43.00-38.00				1	1	1			
L47 38.00-33.00				1	1	1			
L48 33.00-29.25				1	1	1			
L49 29.25-29.00				1	1	1.1026			
L50 29.00-28.08				1	1	1.10102			
L51 28.08-27.73				1	1	0.971464			
L52 27.73-27.50				1	1	0.97098			
L53 27.50-24.08				1	1	0.963923			
L54 24.08-23.83				1	1	1.01626			
L55 23.83-22.67				1	1	1.01352			
L56 22.67-22.42				1	1	0.97816			
L57 22.42-18.92				1	1	0.973326			
L58 18.92-18.67				1	1	0.972987			
L59 18.67-18.08				1	1	0.9722			
L60 18.08-17.83				1	1	1.00512			
L61 17.83-14.08				1	1	1.01553			
L62 14.08-13.83				1	1	0.984829			
L63 13.83-8.83				1	1	0.975239			
L64 8.83-3.83				1	1	0.98554			
L65 3.83-3.25				1	1	0.984491			
L66 3.25-3.00				1	1	0.964303			
L67 3.00-2.17				1	1	0.973791			

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L68 2.17-1.92				1	1	1			
L69 1.92-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	C	No	Surface Ar (CaAa)	140.00 - 0.00	1	1	0.000 0.000	0.375		0.22
***										
LDF5-50A(7/8")	A	No	Surface Ar (CaAa)	100.00 - 0.00	11	6	0.350 0.450	1.090		0.33
MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	A	No	Surface Ar (CaAa)	100.00 - 0.00	1	1	0.340 0.340	1.625		1.07
HCS 6X12 6AWG(1-3/8)	A	No	Surface Ar (CaAa)	100.00 - 0.00	1	1	0.470 0.470	1.380		1.70
***										
9207(5/16")	A	No	Surface Ar (CaAa)	70.00 - 0.00	2	1	0.460 0.460	0.330		0.60
*** MOD 1 ***										
Aero MP305	C	No	Surface Af (CaAa)	20.50 - 0.50	1	1	-0.250 -0.250	5.330	14.840	0.00
Aero MP305	C	No	Surface Af (CaAa)	20.50 - 0.50	1	1	0.250 0.250	5.330	14.840	0.00
Aero MP305	A	No	Surface Af (CaAa)	30.50 - 0.50	1	1	0.000 0.000	5.330	14.840	0.00
Aero MP305	B	No	Surface Af (CaAa)	30.50 - 0.50	1	1	0.000 0.000	5.330	14.840	0.00
Aero MP305	A	No	Surface Af (CaAa)	45.50 - 30.50	1	1	0.000 0.000	5.330	14.840	19.23
Aero MP305	A	No	Surface Af (CaAa)	45.50 - 30.50	1	1	0.000 0.000	5.330	14.840	19.23
Aero MP305	C	No	Surface Af (CaAa)	45.50 - 11.67	1	1	0.000 0.000	5.330	14.840	0.00
Aero MP305	A	No	Surface Af (CaAa)	69.00 - 49.00	1	1	0.000 0.000	5.330	14.840	0.00
Aero MP305	B	No	Surface Af (CaAa)	69.00 - 49.00	1	1	0.000 0.000	5.330	14.840	0.00
Aero MP305	C	No	Surface Af (CaAa)	69.00 - 49.00	1	1	0.000 0.000	5.330	14.840	0.00
****										
****										
****										
*** MOD 2 ****										
Aero MP305	A	No	Surface Af (CaAa)	55.25 - 40.25	1	1	0.250 0.250	5.330	14.840	0.00
Aero MP305	B	No	Surface Af (CaAa)	55.25 - 40.25	1	1	0.250 0.250	5.330	14.840	0.00
Aero MP305	C	No	Surface Af (CaAa)	55.25 - 40.25	1	1	0.250 0.250	5.330	14.840	0.00
Aero MP303	A	No	Surface Af (CaAa)	80.00 - 65.00	1	1	0.250 0.250	4.060	11.260	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Aero MP303	B	No	Surface Af (CaAa)	80.00 - 65.00	1	1	0.250 0.250	4.060	11.260	0.00
Aero MP303	C	No	Surface Af (CaAa)	80.00 - 65.00	1	1	0.250 0.250	4.060	11.260	0.00
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*** MOD 3 ***										
Aero MP305	A	No	Surface Af (CaAa)	26.50 - 16.50	1	1	0.000 0.000	5.330	14.840	19.23
Aero MP303	C	No	Surface Af (CaAa)	86.50 - 61.50	1	1	-0.250 -0.250	4.060	11.260	0.00
Aero MP303	A	No	Surface Af (CaAa)	86.50 - 76.50	1	1	0.000 0.000	4.060	11.260	9.94
Aero MP303	B	No	Surface Af (CaAa)	86.50 - 76.50	1	1	0.000 0.000	4.060	11.260	9.94
Aero MP303	A	No	Surface Af (CaAa)	103.20 - 93.20	1	1	-0.250 0.250	4.060	11.260	0.00
Aero MP303	B	No	Surface Af (CaAa)	103.20 - 93.20	1	1	-0.250 -0.250	4.060	11.260	0.00
Aero MP303	C	No	Surface Af (CaAa)	103.20 - 93.20	1	1	-0.250 -0.250	4.060	11.260	0.00
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*** MOD 4 ***										
6" x 1.25" Flat Plate	A	No	Surface Af (CaAa)	30.50 - 0.50	1	1	-0.250 -0.250	6.000	14.500	25.52
6" x 1" Flat Plate	A	No	Surface Af (CaAa)	45.67 - 20.67	1	1	0.500 0.500	6.000	14.000	20.42
6" x 1" Flat Plate	A	No	Surface Af (CaAa)	45.67 - 20.67	1	1	-0.500 -0.500	6.000	14.000	20.42
6" x 1" Flat Plate	A	No	Surface Af (CaAa)	62.00 - 47.00	1	1	0.250 0.250	6.000	14.000	20.42
6" x 1" Flat Plate	A	No	Surface Af (CaAa)	84.50 - 64.50	1	1	0.250 0.250	6.000	14.000	0.00
6" x 1" Flat Plate	C	No	Surface Af (CaAa)	84.50 - 64.50	1	1	0.250 0.250	6.000	14.000	0.00
6" x 1" Flat Plate	A	No	Surface Af (CaAa)	95.00 - 80.00	1	1	0.000 0.000	6.000	14.000	0.00
6" x 1" Flat Plate	C	No	Surface Af (CaAa)	95.00 - 80.00	1	1	0.000 0.000	6.000	14.000	0.00
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Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight plf
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HB114-1-08U 4-M5J(1 1/4")	B	No	No	Inside Pole	139.00 - 0.00	0.000	0	3	No	0.00	1.08
									Ice	0.00	1.08
									1/2" Ice	0.00	1.08
									1" Ice	0.00	1.08
									2" Ice		
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LDF5-50A(7/ 8")	B	No	No	Inside Pole	128.00 - 0.00	0.000	0	9	No	0.00	0.33
									Ice	0.00	0.33
									1/2" Ice	0.00	0.33
									1" Ice	0.00	0.33
									2" Ice		
WR-VG86ST-BRD(3/4)	B	No	No	Inside Pole	128.00 - 0.00	0.000	0	6	No	0.00	0.58
									Ice	0.00	0.58
									1/2" Ice	0.00	0.58
									1" Ice	0.00	0.58
									2" Ice		
2" Rigid Conduit	B	No	No	Inside Pole	128.00 - 0.00	0.000	0	1	No	0.00	2.80
									Ice	0.00	2.80
									1/2" Ice	0.00	2.80
									1" Ice	0.00	2.80
									2" Ice		
FB-L98B-034-XXX(3/8)	B	No	No	Inside Pole	128.00 - 0.00	0.000	0	3	No	0.00	0.06
									Ice	0.00	0.06
									1/2" Ice	0.00	0.06
									1" Ice	0.00	0.06
									2" Ice		
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LDF7-50A(1-5/8")	C	No	No	Inside Pole	108.00 - 0.00	0.000	0	6	No	0.00	0.82
									Ice	0.00	0.82
									1/2" Ice	0.00	0.82
									1" Ice	0.00	0.82
									2" Ice		
HB158-1-08U 8-S8J18(1-5/8)	C	No	No	Inside Pole	108.00 - 0.00	0.000	0	1	No	0.00	1.30
									Ice	0.00	1.30
									1/2" Ice	0.00	1.30
									1" Ice	0.00	1.30
									2" Ice		
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LDF4-50A(1/ 2")	B	No	No	Inside Pole	49.00 - 0.00	0.000	0	1	No	0.00	0.15
									Ice	0.00	0.15
									1/2" Ice	0.00	0.15
									1" Ice	0.00	0.15
									2" Ice		
5/16"	B	No	No	Inside Pole	49.00 - 0.00	0.000	0	1	No	0.00	0.20
									Ice	0.00	0.20

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight plf
									1/2" Ice	0.00	0.20
									1" Ice	0.00	0.20
									2" Ice		
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Detuning Wire	A	No	No	CaAa (Out Of Face)	6.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2" Ice	0.23	1.53
									1" Ice	0.43	5.50
									2" Ice		
Detuning Wire	B	No	No	CaAa (Out Of Face)	6.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2" Ice	0.23	1.53
									1" Ice	0.43	5.50
									2" Ice		
Detuning Wire	C	No	No	CaAa (Out Of Face)	6.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2" Ice	0.23	1.53
									1" Ice	0.43	5.50
									2" Ice		
Detuning Wire	A	No	No	CaAa (Out Of Face)	85.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2" Ice	0.23	1.53
									1" Ice	0.43	5.50
									2" Ice		
Detuning Wire	B	No	No	CaAa (Out Of Face)	85.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2" Ice	0.23	1.53
									1" Ice	0.43	5.50
									2" Ice		
Detuning Wire	C	No	No	CaAa (Out Of Face)	85.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2"	0.23	1.53

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight plf
									Ice	0.43	5.50
									1" Ice		
									2" Ice		
Detuning Wire	A	No	No	CaAa (Out Of Face)	135.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2"	0.23	1.53
									Ice	0.43	5.50
									1" Ice		
									2" Ice		
Detuning Wire	B	No	No	CaAa (Out Of Face)	135.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2"	0.23	1.53
									Ice	0.43	5.50
									1" Ice		
									2" Ice		
Detuning Wire	C	No	No	CaAa (Out Of Face)	135.00 - 0.00	36.000	0	1	No	0.03	0.25
									Ice	0.13	0.46
									1/2"	0.23	1.53
									Ice	0.43	5.50
									1" Ice		
									2" Ice		
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Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	140.00-135.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.188	0.000	0.00
L2	135.00-130.00	A	0.000	0.000	0.000	0.125	0.00
		B	0.000	0.000	0.000	0.125	0.02
		C	0.000	0.000	0.188	0.125	0.00
L3	130.00-125.00	A	0.000	0.000	0.000	0.125	0.00
		B	0.000	0.000	0.000	0.125	0.05
		C	0.000	0.000	0.188	0.125	0.00
L4	125.00-120.00	A	0.000	0.000	0.000	0.125	0.00
		B	0.000	0.000	0.000	0.125	0.06
		C	0.000	0.000	0.188	0.125	0.00
L5	120.00-115.00	A	0.000	0.000	0.000	0.125	0.00
		B	0.000	0.000	0.000	0.125	0.06
		C	0.000	0.000	0.188	0.125	0.00
L6	115.00-110.00	A	0.000	0.000	0.000	0.125	0.00
		B	0.000	0.000	0.000	0.125	0.06
		C	0.000	0.000	0.188	0.125	0.00
L7	110.00-105.00	A	0.000	0.000	0.000	0.125	0.00
		B	0.000	0.000	0.000	0.125	0.06
		C	0.000	0.000	0.188	0.125	0.02
L8	105.00-102.00	A	0.000	0.000	0.812	0.075	0.00
		B	0.000	0.000	0.812	0.075	0.04
		C	0.000	0.000	0.924	0.075	0.02
L9	102.00-101.75	A	0.000	0.000	0.169	0.006	0.00
		B	0.000	0.000	0.169	0.006	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	0.179	0.006	0.00
L10	101.75-96.75	A	0.000	0.000	6.485	0.125	0.02
		B	0.000	0.000	3.383	0.125	0.06
		C	0.000	0.000	3.571	0.125	0.03
L11	96.75-91.75	A	0.000	0.000	10.425	0.125	0.03
		B	0.000	0.000	2.402	0.125	0.06
		C	0.000	0.000	5.840	0.125	0.03
L12	91.75-90.75	A	0.000	0.000	1.954	0.025	0.01
		B	0.000	0.000	0.000	0.025	0.01
		C	0.000	0.000	1.038	0.025	0.01
L13	90.75-85.75	A	0.000	0.000	10.280	0.125	0.04
		B	0.000	0.000	0.507	0.125	0.07
		C	0.000	0.000	5.695	0.125	0.03
L14	85.75-85.33	A	0.000	0.000	1.105	0.011	0.01
		B	0.000	0.000	0.284	0.011	0.01
		C	0.000	0.000	0.720	0.011	0.00
L15	85.33-85.08	A	0.000	0.000	0.658	0.006	0.00
		B	0.000	0.000	0.169	0.006	0.01
		C	0.000	0.000	0.429	0.006	0.00
L16	85.08-82.50	A	0.000	0.000	8.788	0.127	0.04
		B	0.000	0.000	1.746	0.127	0.06
		C	0.000	0.000	6.423	0.127	0.02
L17	82.50-82.25	A	0.000	0.000	0.908	0.013	0.00
		B	0.000	0.000	0.169	0.013	0.01
		C	0.000	0.000	0.679	0.013	0.00
L18	82.25-82.00	A	0.000	0.000	0.908	0.013	0.00
		B	0.000	0.000	0.169	0.013	0.01
		C	0.000	0.000	0.679	0.013	0.00
L19	82.00-81.75	A	0.000	0.000	0.908	0.013	0.00
		B	0.000	0.000	0.169	0.013	0.01
		C	0.000	0.000	0.679	0.013	0.00
L20	81.75-78.17	A	0.000	0.000	12.408	0.179	0.06
		B	0.000	0.000	3.661	0.179	0.08
		C	0.000	0.000	9.125	0.179	0.02
L21	78.17-77.92	A	0.000	0.000	0.827	0.013	0.00
		B	0.000	0.000	0.338	0.013	0.01
		C	0.000	0.000	0.598	0.013	0.00
L22	77.92-77.67	A	0.000	0.000	0.827	0.013	0.00
		B	0.000	0.000	0.338	0.013	0.01
		C	0.000	0.000	0.598	0.013	0.00
L23	77.67-77.42	A	0.000	0.000	0.827	0.013	0.00
		B	0.000	0.000	0.338	0.013	0.01
		C	0.000	0.000	0.598	0.013	0.00
L24	77.42-77.17	A	0.000	0.000	0.837	0.013	0.00
		B	0.000	0.000	0.342	0.013	0.01
		C	0.000	0.000	0.605	0.013	0.00
L25	77.17-72.17	A	0.000	0.000	13.607	0.250	0.04
		B	0.000	0.000	3.835	0.250	0.07
		C	0.000	0.000	11.954	0.250	0.03
L26	72.17-67.17	A	0.000	0.000	14.878	0.250	0.04
		B	0.000	0.000	5.012	0.250	0.07
		C	0.000	0.000	13.582	0.250	0.03
L27	67.17-66.48	A	0.000	0.000	2.430	0.034	0.01
		B	0.000	0.000	1.070	0.034	0.01
		C	0.000	0.000	2.243	0.034	0.00
L28	66.48-66.23	A	0.000	0.000	0.888	0.013	0.00
		B	0.000	0.000	0.391	0.013	0.00
		C	0.000	0.000	0.820	0.013	0.00
L29	66.23-65.50	A	0.000	0.000	2.604	0.037	0.01
		B	0.000	0.000	1.147	0.037	0.01
		C	0.000	0.000	2.404	0.037	0.01

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L30	65.50-65.25	A	0.000	0.000	0.888	0.013	0.00
		B	0.000	0.000	0.391	0.013	0.00
		C	0.000	0.000	0.820	0.013	0.00
L31	65.25-62.67	A	0.000	0.000	5.759	0.129	0.02
		B	0.000	0.000	2.461	0.129	0.03
		C	0.000	0.000	5.054	0.129	0.02
L32	62.67-62.42	A	0.000	0.000	0.469	0.013	0.00
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.401	0.013	0.00
L33	62.42-60.00	A	0.000	0.000	6.540	0.121	0.06
		B	0.000	0.000	2.150	0.121	0.03
		C	0.000	0.000	2.863	0.121	0.02
L34	60.00-59.75	A	0.000	0.000	0.719	0.013	0.01
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.231	0.013	0.00
L35	59.75-54.75	A	0.000	0.000	14.823	0.250	0.14
		B	0.000	0.000	4.886	0.250	0.07
		C	0.000	0.000	5.073	0.250	0.03
L36	54.75-53.42	A	0.000	0.000	5.006	0.067	0.04
		B	0.000	0.000	2.363	0.067	0.02
		C	0.000	0.000	2.413	0.067	0.01
L37	53.42-53.17	A	0.000	0.000	0.941	0.013	0.01
		B	0.000	0.000	0.444	0.013	0.00
		C	0.000	0.000	0.454	0.013	0.00
L38	53.17-51.42	A	0.000	0.000	6.599	0.088	0.05
		B	0.000	0.000	3.114	0.088	0.02
		C	0.000	0.000	3.180	0.088	0.01
L39	51.42-51.17	A	0.000	0.000	0.941	0.013	0.01
		B	0.000	0.000	0.444	0.013	0.00
		C	0.000	0.000	0.454	0.013	0.00
L40	51.17-46.50	A	0.000	0.000	14.847	0.233	0.12
		B	0.000	0.000	6.071	0.233	0.06
		C	0.000	0.000	6.246	0.233	0.03
L41	46.50-45.50	A	0.000	0.000	2.210	0.050	0.01
		B	0.000	0.000	0.888	0.050	0.01
		C	0.000	0.000	0.926	0.050	0.01
L42	45.50-43.67	A	0.000	0.000	10.361	0.092	0.16
		B	0.000	0.000	1.628	0.092	0.02
		C	0.000	0.000	3.325	0.092	0.01
L43	43.67-43.42	A	0.000	0.000	1.413	0.013	0.02
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.454	0.013	0.00
L44	43.42-43.25	A	0.000	0.000	0.944	0.008	0.01
		B	0.000	0.000	0.148	0.008	0.00
		C	0.000	0.000	0.303	0.008	0.00
L45	43.25-43.00	A	0.000	0.000	1.413	0.013	0.02
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.454	0.013	0.00
L46	43.00-38.00	A	0.000	0.000	26.264	0.250	0.44
		B	0.000	0.000	2.443	0.250	0.07
		C	0.000	0.000	7.072	0.250	0.03
L47	38.00-33.00	A	0.000	0.000	23.821	0.250	0.44
		B	0.000	0.000	0.000	0.250	0.07
		C	0.000	0.000	4.629	0.250	0.03
L48	33.00-29.25	A	0.000	0.000	18.005	0.188	0.31
		B	0.000	0.000	1.110	0.188	0.05
		C	0.000	0.000	3.472	0.188	0.03
L49	29.25-29.00	A	0.000	0.000	1.219	0.013	0.02
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.231	0.013	0.00
L50	29.00-28.08	A	0.000	0.000	4.486	0.046	0.07

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.817	0.046	0.01
		C	0.000	0.000	0.852	0.046	0.01
L51	28.08-27.73	A	0.000	0.000	1.707	0.018	0.03
		B	0.000	0.000	0.311	0.018	0.00
		C	0.000	0.000	0.324	0.018	0.00
L52	27.73-27.50	A	0.000	0.000	1.121	0.012	0.02
		B	0.000	0.000	0.204	0.012	0.00
		C	0.000	0.000	0.213	0.012	0.00
L53	27.50-24.08	A	0.000	0.000	18.663	0.171	0.30
		B	0.000	0.000	3.035	0.171	0.05
		C	0.000	0.000	3.164	0.171	0.02
L54	24.08-23.83	A	0.000	0.000	1.426	0.013	0.02
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.231	0.013	0.00
L55	23.83-22.67	A	0.000	0.000	6.651	0.058	0.11
		B	0.000	0.000	1.036	0.058	0.02
		C	0.000	0.000	1.080	0.058	0.01
L56	22.67-22.42	A	0.000	0.000	1.426	0.013	0.02
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.231	0.013	0.00
L57	22.42-18.92	A	0.000	0.000	16.465	0.175	0.26
		B	0.000	0.000	3.109	0.175	0.05
		C	0.000	0.000	6.053	0.175	0.02
L58	18.92-18.67	A	0.000	0.000	0.926	0.013	0.01
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.676	0.013	0.00
L59	18.67-18.08	A	0.000	0.000	2.163	0.029	0.03
		B	0.000	0.000	0.519	0.029	0.01
		C	0.000	0.000	1.578	0.029	0.00
L60	18.08-17.83	A	0.000	0.000	0.926	0.013	0.01
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.676	0.013	0.00
L61	17.83-14.08	A	0.000	0.000	11.897	0.188	0.15
		B	0.000	0.000	3.334	0.188	0.05
		C	0.000	0.000	10.142	0.188	0.03
L62	14.08-13.83	A	0.000	0.000	0.719	0.013	0.01
		B	0.000	0.000	0.222	0.013	0.00
		C	0.000	0.000	0.676	0.013	0.00
L63	13.83-8.83	A	0.000	0.000	14.379	0.250	0.17
		B	0.000	0.000	4.442	0.250	0.07
		C	0.000	0.000	10.992	0.250	0.03
L64	8.83-3.83	A	0.000	0.000	14.379	0.304	0.17
		B	0.000	0.000	4.442	0.304	0.07
		C	0.000	0.000	9.071	0.304	0.04
L65	3.83-3.25	A	0.000	0.000	1.668	0.043	0.02
		B	0.000	0.000	0.515	0.043	0.01
		C	0.000	0.000	1.052	0.043	0.00
L66	3.25-3.00	A	0.000	0.000	0.719	0.019	0.01
		B	0.000	0.000	0.222	0.019	0.00
		C	0.000	0.000	0.454	0.019	0.00
L67	3.00-2.17	A	0.000	0.000	2.387	0.062	0.03
		B	0.000	0.000	0.737	0.062	0.01
		C	0.000	0.000	1.506	0.062	0.01
L68	2.17-1.92	A	0.000	0.000	0.719	0.019	0.01
		B	0.000	0.000	0.222	0.019	0.00
		C	0.000	0.000	0.454	0.019	0.00
L69	1.92-0.00	A	0.000	0.000	4.577	0.144	0.05
		B	0.000	0.000	1.261	0.144	0.03
		C	0.000	0.000	2.595	0.144	0.01

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	140.00-135.00	A	1.961	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.01
		C		0.000	0.000	2.148	0.000	0.03
L2	135.00-130.00	A	1.953	0.000	0.000	0.000	2.079	0.03
		B		0.000	0.000	0.000	2.079	0.04
		C		0.000	0.000	2.141	2.079	0.06
L3	130.00-125.00	A	1.946	0.000	0.000	0.000	2.071	0.03
		B		0.000	0.000	0.000	2.071	0.07
		C		0.000	0.000	2.133	2.071	0.06
L4	125.00-120.00	A	1.938	0.000	0.000	0.000	2.063	0.03
		B		0.000	0.000	0.000	2.063	0.09
		C		0.000	0.000	2.126	2.063	0.05
L5	120.00-115.00	A	1.930	0.000	0.000	0.000	2.055	0.03
		B		0.000	0.000	0.000	2.055	0.09
		C		0.000	0.000	2.118	2.055	0.05
L6	115.00-110.00	A	1.922	0.000	0.000	0.000	2.047	0.03
		B		0.000	0.000	0.000	2.047	0.09
		C		0.000	0.000	2.109	2.047	0.05
L7	110.00-105.00	A	1.913	0.000	0.000	0.000	2.038	0.03
		B		0.000	0.000	0.000	2.038	0.09
		C		0.000	0.000	2.101	2.038	0.07
L8	105.00-102.00	A	1.906	0.000	0.000	1.088	1.219	0.03
		B		0.000	0.000	1.088	1.219	0.07
		C		0.000	0.000	2.344	1.219	0.07
L9	102.00-101.75	A	1.903	0.000	0.000	0.227	0.101	0.00
		B		0.000	0.000	0.227	0.101	0.01
		C		0.000	0.000	0.331	0.101	0.01
L10	101.75-96.75	A	1.898	0.000	0.000	12.173	2.023	0.22
		B		0.000	0.000	4.531	2.023	0.16
		C		0.000	0.000	6.616	2.023	0.15
L11	96.75-91.75	A	1.888	0.000	0.000	19.067	2.013	0.32
		B		0.000	0.000	3.213	2.013	0.14
		C		0.000	0.000	9.417	2.013	0.18
L12	91.75-90.75	A	1.882	0.000	0.000	3.616	0.403	0.06
		B		0.000	0.000	0.000	0.403	0.02
		C		0.000	0.000	1.686	0.403	0.03
L13	90.75-85.75	A	1.876	0.000	0.000	18.709	2.001	0.31
		B		0.000	0.000	0.678	2.001	0.11
		C		0.000	0.000	9.197	2.001	0.17
L14	85.75-85.33	A	1.870	0.000	0.000	1.892	0.168	0.03
		B		0.000	0.000	0.379	0.168	0.02
		C		0.000	0.000	1.147	0.168	0.02
L15	85.33-85.08	A	1.869	0.000	0.000	1.126	0.100	0.02
		B		0.000	0.000	0.226	0.100	0.01
		C		0.000	0.000	0.683	0.100	0.01
L16	85.08-82.50	A	1.866	0.000	0.000	14.359	2.023	0.25
		B		0.000	0.000	2.329	2.023	0.12
		C		0.000	0.000	9.784	2.023	0.16
L17	82.50-82.25	A	1.863	0.000	0.000	1.468	0.199	0.03
		B		0.000	0.000	0.226	0.199	0.01
		C		0.000	0.000	1.025	0.199	0.02
L18	82.25-82.00	A	1.862	0.000	0.000	1.467	0.199	0.03
		B		0.000	0.000	0.226	0.199	0.01
		C		0.000	0.000	1.025	0.199	0.02
L19	82.00-81.75	A	1.862	0.000	0.000	1.467	0.199	0.03
		B		0.000	0.000	0.226	0.199	0.01

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	1.024	0.199	0.02
L20	81.75-78.17	A	1.857	0.000	0.000	20.568	2.839	0.36
		B		0.000	0.000	5.119	2.839	0.19
		C		0.000	0.000	14.231	2.839	0.23
L21	78.17-77.92	A	1.853	0.000	0.000	1.406	0.198	0.02
		B		0.000	0.000	0.483	0.198	0.01
		C		0.000	0.000	0.964	0.198	0.02
L22	77.92-77.67	A	1.852	0.000	0.000	1.406	0.198	0.02
		B		0.000	0.000	0.483	0.198	0.01
		C		0.000	0.000	0.964	0.198	0.02
L23	77.67-77.42	A	1.852	0.000	0.000	1.406	0.198	0.02
		B		0.000	0.000	0.483	0.198	0.01
		C		0.000	0.000	0.964	0.198	0.02
L24	77.42-77.17	A	1.851	0.000	0.000	1.423	0.200	0.03
		B		0.000	0.000	0.489	0.200	0.01
		C		0.000	0.000	0.976	0.200	0.02
L25	77.17-72.17	A	1.845	0.000	0.000	24.182	3.939	0.40
		B		0.000	0.000	5.755	3.939	0.19
		C		0.000	0.000	19.257	3.939	0.31
L26	72.17-67.17	A	1.832	0.000	0.000	26.951	3.914	0.44
		B		0.000	0.000	7.444	3.914	0.20
		C		0.000	0.000	21.511	3.914	0.34
L27	67.17-66.48	A	1.824	0.000	0.000	4.342	0.533	0.07
		B		0.000	0.000	1.560	0.533	0.03
		C		0.000	0.000	3.481	0.533	0.05
L28	66.48-66.23	A	1.823	0.000	0.000	1.586	0.195	0.03
		B		0.000	0.000	0.570	0.195	0.01
		C		0.000	0.000	1.272	0.195	0.02
L29	66.23-65.50	A	1.822	0.000	0.000	4.650	0.571	0.07
		B		0.000	0.000	1.671	0.571	0.04
		C		0.000	0.000	3.729	0.571	0.06
L30	65.50-65.25	A	1.820	0.000	0.000	1.585	0.195	0.03
		B		0.000	0.000	0.570	0.195	0.01
		C		0.000	0.000	1.271	0.195	0.02
L31	65.25-62.67	A	1.816	0.000	0.000	11.461	2.003	0.20
		B		0.000	0.000	3.486	2.003	0.10
		C		0.000	0.000	8.225	2.003	0.14
L32	62.67-62.42	A	1.812	0.000	0.000	0.986	0.194	0.02
		B		0.000	0.000	0.313	0.194	0.01
		C		0.000	0.000	0.672	0.194	0.01
L33	62.42-60.00	A	1.808	0.000	0.000	12.055	1.871	0.25
		B		0.000	0.000	3.025	1.871	0.09
		C		0.000	0.000	4.946	1.871	0.10
L34	60.00-59.75	A	1.804	0.000	0.000	1.299	0.193	0.03
		B		0.000	0.000	0.312	0.193	0.01
		C		0.000	0.000	0.412	0.193	0.01
L35	59.75-54.75	A	1.796	0.000	0.000	26.520	3.843	0.54
		B		0.000	0.000	6.825	3.843	0.19
		C		0.000	0.000	8.809	3.843	0.19
L36	54.75-53.42	A	1.786	0.000	0.000	8.444	1.017	0.16
		B		0.000	0.000	3.218	1.017	0.07
		C		0.000	0.000	3.743	1.017	0.07
L37	53.42-53.17	A	1.783	0.000	0.000	1.586	0.191	0.03
		B		0.000	0.000	0.605	0.191	0.01
		C		0.000	0.000	0.703	0.191	0.01
L38	53.17-51.42	A	1.780	0.000	0.000	11.116	1.336	0.21
		B		0.000	0.000	4.238	1.336	0.09
		C		0.000	0.000	4.928	1.336	0.09
L39	51.42-51.17	A	1.777	0.000	0.000	1.584	0.190	0.03
		B		0.000	0.000	0.604	0.190	0.01
		C		0.000	0.000	0.702	0.190	0.01

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L40	51.17-46.50	A	1.768	0.000	0.000	25.789	3.534	0.51
		B		0.000	0.000	8.160	3.534	0.20
		C		0.000	0.000	9.986	3.534	0.20
L41	46.50-45.50	A	1.757	0.000	0.000	4.279	0.757	0.08
		B		0.000	0.000	1.173	0.757	0.04
		C		0.000	0.000	1.564	0.757	0.04
L42	45.50-43.67	A	1.752	0.000	0.000	16.225	1.376	0.38
		B		0.000	0.000	2.145	1.376	0.07
		C		0.000	0.000	5.127	1.376	0.09
L43	43.67-43.42	A	1.748	0.000	0.000	2.211	0.187	0.05
		B		0.000	0.000	0.292	0.187	0.01
		C		0.000	0.000	0.699	0.187	0.01
L44	43.42-43.25	A	1.747	0.000	0.000	1.477	0.125	0.03
		B		0.000	0.000	0.195	0.125	0.01
		C		0.000	0.000	0.467	0.125	0.01
L45	43.25-43.00	A	1.746	0.000	0.000	2.211	0.187	0.05
		B		0.000	0.000	0.292	0.187	0.01
		C		0.000	0.000	0.698	0.187	0.01
L46	43.00-38.00	A	1.735	0.000	0.000	41.499	3.720	0.99
		B		0.000	0.000	3.214	3.720	0.15
		C		0.000	0.000	11.313	3.720	0.21
L47	38.00-33.00	A	1.712	0.000	0.000	38.120	3.675	0.94
		B		0.000	0.000	0.000	3.675	0.11
		C		0.000	0.000	8.054	3.675	0.17
L48	33.00-29.25	A	1.690	0.000	0.000	28.764	2.723	0.68
		B		0.000	0.000	1.533	2.723	0.10
		C		0.000	0.000	6.007	2.723	0.12
L49	29.25-29.00	A	1.679	0.000	0.000	1.952	0.180	0.04
		B		0.000	0.000	0.306	0.180	0.01
		C		0.000	0.000	0.399	0.180	0.01
L50	29.00-28.08	A	1.675	0.000	0.000	7.180	0.663	0.16
		B		0.000	0.000	1.126	0.663	0.03
		C		0.000	0.000	1.468	0.663	0.03
L51	28.08-27.73	A	1.672	0.000	0.000	2.729	0.252	0.06
		B		0.000	0.000	0.428	0.252	0.01
		C		0.000	0.000	0.558	0.252	0.01
L52	27.73-27.50	A	1.670	0.000	0.000	1.793	0.165	0.04
		B		0.000	0.000	0.281	0.165	0.01
		C		0.000	0.000	0.367	0.165	0.01
L53	27.50-24.08	A	1.659	0.000	0.000	29.007	2.438	0.66
		B		0.000	0.000	4.169	2.438	0.12
		C		0.000	0.000	5.431	2.438	0.11
L54	24.08-23.83	A	1.646	0.000	0.000	2.191	0.177	0.05
		B		0.000	0.000	0.304	0.177	0.01
		C		0.000	0.000	0.396	0.177	0.01
L55	23.83-22.67	A	1.641	0.000	0.000	10.207	0.824	0.24
		B		0.000	0.000	1.419	0.824	0.04
		C		0.000	0.000	1.845	0.824	0.04
L56	22.67-22.42	A	1.636	0.000	0.000	2.186	0.176	0.05
		B		0.000	0.000	0.304	0.176	0.01
		C		0.000	0.000	0.395	0.176	0.01
L57	22.42-18.92	A	1.622	0.000	0.000	25.886	2.446	0.59
		B		0.000	0.000	4.245	2.446	0.12
		C		0.000	0.000	9.351	2.446	0.15
L58	18.92-18.67	A	1.607	0.000	0.000	1.513	0.173	0.03
		B		0.000	0.000	0.302	0.173	0.01
		C		0.000	0.000	0.997	0.173	0.01
L59	18.67-18.08	A	1.603	0.000	0.000	3.531	0.404	0.08
		B		0.000	0.000	0.706	0.404	0.02
		C		0.000	0.000	2.327	0.404	0.03
L60	18.08-17.83	A	1.600	0.000	0.000	1.510	0.172	0.03

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
		B		0.000	0.000	0.302	0.172	0.01
		C		0.000	0.000	0.996	0.172	0.01
L61	17.83-14.08	A	1.581	0.000	0.000	20.155	2.561	0.42
		B		0.000	0.000	4.520	2.561	0.13
		C		0.000	0.000	14.889	2.561	0.21
L62	14.08-13.83	A	1.560	0.000	0.000	1.247	0.168	0.02
		B		0.000	0.000	0.300	0.168	0.01
		C		0.000	0.000	0.988	0.168	0.01
L63	13.83-8.83	A	1.527	0.000	0.000	24.744	3.305	0.48
		B		0.000	0.000	5.969	3.305	0.16
		C		0.000	0.000	16.236	3.305	0.24
L64	8.83-3.83	A	1.441	0.000	0.000	24.203	3.812	0.46
		B		0.000	0.000	5.883	3.812	0.16
		C		0.000	0.000	13.394	3.812	0.20
L65	3.83-3.25	A	1.360	0.000	0.000	2.749	0.517	0.05
		B		0.000	0.000	0.673	0.517	0.02
		C		0.000	0.000	1.525	0.517	0.02
L66	3.25-3.00	A	1.343	0.000	0.000	1.180	0.220	0.02
		B		0.000	0.000	0.289	0.220	0.01
		C		0.000	0.000	0.655	0.220	0.01
L67	3.00-2.17	A	1.318	0.000	0.000	3.890	0.719	0.07
		B		0.000	0.000	0.956	0.719	0.03
		C		0.000	0.000	2.162	0.719	0.03
L68	2.17-1.92	A	1.287	0.000	0.000	1.162	0.212	0.02
		B		0.000	0.000	0.286	0.212	0.01
		C		0.000	0.000	0.647	0.212	0.01
L69	1.92-0.00	A	1.193	0.000	0.000	7.517	1.519	0.13
		B		0.000	0.000	1.600	1.519	0.05
		C		0.000	0.000	3.731	1.519	0.06

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	140.00-135.00	0.000	0.229	0.000	1.438
L2	135.00-130.00	0.000	0.218	0.000	0.990
L3	130.00-125.00	0.000	0.218	0.000	1.017
L4	125.00-120.00	0.000	0.219	0.000	1.043
L5	120.00-115.00	0.000	0.219	0.000	1.066
L6	115.00-110.00	0.000	0.220	0.000	1.088
L7	110.00-105.00	0.000	0.220	0.000	1.109
L8	105.00-102.00	0.161	-1.007	0.111	0.101
L9	102.00-101.75	0.282	-1.927	0.215	-0.848
L10	101.75-96.75	-0.112	-3.382	-0.278	-2.828
L11	96.75-91.75	-1.441	-2.191	-1.327	-2.560
L12	91.75-90.75	-2.483	-0.993	-2.082	-1.724
L13	90.75-85.75	-2.168	-1.037	-1.840	-1.723
L14	85.75-85.33	-0.768	-1.182	-0.644	-1.628
L15	85.33-85.08	-0.769	-1.184	-0.645	-1.631
L16	85.08-82.50	-1.746	-1.512	-1.410	-1.735
L17	82.50-82.25	-1.982	-1.599	-1.615	-1.800
L18	82.25-82.00	-1.985	-1.601	-1.617	-1.803
L19	82.00-81.75	-1.988	-1.603	-1.620	-1.805
L20	81.75-78.17	-1.390	-1.980	-1.156	-2.065
L21	78.17-77.92	-0.813	-2.345	-0.721	-2.311
L22	77.92-77.67	-0.814	-2.348	-0.722	-2.314

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L23	77.67-77.42	-0.815	-2.350	-0.723	-2.317
L24	77.42-77.17	-0.816	-2.353	-0.724	-2.321
L25	77.17-72.17	-0.931	-1.719	-0.805	-1.855
L26	72.17-67.17	-0.873	-1.500	-0.778	-1.844
L27	67.17-66.48	-0.754	-1.311	-0.699	-1.758
L28	66.48-66.23	-0.756	-1.314	-0.701	-1.763
L29	66.23-65.50	-0.757	-1.317	-0.703	-1.767
L30	65.50-65.25	-0.759	-1.320	-0.704	-1.772
L31	65.25-62.67	0.245	-1.228	0.058	-1.873
L32	62.67-62.42	0.870	-1.078	0.503	-1.824
L33	62.42-60.00	-0.071	-3.403	-0.256	-3.526
L34	60.00-59.75	-0.635	-4.562	-0.690	-4.147
L35	59.75-54.75	-0.619	-4.450	-0.682	-4.101
L36	54.75-53.42	-0.442	-3.187	-0.567	-3.413
L37	53.42-53.17	-0.444	-3.199	-0.569	-3.427
L38	53.17-51.42	-0.446	-3.212	-0.572	-3.444
L39	51.42-51.17	-0.447	-3.224	-0.574	-3.459
L40	51.17-46.50	-0.512	-3.589	-0.648	-3.817
L41	46.50-45.50	-0.271	-2.261	-0.477	-2.796
L42	45.50-43.67	-1.723	-0.876	-1.600	-1.534
L43	43.67-43.42	-1.730	-0.879	-1.608	-1.541
L44	43.42-43.25	-1.731	-0.880	-1.610	-1.542
L45	43.25-43.00	-1.731	-0.880	-1.611	-1.543
L46	43.00-38.00	-1.947	-0.990	-1.779	-1.701
L47	38.00-33.00	-2.298	-1.168	-2.046	-1.951
L48	33.00-29.25	-1.887	-0.836	-1.746	-1.699
L49	29.25-29.00	-1.100	-0.213	-1.137	-1.190
L50	29.00-28.08	-1.102	-0.213	-1.140	-1.192
L51	28.08-27.73	-1.105	-0.213	-1.143	-1.194
L52	27.73-27.50	-1.106	-0.213	-1.144	-1.195
L53	27.50-24.08	-1.951	-0.719	-1.787	-1.546
L54	24.08-23.83	-2.283	-0.917	-2.049	-1.689
L55	23.83-22.67	-2.289	-0.919	-2.055	-1.693
L56	22.67-22.42	-2.293	-0.920	-2.061	-1.696
L57	22.42-18.92	-2.852	-0.335	-2.529	-1.193
L58	18.92-18.67	-3.367	0.450	-2.967	-0.505
L59	18.67-18.08	-3.372	0.450	-2.973	-0.505
L60	18.08-17.83	-3.378	0.451	-2.979	-0.505
L61	17.83-14.08	-2.690	0.978	-2.448	-0.137
L62	14.08-13.83	-2.288	1.294	-2.144	0.082
L63	13.83-8.83	-2.437	0.332	-2.269	-0.790
L64	8.83-3.83	-2.575	-0.481	-2.341	-1.475
L65	3.83-3.25	-2.584	-0.483	-2.299	-1.419
L66	3.25-3.00	-2.587	-0.483	-2.305	-1.416
L67	3.00-2.17	-2.590	-0.484	-2.312	-1.411
L68	2.17-1.92	-2.593	-0.484	-2.320	-1.404
L69	1.92-0.00	-2.578	-1.127	-2.090	-1.897

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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	Safety Line 3/8	135.00 - 140.00	1.0000	1.0000
L2	1	Safety Line 3/8	130.00 - 135.00	1.0000	1.0000
L3	1	Safety Line 3/8	125.00 - 130.00	1.0000	1.0000
L4	1	Safety Line 3/8	120.00 - 125.00	1.0000	1.0000
L5	1	Safety Line 3/8	115.00 - 120.00	1.0000	1.0000
L6	1	Safety Line 3/8	110.00 - 115.00	1.0000	1.0000
L7	1	Safety Line 3/8	105.00 - 110.00	1.0000	1.0000
L8	1	Safety Line 3/8	102.00 - 105.00	1.0000	1.0000
L8	51	Aero MP303	102.00 - 103.20	1.0000	1.0000
L8	52	Aero MP303	102.00 - 103.20	1.0000	1.0000
L8	53	Aero MP303	102.00 - 103.20	1.0000	1.0000
L9	1	Safety Line 3/8	101.75 - 102.00	1.0000	1.0000
L9	51	Aero MP303	101.75 - 102.00	1.0000	1.0000
L9	52	Aero MP303	101.75 - 102.00	1.0000	1.0000
L9	53	Aero MP303	101.75 - 102.00	1.0000	1.0000
L10	1	Safety Line 3/8	96.75 - 101.75	1.0000	1.0000
L10	13	LDF5-50A(7/8")	96.75 - 100.00	1.0000	1.0000
L10	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	96.75 - 100.00	1.0000	1.0000
L10	15	HCS 6X12 6AWG(1-3/8)	96.75 - 100.00	1.0000	1.0000
L10	51	Aero MP303	96.75 - 101.75	1.0000	1.0000
L10	52	Aero MP303	96.75 - 101.75	1.0000	1.0000
L10	53	Aero MP303	96.75 - 101.75	1.0000	1.0000
L11	1	Safety Line 3/8	91.75 - 96.75	1.0000	1.0000
L11	13	LDF5-50A(7/8")	91.75 - 96.75	1.0000	1.0000
L11	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	91.75 - 96.75	1.0000	1.0000
L11	15	HCS 6X12 6AWG(1-3/8)	91.75 - 96.75	1.0000	1.0000
L11	51	Aero MP303	93.20 - 96.75	1.0000	1.0000
L11	52	Aero MP303	93.20 - 96.75	1.0000	1.0000
L11	53	Aero MP303	93.20 - 96.75	1.0000	1.0000
L11	65	6" x 1" Flat Plate	91.75 - 95.00	1.0000	1.0000
L11	66	6" x 1" Flat Plate	91.75 - 95.00	1.0000	1.0000
L13	1	Safety Line 3/8	85.75 - 90.75	1.0000	1.0000
L13	13	LDF5-50A(7/8")	85.75 - 90.75	1.0000	1.0000
L13	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	85.75 - 90.75	1.0000	1.0000
L13	15	HCS 6X12 6AWG(1-3/8)	85.75 - 90.75	1.0000	1.0000
L13	48	Aero MP303	85.75 - 86.50	1.0000	1.0000
L13	49	Aero MP303	85.75 - 86.50	1.0000	1.0000
L13	50	Aero MP303	85.75 - 86.50	1.0000	1.0000
L13	65	6" x 1" Flat Plate	85.75 - 90.75	1.0000	1.0000
L13	66	6" x 1" Flat Plate	85.75 - 90.75	1.0000	1.0000
L14	1	Safety Line 3/8	85.33 - 85.75	1.0000	1.0000
L14	13	LDF5-50A(7/8")	85.33 - 85.75	1.0000	1.0000
L14	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	85.33 - 85.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L14	15	HCS 6X12 6AWG(1-3/8)	85.33 - 85.75	1.0000	1.0000
L14	48	Aero MP303	85.33 - 85.75	1.0000	1.0000
L14	49	Aero MP303	85.33 - 85.75	1.0000	1.0000
L14	50	Aero MP303	85.33 - 85.75	1.0000	1.0000
L14	65	6" x 1" Flat Plate	85.33 - 85.75	1.0000	1.0000
L14	66	6" x 1" Flat Plate	85.33 - 85.75	1.0000	1.0000
L15	1	Safety Line 3/8	85.08 - 85.33	1.0000	1.0000
L15	13	LDF5-50A(7/8")	85.08 - 85.33	1.0000	1.0000
L15	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	85.08 - 85.33	1.0000	1.0000
L15	15	HCS 6X12 6AWG(1-3/8)	85.08 - 85.33	1.0000	1.0000
L15	48	Aero MP303	85.08 - 85.33	1.0000	1.0000
L15	49	Aero MP303	85.08 - 85.33	1.0000	1.0000
L15	50	Aero MP303	85.08 - 85.33	1.0000	1.0000
L15	65	6" x 1" Flat Plate	85.08 - 85.33	1.0000	1.0000
L15	66	6" x 1" Flat Plate	85.08 - 85.33	1.0000	1.0000
L16	1	Safety Line 3/8	82.50 - 85.08	1.0000	1.0000
L16	13	LDF5-50A(7/8")	82.50 - 85.08	1.0000	1.0000
L16	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	82.50 - 85.08	1.0000	1.0000
L16	15	HCS 6X12 6AWG(1-3/8)	82.50 - 85.08	1.0000	1.0000
L16	48	Aero MP303	82.50 - 85.08	1.0000	1.0000
L16	49	Aero MP303	82.50 - 85.08	1.0000	1.0000
L16	50	Aero MP303	82.50 - 85.08	1.0000	1.0000
L16	63	6" x 1" Flat Plate	82.50 - 84.50	1.0000	1.0000
L16	64	6" x 1" Flat Plate	82.50 - 84.50	1.0000	1.0000
L16	65	6" x 1" Flat Plate	82.50 - 85.08	1.0000	1.0000
L16	66	6" x 1" Flat Plate	82.50 - 85.08	1.0000	1.0000
L17	1	Safety Line 3/8	82.25 - 82.50	1.0000	1.0000
L17	13	LDF5-50A(7/8")	82.25 - 82.50	1.0000	1.0000
L17	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	82.25 - 82.50	1.0000	1.0000
L17	15	HCS 6X12 6AWG(1-3/8)	82.25 - 82.50	1.0000	1.0000
L17	48	Aero MP303	82.25 - 82.50	1.0000	1.0000
L17	49	Aero MP303	82.25 - 82.50	1.0000	1.0000
L17	50	Aero MP303	82.25 - 82.50	1.0000	1.0000
L17	63	6" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L17	64	6" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L17	65	6" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L17	66	6" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L18	1	Safety Line 3/8	82.00 - 82.25	1.0000	1.0000
L18	13	LDF5-50A(7/8")	82.00 - 82.25	1.0000	1.0000
L18	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	82.00 - 82.25	1.0000	1.0000
L18	15	HCS 6X12 6AWG(1-3/8)	82.00 - 82.25	1.0000	1.0000
L18	48	Aero MP303	82.00 - 82.25	1.0000	1.0000
L18	49	Aero MP303	82.00 - 82.25	1.0000	1.0000
L18	50	Aero MP303	82.00 - 82.25	1.0000	1.0000
L18	63	6" x 1" Flat Plate	82.00 - 82.25	1.0000	1.0000
L18	64	6" x 1" Flat Plate	82.00 - 82.25	1.0000	1.0000
L18	65	6" x 1" Flat Plate	82.00 - 82.25	1.0000	1.0000
L18	66	6" x 1" Flat Plate	82.00 - 82.25	1.0000	1.0000
L19	1	Safety Line 3/8	81.75 - 82.00	1.0000	1.0000
L19	13	LDF5-50A(7/8")	81.75 - 82.00	1.0000	1.0000
L19	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	81.75 - 82.00	1.0000	1.0000
L19	15	HCS 6X12 6AWG(1-3/8)	81.75 - 82.00	1.0000	1.0000
L19	48	Aero MP303	81.75 - 82.00	1.0000	1.0000
L19	49	Aero MP303	81.75 - 82.00	1.0000	1.0000
L19	50	Aero MP303	81.75 - 82.00	1.0000	1.0000
L19	63	6" x 1" Flat Plate	81.75 - 82.00	1.0000	1.0000
L19	64	6" x 1" Flat Plate	81.75 - 82.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L19	65	6" x 1" Flat Plate	81.75 - 82.00	1.0000	1.0000
L19	66	6" x 1" Flat Plate	81.75 - 82.00	1.0000	1.0000
L20	1	Safety Line 3/8	78.17 - 81.75	1.0000	1.0000
L20	13	LDF5-50A(7/8")	78.17 - 81.75	1.0000	1.0000
L20	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	78.17 - 81.75	1.0000	1.0000
L20	15	HCS 6X12 6AWG(1-3/8)	78.17 - 81.75	1.0000	1.0000
L20	39	Aero MP303	78.17 - 80.00	1.0000	1.0000
L20	40	Aero MP303	78.17 - 80.00	1.0000	1.0000
L20	41	Aero MP303	78.17 - 80.00	1.0000	1.0000
L20	48	Aero MP303	78.17 - 81.75	1.0000	1.0000
L20	49	Aero MP303	78.17 - 81.75	1.0000	1.0000
L20	50	Aero MP303	78.17 - 81.75	1.0000	1.0000
L20	63	6" x 1" Flat Plate	78.17 - 81.75	1.0000	1.0000
L20	64	6" x 1" Flat Plate	78.17 - 81.75	1.0000	1.0000
L20	65	6" x 1" Flat Plate	80.00 - 81.75	1.0000	1.0000
L20	66	6" x 1" Flat Plate	80.00 - 81.75	1.0000	1.0000
L21	1	Safety Line 3/8	77.92 - 78.17	1.0000	1.0000
L21	13	LDF5-50A(7/8")	77.92 - 78.17	1.0000	1.0000
L21	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	77.92 - 78.17	1.0000	1.0000
L21	15	HCS 6X12 6AWG(1-3/8)	77.92 - 78.17	1.0000	1.0000
L21	39	Aero MP303	77.92 - 78.17	1.0000	1.0000
L21	40	Aero MP303	77.92 - 78.17	1.0000	1.0000
L21	41	Aero MP303	77.92 - 78.17	1.0000	1.0000
L21	48	Aero MP303	77.92 - 78.17	1.0000	1.0000
L21	49	Aero MP303	77.92 - 78.17	1.0000	1.0000
L21	50	Aero MP303	77.92 - 78.17	1.0000	1.0000
L21	63	6" x 1" Flat Plate	77.92 - 78.17	1.0000	1.0000
L21	64	6" x 1" Flat Plate	77.92 - 78.17	1.0000	1.0000
L22	1	Safety Line 3/8	77.67 - 77.92	1.0000	1.0000
L22	13	LDF5-50A(7/8")	77.67 - 77.92	1.0000	1.0000
L22	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	77.67 - 77.92	1.0000	1.0000
L22	15	HCS 6X12 6AWG(1-3/8)	77.67 - 77.92	1.0000	1.0000
L22	39	Aero MP303	77.67 - 77.92	1.0000	1.0000
L22	40	Aero MP303	77.67 - 77.92	1.0000	1.0000
L22	41	Aero MP303	77.67 - 77.92	1.0000	1.0000
L22	48	Aero MP303	77.67 - 77.92	1.0000	1.0000
L22	49	Aero MP303	77.67 - 77.92	1.0000	1.0000
L22	50	Aero MP303	77.67 - 77.92	1.0000	1.0000
L22	63	6" x 1" Flat Plate	77.67 - 77.92	1.0000	1.0000
L22	64	6" x 1" Flat Plate	77.67 - 77.92	1.0000	1.0000
L23	1	Safety Line 3/8	77.42 - 77.67	1.0000	1.0000
L23	13	LDF5-50A(7/8")	77.42 - 77.67	1.0000	1.0000
L23	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	77.42 - 77.67	1.0000	1.0000
L23	15	HCS 6X12 6AWG(1-3/8)	77.42 - 77.67	1.0000	1.0000
L23	39	Aero MP303	77.42 - 77.67	1.0000	1.0000
L23	40	Aero MP303	77.42 - 77.67	1.0000	1.0000
L23	41	Aero MP303	77.42 - 77.67	1.0000	1.0000
L23	48	Aero MP303	77.42 - 77.67	1.0000	1.0000
L23	49	Aero MP303	77.42 - 77.67	1.0000	1.0000
L23	50	Aero MP303	77.42 - 77.67	1.0000	1.0000
L23	63	6" x 1" Flat Plate	77.42 - 77.67	1.0000	1.0000
L23	64	6" x 1" Flat Plate	77.42 - 77.67	1.0000	1.0000
L24	1	Safety Line 3/8	77.17 - 77.42	1.0000	1.0000
L24	13	LDF5-50A(7/8")	77.17 - 77.42	1.0000	1.0000
L24	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	77.17 - 77.42	1.0000	1.0000
L24	15	HCS 6X12 6AWG(1-3/8)	77.17 - 77.42	1.0000	1.0000
L24	39	Aero MP303	77.17 - 77.42	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	40	Aero MP303	77.17 - 77.42	1.0000	1.0000
L24	41	Aero MP303	77.17 - 77.42	1.0000	1.0000
L24	48	Aero MP303	77.17 - 77.42	1.0000	1.0000
L24	49	Aero MP303	77.17 - 77.42	1.0000	1.0000
L24	50	Aero MP303	77.17 - 77.42	1.0000	1.0000
L24	63	6" x 1" Flat Plate	77.17 - 77.42	1.0000	1.0000
L24	64	6" x 1" Flat Plate	77.17 - 77.42	1.0000	1.0000
L25	1	Safety Line 3/8	72.17 - 77.17	1.0000	1.0000
L25	13	LDF5-50A(7/8")	72.17 - 77.17	1.0000	1.0000
L25	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	72.17 - 77.17	1.0000	1.0000
L25	15	HCS 6X12 6AWG(1-3/8)	72.17 - 77.17	1.0000	1.0000
L25	39	Aero MP303	72.17 - 77.17	1.0000	1.0000
L25	40	Aero MP303	72.17 - 77.17	1.0000	1.0000
L25	41	Aero MP303	72.17 - 77.17	1.0000	1.0000
L25	48	Aero MP303	72.17 - 77.17	1.0000	1.0000
L25	49	Aero MP303	76.50 - 77.17	1.0000	1.0000
L25	50	Aero MP303	76.50 - 77.17	1.0000	1.0000
L25	63	6" x 1" Flat Plate	72.17 - 77.17	1.0000	1.0000
L25	64	6" x 1" Flat Plate	72.17 - 77.17	1.0000	1.0000
L26	1	Safety Line 3/8	67.17 - 72.17	1.0000	1.0000
L26	13	LDF5-50A(7/8")	67.17 - 72.17	1.0000	1.0000
L26	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	67.17 - 72.17	1.0000	1.0000
L26	15	HCS 6X12 6AWG(1-3/8)	67.17 - 72.17	1.0000	1.0000
L26	17	9207(5/16")	67.17 - 70.00	1.0000	1.0000
L26	29	Aero MP305	67.17 - 69.00	1.0000	1.0000
L26	30	Aero MP305	67.17 - 69.00	1.0000	1.0000
L26	31	Aero MP305	67.17 - 69.00	1.0000	1.0000
L26	39	Aero MP303	67.17 - 72.17	1.0000	1.0000
L26	40	Aero MP303	67.17 - 72.17	1.0000	1.0000
L26	41	Aero MP303	67.17 - 72.17	1.0000	1.0000
L26	48	Aero MP303	67.17 - 72.17	1.0000	1.0000
L26	63	6" x 1" Flat Plate	67.17 - 72.17	1.0000	1.0000
L26	64	6" x 1" Flat Plate	67.17 - 72.17	1.0000	1.0000
L27	1	Safety Line 3/8	66.48 - 67.17	1.0000	1.0000
L27	13	LDF5-50A(7/8")	66.48 - 67.17	1.0000	1.0000
L27	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	66.48 - 67.17	1.0000	1.0000
L27	15	HCS 6X12 6AWG(1-3/8)	66.48 - 67.17	1.0000	1.0000
L27	17	9207(5/16")	66.48 - 67.17	1.0000	1.0000
L27	29	Aero MP305	66.48 - 67.17	1.0000	1.0000
L27	30	Aero MP305	66.48 - 67.17	1.0000	1.0000
L27	31	Aero MP305	66.48 - 67.17	1.0000	1.0000
L27	39	Aero MP303	66.48 - 67.17	1.0000	1.0000
L27	40	Aero MP303	66.48 - 67.17	1.0000	1.0000
L27	41	Aero MP303	66.48 - 67.17	1.0000	1.0000
L27	48	Aero MP303	66.48 - 67.17	1.0000	1.0000
L27	63	6" x 1" Flat Plate	66.48 - 67.17	1.0000	1.0000
L27	64	6" x 1" Flat Plate	66.48 - 67.17	1.0000	1.0000
L28	1	Safety Line 3/8	66.23 - 66.48	1.0000	1.0000
L28	13	LDF5-50A(7/8")	66.23 - 66.48	1.0000	1.0000
L28	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	66.23 - 66.48	1.0000	1.0000
L28	15	HCS 6X12 6AWG(1-3/8)	66.23 - 66.48	1.0000	1.0000
L28	17	9207(5/16")	66.23 - 66.48	1.0000	1.0000
L28	29	Aero MP305	66.23 - 66.48	1.0000	1.0000
L28	30	Aero MP305	66.23 - 66.48	1.0000	1.0000
L28	31	Aero MP305	66.23 - 66.48	1.0000	1.0000
L28	39	Aero MP303	66.23 - 66.48	1.0000	1.0000
L28	40	Aero MP303	66.23 - 66.48	1.0000	1.0000
L28	41	Aero MP303	66.23 - 66.48	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L28	48	Aero MP303	66.23 - 66.48	1.0000	1.0000
L28	63	6" x 1" Flat Plate	66.23 - 66.48	1.0000	1.0000
L28	64	6" x 1" Flat Plate	66.23 - 66.48	1.0000	1.0000
L29	1	Safety Line 3/8	65.50 - 66.23	1.0000	1.0000
L29	13	LDF5-50A(7/8")	65.50 - 66.23	1.0000	1.0000
L29	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	65.50 - 66.23	1.0000	1.0000
L29	15	HCS 6X12 6AWG(1-3/8)	65.50 - 66.23	1.0000	1.0000
L29	17	9207(5/16")	65.50 - 66.23	1.0000	1.0000
L29	29	Aero MP305	65.50 - 66.23	1.0000	1.0000
L29	30	Aero MP305	65.50 - 66.23	1.0000	1.0000
L29	31	Aero MP305	65.50 - 66.23	1.0000	1.0000
L29	39	Aero MP303	65.50 - 66.23	1.0000	1.0000
L29	40	Aero MP303	65.50 - 66.23	1.0000	1.0000
L29	41	Aero MP303	65.50 - 66.23	1.0000	1.0000
L29	48	Aero MP303	65.50 - 66.23	1.0000	1.0000
L29	63	6" x 1" Flat Plate	65.50 - 66.23	1.0000	1.0000
L29	64	6" x 1" Flat Plate	65.50 - 66.23	1.0000	1.0000
L30	1	Safety Line 3/8	65.25 - 65.50	1.0000	1.0000
L30	13	LDF5-50A(7/8")	65.25 - 65.50	1.0000	1.0000
L30	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	65.25 - 65.50	1.0000	1.0000
L30	15	HCS 6X12 6AWG(1-3/8)	65.25 - 65.50	1.0000	1.0000
L30	17	9207(5/16")	65.25 - 65.50	1.0000	1.0000
L30	29	Aero MP305	65.25 - 65.50	1.0000	1.0000
L30	30	Aero MP305	65.25 - 65.50	1.0000	1.0000
L30	31	Aero MP305	65.25 - 65.50	1.0000	1.0000
L30	39	Aero MP303	65.25 - 65.50	1.0000	1.0000
L30	40	Aero MP303	65.25 - 65.50	1.0000	1.0000
L30	41	Aero MP303	65.25 - 65.50	1.0000	1.0000
L30	48	Aero MP303	65.25 - 65.50	1.0000	1.0000
L30	63	6" x 1" Flat Plate	65.25 - 65.50	1.0000	1.0000
L30	64	6" x 1" Flat Plate	65.25 - 65.50	1.0000	1.0000
L31	1	Safety Line 3/8	62.67 - 65.25	1.0000	1.0000
L31	13	LDF5-50A(7/8")	62.67 - 65.25	1.0000	1.0000
L31	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	62.67 - 65.25	1.0000	1.0000
L31	15	HCS 6X12 6AWG(1-3/8)	62.67 - 65.25	1.0000	1.0000
L31	17	9207(5/16")	62.67 - 65.25	1.0000	1.0000
L31	29	Aero MP305	62.67 - 65.25	1.0000	1.0000
L31	30	Aero MP305	62.67 - 65.25	1.0000	1.0000
L31	31	Aero MP305	62.67 - 65.25	1.0000	1.0000
L31	39	Aero MP303	65.00 - 65.25	1.0000	1.0000
L31	40	Aero MP303	65.00 - 65.25	1.0000	1.0000
L31	41	Aero MP303	65.00 - 65.25	1.0000	1.0000
L31	48	Aero MP303	62.67 - 65.25	1.0000	1.0000
L31	63	6" x 1" Flat Plate	64.50 - 65.25	1.0000	1.0000
L31	64	6" x 1" Flat Plate	64.50 - 65.25	1.0000	1.0000
L32	1	Safety Line 3/8	62.42 - 62.67	1.0000	1.0000
L32	13	LDF5-50A(7/8")	62.42 - 62.67	1.0000	1.0000
L32	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	62.42 - 62.67	1.0000	1.0000
L32	15	HCS 6X12 6AWG(1-3/8)	62.42 - 62.67	1.0000	1.0000
L32	17	9207(5/16")	62.42 - 62.67	1.0000	1.0000
L32	29	Aero MP305	62.42 - 62.67	1.0000	1.0000
L32	30	Aero MP305	62.42 - 62.67	1.0000	1.0000
L32	31	Aero MP305	62.42 - 62.67	1.0000	1.0000
L32	48	Aero MP303	62.42 - 62.67	1.0000	1.0000
L33	1	Safety Line 3/8	60.00 - 62.42	1.0000	1.0000
L33	13	LDF5-50A(7/8")	60.00 - 62.42	1.0000	1.0000
L33	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	60.00 - 62.42	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L33	15	HCS 6X12 6AWG(1-3/8)	60.00 - 62.42	1.0000	1.0000
L33	17	9207(5/16")	60.00 - 62.42	1.0000	1.0000
L33	29	Aero MP305	60.00 - 62.42	1.0000	1.0000
L33	30	Aero MP305	60.00 - 62.42	1.0000	1.0000
L33	31	Aero MP305	60.00 - 62.42	1.0000	1.0000
L33	48	Aero MP303	61.50 - 62.42	1.0000	1.0000
L33	62	6" x 1" Flat Plate	60.00 - 62.00	1.0000	1.0000
L34	1	Safety Line 3/8	59.75 - 60.00	1.0000	1.0000
L34	13	LDF5-50A(7/8")	59.75 - 60.00	1.0000	1.0000
L34	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	59.75 - 60.00	1.0000	1.0000
L34	15	HCS 6X12 6AWG(1-3/8)	59.75 - 60.00	1.0000	1.0000
L34	17	9207(5/16")	59.75 - 60.00	1.0000	1.0000
L34	29	Aero MP305	59.75 - 60.00	1.0000	1.0000
L34	30	Aero MP305	59.75 - 60.00	1.0000	1.0000
L34	31	Aero MP305	59.75 - 60.00	1.0000	1.0000
L34	62	6" x 1" Flat Plate	59.75 - 60.00	1.0000	1.0000
L35	1	Safety Line 3/8	54.75 - 59.75	1.0000	1.0000
L35	13	LDF5-50A(7/8")	54.75 - 59.75	1.0000	1.0000
L35	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	54.75 - 59.75	1.0000	1.0000
L35	15	HCS 6X12 6AWG(1-3/8)	54.75 - 59.75	1.0000	1.0000
L35	17	9207(5/16")	54.75 - 59.75	1.0000	1.0000
L35	29	Aero MP305	54.75 - 59.75	1.0000	1.0000
L35	30	Aero MP305	54.75 - 59.75	1.0000	1.0000
L35	31	Aero MP305	54.75 - 59.75	1.0000	1.0000
L35	36	Aero MP305	54.75 - 55.25	1.0000	1.0000
L35	37	Aero MP305	54.75 - 55.25	1.0000	1.0000
L35	38	Aero MP305	54.75 - 55.25	1.0000	1.0000
L35	62	6" x 1" Flat Plate	54.75 - 59.75	1.0000	1.0000
L36	1	Safety Line 3/8	53.42 - 54.75	1.0000	1.0000
L36	13	LDF5-50A(7/8")	53.42 - 54.75	1.0000	1.0000
L36	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	53.42 - 54.75	1.0000	1.0000
L36	15	HCS 6X12 6AWG(1-3/8)	53.42 - 54.75	1.0000	1.0000
L36	17	9207(5/16")	53.42 - 54.75	1.0000	1.0000
L36	29	Aero MP305	53.42 - 54.75	1.0000	1.0000
L36	30	Aero MP305	53.42 - 54.75	1.0000	1.0000
L36	31	Aero MP305	53.42 - 54.75	1.0000	1.0000
L36	36	Aero MP305	53.42 - 54.75	1.0000	1.0000
L36	37	Aero MP305	53.42 - 54.75	1.0000	1.0000
L36	38	Aero MP305	53.42 - 54.75	1.0000	1.0000
L36	62	6" x 1" Flat Plate	53.42 - 54.75	1.0000	1.0000
L37	1	Safety Line 3/8	53.17 - 53.42	1.0000	1.0000
L37	13	LDF5-50A(7/8")	53.17 - 53.42	1.0000	1.0000
L37	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	53.17 - 53.42	1.0000	1.0000
L37	15	HCS 6X12 6AWG(1-3/8)	53.17 - 53.42	1.0000	1.0000
L37	17	9207(5/16")	53.17 - 53.42	1.0000	1.0000
L37	29	Aero MP305	53.17 - 53.42	1.0000	1.0000
L37	30	Aero MP305	53.17 - 53.42	1.0000	1.0000
L37	31	Aero MP305	53.17 - 53.42	1.0000	1.0000
L37	36	Aero MP305	53.17 - 53.42	1.0000	1.0000
L37	37	Aero MP305	53.17 - 53.42	1.0000	1.0000
L37	38	Aero MP305	53.17 - 53.42	1.0000	1.0000
L37	62	6" x 1" Flat Plate	53.17 - 53.42	1.0000	1.0000
L38	1	Safety Line 3/8	51.42 - 53.17	1.0000	1.0000
L38	13	LDF5-50A(7/8")	51.42 - 53.17	1.0000	1.0000
L38	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	51.42 - 53.17	1.0000	1.0000
L38	15	HCS 6X12 6AWG(1-3/8)	51.42 - 53.17	1.0000	1.0000
L38	17	9207(5/16")	51.42 - 53.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L38	29	Aero MP305	51.42 - 53.17	1.0000	1.0000
L38	30	Aero MP305	51.42 - 53.17	1.0000	1.0000
L38	31	Aero MP305	51.42 - 53.17	1.0000	1.0000
L38	36	Aero MP305	51.42 - 53.17	1.0000	1.0000
L38	37	Aero MP305	51.42 - 53.17	1.0000	1.0000
L38	38	Aero MP305	51.42 - 53.17	1.0000	1.0000
L38	62	6" x 1" Flat Plate	51.42 - 53.17	1.0000	1.0000
L39	1	Safety Line 3/8	51.17 - 51.42	1.0000	1.0000
L39	13	LDF5-50A(7/8")	51.17 - 51.42	1.0000	1.0000
L39	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	51.17 - 51.42	1.0000	1.0000
L39	15	HCS 6X12 6AWG(1-3/8)	51.17 - 51.42	1.0000	1.0000
L39	17	9207(5/16")	51.17 - 51.42	1.0000	1.0000
L39	29	Aero MP305	51.17 - 51.42	1.0000	1.0000
L39	30	Aero MP305	51.17 - 51.42	1.0000	1.0000
L39	31	Aero MP305	51.17 - 51.42	1.0000	1.0000
L39	36	Aero MP305	51.17 - 51.42	1.0000	1.0000
L39	37	Aero MP305	51.17 - 51.42	1.0000	1.0000
L39	38	Aero MP305	51.17 - 51.42	1.0000	1.0000
L39	62	6" x 1" Flat Plate	51.17 - 51.42	1.0000	1.0000
L40	1	Safety Line 3/8	46.50 - 51.17	1.0000	1.0000
L40	13	LDF5-50A(7/8")	46.50 - 51.17	1.0000	1.0000
L40	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	46.50 - 51.17	1.0000	1.0000
L40	15	HCS 6X12 6AWG(1-3/8)	46.50 - 51.17	1.0000	1.0000
L40	17	9207(5/16")	46.50 - 51.17	1.0000	1.0000
L40	29	Aero MP305	49.00 - 51.17	1.0000	1.0000
L40	30	Aero MP305	49.00 - 51.17	1.0000	1.0000
L40	31	Aero MP305	49.00 - 51.17	1.0000	1.0000
L40	36	Aero MP305	46.50 - 51.17	1.0000	1.0000
L40	37	Aero MP305	46.50 - 51.17	1.0000	1.0000
L40	38	Aero MP305	46.50 - 51.17	1.0000	1.0000
L40	62	6" x 1" Flat Plate	47.00 - 51.17	1.0000	1.0000
L40	60	6" x 1" Flat Plate	46.50 - 45.67	1.0000	1.0000
L40	61	6" x 1" Flat Plate	46.50 - 45.67	1.0000	1.0000
L42	1	Safety Line 3/8	43.67 - 45.50	1.0000	1.0000
L42	13	LDF5-50A(7/8")	43.67 - 45.50	1.0000	1.0000
L42	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	43.67 - 45.50	1.0000	1.0000
L42	15	HCS 6X12 6AWG(1-3/8)	43.67 - 45.50	1.0000	1.0000
L42	17	9207(5/16")	43.67 - 45.50	1.0000	1.0000
L42	26	Aero MP305	43.67 - 45.50	1.0000	1.0000
L42	27	Aero MP305	43.67 - 45.50	1.0000	1.0000
L42	28	Aero MP305	43.67 - 45.50	1.0000	1.0000
L42	36	Aero MP305	43.67 - 45.50	1.0000	1.0000
L42	37	Aero MP305	43.67 - 45.50	1.0000	1.0000
L42	38	Aero MP305	43.67 - 45.50	1.0000	1.0000
L42	60	6" x 1" Flat Plate	43.67 - 45.50	1.0000	1.0000
L42	61	6" x 1" Flat Plate	43.67 - 45.50	1.0000	1.0000
L43	1	Safety Line 3/8	43.42 - 43.67	1.0000	1.0000
L43	13	LDF5-50A(7/8")	43.42 - 43.67	1.0000	1.0000
L43	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	43.42 - 43.67	1.0000	1.0000
L43	15	HCS 6X12 6AWG(1-3/8)	43.42 - 43.67	1.0000	1.0000
L43	17	9207(5/16")	43.42 - 43.67	1.0000	1.0000
L43	26	Aero MP305	43.42 - 43.67	1.0000	1.0000
L43	27	Aero MP305	43.42 - 43.67	1.0000	1.0000
L43	28	Aero MP305	43.42 - 43.67	1.0000	1.0000
L43	36	Aero MP305	43.42 - 43.67	1.0000	1.0000
L43	37	Aero MP305	43.42 - 43.67	1.0000	1.0000
L43	38	Aero MP305	43.42 - 43.67	1.0000	1.0000
L43	60	6" x 1" Flat Plate	43.42 - 43.67	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L43	61	6" x 1" Flat Plate	43.42 - 43.67	1.0000	1.0000
L44	1	Safety Line 3/8	43.25 - 43.42	1.0000	1.0000
L44	13	LDF5-50A(7/8")	43.25 - 43.42	1.0000	1.0000
L44	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	43.25 - 43.42	1.0000	1.0000
L44	15	HCS 6X12 6AWG(1-3/8)	43.25 - 43.42	1.0000	1.0000
L44	17	9207(5/16")	43.25 - 43.42	1.0000	1.0000
L44	26	Aero MP305	43.25 - 43.42	1.0000	1.0000
L44	27	Aero MP305	43.25 - 43.42	1.0000	1.0000
L44	28	Aero MP305	43.25 - 43.42	1.0000	1.0000
L44	36	Aero MP305	43.25 - 43.42	1.0000	1.0000
L44	37	Aero MP305	43.25 - 43.42	1.0000	1.0000
L44	38	Aero MP305	43.25 - 43.42	1.0000	1.0000
L44	60	6" x 1" Flat Plate	43.25 - 43.42	1.0000	1.0000
L44	61	6" x 1" Flat Plate	43.25 - 43.42	1.0000	1.0000
L45	1	Safety Line 3/8	43.00 - 43.25	1.0000	1.0000
L45	13	LDF5-50A(7/8")	43.00 - 43.25	1.0000	1.0000
L45	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	43.00 - 43.25	1.0000	1.0000
L45	15	HCS 6X12 6AWG(1-3/8)	43.00 - 43.25	1.0000	1.0000
L45	17	9207(5/16")	43.00 - 43.25	1.0000	1.0000
L45	26	Aero MP305	43.00 - 43.25	1.0000	1.0000
L45	27	Aero MP305	43.00 - 43.25	1.0000	1.0000
L45	28	Aero MP305	43.00 - 43.25	1.0000	1.0000
L45	36	Aero MP305	43.00 - 43.25	1.0000	1.0000
L45	37	Aero MP305	43.00 - 43.25	1.0000	1.0000
L45	38	Aero MP305	43.00 - 43.25	1.0000	1.0000
L45	60	6" x 1" Flat Plate	43.00 - 43.25	1.0000	1.0000
L45	61	6" x 1" Flat Plate	43.00 - 43.25	1.0000	1.0000
L46	1	Safety Line 3/8	38.00 - 43.00	1.0000	1.0000
L46	13	LDF5-50A(7/8")	38.00 - 43.00	1.0000	1.0000
L46	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	38.00 - 43.00	1.0000	1.0000
L46	15	HCS 6X12 6AWG(1-3/8)	38.00 - 43.00	1.0000	1.0000
L46	17	9207(5/16")	38.00 - 43.00	1.0000	1.0000
L46	26	Aero MP305	38.00 - 43.00	1.0000	1.0000
L46	27	Aero MP305	38.00 - 43.00	1.0000	1.0000
L46	28	Aero MP305	38.00 - 43.00	1.0000	1.0000
L46	36	Aero MP305	40.25 - 43.00	1.0000	1.0000
L46	37	Aero MP305	40.25 - 43.00	1.0000	1.0000
L46	38	Aero MP305	40.25 - 43.00	1.0000	1.0000
L46	60	6" x 1" Flat Plate	38.00 - 43.00	1.0000	1.0000
L46	61	6" x 1" Flat Plate	38.00 - 43.00	1.0000	1.0000
L47	1	Safety Line 3/8	33.00 - 38.00	1.0000	1.0000
L47	13	LDF5-50A(7/8")	33.00 - 38.00	1.0000	1.0000
L47	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	33.00 - 38.00	1.0000	1.0000
L47	15	HCS 6X12 6AWG(1-3/8)	33.00 - 38.00	1.0000	1.0000
L47	17	9207(5/16")	33.00 - 38.00	1.0000	1.0000
L47	26	Aero MP305	33.00 - 38.00	1.0000	1.0000
L47	27	Aero MP305	33.00 - 38.00	1.0000	1.0000
L47	28	Aero MP305	33.00 - 38.00	1.0000	1.0000
L47	60	6" x 1" Flat Plate	33.00 - 38.00	1.0000	1.0000
L47	61	6" x 1" Flat Plate	33.00 - 38.00	1.0000	1.0000
L48	1	Safety Line 3/8	29.25 - 33.00	1.0000	1.0000
L48	13	LDF5-50A(7/8")	29.25 - 33.00	1.0000	1.0000
L48	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	29.25 - 33.00	1.0000	1.0000
L48	15	HCS 6X12 6AWG(1-3/8)	29.25 - 33.00	1.0000	1.0000
L48	17	9207(5/16")	29.25 - 33.00	1.0000	1.0000
L48	24	Aero MP305	29.25 - 30.50	1.0000	1.0000
L48	25	Aero MP305	29.25 - 30.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L48	26	Aero MP305	30.50 - 33.00	1.0000	1.0000
L48	27	Aero MP305	30.50 - 33.00	1.0000	1.0000
L48	28	Aero MP305	29.25 - 33.00	1.0000	1.0000
L48	59	6" x 1.25" Flat Plate	29.25 - 30.50	1.0000	1.0000
L48	60	6" x 1" Flat Plate	29.25 - 33.00	1.0000	1.0000
L48	61	6" x 1" Flat Plate	29.25 - 33.00	1.0000	1.0000
L49	1	Safety Line 3/8	29.00 - 29.25	1.0000	1.0000
L49	13	LDF5-50A(7/8")	29.00 - 29.25	1.0000	1.0000
L49	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	29.00 - 29.25	1.0000	1.0000
L49	15	HCS 6X12 6AWG(1-3/8)	29.00 - 29.25	1.0000	1.0000
L49	17	9207(5/16")	29.00 - 29.25	1.0000	1.0000
L49	24	Aero MP305	29.00 - 29.25	1.0000	1.0000
L49	25	Aero MP305	29.00 - 29.25	1.0000	1.0000
L49	28	Aero MP305	29.00 - 29.25	1.0000	1.0000
L49	59	6" x 1.25" Flat Plate	29.00 - 29.25	1.0000	1.0000
L49	60	6" x 1" Flat Plate	29.00 - 29.25	1.0000	1.0000
L49	61	6" x 1" Flat Plate	29.00 - 29.25	1.0000	1.0000
L50	1	Safety Line 3/8	28.08 - 29.00	1.0000	1.0000
L50	13	LDF5-50A(7/8")	28.08 - 29.00	1.0000	1.0000
L50	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	28.08 - 29.00	1.0000	1.0000
L50	15	HCS 6X12 6AWG(1-3/8)	28.08 - 29.00	1.0000	1.0000
L50	17	9207(5/16")	28.08 - 29.00	1.0000	1.0000
L50	24	Aero MP305	28.08 - 29.00	1.0000	1.0000
L50	25	Aero MP305	28.08 - 29.00	1.0000	1.0000
L50	28	Aero MP305	28.08 - 29.00	1.0000	1.0000
L50	59	6" x 1.25" Flat Plate	28.08 - 29.00	1.0000	1.0000
L50	60	6" x 1" Flat Plate	28.08 - 29.00	1.0000	1.0000
L50	61	6" x 1" Flat Plate	28.08 - 29.00	1.0000	1.0000
L51	1	Safety Line 3/8	27.73 - 28.08	1.0000	1.0000
L51	13	LDF5-50A(7/8")	27.73 - 28.08	1.0000	1.0000
L51	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	27.73 - 28.08	1.0000	1.0000
L51	15	HCS 6X12 6AWG(1-3/8)	27.73 - 28.08	1.0000	1.0000
L51	17	9207(5/16")	27.73 - 28.08	1.0000	1.0000
L51	24	Aero MP305	27.73 - 28.08	1.0000	1.0000
L51	25	Aero MP305	27.73 - 28.08	1.0000	1.0000
L51	28	Aero MP305	27.73 - 28.08	1.0000	1.0000
L51	59	6" x 1.25" Flat Plate	27.73 - 28.08	1.0000	1.0000
L51	60	6" x 1" Flat Plate	27.73 - 28.08	1.0000	1.0000
L51	61	6" x 1" Flat Plate	27.73 - 28.08	1.0000	1.0000
L52	1	Safety Line 3/8	27.50 - 27.73	1.0000	1.0000
L52	13	LDF5-50A(7/8")	27.50 - 27.73	1.0000	1.0000
L52	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	27.50 - 27.73	1.0000	1.0000
L52	15	HCS 6X12 6AWG(1-3/8)	27.50 - 27.73	1.0000	1.0000
L52	17	9207(5/16")	27.50 - 27.73	1.0000	1.0000
L52	24	Aero MP305	27.50 - 27.73	1.0000	1.0000
L52	25	Aero MP305	27.50 - 27.73	1.0000	1.0000
L52	28	Aero MP305	27.50 - 27.73	1.0000	1.0000
L52	59	6" x 1.25" Flat Plate	27.50 - 27.73	1.0000	1.0000
L52	60	6" x 1" Flat Plate	27.50 - 27.73	1.0000	1.0000
L52	61	6" x 1" Flat Plate	27.50 - 27.73	1.0000	1.0000
L53	1	Safety Line 3/8	24.08 - 27.50	1.0000	1.0000
L53	13	LDF5-50A(7/8")	24.08 - 27.50	1.0000	1.0000
L53	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	24.08 - 27.50	1.0000	1.0000
L53	15	HCS 6X12 6AWG(1-3/8)	24.08 - 27.50	1.0000	1.0000
L53	17	9207(5/16")	24.08 - 27.50	1.0000	1.0000
L53	24	Aero MP305	24.08 - 27.50	1.0000	1.0000
L53	25	Aero MP305	24.08 - 27.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L53	28	Aero MP305	24.08 - 27.50	1.0000	1.0000
L53	47	Aero MP305	24.08 - 26.50	1.0000	1.0000
L53	59	6" x 1.25" Flat Plate	24.08 - 27.50	1.0000	1.0000
L53	60	6" x 1" Flat Plate	24.08 - 27.50	1.0000	1.0000
L53	61	6" x 1" Flat Plate	24.08 - 27.50	1.0000	1.0000
L54	1	Safety Line 3/8	23.83 - 24.08	1.0000	1.0000
L54	13	LDF5-50A(7/8")	23.83 - 24.08	1.0000	1.0000
L54	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	23.83 - 24.08	1.0000	1.0000
L54	15	HCS 6X12 6AWG(1-3/8)	23.83 - 24.08	1.0000	1.0000
L54	17	9207(5/16")	23.83 - 24.08	1.0000	1.0000
L54	24	Aero MP305	23.83 - 24.08	1.0000	1.0000
L54	25	Aero MP305	23.83 - 24.08	1.0000	1.0000
L54	28	Aero MP305	23.83 - 24.08	1.0000	1.0000
L54	47	Aero MP305	23.83 - 24.08	1.0000	1.0000
L54	59	6" x 1.25" Flat Plate	23.83 - 24.08	1.0000	1.0000
L54	60	6" x 1" Flat Plate	23.83 - 24.08	1.0000	1.0000
L54	61	6" x 1" Flat Plate	23.83 - 24.08	1.0000	1.0000
L55	1	Safety Line 3/8	22.67 - 23.83	1.0000	1.0000
L55	13	LDF5-50A(7/8")	22.67 - 23.83	1.0000	1.0000
L55	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	22.67 - 23.83	1.0000	1.0000
L55	15	HCS 6X12 6AWG(1-3/8)	22.67 - 23.83	1.0000	1.0000
L55	17	9207(5/16")	22.67 - 23.83	1.0000	1.0000
L55	24	Aero MP305	22.67 - 23.83	1.0000	1.0000
L55	25	Aero MP305	22.67 - 23.83	1.0000	1.0000
L55	28	Aero MP305	22.67 - 23.83	1.0000	1.0000
L55	47	Aero MP305	22.67 - 23.83	1.0000	1.0000
L55	59	6" x 1.25" Flat Plate	22.67 - 23.83	1.0000	1.0000
L55	60	6" x 1" Flat Plate	22.67 - 23.83	1.0000	1.0000
L55	61	6" x 1" Flat Plate	22.67 - 23.83	1.0000	1.0000
L56	1	Safety Line 3/8	22.42 - 22.67	1.0000	1.0000
L56	13	LDF5-50A(7/8")	22.42 - 22.67	1.0000	1.0000
L56	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	22.42 - 22.67	1.0000	1.0000
L56	15	HCS 6X12 6AWG(1-3/8)	22.42 - 22.67	1.0000	1.0000
L56	17	9207(5/16")	22.42 - 22.67	1.0000	1.0000
L56	24	Aero MP305	22.42 - 22.67	1.0000	1.0000
L56	25	Aero MP305	22.42 - 22.67	1.0000	1.0000
L56	28	Aero MP305	22.42 - 22.67	1.0000	1.0000
L56	47	Aero MP305	22.42 - 22.67	1.0000	1.0000
L56	59	6" x 1.25" Flat Plate	22.42 - 22.67	1.0000	1.0000
L56	60	6" x 1" Flat Plate	22.42 - 22.67	1.0000	1.0000
L56	61	6" x 1" Flat Plate	22.42 - 22.67	1.0000	1.0000
L57	1	Safety Line 3/8	18.92 - 22.42	1.0000	1.0000
L57	13	LDF5-50A(7/8")	18.92 - 22.42	1.0000	1.0000
L57	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	18.92 - 22.42	1.0000	1.0000
L57	15	HCS 6X12 6AWG(1-3/8)	18.92 - 22.42	1.0000	1.0000
L57	17	9207(5/16")	18.92 - 22.42	1.0000	1.0000
L57	22	Aero MP305	18.92 - 20.50	1.0000	1.0000
L57	23	Aero MP305	18.92 - 20.50	1.0000	1.0000
L57	24	Aero MP305	18.92 - 22.42	1.0000	1.0000
L57	25	Aero MP305	18.92 - 22.42	1.0000	1.0000
L57	28	Aero MP305	18.92 - 22.42	1.0000	1.0000
L57	47	Aero MP305	18.92 - 22.42	1.0000	1.0000
L57	59	6" x 1.25" Flat Plate	18.92 - 22.42	1.0000	1.0000
L57	60	6" x 1" Flat Plate	20.67 - 22.42	1.0000	1.0000
L57	61	6" x 1" Flat Plate	20.67 - 22.42	1.0000	1.0000
L58	1	Safety Line 3/8	18.67 - 18.92	1.0000	1.0000
L58	13	LDF5-50A(7/8")	18.67 - 18.92	1.0000	1.0000
L58	14	MLE Hybrid 9Power/18Fiber	18.67 - 18.92	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		RL 2(1 5/8)			
L58	15	HCS 6X12 6AWG(1-3/8)	18.67 - 18.92	1.0000	1.0000
L58	17	9207(5/16")	18.67 - 18.92	1.0000	1.0000
L58	22	Aero MP305	18.67 - 18.92	1.0000	1.0000
L58	23	Aero MP305	18.67 - 18.92	1.0000	1.0000
L58	24	Aero MP305	18.67 - 18.92	1.0000	1.0000
L58	25	Aero MP305	18.67 - 18.92	1.0000	1.0000
L58	28	Aero MP305	18.67 - 18.92	1.0000	1.0000
L58	47	Aero MP305	18.67 - 18.92	1.0000	1.0000
L58	59	6" x 1.25" Flat Plate	18.67 - 18.92	1.0000	1.0000
L59	1	Safety Line 3/8	18.08 - 18.67	1.0000	1.0000
L59	13	LDF5-50A(7/8")	18.08 - 18.67	1.0000	1.0000
L59	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	18.08 - 18.67	1.0000	1.0000
L59	15	HCS 6X12 6AWG(1-3/8)	18.08 - 18.67	1.0000	1.0000
L59	17	9207(5/16")	18.08 - 18.67	1.0000	1.0000
L59	22	Aero MP305	18.08 - 18.67	1.0000	1.0000
L59	23	Aero MP305	18.08 - 18.67	1.0000	1.0000
L59	24	Aero MP305	18.08 - 18.67	1.0000	1.0000
L59	25	Aero MP305	18.08 - 18.67	1.0000	1.0000
L59	28	Aero MP305	18.08 - 18.67	1.0000	1.0000
L59	47	Aero MP305	18.08 - 18.67	1.0000	1.0000
L59	59	6" x 1.25" Flat Plate	18.08 - 18.67	1.0000	1.0000
L60	1	Safety Line 3/8	17.83 - 18.08	1.0000	1.0000
L60	13	LDF5-50A(7/8")	17.83 - 18.08	1.0000	1.0000
L60	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	17.83 - 18.08	1.0000	1.0000
L60	15	HCS 6X12 6AWG(1-3/8)	17.83 - 18.08	1.0000	1.0000
L60	17	9207(5/16")	17.83 - 18.08	1.0000	1.0000
L60	22	Aero MP305	17.83 - 18.08	1.0000	1.0000
L60	23	Aero MP305	17.83 - 18.08	1.0000	1.0000
L60	24	Aero MP305	17.83 - 18.08	1.0000	1.0000
L60	25	Aero MP305	17.83 - 18.08	1.0000	1.0000
L60	28	Aero MP305	17.83 - 18.08	1.0000	1.0000
L60	47	Aero MP305	17.83 - 18.08	1.0000	1.0000
L60	59	6" x 1.25" Flat Plate	17.83 - 18.08	1.0000	1.0000
L61	1	Safety Line 3/8	14.08 - 17.83	1.0000	1.0000
L61	13	LDF5-50A(7/8")	14.08 - 17.83	1.0000	1.0000
L61	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	14.08 - 17.83	1.0000	1.0000
L61	15	HCS 6X12 6AWG(1-3/8)	14.08 - 17.83	1.0000	1.0000
L61	17	9207(5/16")	14.08 - 17.83	1.0000	1.0000
L61	22	Aero MP305	14.08 - 17.83	1.0000	1.0000
L61	23	Aero MP305	14.08 - 17.83	1.0000	1.0000
L61	24	Aero MP305	14.08 - 17.83	1.0000	1.0000
L61	25	Aero MP305	14.08 - 17.83	1.0000	1.0000
L61	28	Aero MP305	14.08 - 17.83	1.0000	1.0000
L61	47	Aero MP305	16.50 - 17.83	1.0000	1.0000
L61	59	6" x 1.25" Flat Plate	14.08 - 17.83	1.0000	1.0000
L62	1	Safety Line 3/8	13.83 - 14.08	1.0000	1.0000
L62	13	LDF5-50A(7/8")	13.83 - 14.08	1.0000	1.0000
L62	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	13.83 - 14.08	1.0000	1.0000
L62	15	HCS 6X12 6AWG(1-3/8)	13.83 - 14.08	1.0000	1.0000
L62	17	9207(5/16")	13.83 - 14.08	1.0000	1.0000
L62	22	Aero MP305	13.83 - 14.08	1.0000	1.0000
L62	23	Aero MP305	13.83 - 14.08	1.0000	1.0000
L62	24	Aero MP305	13.83 - 14.08	1.0000	1.0000
L62	25	Aero MP305	13.83 - 14.08	1.0000	1.0000
L62	28	Aero MP305	13.83 - 14.08	1.0000	1.0000
L62	59	6" x 1.25" Flat Plate	13.83 - 14.08	1.0000	1.0000
L63	1	Safety Line 3/8	8.83 - 13.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L63	13	LDF5-50A(7/8")	8.83 - 13.83	1.0000	1.0000
L63	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	8.83 - 13.83	1.0000	1.0000
L63	15	HCS 6X12 6AWG(1-3/8)	8.83 - 13.83	1.0000	1.0000
L63	17	9207(5/16")	8.83 - 13.83	1.0000	1.0000
L63	22	Aero MP305	8.83 - 13.83	1.0000	1.0000
L63	23	Aero MP305	8.83 - 13.83	1.0000	1.0000
L63	24	Aero MP305	8.83 - 13.83	1.0000	1.0000
L63	25	Aero MP305	8.83 - 13.83	1.0000	1.0000
L63	28	Aero MP305	11.67 - 13.83	1.0000	1.0000
L63	59	6" x 1.25" Flat Plate	8.83 - 13.83	1.0000	1.0000
L64	1	Safety Line 3/8	3.83 - 8.83	1.0000	1.0000
L64	13	LDF5-50A(7/8")	3.83 - 8.83	1.0000	1.0000
L64	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	3.83 - 8.83	1.0000	1.0000
L64	15	HCS 6X12 6AWG(1-3/8)	3.83 - 8.83	1.0000	1.0000
L64	17	9207(5/16")	3.83 - 8.83	1.0000	1.0000
L64	22	Aero MP305	3.83 - 8.83	1.0000	1.0000
L64	23	Aero MP305	3.83 - 8.83	1.0000	1.0000
L64	24	Aero MP305	3.83 - 8.83	1.0000	1.0000
L64	25	Aero MP305	3.83 - 8.83	1.0000	1.0000
L64	59	6" x 1.25" Flat Plate	3.83 - 8.83	1.0000	1.0000
L65	1	Safety Line 3/8	3.25 - 3.83	1.0000	1.0000
L65	13	LDF5-50A(7/8")	3.25 - 3.83	1.0000	1.0000
L65	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	3.25 - 3.83	1.0000	1.0000
L65	15	HCS 6X12 6AWG(1-3/8)	3.25 - 3.83	1.0000	1.0000
L65	17	9207(5/16")	3.25 - 3.83	1.0000	1.0000
L65	22	Aero MP305	3.25 - 3.83	1.0000	1.0000
L65	23	Aero MP305	3.25 - 3.83	1.0000	1.0000
L65	24	Aero MP305	3.25 - 3.83	1.0000	1.0000
L65	25	Aero MP305	3.25 - 3.83	1.0000	1.0000
L65	59	6" x 1.25" Flat Plate	3.25 - 3.83	1.0000	1.0000
L66	1	Safety Line 3/8	3.00 - 3.25	1.0000	1.0000
L66	13	LDF5-50A(7/8")	3.00 - 3.25	1.0000	1.0000
L66	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	3.00 - 3.25	1.0000	1.0000
L66	15	HCS 6X12 6AWG(1-3/8)	3.00 - 3.25	1.0000	1.0000
L66	17	9207(5/16")	3.00 - 3.25	1.0000	1.0000
L66	22	Aero MP305	3.00 - 3.25	1.0000	1.0000
L66	23	Aero MP305	3.00 - 3.25	1.0000	1.0000
L66	24	Aero MP305	3.00 - 3.25	1.0000	1.0000
L66	25	Aero MP305	3.00 - 3.25	1.0000	1.0000
L66	59	6" x 1.25" Flat Plate	3.00 - 3.25	1.0000	1.0000
L67	1	Safety Line 3/8	2.17 - 3.00	1.0000	1.0000
L67	13	LDF5-50A(7/8")	2.17 - 3.00	1.0000	1.0000
L67	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	2.17 - 3.00	1.0000	1.0000
L67	15	HCS 6X12 6AWG(1-3/8)	2.17 - 3.00	1.0000	1.0000
L67	17	9207(5/16")	2.17 - 3.00	1.0000	1.0000
L67	22	Aero MP305	2.17 - 3.00	1.0000	1.0000
L67	23	Aero MP305	2.17 - 3.00	1.0000	1.0000
L67	24	Aero MP305	2.17 - 3.00	1.0000	1.0000
L67	25	Aero MP305	2.17 - 3.00	1.0000	1.0000
L67	59	6" x 1.25" Flat Plate	2.17 - 3.00	1.0000	1.0000
L68	1	Safety Line 3/8	1.92 - 2.17	1.0000	1.0000
L68	13	LDF5-50A(7/8")	1.92 - 2.17	1.0000	1.0000
L68	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	1.92 - 2.17	1.0000	1.0000
L68	15	HCS 6X12 6AWG(1-3/8)	1.92 - 2.17	1.0000	1.0000
L68	17	9207(5/16")	1.92 - 2.17	1.0000	1.0000
L68	22	Aero MP305	1.92 - 2.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L68	23	Aero MP305	1.92 - 2.17	1.0000	1.0000
L68	24	Aero MP305	1.92 - 2.17	1.0000	1.0000
L68	25	Aero MP305	1.92 - 2.17	1.0000	1.0000
L68	59	6" x 1.25" Flat Plate	1.92 - 2.17	1.0000	1.0000
L69	1	Safety Line 3/8	0.00 - 1.92	1.0000	1.0000
L69	13	LDF5-50A(7/8")	0.00 - 1.92	1.0000	1.0000
L69	14	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	0.00 - 1.92	1.0000	1.0000
L69	15	HCS 6X12 6AWG(1-3/8)	0.00 - 1.92	1.0000	1.0000
L69	17	9207(5/16")	0.00 - 1.92	1.0000	1.0000
L69	22	Aero MP305	0.50 - 1.92	1.0000	1.0000
L69	23	Aero MP305	0.50 - 1.92	1.0000	1.0000
L69	24	Aero MP305	0.50 - 1.92	1.0000	1.0000
L69	25	Aero MP305	0.50 - 1.92	1.0000	1.0000
L69	59	6" x 1.25" Flat Plate	0.50 - 1.92	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod	C	From Leg	0.00 0.00 2.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.25 0.66 0.97 1.49	0.25 0.66 0.97 1.49	0.03 0.03 0.04 0.06
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APXV9ERR18-C-A20	A	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.66 5.12 5.60 6.58	3.11 3.55 4.00 4.94	0.07 0.12 0.18 0.32
APXV9ERR18-C-A20	B	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.66 5.12 5.60 6.58	3.11 3.55 4.00 4.94	0.07 0.12 0.18 0.32
APXV9ERR18-C-A20	C	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.66 5.12 5.60 6.58	3.11 3.55 4.00 4.94	0.07 0.12 0.18 0.32
APXVTM14-C-120	A	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.12 4.52 4.93 5.80	2.06 2.42 2.80 3.60	0.06 0.10 0.14 0.25
APXVTM14-C-120	B	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.12 4.52 4.93 5.80	2.06 2.42 2.80 3.60	0.06 0.10 0.14 0.25
APXVTM14-C-120	C	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice	4.12 4.52 4.93	2.06 2.42 2.80	0.06 0.10 0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
TD-RRH8x20-25	A	From Leg	4.00 0.00 1.00	0.0000	139.00	2" Ice No Ice 1/2" Ice 1" Ice 2" Ice	5.80 3.70 3.95 4.20 4.72	3.60 1.29 1.46 1.64 2.02	0.25 0.07 0.09 0.12 0.18
TD-RRH8x20-25	B	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.70 3.95 4.20 4.72	1.29 1.46 1.64 2.02	0.07 0.09 0.12 0.18
TD-RRH8x20-25	C	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.70 3.95 4.20 4.72	1.29 1.46 1.64 2.02	0.07 0.09 0.12 0.18
Platform Mount [LP 1201-1_HR-3]	C	None		0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	29.96 36.80 43.24 55.52	29.96 36.80 43.24 55.52	2.62 3.38 4.28 6.43
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PCS 1900MHz 4x45W-65MHz	A	From Leg	2.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17
PCS 1900MHz 4x45W-65MHz	B	From Leg	2.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17
PCS 1900MHz 4x45W-65MHz	C	From Leg	2.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17
800MHz 2X50W RRH W/FILTER	A	From Leg	2.00 0.00 3.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.06 2.24 2.43 2.83	1.93 2.11 2.29 2.68	0.06 0.09 0.11 0.17
800MHz 2X50W RRH W/FILTER	B	From Leg	2.00 0.00 3.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.06 2.24 2.43 2.83	1.93 2.11 2.29 2.68	0.06 0.09 0.11 0.17
800MHz 2X50W RRH W/FILTER	C	From Leg	2.00 0.00 3.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.06 2.24 2.43 2.83	1.93 2.11 2.29 2.68	0.06 0.09 0.11 0.17
Side Arm Mount [SO 102-3]	C	None		0.0000	137.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.60 4.18 4.75 5.90	3.60 4.18 4.75 5.90	0.07 0.11 0.14 0.20
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RRUS 11	A	From Leg	2.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.78 2.99 3.21 3.66	1.19 1.33 1.49 1.83	0.05 0.07 0.10 0.15
RRUS 11	B	From Leg	2.00 0.00	0.0000	130.00	No Ice 1/2" Ice	2.78 2.99	1.19 1.33	0.05 0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	3.21	1.49	0.10
						2" Ice	3.66	1.83	0.15
RRUS 11	C	From Leg	2.00	0.0000	130.00	No Ice	2.78	1.19	0.05
			0.00			1/2" Ice	2.99	1.33	0.07
			0.00			1" Ice	3.21	1.49	0.10
						2" Ice	3.66	1.83	0.15
RRUS 32 B2	A	From Leg	2.00	0.0000	130.00	No Ice	2.76	1.69	0.05
			0.00			1/2" Ice	2.98	1.88	0.07
			0.00			1" Ice	3.22	2.07	0.10
						2" Ice	3.70	2.49	0.16
RRUS 32 B2	B	From Leg	2.00	0.0000	130.00	No Ice	2.76	1.69	0.05
			0.00			1/2" Ice	2.98	1.88	0.07
			0.00			1" Ice	3.22	2.07	0.10
						2" Ice	3.70	2.49	0.16
RRUS 32 B2	C	From Leg	2.00	0.0000	130.00	No Ice	2.76	1.69	0.05
			0.00			1/2" Ice	2.98	1.88	0.07
			0.00			1" Ice	3.22	2.07	0.10
						2" Ice	3.70	2.49	0.16
Side Arm Mount [SO 102-3]	C	None		0.0000	130.00	No Ice	3.60	3.60	0.07
						1/2" Ice	4.18	4.18	0.11
						1" Ice	4.75	4.75	0.14
						2" Ice	5.90	5.90	0.20
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7770.00 w/ Mount Pipe	A	From Leg	4.00	0.0000	128.00	No Ice	5.75	4.25	0.06
			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
						2" Ice	7.49	7.16	0.29
7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	128.00	No Ice	5.75	4.25	0.06
			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
						2" Ice	7.49	7.16	0.29
7770.00 w/ Mount Pipe	C	From Leg	4.00	0.0000	128.00	No Ice	5.75	4.25	0.06
			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
						2" Ice	7.49	7.16	0.29
HPA-65R-BUU-H8 w/ Mount Pipe	A	From Leg	4.00	0.0000	128.00	No Ice	12.25	8.33	0.10
			0.00			1/2" Ice	13.19	9.23	0.19
			2.00			1" Ice	14.16	10.15	0.30
						2" Ice	16.14	12.05	0.54
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Leg	4.00	0.0000	128.00	No Ice	9.22	6.25	0.07
			0.00			1/2" Ice	9.98	6.96	0.14
			2.00			1" Ice	10.76	7.70	0.22
						2" Ice	12.36	9.22	0.42
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.00	0.0000	128.00	No Ice	9.22	6.25	0.07
			0.00			1/2" Ice	9.98	6.96	0.14
			2.00			1" Ice	10.76	7.70	0.22
						2" Ice	12.36	9.22	0.42
EPBQ-654L8H8-L2 w/ Mount Pipe	A	From Leg	4.00	0.0000	128.00	No Ice	14.86	6.25	0.12
			0.00			1/2" Ice	15.72	7.02	0.23
			2.00			1" Ice	16.59	7.80	0.35
						2" Ice	18.38	9.41	0.64
EPBQ-654L8H8-L2 w/ Mount Pipe	B	From Leg	4.00	0.0000	128.00	No Ice	14.86	6.25	0.12
			0.00			1/2" Ice	15.72	7.02	0.23
			2.00			1" Ice	16.59	7.80	0.35
						2" Ice	18.38	9.41	0.64

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
EPBQ-654L8H8-L2 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.86 15.72 16.59 18.38	6.25 7.02 7.80 9.41	0.12 0.23 0.35 0.64
(2) LGP21401	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.35 0.44 0.54 0.77	0.01 0.02 0.03 0.05
(2) LGP21401	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.35 0.44 0.54 0.77	0.01 0.02 0.03 0.05
(2) LGP21401	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.35 0.44 0.54 0.77	0.01 0.02 0.03 0.05
RRUS 32 B30	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.74 2.96 3.19 3.68	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B30	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.74 2.96 3.19 3.68	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B30	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.74 2.96 3.19 3.68	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 4478 B5	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.84 2.01 2.19 2.57	1.06 1.20 1.34 1.66	0.06 0.08 0.09 0.14
RRUS 4478 B5	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.84 2.01 2.19 2.57	1.06 1.20 1.34 1.66	0.06 0.08 0.09 0.14
RRUS 4478 B5	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.84 2.01 2.19 2.57	1.06 1.20 1.34 1.66	0.06 0.08 0.09 0.14
RRUS 4426 B66	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.64 1.80 1.97 2.33	0.73 0.84 0.97 1.24	0.05 0.06 0.08 0.11
RRUS 4426 B66	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.64 1.80 1.97 2.33	0.73 0.84 0.97 1.24	0.05 0.06 0.08 0.11
RRUS 4426 B66	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.64 1.80 1.97 2.33	0.73 0.84 0.97 1.24	0.05 0.06 0.08 0.11
DC6-48-60-18-8F	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.21 1.89 2.11 2.57	1.21 1.89 2.11 2.57	0.03 0.05 0.08 0.14
DC6-48-60-18-8C	B	From Leg	4.00	0.0000	128.00	No Ice	1.14	1.14	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	1.79	1.79	0.05
			2.00			1" Ice	2.00	2.00	0.07
						2" Ice	2.45	2.45	0.13
DC6-48-60-18-8C	C	From Leg	4.00	0.0000	128.00	No Ice	1.14	1.14	0.03
			0.00			1/2" Ice	1.79	1.79	0.05
			2.00			1" Ice	2.00	2.00	0.07
						2" Ice	2.45	2.45	0.13
T-Arm Mount [TA 602-3]	C	None		0.0000	128.00	No Ice	13.40	13.40	0.77
						1/2" Ice	16.44	16.44	1.00
						1" Ice	19.70	19.70	1.29
						2" Ice	25.86	25.86	2.05
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(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00	0.0000	108.00	No Ice	4.09	3.30	0.07
			0.00			1/2" Ice	4.49	3.68	0.13
			1.00			1" Ice	4.89	4.07	0.20
						2" Ice	5.72	4.87	0.39
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00	0.0000	108.00	No Ice	4.09	3.30	0.07
			0.00			1/2" Ice	4.49	3.68	0.13
			1.00			1" Ice	4.89	4.07	0.20
						2" Ice	5.72	4.87	0.39
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00	0.0000	108.00	No Ice	4.09	3.30	0.07
			0.00			1/2" Ice	4.49	3.68	0.13
			1.00			1" Ice	4.89	4.07	0.20
						2" Ice	5.72	4.87	0.39
(2) BXA-70063-4CF-EDIN-X w/ Mount Pipe	A	From Leg	4.00	0.0000	108.00	No Ice	5.43	4.18	0.04
			0.00			1/2" Ice	6.07	5.21	0.08
			1.00			1" Ice	6.58	5.95	0.14
						2" Ice	7.64	7.46	0.27
(2) BXA-70063-4CF-EDIN-X w/ Mount Pipe	B	From Leg	4.00	0.0000	108.00	No Ice	5.43	4.18	0.04
			0.00			1/2" Ice	6.07	5.21	0.08
			1.00			1" Ice	6.58	5.95	0.14
						2" Ice	7.64	7.46	0.27
(2) BXA-70063-4CF-EDIN-X w/ Mount Pipe	C	From Leg	4.00	0.0000	108.00	No Ice	5.43	4.18	0.04
			0.00			1/2" Ice	6.07	5.21	0.08
			1.00			1" Ice	6.58	5.95	0.14
						2" Ice	7.64	7.46	0.27
DB-T1-6Z-8AB-0Z	A	From Leg	4.00	0.0000	108.00	No Ice	4.80	2.00	0.04
			0.00			1/2" Ice	5.07	2.19	0.08
			1.00			1" Ice	5.35	2.39	0.12
						2" Ice	5.93	2.81	0.21
(2) RFV01U-D1A	A	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.25	0.08
			0.00			1/2" Ice	2.05	1.39	0.10
			1.00			1" Ice	2.22	1.54	0.12
						2" Ice	2.60	1.86	0.18
RFV01U-D1A	B	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.25	0.08
			0.00			1/2" Ice	2.05	1.39	0.10
			1.00			1" Ice	2.22	1.54	0.12
						2" Ice	2.60	1.86	0.18
(2) RFV01U-D2A	A	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.01	0.07
			0.00			1/2" Ice	2.05	1.14	0.09
			1.00			1" Ice	2.22	1.28	0.11
						2" Ice	2.60	1.59	0.15
RFV01U-D2A	B	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.01	0.07
			0.00			1/2" Ice	2.05	1.14	0.09
			1.00			1" Ice	2.22	1.28	0.11
						2" Ice	2.60	1.59	0.15

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
LP 303-1 w/ SitePro 1 PRK-1245	C	None		0.0000	108.00	No Ice	25.91	25.91	1.72
						1/2" Ice	32.23	32.23	2.18
						1" Ice	38.73	38.73	2.73
						2" Ice	52.33	52.33	4.13
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ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	6.33	5.64	0.11
						1/2" Ice	6.78	6.43	0.17
						1" Ice	7.21	7.13	0.23
						2" Ice	8.12	8.59	0.38
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	6.33	5.64	0.11
						1/2" Ice	6.78	6.43	0.17
						1" Ice	7.21	7.13	0.23
						2" Ice	8.12	8.59	0.38
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	6.33	5.64	0.11
						1/2" Ice	6.78	6.43	0.17
						1" Ice	7.21	7.13	0.23
						2" Ice	8.12	8.59	0.38
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	6.75	6.07	0.15
						1/2" Ice	7.20	6.87	0.21
						1" Ice	7.65	7.58	0.28
						2" Ice	8.57	9.06	0.44
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	6.75	6.07	0.15
						1/2" Ice	7.20	6.87	0.21
						1" Ice	7.65	7.58	0.28
						2" Ice	8.57	9.06	0.44
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	6.75	6.07	0.15
						1/2" Ice	7.20	6.87	0.21
						1" Ice	7.65	7.58	0.28
						2" Ice	8.57	9.06	0.44
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	14.69	6.87	0.19
						1/2" Ice	15.46	7.55	0.31
						1" Ice	16.23	8.25	0.46
						2" Ice	17.82	9.67	0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	14.69	6.87	0.19
						1/2" Ice	15.46	7.55	0.31
						1" Ice	16.23	8.25	0.46
						2" Ice	17.82	9.67	0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	14.69	6.87	0.19
						1/2" Ice	15.46	7.55	0.31
						1" Ice	16.23	8.25	0.46
						2" Ice	17.82	9.67	0.79
KRY 112 144/1	A	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	0.35	0.16	0.01
						1/2" Ice	0.43	0.22	0.01
						1" Ice	0.51	0.28	0.02
						2" Ice	0.70	0.44	0.03
KRY 112 144/1	B	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	0.35	0.16	0.01
						1/2" Ice	0.43	0.22	0.01
						1" Ice	0.51	0.28	0.02
						2" Ice	0.70	0.44	0.03
KRY 112 144/1	C	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice	0.35	0.16	0.01
						1/2" Ice	0.43	0.22	0.01
						1" Ice	0.51	0.28	0.02
						2" Ice	0.70	0.44	0.03
RADIO 4449 B12/B71	A	From Leg	4.00 0.00	0.0000	100.00	No Ice	1.65	1.30	0.08
						1/2" Ice	1.81	1.44	0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00					1" Ice	1.98	1.60	0.11
								2" Ice	2.34	1.92	0.16
RADIO 4449 B12/B71	B	From Leg	4.00			0.0000	100.00	No Ice	1.65	1.30	0.08
			0.00					1/2" Ice	1.81	1.44	0.09
			0.00					1" Ice	1.98	1.60	0.11
								2" Ice	2.34	1.92	0.16
RADIO 4449 B12/B71	C	From Leg	4.00			0.0000	100.00	No Ice	1.65	1.30	0.08
			0.00					1/2" Ice	1.81	1.44	0.09
			0.00					1" Ice	1.98	1.60	0.11
								2" Ice	2.34	1.92	0.16
T-Arm Mount [TA 602-3]	C	None				0.0000	100.00	No Ice	13.40	13.40	0.77
								1/2" Ice	16.44	16.44	1.00
								1" Ice	19.70	19.70	1.29
								2" Ice	25.86	25.86	2.05
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KS24019-L112A	B	From Leg	3.00			0.0000	70.00	No Ice	0.14	0.14	0.01
			0.00					1/2" Ice	0.20	0.20	0.01
			2.00					1" Ice	0.26	0.26	0.01
								2" Ice	0.41	0.41	0.02
Side Arm Mount [SO 701-1]	B	From Leg	1.50			0.0000	70.00	No Ice	0.85	1.67	0.07
			0.00					1/2" Ice	1.14	2.34	0.08
			0.00					1" Ice	1.43	3.01	0.09
								2" Ice	2.01	4.35	0.12
KS24019-L112A	C	From Leg	3.00			0.0000	70.00	No Ice	0.14	0.14	0.01
			0.00					1/2" Ice	0.20	0.20	0.01
			2.00					1" Ice	0.26	0.26	0.01
								2" Ice	0.41	0.41	0.02
Side Arm Mount [SO 701-1]	C	From Leg	1.50			0.0000	70.00	No Ice	0.85	1.67	0.07
			0.00					1/2" Ice	1.14	2.34	0.08
			0.00					1" Ice	1.43	3.01	0.09
								2" Ice	2.01	4.35	0.12
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KS24019-L112A	A	From Leg	3.00			0.0000	49.00	No Ice	0.14	0.14	0.01
			0.00					1/2" Ice	0.20	0.20	0.01
			2.00					1" Ice	0.26	0.26	0.01
								2" Ice	0.41	0.41	0.02
Side Arm Mount [SO 701-1]	A	From Leg	1.50			0.0000	49.00	No Ice	0.85	1.67	0.07
			0.00					1/2" Ice	1.14	2.34	0.08
			0.00					1" Ice	1.43	3.01	0.09
								2" Ice	2.01	4.35	0.12
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Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
******									
Detuning Arm	A	From Leg	1.50 0.00 0.00	0.0000	6.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
Detuning Arm	B	From Leg	1.50 0.00 0.00	0.0000	6.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
Detuning Arm	C	From Leg	1.50 0.00 0.00	0.0000	6.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
Detuning Arm	A	From Leg	1.50 0.00 0.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
Detuning Arm	B	From Leg	1.50 0.00 0.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
Detuning Arm	C	From Leg	1.50 0.00 0.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
Detuning Arm	A	From Leg	1.50 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
Detuning Arm	B	From Leg	1.50 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
Detuning Arm	C	From Leg	1.50 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 0.97 1.19 1.66	0.05 0.08 0.12 0.22	0.01 0.02 0.03 0.06
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Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation	z	K_Z	q_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
L1	137.47	1.082	0.04	7.086	A	0.000	7.086	7.086	100.00	0.000	0.000
140.00-135.00					B	0.000	7.086		100.00	0.000	0.000
					C	0.000	7.086		100.00	0.188	0.000
L2	132.48	1.071	0.04	7.528	A	0.000	7.528	7.528	100.00	0.000	0.125
135.00-130.00					B	0.000	7.528		100.00	0.000	0.125
					C	0.000	7.528		100.00	0.188	0.125
L3	127.48	1.059	0.04	7.970	A	0.000	7.970	7.970	100.00	0.000	0.125
130.00-125.00					B	0.000	7.970		100.00	0.000	0.125
					C	0.000	7.970		100.00	0.188	0.125
L4	122.48	1.047	0.04	8.412	A	0.000	8.412	8.412	100.00	0.000	0.125
125.00-120.00					B	0.000	8.412		100.00	0.000	0.125
					C	0.000	8.412		100.00	0.188	0.125
L5	117.48	1.035	0.04	8.855	A	0.000	8.855	8.855	100.00	0.000	0.125
120.00-115.00					B	0.000	8.855		100.00	0.000	0.125
					C	0.000	8.855		100.00	0.188	0.125
L6	112.48	1.022	0.04	9.297	A	0.000	9.297	9.297	100.00	0.000	0.125
115.00-110.00					B	0.000	9.297		100.00	0.000	0.125
					C	0.000	9.297		100.00	0.188	0.125
L7	107.48	1.009	0.04	9.739	A	0.000	9.739	9.739	100.00	0.000	0.125
110.00-105.00					B	0.000	9.739		100.00	0.000	0.125
					C	0.000	9.739		100.00	0.188	0.125
L8	103.49	0.998	0.04	6.055	A	0.000	6.055	6.055	100.00	0.812	0.075
105.00-102.00					B	0.000	6.055		100.00	0.812	0.075
					C	0.000	6.055		100.00	0.924	0.075
L9	101.87	0.993	0.04	0.511	A	0.000	0.511	0.511	100.00	0.169	0.006
102.00-101.75					B	0.000	0.511		100.00	0.169	0.006
					C	0.000	0.511		100.00	0.179	0.006
L10	99.23	0.986	0.04	10.448	A	0.000	10.448	10.448	100.00	6.485	0.125
101.75-96.75					B	0.000	10.448		100.00	3.383	0.125
					C	0.000	10.448		100.00	3.571	0.125
L11	94.23	0.972	0.03	10.890	A	0.000	10.890	10.890	100.00	10.425	0.125
96.75-91.75					B	0.000	10.890		100.00	2.402	0.125
					C	0.000	10.890		100.00	5.840	0.125
L12	91.25	0.963	0.03	2.189	A	0.000	2.189	2.189	100.00	1.954	0.025
91.75-90.75					B	0.000	2.189		100.00	0.000	0.025
					C	0.000	2.189		100.00	1.038	0.025
L13	88.23	0.954	0.03	11.210	A	0.000	11.210	11.210	100.00	10.280	0.125
90.75-85.75					B	0.000	11.210		100.00	0.507	0.125
					C	0.000	11.210		100.00	5.695	0.125
L14	85.54	0.945	0.03	0.962	A	0.000	0.962	0.962	100.00	1.105	0.011
85.75-85.33					B	0.000	0.962		100.00	0.284	0.011
					C	0.000	0.962		100.00	0.720	0.011
L15	85.20	0.944	0.03	0.574	A	0.000	0.574	0.574	100.00	0.658	0.006
85.33-85.08					B	0.000	0.574		100.00	0.169	0.006
					C	0.000	0.574		100.00	0.429	0.006
L16	83.79	0.94	0.03	5.987	A	0.000	5.987	5.987	100.00	8.788	0.127
85.08-82.50					B	0.000	5.987		100.00	1.746	0.127
					C	0.000	5.987		100.00	6.423	0.127
L17	82.37	0.935	0.03	0.585	A	0.000	0.585	0.585	100.00	0.908	0.013
82.50-82.25					B	0.000	0.585		100.00	0.169	0.013
					C	0.000	0.585		100.00	0.679	0.013
L18	82.12	0.934	0.03	0.586	A	0.000	0.586	0.586	100.00	0.908	0.013
82.25-82.00					B	0.000	0.586		100.00	0.169	0.013
					C	0.000	0.586		100.00	0.679	0.013
L19	81.87	0.933	0.03	0.587	A	0.000	0.587	0.587	100.00	0.908	0.013
82.00-81.75					B	0.000	0.587		100.00	0.169	0.013
					C	0.000	0.587		100.00	0.679	0.013
L20	79.95	0.927	0.03	8.531	A	0.000	8.531	8.531	100.00	12.408	0.179
81.75-78.17					B	0.000	8.531		100.00	3.661	0.179
					C	0.000	8.531		100.00	9.125	0.179

Section Elevation	z	K_Z	q_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
L21	78.04	0.921	0.03	0.603	A	0.000	0.603	0.603	100.00	0.827	0.013
78.17-77.92					B	0.000	0.603		100.00	0.338	0.013
					C	0.000	0.603		100.00	0.598	0.013
L22	77.79	0.92	0.03	0.605	A	0.000	0.605	0.605	100.00	0.827	0.013
77.92-77.67					B	0.000	0.605		100.00	0.338	0.013
					C	0.000	0.605		100.00	0.598	0.013
L23	77.54	0.919	0.03	0.607	A	0.000	0.607	0.607	100.00	0.827	0.013
77.67-77.42					B	0.000	0.607		100.00	0.338	0.013
					C	0.000	0.607		100.00	0.598	0.013
L24	77.29	0.918	0.03	0.615	A	0.000	0.615	0.615	100.00	0.837	0.013
77.42-77.17					B	0.000	0.615		100.00	0.342	0.013
					C	0.000	0.615		100.00	0.605	0.013
L25	74.65	0.909	0.03	12.388	A	0.000	12.388	12.388	100.00	13.607	0.250
77.17-72.17					B	0.000	12.388		100.00	3.835	0.250
					C	0.000	12.388		100.00	11.954	0.250
L26	69.65	0.891	0.03	12.830	A	0.000	12.830	12.830	100.00	14.878	0.250
72.17-67.17					B	0.000	12.830		100.00	5.012	0.250
					C	0.000	12.830		100.00	13.582	0.250
L27	66.82	0.881	0.03	1.787	A	0.000	1.787	1.787	100.00	2.430	0.034
67.17-66.48					B	0.000	1.787		100.00	1.070	0.034
					C	0.000	1.787		100.00	2.243	0.034
L28	66.36	0.879	0.03	0.655	A	0.000	0.655	0.655	100.00	0.888	0.013
66.48-66.23					B	0.000	0.655		100.00	0.391	0.013
					C	0.000	0.655		100.00	0.820	0.013
L29	65.87	0.877	0.03	1.928	A	0.000	1.928	1.928	100.00	2.604	0.037
66.23-65.50					B	0.000	1.928		100.00	1.147	0.037
					C	0.000	1.928		100.00	2.404	0.037
L30	65.37	0.875	0.03	0.661	A	0.000	0.661	0.661	100.00	0.888	0.013
65.50-65.25					B	0.000	0.661		100.00	0.391	0.013
					C	0.000	0.661		100.00	0.820	0.013
L31	63.96	0.87	0.03	6.881	A	0.000	6.881	6.881	100.00	5.759	0.129
65.25-62.67					B	0.000	6.881		100.00	2.461	0.129
					C	0.000	6.881		100.00	5.054	0.129
L32	62.54	0.864	0.03	0.673	A	0.000	0.673	0.673	100.00	0.469	0.013
62.67-62.42					B	0.000	0.673		100.00	0.222	0.013
					C	0.000	0.673		100.00	0.401	0.013
L33	61.21	0.859	0.03	6.572	A	0.000	6.572	6.572	100.00	6.540	0.121
62.42-60.00					B	0.000	6.572		100.00	2.150	0.121
					C	0.000	6.572		100.00	2.863	0.121
L34	59.87	0.854	0.03	0.685	A	0.000	0.685	0.685	100.00	0.719	0.013
60.00-59.75					B	0.000	0.685		100.00	0.222	0.013
					C	0.000	0.685		100.00	0.231	0.013
L35	57.24	0.843	0.03	13.931	A	0.000	13.931	13.931	100.00	14.823	0.250
59.75-54.75					B	0.000	13.931		100.00	4.886	0.250
					C	0.000	13.931		100.00	5.073	0.250
L36	54.08	0.829	0.03	3.780	A	0.000	3.780	3.780	100.00	5.006	0.067
54.75-53.42					B	0.000	3.780		100.00	2.363	0.067
					C	0.000	3.780		100.00	2.413	0.067
L37	53.29	0.826	0.03	0.713	A	0.000	0.713	0.713	100.00	0.941	0.013
53.42-53.17					B	0.000	0.713		100.00	0.444	0.013
					C	0.000	0.713		100.00	0.454	0.013
L38	52.29	0.821	0.03	5.028	A	0.000	5.028	5.028	100.00	6.599	0.088
53.17-51.42					B	0.000	5.028		100.00	3.114	0.088
					C	0.000	5.028		100.00	3.180	0.088
L39	51.29	0.817	0.03	0.723	A	0.000	0.723	0.723	100.00	0.941	0.013
51.42-51.17					B	0.000	0.723		100.00	0.444	0.013
					C	0.000	0.723		100.00	0.454	0.013
L40	48.82	0.805	0.03	13.696	A	0.000	13.696	13.696	100.00	14.847	0.233
51.17-46.50					B	0.000	13.696		100.00	6.071	0.233
					C	0.000	13.696		100.00	6.246	0.233

Section Elevation	z	K_z	q_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	ft²		ft²	ft²	ft²		ft²	ft²
L41 46.50-45.50	46.00	0.792	0.03	2.930	A	0.000	2.930	2.930	100.00	2.210	0.050
					B	0.000	2.930		100.00	0.888	0.050
					C	0.000	2.930		100.00	0.926	0.050
L42 45.50-43.67	44.58	0.785	0.03	5.416	A	0.000	5.416	5.416	100.00	10.361	0.092
					B	0.000	5.416		100.00	1.628	0.092
					C	0.000	5.416		100.00	3.325	0.092
L43 43.67-43.42	43.54	0.779	0.03	0.743	A	0.000	0.743	0.743	100.00	1.413	0.013
					B	0.000	0.743		100.00	0.222	0.013
					C	0.000	0.743		100.00	0.454	0.013
L44 43.42-43.25	43.33	0.778	0.03	0.497	A	0.000	0.497	0.497	100.00	0.944	0.008
					B	0.000	0.497		100.00	0.148	0.008
					C	0.000	0.497		100.00	0.303	0.008
L45 43.25-43.00	43.12	0.777	0.03	0.746	A	0.000	0.746	0.746	100.00	1.413	0.013
					B	0.000	0.746		100.00	0.222	0.013
					C	0.000	0.746		100.00	0.454	0.013
L46 43.00-38.00	40.49	0.763	0.03	15.161	A	0.000	15.161	15.161	100.00	26.264	0.250
					B	0.000	15.161		100.00	2.443	0.250
					C	0.000	15.161		100.00	7.072	0.250
L47 38.00-33.00	35.49	0.735	0.03	15.604	A	0.000	15.604	15.604	100.00	23.821	0.250
					B	0.000	15.604		100.00	0.000	0.250
					C	0.000	15.604		100.00	4.629	0.250
L48 33.00-29.25	31.12	0.708	0.03	11.993	A	0.000	11.993	11.993	100.00	18.005	0.188
					B	0.000	11.993		100.00	1.110	0.188
					C	0.000	11.993		100.00	3.472	0.188
L49 29.25-29.00	29.12	0.7	0.02	0.808	A	0.000	0.808	0.808	100.00	1.219	0.013
					B	0.000	0.808		100.00	0.222	0.013
					C	0.000	0.808		100.00	0.231	0.013
L50 29.00-28.08	28.54	0.7	0.02	2.982	A	0.000	2.982	2.982	100.00	4.486	0.046
					B	0.000	2.982		100.00	0.817	0.046
					C	0.000	2.982		100.00	0.852	0.046
L51 28.08-27.73	27.90	0.7	0.02	1.137	A	0.000	1.137	1.137	100.00	1.707	0.018
					B	0.000	1.137		100.00	0.311	0.018
					C	0.000	1.137		100.00	0.324	0.018
L52 27.73-27.50	27.61	0.7	0.02	0.748	A	0.000	0.748	0.748	100.00	1.121	0.012
					B	0.000	0.748		100.00	0.204	0.012
					C	0.000	0.748		100.00	0.213	0.012
L53 27.50-24.08	25.79	0.7	0.02	11.224	A	0.000	11.224	11.224	100.00	18.663	0.171
					B	0.000	11.224		100.00	3.035	0.171
					C	0.000	11.224		100.00	3.164	0.171
L54 24.08-23.83	23.96	0.7	0.02	0.829	A	0.000	0.829	0.829	100.00	1.426	0.013
					B	0.000	0.829		100.00	0.222	0.013
					C	0.000	0.829		100.00	0.231	0.013
L55 23.83-22.67	23.25	0.7	0.02	3.882	A	0.000	3.882	3.882	100.00	6.651	0.058
					B	0.000	3.882		100.00	1.036	0.058
					C	0.000	3.882		100.00	1.080	0.058
L56 22.67-22.42	22.54	0.7	0.02	0.836	A	0.000	0.836	0.836	100.00	1.426	0.013
					B	0.000	0.836		100.00	0.222	0.013
					C	0.000	0.836		100.00	0.231	0.013
L57 22.42-18.92	20.66	0.7	0.02	11.826	A	0.000	11.826	11.826	100.00	16.465	0.175
					B	0.000	11.826		100.00	3.109	0.175
					C	0.000	11.826		100.00	6.053	0.175
L58 18.92-18.67	18.79	0.7	0.02	0.853	A	0.000	0.853	0.853	100.00	0.926	0.013
					B	0.000	0.853		100.00	0.222	0.013
					C	0.000	0.853		100.00	0.676	0.013
L59 18.67-18.08	18.37	0.7	0.02	1.997	A	0.000	1.997	1.997	100.00	2.163	0.029
					B	0.000	1.997		100.00	0.519	0.029
					C	0.000	1.997		100.00	1.578	0.029
L60 18.08-17.83	17.96	0.7	0.02	0.856	A	0.000	0.856	0.856	100.00	0.926	0.013
					B	0.000	0.856		100.00	0.222	0.013
					C	0.000	0.856		100.00	0.676	0.013

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L61 17.83-14.08	15.95	0.7	0.02	12.979	A	0.000	12.979	12.979	100.00	11.897	0.188
					B	0.000	12.979		100.00	3.334	0.188
					C	0.000	12.979		100.00	10.142	0.188
L62 14.08-13.83	13.95	0.7	0.02	0.874	A	0.000	0.874	0.874	100.00	0.719	0.013
					B	0.000	0.874		100.00	0.222	0.013
					C	0.000	0.874		100.00	0.676	0.013
L63 13.83-8.83	11.32	0.7	0.02	17.705	A	0.000	17.705	17.705	100.00	14.379	0.250
					B	0.000	17.705		100.00	4.442	0.250
					C	0.000	17.705		100.00	10.992	0.250
L64 8.83-3.83	6.32	0.7	0.02	18.149	A	0.000	18.149	18.149	100.00	14.379	0.304
					B	0.000	18.149		100.00	4.442	0.304
					C	0.000	18.149		100.00	9.071	0.304
L65 3.83-3.25	3.54	0.7	0.02	2.134	A	0.000	2.134	2.134	100.00	1.668	0.043
					B	0.000	2.134		100.00	0.515	0.043
					C	0.000	2.134		100.00	1.052	0.043
L66 3.25-3.00	3.12	0.7	0.02	0.922	A	0.000	0.922	0.922	100.00	0.719	0.019
					B	0.000	0.922		100.00	0.222	0.019
					C	0.000	0.922		100.00	0.454	0.019
L67 3.00-2.17	2.58	0.7	0.02	3.069	A	0.000	3.069	3.069	100.00	2.387	0.062
					B	0.000	3.069		100.00	0.737	0.062
					C	0.000	3.069		100.00	1.506	0.062
L68 2.17-1.92	2.04	0.7	0.02	0.928	A	0.000	0.928	0.928	100.00	0.719	0.019
					B	0.000	0.928		100.00	0.222	0.019
					C	0.000	0.928		100.00	0.454	0.019
L69 1.92-0.00	0.96	0.7	0.02	7.165	A	0.000	7.165	7.165	100.00	4.577	0.144
					B	0.000	7.165		100.00	1.261	0.144
					C	0.000	7.165		100.00	2.595	0.144

Tower Pressure - With Ice

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 140.00-135.00	137.47	1.082	0.01	1.961	8.720	A	0.000	8.720	8.720	100.00	0.000	0.000
						B	0.000	8.720		100.00	0.000	0.000
						C	0.000	8.720		100.00	2.148	0.000
L2 135.00-130.00	132.48	1.071	0.01	1.953	9.156	A	0.000	9.156	9.156	100.00	0.000	2.079
						B	0.000	9.156		100.00	0.000	2.079
						C	0.000	9.156		100.00	2.141	2.079
L3 130.00-125.00	127.48	1.059	0.01	1.946	9.592	A	0.000	9.592	9.592	100.00	0.000	2.071
						B	0.000	9.592		100.00	0.000	2.071
						C	0.000	9.592		100.00	2.133	2.071
L4 125.00-120.00	122.48	1.047	0.01	1.938	10.028	A	0.000	10.028	10.028	100.00	0.000	2.063
						B	0.000	10.028		100.00	0.000	2.063
						C	0.000	10.028		100.00	2.126	2.063
L5 120.00-115.00	117.48	1.035	0.01	1.930	10.463	A	0.000	10.463	10.463	100.00	0.000	2.055
						B	0.000	10.463		100.00	0.000	2.055
						C	0.000	10.463		100.00	2.118	2.055
L6 115.00-110.00	112.48	1.022	0.01	1.922	10.898	A	0.000	10.898	10.898	100.00	0.000	2.047
						B	0.000	10.898		100.00	0.000	2.047
						C	0.000	10.898		100.00	2.109	2.047
L7 110.00-105.00	107.48	1.009	0.01	1.913	11.333	A	0.000	11.333	11.333	100.00	0.000	2.038
						B	0.000	11.333		100.00	0.000	2.038

tnxTower	Job: East Farmington, BU# 876335	Page: 46 of 125
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Project: 19BOZR1400	Date: 15:53:46 08/22/19
	Client: Crown Castle	Designed by: Eric Schaub

Section Elevation	z	K_z	q_z	t_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	in	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
						C	0.000	11.333		100.00	2.101	2.038
L8 105.00-102.00	103.49	0.998	0.01	1.906	7.008	A	0.000	7.008	7.008	100.00	1.088	1.219
						B	0.000	7.008		100.00	1.088	1.219
						C	0.000	7.008		100.00	2.344	1.219
L9 102.00-101.75	101.87	0.993	0.01	1.903	0.590	A	0.000	0.590	0.590	100.00	0.227	0.101
						B	0.000	0.590		100.00	0.227	0.101
						C	0.000	0.590		100.00	0.331	0.101
L10 101.75-96.75	99.23	0.986	0.01	1.898	12.029	A	0.000	12.029	12.029	100.00	12.173	2.023
						B	0.000	12.029		100.00	4.531	2.023
						C	0.000	12.029		100.00	6.616	2.023
L11 96.75-91.75	94.23	0.972	0.01	1.888	12.463	A	0.000	12.463	12.463	100.00	19.067	2.013
						B	0.000	12.463		100.00	3.213	2.013
						C	0.000	12.463		100.00	9.417	2.013
L12 91.75-90.75	91.25	0.963	0.01	1.882	2.504	A	0.000	2.504	2.504	100.00	3.616	0.403
						B	0.000	2.504		100.00	0.000	0.403
						C	0.000	2.504		100.00	1.686	0.403
L13 90.75-85.75	88.23	0.954	0.01	1.876	12.773	A	0.000	12.773	12.773	100.00	18.709	2.001
						B	0.000	12.773		100.00	0.678	2.001
						C	0.000	12.773		100.00	9.197	2.001
L14 85.75-85.33	85.54	0.945	0.01	1.870	1.093	A	0.000	1.093	1.093	100.00	1.892	0.168
						B	0.000	1.093		100.00	0.379	0.168
						C	0.000	1.093		100.00	1.147	0.168
L15 85.33-85.08	85.20	0.944	0.01	1.869	0.652	A	0.000	0.652	0.652	100.00	1.126	0.100
						B	0.000	0.652		100.00	0.226	0.100
						C	0.000	0.652		100.00	0.683	0.100
L16 85.08-82.50	83.79	0.94	0.01	1.866	6.789	A	0.000	6.789	6.789	100.00	14.359	2.023
						B	0.000	6.789		100.00	2.329	2.023
						C	0.000	6.789		100.00	9.784	2.023
L17 82.50-82.25	82.37	0.935	0.01	1.863	0.663	A	0.000	0.663	0.663	100.00	1.468	0.199
						B	0.000	0.663		100.00	0.226	0.199
						C	0.000	0.663		100.00	1.025	0.199
L18 82.25-82.00	82.12	0.934	0.01	1.862	0.664	A	0.000	0.664	0.664	100.00	1.467	0.199
						B	0.000	0.664		100.00	0.226	0.199
						C	0.000	0.664		100.00	1.025	0.199
L19 82.00-81.75	81.87	0.933	0.01	1.862	0.665	A	0.000	0.665	0.665	100.00	1.467	0.199
						B	0.000	0.665		100.00	0.226	0.199
						C	0.000	0.665		100.00	1.024	0.199
L20 81.75-78.17	79.95	0.927	0.01	1.857	9.639	A	0.000	9.639	9.639	100.00	20.568	2.839
						B	0.000	9.639		100.00	5.119	2.839
						C	0.000	9.639		100.00	14.231	2.839
L21 78.17-77.92	78.04	0.921	0.01	1.853	0.681	A	0.000	0.681	0.681	100.00	1.406	0.198
						B	0.000	0.681		100.00	0.483	0.198
						C	0.000	0.681		100.00	0.964	0.198
L22 77.92-77.67	77.79	0.92	0.01	1.852	0.682	A	0.000	0.682	0.682	100.00	1.406	0.198
						B	0.000	0.682		100.00	0.483	0.198
						C	0.000	0.682		100.00	0.964	0.198
L23 77.67-77.42	77.54	0.919	0.01	1.852	0.684	A	0.000	0.684	0.684	100.00	1.406	0.198
						B	0.000	0.684		100.00	0.483	0.198
						C	0.000	0.684		100.00	0.964	0.198
L24 77.42-77.17	77.29	0.918	0.01	1.851	0.693	A	0.000	0.693	0.693	100.00	1.423	0.200
						B	0.000	0.693		100.00	0.489	0.200
						C	0.000	0.693		100.00	0.976	0.200
L25 77.17-72.17	74.65	0.909	0.01	1.845	13.925	A	0.000	13.925	13.925	100.00	24.182	3.939
						B	0.000	13.925		100.00	5.755	3.939
						C	0.000	13.925		100.00	19.257	3.939
L26 72.17-67.17	69.65	0.891	0.01	1.832	14.357	A	0.000	14.357	14.357	100.00	26.951	3.914
						B	0.000	14.357		100.00	7.444	3.914
						C	0.000	14.357		100.00	21.511	3.914
L27 67.17-66.48	66.82	0.881	0.01	1.824	1.995	A	0.000	1.995	1.995	100.00	4.342	0.533
						B	0.000	1.995		100.00	1.560	0.533

Section Elevation ft	z ft	K_z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L28 66.48-66.23	66.36	0.879	0.01	1.823	0.731	C	0.000	1.995		100.00	3.481	0.533
						A	0.000	0.731	0.731	100.00	1.586	0.195
						B	0.000	0.731		100.00	0.570	0.195
						C	0.000	0.731		100.00	1.272	0.195
L29 66.23-65.50	65.87	0.877	0.00	1.822	2.150	A	0.000	2.150	2.150	100.00	4.650	0.571
						B	0.000	2.150		100.00	1.671	0.571
						C	0.000	2.150		100.00	3.729	0.571
L30 65.50-65.25	65.37	0.875	0.00	1.820	0.736	A	0.000	0.736	0.736	100.00	1.585	0.195
						B	0.000	0.736		100.00	0.570	0.195
						C	0.000	0.736		100.00	1.271	0.195
L31 65.25-62.67	63.96	0.87	0.00	1.816	7.662	A	0.000	7.662	7.662	100.00	11.461	2.003
						B	0.000	7.662		100.00	3.486	2.003
						C	0.000	7.662		100.00	8.225	2.003
L32 62.67-62.42	62.54	0.864	0.00	1.812	0.749	A	0.000	0.749	0.749	100.00	0.986	0.194
						B	0.000	0.749		100.00	0.313	0.194
						C	0.000	0.749		100.00	0.672	0.194
L33 62.42-60.00	61.21	0.859	0.00	1.808	7.302	A	0.000	7.302	7.302	100.00	12.055	1.871
						B	0.000	7.302		100.00	3.025	1.871
						C	0.000	7.302		100.00	4.946	1.871
L34 60.00-59.75	59.87	0.854	0.00	1.804	0.760	A	0.000	0.760	0.760	100.00	1.299	0.193
						B	0.000	0.760		100.00	0.312	0.193
						C	0.000	0.760		100.00	0.412	0.193
L35 59.75-54.75	57.24	0.843	0.00	1.796	15.428	A	0.000	15.428	15.428	100.00	26.520	3.843
						B	0.000	15.428		100.00	6.825	3.843
						C	0.000	15.428		100.00	8.809	3.843
L36 54.75-53.42	54.08	0.829	0.00	1.786	4.176	A	0.000	4.176	4.176	100.00	8.444	1.017
						B	0.000	4.176		100.00	3.218	1.017
						C	0.000	4.176		100.00	3.743	1.017
L37 53.42-53.17	53.29	0.826	0.00	1.783	0.787	A	0.000	0.787	0.787	100.00	1.586	0.191
						B	0.000	0.787		100.00	0.605	0.191
						C	0.000	0.787		100.00	0.703	0.191
L38 53.17-51.42	52.29	0.821	0.00	1.780	5.548	A	0.000	5.548	5.548	100.00	11.116	1.336
						B	0.000	5.548		100.00	4.238	1.336
						C	0.000	5.548		100.00	4.928	1.336
L39 51.42-51.17	51.29	0.817	0.00	1.777	0.797	A	0.000	0.797	0.797	100.00	1.584	0.190
						B	0.000	0.797		100.00	0.604	0.190
						C	0.000	0.797		100.00	0.702	0.190
L40 51.17-46.50	48.82	0.805	0.00	1.768	15.072	A	0.000	15.072	15.072	100.00	25.789	3.534
						B	0.000	15.072		100.00	8.160	3.534
						C	0.000	15.072		100.00	9.986	3.534
L41 46.50-45.50	46.00	0.792	0.00	1.757	3.224	A	0.000	3.224	3.224	100.00	4.279	0.757
						B	0.000	3.224		100.00	1.173	0.757
						C	0.000	3.224		100.00	1.564	0.757
L42 45.50-43.67	44.58	0.785	0.00	1.752	5.952	A	0.000	5.952	5.952	100.00	16.225	1.376
						B	0.000	5.952		100.00	2.145	1.376
						C	0.000	5.952		100.00	5.127	1.376
L43 43.67-43.42	43.54	0.779	0.00	1.748	0.816	A	0.000	0.816	0.816	100.00	2.211	0.187
						B	0.000	0.816		100.00	0.292	0.187
						C	0.000	0.816		100.00	0.699	0.187
L44 43.42-43.25	43.33	0.778	0.00	1.747	0.545	A	0.000	0.545	0.545	100.00	1.477	0.125
						B	0.000	0.545		100.00	0.195	0.125
						C	0.000	0.545		100.00	0.467	0.125
L45 43.25-43.00	43.12	0.777	0.00	1.746	0.819	A	0.000	0.819	0.819	100.00	2.211	0.187
						B	0.000	0.819		100.00	0.292	0.187
						C	0.000	0.819		100.00	0.698	0.187
L46 43.00-38.00	40.49	0.763	0.00	1.735	16.607	A	0.000	16.607	16.607	100.00	41.499	3.720
						B	0.000	16.607		100.00	3.214	3.720
						C	0.000	16.607		100.00	11.313	3.720
L47 38.00-33.00	35.49	0.735	0.00	1.712	17.031	A	0.000	17.031	17.031	100.00	38.120	3.675
						B	0.000	17.031		100.00	0.000	3.675

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	0.000	17.031		100.00	8.054	3.675
L48 33.00-29.25	31.12	0.708	0.00	1.690	13.049	A	0.000	13.049	13.049	100.00	28.764	2.723
						B	0.000	13.049		100.00	1.533	2.723
						C	0.000	13.049		100.00	6.007	2.723
L49 29.25-29.00	29.12	0.7	0.00	1.679	0.878	A	0.000	0.878	0.878	100.00	1.952	0.180
						B	0.000	0.878		100.00	0.306	0.180
						C	0.000	0.878		100.00	0.399	0.180
L50 29.00-28.08	28.54	0.7	0.00	1.675	3.239	A	0.000	3.239	3.239	100.00	7.180	0.663
						B	0.000	3.239		100.00	1.126	0.663
						C	0.000	3.239		100.00	1.468	0.663
L51 28.08-27.73	27.90	0.7	0.00	1.672	1.234	A	0.000	1.234	1.234	100.00	2.729	0.252
						B	0.000	1.234		100.00	0.428	0.252
						C	0.000	1.234		100.00	0.558	0.252
L52 27.73-27.50	27.61	0.7	0.00	1.670	0.812	A	0.000	0.812	0.812	100.00	1.793	0.165
						B	0.000	0.812		100.00	0.281	0.165
						C	0.000	0.812		100.00	0.367	0.165
L53 27.50-24.08	25.79	0.7	0.00	1.659	12.169	A	0.000	12.169	12.169	100.00	29.007	2.438
						B	0.000	12.169		100.00	4.169	2.438
						C	0.000	12.169		100.00	5.431	2.438
L54 24.08-23.83	23.96	0.7	0.00	1.646	0.898	A	0.000	0.898	0.898	100.00	2.191	0.177
						B	0.000	0.898		100.00	0.304	0.177
						C	0.000	0.898		100.00	0.396	0.177
L55 23.83-22.67	23.25	0.7	0.00	1.641	4.201	A	0.000	4.201	4.201	100.00	10.207	0.824
						B	0.000	4.201		100.00	1.419	0.824
						C	0.000	4.201		100.00	1.845	0.824
L56 22.67-22.42	22.54	0.7	0.00	1.636	0.905	A	0.000	0.905	0.905	100.00	2.186	0.176
						B	0.000	0.905		100.00	0.304	0.176
						C	0.000	0.905		100.00	0.395	0.176
L57 22.42-18.92	20.66	0.7	0.00	1.622	12.772	A	0.000	12.772	12.772	100.00	25.886	2.446
						B	0.000	12.772		100.00	4.245	2.446
						C	0.000	12.772		100.00	9.351	2.446
L58 18.92-18.67	18.79	0.7	0.00	1.607	0.920	A	0.000	0.920	0.920	100.00	1.513	0.173
						B	0.000	0.920		100.00	0.302	0.173
						C	0.000	0.920		100.00	0.997	0.173
L59 18.67-18.08	18.37	0.7	0.00	1.603	2.153	A	0.000	2.153	2.153	100.00	3.531	0.404
						B	0.000	2.153		100.00	0.706	0.404
						C	0.000	2.153		100.00	2.327	0.404
L60 18.08-17.83	17.96	0.7	0.00	1.600	0.922	A	0.000	0.922	0.922	100.00	1.510	0.172
						B	0.000	0.922		100.00	0.302	0.172
						C	0.000	0.922		100.00	0.996	0.172
L61 17.83-14.08	15.95	0.7	0.00	1.581	13.968	A	0.000	13.968	13.968	100.00	20.155	2.561
						B	0.000	13.968		100.00	4.520	2.561
						C	0.000	13.968		100.00	14.889	2.561
L62 14.08-13.83	13.95	0.7	0.00	1.560	0.939	A	0.000	0.939	0.939	100.00	1.247	0.168
						B	0.000	0.939		100.00	0.300	0.168
						C	0.000	0.939		100.00	0.988	0.168
L63 13.83-8.83	11.32	0.7	0.00	1.527	18.978	A	0.000	18.978	18.978	100.00	24.744	3.305
						B	0.000	18.978		100.00	5.969	3.305
						C	0.000	18.978		100.00	16.236	3.305
L64 8.83-3.83	6.32	0.7	0.00	1.441	19.350	A	0.000	19.350	19.350	100.00	24.203	3.812
						B	0.000	19.350		100.00	5.883	3.812
						C	0.000	19.350		100.00	13.394	3.812
L65 3.83-3.25	3.54	0.7	0.00	1.360	2.265	A	0.000	2.265	2.265	100.00	2.749	0.517
						B	0.000	2.265		100.00	0.673	0.517
						C	0.000	2.265		100.00	1.525	0.517
L66 3.25-3.00	3.12	0.7	0.00	1.343	0.978	A	0.000	0.978	0.978	100.00	1.180	0.220
						B	0.000	0.978		100.00	0.289	0.220
						C	0.000	0.978		100.00	0.655	0.220
L67 3.00-2.17	2.58	0.7	0.00	1.318	3.251	A	0.000	3.251	3.251	100.00	3.890	0.719
						B	0.000	3.251		100.00	0.956	0.719

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	0.000	3.251		100.00	2.162	0.719
L68 2.17-1.92	2.04	0.7	0.00	1.287	0.982	A	0.000	0.982	0.982	100.00	1.162	0.212
						B	0.000	0.982		100.00	0.286	0.212
						C	0.000	0.982		100.00	0.647	0.212
L69 1.92-0.00	0.96	0.7	0.00	1.193	7.547	A	0.000	7.547	7.547	100.00	7.517	1.519
						B	0.000	7.547		100.00	1.600	1.519
						C	0.000	7.547		100.00	3.731	1.519

Tower Pressure - Service

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	137.47	1.082	0.01	7.086	A	0.000	7.086	7.086	100.00	0.000	0.000
140.00-135.00					B	0.000	7.086		100.00	0.000	0.000
					C	0.000	7.086		100.00	0.188	0.000
L2	132.48	1.071	0.01	7.528	A	0.000	7.528	7.528	100.00	0.000	0.125
135.00-130.00					B	0.000	7.528		100.00	0.000	0.125
					C	0.000	7.528		100.00	0.188	0.125
L3	127.48	1.059	0.01	7.970	A	0.000	7.970	7.970	100.00	0.000	0.125
130.00-125.00					B	0.000	7.970		100.00	0.000	0.125
					C	0.000	7.970		100.00	0.188	0.125
L4	122.48	1.047	0.01	8.412	A	0.000	8.412	8.412	100.00	0.000	0.125
125.00-120.00					B	0.000	8.412		100.00	0.000	0.125
					C	0.000	8.412		100.00	0.188	0.125
L5	117.48	1.035	0.01	8.855	A	0.000	8.855	8.855	100.00	0.000	0.125
120.00-115.00					B	0.000	8.855		100.00	0.000	0.125
					C	0.000	8.855		100.00	0.188	0.125
L6	112.48	1.022	0.01	9.297	A	0.000	9.297	9.297	100.00	0.000	0.125
115.00-110.00					B	0.000	9.297		100.00	0.000	0.125
					C	0.000	9.297		100.00	0.188	0.125
L7	107.48	1.009	0.01	9.739	A	0.000	9.739	9.739	100.00	0.000	0.125
110.00-105.00					B	0.000	9.739		100.00	0.000	0.125
					C	0.000	9.739		100.00	0.188	0.125
L8	103.49	0.998	0.01	6.055	A	0.000	6.055	6.055	100.00	0.812	0.075
105.00-102.00					B	0.000	6.055		100.00	0.812	0.075
					C	0.000	6.055		100.00	0.924	0.075
L9	101.87	0.993	0.01	0.511	A	0.000	0.511	0.511	100.00	0.169	0.006
102.00-101.75					B	0.000	0.511		100.00	0.169	0.006
					C	0.000	0.511		100.00	0.179	0.006
L10	99.23	0.986	0.01	10.448	A	0.000	10.448	10.448	100.00	6.485	0.125
101.75-96.75					B	0.000	10.448		100.00	3.383	0.125
					C	0.000	10.448		100.00	3.571	0.125
L11	94.23	0.972	0.01	10.890	A	0.000	10.890	10.890	100.00	10.425	0.125
96.75-91.75					B	0.000	10.890		100.00	2.402	0.125
					C	0.000	10.890		100.00	5.840	0.125
L12	91.25	0.963	0.01	2.189	A	0.000	2.189	2.189	100.00	1.954	0.025
91.75-90.75					B	0.000	2.189		100.00	0.000	0.025
					C	0.000	2.189		100.00	1.038	0.025
L13	88.23	0.954	0.01	11.210	A	0.000	11.210	11.210	100.00	10.280	0.125
90.75-85.75					B	0.000	11.210		100.00	0.507	0.125
					C	0.000	11.210		100.00	5.695	0.125

Section Elevation ft	z ft	K_z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L14	85.54	0.945	0.01	0.962	A	0.000	0.962	0.962	100.00	1.105	0.011
85.75-85.33					B	0.000	0.962		100.00	0.284	0.011
					C	0.000	0.962		100.00	0.720	0.011
L15	85.20	0.944	0.01	0.574	A	0.000	0.574	0.574	100.00	0.658	0.006
85.33-85.08					B	0.000	0.574		100.00	0.169	0.006
					C	0.000	0.574		100.00	0.429	0.006
L16	83.79	0.94	0.01	5.987	A	0.000	5.987	5.987	100.00	8.788	0.127
85.08-82.50					B	0.000	5.987		100.00	1.746	0.127
					C	0.000	5.987		100.00	6.423	0.127
L17	82.37	0.935	0.01	0.585	A	0.000	0.585	0.585	100.00	0.908	0.013
82.50-82.25					B	0.000	0.585		100.00	0.169	0.013
					C	0.000	0.585		100.00	0.679	0.013
L18	82.12	0.934	0.01	0.586	A	0.000	0.586	0.586	100.00	0.908	0.013
82.25-82.00					B	0.000	0.586		100.00	0.169	0.013
					C	0.000	0.586		100.00	0.679	0.013
L19	81.87	0.933	0.01	0.587	A	0.000	0.587	0.587	100.00	0.908	0.013
82.00-81.75					B	0.000	0.587		100.00	0.169	0.013
					C	0.000	0.587		100.00	0.679	0.013
L20	79.95	0.927	0.01	8.531	A	0.000	8.531	8.531	100.00	12.408	0.179
81.75-78.17					B	0.000	8.531		100.00	3.661	0.179
					C	0.000	8.531		100.00	9.125	0.179
L21	78.04	0.921	0.01	0.603	A	0.000	0.603	0.603	100.00	0.827	0.013
78.17-77.92					B	0.000	0.603		100.00	0.338	0.013
					C	0.000	0.603		100.00	0.598	0.013
L22	77.79	0.92	0.01	0.605	A	0.000	0.605	0.605	100.00	0.827	0.013
77.92-77.67					B	0.000	0.605		100.00	0.338	0.013
					C	0.000	0.605		100.00	0.598	0.013
L23	77.54	0.919	0.01	0.607	A	0.000	0.607	0.607	100.00	0.827	0.013
77.67-77.42					B	0.000	0.607		100.00	0.338	0.013
					C	0.000	0.607		100.00	0.598	0.013
L24	77.29	0.918	0.01	0.615	A	0.000	0.615	0.615	100.00	0.837	0.013
77.42-77.17					B	0.000	0.615		100.00	0.342	0.013
					C	0.000	0.615		100.00	0.605	0.013
L25	74.65	0.909	0.01	12.388	A	0.000	12.388	12.388	100.00	13.607	0.250
77.17-72.17					B	0.000	12.388		100.00	3.835	0.250
					C	0.000	12.388		100.00	11.954	0.250
L26	69.65	0.891	0.01	12.830	A	0.000	12.830	12.830	100.00	14.878	0.250
72.17-67.17					B	0.000	12.830		100.00	5.012	0.250
					C	0.000	12.830		100.00	13.582	0.250
L27	66.82	0.881	0.01	1.787	A	0.000	1.787	1.787	100.00	2.430	0.034
67.17-66.48					B	0.000	1.787		100.00	1.070	0.034
					C	0.000	1.787		100.00	2.243	0.034
L28	66.36	0.879	0.01	0.655	A	0.000	0.655	0.655	100.00	0.888	0.013
66.48-66.23					B	0.000	0.655		100.00	0.391	0.013
					C	0.000	0.655		100.00	0.820	0.013
L29	65.87	0.877	0.01	1.928	A	0.000	1.928	1.928	100.00	2.604	0.037
66.23-65.50					B	0.000	1.928		100.00	1.147	0.037
					C	0.000	1.928		100.00	2.404	0.037
L30	65.37	0.875	0.01	0.661	A	0.000	0.661	0.661	100.00	0.888	0.013
65.50-65.25					B	0.000	0.661		100.00	0.391	0.013
					C	0.000	0.661		100.00	0.820	0.013
L31	63.96	0.87	0.01	6.881	A	0.000	6.881	6.881	100.00	5.759	0.129
65.25-62.67					B	0.000	6.881		100.00	2.461	0.129
					C	0.000	6.881		100.00	5.054	0.129
L32	62.54	0.864	0.01	0.673	A	0.000	0.673	0.673	100.00	0.469	0.013
62.67-62.42					B	0.000	0.673		100.00	0.222	0.013
					C	0.000	0.673		100.00	0.401	0.013
L33	61.21	0.859	0.01	6.572	A	0.000	6.572	6.572	100.00	6.540	0.121
62.42-60.00					B	0.000	6.572		100.00	2.150	0.121
					C	0.000	6.572		100.00	2.863	0.121

Section Elevation	z	K_Z	q_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
L34	59.87	0.854	0.01	0.685	A	0.000	0.685	0.685	100.00	0.719	0.013
60.00-59.75					B	0.000	0.685		100.00	0.222	0.013
					C	0.000	0.685		100.00	0.231	0.013
L35	57.24	0.843	0.01	13.931	A	0.000	13.931	13.931	100.00	14.823	0.250
59.75-54.75					B	0.000	13.931		100.00	4.886	0.250
					C	0.000	13.931		100.00	5.073	0.250
L36	54.08	0.829	0.01	3.780	A	0.000	3.780	3.780	100.00	5.006	0.067
54.75-53.42					B	0.000	3.780		100.00	2.363	0.067
					C	0.000	3.780		100.00	2.413	0.067
L37	53.29	0.826	0.01	0.713	A	0.000	0.713	0.713	100.00	0.941	0.013
53.42-53.17					B	0.000	0.713		100.00	0.444	0.013
					C	0.000	0.713		100.00	0.454	0.013
L38	52.29	0.821	0.01	5.028	A	0.000	5.028	5.028	100.00	6.599	0.088
53.17-51.42					B	0.000	5.028		100.00	3.114	0.088
					C	0.000	5.028		100.00	3.180	0.088
L39	51.29	0.817	0.01	0.723	A	0.000	0.723	0.723	100.00	0.941	0.013
51.42-51.17					B	0.000	0.723		100.00	0.444	0.013
					C	0.000	0.723		100.00	0.454	0.013
L40	48.82	0.805	0.01	13.696	A	0.000	13.696	13.696	100.00	14.847	0.233
51.17-46.50					B	0.000	13.696		100.00	6.071	0.233
					C	0.000	13.696		100.00	6.246	0.233
L41	46.00	0.792	0.01	2.930	A	0.000	2.930	2.930	100.00	2.210	0.050
46.50-45.50					B	0.000	2.930		100.00	0.888	0.050
					C	0.000	2.930		100.00	0.926	0.050
L42	44.58	0.785	0.01	5.416	A	0.000	5.416	5.416	100.00	10.361	0.092
45.50-43.67					B	0.000	5.416		100.00	1.628	0.092
					C	0.000	5.416		100.00	3.325	0.092
L43	43.54	0.779	0.01	0.743	A	0.000	0.743	0.743	100.00	1.413	0.013
43.67-43.42					B	0.000	0.743		100.00	0.222	0.013
					C	0.000	0.743		100.00	0.454	0.013
L44	43.33	0.778	0.01	0.497	A	0.000	0.497	0.497	100.00	0.944	0.008
43.42-43.25					B	0.000	0.497		100.00	0.148	0.008
					C	0.000	0.497		100.00	0.303	0.008
L45	43.12	0.777	0.01	0.746	A	0.000	0.746	0.746	100.00	1.413	0.013
43.25-43.00					B	0.000	0.746		100.00	0.222	0.013
					C	0.000	0.746		100.00	0.454	0.013
L46	40.49	0.763	0.01	15.161	A	0.000	15.161	15.161	100.00	26.264	0.250
43.00-38.00					B	0.000	15.161		100.00	2.443	0.250
					C	0.000	15.161		100.00	7.072	0.250
L47	35.49	0.735	0.01	15.604	A	0.000	15.604	15.604	100.00	23.821	0.250
38.00-33.00					B	0.000	15.604		100.00	0.000	0.250
					C	0.000	15.604		100.00	4.629	0.250
L48	31.12	0.708	0.01	11.993	A	0.000	11.993	11.993	100.00	18.005	0.188
33.00-29.25					B	0.000	11.993		100.00	1.110	0.188
					C	0.000	11.993		100.00	3.472	0.188
L49	29.12	0.7	0.01	0.808	A	0.000	0.808	0.808	100.00	1.219	0.013
29.25-29.00					B	0.000	0.808		100.00	0.222	0.013
					C	0.000	0.808		100.00	0.231	0.013
L50	28.54	0.7	0.01	2.982	A	0.000	2.982	2.982	100.00	4.486	0.046
29.00-28.08					B	0.000	2.982		100.00	0.817	0.046
					C	0.000	2.982		100.00	0.852	0.046
L51	27.90	0.7	0.01	1.137	A	0.000	1.137	1.137	100.00	1.707	0.018
28.08-27.73					B	0.000	1.137		100.00	0.311	0.018
					C	0.000	1.137		100.00	0.324	0.018
L52	27.61	0.7	0.01	0.748	A	0.000	0.748	0.748	100.00	1.121	0.012
27.73-27.50					B	0.000	0.748		100.00	0.204	0.012
					C	0.000	0.748		100.00	0.213	0.012
L53	25.79	0.7	0.01	11.224	A	0.000	11.224	11.224	100.00	18.663	0.171
27.50-24.08					B	0.000	11.224		100.00	3.035	0.171
					C	0.000	11.224		100.00	3.164	0.171

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L54 24.08-23.83	23.96	0.7	0.01	0.829	A	0.000	0.829	0.829	100.00	1.426	0.013
					B	0.000	0.829		100.00	0.222	0.013
					C	0.000	0.829		100.00	0.231	0.013
L55 23.83-22.67	23.25	0.7	0.01	3.882	A	0.000	3.882	3.882	100.00	6.651	0.058
					B	0.000	3.882		100.00	1.036	0.058
					C	0.000	3.882		100.00	1.080	0.058
L56 22.67-22.42	22.54	0.7	0.01	0.836	A	0.000	0.836	0.836	100.00	1.426	0.013
					B	0.000	0.836		100.00	0.222	0.013
					C	0.000	0.836		100.00	0.231	0.013
L57 22.42-18.92	20.66	0.7	0.01	11.826	A	0.000	11.826	11.826	100.00	16.465	0.175
					B	0.000	11.826		100.00	3.109	0.175
					C	0.000	11.826		100.00	6.053	0.175
L58 18.92-18.67	18.79	0.7	0.01	0.853	A	0.000	0.853	0.853	100.00	0.926	0.013
					B	0.000	0.853		100.00	0.222	0.013
					C	0.000	0.853		100.00	0.676	0.013
L59 18.67-18.08	18.37	0.7	0.01	1.997	A	0.000	1.997	1.997	100.00	2.163	0.029
					B	0.000	1.997		100.00	0.519	0.029
					C	0.000	1.997		100.00	1.578	0.029
L60 18.08-17.83	17.96	0.7	0.01	0.856	A	0.000	0.856	0.856	100.00	0.926	0.013
					B	0.000	0.856		100.00	0.222	0.013
					C	0.000	0.856		100.00	0.676	0.013
L61 17.83-14.08	15.95	0.7	0.01	12.979	A	0.000	12.979	12.979	100.00	11.897	0.188
					B	0.000	12.979		100.00	3.334	0.188
					C	0.000	12.979		100.00	10.142	0.188
L62 14.08-13.83	13.95	0.7	0.01	0.874	A	0.000	0.874	0.874	100.00	0.719	0.013
					B	0.000	0.874		100.00	0.222	0.013
					C	0.000	0.874		100.00	0.676	0.013
L63 13.83-8.83	11.32	0.7	0.01	17.705	A	0.000	17.705	17.705	100.00	14.379	0.250
					B	0.000	17.705		100.00	4.442	0.250
					C	0.000	17.705		100.00	10.992	0.250
L64 8.83-3.83	6.32	0.7	0.01	18.149	A	0.000	18.149	18.149	100.00	14.379	0.304
					B	0.000	18.149		100.00	4.442	0.304
					C	0.000	18.149		100.00	9.071	0.304
L65 3.83-3.25	3.54	0.7	0.01	2.134	A	0.000	2.134	2.134	100.00	1.668	0.043
					B	0.000	2.134		100.00	0.515	0.043
					C	0.000	2.134		100.00	1.052	0.043
L66 3.25-3.00	3.12	0.7	0.01	0.922	A	0.000	0.922	0.922	100.00	0.719	0.019
					B	0.000	0.922		100.00	0.222	0.019
					C	0.000	0.922		100.00	0.454	0.019
L67 3.00-2.17	2.58	0.7	0.01	3.069	A	0.000	3.069	3.069	100.00	2.387	0.062
					B	0.000	3.069		100.00	0.737	0.062
					C	0.000	3.069		100.00	1.506	0.062
L68 2.17-1.92	2.04	0.7	0.01	0.928	A	0.000	0.928	0.928	100.00	0.719	0.019
					B	0.000	0.928		100.00	0.222	0.019
					C	0.000	0.928		100.00	0.454	0.019
L69 1.92-0.00	0.96	0.7	0.01	7.165	A	0.000	7.165	7.165	100.00	4.577	0.144
					B	0.000	7.165		100.00	1.261	0.144
					C	0.000	7.165		100.00	2.595	0.144

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1 140.00-135.00	0.01	0.22	A	1	0.95	0.04	1	1	7.086	0.29	57.00	C
			B	1	0.95		1	1	7.086			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.95		1	1	7.086			
L2	0.02	0.24	A	1	0.95	0.04	1	1	7.528	0.32	63.06	C
135.00-130.00			B	1	0.95		1	1	7.528			
			C	1	0.95		1	1	7.528			
L3	0.05	0.25	A	1	0.95	0.04	1	1	7.970	0.33	65.86	C
130.00-125.00			B	1	0.95		1	1	7.970			
			C	1	0.95		1	1	7.970			
L4	0.07	0.26	A	1	0.95	0.04	1	1	8.412	0.34	68.55	C
125.00-120.00			B	1	0.95		1	1	8.412			
			C	1	0.95		1	1	8.412			
L5	0.07	0.28	A	1	0.95	0.04	1	1	8.855	0.36	71.14	C
120.00-115.00			B	1	0.95		1	1	8.855			
			C	1	0.95		1	1	8.855			
L6	0.07	0.29	A	1	0.95	0.04	1	1	9.297	0.37	73.62	C
115.00-110.00			B	1	0.95		1	1	9.297			
			C	1	0.95		1	1	9.297			
L7	0.09	0.31	A	1	0.95	0.04	1	1	9.739	0.38	75.98	C
110.00-105.00			B	1	0.95		1	1	9.739			
			C	1	0.95		1	1	9.739			
L8	0.06	0.19	A	1	0.95	0.04	1	1	6.055	0.23	77.79	C
105.00-102.00			B	1	0.95		1	1	6.055			
			C	1	0.95		1	1	6.055			
L9	0.00	0.02	A	1	0.95	0.04	1	1	0.511	0.02	84.70	B
102.00-101.75			B	1	1.03		1	1	0.511			
			C	1	0.95		1	1	0.511			
L10	0.12	0.48	A	1	0.95	0.04	1	1	10.448	0.62	124.34	B
101.75-96.75			B	1	1.2		1	1	10.448			
			C	1	0.95		1	1	10.448			
L11	0.13	0.49	A	1	1.222	0.03	1	1	10.890	0.64	127.31	B
96.75-91.75			B	1	1.2		1	1	10.890			
			C	1	1.222		1	1	10.890			
L12	0.03	0.53	A	1	1.211	0.03	1	1	2.189	0.10	102.62	C
91.75-90.75			B	1	0.997		1	1	2.189			
			C	1	1.211		1	1	2.189			
L13	0.15	0.64	A	1	1.217	0.03	1	1	11.210	0.52	104.58	C
90.75-85.75			B	1	1.014		1	1	11.210			
			C	1	1.217		1	1	11.210			
L14	0.02	0.06	A	1	1.262	0.03	1	1	0.962	0.05	109.64	C
85.75-85.33			B	1	1.145		1	1	0.962			
			C	1	1.262		1	1	0.962			
L15	0.01	0.04	A	1	1.262	0.03	1	1	0.574	0.03	109.75	C
85.33-85.08			B	1	1.144		1	1	0.574			
			C	1	1.262		1	1	0.574			
L16	0.12	0.37	A	1	1.323	0.03	1	1	5.987	0.31	118.27	C
85.08-82.50			B	1	1.2		1	1	5.987			
			C	1	1.323		1	1	5.987			
L17	0.01	0.05	A	1	1.339	0.03	1	1	0.585	0.03	133.96	B
82.50-82.25			B	1	1.2		1	1	0.585			
			C	1	1.339		1	1	0.585			
L18	0.01	0.05	A	1	1.339	0.03	1	1	0.586	0.03	120.24	C
82.25-82.00			B	1	1.2		1	1	0.586			
			C	1	1.339		1	1	0.586			
L19	0.01	0.04	A	1	1.339	0.03	1	1	0.587	0.03	120.29	C
82.00-81.75			B	1	1.2		1	1	0.587			
			C	1	1.339		1	1	0.587			
L20	0.17	0.59	A	1	1.323	0.03	1	1	8.531	0.50	138.75	B
81.75-78.17			B	1	1.205		1	1	8.531			
			C	1	1.323		1	1	8.531			
L21	0.01	0.05	A	1	1.308	0.03	1	1	0.603	0.04	144.74	B
78.17-77.92			B	1	1.23		1	1	0.603			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.308		1	1	0.603			
L22	0.01	0.05	A	1	1.307	0.03	1	1	0.605	0.04	144.79	B
77.92-77.67			B	1	1.23		1	1	0.605			
			C	1	1.307		1	1	0.605			
L23	0.01	0.04	A	1	1.307	0.03	1	1	0.607	0.04	144.98	B
77.67-77.42			B	1	1.23		1	1	0.607			
			C	1	1.307		1	1	0.607			
L24	0.01	0.04	A	1	1.307	0.03	1	1	0.615	0.04	145.03	B
77.42-77.17			B	1	1.229		1	1	0.615			
			C	1	1.307		1	1	0.615			
L25	0.15	0.89	A	1	1.259	0.03	1	1	12.388	0.72	143.05	B
77.17-72.17			B	1	1.2		1	1	12.388			
			C	1	1.303		1	1	12.388			
L26	0.14	0.90	A	1	1.271	0.03	1	1	12.830	0.72	143.95	B
72.17-67.17			B	1	1.2		1	1	12.830			
			C	1	1.321		1	1	12.830			
L27	0.02	0.14	A	1	1.309	0.03	1	1	1.787	0.10	147.55	B
67.17-66.48			B	1	1.237		1	1	1.787			
			C	1	1.358		1	1	1.787			
L28	0.01	0.05	A	1	1.308	0.03	1	1	0.655	0.04	147.58	B
66.48-66.23			B	1	1.237		1	1	0.655			
			C	1	1.357		1	1	0.655			
L29	0.02	0.15	A	1	1.308	0.03	1	1	1.928	0.11	147.60	B
66.23-65.50			B	1	1.237		1	1	1.928			
			C	1	1.356		1	1	1.928			
L30	0.01	0.04	A	1	1.307	0.03	1	1	0.661	0.04	147.75	B
65.50-65.25			B	1	1.236		1	1	0.661			
			C	1	1.355		1	1	0.661			
L31	0.07	0.45	A	1	1.212	0.03	1	1	6.881	0.31	119.45	C
65.25-62.67			B	1	1.116		1	1	6.881			
			C	1	1.26		1	1	6.881			
L32	0.01	0.04	A	1	0.95	0.03	1	1	0.673	0.03	117.38	C
62.67-62.42			B	1	1.073		1	1	0.673			
			C	1	1.234		1	1	0.673			
L33	0.11	0.40	A	1	1.243	0.03	1	1	6.572	0.29	118.50	A
62.42-60.00			B	1	1.057		1	1	6.572			
			C	1	1.204		1	1	6.572			
L34	0.01	0.04	A	1	1.254	0.03	1	1	0.685	0.03	119.74	A
60.00-59.75			B	1	1.017		1	1	0.685			
			C	1	0.95		1	1	0.685			
L35	0.24	0.83	A	1	1.258	0.03	1	1	13.931	0.60	120.48	A
59.75-54.75			B	1	1.029		1	1	13.931			
			C	1	0.95		1	1	13.931			
L36	0.06	0.23	A	1	1.308	0.03	1	1	3.780	0.17	125.45	A
54.75-53.42			B	1	1.242		1	1	3.780			
			C	1	1.242		1	1	3.780			
L37	0.01	0.06	A	1	1.308	0.03	1	1	0.713	0.03	125.23	A
53.42-53.17			B	1	1.242		1	1	0.713			
			C	1	1.242		1	1	0.713			
L38	0.09	0.44	A	1	1.307	0.03	1	1	5.028	0.22	125.20	A
53.17-51.42			B	1	1.241		1	1	5.028			
			C	1	1.241		1	1	5.028			
L39	0.01	0.05	A	1	1.305	0.03	1	1	0.723	0.03	125.33	A
51.42-51.17			B	1	1.24		1	1	0.723			
			C	1	1.24		1	1	0.723			
L40	0.22	0.91	A	1	1.265	0.03	1	1	13.696	0.57	121.67	A
51.17-46.50			B	1	1.208		1	1	13.696			
			C	1	1.208		1	1	13.696			
L41	0.04	1.07	A	1	1.203	0.03	1	1	2.930	0.11	113.81	A
46.50-45.50			B	1	1.082		1	1	2.930			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.95		1	1	2.930			
L42	0.20	0.36	A	1	1.421	0.03	1	1	5.416	0.24	133.47	A
45.50-43.67			B	1	1.245		1	1	5.416			
			C	1	1.301		1	1	5.416			
L43	0.03	0.06	A	1	1.419	0.03	1	1	0.743	0.03	133.14	A
43.67-43.42			B	1	1.244		1	1	0.743			
			C	1	1.3		1	1	0.743			
L44	0.02	0.04	A	1	1.419	0.03	1	1	0.497	0.02	133.09	A
43.42-43.25			B	1	1.244		1	1	0.497			
			C	1	1.3		1	1	0.497			
L45	0.03	0.04	A	1	1.418	0.03	1	1	0.746	0.03	133.27	A
43.25-43.00			B	1	1.244		1	1	0.746			
			C	1	1.299		1	1	0.746			
L46	0.54	0.72	A	1	1.389	0.03	1	1	15.161	0.65	130.21	A
43.00-38.00			B	1	1.217		1	1	15.161			
			C	1	1.272		1	1	15.161			
L47	0.54	0.74	A	1	1.352	0.03	1	1	15.604	0.63	125.63	A
38.00-33.00			B	1	0.95		1	1	15.604			
			C	1	1.238		1	1	15.604			
L48	0.39	0.57	A	1	1.349	0.03	1	1	11.993	0.46	123.60	A
33.00-29.25			B	1	1.201		1	1	11.993			
			C	1	1.236		1	1	11.993			
L49	0.02	0.05	A	1	1.351	0.02	1	1	0.808	0.03	123.59	A
29.25-29.00			B	1	1.235		1	1	0.808			
			C	1	1.235		1	1	0.808			
L50	0.09	0.20	A	1	1.35	0.02	1	1	2.982	0.11	123.91	A
29.00-28.08			B	1	1.234		1	1	2.982			
			C	1	1.234		1	1	2.982			
L51	0.03	0.09	A	1	1.35	0.02	1	1	1.137	0.04	124.11	A
28.08-27.73			B	1	1.234		1	1	1.137			
			C	1	1.234		1	1	1.137			
L52	0.02	0.06	A	1	1.349	0.02	1	1	0.748	0.03	124.27	A
27.73-27.50			B	1	1.234		1	1	0.748			
			C	1	1.234		1	1	0.748			
L53	0.37	0.87	A	1	1.383	0.02	1	1	11.224	0.44	128.49	A
27.50-24.08			B	1	1.233		1	1	11.224			
			C	1	1.233		1	1	11.224			
L54	0.03	0.07	A	1	1.395	0.02	1	1	0.829	0.03	130.81	A
24.08-23.83			B	1	1.232		1	1	0.829			
			C	1	1.232		1	1	0.829			
L55	0.13	0.32	A	1	1.394	0.02	1	1	3.882	0.15	131.20	A
23.83-22.67			B	1	1.231		1	1	3.882			
			C	1	1.231		1	1	3.882			
L56	0.03	0.05	A	1	1.393	0.02	1	1	0.836	0.03	131.70	A
22.67-22.42			B	1	1.231		1	1	0.836			
			C	1	1.231		1	1	0.836			
L57	0.33	0.76	A	1	1.335	0.02	1	1	11.826	0.45	127.59	A
22.42-18.92			B	1	1.202		1	1	11.826			
			C	1	1.247		1	1	11.826			
L58	0.02	0.05	A	1	1.278	0.02	1	1	0.853	0.03	123.47	A
18.92-18.67			B	1	1.023		1	1	0.853			
			C	1	1.271		1	1	0.853			
L59	0.04	0.13	A	1	1.277	0.02	1	1	1.997	0.07	123.70	A
18.67-18.08			B	1	1.023		1	1	1.997			
			C	1	1.271		1	1	1.997			
L60	0.02	0.07	A	1	1.277	0.02	1	1	0.856	0.03	123.80	A
18.08-17.83			B	1	1.022		1	1	0.856			
			C	1	1.271		1	1	0.856			
L61	0.23	1.08	A	1	1.244	0.02	1	1	12.979	0.47	124.33	C
17.83-14.08			B	1	1.018		1	1	12.979			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.269		1	1	12.979			
L62	0.01	0.07	A	1	1.226	0.02	1	1	0.874	0.03	125.44	C
14.08-13.83			B	1	1.015		1	1	0.874			
			C	1	1.268		1	1	0.874			
L63	0.27	1.36	A	1	1.225	0.02	1	1	17.705	0.62	124.29	C
13.83-8.83			B	1	1.01		1	1	17.705			
			C	1	1.239		1	1	17.705			
L64 8.83-3.83	0.27	1.38	A	1	1.223	0.02	1	1	18.149	0.63	126.52	A
			B	1	1.002		1	1	18.149			
			C	1	1.217		1	1	18.149			
L65 3.83-3.25	0.03	0.16	A	1	1.221	0.02	1	1	2.134	0.07	129.20	A
			B	1	0.997		1	1	2.134			
			C	1	1.216		1	1	2.134			
L66 3.25-3.00	0.01	0.06	A	1	1.221	0.02	1	1	0.922	0.03	129.47	A
			B	1	0.996		1	1	0.922			
			C	1	1.215		1	1	0.922			
L67 3.00-2.17	0.05	0.21	A	1	1.221	0.02	1	1	3.069	0.11	129.77	A
			B	1	0.996		1	1	3.069			
			C	1	1.215		1	1	3.069			
L68 2.17-1.92	0.01	0.04	A	1	1.22	0.02	1	1	0.928	0.03	130.23	A
			B	1	0.994		1	1	0.928			
			C	1	1.215		1	1	0.928			
L69 1.92-0.00	0.09	0.34	A	1	0.95	0.02	1	1	7.165	0.20	104.05	B
			B	1	0.958		1	1	7.165			
			C	1	0.95		1	1	7.165			
Sum Weight:	6.33	22.19						OTM	969.21 kip-ft	15.46		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.01	0.22	A	1	0.95	0.04	1	1	7.086	0.29	57.00	C
140.00-135.00			B	1	0.95		1	1	7.086			
			C	1	0.95		1	1	7.086			
L2	0.02	0.24	A	1	0.95	0.04	1	1	7.528	0.32	63.06	C
135.00-130.00			B	1	0.95		1	1	7.528			
			C	1	0.95		1	1	7.528			
L3	0.05	0.25	A	1	0.95	0.04	1	1	7.970	0.33	65.86	C
130.00-125.00			B	1	0.95		1	1	7.970			
			C	1	0.95		1	1	7.970			
L4	0.07	0.26	A	1	0.95	0.04	1	1	8.412	0.34	68.55	C
125.00-120.00			B	1	0.95		1	1	8.412			
			C	1	0.95		1	1	8.412			
L5	0.07	0.28	A	1	0.95	0.04	1	1	8.855	0.36	71.14	C
120.00-115.00			B	1	0.95		1	1	8.855			
			C	1	0.95		1	1	8.855			
L6	0.07	0.29	A	1	0.95	0.04	1	1	9.297	0.37	73.62	C
115.00-110.00			B	1	0.95		1	1	9.297			
			C	1	0.95		1	1	9.297			
L7	0.09	0.31	A	1	0.95	0.04	1	1	9.739	0.38	75.98	C
110.00-105.00			B	1	0.95		1	1	9.739			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.95		1	1	9.739			
L8	0.06	0.19	A	1	0.95	0.04	1	1	6.055	0.23	77.79	C
105.00-102.00			B	1	0.95		1	1	6.055			
			C	1	0.95		1	1	6.055			
L9	0.00	0.02	A	1	1.249	0.04	1	1	0.511	0.03	102.10	A
102.00-101.75			B	1	0.95		1	1	0.511			
			C	1	1.03		1	1	0.511			
L10	0.12	0.48	A	1	1.246	0.04	1	1	10.448	0.62	124.34	C
101.75-96.75			B	1	0.95		1	1	10.448			
			C	1	1.2		1	1	10.448			
L11	0.13	0.49	A	1	1.264	0.03	1	1	10.890	0.67	133.78	C
96.75-91.75			B	1	1.222		1	1	10.890			
			C	1	1.278		1	1	10.890			
L12	0.03	0.53	A	1	1.211	0.03	1	1	2.189	0.11	109.69	C
91.75-90.75			B	1	1.211		1	1	2.189			
			C	1	1.296		1	1	2.189			
L13	0.15	0.64	A	1	1.226	0.03	1	1	11.210	0.56	111.57	C
90.75-85.75			B	1	1.226		1	1	11.210			
			C	1	1.301		1	1	11.210			
L14	0.02	0.06	A	1	1.318	0.03	1	1	0.962	0.05	116.57	C
85.75-85.33			B	1	1.318		1	1	0.962			
			C	1	1.344		1	1	0.962			
L15	0.01	0.04	A	1	1.317	0.03	1	1	0.574	0.03	116.67	C
85.33-85.08			B	1	1.317		1	1	0.574			
			C	1	1.344		1	1	0.574			
L16	0.12	0.37	A	1	1.378	0.03	1	1	5.987	0.32	125.16	C
85.08-82.50			B	1	1.315		1	1	5.987			
			C	1	1.404		1	1	5.987			
L17	0.01	0.05	A	1	1.394	0.03	1	1	0.585	0.04	152.75	C
82.50-82.25			B	1	1.313		1	1	0.585			
			C	1	1.419		1	1	0.585			
L18	0.01	0.05	A	1	1.393	0.03	1	1	0.586	0.03	127.09	C
82.25-82.00			B	1	1.313		1	1	0.586			
			C	1	1.419		1	1	0.586			
L19	0.01	0.04	A	1	1.393	0.03	1	1	0.587	0.03	127.13	C
82.00-81.75			B	1	1.313		1	1	0.587			
			C	1	1.418		1	1	0.587			
L20	0.17	0.59	A	1	1.376	0.03	1	1	8.531	0.54	152.20	C
81.75-78.17			B	1	1.297		1	1	8.531			
			C	1	1.361		1	1	8.531			
L21	0.01	0.05	A	1	1.36	0.03	1	1	0.603	0.04	151.50	C
78.17-77.92			B	1	1.283		1	1	0.603			
			C	1	1.308		1	1	0.603			
L22	0.01	0.05	A	1	1.36	0.03	1	1	0.605	0.04	151.54	C
77.92-77.67			B	1	1.282		1	1	0.605			
			C	1	1.307		1	1	0.605			
L23	0.01	0.04	A	1	1.359	0.03	1	1	0.607	0.04	151.72	C
77.67-77.42			B	1	1.282		1	1	0.607			
			C	1	1.307		1	1	0.607			
L24	0.01	0.04	A	1	1.359	0.03	1	1	0.615	0.04	151.76	C
77.42-77.17			B	1	1.282		1	1	0.615			
			C	1	1.307		1	1	0.615			
L25	0.15	0.89	A	1	1.266	0.03	1	1	12.388	0.74	148.23	C
77.17-72.17			B	1	1.234		1	1	12.388			
			C	1	1.259		1	1	12.388			
L26	0.14	0.90	A	1	1.295	0.03	1	1	12.830	0.76	152.46	C
72.17-67.17			B	1	1.271		1	1	12.830			
			C	1	1.295		1	1	12.830			
L27	0.02	0.14	A	1	1.373	0.03	1	1	1.787	0.11	159.75	C
67.17-66.48			B	1	1.35		1	1	1.787			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.373		1	1	1.787			
L28	0.01	0.05	A	1	1.372	0.03	1	1	0.655	0.04	159.75	C
66.48-66.23			B	1	1.349		1	1	0.655			
			C	1	1.372		1	1	0.655			
L29	0.02	0.15	A	1	1.371	0.03	1	1	1.928	0.12	159.75	C
66.23-65.50			B	1	1.348		1	1	1.928			
			C	1	1.371		1	1	1.928			
L30	0.01	0.04	A	1	1.37	0.03	1	1	0.661	0.04	159.87	C
65.50-65.25			B	1	1.347		1	1	0.661			
			C	1	1.37		1	1	0.661			
L31	0.07	0.45	A	1	1.275	0.03	1	1	6.881	0.32	123.26	B
65.25-62.67			B	1	1.302		1	1	6.881			
			C	1	1.275		1	1	6.881			
L32	0.01	0.04	A	1	1.249	0.03	1	1	0.673	0.03	123.01	B
62.67-62.42			B	1	1.296		1	1	0.673			
			C	1	1.249		1	1	0.673			
L33	0.11	0.40	A	1	1.305	0.03	1	1	6.572	0.30	124.10	A
62.42-60.00			B	1	1.265		1	1	6.572			
			C	1	1.248		1	1	6.572			
L34	0.01	0.04	A	1	1.315	0.03	1	1	0.685	0.03	125.30	A
60.00-59.75			B	1	1.247		1	1	0.685			
			C	1	1.247		1	1	0.685			
L35	0.24	0.83	A	1	1.318	0.03	1	1	13.931	0.63	125.97	A
59.75-54.75			B	1	1.251		1	1	13.931			
			C	1	1.251		1	1	13.931			
L36	0.06	0.23	A	1	1.367	0.03	1	1	3.780	0.17	130.85	A
54.75-53.42			B	1	1.301		1	1	3.780			
			C	1	1.301		1	1	3.780			
L37	0.01	0.06	A	1	1.366	0.03	1	1	0.713	0.03	130.61	A
53.42-53.17			B	1	1.3		1	1	0.713			
			C	1	1.3		1	1	0.713			
L38	0.09	0.44	A	1	1.365	0.03	1	1	5.028	0.23	130.55	A
53.17-51.42			B	1	1.299		1	1	5.028			
			C	1	1.299		1	1	5.028			
L39	0.01	0.05	A	1	1.363	0.03	1	1	0.723	0.03	130.65	A
51.42-51.17			B	1	1.298		1	1	0.723			
			C	1	1.298		1	1	0.723			
L40	0.22	0.91	A	1	1.292	0.03	1	1	13.696	0.58	124.11	A
51.17-46.50			B	1	1.234		1	1	13.696			
			C	1	1.234		1	1	13.696			
L41	0.04	1.07	A	1	0.95	0.03	1	1	2.930	0.10	102.83	C
46.50-45.50			B	1	0.95		1	1	2.930			
			C	1	1.082		1	1	2.930			
L42	0.20	0.36	A	1	1.358	0.03	1	1	5.416	0.24	132.83	C
45.50-43.67			B	1	1.238		1	1	5.416			
			C	1	1.414		1	1	5.416			
L43	0.03	0.06	A	1	1.356	0.03	1	1	0.743	0.03	132.51	C
43.67-43.42			B	1	1.237		1	1	0.743			
			C	1	1.412		1	1	0.743			
L44	0.02	0.04	A	1	1.356	0.03	1	1	0.497	0.02	132.45	C
43.42-43.25			B	1	1.237		1	1	0.497			
			C	1	1.412		1	1	0.497			
L45	0.03	0.04	A	1	1.355	0.03	1	1	0.746	0.03	132.63	C
43.25-43.00			B	1	1.237		1	1	0.746			
			C	1	1.411		1	1	0.746			
L46	0.54	0.72	A	1	1.327	0.03	1	1	15.161	0.65	129.59	C
43.00-38.00			B	1	1.21		1	1	15.161			
			C	1	1.382		1	1	15.161			
L47	0.54	0.74	A	1	1.292	0.03	1	1	15.604	0.63	125.02	C
38.00-33.00			B	1	0.95		1	1	15.604			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.345		1	1	15.604			
L48 33.00-29.25	0.39	0.57	A	1	1.288	0.03	1	1	11.993	0.46	123.02	C
			B	1	0.95		1	1	11.993			
			C	1	1.342		1	1	11.993			
L49 29.25-29.00	0.02	0.05	A	1	1.286	0.02	1	1	0.808	0.03	123.02	C
			B	1	1.228		1	1	0.808			
			C	1	1.344		1	1	0.808			
L50 29.00-28.08	0.09	0.20	A	1	1.286	0.02	1	1	2.982	0.11	123.34	C
			B	1	1.228		1	1	2.982			
			C	1	1.343		1	1	2.982			
L51 28.08-27.73	0.03	0.09	A	1	1.285	0.02	1	1	1.137	0.04	123.54	C
			B	1	1.228		1	1	1.137			
			C	1	1.343		1	1	1.137			
L52 27.73-27.50	0.02	0.06	A	1	1.285	0.02	1	1	0.748	0.03	123.70	C
			B	1	1.227		1	1	0.748			
			C	1	1.343		1	1	0.748			
L53 27.50-24.08	0.37	0.87	A	1	1.319	0.02	1	1	11.224	0.44	127.92	C
			B	1	1.226		1	1	11.224			
			C	1	1.376		1	1	11.224			
L54 24.08-23.83	0.03	0.07	A	1	1.332	0.02	1	1	0.829	0.03	130.24	C
			B	1	1.225		1	1	0.829			
			C	1	1.389		1	1	0.829			
L55 23.83-22.67	0.13	0.32	A	1	1.331	0.02	1	1	3.882	0.15	130.63	C
			B	1	1.225		1	1	3.882			
			C	1	1.388		1	1	3.882			
L56 22.67-22.42	0.03	0.05	A	1	1.33	0.02	1	1	0.836	0.03	131.12	C
			B	1	1.225		1	1	0.836			
			C	1	1.386		1	1	0.836			
L57 22.42-18.92	0.33	0.76	A	1	1.301	0.02	1	1	11.826	0.46	131.64	C
			B	1	1.246		1	1	11.826			
			C	1	1.378		1	1	11.826			
L58 18.92-18.67	0.02	0.05	A	1	1.271	0.02	1	1	0.853	0.03	132.59	C
			B	1	1.271		1	1	0.853			
			C	1	1.375		1	1	0.853			
L59 18.67-18.08	0.04	0.13	A	1	1.271	0.02	1	1	1.997	0.08	132.82	C
			B	1	1.271		1	1	1.997			
			C	1	1.375		1	1	1.997			
L60 18.08-17.83	0.02	0.07	A	1	1.271	0.02	1	1	0.856	0.03	132.92	C
			B	1	1.271		1	1	0.856			
			C	1	1.374		1	1	0.856			
L61 17.83-14.08	0.23	1.08	A	1	1.238	0.02	1	1	12.979	0.49	131.09	C
			B	1	1.269		1	1	12.979			
			C	1	1.341		1	1	12.979			
L62 14.08-13.83	0.01	0.07	A	1	1.22	0.02	1	1	0.874	0.03	130.58	C
			B	1	1.268		1	1	0.874			
			C	1	1.322		1	1	0.874			
L63 13.83-8.83	0.27	1.36	A	1	1.219	0.02	1	1	17.705	0.65	129.42	C
			B	1	1.239		1	1	17.705			
			C	1	1.292		1	1	17.705			
L64 8.83-3.83	0.27	1.38	A	1	1.217	0.02	1	1	18.149	0.66	131.08	C
			B	1	1.217		1	1	18.149			
			C	1	1.268		1	1	18.149			
L65 3.83-3.25	0.03	0.16	A	1	1.216	0.02	1	1	2.134	0.08	133.76	C
			B	1	1.216		1	1	2.134			
			C	1	1.267		1	1	2.134			
L66 3.25-3.00	0.01	0.06	A	1	1.215	0.02	1	1	0.922	0.03	134.03	C
			B	1	1.215		1	1	0.922			
			C	1	1.266		1	1	0.922			
L67 3.00-2.17	0.05	0.21	A	1	1.215	0.02	1	1	3.069	0.11	134.33	C
			B	1	1.215		1	1	3.069			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.266		1	1	3.069			
L68 2.17-1.92	0.01	0.04	A	1	1.215	0.02	1	1	0.928	0.03	134.79	C
			B	1	1.215		1	1	0.928			
			C	1	1.265		1	1	0.928			
L69 1.92-0.00	0.09	0.34	A	1	0.95	0.02	1	1	7.165	0.25	131.67	C
			B	1	0.95		1	1	7.165			
			C	1	1.228		1	1	7.165			
Sum Weight:	6.33	22.19						OTM	995.01 kip-ft	15.94		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.01	0.22	A	1	0.95	0.04	1	1	7.086	0.29	57.00	C
140.00-135.00			B	1	0.95		1	1	7.086			
			C	1	0.95		1	1	7.086			
L2	0.02	0.24	A	1	0.95	0.04	1	1	7.528	0.32	63.06	C
135.00-130.00			B	1	0.95		1	1	7.528			
			C	1	0.95		1	1	7.528			
L3	0.05	0.25	A	1	0.95	0.04	1	1	7.970	0.33	65.86	C
130.00-125.00			B	1	0.95		1	1	7.970			
			C	1	0.95		1	1	7.970			
L4	0.07	0.26	A	1	0.95	0.04	1	1	8.412	0.34	68.55	C
125.00-120.00			B	1	0.95		1	1	8.412			
			C	1	0.95		1	1	8.412			
L5	0.07	0.28	A	1	0.95	0.04	1	1	8.855	0.36	71.14	C
120.00-115.00			B	1	0.95		1	1	8.855			
			C	1	0.95		1	1	8.855			
L6	0.07	0.29	A	1	0.95	0.04	1	1	9.297	0.37	73.62	C
115.00-110.00			B	1	0.95		1	1	9.297			
			C	1	0.95		1	1	9.297			
L7	0.09	0.31	A	1	0.95	0.04	1	1	9.739	0.38	75.98	C
110.00-105.00			B	1	0.95		1	1	9.739			
			C	1	0.95		1	1	9.739			
L8	0.06	0.19	A	1	0.95	0.04	1	1	6.055	0.23	77.79	C
105.00-102.00			B	1	0.95		1	1	6.055			
			C	1	0.95		1	1	6.055			
L9	0.00	0.02	A	1	1.249	0.04	1	1	0.511	0.03	102.10	A
102.00-101.75			B	1	0.95		1	1	0.511			
			C	1	0.95		1	1	0.511			
L10	0.12	0.48	A	1	1.246	0.04	1	1	10.448	0.52	103.36	A
101.75-96.75			B	1	0.95		1	1	10.448			
			C	1	1.004		1	1	10.448			
L11	0.13	0.49	A	1	1.208	0.03	1	1	10.890	0.52	104.04	C
96.75-91.75			B	1	1.222		1	1	10.890			
			C	1	1.222		1	1	10.890			
L12	0.03	0.53	A	1	0.95	0.03	1	1	2.189	0.13	127.97	C
91.75-90.75			B	1	1.211		1	1	2.189			
			C	1	1.211		1	1	2.189			
L13	0.15	0.64	A	1	0.95	0.03	1	1	11.210	0.65	129.68	C
90.75-85.75			B	1	1.217		1	1	11.210			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.217		1	1	11.210			
L14 85.75-85.33	0.02	0.06	A	1	0.95	0.03	1	1	0.962	0.05	109.64	C
			B	1	1.262		1	1	0.962			
			C	1	1.262		1	1	0.962			
L15 85.33-85.08	0.01	0.04	A	1	0.95	0.03	1	1	0.574	0.03	109.75	C
			B	1	1.262		1	1	0.574			
			C	1	1.262		1	1	0.574			
L16 85.08-82.50	0.12	0.37	A	1	1.242	0.03	1	1	5.987	0.32	123.61	C
			B	1	1.323		1	1	5.987			
			C	1	1.386		1	1	5.987			
L17 82.50-82.25	0.01	0.05	A	1	1.259	0.03	1	1	0.585	0.03	127.02	C
			B	1	1.339		1	1	0.585			
			C	1	1.419		1	1	0.585			
L18 82.25-82.00	0.01	0.05	A	1	1.259	0.03	1	1	0.586	0.03	127.09	C
			B	1	1.339		1	1	0.586			
			C	1	1.419		1	1	0.586			
L19 82.00-81.75	0.01	0.04	A	1	1.259	0.03	1	1	0.587	0.03	127.13	C
			B	1	1.339		1	1	0.587			
			C	1	1.418		1	1	0.587			
L20 81.75-78.17	0.17	0.59	A	1	1.311	0.03	1	1	8.531	0.46	128.88	C
			B	1	1.35		1	1	8.531			
			C	1	1.429		1	1	8.531			
L21 78.17-77.92	0.01	0.05	A	1	1.36	0.03	1	1	0.603	0.03	130.42	C
			B	1	1.36		1	1	0.603			
			C	1	1.438		1	1	0.603			
L22 77.92-77.67	0.01	0.05	A	1	1.36	0.03	1	1	0.605	0.03	130.48	C
			B	1	1.36		1	1	0.605			
			C	1	1.437		1	1	0.605			
L23 77.67-77.42	0.01	0.04	A	1	1.359	0.03	1	1	0.607	0.03	130.68	C
			B	1	1.359		1	1	0.607			
			C	1	1.436		1	1	0.607			
L24 77.42-77.17	0.01	0.04	A	1	1.359	0.03	1	1	0.615	0.03	130.74	C
			B	1	1.359		1	1	0.615			
			C	1	1.436		1	1	0.615			
L25 77.17-72.17	0.15	0.89	A	1	1.31	0.03	1	1	12.388	0.64	127.41	C
			B	1	1.354		1	1	12.388			
			C	1	1.386		1	1	12.388			
L26 72.17-67.17	0.14	0.90	A	1	1.321	0.03	1	1	12.830	0.65	129.93	C
			B	1	1.37		1	1	12.830			
			C	1	1.394		1	1	12.830			
L27 67.17-66.48	0.02	0.14	A	1	1.358	0.03	1	1	1.787	0.11	164.29	C
			B	1	1.406		1	1	1.787			
			C	1	1.429		1	1	1.787			
L28 66.48-66.23	0.01	0.05	A	1	1.357	0.03	1	1	0.655	0.04	164.28	C
			B	1	1.405		1	1	0.655			
			C	1	1.428		1	1	0.655			
L29 66.23-65.50	0.02	0.15	A	1	1.356	0.03	1	1	1.928	0.12	164.27	C
			B	1	1.404		1	1	1.928			
			C	1	1.427		1	1	1.928			
L30 65.50-65.25	0.01	0.04	A	1	1.355	0.03	1	1	0.661	0.04	164.38	C
			B	1	1.403		1	1	0.661			
			C	1	1.426		1	1	0.661			
L31 65.25-62.67	0.07	0.45	A	1	1.217	0.03	1	1	6.881	0.38	147.46	C
			B	1	1.265		1	1	6.881			
			C	1	1.238		1	1	6.881			
L32 62.67-62.42	0.01	0.04	A	1	0.95	0.03	1	1	0.673	0.04	144.16	C
			B	1	1.234		1	1	0.673			
			C	1	1.2		1	1	0.673			
L33 62.42-60.00	0.11	0.40	A	1	1.243	0.03	1	1	6.572	0.36	148.19	C
			B	1	1.204		1	1	6.572			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.243		1	1	6.572			
L34	0.01	0.04	A	1	1.254	0.03	1	1	0.685	0.04	149.24	C
60.00-59.75			B	1	0.95		1	1	0.685			
			C	1	1.254		1	1	0.685			
L35	0.24	0.83	A	1	1.264	0.03	1	1	13.931	0.75	150.15	C
59.75-54.75			B	1	0.95		1	1	13.931			
			C	1	1.264		1	1	13.931			
L36	0.06	0.23	A	1	1.367	0.03	1	1	3.780	0.21	159.51	C
54.75-53.42			B	1	1.301		1	1	3.780			
			C	1	1.367		1	1	3.780			
L37	0.01	0.06	A	1	1.366	0.03	1	1	0.713	0.04	159.15	C
53.42-53.17			B	1	1.3		1	1	0.713			
			C	1	1.366		1	1	0.713			
L38	0.09	0.44	A	1	1.365	0.03	1	1	5.028	0.28	158.93	C
53.17-51.42			B	1	1.299		1	1	5.028			
			C	1	1.365		1	1	5.028			
L39	0.01	0.05	A	1	1.363	0.03	1	1	0.723	0.04	158.87	C
51.42-51.17			B	1	1.298		1	1	0.723			
			C	1	1.363		1	1	0.723			
L40	0.22	0.91	A	1	1.322	0.03	1	1	13.696	0.59	126.92	C
51.17-46.50			B	1	1.265		1	1	13.696			
			C	1	1.322		1	1	13.696			
L41	0.04	1.07	A	1	1.249	0.03	1	1	2.930	0.12	118.00	C
46.50-45.50			B	1	1.239		1	1	2.930			
			C	1	1.249		1	1	2.930			
L42	0.20	0.36	A	1	1.301	0.03	1	1	5.416	0.30	163.78	C
45.50-43.67			B	1	1.294		1	1	5.416			
			C	1	1.414		1	1	5.416			
L43	0.03	0.06	A	1	1.3	0.03	1	1	0.743	0.04	163.25	C
43.67-43.42			B	1	1.293		1	1	0.743			
			C	1	1.412		1	1	0.743			
L44	0.02	0.04	A	1	1.3	0.03	1	1	0.497	0.03	163.15	C
43.42-43.25			B	1	1.293		1	1	0.497			
			C	1	1.412		1	1	0.497			
L45	0.03	0.04	A	1	1.299	0.03	1	1	0.746	0.04	163.29	C
43.25-43.00			B	1	1.292		1	1	0.746			
			C	1	1.411		1	1	0.746			
L46	0.54	0.72	A	1	1.247	0.03	1	1	15.161	0.79	157.46	C
43.00-38.00			B	1	1.24		1	1	15.161			
			C	1	1.357		1	1	15.161			
L47	0.54	0.74	A	1	0.983	0.03	1	1	15.604	0.75	149.23	C
38.00-33.00			B	1	0.95		1	1	15.604			
			C	1	1.292		1	1	15.604			
L48	0.39	0.57	A	1	1.201	0.03	1	1	11.993	0.55	146.34	C
33.00-29.25			B	1	0.95		1	1	11.993			
			C	1	1.29		1	1	11.993			
L49	0.02	0.05	A	1	1.235	0.02	1	1	0.808	0.04	146.08	C
29.25-29.00			B	1	0.95		1	1	0.808			
			C	1	1.293		1	1	0.808			
L50	0.09	0.20	A	1	1.234	0.02	1	1	2.982	0.13	146.39	C
29.00-28.08			B	1	0.95		1	1	2.982			
			C	1	1.292		1	1	2.982			
L51	0.03	0.09	A	1	1.234	0.02	1	1	1.137	0.05	146.59	C
28.08-27.73			B	1	0.95		1	1	1.137			
			C	1	1.292		1	1	1.137			
L52	0.02	0.06	A	1	1.234	0.02	1	1	0.748	0.03	146.75	C
27.73-27.50			B	1	0.95		1	1	0.748			
			C	1	1.292		1	1	0.748			
L53	0.37	0.87	A	1	1.233	0.02	1	1	11.224	0.52	150.97	C
27.50-24.08			B	1	0.95		1	1	11.224			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.326		1	1	11.224			
L54 24.08-23.83	0.03	0.07	A	1	1.232	0.02	1	1	0.829	0.04	153.29	C
			B	1	0.95		1	1	0.829			
			C	1	1.338		1	1	0.829			
L55 23.83-22.67	0.13	0.32	A	1	1.231	0.02	1	1	3.882	0.18	153.68	C
			B	1	0.95		1	1	3.882			
			C	1	1.338		1	1	3.882			
L56 22.67-22.42	0.03	0.05	A	1	1.231	0.02	1	1	0.836	0.04	154.18	C
			B	1	0.95		1	1	0.836			
			C	1	1.337		1	1	0.836			
L57 22.42-18.92	0.33	0.76	A	1	1.202	0.02	1	1	11.826	0.44	127.08	C
			B	1	1.219		1	1	11.826			
			C	1	1.329		1	1	11.826			
L58 18.92-18.67	0.02	0.05	A	1	0.956	0.02	1	1	0.853	0.03	128.03	C
			B	1	1.271		1	1	0.853			
			C	1	1.326		1	1	0.853			
L59 18.67-18.08	0.04	0.13	A	1	0.955	0.02	1	1	1.997	0.07	128.26	C
			B	1	1.271		1	1	1.997			
			C	1	1.326		1	1	1.997			
L60 18.08-17.83	0.02	0.07	A	1	0.955	0.02	1	1	0.856	0.03	128.36	C
			B	1	1.271		1	1	0.856			
			C	1	1.326		1	1	0.856			
L61 17.83-14.08	0.23	1.08	A	1	0.95	0.02	1	1	12.979	0.47	126.52	C
			B	1	1.269		1	1	12.979			
			C	1	1.293		1	1	12.979			
L62 14.08-13.83	0.01	0.07	A	1	0.95	0.02	1	1	0.874	0.03	126.02	C
			B	1	1.268		1	1	0.874			
			C	1	1.274		1	1	0.874			
L63 13.83-8.83	0.27	1.36	A	1	0.95	0.02	1	1	17.705	0.64	127.45	C
			B	1	1.239		1	1	17.705			
			C	1	1.272		1	1	17.705			
L64 8.83-3.83	0.27	1.38	A	1	0.95	0.02	1	1	18.149	0.66	131.08	C
			B	1	1.217		1	1	18.149			
			C	1	1.268		1	1	18.149			
L65 3.83-3.25	0.03	0.16	A	1	0.95	0.02	1	1	2.134	0.08	133.76	C
			B	1	1.216		1	1	2.134			
			C	1	1.267		1	1	2.134			
L66 3.25-3.00	0.01	0.06	A	1	0.95	0.02	1	1	0.922	0.03	134.03	C
			B	1	1.215		1	1	0.922			
			C	1	1.266		1	1	0.922			
L67 3.00-2.17	0.05	0.21	A	1	0.95	0.02	1	1	3.069	0.11	134.33	C
			B	1	1.215		1	1	3.069			
			C	1	1.266		1	1	3.069			
L68 2.17-1.92	0.01	0.04	A	1	0.95	0.02	1	1	0.928	0.03	134.79	C
			B	1	1.215		1	1	0.928			
			C	1	1.265		1	1	0.928			
L69 1.92-0.00	0.09	0.34	A	1	0.95	0.02	1	1	7.165	0.25	131.67	C
			B	1	0.95		1	1	7.165			
			C	1	1.228		1	1	7.165			
Sum Weight:	6.33	22.19						OTM	996.87 kip-ft	16.39		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.04	0.45	A	1	1.2	0.01	1	1	8.720	0.07	14.18	C
140.00-135.00			B	1	1.2		1	1	8.720			
			C	1	1.2		1	1	8.720			
L2	0.12	0.48	A	1	1.2	0.01	1	1	9.156	0.12	23.09	C
135.00-130.00			B	1	1.2		1	1	9.156			
			C	1	1.2		1	1	9.156			
L3	0.15	0.50	A	1	1.2	0.01	1	1	9.592	0.12	23.50	C
130.00-125.00			B	1	1.2		1	1	9.592			
			C	1	1.2		1	1	9.592			
L4	0.17	0.53	A	1	1.2	0.01	1	1	10.028	0.12	23.89	C
125.00-120.00			B	1	1.2		1	1	10.028			
			C	1	1.2		1	1	10.028			
L5	0.17	0.55	A	1	1.2	0.01	1	1	10.463	0.12	24.25	C
120.00-115.00			B	1	1.2		1	1	10.463			
			C	1	1.2		1	1	10.463			
L6	0.17	0.58	A	1	1.2	0.01	1	1	10.898	0.12	24.59	C
115.00-110.00			B	1	1.2		1	1	10.898			
			C	1	1.2		1	1	10.898			
L7	0.19	0.60	A	1	1.2	0.01	1	1	11.333	0.12	24.90	C
110.00-105.00			B	1	1.2		1	1	11.333			
			C	1	1.2		1	1	11.333			
L8	0.17	0.37	A	1	1.2	0.01	1	1	7.008	0.08	25.12	C
105.00-102.00			B	1	1.2		1	1	7.008			
			C	1	1.2		1	1	7.008			
L9	0.02	0.04	A	1	1.2	0.01	1	1	0.590	0.01	25.18	C
102.00-101.75			B	1	1.2		1	1	0.590			
			C	1	1.2		1	1	0.590			
L10	0.53	0.79	A	1	1.2	0.01	1	1	12.029	0.17	34.64	B
101.75-96.75			B	1	1.2		1	1	12.029			
			C	1	1.2		1	1	12.029			
L11	0.64	0.82	A	1	1.222	0.01	1	1	12.463	0.18	36.02	B
96.75-91.75			B	1	1.2		1	1	12.463			
			C	1	1.222		1	1	12.463			
L12	0.11	0.60	A	1	1.211	0.01	1	1	2.504	0.03	25.54	C
91.75-90.75			B	1	1.2		1	1	2.504			
			C	1	1.211		1	1	2.504			
L13	0.59	0.97	A	1	1.217	0.01	1	1	12.773	0.13	25.72	C
90.75-85.75			B	1	1.2		1	1	12.773			
			C	1	1.217		1	1	12.773			
L14	0.07	0.08	A	1	1.262	0.01	1	1	1.093	0.01	26.51	C
85.75-85.33			B	1	1.2		1	1	1.093			
			C	1	1.262		1	1	1.093			
L15	0.04	0.05	A	1	1.262	0.01	1	1	0.652	0.01	26.51	C
85.33-85.08			B	1	1.2		1	1	0.652			
			C	1	1.262		1	1	0.652			
L16	0.53	0.54	A	1	1.323	0.01	1	1	6.789	0.09	34.31	C
85.08-82.50			B	1	1.2		1	1	6.789			
			C	1	1.323		1	1	6.789			
L17	0.05	0.06	A	1	1.339	0.01	1	1	0.663	0.01	44.80	B
82.50-82.25			B	1	1.2		1	1	0.663			
			C	1	1.339		1	1	0.663			
L18	0.05	0.06	A	1	1.339	0.01	1	1	0.664	0.01	34.74	C
82.25-82.00			B	1	1.2		1	1	0.664			
			C	1	1.339		1	1	0.664			
L19	0.05	0.06	A	1	1.339	0.01	1	1	0.665	0.01	34.72	C
82.00-81.75			B	1	1.2		1	1	0.665			
			C	1	1.339		1	1	0.665			
L20	0.78	0.83	A	1	1.323	0.01	1	1	9.639	0.16	45.47	B
81.75-78.17			B	1	1.205		1	1	9.639			
			C	1	1.323		1	1	9.639			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L21	0.06	0.07	A	1	1.308	0.01	1	1	0.681	0.01	46.40	B
78.17-77.92			B	1	1.23		1	1	0.681			
			C	1	1.308		1	1	0.681			
L22	0.06	0.07	A	1	1.307	0.01	1	1	0.682	0.01	46.38	B
77.92-77.67			B	1	1.23		1	1	0.682			
			C	1	1.307		1	1	0.682			
L23	0.06	0.06	A	1	1.307	0.01	1	1	0.684	0.01	46.38	B
77.67-77.42			B	1	1.23		1	1	0.684			
			C	1	1.307		1	1	0.684			
L24	0.06	0.06	A	1	1.307	0.01	1	1	0.693	0.01	46.36	B
77.42-77.17			B	1	1.229		1	1	0.693			
			C	1	1.307		1	1	0.693			
L25	0.90	1.24	A	1	1.259	0.01	1	1	13.925	0.22	44.99	B
77.17-72.17			B	1	1.2		1	1	13.925			
			C	1	1.303		1	1	13.925			
L26	0.98	1.27	A	1	1.271	0.01	1	1	14.357	0.23	45.29	B
72.17-67.17			B	1	1.2		1	1	14.357			
			C	1	1.321		1	1	14.357			
L27	0.16	0.19	A	1	1.309	0.01	1	1	1.995	0.03	46.81	B
67.17-66.48			B	1	1.237		1	1	1.995			
			C	1	1.358		1	1	1.995			
L28	0.06	0.07	A	1	1.308	0.01	1	1	0.731	0.01	46.75	B
66.48-66.23			B	1	1.237		1	1	0.731			
			C	1	1.357		1	1	0.731			
L29	0.17	0.20	A	1	1.308	0.00	1	1	2.150	0.03	46.68	B
66.23-65.50			B	1	1.237		1	1	2.150			
			C	1	1.356		1	1	2.150			
L30	0.06	0.06	A	1	1.307	0.00	1	1	0.736	0.01	46.64	B
65.50-65.25			B	1	1.236		1	1	0.736			
			C	1	1.355		1	1	0.736			
L31	0.44	0.64	A	1	1.212	0.00	1	1	7.662	0.09	33.05	C
65.25-62.67			B	1	1.2		1	1	7.662			
			C	1	1.26		1	1	7.662			
L32	0.04	0.06	A	1	1.2	0.00	1	1	0.749	0.01	32.56	C
62.67-62.42			B	1	1.2		1	1	0.749			
			C	1	1.234		1	1	0.749			
L33	0.44	0.58	A	1	1.243	0.00	1	1	7.302	0.08	32.64	A
62.42-60.00			B	1	1.2		1	1	7.302			
			C	1	1.204		1	1	7.302			
L34	0.05	0.06	A	1	1.254	0.00	1	1	0.760	0.01	32.74	A
60.00-59.75			B	1	1.2		1	1	0.760			
			C	1	1.2		1	1	0.760			
L35	0.92	1.22	A	1	1.258	0.00	1	1	15.428	0.16	32.63	A
59.75-54.75			B	1	1.2		1	1	15.428			
			C	1	1.2		1	1	15.428			
L36	0.30	0.33	A	1	1.308	0.00	1	1	4.176	0.04	33.22	A
54.75-53.42			B	1	1.242		1	1	4.176			
			C	1	1.242		1	1	4.176			
L37	0.06	0.08	A	1	1.308	0.00	1	1	0.787	0.01	33.11	A
53.42-53.17			B	1	1.242		1	1	0.787			
			C	1	1.242		1	1	0.787			
L38	0.39	0.57	A	1	1.307	0.00	1	1	5.548	0.06	33.00	A
53.17-51.42			B	1	1.241		1	1	5.548			
			C	1	1.241		1	1	5.548			
L39	0.06	0.07	A	1	1.305	0.00	1	1	0.797	0.01	32.93	A
51.42-51.17			B	1	1.24		1	1	0.797			
			C	1	1.24		1	1	0.797			
L40	0.91	1.28	A	1	1.265	0.00	1	1	15.072	0.15	32.04	A
51.17-46.50			B	1	1.208		1	1	15.072			
			C	1	1.208		1	1	15.072			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L41	0.15	1.14	A	1	1.203	0.00	1	1	3.224	0.03	30.48	A
46.50-45.50			B	1	1.2		1	1	3.224			
			C	1	1.2		1	1	3.224			
L42	0.54	0.51	A	1	1.421	0.00	1	1	5.952	0.06	33.72	A
45.50-43.67			B	1	1.245		1	1	5.952			
			C	1	1.301		1	1	5.952			
L43	0.07	0.08	A	1	1.419	0.00	1	1	0.816	0.01	33.55	A
43.67-43.42			B	1	1.244		1	1	0.816			
			C	1	1.3		1	1	0.816			
L44	0.05	0.05	A	1	1.419	0.00	1	1	0.545	0.01	33.52	A
43.42-43.25			B	1	1.244		1	1	0.545			
			C	1	1.3		1	1	0.545			
L45	0.07	0.06	A	1	1.418	0.00	1	1	0.819	0.01	33.52	A
43.25-43.00			B	1	1.244		1	1	0.819			
			C	1	1.299		1	1	0.819			
L46	1.35	1.12	A	1	1.389	0.00	1	1	16.607	0.16	32.70	A
43.00-38.00			B	1	1.217		1	1	16.607			
			C	1	1.272		1	1	16.607			
L47	1.22	1.15	A	1	1.352	0.00	1	1	17.031	0.16	31.33	A
38.00-33.00			B	1	1.2		1	1	17.031			
			C	1	1.238		1	1	17.031			
L48	0.91	0.88	A	1	1.349	0.00	1	1	13.049	0.11	30.45	A
33.00-29.25			B	1	1.201		1	1	13.049			
			C	1	1.236		1	1	13.049			
L49	0.06	0.07	A	1	1.351	0.00	1	1	0.878	0.01	30.26	A
29.25-29.00			B	1	1.235		1	1	0.878			
			C	1	1.235		1	1	0.878			
L50	0.22	0.27	A	1	1.35	0.00	1	1	3.239	0.03	30.29	A
29.00-28.08			B	1	1.234		1	1	3.239			
			C	1	1.234		1	1	3.239			
L51	0.08	0.12	A	1	1.35	0.00	1	1	1.234	0.01	30.29	A
28.08-27.73			B	1	1.234		1	1	1.234			
			C	1	1.234		1	1	1.234			
L52	0.06	0.08	A	1	1.349	0.00	1	1	0.812	0.01	30.31	A
27.73-27.50			B	1	1.234		1	1	0.812			
			C	1	1.234		1	1	0.812			
L53	0.89	1.15	A	1	1.383	0.00	1	1	12.169	0.11	30.95	A
27.50-24.08			B	1	1.233		1	1	12.169			
			C	1	1.233		1	1	12.169			
L54	0.07	0.09	A	1	1.395	0.00	1	1	0.898	0.01	31.26	A
24.08-23.83			B	1	1.232		1	1	0.898			
			C	1	1.232		1	1	0.898			
L55	0.31	0.42	A	1	1.394	0.00	1	1	4.201	0.04	31.29	A
23.83-22.67			B	1	1.231		1	1	4.201			
			C	1	1.231		1	1	4.201			
L56	0.07	0.07	A	1	1.393	0.00	1	1	0.905	0.01	31.34	A
22.67-22.42			B	1	1.231		1	1	0.905			
			C	1	1.231		1	1	0.905			
L57	0.86	1.05	A	1	1.335	0.00	1	1	12.772	0.11	30.52	A
22.42-18.92			B	1	1.202		1	1	12.772			
			C	1	1.247		1	1	12.772			
L58	0.06	0.08	A	1	1.278	0.00	1	1	0.920	0.01	29.70	A
18.92-18.67			B	1	1.2		1	1	0.920			
			C	1	1.271		1	1	0.920			
L59	0.13	0.18	A	1	1.277	0.00	1	1	2.153	0.02	29.72	A
18.67-18.08			B	1	1.2		1	1	2.153			
			C	1	1.271		1	1	2.153			
L60	0.06	0.09	A	1	1.277	0.00	1	1	0.922	0.01	29.71	A
18.08-17.83			B	1	1.2		1	1	0.922			
			C	1	1.271		1	1	0.922			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L61 17.83-14.08	0.75	1.39	A	1	1.244	0.00	1	1	13.968	0.11	29.67	C
			B	1	1.2		1	1	13.968			
			C	1	1.269		1	1	13.968			
L62 14.08-13.83	0.05	0.09	A	1	1.226	0.00	1	1	0.939	0.01	29.72	C
			B	1	1.2		1	1	0.939			
			C	1	1.268		1	1	0.939			
L63 13.83-8.83	0.88	1.77	A	1	1.225	0.00	1	1	18.978	0.15	29.30	C
			B	1	1.2		1	1	18.978			
			C	1	1.239		1	1	18.978			
L64 8.83-3.83	0.83	1.77	A	1	1.223	0.00	1	1	19.350	0.15	30.75	A
			B	1	1.2		1	1	19.350			
			C	1	1.217		1	1	19.350			
L65 3.83-3.25	0.09	0.21	A	1	1.221	0.00	1	1	2.265	0.02	32.61	A
			B	1	1.2		1	1	2.265			
			C	1	1.216		1	1	2.265			
L66 3.25-3.00	0.04	0.08	A	1	1.221	0.00	1	1	0.978	0.01	32.50	A
			B	1	1.2		1	1	0.978			
			C	1	1.215		1	1	0.978			
L67 3.00-2.17	0.13	0.27	A	1	1.221	0.00	1	1	3.251	0.03	32.33	A
			B	1	1.2		1	1	3.251			
			C	1	1.215		1	1	3.251			
L68 2.17-1.92	0.04	0.06	A	1	1.22	0.00	1	1	0.982	0.01	32.14	A
			B	1	1.2		1	1	0.982			
			C	1	1.215		1	1	0.982			
L69 1.92-0.00	0.24	0.47	A	1	1.2	0.00	1	1	7.547	0.06	31.06	C
			B	1	1.2		1	1	7.547			
			C	1	1.2		1	1	7.547			
Sum Weight:	21.05	31.89						OTM	286.83 kip-ft	4.32		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1 140.00-135.00	0.04	0.45	A	1	1.2	0.01	1	1	8.720	0.07	14.18	C
			B	1	1.2		1	1	8.720			
			C	1	1.2		1	1	8.720			
L2 135.00-130.00	0.12	0.48	A	1	1.2	0.01	1	1	9.156	0.12	23.09	C
			B	1	1.2		1	1	9.156			
			C	1	1.2		1	1	9.156			
L3 130.00-125.00	0.15	0.50	A	1	1.2	0.01	1	1	9.592	0.12	23.50	C
			B	1	1.2		1	1	9.592			
			C	1	1.2		1	1	9.592			
L4 125.00-120.00	0.17	0.53	A	1	1.2	0.01	1	1	10.028	0.12	23.89	C
			B	1	1.2		1	1	10.028			
			C	1	1.2		1	1	10.028			
L5 120.00-115.00	0.17	0.55	A	1	1.2	0.01	1	1	10.463	0.12	24.25	C
			B	1	1.2		1	1	10.463			
			C	1	1.2		1	1	10.463			
L6 115.00-110.00	0.17	0.58	A	1	1.2	0.01	1	1	10.898	0.12	24.59	C
			B	1	1.2		1	1	10.898			
			C	1	1.2		1	1	10.898			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L7	0.19	0.60	A	1	1.2	0.01	1	1	11.333	0.12	24.90	C
110.00-105.00			B	1	1.2		1	1	11.333			
			C	1	1.2		1	1	11.333			
L8	0.17	0.37	A	1	1.2	0.01	1	1	7.008	0.08	25.12	C
105.00-102.00			B	1	1.2		1	1	7.008			
			C	1	1.2		1	1	7.008			
L9	0.02	0.04	A	1	1.249	0.01	1	1	0.590	0.01	25.90	A
102.00-101.75			B	1	1.2		1	1	0.590			
			C	1	1.2		1	1	0.590			
L10	0.53	0.79	A	1	1.246	0.01	1	1	12.029	0.17	34.64	C
101.75-96.75			B	1	1.2		1	1	12.029			
			C	1	1.2		1	1	12.029			
L11	0.64	0.82	A	1	1.264	0.01	1	1	12.463	0.19	37.21	C
96.75-91.75			B	1	1.222		1	1	12.463			
			C	1	1.278		1	1	12.463			
L12	0.11	0.60	A	1	1.211	0.01	1	1	2.504	0.03	26.83	C
91.75-90.75			B	1	1.211		1	1	2.504			
			C	1	1.296		1	1	2.504			
L13	0.59	0.97	A	1	1.226	0.01	1	1	12.773	0.13	27.00	C
90.75-85.75			B	1	1.226		1	1	12.773			
			C	1	1.301		1	1	12.773			
L14	0.07	0.08	A	1	1.318	0.01	1	1	1.093	0.01	27.77	C
85.75-85.33			B	1	1.318		1	1	1.093			
			C	1	1.344		1	1	1.093			
L15	0.04	0.05	A	1	1.317	0.01	1	1	0.652	0.01	27.77	C
85.33-85.08			B	1	1.317		1	1	0.652			
			C	1	1.344		1	1	0.652			
L16	0.53	0.54	A	1	1.378	0.01	1	1	6.789	0.09	35.56	C
85.08-82.50			B	1	1.315		1	1	6.789			
			C	1	1.404		1	1	6.789			
L17	0.05	0.06	A	1	1.394	0.01	1	1	0.663	0.01	48.21	C
82.50-82.25			B	1	1.313		1	1	0.663			
			C	1	1.419		1	1	0.663			
L18	0.05	0.06	A	1	1.393	0.01	1	1	0.664	0.01	35.98	C
82.25-82.00			B	1	1.313		1	1	0.664			
			C	1	1.419		1	1	0.664			
L19	0.05	0.06	A	1	1.393	0.01	1	1	0.665	0.01	35.96	C
82.00-81.75			B	1	1.313		1	1	0.665			
			C	1	1.418		1	1	0.665			
L20	0.78	0.83	A	1	1.376	0.01	1	1	9.639	0.17	47.90	C
81.75-78.17			B	1	1.297		1	1	9.639			
			C	1	1.361		1	1	9.639			
L21	0.06	0.07	A	1	1.36	0.01	1	1	0.681	0.01	47.62	C
78.17-77.92			B	1	1.283		1	1	0.681			
			C	1	1.308		1	1	0.681			
L22	0.06	0.07	A	1	1.36	0.01	1	1	0.682	0.01	47.59	C
77.92-77.67			B	1	1.282		1	1	0.682			
			C	1	1.307		1	1	0.682			
L23	0.06	0.06	A	1	1.359	0.01	1	1	0.684	0.01	47.59	C
77.67-77.42			B	1	1.282		1	1	0.684			
			C	1	1.307		1	1	0.684			
L24	0.06	0.06	A	1	1.359	0.01	1	1	0.693	0.01	47.57	C
77.42-77.17			B	1	1.282		1	1	0.693			
			C	1	1.307		1	1	0.693			
L25	0.90	1.24	A	1	1.266	0.01	1	1	13.925	0.23	45.92	C
77.17-72.17			B	1	1.234		1	1	13.925			
			C	1	1.259		1	1	13.925			
L26	0.98	1.27	A	1	1.295	0.01	1	1	14.357	0.23	46.81	C
72.17-67.17			B	1	1.271		1	1	14.357			
			C	1	1.295		1	1	14.357			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L27 67.17-66.48	0.16	0.19	A	1	1.373	0.01	1	1	1.995	0.03	48.99	C
			B	1	1.35		1	1	1.995			
			C	1	1.373		1	1	1.995			
L28 66.48-66.23	0.06	0.07	A	1	1.372	0.01	1	1	0.731	0.01	48.92	C
			B	1	1.349		1	1	0.731			
			C	1	1.372		1	1	0.731			
L29 66.23-65.50	0.17	0.20	A	1	1.371	0.00	1	1	2.150	0.04	48.85	C
			B	1	1.348		1	1	2.150			
			C	1	1.371		1	1	2.150			
L30 65.50-65.25	0.06	0.06	A	1	1.37	0.00	1	1	0.736	0.01	48.80	C
			B	1	1.347		1	1	0.736			
			C	1	1.37		1	1	0.736			
L31 65.25-62.67	0.44	0.64	A	1	1.275	0.00	1	1	7.662	0.09	33.73	B
			B	1	1.302		1	1	7.662			
			C	1	1.275		1	1	7.662			
L32 62.67-62.42	0.04	0.06	A	1	1.249	0.00	1	1	0.749	0.01	33.56	B
			B	1	1.296		1	1	0.749			
			C	1	1.249		1	1	0.749			
L33 62.42-60.00	0.44	0.58	A	1	1.305	0.00	1	1	7.302	0.08	33.64	A
			B	1	1.265		1	1	7.302			
			C	1	1.248		1	1	7.302			
L34 60.00-59.75	0.05	0.06	A	1	1.315	0.00	1	1	0.760	0.01	33.73	A
			B	1	1.247		1	1	0.760			
			C	1	1.247		1	1	0.760			
L35 59.75-54.75	0.92	1.22	A	1	1.318	0.00	1	1	15.428	0.17	33.60	A
			B	1	1.251		1	1	15.428			
			C	1	1.251		1	1	15.428			
L36 54.75-53.42	0.30	0.33	A	1	1.367	0.00	1	1	4.176	0.05	34.17	A
			B	1	1.301		1	1	4.176			
			C	1	1.301		1	1	4.176			
L37 53.42-53.17	0.06	0.08	A	1	1.366	0.00	1	1	0.787	0.01	34.06	A
			B	1	1.3		1	1	0.787			
			C	1	1.3		1	1	0.787			
L38 53.17-51.42	0.39	0.57	A	1	1.365	0.00	1	1	5.548	0.06	33.95	A
			B	1	1.299		1	1	5.548			
			C	1	1.299		1	1	5.548			
L39 51.42-51.17	0.06	0.07	A	1	1.363	0.00	1	1	0.797	0.01	33.86	A
			B	1	1.298		1	1	0.797			
			C	1	1.298		1	1	0.797			
L40 51.17-46.50	0.91	1.28	A	1	1.292	0.00	1	1	15.072	0.15	32.47	A
			B	1	1.234		1	1	15.072			
			C	1	1.234		1	1	15.072			
L41 46.50-45.50	0.15	1.14	A	1	1.2	0.00	1	1	3.224	0.03	30.43	C
			B	1	1.2		1	1	3.224			
			C	1	1.2		1	1	3.224			
L42 45.50-43.67	0.54	0.51	A	1	1.358	0.00	1	1	5.952	0.06	33.60	C
			B	1	1.238		1	1	5.952			
			C	1	1.414		1	1	5.952			
L43 43.67-43.42	0.07	0.08	A	1	1.356	0.00	1	1	0.816	0.01	33.44	C
			B	1	1.237		1	1	0.816			
			C	1	1.412		1	1	0.816			
L44 43.42-43.25	0.05	0.05	A	1	1.356	0.00	1	1	0.545	0.01	33.41	C
			B	1	1.237		1	1	0.545			
			C	1	1.412		1	1	0.545			
L45 43.25-43.00	0.07	0.06	A	1	1.355	0.00	1	1	0.819	0.01	33.41	C
			B	1	1.237		1	1	0.819			
			C	1	1.411		1	1	0.819			
L46 43.00-38.00	1.35	1.12	A	1	1.327	0.00	1	1	16.607	0.16	32.59	C
			B	1	1.21		1	1	16.607			
			C	1	1.382		1	1	16.607			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L47 38.00-33.00	1.22	1.15	A	1	1.292	0.00	1	1	17.031	0.16	31.22	C
			B	1	1.2		1	1	17.031			
			C	1	1.345		1	1	17.031			
L48 33.00-29.25	0.91	0.88	A	1	1.288	0.00	1	1	13.049	0.11	30.35	C
			B	1	1.2		1	1	13.049			
			C	1	1.342		1	1	13.049			
L49 29.25-29.00	0.06	0.07	A	1	1.286	0.00	1	1	0.878	0.01	30.16	C
			B	1	1.228		1	1	0.878			
			C	1	1.344		1	1	0.878			
L50 29.00-28.08	0.22	0.27	A	1	1.286	0.00	1	1	3.239	0.03	30.19	C
			B	1	1.228		1	1	3.239			
			C	1	1.343		1	1	3.239			
L51 28.08-27.73	0.08	0.12	A	1	1.285	0.00	1	1	1.234	0.01	30.20	C
			B	1	1.228		1	1	1.234			
			C	1	1.343		1	1	1.234			
L52 27.73-27.50	0.06	0.08	A	1	1.285	0.00	1	1	0.812	0.01	30.21	C
			B	1	1.227		1	1	0.812			
			C	1	1.343		1	1	0.812			
L53 27.50-24.08	0.89	1.15	A	1	1.319	0.00	1	1	12.169	0.11	30.85	C
			B	1	1.226		1	1	12.169			
			C	1	1.376		1	1	12.169			
L54 24.08-23.83	0.07	0.09	A	1	1.332	0.00	1	1	0.898	0.01	31.16	C
			B	1	1.225		1	1	0.898			
			C	1	1.389		1	1	0.898			
L55 23.83-22.67	0.31	0.42	A	1	1.331	0.00	1	1	4.201	0.04	31.19	C
			B	1	1.225		1	1	4.201			
			C	1	1.388		1	1	4.201			
L56 22.67-22.42	0.07	0.07	A	1	1.33	0.00	1	1	0.905	0.01	31.24	C
			B	1	1.225		1	1	0.905			
			C	1	1.386		1	1	0.905			
L57 22.42-18.92	0.86	1.05	A	1	1.301	0.00	1	1	12.772	0.11	31.22	C
			B	1	1.246		1	1	12.772			
			C	1	1.378		1	1	12.772			
L58 18.92-18.67	0.06	0.08	A	1	1.271	0.00	1	1	0.920	0.01	31.28	C
			B	1	1.271		1	1	0.920			
			C	1	1.375		1	1	0.920			
L59 18.67-18.08	0.13	0.18	A	1	1.271	0.00	1	1	2.153	0.02	31.29	C
			B	1	1.271		1	1	2.153			
			C	1	1.375		1	1	2.153			
L60 18.08-17.83	0.06	0.09	A	1	1.271	0.00	1	1	0.922	0.01	31.28	C
			B	1	1.271		1	1	0.922			
			C	1	1.374		1	1	0.922			
L61 17.83-14.08	0.75	1.39	A	1	1.238	0.00	1	1	13.968	0.12	30.83	C
			B	1	1.269		1	1	13.968			
			C	1	1.341		1	1	13.968			
L62 14.08-13.83	0.05	0.09	A	1	1.22	0.00	1	1	0.939	0.01	30.60	C
			B	1	1.268		1	1	0.939			
			C	1	1.322		1	1	0.939			
L63 13.83-8.83	0.88	1.77	A	1	1.219	0.00	1	1	18.978	0.15	30.18	C
			B	1	1.239		1	1	18.978			
			C	1	1.292		1	1	18.978			
L64 8.83-3.83	0.83	1.77	A	1	1.217	0.00	1	1	19.350	0.16	31.53	C
			B	1	1.217		1	1	19.350			
			C	1	1.268		1	1	19.350			
L65 3.83-3.25	0.09	0.21	A	1	1.216	0.00	1	1	2.265	0.02	33.38	C
			B	1	1.216		1	1	2.265			
			C	1	1.267		1	1	2.265			
L66 3.25-3.00	0.04	0.08	A	1	1.215	0.00	1	1	0.978	0.01	33.28	C
			B	1	1.215		1	1	0.978			
			C	1	1.266		1	1	0.978			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L67 3.00-2.17	0.13	0.27	A	1	1.215	0.00	1	1	3.251	0.03	33.10	C
			B	1	1.215		1	1	3.251			
			C	1	1.266		1	1	3.251			
L68 2.17-1.92	0.04	0.06	A	1	1.215	0.00	1	1	0.982	0.01	32.91	C
			B	1	1.215		1	1	0.982			
			C	1	1.265		1	1	0.982			
L69 1.92-0.00	0.24	0.47	A	1	1.2	0.00	1	1	7.547	0.06	31.55	C
			B	1	1.2		1	1	7.547			
			C	1	1.228		1	1	7.547			
Sum Weight:	21.05	31.89						OTM	291.49 kip-ft	4.40		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1 140.00-135.00	0.04	0.45	A	1	1.2	0.01	1	1	8.720	0.07	14.18	C
			B	1	1.2		1	1	8.720			
			C	1	1.2		1	1	8.720			
L2 135.00-130.00	0.12	0.48	A	1	1.2	0.01	1	1	9.156	0.12	23.09	C
			B	1	1.2		1	1	9.156			
			C	1	1.2		1	1	9.156			
L3 130.00-125.00	0.15	0.50	A	1	1.2	0.01	1	1	9.592	0.12	23.50	C
			B	1	1.2		1	1	9.592			
			C	1	1.2		1	1	9.592			
L4 125.00-120.00	0.17	0.53	A	1	1.2	0.01	1	1	10.028	0.12	23.89	C
			B	1	1.2		1	1	10.028			
			C	1	1.2		1	1	10.028			
L5 120.00-115.00	0.17	0.55	A	1	1.2	0.01	1	1	10.463	0.12	24.25	C
			B	1	1.2		1	1	10.463			
			C	1	1.2		1	1	10.463			
L6 115.00-110.00	0.17	0.58	A	1	1.2	0.01	1	1	10.898	0.12	24.59	C
			B	1	1.2		1	1	10.898			
			C	1	1.2		1	1	10.898			
L7 110.00-105.00	0.19	0.60	A	1	1.2	0.01	1	1	11.333	0.12	24.90	C
			B	1	1.2		1	1	11.333			
			C	1	1.2		1	1	11.333			
L8 105.00-102.00	0.17	0.37	A	1	1.2	0.01	1	1	7.008	0.08	25.12	C
			B	1	1.2		1	1	7.008			
			C	1	1.2		1	1	7.008			
L9 102.00-101.75	0.02	0.04	A	1	1.249	0.01	1	1	0.590	0.01	25.90	A
			B	1	1.2		1	1	0.590			
			C	1	1.2		1	1	0.590			
L10 101.75-96.75	0.53	0.79	A	1	1.246	0.01	1	1	12.029	0.13	26.00	A
			B	1	1.2		1	1	12.029			
			C	1	1.2		1	1	12.029			
L11 96.75-91.75	0.64	0.82	A	1	1.208	0.01	1	1	12.463	0.13	25.87	C
			B	1	1.222		1	1	12.463			
			C	1	1.222		1	1	12.463			
L12 91.75-90.75	0.11	0.60	A	1	1.2	0.01	1	1	2.504	0.04	36.62	C
			B	1	1.211		1	1	2.504			
			C	1	1.211		1	1	2.504			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L13	0.59	0.97	A	1	1.2	0.01	1	1	12.773	0.18	36.76	C
90.75-85.75			B	1	1.217		1	1	12.773			
			C	1	1.217		1	1	12.773			
L14	0.07	0.08	A	1	1.2	0.01	1	1	1.093	0.01	26.51	C
85.75-85.33			B	1	1.262		1	1	1.093			
			C	1	1.262		1	1	1.093			
L15	0.04	0.05	A	1	1.2	0.01	1	1	0.652	0.01	26.51	C
85.33-85.08			B	1	1.262		1	1	0.652			
			C	1	1.262		1	1	0.652			
L16	0.53	0.54	A	1	1.242	0.01	1	1	6.789	0.09	35.28	C
85.08-82.50			B	1	1.323		1	1	6.789			
			C	1	1.386		1	1	6.789			
L17	0.05	0.06	A	1	1.259	0.01	1	1	0.663	0.01	35.98	C
82.50-82.25			B	1	1.339		1	1	0.663			
			C	1	1.419		1	1	0.663			
L18	0.05	0.06	A	1	1.259	0.01	1	1	0.664	0.01	35.98	C
82.25-82.00			B	1	1.339		1	1	0.664			
			C	1	1.419		1	1	0.664			
L19	0.05	0.06	A	1	1.259	0.01	1	1	0.665	0.01	35.96	C
82.00-81.75			B	1	1.339		1	1	0.665			
			C	1	1.418		1	1	0.665			
L20	0.78	0.83	A	1	1.311	0.01	1	1	9.639	0.13	36.12	C
81.75-78.17			B	1	1.35		1	1	9.639			
			C	1	1.429		1	1	9.639			
L21	0.06	0.07	A	1	1.36	0.01	1	1	0.681	0.01	36.24	C
78.17-77.92			B	1	1.36		1	1	0.681			
			C	1	1.438		1	1	0.681			
L22	0.06	0.07	A	1	1.36	0.01	1	1	0.682	0.01	36.23	C
77.92-77.67			B	1	1.36		1	1	0.682			
			C	1	1.437		1	1	0.682			
L23	0.06	0.06	A	1	1.359	0.01	1	1	0.684	0.01	36.24	C
77.67-77.42			B	1	1.359		1	1	0.684			
			C	1	1.436		1	1	0.684			
L24	0.06	0.06	A	1	1.359	0.01	1	1	0.693	0.01	36.23	C
77.42-77.17			B	1	1.359		1	1	0.693			
			C	1	1.436		1	1	0.693			
L25	0.90	1.24	A	1	1.31	0.01	1	1	13.925	0.18	35.40	C
77.17-72.17			B	1	1.354		1	1	13.925			
			C	1	1.386		1	1	13.925			
L26	0.98	1.27	A	1	1.321	0.01	1	1	14.357	0.18	35.42	C
72.17-67.17			B	1	1.37		1	1	14.357			
			C	1	1.394		1	1	14.357			
L27	0.16	0.19	A	1	1.358	0.01	1	1	1.995	0.03	50.94	C
67.17-66.48			B	1	1.406		1	1	1.995			
			C	1	1.429		1	1	1.995			
L28	0.06	0.07	A	1	1.357	0.01	1	1	0.731	0.01	50.87	C
66.48-66.23			B	1	1.405		1	1	0.731			
			C	1	1.428		1	1	0.731			
L29	0.17	0.20	A	1	1.356	0.00	1	1	2.150	0.04	50.79	C
66.23-65.50			B	1	1.404		1	1	2.150			
			C	1	1.427		1	1	2.150			
L30	0.06	0.06	A	1	1.355	0.00	1	1	0.736	0.01	50.73	C
65.50-65.25			B	1	1.403		1	1	0.736			
			C	1	1.426		1	1	0.736			
L31	0.44	0.64	A	1	1.217	0.00	1	1	7.662	0.12	45.83	C
65.25-62.67			B	1	1.265		1	1	7.662			
			C	1	1.238		1	1	7.662			
L32	0.04	0.06	A	1	1.2	0.00	1	1	0.749	0.01	44.73	C
62.67-62.42			B	1	1.234		1	1	0.749			
			C	1	1.2		1	1	0.749			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L33 62.42-60.00	0.44	0.58	A	1	1.243	0.00	1	1	7.302	0.11	44.97	C
			B	1	1.204		1	1	7.302			
			C	1	1.243		1	1	7.302			
L34 60.00-59.75	0.05	0.06	A	1	1.254	0.00	1	1	0.760	0.01	44.75	C
			B	1	1.2		1	1	0.760			
			C	1	1.254		1	1	0.760			
L35 59.75-54.75	0.92	1.22	A	1	1.264	0.00	1	1	15.428	0.22	44.69	C
			B	1	1.2		1	1	15.428			
			C	1	1.264		1	1	15.428			
L36 54.75-53.42	0.30	0.33	A	1	1.367	0.00	1	1	4.176	0.06	47.12	C
			B	1	1.301		1	1	4.176			
			C	1	1.367		1	1	4.176			
L37 53.42-53.17	0.06	0.08	A	1	1.366	0.00	1	1	0.787	0.01	46.94	C
			B	1	1.3		1	1	0.787			
			C	1	1.366		1	1	0.787			
L38 53.17-51.42	0.39	0.57	A	1	1.365	0.00	1	1	5.548	0.08	46.74	C
			B	1	1.299		1	1	5.548			
			C	1	1.365		1	1	5.548			
L39 51.42-51.17	0.06	0.07	A	1	1.363	0.00	1	1	0.797	0.01	46.57	C
			B	1	1.298		1	1	0.797			
			C	1	1.363		1	1	0.797			
L40 51.17-46.50	0.91	1.28	A	1	1.322	0.00	1	1	15.072	0.15	32.96	C
			B	1	1.265		1	1	15.072			
			C	1	1.322		1	1	15.072			
L41 46.50-45.50	0.15	1.14	A	1	1.249	0.00	1	1	3.224	0.03	31.21	C
			B	1	1.239		1	1	3.224			
			C	1	1.249		1	1	3.224			
L42 45.50-43.67	0.54	0.51	A	1	1.301	0.00	1	1	5.952	0.09	47.27	C
			B	1	1.294		1	1	5.952			
			C	1	1.414		1	1	5.952			
L43 43.67-43.42	0.07	0.08	A	1	1.3	0.00	1	1	0.816	0.01	46.99	C
			B	1	1.293		1	1	0.816			
			C	1	1.412		1	1	0.816			
L44 43.42-43.25	0.05	0.05	A	1	1.3	0.00	1	1	0.545	0.01	46.93	C
			B	1	1.293		1	1	0.545			
			C	1	1.412		1	1	0.545			
L45 43.25-43.00	0.07	0.06	A	1	1.299	0.00	1	1	0.819	0.01	46.91	C
			B	1	1.292		1	1	0.819			
			C	1	1.411		1	1	0.819			
L46 43.00-38.00	1.35	1.12	A	1	1.247	0.00	1	1	16.607	0.22	44.86	C
			B	1	1.24		1	1	16.607			
			C	1	1.357		1	1	16.607			
L47 38.00-33.00	1.22	1.15	A	1	1.2	0.00	1	1	17.031	0.21	41.86	C
			B	1	1.2		1	1	17.031			
			C	1	1.292		1	1	17.031			
L48 33.00-29.25	0.91	0.88	A	1	1.201	0.00	1	1	13.049	0.15	40.50	C
			B	1	1.2		1	1	13.049			
			C	1	1.29		1	1	13.049			
L49 29.25-29.00	0.06	0.07	A	1	1.235	0.00	1	1	0.878	0.01	40.16	C
			B	1	1.2		1	1	0.878			
			C	1	1.293		1	1	0.878			
L50 29.00-28.08	0.22	0.27	A	1	1.234	0.00	1	1	3.239	0.04	40.18	C
			B	1	1.2		1	1	3.239			
			C	1	1.292		1	1	3.239			
L51 28.08-27.73	0.08	0.12	A	1	1.234	0.00	1	1	1.234	0.01	40.17	C
			B	1	1.2		1	1	1.234			
			C	1	1.292		1	1	1.234			
L52 27.73-27.50	0.06	0.08	A	1	1.234	0.00	1	1	0.812	0.01	40.18	C
			B	1	1.2		1	1	0.812			
			C	1	1.292		1	1	0.812			

tnxTower	Job: East Farmington, BU# 876335	Page: 74 of 125
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Project: 19BOZR1400	Date: 15:53:46 08/22/19
	Client: Crown Castle	Designed by: Eric Schaub

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L53 27.50-24.08	0.89	1.15	A	1	1.233	0.00	1	1	12.169	0.14	40.78	C
			B	1	1.2		1	1	12.169			
			C	1	1.326		1	1	12.169			
L54 24.08-23.83	0.07	0.09	A	1	1.232	0.00	1	1	0.898	0.01	41.04	C
			B	1	1.2		1	1	0.898			
			C	1	1.338		1	1	0.898			
L55 23.83-22.67	0.31	0.42	A	1	1.231	0.00	1	1	4.201	0.05	41.06	C
			B	1	1.2		1	1	4.201			
			C	1	1.338		1	1	4.201			
L56 22.67-22.42	0.07	0.07	A	1	1.231	0.00	1	1	0.905	0.01	41.08	C
			B	1	1.2		1	1	0.905			
			C	1	1.337		1	1	0.905			
L57 22.42-18.92	0.86	1.05	A	1	1.202	0.00	1	1	12.772	0.11	30.44	C
			B	1	1.219		1	1	12.772			
			C	1	1.329		1	1	12.772			
L58 18.92-18.67	0.06	0.08	A	1	1.2	0.00	1	1	0.920	0.01	30.49	C
			B	1	1.271		1	1	0.920			
			C	1	1.326		1	1	0.920			
L59 18.67-18.08	0.13	0.18	A	1	1.2	0.00	1	1	2.153	0.02	30.50	C
			B	1	1.271		1	1	2.153			
			C	1	1.326		1	1	2.153			
L60 18.08-17.83	0.06	0.09	A	1	1.2	0.00	1	1	0.922	0.01	30.50	C
			B	1	1.271		1	1	0.922			
			C	1	1.326		1	1	0.922			
L61 17.83-14.08	0.75	1.39	A	1	1.2	0.00	1	1	13.968	0.11	30.05	C
			B	1	1.269		1	1	13.968			
			C	1	1.293		1	1	13.968			
L62 14.08-13.83	0.05	0.09	A	1	1.2	0.00	1	1	0.939	0.01	29.81	C
			B	1	1.268		1	1	0.939			
			C	1	1.274		1	1	0.939			
L63 13.83-8.83	0.88	1.77	A	1	1.2	0.00	1	1	18.978	0.15	29.84	C
			B	1	1.239		1	1	18.978			
			C	1	1.272		1	1	18.978			
L64 8.83-3.83	0.83	1.77	A	1	1.2	0.00	1	1	19.350	0.16	31.53	C
			B	1	1.217		1	1	19.350			
			C	1	1.268		1	1	19.350			
L65 3.83-3.25	0.09	0.21	A	1	1.2	0.00	1	1	2.265	0.02	33.38	C
			B	1	1.216		1	1	2.265			
			C	1	1.267		1	1	2.265			
L66 3.25-3.00	0.04	0.08	A	1	1.2	0.00	1	1	0.978	0.01	33.28	C
			B	1	1.215		1	1	0.978			
			C	1	1.266		1	1	0.978			
L67 3.00-2.17	0.13	0.27	A	1	1.2	0.00	1	1	3.251	0.03	33.10	C
			B	1	1.215		1	1	3.251			
			C	1	1.266		1	1	3.251			
L68 2.17-1.92	0.04	0.06	A	1	1.2	0.00	1	1	0.982	0.01	32.91	C
			B	1	1.215		1	1	0.982			
			C	1	1.265		1	1	0.982			
L69 1.92-0.00	0.24	0.47	A	1	1.2	0.00	1	1	7.547	0.06	31.55	C
			B	1	1.2		1	1	7.547			
			C	1	1.228		1	1	7.547			
Sum Weight:	21.05	31.89						OTM	293.23 kip-ft	4.60		

Tower Forces - Service - Wind Normal To Face

tnxTower	Job: East Farmington, BU# 876335	Page: 75 of 125
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Project: 19BOZR1400	Date: 15:53:46 08/22/19
	Client: Crown Castle	Designed by: Eric Schaub

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1 140.00-135.00	0.01	0.22	A	1	0.95	0.01	1	1	7.086	0.06	12.37	C
			B	1	0.95		1	1	7.086			
			C	1	0.95		1	1	7.086			
L2 135.00-130.00	0.02	0.24	A	1	0.95	0.01	1	1	7.528	0.07	13.68	C
			B	1	0.95		1	1	7.528			
			C	1	0.95		1	1	7.528			
L3 130.00-125.00	0.05	0.25	A	1	0.95	0.01	1	1	7.970	0.07	14.29	C
			B	1	0.95		1	1	7.970			
			C	1	0.95		1	1	7.970			
L4 125.00-120.00	0.07	0.26	A	1	0.95	0.01	1	1	8.412	0.07	14.87	C
			B	1	0.95		1	1	8.412			
			C	1	0.95		1	1	8.412			
L5 120.00-115.00	0.07	0.28	A	1	0.95	0.01	1	1	8.855	0.08	15.44	C
			B	1	0.95		1	1	8.855			
			C	1	0.95		1	1	8.855			
L6 115.00-110.00	0.07	0.29	A	1	0.95	0.01	1	1	9.297	0.08	15.97	C
			B	1	0.95		1	1	9.297			
			C	1	0.95		1	1	9.297			
L7 110.00-105.00	0.09	0.31	A	1	0.95	0.01	1	1	9.739	0.08	16.49	C
			B	1	0.95		1	1	9.739			
			C	1	0.95		1	1	9.739			
L8 105.00-102.00	0.06	0.19	A	1	0.95	0.01	1	1	6.055	0.05	16.88	C
			B	1	0.95		1	1	6.055			
			C	1	0.95		1	1	6.055			
L9 102.00-101.75	0.00	0.02	A	1	0.95	0.01	1	1	0.511	0.00	18.38	B
			B	1	1.03		1	1	0.511			
			C	1	0.95		1	1	0.511			
L10 101.75-96.75	0.12	0.48	A	1	0.95	0.01	1	1	10.448	0.13	26.98	B
			B	1	1.2		1	1	10.448			
			C	1	0.95		1	1	10.448			
L11 96.75-91.75	0.13	0.49	A	1	1.222	0.01	1	1	10.890	0.14	27.62	B
			B	1	1.2		1	1	10.890			
			C	1	1.222		1	1	10.890			
L12 91.75-90.75	0.03	0.53	A	1	1.211	0.01	1	1	2.189	0.02	22.27	C
			B	1	0.997		1	1	2.189			
			C	1	1.211		1	1	2.189			
L13 90.75-85.75	0.15	0.64	A	1	1.217	0.01	1	1	11.210	0.11	22.69	C
			B	1	1.014		1	1	11.210			
			C	1	1.217		1	1	11.210			
L14 85.75-85.33	0.02	0.06	A	1	1.262	0.01	1	1	0.962	0.01	23.79	C
			B	1	1.145		1	1	0.962			
			C	1	1.262		1	1	0.962			
L15 85.33-85.08	0.01	0.04	A	1	1.262	0.01	1	1	0.574	0.01	23.81	C
			B	1	1.144		1	1	0.574			
			C	1	1.262		1	1	0.574			
L16 85.08-82.50	0.12	0.37	A	1	1.323	0.01	1	1	5.987	0.07	25.66	C
			B	1	1.2		1	1	5.987			
			C	1	1.323		1	1	5.987			
L17 82.50-82.25	0.01	0.05	A	1	1.339	0.01	1	1	0.585	0.01	29.07	B
			B	1	1.2		1	1	0.585			
			C	1	1.339		1	1	0.585			
L18 82.25-82.00	0.01	0.05	A	1	1.339	0.01	1	1	0.586	0.01	26.09	C
			B	1	1.2		1	1	0.586			
			C	1	1.339		1	1	0.586			
L19 82.00-81.75	0.01	0.04	A	1	1.339	0.01	1	1	0.587	0.01	26.10	C
			B	1	1.2		1	1	0.587			
			C	1	1.339		1	1	0.587			
L20 81.75-78.17	0.17	0.59	A	1	1.323	0.01	1	1	8.531	0.11	30.11	B
			B	1	1.205		1	1	8.531			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.323		1	1	8.531			
L21 78.17-77.92	0.01	0.05	A	1	1.308	0.01	1	1	0.603	0.01	31.41	B
			B	1	1.23		1	1	0.603			
			C	1	1.308		1	1	0.603			
L22 77.92-77.67	0.01	0.05	A	1	1.307	0.01	1	1	0.605	0.01	31.42	B
			B	1	1.23		1	1	0.605			
			C	1	1.307		1	1	0.605			
L23 77.67-77.42	0.01	0.04	A	1	1.307	0.01	1	1	0.607	0.01	31.46	B
			B	1	1.23		1	1	0.607			
			C	1	1.307		1	1	0.607			
L24 77.42-77.17	0.01	0.04	A	1	1.307	0.01	1	1	0.615	0.01	31.47	B
			B	1	1.229		1	1	0.615			
			C	1	1.307		1	1	0.615			
L25 77.17-72.17	0.15	0.89	A	1	1.259	0.01	1	1	12.388	0.16	31.04	B
			B	1	1.2		1	1	12.388			
			C	1	1.303		1	1	12.388			
L26 72.17-67.17	0.14	0.90	A	1	1.271	0.01	1	1	12.830	0.16	31.24	B
			B	1	1.2		1	1	12.830			
			C	1	1.321		1	1	12.830			
L27 67.17-66.48	0.02	0.14	A	1	1.309	0.01	1	1	1.787	0.02	32.02	B
			B	1	1.237		1	1	1.787			
			C	1	1.358		1	1	1.787			
L28 66.48-66.23	0.01	0.05	A	1	1.308	0.01	1	1	0.655	0.01	32.02	B
			B	1	1.237		1	1	0.655			
			C	1	1.357		1	1	0.655			
L29 66.23-65.50	0.02	0.15	A	1	1.308	0.01	1	1	1.928	0.02	32.03	B
			B	1	1.237		1	1	1.928			
			C	1	1.356		1	1	1.928			
L30 65.50-65.25	0.01	0.04	A	1	1.307	0.01	1	1	0.661	0.01	32.06	B
			B	1	1.236		1	1	0.661			
			C	1	1.355		1	1	0.661			
L31 65.25-62.67	0.07	0.45	A	1	1.212	0.01	1	1	6.881	0.07	25.92	C
			B	1	1.116		1	1	6.881			
			C	1	1.26		1	1	6.881			
L32 62.67-62.42	0.01	0.04	A	1	0.95	0.01	1	1	0.673	0.01	25.47	C
			B	1	1.073		1	1	0.673			
			C	1	1.234		1	1	0.673			
L33 62.42-60.00	0.11	0.40	A	1	1.243	0.01	1	1	6.572	0.06	25.71	A
			B	1	1.057		1	1	6.572			
			C	1	1.204		1	1	6.572			
L34 60.00-59.75	0.01	0.04	A	1	1.254	0.01	1	1	0.685	0.01	25.98	A
			B	1	1.017		1	1	0.685			
			C	1	0.95		1	1	0.685			
L35 59.75-54.75	0.24	0.83	A	1	1.258	0.01	1	1	13.931	0.13	26.14	A
			B	1	1.029		1	1	13.931			
			C	1	0.95		1	1	13.931			
L36 54.75-53.42	0.06	0.23	A	1	1.308	0.01	1	1	3.780	0.04	27.22	A
			B	1	1.242		1	1	3.780			
			C	1	1.242		1	1	3.780			
L37 53.42-53.17	0.01	0.06	A	1	1.308	0.01	1	1	0.713	0.01	27.18	A
			B	1	1.242		1	1	0.713			
			C	1	1.242		1	1	0.713			
L38 53.17-51.42	0.09	0.44	A	1	1.307	0.01	1	1	5.028	0.05	27.17	A
			B	1	1.241		1	1	5.028			
			C	1	1.241		1	1	5.028			
L39 51.42-51.17	0.01	0.05	A	1	1.305	0.01	1	1	0.723	0.01	27.20	A
			B	1	1.24		1	1	0.723			
			C	1	1.24		1	1	0.723			
L40 51.17-46.50	0.22	0.91	A	1	1.265	0.01	1	1	13.696	0.12	26.40	A
			B	1	1.208		1	1	13.696			

tnxTower	Job: East Farmington, BU# 876335	Page: 77 of 125
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Project: 19BOZR1400	Date: 15:53:46 08/22/19
	Client: Crown Castle	Designed by: Eric Schaub

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L41 46.50-45.50	0.04	1.07	C	1	1.208	0.01	1	1	13.696	0.02	24.70	A
			A	1	1.203		1	1	2.930			
			B	1	1.082		1	1	2.930			
			C	1	0.95		1	1	2.930			
L42 45.50-43.67	0.20	0.36	A	1	1.421	0.01	1	1	5.416	0.05	28.96	A
			B	1	1.245		1	1	5.416			
			C	1	1.301		1	1	5.416			
L43 43.67-43.42	0.03	0.06	A	1	1.419	0.01	1	1	0.743	0.01	28.89	A
			B	1	1.244		1	1	0.743			
			C	1	1.3		1	1	0.743			
L44 43.42-43.25	0.02	0.04	A	1	1.419	0.01	1	1	0.497	0.00	28.88	A
			B	1	1.244		1	1	0.497			
			C	1	1.3		1	1	0.497			
L45 43.25-43.00	0.03	0.04	A	1	1.418	0.01	1	1	0.746	0.01	28.92	A
			B	1	1.244		1	1	0.746			
			C	1	1.299		1	1	0.746			
L46 43.00-38.00	0.54	0.72	A	1	1.389	0.01	1	1	15.161	0.14	28.26	A
			B	1	1.217		1	1	15.161			
			C	1	1.272		1	1	15.161			
L47 38.00-33.00	0.54	0.74	A	1	1.352	0.01	1	1	15.604	0.14	27.26	A
			B	1	0.95		1	1	15.604			
			C	1	1.238		1	1	15.604			
L48 33.00-29.25	0.39	0.57	A	1	1.349	0.01	1	1	11.993	0.10	26.82	A
			B	1	1.201		1	1	11.993			
			C	1	1.236		1	1	11.993			
L49 29.25-29.00	0.02	0.05	A	1	1.351	0.01	1	1	0.808	0.01	26.82	A
			B	1	1.235		1	1	0.808			
			C	1	1.235		1	1	0.808			
L50 29.00-28.08	0.09	0.20	A	1	1.35	0.01	1	1	2.982	0.02	26.89	A
			B	1	1.234		1	1	2.982			
			C	1	1.234		1	1	2.982			
L51 28.08-27.73	0.03	0.09	A	1	1.35	0.01	1	1	1.137	0.01	26.93	A
			B	1	1.234		1	1	1.137			
			C	1	1.234		1	1	1.137			
L52 27.73-27.50	0.02	0.06	A	1	1.349	0.01	1	1	0.748	0.01	26.97	A
			B	1	1.234		1	1	0.748			
			C	1	1.234		1	1	0.748			
L53 27.50-24.08	0.37	0.87	A	1	1.383	0.01	1	1	11.224	0.10	27.88	A
			B	1	1.233		1	1	11.224			
			C	1	1.233		1	1	11.224			
L54 24.08-23.83	0.03	0.07	A	1	1.395	0.01	1	1	0.829	0.01	28.39	A
			B	1	1.232		1	1	0.829			
			C	1	1.232		1	1	0.829			
L55 23.83-22.67	0.13	0.32	A	1	1.394	0.01	1	1	3.882	0.03	28.47	A
			B	1	1.231		1	1	3.882			
			C	1	1.231		1	1	3.882			
L56 22.67-22.42	0.03	0.05	A	1	1.393	0.01	1	1	0.836	0.01	28.58	A
			B	1	1.231		1	1	0.836			
			C	1	1.231		1	1	0.836			
L57 22.42-18.92	0.33	0.76	A	1	1.335	0.01	1	1	11.826	0.10	27.69	A
			B	1	1.202		1	1	11.826			
			C	1	1.247		1	1	11.826			
L58 18.92-18.67	0.02	0.05	A	1	1.278	0.01	1	1	0.853	0.01	26.79	A
			B	1	1.023		1	1	0.853			
			C	1	1.271		1	1	0.853			
L59 18.67-18.08	0.04	0.13	A	1	1.277	0.01	1	1	1.997	0.02	26.84	A
			B	1	1.023		1	1	1.997			
			C	1	1.271		1	1	1.997			
L60 18.08-17.83	0.02	0.07	A	1	1.277	0.01	1	1	0.856	0.01	26.86	A
			B	1	1.022		1	1	0.856			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.271		1	1	0.856			
L61 17.83-14.08	0.23	1.08	A	1	1.244	0.01	1	1	12.979	0.10	26.98	C
			B	1	1.018		1	1	12.979			
			C	1	1.269		1	1	12.979			
L62 14.08-13.83	0.01	0.07	A	1	1.226	0.01	1	1	0.874	0.01	27.22	C
			B	1	1.015		1	1	0.874			
			C	1	1.268		1	1	0.874			
L63 13.83-8.83	0.27	1.36	A	1	1.225	0.01	1	1	17.705	0.13	26.97	C
			B	1	1.01		1	1	17.705			
			C	1	1.239		1	1	17.705			
L64 8.83-3.83	0.27	1.38	A	1	1.223	0.01	1	1	18.149	0.14	27.45	A
			B	1	1.002		1	1	18.149			
			C	1	1.217		1	1	18.149			
L65 3.83-3.25	0.03	0.16	A	1	1.221	0.01	1	1	2.134	0.02	28.04	A
			B	1	0.997		1	1	2.134			
			C	1	1.216		1	1	2.134			
L66 3.25-3.00	0.01	0.06	A	1	1.221	0.01	1	1	0.922	0.01	28.09	A
			B	1	0.996		1	1	0.922			
			C	1	1.215		1	1	0.922			
L67 3.00-2.17	0.05	0.21	A	1	1.221	0.01	1	1	3.069	0.02	28.16	A
			B	1	0.996		1	1	3.069			
			C	1	1.215		1	1	3.069			
L68 2.17-1.92	0.01	0.04	A	1	1.22	0.01	1	1	0.928	0.01	28.26	A
			B	1	0.994		1	1	0.928			
			C	1	1.215		1	1	0.928			
L69 1.92-0.00	0.09	0.34	A	1	0.95	0.01	1	1	7.165	0.04	22.58	B
			B	1	0.958		1	1	7.165			
			C	1	0.95		1	1	7.165			
Sum Weight:	6.33	22.19						OTM	210.32 kip-ft	3.36		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1 140.00-135.00	0.01	0.22	A	1	0.95	0.01	1	1	7.086	0.06	12.37	C
			B	1	0.95		1	1	7.086			
			C	1	0.95		1	1	7.086			
L2 135.00-130.00	0.02	0.24	A	1	0.95	0.01	1	1	7.528	0.07	13.68	C
			B	1	0.95		1	1	7.528			
			C	1	0.95		1	1	7.528			
L3 130.00-125.00	0.05	0.25	A	1	0.95	0.01	1	1	7.970	0.07	14.29	C
			B	1	0.95		1	1	7.970			
			C	1	0.95		1	1	7.970			
L4 125.00-120.00	0.07	0.26	A	1	0.95	0.01	1	1	8.412	0.07	14.87	C
			B	1	0.95		1	1	8.412			
			C	1	0.95		1	1	8.412			
L5 120.00-115.00	0.07	0.28	A	1	0.95	0.01	1	1	8.855	0.08	15.44	C
			B	1	0.95		1	1	8.855			
			C	1	0.95		1	1	8.855			
L6 115.00-110.00	0.07	0.29	A	1	0.95	0.01	1	1	9.297	0.08	15.97	C
			B	1	0.95		1	1	9.297			

tnxTower	Job	Page
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	East Farmington, BU# 876335	79 of 125
	Project 19BOZR1400	Date 15:53:46 08/22/19
	Client Crown Castle	Designed by Eric Schaub

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.95		1	1	9.297			
L7 110.00-105.00	0.09	0.31	A	1	0.95	0.01	1	1	9.739	0.08	16.49	C
			B	1	0.95		1	1	9.739			
			C	1	0.95		1	1	9.739			
L8 105.00-102.00	0.06	0.19	A	1	0.95	0.01	1	1	6.055	0.05	16.88	C
			B	1	0.95		1	1	6.055			
			C	1	0.95		1	1	6.055			
L9 102.00-101.75	0.00	0.02	A	1	1.249	0.01	1	1	0.511	0.01	22.16	A
			B	1	0.95		1	1	0.511			
			C	1	1.03		1	1	0.511			
L10 101.75-96.75	0.12	0.48	A	1	1.246	0.01	1	1	10.448	0.13	26.98	C
			B	1	0.95		1	1	10.448			
			C	1	1.2		1	1	10.448			
L11 96.75-91.75	0.13	0.49	A	1	1.264	0.01	1	1	10.890	0.15	29.03	C
			B	1	1.222		1	1	10.890			
			C	1	1.278		1	1	10.890			
L12 91.75-90.75	0.03	0.53	A	1	1.211	0.01	1	1	2.189	0.02	23.80	C
			B	1	1.211		1	1	2.189			
			C	1	1.296		1	1	2.189			
L13 90.75-85.75	0.15	0.64	A	1	1.226	0.01	1	1	11.210	0.12	24.21	C
			B	1	1.226		1	1	11.210			
			C	1	1.301		1	1	11.210			
L14 85.75-85.33	0.02	0.06	A	1	1.318	0.01	1	1	0.962	0.01	25.30	C
			B	1	1.318		1	1	0.962			
			C	1	1.344		1	1	0.962			
L15 85.33-85.08	0.01	0.04	A	1	1.317	0.01	1	1	0.574	0.01	25.32	C
			B	1	1.317		1	1	0.574			
			C	1	1.344		1	1	0.574			
L16 85.08-82.50	0.12	0.37	A	1	1.378	0.01	1	1	5.987	0.07	27.16	C
			B	1	1.315		1	1	5.987			
			C	1	1.404		1	1	5.987			
L17 82.50-82.25	0.01	0.05	A	1	1.394	0.01	1	1	0.585	0.01	33.15	C
			B	1	1.313		1	1	0.585			
			C	1	1.419		1	1	0.585			
L18 82.25-82.00	0.01	0.05	A	1	1.393	0.01	1	1	0.586	0.01	27.58	C
			B	1	1.313		1	1	0.586			
			C	1	1.419		1	1	0.586			
L19 82.00-81.75	0.01	0.04	A	1	1.393	0.01	1	1	0.587	0.01	27.59	C
			B	1	1.313		1	1	0.587			
			C	1	1.418		1	1	0.587			
L20 81.75-78.17	0.17	0.59	A	1	1.376	0.01	1	1	8.531	0.12	33.03	C
			B	1	1.297		1	1	8.531			
			C	1	1.361		1	1	8.531			
L21 78.17-77.92	0.01	0.05	A	1	1.36	0.01	1	1	0.603	0.01	32.87	C
			B	1	1.283		1	1	0.603			
			C	1	1.308		1	1	0.603			
L22 77.92-77.67	0.01	0.05	A	1	1.36	0.01	1	1	0.605	0.01	32.88	C
			B	1	1.282		1	1	0.605			
			C	1	1.307		1	1	0.605			
L23 77.67-77.42	0.01	0.04	A	1	1.359	0.01	1	1	0.607	0.01	32.92	C
			B	1	1.282		1	1	0.607			
			C	1	1.307		1	1	0.607			
L24 77.42-77.17	0.01	0.04	A	1	1.359	0.01	1	1	0.615	0.01	32.93	C
			B	1	1.282		1	1	0.615			
			C	1	1.307		1	1	0.615			
L25 77.17-72.17	0.15	0.89	A	1	1.266	0.01	1	1	12.388	0.16	32.16	C
			B	1	1.234		1	1	12.388			
			C	1	1.259		1	1	12.388			
L26 72.17-67.17	0.14	0.90	A	1	1.295	0.01	1	1	12.830	0.17	33.08	C
			B	1	1.271		1	1	12.830			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.295		1	1	12.830			
L27 67.17-66.48	0.02	0.14	A	1	1.373	0.01	1	1	1.787	0.02	34.67	C
			B	1	1.35		1	1	1.787			
			C	1	1.373		1	1	1.787			
L28 66.48-66.23	0.01	0.05	A	1	1.372	0.01	1	1	0.655	0.01	34.67	C
			B	1	1.349		1	1	0.655			
			C	1	1.372		1	1	0.655			
L29 66.23-65.50	0.02	0.15	A	1	1.371	0.01	1	1	1.928	0.03	34.67	C
			B	1	1.348		1	1	1.928			
			C	1	1.371		1	1	1.928			
L30 65.50-65.25	0.01	0.04	A	1	1.37	0.01	1	1	0.661	0.01	34.69	C
			B	1	1.347		1	1	0.661			
			C	1	1.37		1	1	0.661			
L31 65.25-62.67	0.07	0.45	A	1	1.275	0.01	1	1	6.881	0.07	26.75	B
			B	1	1.302		1	1	6.881			
			C	1	1.275		1	1	6.881			
L32 62.67-62.42	0.01	0.04	A	1	1.249	0.01	1	1	0.673	0.01	26.69	B
			B	1	1.296		1	1	0.673			
			C	1	1.249		1	1	0.673			
L33 62.42-60.00	0.11	0.40	A	1	1.305	0.01	1	1	6.572	0.07	26.93	A
			B	1	1.265		1	1	6.572			
			C	1	1.248		1	1	6.572			
L34 60.00-59.75	0.01	0.04	A	1	1.315	0.01	1	1	0.685	0.01	27.19	A
			B	1	1.247		1	1	0.685			
			C	1	1.247		1	1	0.685			
L35 59.75-54.75	0.24	0.83	A	1	1.318	0.01	1	1	13.931	0.14	27.34	A
			B	1	1.251		1	1	13.931			
			C	1	1.251		1	1	13.931			
L36 54.75-53.42	0.06	0.23	A	1	1.367	0.01	1	1	3.780	0.04	28.39	A
			B	1	1.301		1	1	3.780			
			C	1	1.301		1	1	3.780			
L37 53.42-53.17	0.01	0.06	A	1	1.366	0.01	1	1	0.713	0.01	28.34	A
			B	1	1.3		1	1	0.713			
			C	1	1.3		1	1	0.713			
L38 53.17-51.42	0.09	0.44	A	1	1.365	0.01	1	1	5.028	0.05	28.33	A
			B	1	1.299		1	1	5.028			
			C	1	1.299		1	1	5.028			
L39 51.42-51.17	0.01	0.05	A	1	1.363	0.01	1	1	0.723	0.01	28.35	A
			B	1	1.298		1	1	0.723			
			C	1	1.298		1	1	0.723			
L40 51.17-46.50	0.22	0.91	A	1	1.292	0.01	1	1	13.696	0.13	26.93	A
			B	1	1.234		1	1	13.696			
			C	1	1.234		1	1	13.696			
L41 46.50-45.50	0.04	1.07	A	1	0.95	0.01	1	1	2.930	0.02	22.31	C
			B	1	0.95		1	1	2.930			
			C	1	1.082		1	1	2.930			
L42 45.50-43.67	0.20	0.36	A	1	1.358	0.01	1	1	5.416	0.05	28.82	C
			B	1	1.238		1	1	5.416			
			C	1	1.414		1	1	5.416			
L43 43.67-43.42	0.03	0.06	A	1	1.356	0.01	1	1	0.743	0.01	28.75	C
			B	1	1.237		1	1	0.743			
			C	1	1.412		1	1	0.743			
L44 43.42-43.25	0.02	0.04	A	1	1.356	0.01	1	1	0.497	0.00	28.74	C
			B	1	1.237		1	1	0.497			
			C	1	1.412		1	1	0.497			
L45 43.25-43.00	0.03	0.04	A	1	1.355	0.01	1	1	0.746	0.01	28.78	C
			B	1	1.237		1	1	0.746			
			C	1	1.411		1	1	0.746			
L46 43.00-38.00	0.54	0.72	A	1	1.327	0.01	1	1	15.161	0.14	28.12	C
			B	1	1.21		1	1	15.161			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L47 38.00-33.00	0.54	0.74	C	1	1.382	0.01	1	1	15.161	0.14	27.13	C
			A	1	1.292		1	1	15.604			
			B	1	0.95		1	1	15.604			
L48 33.00-29.25	0.39	0.57	C	1	1.345	0.01	1	1	15.604	0.10	26.70	C
			A	1	1.288		1	1	11.993			
			B	1	0.95		1	1	11.993			
L49 29.25-29.00	0.02	0.05	C	1	1.342	0.01	1	1	11.993	0.01	26.70	C
			A	1	1.286		1	1	0.808			
			B	1	1.228		1	1	0.808			
L50 29.00-28.08	0.09	0.20	C	1	1.344	0.01	1	1	0.808	0.02	26.76	C
			A	1	1.286		1	1	2.982			
			B	1	1.228		1	1	2.982			
L51 28.08-27.73	0.03	0.09	C	1	1.343	0.01	1	1	2.982	0.01	26.81	C
			A	1	1.285		1	1	1.137			
			B	1	1.228		1	1	1.137			
L52 27.73-27.50	0.02	0.06	C	1	1.343	0.01	1	1	1.137	0.01	26.84	C
			A	1	1.285		1	1	0.748			
			B	1	1.227		1	1	0.748			
L53 27.50-24.08	0.37	0.87	C	1	1.343	0.01	1	1	0.748	0.09	27.76	C
			A	1	1.319		1	1	11.224			
			B	1	1.226		1	1	11.224			
L54 24.08-23.83	0.03	0.07	C	1	1.376	0.01	1	1	11.224	0.01	28.26	C
			A	1	1.332		1	1	0.829			
			B	1	1.225		1	1	0.829			
L55 23.83-22.67	0.13	0.32	C	1	1.389	0.01	1	1	0.829	0.03	28.35	C
			A	1	1.331		1	1	3.882			
			B	1	1.225		1	1	3.882			
L56 22.67-22.42	0.03	0.05	C	1	1.388	0.01	1	1	3.882	0.01	28.45	C
			A	1	1.33		1	1	0.836			
			B	1	1.225		1	1	0.836			
L57 22.42-18.92	0.33	0.76	C	1	1.386	0.01	1	1	0.836	0.10	28.57	C
			A	1	1.301		1	1	11.826			
			B	1	1.246		1	1	11.826			
L58 18.92-18.67	0.02	0.05	C	1	1.378	0.01	1	1	11.826	0.01	28.77	C
			A	1	1.271		1	1	0.853			
			B	1	1.271		1	1	0.853			
L59 18.67-18.08	0.04	0.13	C	1	1.375	0.01	1	1	0.853	0.02	28.82	C
			A	1	1.271		1	1	1.997			
			B	1	1.271		1	1	1.997			
L60 18.08-17.83	0.02	0.07	C	1	1.375	0.01	1	1	1.997	0.01	28.84	C
			A	1	1.271		1	1	0.856			
			B	1	1.271		1	1	0.856			
L61 17.83-14.08	0.23	1.08	C	1	1.374	0.01	1	1	0.856	0.11	28.45	C
			A	1	1.238		1	1	12.979			
			B	1	1.269		1	1	12.979			
L62 14.08-13.83	0.01	0.07	C	1	1.341	0.01	1	1	12.979	0.01	28.34	C
			A	1	1.22		1	1	0.874			
			B	1	1.268		1	1	0.874			
L63 13.83-8.83	0.27	1.36	C	1	1.322	0.01	1	1	0.874	0.14	28.08	C
			A	1	1.219		1	1	17.705			
			B	1	1.239		1	1	17.705			
L64 8.83-3.83	0.27	1.38	C	1	1.292	0.01	1	1	17.705	0.14	28.44	C
			A	1	1.217		1	1	18.149			
			B	1	1.217		1	1	18.149			
L65 3.83-3.25	0.03	0.16	C	1	1.268	0.01	1	1	18.149	0.02	29.03	C
			A	1	1.216		1	1	2.134			
			B	1	1.216		1	1	2.134			
L66 3.25-3.00	0.01	0.06	C	1	1.267	0.01	1	1	2.134	0.01	29.08	C
			A	1	1.215		1	1	0.922			
			B	1	1.215		1	1	0.922			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L67 3.00-2.17	0.05	0.21	C	1	1.266		1	1	0.922			
			A	1	1.215	0.01	1	1	3.069	0.02	29.15	C
			B	1	1.215		1	1	3.069			
L68 2.17-1.92	0.01	0.04	C	1	1.266		1	1	3.069			
			A	1	1.215	0.01	1	1	0.928	0.01	29.25	C
			B	1	1.215		1	1	0.928			
L69 1.92-0.00	0.09	0.34	C	1	1.265		1	1	0.928			
			A	1	0.95	0.01	1	1	7.165	0.05	28.57	C
			B	1	0.95		1	1	7.165			
			C	1	1.228		1	1	7.165			
Sum Weight:	6.33	22.19						OTM	215.91 kip-ft	3.46		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1 140.00-135.00	0.01	0.22	A	1	0.95	0.01	1	1	7.086	0.06	12.37	C
			B	1	0.95		1	1	7.086			
			C	1	0.95		1	1	7.086			
L2 135.00-130.00	0.02	0.24	A	1	0.95	0.01	1	1	7.528	0.07	13.68	C
			B	1	0.95		1	1	7.528			
			C	1	0.95		1	1	7.528			
L3 130.00-125.00	0.05	0.25	A	1	0.95	0.01	1	1	7.970	0.07	14.29	C
			B	1	0.95		1	1	7.970			
			C	1	0.95		1	1	7.970			
L4 125.00-120.00	0.07	0.26	A	1	0.95	0.01	1	1	8.412	0.07	14.87	C
			B	1	0.95		1	1	8.412			
			C	1	0.95		1	1	8.412			
L5 120.00-115.00	0.07	0.28	A	1	0.95	0.01	1	1	8.855	0.08	15.44	C
			B	1	0.95		1	1	8.855			
			C	1	0.95		1	1	8.855			
L6 115.00-110.00	0.07	0.29	A	1	0.95	0.01	1	1	9.297	0.08	15.97	C
			B	1	0.95		1	1	9.297			
			C	1	0.95		1	1	9.297			
L7 110.00-105.00	0.09	0.31	A	1	0.95	0.01	1	1	9.739	0.08	16.49	C
			B	1	0.95		1	1	9.739			
			C	1	0.95		1	1	9.739			
L8 105.00-102.00	0.06	0.19	A	1	0.95	0.01	1	1	6.055	0.05	16.88	C
			B	1	0.95		1	1	6.055			
			C	1	0.95		1	1	6.055			
L9 102.00-101.75	0.00	0.02	A	1	1.249	0.01	1	1	0.511	0.01	22.16	A
			B	1	0.95		1	1	0.511			
			C	1	0.95		1	1	0.511			
L10 101.75-96.75	0.12	0.48	A	1	1.246	0.01	1	1	10.448	0.11	22.43	A
			B	1	0.95		1	1	10.448			
			C	1	1.004		1	1	10.448			
L11 96.75-91.75	0.13	0.49	A	1	1.208	0.01	1	1	10.890	0.11	22.58	C
			B	1	1.222		1	1	10.890			
			C	1	1.222		1	1	10.890			
L12 91.75-90.75	0.03	0.53	A	1	0.95	0.01	1	1	2.189	0.03	27.77	C
			B	1	1.211		1	1	2.189			

tnxTower	Job	Page
	East Farmington, BU# 876335	83 of 125
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	**Project** 19BOZR1400	**Date** 15:53:46 08/22/19
	Client Crown Castle	**Designed by** Eric Schaub

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.211		1	1	2.189			
L13	0.15	0.64	A	1	0.95	0.01	1	1	11.210	0.14	28.14	C
90.75-85.75			B	1	1.217		1	1	11.210			
			C	1	1.217		1	1	11.210			
L14	0.02	0.06	A	1	0.95	0.01	1	1	0.962	0.01	23.79	C
85.75-85.33			B	1	1.262		1	1	0.962			
			C	1	1.262		1	1	0.962			
L15	0.01	0.04	A	1	0.95	0.01	1	1	0.574	0.01	23.81	C
85.33-85.08			B	1	1.262		1	1	0.574			
			C	1	1.262		1	1	0.574			
L16	0.12	0.37	A	1	1.242	0.01	1	1	5.987	0.07	26.82	C
85.08-82.50			B	1	1.323		1	1	5.987			
			C	1	1.386		1	1	5.987			
L17	0.01	0.05	A	1	1.259	0.01	1	1	0.585	0.01	27.56	C
82.50-82.25			B	1	1.339		1	1	0.585			
			C	1	1.419		1	1	0.585			
L18	0.01	0.05	A	1	1.259	0.01	1	1	0.586	0.01	27.58	C
82.25-82.00			B	1	1.339		1	1	0.586			
			C	1	1.419		1	1	0.586			
L19	0.01	0.04	A	1	1.259	0.01	1	1	0.587	0.01	27.59	C
82.00-81.75			B	1	1.339		1	1	0.587			
			C	1	1.418		1	1	0.587			
L20	0.17	0.59	A	1	1.311	0.01	1	1	8.531	0.10	27.97	C
81.75-78.17			B	1	1.35		1	1	8.531			
			C	1	1.429		1	1	8.531			
L21	0.01	0.05	A	1	1.36	0.01	1	1	0.603	0.01	28.30	C
78.17-77.92			B	1	1.36		1	1	0.603			
			C	1	1.438		1	1	0.603			
L22	0.01	0.05	A	1	1.36	0.01	1	1	0.605	0.01	28.31	C
77.92-77.67			B	1	1.36		1	1	0.605			
			C	1	1.437		1	1	0.605			
L23	0.01	0.04	A	1	1.359	0.01	1	1	0.607	0.01	28.36	C
77.67-77.42			B	1	1.359		1	1	0.607			
			C	1	1.436		1	1	0.607			
L24	0.01	0.04	A	1	1.359	0.01	1	1	0.615	0.01	28.37	C
77.42-77.17			B	1	1.359		1	1	0.615			
			C	1	1.436		1	1	0.615			
L25	0.15	0.89	A	1	1.31	0.01	1	1	12.388	0.14	27.65	C
77.17-72.17			B	1	1.354		1	1	12.388			
			C	1	1.386		1	1	12.388			
L26	0.14	0.90	A	1	1.321	0.01	1	1	12.830	0.14	28.19	C
72.17-67.17			B	1	1.37		1	1	12.830			
			C	1	1.394		1	1	12.830			
L27	0.02	0.14	A	1	1.358	0.01	1	1	1.787	0.02	35.65	C
67.17-66.48			B	1	1.406		1	1	1.787			
			C	1	1.429		1	1	1.787			
L28	0.01	0.05	A	1	1.357	0.01	1	1	0.655	0.01	35.65	C
66.48-66.23			B	1	1.405		1	1	0.655			
			C	1	1.428		1	1	0.655			
L29	0.02	0.15	A	1	1.356	0.01	1	1	1.928	0.03	35.65	C
66.23-65.50			B	1	1.404		1	1	1.928			
			C	1	1.427		1	1	1.928			
L30	0.01	0.04	A	1	1.355	0.01	1	1	0.661	0.01	35.67	C
65.50-65.25			B	1	1.403		1	1	0.661			
			C	1	1.426		1	1	0.661			
L31	0.07	0.45	A	1	1.217	0.01	1	1	6.881	0.08	32.00	C
65.25-62.67			B	1	1.265		1	1	6.881			
			C	1	1.238		1	1	6.881			
L32	0.01	0.04	A	1	0.95	0.01	1	1	0.673	0.01	31.28	C
62.67-62.42			B	1	1.234		1	1	0.673			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.2		1	1	0.673			
L33 62.42-60.00	0.11	0.40	A	1	1.243	0.01	1	1	6.572	0.08	32.16	C
			B	1	1.204		1	1	6.572			
			C	1	1.243		1	1	6.572			
L34 60.00-59.75	0.01	0.04	A	1	1.254	0.01	1	1	0.685	0.01	32.38	C
			B	1	0.95		1	1	0.685			
			C	1	1.254		1	1	0.685			
L35 59.75-54.75	0.24	0.83	A	1	1.264	0.01	1	1	13.931	0.16	32.58	C
			B	1	0.95		1	1	13.931			
			C	1	1.264		1	1	13.931			
L36 54.75-53.42	0.06	0.23	A	1	1.367	0.01	1	1	3.780	0.05	34.61	C
			B	1	1.301		1	1	3.780			
			C	1	1.367		1	1	3.780			
L37 53.42-53.17	0.01	0.06	A	1	1.366	0.01	1	1	0.713	0.01	34.53	C
			B	1	1.3		1	1	0.713			
			C	1	1.366		1	1	0.713			
L38 53.17-51.42	0.09	0.44	A	1	1.365	0.01	1	1	5.028	0.06	34.49	C
			B	1	1.299		1	1	5.028			
			C	1	1.365		1	1	5.028			
L39 51.42-51.17	0.01	0.05	A	1	1.363	0.01	1	1	0.723	0.01	34.48	C
			B	1	1.298		1	1	0.723			
			C	1	1.363		1	1	0.723			
L40 51.17-46.50	0.22	0.91	A	1	1.322	0.01	1	1	13.696	0.13	27.54	C
			B	1	1.265		1	1	13.696			
			C	1	1.322		1	1	13.696			
L41 46.50-45.50	0.04	1.07	A	1	1.249	0.01	1	1	2.930	0.03	25.61	C
			B	1	1.239		1	1	2.930			
			C	1	1.249		1	1	2.930			
L42 45.50-43.67	0.20	0.36	A	1	1.301	0.01	1	1	5.416	0.07	35.54	C
			B	1	1.294		1	1	5.416			
			C	1	1.414		1	1	5.416			
L43 43.67-43.42	0.03	0.06	A	1	1.3	0.01	1	1	0.743	0.01	35.42	C
			B	1	1.293		1	1	0.743			
			C	1	1.412		1	1	0.743			
L44 43.42-43.25	0.02	0.04	A	1	1.3	0.01	1	1	0.497	0.01	35.40	C
			B	1	1.293		1	1	0.497			
			C	1	1.412		1	1	0.497			
L45 43.25-43.00	0.03	0.04	A	1	1.299	0.01	1	1	0.746	0.01	35.43	C
			B	1	1.292		1	1	0.746			
			C	1	1.411		1	1	0.746			
L46 43.00-38.00	0.54	0.72	A	1	1.247	0.01	1	1	15.161	0.17	34.17	C
			B	1	1.24		1	1	15.161			
			C	1	1.357		1	1	15.161			
L47 38.00-33.00	0.54	0.74	A	1	0.983	0.01	1	1	15.604	0.16	32.38	C
			B	1	0.95		1	1	15.604			
			C	1	1.292		1	1	15.604			
L48 33.00-29.25	0.39	0.57	A	1	1.201	0.01	1	1	11.993	0.12	31.76	C
			B	1	0.95		1	1	11.993			
			C	1	1.29		1	1	11.993			
L49 29.25-29.00	0.02	0.05	A	1	1.235	0.01	1	1	0.808	0.01	31.70	C
			B	1	0.95		1	1	0.808			
			C	1	1.293		1	1	0.808			
L50 29.00-28.08	0.09	0.20	A	1	1.234	0.01	1	1	2.982	0.03	31.77	C
			B	1	0.95		1	1	2.982			
			C	1	1.292		1	1	2.982			
L51 28.08-27.73	0.03	0.09	A	1	1.234	0.01	1	1	1.137	0.01	31.81	C
			B	1	0.95		1	1	1.137			
			C	1	1.292		1	1	1.137			
L52 27.73-27.50	0.02	0.06	A	1	1.234	0.01	1	1	0.748	0.01	31.84	C
			B	1	0.95		1	1	0.748			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_P	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	1.292		1	1	0.748			
L53 27.50-24.08	0.37	0.87	A	1	1.233	0.01	1	1	11.224	0.11	32.76	C
			B	1	0.95		1	1	11.224			
			C	1	1.326		1	1	11.224			
L54 24.08-23.83	0.03	0.07	A	1	1.232	0.01	1	1	0.829	0.01	33.26	C
			B	1	0.95		1	1	0.829			
			C	1	1.338		1	1	0.829			
L55 23.83-22.67	0.13	0.32	A	1	1.231	0.01	1	1	3.882	0.04	33.35	C
			B	1	0.95		1	1	3.882			
			C	1	1.338		1	1	3.882			
L56 22.67-22.42	0.03	0.05	A	1	1.231	0.01	1	1	0.836	0.01	33.46	C
			B	1	0.95		1	1	0.836			
			C	1	1.337		1	1	0.836			
L57 22.42-18.92	0.33	0.76	A	1	1.202	0.01	1	1	11.826	0.10	27.58	C
			B	1	1.219		1	1	11.826			
			C	1	1.329		1	1	11.826			
L58 18.92-18.67	0.02	0.05	A	1	0.956	0.01	1	1	0.853	0.01	27.78	C
			B	1	1.271		1	1	0.853			
			C	1	1.326		1	1	0.853			
L59 18.67-18.08	0.04	0.13	A	1	0.955	0.01	1	1	1.997	0.02	27.83	C
			B	1	1.271		1	1	1.997			
			C	1	1.326		1	1	1.997			
L60 18.08-17.83	0.02	0.07	A	1	0.955	0.01	1	1	0.856	0.01	27.85	C
			B	1	1.271		1	1	0.856			
			C	1	1.326		1	1	0.856			
L61 17.83-14.08	0.23	1.08	A	1	0.95	0.01	1	1	12.979	0.10	27.46	C
			B	1	1.269		1	1	12.979			
			C	1	1.293		1	1	12.979			
L62 14.08-13.83	0.01	0.07	A	1	0.95	0.01	1	1	0.874	0.01	27.35	C
			B	1	1.268		1	1	0.874			
			C	1	1.274		1	1	0.874			
L63 13.83-8.83	0.27	1.36	A	1	0.95	0.01	1	1	17.705	0.14	27.66	C
			B	1	1.239		1	1	17.705			
			C	1	1.272		1	1	17.705			
L64 8.83-3.83	0.27	1.38	A	1	0.95	0.01	1	1	18.149	0.14	28.44	C
			B	1	1.217		1	1	18.149			
			C	1	1.268		1	1	18.149			
L65 3.83-3.25	0.03	0.16	A	1	0.95	0.01	1	1	2.134	0.02	29.03	C
			B	1	1.216		1	1	2.134			
			C	1	1.267		1	1	2.134			
L66 3.25-3.00	0.01	0.06	A	1	0.95	0.01	1	1	0.922	0.01	29.08	C
			B	1	1.215		1	1	0.922			
			C	1	1.266		1	1	0.922			
L67 3.00-2.17	0.05	0.21	A	1	0.95	0.01	1	1	3.069	0.02	29.15	C
			B	1	1.215		1	1	3.069			
			C	1	1.266		1	1	3.069			
L68 2.17-1.92	0.01	0.04	A	1	0.95	0.01	1	1	0.928	0.01	29.25	C
			B	1	1.215		1	1	0.928			
			C	1	1.265		1	1	0.928			
L69 1.92-0.00	0.09	0.34	A	1	0.95	0.01	1	1	7.165	0.05	28.57	C
			B	1	0.95		1	1	7.165			
			C	1	1.228		1	1	7.165			
Sum Weight:	6.33	22.19						OTM	216.32 kip-ft	3.56		

Discrete Appurtenance Pressures - No Ice $G_H = 1.100$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
Lightning Rod	240.0000	0.03	-0.58	0.33	142.00	1.092	0.04	0.25	0.25
APXV9ERR18-C-A20	0.0000	0.07	0.00	-4.68	140.00	1.088	0.04	4.66	3.11
APXV9ERR18-C-A20	120.0000	0.07	4.05	2.34	140.00	1.088	0.04	4.66	3.11
APXV9ERR18-C-A20	240.0000	0.07	-4.05	2.34	140.00	1.088	0.04	4.66	3.11
APXVTM14-C-120	0.0000	0.06	0.00	-4.68	140.00	1.088	0.04	4.12	2.06
APXVTM14-C-120	120.0000	0.06	4.05	2.34	140.00	1.088	0.04	4.12	2.06
APXVTM14-C-120	240.0000	0.06	-4.05	2.34	140.00	1.088	0.04	4.12	2.06
TD-RRH8x20-25	0.0000	0.07	0.00	-4.68	140.00	1.088	0.04	3.70	1.29
TD-RRH8x20-25	120.0000	0.07	4.05	2.34	140.00	1.088	0.04	3.70	1.29
TD-RRH8x20-25	240.0000	0.07	-4.05	2.34	140.00	1.088	0.04	3.70	1.29
Platform Mount [LP 1201-1_HR-3]	0.0000	2.62	0.00	0.00	139.00	1.086	0.04	29.96	29.96
PCS 1900MHz 4x45W-65MHz	0.0000	0.06	0.00	-2.69	137.00	1.081	0.04	2.32	2.24
PCS 1900MHz 4x45W-65MHz	120.0000	0.06	2.33	1.35	137.00	1.081	0.04	2.32	2.24
PCS 1900MHz 4x45W-65MHz	240.0000	0.06	-2.33	1.35	137.00	1.081	0.04	2.32	2.24
800MHz 2X50W RRH W/FILTER	0.0000	0.06	0.00	-2.69	140.00	1.088	0.04	2.06	1.93
800MHz 2X50W RRH W/FILTER	120.0000	0.06	2.33	1.35	140.00	1.088	0.04	2.06	1.93
800MHz 2X50W RRH W/FILTER	240.0000	0.06	-2.33	1.35	140.00	1.088	0.04	2.06	1.93
Side Arm Mount [SO 102-3]	0.0000	0.07	0.00	0.00	137.00	1.081	0.04	3.60	3.60
RRUS 11	0.0000	0.05	0.00	-2.75	130.00	1.065	0.04	2.78	1.19
RRUS 11	120.0000	0.05	2.38	1.38	130.00	1.065	0.04	2.78	1.19
RRUS 11	240.0000	0.05	-2.38	1.38	130.00	1.065	0.04	2.78	1.19
RRUS 32 B2	0.0000	0.05	0.00	-2.75	130.00	1.065	0.04	2.76	1.69
RRUS 32 B2	120.0000	0.05	2.38	1.38	130.00	1.065	0.04	2.76	1.69
RRUS 32 B2	240.0000	0.05	-2.38	1.38	130.00	1.065	0.04	2.76	1.69
Side Arm Mount [SO 102-3]	0.0000	0.07	0.00	0.00	130.00	1.065	0.04	3.60	3.60
7770.00 w/ Mount Pipe	0.0000	0.06	0.00	-4.77	130.00	1.065	0.04	5.75	4.25
7770.00 w/ Mount Pipe	120.0000	0.06	4.13	2.38	130.00	1.065	0.04	5.75	4.25
7770.00 w/ Mount Pipe	240.0000	0.06	-4.13	2.38	130.00	1.065	0.04	5.75	4.25
HPA-65R-BUU-H8 w/ Mount Pipe	0.0000	0.10	0.00	-4.77	130.00	1.065	0.04	12.25	8.33
HPA-65R-BUU-H6 w/ Mount Pipe	120.0000	0.07	4.13	2.38	130.00	1.065	0.04	9.22	6.25
HPA-65R-BUU-H6 w/ Mount Pipe	240.0000	0.07	-4.13	2.38	130.00	1.065	0.04	9.22	6.25
EPBQ-654L8H8-L2 w/ Mount Pipe	0.0000	0.12	0.00	-4.77	130.00	1.065	0.04	14.86	6.25
EPBQ-654L8H8-L2 w/ Mount Pipe	120.0000	0.12	4.13	2.38	130.00	1.065	0.04	14.86	6.25
EPBQ-654L8H8-L2 w/ Mount Pipe	240.0000	0.12	-4.13	2.38	130.00	1.065	0.04	14.86	6.25
LGP21401	0.0000	0.02	0.00	-4.77	130.00	1.065	0.04	2.21	0.69
LGP21401	120.0000	0.02	4.13	2.38	130.00	1.065	0.04	2.21	0.69
LGP21401	240.0000	0.02	-4.13	2.38	130.00	1.065	0.04	2.21	0.69
RRUS 32 B30	0.0000	0.05	0.00	-4.77	130.00	1.065	0.04	2.74	1.67
RRUS 32 B30	120.0000	0.05	4.13	2.38	130.00	1.065	0.04	2.74	1.67
RRUS 32 B30	240.0000	0.05	-4.13	2.38	130.00	1.065	0.04	2.74	1.67
RRUS 4478 B5	0.0000	0.06	0.00	-4.77	130.00	1.065	0.04	1.84	1.06
RRUS 4478 B5	120.0000	0.06	4.13	2.38	130.00	1.065	0.04	1.84	1.06
RRUS 4478 B5	240.0000	0.06	-4.13	2.38	130.00	1.065	0.04	1.84	1.06

tnxTower	Job	Page
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	East Farmington, BU# 876335	87 of 125
	Project 19BOZR1400	Date 15:53:46 08/22/19
	Client Crown Castle	Designed by Eric Schaub

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
RRUS 4426 B66	0.0000	0.05	0.00	-4.77	130.00	1.065	0.04	1.64	0.73
RRUS 4426 B66	120.0000	0.05	4.13	2.38	130.00	1.065	0.04	1.64	0.73
RRUS 4426 B66	240.0000	0.05	-4.13	2.38	130.00	1.065	0.04	1.64	0.73
DC6-48-60-18-8F	0.0000	0.03	0.00	-4.77	130.00	1.065	0.04	1.21	1.21
DC6-48-60-18-8C	120.0000	0.03	4.13	2.38	130.00	1.065	0.04	1.14	1.14
DC6-48-60-18-8C	240.0000	0.03	-4.13	2.38	130.00	1.065	0.04	1.14	1.14
T-Arm Mount [TA 602-3]	0.0000	0.77	0.00	0.00	128.00	1.060	0.04	13.40	13.40
SBNHH-1D65B w/ Mount Pipe	0.0000	0.13	0.00	-4.94	109.00	1.013	0.04	8.18	6.60
SBNHH-1D65B w/ Mount Pipe	120.0000	0.13	4.28	2.47	109.00	1.013	0.04	8.18	6.60
SBNHH-1D65B w/ Mount Pipe	240.0000	0.13	-4.28	2.47	109.00	1.013	0.04	8.18	6.60
BXA-70063-4CF-EDIN-X w/ Mount Pipe	0.0000	0.08	0.00	-4.94	109.00	1.013	0.04	10.86	8.36
BXA-70063-4CF-EDIN-X w/ Mount Pipe	120.0000	0.08	4.28	2.47	109.00	1.013	0.04	10.86	8.36
BXA-70063-4CF-EDIN-X w/ Mount Pipe	240.0000	0.08	-4.28	2.47	109.00	1.013	0.04	10.86	8.36
DB-T1-6Z-8AB-0Z	0.0000	0.04	0.00	-4.94	109.00	1.013	0.04	4.80	2.00
RFV01U-D1A	0.0000	0.16	0.00	-4.94	109.00	1.013	0.04	3.75	2.50
RFV01U-D1A	120.0000	0.08	4.28	2.47	109.00	1.013	0.04	1.88	1.25
RFV01U-D2A	0.0000	0.14	0.00	-4.94	109.00	1.013	0.04	3.75	2.02
RFV01U-D2A	120.0000	0.07	4.28	2.47	109.00	1.013	0.04	1.88	1.01
LP 303-1 w/ SitePro 1 PRK-1245	0.0000	1.72	0.00	0.00	108.00	1.010	0.04	25.91	25.91
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	0.0000	0.11	0.00	-5.01	100.00	0.988	0.04	6.33	5.64
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	120.0000	0.11	4.34	2.50	100.00	0.988	0.04	6.33	5.64
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	240.0000	0.11	-4.34	2.50	100.00	0.988	0.04	6.33	5.64
AIR 32 B2A/B66AA w/ Mount Pipe	0.0000	0.15	0.00	-5.01	100.00	0.988	0.04	6.75	6.07
AIR 32 B2A/B66AA w/ Mount Pipe	120.0000	0.15	4.34	2.50	100.00	0.988	0.04	6.75	6.07
AIR 32 B2A/B66AA w/ Mount Pipe	240.0000	0.15	-4.34	2.50	100.00	0.988	0.04	6.75	6.07
APXVAARR24_43-U-NA20 w/ Mount Pipe	0.0000	0.19	0.00	-5.01	100.00	0.988	0.04	14.69	6.87
APXVAARR24_43-U-NA20 w/ Mount Pipe	120.0000	0.19	4.34	2.50	100.00	0.988	0.04	14.69	6.87
APXVAARR24_43-U-NA20 w/ Mount Pipe	240.0000	0.19	-4.34	2.50	100.00	0.988	0.04	14.69	6.87
KRY 112 144/1	0.0000	0.01	0.00	-5.01	100.00	0.988	0.04	0.35	0.16
KRY 112 144/1	120.0000	0.01	4.34	2.50	100.00	0.988	0.04	0.35	0.16
KRY 112 144/1	240.0000	0.01	-4.34	2.50	100.00	0.988	0.04	0.35	0.16
RADIO 4449 B12/B71	0.0000	0.08	0.00	-5.01	100.00	0.988	0.04	1.65	1.30
RADIO 4449 B12/B71	120.0000	0.08	4.34	2.50	100.00	0.988	0.04	1.65	1.30
RADIO 4449 B12/B71	240.0000	0.08	-4.34	2.50	100.00	0.988	0.04	1.65	1.30
T-Arm Mount [TA 602-3]	0.0000	0.77	0.00	0.00	100.00	0.988	0.04	13.40	13.40
KS24019-L112A	120.0000	0.01	3.68	2.12	72.00	0.900	0.03	0.14	0.14
Side Arm Mount [SO 701-1]	120.0000	0.07	2.38	1.37	70.00	0.892	0.03	0.85	1.67
KS24019-L112A	240.0000	0.01	-3.68	2.12	72.00	0.900	0.03	0.14	0.14
Side Arm Mount [SO 701-1]	240.0000	0.07	-2.38	1.37	70.00	0.892	0.03	0.85	1.67
KS24019-L112A	0.0000	0.01	0.00	-4.42	51.00	0.815	0.03	0.14	0.14
Side Arm Mount [SO	0.0000	0.07	0.00	-2.92	49.00	0.806	0.03	0.85	1.67

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
701-1]									
Detuning Arm	0.0000	0.01	0.00	-3.26	6.00	0.700	0.02	0.75	0.05
Detuning Arm	120.0000	0.01	2.83	1.63	6.00	0.700	0.02	0.75	0.05
Detuning Arm	240.0000	0.01	-2.83	1.63	6.00	0.700	0.02	0.75	0.05
Detuning Arm	0.0000	0.01	0.00	-2.62	85.00	0.943	0.03	0.75	0.05
Detuning Arm	120.0000	0.01	2.27	1.31	85.00	0.943	0.03	0.75	0.05
Detuning Arm	240.0000	0.01	-2.27	1.31	85.00	0.943	0.03	0.75	0.05
Detuning Arm	0.0000	0.01	0.00	-2.21	135.00	1.077	0.04	0.75	0.05
Detuning Arm	120.0000	0.01	1.91	1.10	135.00	1.077	0.04	0.75	0.05
Detuning Arm	240.0000	0.01	-1.91	1.10	135.00	1.077	0.04	0.75	0.05
	Sum Weight:	11.77							

Discrete Appurtenance Pressures - With Ice $G_H = 1.100$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
Lightning Rod	240.0000	0.06	-0.58	0.33	142.00	1.092	0.01	1.48	1.48	1.967
APXV9ERR18-C-A20	0.0000	0.31	0.00	-4.68	140.00	1.088	0.01	6.55	4.91	1.964
APXV9ERR18-C-A20	120.0000	0.31	4.05	2.34	140.00	1.088	0.01	6.55	4.91	1.964
APXV9ERR18-C-A20	240.0000	0.31	-4.05	2.34	140.00	1.088	0.01	6.55	4.91	1.964
APXVTM14-C-120	0.0000	0.24	0.00	-4.68	140.00	1.088	0.01	5.77	3.57	1.964
APXVTM14-C-120	120.0000	0.24	4.05	2.34	140.00	1.088	0.01	5.77	3.57	1.964
APXVTM14-C-120	240.0000	0.24	-4.05	2.34	140.00	1.088	0.01	5.77	3.57	1.964
TD-RRH8x20-25	0.0000	0.18	0.00	-4.68	140.00	1.088	0.01	4.70	2.01	1.964
TD-RRH8x20-25	120.0000	0.18	4.05	2.34	140.00	1.088	0.01	4.70	2.01	1.964
TD-RRH8x20-25	240.0000	0.18	-4.05	2.34	140.00	1.088	0.01	4.70	2.01	1.964
Platform Mount [LP 1201-1_HR-3]	0.0000	6.35	0.00	0.00	139.00	1.086	0.01	55.06	55.06	1.963
PCS 1900MHz 4x45W-65MHz	0.0000	0.17	0.00	-2.69	137.00	1.081	0.01	3.17	3.08	1.960
PCS 1900MHz 4x45W-65MHz	120.0000	0.17	2.33	1.35	137.00	1.081	0.01	3.17	3.08	1.960
PCS 1900MHz 4x45W-65MHz	240.0000	0.17	-2.33	1.35	137.00	1.081	0.01	3.17	3.08	1.960
800MHz 2X50W RRH W/FILTER	0.0000	0.17	0.00	-2.69	140.00	1.088	0.01	2.81	2.67	1.964
800MHz 2X50W RRH W/FILTER	120.0000	0.17	2.33	1.35	140.00	1.088	0.01	2.81	2.67	1.964
800MHz 2X50W RRH W/FILTER	240.0000	0.17	-2.33	1.35	140.00	1.088	0.01	2.81	2.67	1.964
Side Arm Mount [SO 102-3]	0.0000	0.19	0.00	0.00	137.00	1.081	0.01	5.85	5.85	1.960
RRUS 11	0.0000	0.15	0.00	-2.75	130.00	1.065	0.01	3.64	1.82	1.950
RRUS 11	120.0000	0.15	2.38	1.38	130.00	1.065	0.01	3.64	1.82	1.950
RRUS 11	240.0000	0.15	-2.38	1.38	130.00	1.065	0.01	3.64	1.82	1.950
RRUS 32 B2	0.0000	0.15	0.00	-2.75	130.00	1.065	0.01	3.68	2.47	1.950
RRUS 32 B2	120.0000	0.15	2.38	1.38	130.00	1.065	0.01	3.68	2.47	1.950
RRUS 32 B2	240.0000	0.15	-2.38	1.38	130.00	1.065	0.01	3.68	2.47	1.950
Side Arm Mount [SO 102-3]	0.0000	0.19	0.00	0.00	130.00	1.065	0.01	5.84	5.84	1.950
7770.00 w/ Mount Pipe	0.0000	0.28	0.00	-4.77	130.00	1.065	0.01	7.44	7.08	1.950
7770.00 w/ Mount Pipe	120.0000	0.28	4.13	2.38	130.00	1.065	0.01	7.44	7.08	1.950
7770.00 w/ Mount Pipe	240.0000	0.28	-4.13	2.38	130.00	1.065	0.01	7.44	7.08	1.950
HPA-65R-BUU-H8 w/ Mount Pipe	0.0000	0.53	0.00	-4.77	130.00	1.065	0.01	16.04	11.95	1.950
HPA-65R-BUU-H6 w/	120.0000	0.41	4.13	2.38	130.00	1.065	0.01	12.28	9.14	1.950

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
Mount Pipe										
HPA-65R-BUU-H6 w/ Mount Pipe	240.0000	0.41	-4.13	2.38	130.00	1.065	0.01	12.28	9.14	1.950
EPBQ-654L8H8-L2 w/ Mount Pipe	0.0000	0.63	0.00	-4.77	130.00	1.065	0.01	18.29	9.33	1.950
EPBQ-654L8H8-L2 w/ Mount Pipe	120.0000	0.63	4.13	2.38	130.00	1.065	0.01	18.29	9.33	1.950
EPBQ-654L8H8-L2 w/ Mount Pipe	240.0000	0.63	-4.13	2.38	130.00	1.065	0.01	18.29	9.33	1.950
LGP21401	0.0000	0.11	0.00	-4.77	130.00	1.065	0.01	3.34	1.52	1.950
LGP21401	120.0000	0.11	4.13	2.38	130.00	1.065	0.01	3.34	1.52	1.950
LGP21401	240.0000	0.11	-4.13	2.38	130.00	1.065	0.01	3.34	1.52	1.950
RRUS 32 B30	0.0000	0.15	0.00	-4.77	130.00	1.065	0.01	3.65	2.44	1.950
RRUS 32 B30	120.0000	0.15	4.13	2.38	130.00	1.065	0.01	3.65	2.44	1.950
RRUS 32 B30	240.0000	0.15	-4.13	2.38	130.00	1.065	0.01	3.65	2.44	1.950
RRUS 4478 B5	0.0000	0.14	0.00	-4.77	130.00	1.065	0.01	2.55	1.64	1.950
RRUS 4478 B5	120.0000	0.14	4.13	2.38	130.00	1.065	0.01	2.55	1.64	1.950
RRUS 4478 B5	240.0000	0.14	-4.13	2.38	130.00	1.065	0.01	2.55	1.64	1.950
RRUS 4426 B66	0.0000	0.11	0.00	-4.77	130.00	1.065	0.01	2.31	1.23	1.950
RRUS 4426 B66	120.0000	0.11	4.13	2.38	130.00	1.065	0.01	2.31	1.23	1.950
RRUS 4426 B66	240.0000	0.11	-4.13	2.38	130.00	1.065	0.01	2.31	1.23	1.950
DC6-48-60-18-8F	0.0000	0.14	0.00	-4.77	130.00	1.065	0.01	2.55	2.55	1.950
DC6-48-60-18-8C	120.0000	0.12	4.13	2.38	130.00	1.065	0.01	2.43	2.43	1.950
DC6-48-60-18-8C	240.0000	0.12	-4.13	2.38	130.00	1.065	0.01	2.43	2.43	1.950
T-Arm Mount [TA 602-3]	0.0000	2.01	0.00	0.00	128.00	1.060	0.01	25.53	25.53	1.947
SBNHH-1D65B w/ Mount Pipe	0.0000	0.74	0.00	-4.94	109.00	1.013	0.01	11.30	9.61	1.916
SBNHH-1D65B w/ Mount Pipe	120.0000	0.74	4.28	2.47	109.00	1.013	0.01	11.30	9.61	1.916
SBNHH-1D65B w/ Mount Pipe	240.0000	0.74	-4.28	2.47	109.00	1.013	0.01	11.30	9.61	1.916
BXA-70063-4CF-EDIN-X w/ Mount Pipe	0.0000	0.51	0.00	-4.94	109.00	1.013	0.01	15.10	14.66	1.916
BXA-70063-4CF-EDIN-X w/ Mount Pipe	120.0000	0.51	4.28	2.47	109.00	1.013	0.01	15.10	14.66	1.916
BXA-70063-4CF-EDIN-X w/ Mount Pipe	240.0000	0.51	-4.28	2.47	109.00	1.013	0.01	15.10	14.66	1.916
DB-T1-6Z-8AB-0Z	0.0000	0.21	0.00	-4.94	109.00	1.013	0.01	5.88	2.78	1.916
RFV01U-D1A	0.0000	0.34	0.00	-4.94	109.00	1.013	0.01	5.14	3.68	1.916
RFV01U-D1A	120.0000	0.17	4.28	2.47	109.00	1.013	0.01	2.57	1.84	1.916
RFV01U-D2A	0.0000	0.30	0.00	-4.94	109.00	1.013	0.01	5.14	3.12	1.916
RFV01U-D2A	120.0000	0.15	4.28	2.47	109.00	1.013	0.01	2.57	1.56	1.916
LP 303-1 w/ SitePro 1 PRK-1245	0.0000	4.01	0.00	0.00	108.00	1.010	0.01	51.16	51.16	1.914
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	0.0000	0.37	0.00	-5.01	100.00	0.988	0.01	8.03	8.44	1.899
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	120.0000	0.37	4.34	2.50	100.00	0.988	0.01	8.03	8.44	1.899
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	240.0000	0.37	-4.34	2.50	100.00	0.988	0.01	8.03	8.44	1.899
AIR 32 B2A/B66AA w/ Mount Pipe	0.0000	0.43	0.00	-5.01	100.00	0.988	0.01	8.47	8.91	1.899
AIR 32 B2A/B66AA w/ Mount Pipe	120.0000	0.43	4.34	2.50	100.00	0.988	0.01	8.47	8.91	1.899
AIR 32 B2A/B66AA w/ Mount Pipe	240.0000	0.43	-4.34	2.50	100.00	0.988	0.01	8.47	8.91	1.899
APXVAARR24_43-U-NA20 w/ Mount Pipe	0.0000	0.75	0.00	-5.01	100.00	0.988	0.01	17.66	9.53	1.899
APXVAARR24_43-U-NA20 w/ Mount Pipe	120.0000	0.75	4.34	2.50	100.00	0.988	0.01	17.66	9.53	1.899

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
APXVAARR24_43-U-NA20 w/ Mount Pipe	240.0000	0.75	-4.34	2.50	100.00	0.988	0.01	17.66	9.53	1.899
KRY 112 144/1	0.0000	0.03	0.00	-5.01	100.00	0.988	0.01	0.68	0.42	1.899
KRY 112 144/1	120.0000	0.03	4.34	2.50	100.00	0.988	0.01	0.68	0.42	1.899
KRY 112 144/1	240.0000	0.03	-4.34	2.50	100.00	0.988	0.01	0.68	0.42	1.899
RADIO 4449 B12/B71	0.0000	0.16	0.00	-5.01	100.00	0.988	0.01	2.30	1.89	1.899
RADIO 4449 B12/B71	120.0000	0.16	4.34	2.50	100.00	0.988	0.01	2.30	1.89	1.899
RADIO 4449 B12/B71	240.0000	0.16	-4.34	2.50	100.00	0.988	0.01	2.30	1.89	1.899
T-Arm Mount [TA 602-3]	0.0000	1.98	0.00	0.00	100.00	0.988	0.01	25.24	25.24	1.899
KS24019-L112A	120.0000	0.02	3.68	2.12	72.00	0.900	0.01	0.39	0.39	1.838
Side Arm Mount [SO 701-1]	120.0000	0.12	2.38	1.37	70.00	0.892	0.01	1.91	4.13	1.833
KS24019-L112A	240.0000	0.02	-3.68	2.12	72.00	0.900	0.01	0.39	0.39	1.838
Side Arm Mount [SO 701-1]	240.0000	0.12	-2.38	1.37	70.00	0.892	0.01	1.91	4.13	1.833
KS24019-L112A	0.0000	0.02	0.00	-4.42	51.00	0.815	0.00	0.38	0.38	1.776
Side Arm Mount [SO 701-1]	0.0000	0.11	0.00	-2.92	49.00	0.806	0.00	1.88	4.04	1.769
Detuning Arm	0.0000	0.04	0.00	-3.26	6.00	0.700	0.00	1.40	0.17	1.434
Detuning Arm	120.0000	0.04	2.83	1.63	6.00	0.700	0.00	1.40	0.17	1.434
Detuning Arm	240.0000	0.04	-2.83	1.63	6.00	0.700	0.00	1.40	0.17	1.434
Detuning Arm	0.0000	0.06	0.00	-2.62	85.00	0.943	0.01	1.60	0.21	1.869
Detuning Arm	120.0000	0.06	2.27	1.31	85.00	0.943	0.01	1.60	0.21	1.869
Detuning Arm	240.0000	0.06	-2.27	1.31	85.00	0.943	0.01	1.60	0.21	1.869
Detuning Arm	0.0000	0.06	0.00	-2.21	135.00	1.077	0.01	1.64	0.22	1.957
Detuning Arm	120.0000	0.06	1.91	1.10	135.00	1.077	0.01	1.64	0.22	1.957
Detuning Arm	240.0000	0.06	-1.91	1.10	135.00	1.077	0.01	1.64	0.22	1.957
	Sum Weight:	35.90								

Discrete Appurtenance Pressures - Service $G_H = 1.100$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
Lightning Rod	240.0000	0.03	-0.58	0.33	142.00	1.092	0.01	0.25	0.25
APXV9ERR18-C-A20	0.0000	0.07	0.00	-4.68	140.00	1.088	0.01	4.66	3.11
APXV9ERR18-C-A20	120.0000	0.07	4.05	2.34	140.00	1.088	0.01	4.66	3.11
APXV9ERR18-C-A20	240.0000	0.07	-4.05	2.34	140.00	1.088	0.01	4.66	3.11
APXVTM14-C-120	0.0000	0.06	0.00	-4.68	140.00	1.088	0.01	4.12	2.06
APXVTM14-C-120	120.0000	0.06	4.05	2.34	140.00	1.088	0.01	4.12	2.06
APXVTM14-C-120	240.0000	0.06	-4.05	2.34	140.00	1.088	0.01	4.12	2.06
TD-RRH8x20-25	0.0000	0.07	0.00	-4.68	140.00	1.088	0.01	3.70	1.29
TD-RRH8x20-25	120.0000	0.07	4.05	2.34	140.00	1.088	0.01	3.70	1.29
TD-RRH8x20-25	240.0000	0.07	-4.05	2.34	140.00	1.088	0.01	3.70	1.29
Platform Mount [LP 1201-1_HR-3]	0.0000	2.62	0.00	0.00	139.00	1.086	0.01	29.96	29.96
PCS 1900MHz 4x45W-65MHz	0.0000	0.06	0.00	-2.69	137.00	1.081	0.01	2.32	2.24
PCS 1900MHz 4x45W-65MHz	120.0000	0.06	2.33	1.35	137.00	1.081	0.01	2.32	2.24
PCS 1900MHz 4x45W-65MHz	240.0000	0.06	-2.33	1.35	137.00	1.081	0.01	2.32	2.24
800MHz 2X50W RRH W/FILTER	0.0000	0.06	0.00	-2.69	140.00	1.088	0.01	2.06	1.93
800MHz 2X50W RRH W/FILTER	120.0000	0.06	2.33	1.35	140.00	1.088	0.01	2.06	1.93

tnxTower	Job: East Farmington, BU# 876335	Page: 91 of 125
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Project: 19BOZR1400	Date: 15:53:46 08/22/19
	Client: Crown Castle	Designed by: Eric Schaub

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
800MHz 2X50W RRH W/FILTER	240.0000	0.06	-2.33	1.35	140.00	1.088	0.01	2.06	1.93
Side Arm Mount [SO 102-3]	0.0000	0.07	0.00	0.00	137.00	1.081	0.01	3.60	3.60
RRUS 11	0.0000	0.05	0.00	-2.75	130.00	1.065	0.01	2.78	1.19
RRUS 11	120.0000	0.05	2.38	1.38	130.00	1.065	0.01	2.78	1.19
RRUS 11	240.0000	0.05	-2.38	1.38	130.00	1.065	0.01	2.78	1.19
RRUS 32 B2	0.0000	0.05	0.00	-2.75	130.00	1.065	0.01	2.76	1.69
RRUS 32 B2	120.0000	0.05	2.38	1.38	130.00	1.065	0.01	2.76	1.69
RRUS 32 B2	240.0000	0.05	-2.38	1.38	130.00	1.065	0.01	2.76	1.69
Side Arm Mount [SO 102-3]	0.0000	0.07	0.00	0.00	130.00	1.065	0.01	3.60	3.60
7770.00 w/ Mount Pipe	0.0000	0.06	0.00	-4.77	130.00	1.065	0.01	5.75	4.25
7770.00 w/ Mount Pipe	120.0000	0.06	4.13	2.38	130.00	1.065	0.01	5.75	4.25
7770.00 w/ Mount Pipe	240.0000	0.06	-4.13	2.38	130.00	1.065	0.01	5.75	4.25
HPA-65R-BUU-H8 w/ Mount Pipe	0.0000	0.10	0.00	-4.77	130.00	1.065	0.01	12.25	8.33
HPA-65R-BUU-H6 w/ Mount Pipe	120.0000	0.07	4.13	2.38	130.00	1.065	0.01	9.22	6.25
HPA-65R-BUU-H6 w/ Mount Pipe	240.0000	0.07	-4.13	2.38	130.00	1.065	0.01	9.22	6.25
EPBQ-654L8H8-L2 w/ Mount Pipe	0.0000	0.12	0.00	-4.77	130.00	1.065	0.01	14.86	6.25
EPBQ-654L8H8-L2 w/ Mount Pipe	120.0000	0.12	4.13	2.38	130.00	1.065	0.01	14.86	6.25
EPBQ-654L8H8-L2 w/ Mount Pipe	240.0000	0.12	-4.13	2.38	130.00	1.065	0.01	14.86	6.25
LGP21401	0.0000	0.02	0.00	-4.77	130.00	1.065	0.01	2.21	0.69
LGP21401	120.0000	0.02	4.13	2.38	130.00	1.065	0.01	2.21	0.69
LGP21401	240.0000	0.02	-4.13	2.38	130.00	1.065	0.01	2.21	0.69
RRUS 32 B30	0.0000	0.05	0.00	-4.77	130.00	1.065	0.01	2.74	1.67
RRUS 32 B30	120.0000	0.05	4.13	2.38	130.00	1.065	0.01	2.74	1.67
RRUS 32 B30	240.0000	0.05	-4.13	2.38	130.00	1.065	0.01	2.74	1.67
RRUS 4478 B5	0.0000	0.06	0.00	-4.77	130.00	1.065	0.01	1.84	1.06
RRUS 4478 B5	120.0000	0.06	4.13	2.38	130.00	1.065	0.01	1.84	1.06
RRUS 4478 B5	240.0000	0.06	-4.13	2.38	130.00	1.065	0.01	1.84	1.06
RRUS 4426 B66	0.0000	0.05	0.00	-4.77	130.00	1.065	0.01	1.64	0.73
RRUS 4426 B66	120.0000	0.05	4.13	2.38	130.00	1.065	0.01	1.64	0.73
RRUS 4426 B66	240.0000	0.05	-4.13	2.38	130.00	1.065	0.01	1.64	0.73
DC6-48-60-18-8F	0.0000	0.03	0.00	-4.77	130.00	1.065	0.01	1.21	1.21
DC6-48-60-18-8C	120.0000	0.03	4.13	2.38	130.00	1.065	0.01	1.14	1.14
DC6-48-60-18-8C	240.0000	0.03	-4.13	2.38	130.00	1.065	0.01	1.14	1.14
T-Arm Mount [TA 602-3]	0.0000	0.77	0.00	0.00	128.00	1.060	0.01	13.40	13.40
SBNHH-1D65B w/ Mount Pipe	0.0000	0.13	0.00	-4.94	109.00	1.013	0.01	8.18	6.60
SBNHH-1D65B w/ Mount Pipe	120.0000	0.13	4.28	2.47	109.00	1.013	0.01	8.18	6.60
SBNHH-1D65B w/ Mount Pipe	240.0000	0.13	-4.28	2.47	109.00	1.013	0.01	8.18	6.60
BXA-70063-4CF-EDIN-X w/ Mount Pipe	0.0000	0.08	0.00	-4.94	109.00	1.013	0.01	10.86	8.36
BXA-70063-4CF-EDIN-X w/ Mount Pipe	120.0000	0.08	4.28	2.47	109.00	1.013	0.01	10.86	8.36
BXA-70063-4CF-EDIN-X w/ Mount Pipe	240.0000	0.08	-4.28	2.47	109.00	1.013	0.01	10.86	8.36
DB-T1-6Z-8AB-0Z	0.0000	0.04	0.00	-4.94	109.00	1.013	0.01	4.80	2.00
RFV01U-D1A	0.0000	0.16	0.00	-4.94	109.00	1.013	0.01	3.75	2.50
RFV01U-D1A	120.0000	0.08	4.28	2.47	109.00	1.013	0.01	1.88	1.25
RFV01U-D2A	0.0000	0.14	0.00	-4.94	109.00	1.013	0.01	3.75	2.02
RFV01U-D2A	120.0000	0.07	4.28	2.47	109.00	1.013	0.01	1.88	1.01

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
LP 303-1 w/ SitePro 1 PRK-1245	0.0000	1.72	0.00	0.00	108.00	1.010	0.01	25.91	25.91
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	0.0000	0.11	0.00	-5.01	100.00	0.988	0.01	6.33	5.64
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	120.0000	0.11	4.34	2.50	100.00	0.988	0.01	6.33	5.64
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	240.0000	0.11	-4.34	2.50	100.00	0.988	0.01	6.33	5.64
AIR 32 B2A/B66AA w/ Mount Pipe	0.0000	0.15	0.00	-5.01	100.00	0.988	0.01	6.75	6.07
AIR 32 B2A/B66AA w/ Mount Pipe	120.0000	0.15	4.34	2.50	100.00	0.988	0.01	6.75	6.07
AIR 32 B2A/B66AA w/ Mount Pipe	240.0000	0.15	-4.34	2.50	100.00	0.988	0.01	6.75	6.07
APXVAARR24_43-U-NA20 w/ Mount Pipe	0.0000	0.19	0.00	-5.01	100.00	0.988	0.01	14.69	6.87
APXVAARR24_43-U-NA20 w/ Mount Pipe	120.0000	0.19	4.34	2.50	100.00	0.988	0.01	14.69	6.87
APXVAARR24_43-U-NA20 w/ Mount Pipe	240.0000	0.19	-4.34	2.50	100.00	0.988	0.01	14.69	6.87
KRY 112 144/1	0.0000	0.01	0.00	-5.01	100.00	0.988	0.01	0.35	0.16
KRY 112 144/1	120.0000	0.01	4.34	2.50	100.00	0.988	0.01	0.35	0.16
KRY 112 144/1	240.0000	0.01	-4.34	2.50	100.00	0.988	0.01	0.35	0.16
RADIO 4449 B12/B71	0.0000	0.08	0.00	-5.01	100.00	0.988	0.01	1.65	1.30
RADIO 4449 B12/B71	120.0000	0.08	4.34	2.50	100.00	0.988	0.01	1.65	1.30
RADIO 4449 B12/B71	240.0000	0.08	-4.34	2.50	100.00	0.988	0.01	1.65	1.30
T-Arm Mount [TA 602-3]	0.0000	0.77	0.00	0.00	100.00	0.988	0.01	13.40	13.40
KS24019-L112A	120.0000	0.01	3.68	2.12	72.00	0.900	0.01	0.14	0.14
Side Arm Mount [SO 701-1]	120.0000	0.07	2.38	1.37	70.00	0.892	0.01	0.85	1.67
KS24019-L112A	240.0000	0.01	-3.68	2.12	72.00	0.900	0.01	0.14	0.14
Side Arm Mount [SO 701-1]	240.0000	0.07	-2.38	1.37	70.00	0.892	0.01	0.85	1.67
KS24019-L112A	0.0000	0.01	0.00	-4.42	51.00	0.815	0.01	0.14	0.14
Side Arm Mount [SO 701-1]	0.0000	0.07	0.00	-2.92	49.00	0.806	0.01	0.85	1.67
Detuning Arm	0.0000	0.01	0.00	-3.26	6.00	0.700	0.01	0.75	0.05
Detuning Arm	120.0000	0.01	2.83	1.63	6.00	0.700	0.01	0.75	0.05
Detuning Arm	240.0000	0.01	-2.83	1.63	6.00	0.700	0.01	0.75	0.05
Detuning Arm	0.0000	0.01	0.00	-2.62	85.00	0.943	0.01	0.75	0.05
Detuning Arm	120.0000	0.01	2.27	1.31	85.00	0.943	0.01	0.75	0.05
Detuning Arm	240.0000	0.01	-2.27	1.31	85.00	0.943	0.01	0.75	0.05
Detuning Arm	0.0000	0.01	0.00	-2.21	135.00	1.077	0.01	0.75	0.05
Detuning Arm	120.0000	0.01	1.91	1.10	135.00	1.077	0.01	0.75	0.05
Detuning Arm	240.0000	0.01	-1.91	1.10	135.00	1.077	0.01	0.75	0.05
	Sum Weight:	11.77							

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	22.19					
Bracing Weight	0.00					
Total Member Self-Weight	22.19			-4.01	4.52	

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Total Weight	40.29			-4.01	4.52	
Wind 0 deg - No Ice		-0.02	-27.73	-2505.31	6.75	0.30
Wind 30 deg - No Ice		13.92	-24.30	-2183.39	-1241.34	-0.33
Wind 60 deg - No Ice		25.21	-14.64	-1303.20	-2228.71	-1.10
Wind 90 deg - No Ice		29.56	0.02	-1.79	-2572.92	-1.47
Wind 120 deg - No Ice		24.23	14.10	1256.94	-2158.03	-1.17
Wind 150 deg - No Ice		13.99	24.39	2185.24	-1249.61	-0.85
Wind 180 deg - No Ice		0.02	28.29	2533.03	2.29	-0.30
Wind 210 deg - No Ice		-13.54	23.64	2161.64	1242.46	0.33
Wind 240 deg - No Ice		-23.80	13.83	1261.93	2180.16	1.10
Wind 270 deg - No Ice		-28.79	-0.02	-6.24	2551.88	1.47
Wind 300 deg - No Ice		-23.74	-13.82	-1255.40	2150.50	1.17
Wind 330 deg - No Ice		-13.64	-23.78	-2167.35	1243.69	0.85
Member Ice	9.70					
Total Weight Ice	88.85			-8.31	11.24	
Wind 0 deg - Ice		-0.00	-7.32	-669.64	11.66	0.07
Wind 30 deg - Ice		3.65	-6.36	-581.76	-317.52	-0.07
Wind 60 deg - Ice		6.66	-3.86	-353.23	-583.00	-0.29
Wind 90 deg - Ice		7.91	0.00	-7.89	-677.54	-0.43
Wind 120 deg - Ice		6.35	3.69	323.51	-559.48	-0.26
Wind 150 deg - Ice		3.66	6.37	565.90	-318.44	-0.19
Wind 180 deg - Ice		0.00	7.38	656.29	10.83	-0.07
Wind 210 deg - Ice		-3.64	6.33	564.61	339.71	0.07
Wind 240 deg - Ice		-6.52	3.78	332.82	598.93	0.29
Wind 270 deg - Ice		-7.77	-0.00	-8.73	693.29	0.43
Wind 300 deg - Ice		-6.30	-3.66	-339.09	580.17	0.26
Wind 330 deg - Ice		-3.65	-6.34	-582.02	340.64	0.19
Total Weight	40.29			-4.01	4.52	
Wind 0 deg - Service		-0.00	-6.02	-544.24	-0.14	0.07
Wind 30 deg - Service		3.02	-5.27	-474.38	-270.97	-0.07
Wind 60 deg - Service		5.47	-3.18	-283.38	-485.23	-0.24
Wind 90 deg - Service		6.42	0.00	-0.98	-559.92	-0.32
Wind 120 deg - Service		5.26	3.06	272.16	-469.89	-0.25
Wind 150 deg - Service		3.04	5.29	473.60	-272.77	-0.18
Wind 180 deg - Service		0.00	6.14	549.07	-1.11	-0.07
Wind 210 deg - Service		-2.94	5.13	468.48	268.00	0.07
Wind 240 deg - Service		-5.16	3.00	273.24	471.48	0.24
Wind 270 deg - Service		-6.25	-0.00	-1.94	552.14	0.32
Wind 300 deg - Service		-5.15	-3.00	-273.01	465.05	0.25
Wind 330 deg - Service		-2.96	-5.16	-470.90	268.27	0.18

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

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	140 - 135	Pole	Max Tension	14	0.00	0.00	0.00
			Max. Compression	26	-11.09	0.04	-0.01
			Max. Mx	20	-4.29	15.12	-0.00
			Max. My	14	-4.29	0.02	-15.11
			Max. Vy	8	3.78	-15.08	-0.01
			Max. Vx	14	3.78	0.02	-15.11
			Max. Torque	24			0.01
L2	135 - 130	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.92	0.05	0.01
			Max. Mx	20	-4.60	35.06	0.01
			Max. My	14	-4.60	0.02	-35.06
			Max. Vy	8	4.16	-35.02	0.00
			Max. Vx	14	4.16	0.02	-35.06
			Max. Torque	24			0.01

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L3	130 - 125	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.26	0.06	0.72
			Max. Mx	20	-7.53	78.02	0.17
			Max. My	2	-7.53	0.02	78.33
			Max. Vy	8	9.10	-78.00	0.16
			Max. Vx	14	9.13	0.01	-78.01
			Max. Torque	8			0.35
L4	125 - 120	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.02	0.07	0.78
			Max. Mx	20	-7.92	124.40	0.19
			Max. My	2	-7.92	0.03	124.87
			Max. Vy	8	9.46	-124.39	0.17
			Max. Vx	14	9.49	0.01	-124.55
			Max. Torque	8			0.35
L5	120 - 115	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.81	0.09	0.84
			Max. Mx	20	-8.34	172.58	0.21
			Max. My	2	-8.34	0.03	173.21
			Max. Vy	8	9.82	-172.58	0.19
			Max. Vx	14	9.86	0.00	-172.90
			Max. Torque	8			0.35
L6	115 - 110	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.63	0.10	0.89
			Max. Mx	8	-8.78	-222.59	0.20
			Max. My	2	-8.78	0.03	223.37
			Max. Vy	8	10.19	-222.59	0.20
			Max. Vx	14	10.22	-0.01	-223.07
			Max. Torque	8			0.35
L7	110 - 105	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.00	-1.38	4.61
			Max. Mx	8	-12.40	-286.94	1.62
			Max. My	2	-12.39	-0.63	289.30
			Max. Vy	8	13.82	-286.94	1.62
			Max. Vx	14	14.01	-0.83	-285.87
			Max. Torque	22			-1.35
L8	105 - 102	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.59	-1.37	4.66
			Max. Mx	8	-12.73	-328.70	1.57
			Max. My	2	-12.71	-0.56	331.62
			Max. Vy	8	14.04	-328.70	1.57
			Max. Vx	14	14.23	-0.90	-328.20
			Max. Torque	22			-1.35
L9	102 - 101.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.65	-1.36	4.67
			Max. Mx	8	-12.77	-332.21	1.57
			Max. My	2	-12.76	-0.56	335.18
			Max. Vy	20	-14.05	330.64	1.91
			Max. Vx	14	14.25	-0.90	-331.76
			Max. Torque	22			-1.35
L10	101.75 - 96.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.75	-1.22	4.85
			Max. Mx	8	-16.11	-413.43	1.50
			Max. My	2	-16.11	-0.42	417.31
			Max. Vy	20	-17.64	412.17	2.06
			Max. Vx	14	17.83	-0.99	-414.22
			Max. Torque	22			-1.35
L11	96.75 - 91.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.30	-1.13	4.91
			Max. Mx	8	-16.38	-444.25	1.48
			Max. My	2	-16.37	-0.37	448.44
			Max. Vy	20	-17.82	443.18	2.11

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	18.02	-1.01	-445.56
			Max. Torque	22			-1.35
L12	91.75 - 90.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.36	-0.89	5.06
			Max. Mx	8	-17.55	-520.55	1.42
			Max. My	2	-17.55	-0.25	525.46
			Max. Vy	20	-18.32	519.95	2.24
			Max. Vx	14	18.51	-1.07	-523.16
			Max. Torque	22			-1.35
L13	90.75 - 85.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.07	-0.58	5.22
			Max. Mx	8	-18.55	-613.14	1.37
			Max. My	2	-18.56	-0.10	618.50
			Max. Vy	20	-18.93	613.06	2.40
			Max. Vx	14	19.01	-1.14	-616.88
			Max. Torque	20			-1.36
L14	85.75 - 85.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.24	-0.55	5.24
			Max. Mx	8	-18.65	-621.06	1.37
			Max. My	2	-18.66	-0.09	626.43
			Max. Vy	20	-18.97	621.02	2.42
			Max. Vx	14	19.05	-1.14	-624.86
			Max. Torque	20			-1.36
L15	85.33 - 85.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.35	-0.54	5.25
			Max. Mx	8	-18.71	-625.78	1.37
			Max. My	2	-18.72	-0.08	631.16
			Max. Vy	20	-18.99	625.77	2.43
			Max. Vx	14	19.08	-1.15	-629.62
			Max. Torque	20			-1.36
L16	85.08 - 82.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.69	-0.35	5.35
			Max. Mx	20	-19.35	675.23	2.55
			Max. My	2	-19.36	-0.00	680.48
			Max. Vy	20	-19.31	675.23	2.55
			Max. Vx	14	19.43	-1.18	-679.26
			Max. Torque	20			-1.36
L17	82.5 - 82.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.82	-0.33	5.37
			Max. Mx	20	-19.43	680.06	2.56
			Max. My	2	-19.44	0.01	685.30
			Max. Vy	20	-19.33	680.06	2.56
			Max. Vx	14	19.45	-1.18	-684.11
			Max. Torque	20			-1.36
L18	82.25 - 82	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.94	-0.31	5.38
			Max. Mx	20	-19.50	684.89	2.57
			Max. My	2	-19.51	0.01	690.13
			Max. Vy	20	-19.36	684.89	2.57
			Max. Vx	14	19.48	-1.19	-688.97
			Max. Torque	20			-1.36
L19	82 - 81.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.07	-0.29	5.39
			Max. Mx	20	-19.57	689.74	2.58
			Max. My	2	-19.58	0.02	694.96
			Max. Vy	20	-19.39	689.74	2.58
			Max. Vx	14	19.51	-1.19	-693.84
			Max. Torque	20			-1.36
L20	81.75 - 78.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.83	-0.03	5.54
			Max. Mx	20	-20.49	759.90	2.74

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-20.50	0.13	765.02
			Max. Vy	8	19.82	-759.54	1.37
			Max. Vx	14	19.97	-1.24	-764.40
			Max. Torque	20			-1.36
L21	78.17 - 77.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.96	-0.01	5.56
			Max. Mx	20	-20.57	764.86	2.75
			Max. My	2	-20.58	0.14	769.97
			Max. Vy	8	19.85	-764.50	1.38
			Max. Vx	14	19.99	-1.24	-769.39
			Max. Torque	20			-1.36
L22	77.92 - 77.67	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.10	0.01	5.57
			Max. Mx	20	-20.65	769.82	2.77
			Max. My	2	-20.66	0.15	774.93
			Max. Vy	8	19.88	-769.46	1.38
			Max. Vx	14	20.03	-1.24	-774.39
			Max. Torque	20			-1.36
L23	77.67 - 77.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.22	0.02	5.58
			Max. Mx	20	-20.72	774.79	2.78
			Max. My	2	-20.72	0.15	779.90
			Max. Vy	8	19.91	-774.43	1.38
			Max. Vx	14	20.06	-1.25	-779.39
			Max. Torque	20			-1.36
L24	77.42 - 77.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.35	0.04	5.60
			Max. Mx	20	-20.79	779.83	2.79
			Max. My	2	-20.79	0.16	784.93
			Max. Vy	8	19.95	-779.47	1.38
			Max. Vx	14	20.09	-1.25	-784.46
			Max. Torque	20			-1.36
L25	77.167 - 72.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.70	0.37	5.70
			Max. Mx	20	-22.07	880.84	2.95
			Max. My	14	-22.06	-1.31	-886.26
			Max. Vy	8	20.58	-880.70	1.32
			Max. Vx	14	20.66	-1.31	-886.26
			Max. Torque	20			-1.36
L26	72.167 - 67.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.45	0.75	5.38
			Max. Mx	8	-23.52	-985.32	1.03
			Max. My	14	-23.52	-1.37	-991.54
			Max. Vy	8	21.29	-985.32	1.03
			Max. Vx	14	21.36	-1.37	-991.54
			Max. Torque	20			-1.36
L27	67.167 - 66.483	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.82	0.80	5.40
			Max. Mx	8	-23.72	-999.91	1.02
			Max. My	14	-23.72	-1.37	-1006.17
			Max. Vy	8	21.40	-999.91	1.02
			Max. Vx	14	21.45	-1.37	-1006.17
			Max. Torque	22			-1.19
L28	66.483 - 66.233	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.96	0.82	5.41
			Max. Mx	8	-23.79	-1005.26	1.02
			Max. My	14	-23.79	-1.38	-1011.53

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	21.44	-1005.26	1.02
			Max. Vx	14	21.48	-1.38	-1011.53
			Max. Torque	22			-1.19
L29	66.233 - 65.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.36	0.88	5.42
			Max. Mx	8	-23.99	-1021.01	1.01
			Max. My	14	-24.00	-1.38	-1027.30
			Max. Vy	8	21.56	-1021.01	1.01
			Max. Vx	14	21.57	-1.38	-1027.30
			Max. Torque	22			-1.19
L30	65.5 - 65.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.49	0.90	5.43
			Max. Mx	8	-24.06	-1026.40	1.01
			Max. My	14	-24.06	-1.39	-1032.69
			Max. Vy	8	21.60	-1026.40	1.01
			Max. Vx	14	21.60	-1.39	-1032.69
			Max. Torque	22			-1.19
L31	65.25 - 62.67	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.68	1.08	5.49
			Max. Mx	8	-24.70	-1082.55	0.97
			Max. My	14	-24.71	-1.41	-1088.76
			Max. Vy	8	21.97	-1082.55	0.97
			Max. Vx	14	21.90	-1.41	-1088.76
			Max. Torque	20			-1.20
L32	62.67 - 62.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.79	1.09	5.50
			Max. Mx	8	-24.77	-1088.04	0.97
			Max. My	14	-24.78	-1.41	-1094.23
			Max. Vy	8	21.99	-1088.04	0.97
			Max. Vx	14	21.92	-1.41	-1094.23
			Max. Torque	20			-1.20
L33	62.42 - 60	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.91	1.32	5.69
			Max. Mx	8	-25.40	-1141.58	1.00
			Max. My	14	-25.41	-1.39	-1147.52
			Max. Vy	8	22.34	-1141.58	1.00
			Max. Vx	14	22.20	-1.39	-1147.52
			Max. Torque	20			-1.23
L34	60 - 59.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.02	1.35	5.71
			Max. Mx	8	-25.47	-1147.16	1.01
			Max. My	14	-25.48	-1.39	-1153.06
			Max. Vy	8	22.36	-1147.16	1.01
			Max. Vx	14	22.22	-1.39	-1153.06
			Max. Torque	20			-1.24
L35	59.75 - 54.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.38	1.87	6.17
			Max. Mx	8	-26.82	-1260.52	1.10
			Max. My	14	-26.84	-1.33	-1265.39
			Max. Vy	8	23.07	-1260.52	1.10
			Max. Vx	14	22.80	-1.33	-1265.39
			Max. Torque	20			-1.32
L36	54.75 - 53.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.06	2.01	6.30
			Max. Mx	8	-27.18	-1291.27	1.12
			Max. My	14	-27.20	-1.31	-1295.76
			Max. Vy	8	23.27	-1291.27	1.12
			Max. Vx	14	22.97	-1.31	-1295.76
			Max. Torque	20			-1.34
L37	53.42 - 53.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.22	2.04	6.32

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-27.29	-1297.08	1.13
			Max. My	14	-27.31	-1.31	-1301.49
			Max. Vy	8	23.29	-1297.08	1.13
			Max. Vx	14	22.99	-1.31	-1301.49
			Max. Torque	20			-1.34
L38	53.17 - 51.417	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.29	2.23	6.48
			Max. Mx	8	-27.91	-1338.08	1.16
			Max. My	14	-27.94	-1.29	-1341.91
			Max. Vy	8	23.58	-1338.08	1.16
			Max. Vx	14	23.22	-1.29	-1341.91
			Max. Torque	20			-1.36
L39	51.417 - 51.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.42	2.25	6.51
			Max. Mx	8	-28.00	-1343.97	1.17
			Max. My	14	-28.02	-1.28	-1347.71
			Max. Vy	8	23.60	-1343.97	1.17
			Max. Vx	14	23.24	-1.28	-1347.71
			Max. Torque	20			-1.36
L40	51.167 - 46.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.51	2.27	6.53
			Max. Mx	8	-28.05	-1347.91	1.17
			Max. My	14	-28.07	-1.28	-1351.58
			Max. Vy	8	23.62	-1347.91	1.17
			Max. Vx	14	23.27	-1.28	-1351.58
			Max. Torque	20			-1.36
L41	46.5 - 45.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.85	2.83	7.43
			Max. Mx	8	-30.79	-1479.92	1.49
			Max. My	14	-30.81	-1.23	-1481.18
			Max. Vy	8	24.41	-1479.92	1.49
			Max. Vx	14	23.98	-1.23	-1481.18
			Max. Torque	20			-1.53
L42	45.5 - 43.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.01	3.33	7.67
			Max. Mx	8	-31.48	-1524.65	1.60
			Max. My	14	-31.50	-1.02	-1525.16
			Max. Vy	8	24.70	-1524.65	1.60
			Max. Vx	14	24.20	-1.02	-1525.16
			Max. Torque	20			-1.54
L43	43.667 - 43.417	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.18	3.40	7.71
			Max. Mx	8	-31.60	-1530.79	1.62
			Max. My	14	-31.62	-0.99	-1531.19
			Max. Vy	8	24.72	-1530.79	1.62
			Max. Vx	14	24.22	-0.99	-1531.19
			Max. Torque	20			-1.54
L44	43.417 - 43.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.29	3.44	7.73
			Max. Mx	8	-31.67	-1534.90	1.63
			Max. My	14	-31.70	-0.97	-1535.22
			Max. Vy	8	24.74	-1534.90	1.63
			Max. Vx	14	24.24	-0.97	-1535.22
			Max. Torque	20			-1.54
L45	43.25 - 43	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.43	3.51	7.76
			Max. Mx	8	-31.75	-1541.05	1.64
			Max. My	14	-31.78	-0.94	-1541.26
			Max. Vy	8	24.78	-1541.05	1.64

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	24.26	-0.94	-1541.26
			Max. Torque	20			-1.54
L46	43 - 38	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-75.16	4.88	8.44
			Max. Mx	8	-33.37	-1665.84	1.95
			Max. My	14	-33.40	-0.34	-1663.33
			Max. Vy	8	25.44	-1665.84	1.95
			Max. Vx	14	24.75	-0.34	-1663.33
			Max. Torque	20			-1.56
L47	38 - 33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.78	6.28	9.12
			Max. Mx	8	-35.03	-1793.68	2.26
			Max. My	14	-35.06	0.27	-1787.68
			Max. Vy	8	26.02	-1793.68	2.26
			Max. Vx	14	25.19	0.27	-1787.68
			Max. Torque	20			-1.58
L48	33 - 29.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-79.75	7.30	9.59
			Max. Mx	8	-36.28	-1891.45	2.46
			Max. My	14	-36.31	0.73	-1882.39
			Max. Vy	8	26.45	-1891.45	2.46
			Max. Vx	14	25.51	0.73	-1882.39
			Max. Torque	20			-1.59
L49	29.25 - 29	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-79.90	7.37	9.62
			Max. Mx	8	-36.39	-1898.02	2.47
			Max. My	14	-36.42	0.76	-1888.76
			Max. Vy	8	26.46	-1898.02	2.47
			Max. Vx	14	25.52	0.76	-1888.76
			Max. Torque	20			-1.59
L50	29 - 28.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.45	7.60	9.72
			Max. Mx	8	-36.75	-1922.28	2.49
			Max. My	14	-36.77	0.87	-1912.22
			Max. Vy	8	26.58	-1922.28	2.49
			Max. Vx	14	25.61	0.87	-1912.22
			Max. Torque	20			-1.59
L51	28.08 - 27.73	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.67	7.69	9.75
			Max. Mx	8	-36.91	-1931.54	2.51
			Max. My	14	-36.93	0.91	-1921.16
			Max. Vy	8	26.61	-1931.54	2.51
			Max. Vx	14	25.63	0.91	-1921.16
			Max. Torque	20			-1.59
L52	27.73 - 27.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.82	7.75	9.78
			Max. Mx	8	-37.01	-1937.63	2.51
			Max. My	14	-37.03	0.93	-1927.05
			Max. Vy	8	26.64	-1937.63	2.51
			Max. Vx	14	25.66	0.93	-1927.05
			Max. Torque	20			-1.59
L53	27.5 - 24.083	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.11	8.77	10.21
			Max. Mx	8	-38.54	-2028.86	2.67
			Max. My	14	-38.56	1.42	-2015.08
			Max. Vy	8	27.11	-2028.86	2.67
			Max. Vx	14	26.02	1.42	-2015.08
			Max. Torque	20			-1.60
L54	24.083 - 23.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.29	8.85	10.25

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-38.67	-2035.60	2.68
			Max. My	14	-38.69	1.46	-2021.57
			Max. Vy	8	27.13	-2035.60	2.68
			Max. Vx	14	26.04	1.46	-2021.57
			Max. Torque	20			-1.60
L55	23.833 - 22.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.11	9.21	10.40
			Max. Mx	8	-39.22	-2067.11	2.74
			Max. My	14	-39.25	1.64	-2051.92
			Max. Vy	8	27.30	-2067.11	2.74
			Max. Vx	14	26.18	1.64	-2051.92
			Max. Torque	20			-1.61
L56	22.667 - 22.417	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.27	9.29	10.44
			Max. Mx	8	-39.33	-2073.89	2.76
			Max. My	14	-39.36	1.68	-2058.44
			Max. Vy	8	27.32	-2073.89	2.76
			Max. Vx	14	26.19	1.68	-2058.44
			Max. Torque	20			-1.61
L57	22.417 - 18.917	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.40	10.19	10.72
			Max. Mx	8	-40.70	-2169.61	2.87
			Max. My	14	-40.72	2.10	-2150.50
			Max. Vy	8	27.68	-2169.61	2.87
			Max. Vx	14	26.54	2.10	-2150.50
			Max. Torque	20			-1.61
L58	18.917 - 18.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.55	10.24	10.73
			Max. Mx	8	-40.81	-2176.50	2.87
			Max. My	14	-40.83	2.12	-2157.13
			Max. Vy	8	27.69	-2176.50	2.87
			Max. Vx	14	26.55	2.12	-2157.13
			Max. Torque	20			-1.61
L59	18.667 - 18.083	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.89	10.36	10.74
			Max. Mx	8	-41.02	-2192.62	2.88
			Max. My	14	-41.04	2.17	-2172.63
			Max. Vy	8	27.75	-2192.62	2.88
			Max. Vx	14	26.61	2.17	-2172.63
			Max. Torque	20			-1.61
L60	18.083 - 17.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.05	10.41	10.75
			Max. Mx	8	-41.14	-2199.53	2.88
			Max. My	14	-41.16	2.20	-2179.28
			Max. Vy	8	27.77	-2199.53	2.88
			Max. Vx	14	26.63	2.20	-2179.28
			Max. Torque	20			-1.61
L61	17.833 - 14.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.46	11.04	10.75
			Max. Mx	8	-42.76	-2304.16	2.88
			Max. My	14	-42.77	2.44	-2279.83
			Max. Vy	8	28.18	-2304.16	2.88
			Max. Vx	14	27.02	2.44	-2279.83
			Max. Torque	20			-1.61
L62	14.08 - 13.83	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-89.61	11.07	10.75
			Max. Mx	8	-42.87	-2311.19	2.88
			Max. My	14	-42.88	2.45	-2286.58
			Max. Vy	8	28.19	-2311.19	2.88
			Max. Vx	14	27.03	2.45	-2286.58
			Max. Torque	20			-1.61
L63	13.83 - 8.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-92.58	11.81	10.77
			Max. Mx	8	-44.91	-2452.99	2.84
			Max. My	14	-44.92	2.73	-2422.83
			Max. Vy	8	28.70	-2452.99	2.84
			Max. Vx	14	27.52	2.73	-2422.83
			Max. Torque	20			-1.61
L64	8.83 - 3.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.64	12.53	10.84
			Max. Mx	8	-47.02	-2597.37	2.80
			Max. My	14	-47.02	3.01	-2561.53
			Max. Vy	8	29.24	-2597.37	2.80
			Max. Vx	14	28.03	3.01	-2561.53
			Max. Torque	20			-1.61
L65	3.83 - 3.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.98	12.61	10.85
			Max. Mx	8	-47.27	-2614.29	2.79
			Max. My	14	-47.27	3.04	-2577.79
			Max. Vy	8	29.29	-2614.29	2.79
			Max. Vx	14	28.08	3.04	-2577.79
			Max. Torque	20			-1.61
L66	3.25 - 3	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.12	12.65	10.85
			Max. Mx	8	-47.37	-2621.60	2.79
			Max. My	14	-47.37	3.05	-2584.81
			Max. Vy	8	29.31	-2621.60	2.79
			Max. Vx	14	28.10	3.05	-2584.81
			Max. Torque	20			-1.61
L67	3 - 2.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.57	12.76	10.86
			Max. Mx	8	-47.68	-2645.89	2.78
			Max. My	14	-47.69	3.10	-2608.15
			Max. Vy	8	29.40	-2645.89	2.78
			Max. Vx	14	28.19	3.10	-2608.15
			Max. Torque	20			-1.61
L68	2.17 - 1.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.68	12.80	10.87
			Max. Mx	8	-47.77	-2653.22	2.78
			Max. My	14	-47.77	3.12	-2615.19
			Max. Vy	8	29.42	-2653.22	2.78
			Max. Vx	14	28.20	3.12	-2615.19
			Max. Torque	20			-1.61
L69	1.92 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-97.47	13.01	10.90
			Max. Mx	8	-48.32	-2709.72	2.76
			Max. My	14	-48.32	3.19	-2669.39
			Max. Vy	8	29.61	-2709.72	2.76
			Max. Vx	14	28.34	3.19	-2669.39
			Max. Torque	20			-1.61

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	36	97.47	7.77	0.00
	Max. H_x	20	48.35	28.79	0.02
	Max. H_z	2	48.35	0.02	27.73
	Max. M_x	2	2642.64	0.02	27.73
	Max. M_z	8	2709.72	-29.56	-0.02
	Max. Torsion	8	1.61	-29.56	-0.02
	Min. Vert	17	36.26	13.54	-23.64
	Min. H_x	8	48.35	-29.56	-0.02
	Min. H_z	14	48.35	-0.02	-28.29
	Min. M_x	14	-2669.39	-0.02	-28.29
	Min. M_z	20	-2690.01	28.79	0.02
	Min. Torsion	20	-1.61	28.79	0.02

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	40.29	-0.00	-0.00	-4.15	4.54	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	48.35	-0.02	-27.73	-2642.64	7.89	0.37
0.9 Dead+1.0 Wind 0 deg - No Ice	36.26	-0.02	-27.73	-2604.48	6.45	0.35
1.2 Dead+1.0 Wind 30 deg - No Ice	48.35	13.92	-24.30	-2303.02	-1308.06	-0.34
0.9 Dead+1.0 Wind 30 deg - No Ice	36.26	13.92	-24.30	-2269.65	-1291.16	-0.34
1.2 Dead+1.0 Wind 60 deg - No Ice	48.35	25.21	-14.64	-1374.20	-2347.81	-1.19
0.9 Dead+1.0 Wind 60 deg - No Ice	36.26	25.21	-14.64	-1353.96	-2316.73	-1.16
1.2 Dead+1.0 Wind 90 deg - No Ice	48.35	29.56	0.02	-2.76	-2709.72	-1.61
0.9 Dead+1.0 Wind 90 deg - No Ice	36.26	29.56	0.02	-1.46	-2673.88	-1.56
1.2 Dead+1.0 Wind 120 deg - No Ice	48.35	24.23	14.10	1324.26	-2274.30	-1.32
0.9 Dead+1.0 Wind 120 deg - No Ice	36.26	24.23	14.10	1307.11	-2244.02	-1.27
1.2 Dead+1.0 Wind 150 deg - No Ice	48.35	13.99	24.39	2302.97	-1316.64	-0.97
0.9 Dead+1.0 Wind 150 deg - No Ice	36.26	13.99	24.39	2272.19	-1299.65	-0.93
1.2 Dead+1.0 Wind 180 deg - No Ice	48.35	0.02	28.29	2669.39	3.19	-0.37
0.9 Dead+1.0 Wind 180 deg - No Ice	36.26	0.02	28.29	2633.57	1.82	-0.35
1.2 Dead+1.0 Wind 210 deg - No Ice	48.35	-13.54	23.64	2278.64	1310.96	0.33
0.9 Dead+1.0 Wind 210 deg - No Ice	36.26	-13.54	23.64	2248.06	1291.32	0.33
1.2 Dead+1.0 Wind 240 deg - No Ice	48.35	-23.80	13.83	1329.74	2299.58	1.18
0.9 Dead+1.0 Wind 240 deg - No Ice	36.26	-23.80	13.83	1312.46	2266.17	1.15
1.2 Dead+1.0 Wind 270 deg -	48.35	-28.79	-0.02	-7.46	2690.01	1.61

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
No Ice						
0.9 Dead+1.0 Wind 270 deg - No Ice	36.26	-28.79	-0.02	-6.08	2651.55	1.57
1.2 Dead+1.0 Wind 300 deg - No Ice	48.35	-23.74	-13.82	-1324.74	2268.51	1.33
0.9 Dead+1.0 Wind 300 deg - No Ice	36.26	-23.74	-13.82	-1304.96	2235.50	1.28
1.2 Dead+1.0 Wind 330 deg - No Ice	48.35	-13.64	-23.78	-2286.55	1312.34	0.98
0.9 Dead+1.0 Wind 330 deg - No Ice	36.26	-13.64	-23.78	-2253.30	1292.66	0.94
1.2 Dead+1.0 Ice+1.0 Temp	97.47	-0.00	-0.00	-10.90	13.01	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	97.47	-0.00	-7.32	-771.68	13.56	0.11
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	97.47	3.65	-6.36	-670.54	-365.06	-0.10
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	97.47	6.66	-3.86	-407.09	-669.38	-0.37
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	97.47	7.91	0.00	-10.48	-776.90	-0.54
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	97.47	6.35	3.69	370.64	-643.24	-0.38
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	97.47	3.66	6.37	649.45	-366.09	-0.28
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	97.47	0.00	7.38	753.30	12.60	-0.11
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	97.47	-3.64	6.33	648.04	390.89	0.10
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	97.47	-6.52	3.78	381.07	688.42	0.37
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	97.47	-7.77	-0.00	-11.44	795.80	0.55
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	97.47	-6.30	-3.66	-391.47	667.52	0.39
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	97.47	-3.65	-6.34	-670.85	391.96	0.29
Dead+Wind 0 deg - Service	40.29	-0.00	-6.02	-572.05	5.11	0.08
Dead+Wind 30 deg - Service	40.29	3.02	-5.27	-498.94	-278.20	-0.07
Dead+Wind 60 deg - Service	40.29	5.47	-3.18	-299.01	-502.11	-0.26
Dead+Wind 90 deg - Service	40.29	6.42	0.00	-3.72	-580.04	-0.35
Dead+Wind 120 deg - Service	40.29	5.26	3.06	281.97	-486.22	-0.28
Dead+Wind 150 deg - Service	40.29	3.04	5.29	492.68	-280.06	-0.21
Dead+Wind 180 deg - Service	40.29	0.00	6.14	571.58	4.09	-0.08
Dead+Wind 210 deg - Service	40.29	-2.94	5.13	487.42	285.63	0.07
Dead+Wind 240 deg - Service	40.29	-5.16	3.00	283.15	498.48	0.26
Dead+Wind 270 deg - Service	40.29	-6.25	-0.00	-4.73	582.58	0.35
Dead+Wind 300 deg - Service	40.29	-5.15	-3.00	-288.32	491.77	0.28
Dead+Wind 330 deg - Service	40.29	-2.96	-5.16	-495.38	285.93	0.21

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-40.29	0.00	0.00	40.29	0.00	0.000%
2	-0.02	-48.35	-27.73	0.02	48.35	27.73	0.000%
3	-0.02	-36.26	-27.73	0.02	36.26	27.73	0.000%
4	13.92	-48.35	-24.30	-13.92	48.35	24.30	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
5	13.92	-36.26	-24.30	-13.92	36.26	24.30	0.000%
6	25.21	-48.35	-14.64	-25.21	48.35	14.64	0.000%
7	25.21	-36.26	-14.64	-25.21	36.26	14.64	0.000%
8	29.56	-48.35	0.02	-29.56	48.35	-0.02	0.000%
9	29.56	-36.26	0.02	-29.56	36.26	-0.02	0.000%
10	24.23	-48.35	14.10	-24.23	48.35	-14.10	0.000%
11	24.23	-36.26	14.10	-24.23	36.26	-14.10	0.000%
12	13.99	-48.35	24.39	-13.99	48.35	-24.39	0.000%
13	13.99	-36.26	24.39	-13.99	36.26	-24.39	0.000%
14	0.02	-48.35	28.29	-0.02	48.35	-28.29	0.000%
15	0.02	-36.26	28.29	-0.02	36.26	-28.29	0.000%
16	-13.54	-48.35	23.64	13.54	48.35	-23.64	0.000%
17	-13.54	-36.26	23.64	13.54	36.26	-23.64	0.000%
18	-23.80	-48.35	13.83	23.80	48.35	-13.83	0.000%
19	-23.80	-36.26	13.83	23.80	36.26	-13.83	0.000%
20	-28.79	-48.35	-0.02	28.79	48.35	0.02	0.000%
21	-28.79	-36.26	-0.02	28.79	36.26	0.02	0.000%
22	-23.74	-48.35	-13.82	23.74	48.35	13.82	0.000%
23	-23.74	-36.26	-13.82	23.74	36.26	13.82	0.000%
24	-13.64	-48.35	-23.78	13.64	48.35	23.78	0.000%
25	-13.64	-36.26	-23.78	13.64	36.26	23.78	0.000%
26	0.00	-97.47	0.00	0.00	97.47	0.00	0.000%
27	-0.00	-97.47	-7.32	0.00	97.47	7.32	0.000%
28	3.65	-97.47	-6.36	-3.65	97.47	6.36	0.000%
29	6.66	-97.47	-3.86	-6.66	97.47	3.86	0.000%
30	7.91	-97.47	0.00	-7.91	97.47	-0.00	0.000%
31	6.35	-97.47	3.69	-6.35	97.47	-3.69	0.000%
32	3.66	-97.47	6.37	-3.66	97.47	-6.37	0.000%
33	0.00	-97.47	7.38	-0.00	97.47	-7.38	0.000%
34	-3.64	-97.47	6.33	3.64	97.47	-6.33	0.000%
35	-6.52	-97.47	3.78	6.52	97.47	-3.78	0.000%
36	-7.77	-97.47	-0.00	7.77	97.47	0.00	0.000%
37	-6.30	-97.47	-3.66	6.30	97.47	3.66	0.000%
38	-3.65	-97.47	-6.34	3.65	97.47	6.34	0.000%
39	-0.00	-40.29	-6.02	0.00	40.29	6.02	0.000%
40	3.02	-40.29	-5.27	-3.02	40.29	5.27	0.000%
41	5.47	-40.29	-3.18	-5.47	40.29	3.18	0.000%
42	6.42	-40.29	0.00	-6.42	40.29	-0.00	0.000%
43	5.26	-40.29	3.06	-5.26	40.29	-3.06	0.000%
44	3.04	-40.29	5.29	-3.04	40.29	-5.29	0.000%
45	0.00	-40.29	6.14	-0.00	40.29	-6.14	0.000%
46	-2.94	-40.29	5.13	2.94	40.29	-5.13	0.000%
47	-5.16	-40.29	3.00	5.16	40.29	-3.00	0.000%
48	-6.25	-40.29	-0.00	6.25	40.29	0.00	0.000%
49	-5.15	-40.29	-3.00	5.15	40.29	3.00	0.000%
50	-2.96	-40.29	-5.16	2.96	40.29	5.16	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00002744
2	Yes	5	0.00000001	0.00084878
3	Yes	5	0.00000001	0.00033990
4	Yes	7	0.00000001	0.00024959
5	Yes	7	0.00000001	0.00006040

6	Yes	7	0.00000001	0.00026772
7	Yes	7	0.00000001	0.00006443
8	Yes	6	0.00000001	0.00021000
9	Yes	6	0.00000001	0.00007014
10	Yes	7	0.00000001	0.00024210
11	Yes	7	0.00000001	0.00005866
12	Yes	7	0.00000001	0.00025598
13	Yes	7	0.00000001	0.00006216
14	Yes	5	0.00000001	0.00099024
15	Yes	5	0.00000001	0.00042052
16	Yes	7	0.00000001	0.00025059
17	Yes	7	0.00000001	0.00006092
18	Yes	7	0.00000001	0.00024840
19	Yes	7	0.00000001	0.00006000
20	Yes	6	0.00000001	0.00022743
21	Yes	6	0.00000001	0.00007633
22	Yes	7	0.00000001	0.00025723
23	Yes	7	0.00000001	0.00006256
24	Yes	7	0.00000001	0.00024663
25	Yes	7	0.00000001	0.00005965
26	Yes	5	0.00000001	0.00080483
27	Yes	8	0.00000001	0.00022879
28	Yes	8	0.00000001	0.00028130
29	Yes	8	0.00000001	0.00029429
30	Yes	8	0.00000001	0.00022654
31	Yes	8	0.00000001	0.00026979
32	Yes	8	0.00000001	0.00027223
33	Yes	8	0.00000001	0.00022053
34	Yes	8	0.00000001	0.00027588
35	Yes	8	0.00000001	0.00028268
36	Yes	8	0.00000001	0.00022876
37	Yes	8	0.00000001	0.00028723
38	Yes	8	0.00000001	0.00028639
39	Yes	5	0.00000001	0.00013806
40	Yes	5	0.00000001	0.00066437
41	Yes	5	0.00000001	0.00076725
42	Yes	5	0.00000001	0.00019282
43	Yes	5	0.00000001	0.00061294
44	Yes	5	0.00000001	0.00070017
45	Yes	5	0.00000001	0.00013709
46	Yes	5	0.00000001	0.00067191
47	Yes	5	0.00000001	0.00063735
48	Yes	5	0.00000001	0.00019474
49	Yes	5	0.00000001	0.00073141
50	Yes	5	0.00000001	0.00065049

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	140 - 135	21.8149	41	1.4022	0.0030
L2	135 - 130	20.3480	41	1.3982	0.0030
L3	130 - 125	18.8906	41	1.3842	0.0030
L4	125 - 120	17.4534	41	1.3580	0.0029
L5	120 - 115	16.0521	41	1.3167	0.0027
L6	115 - 110	14.7000	41	1.2645	0.0025
L7	110 - 105	13.4067	41	1.2046	0.0024
L8	105 - 102	12.1798	41	1.1372	0.0021
L9	102 - 101.75	11.4792	41	1.0927	0.0019

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L10	101.75 - 96.75	11.4221	41	1.0903	0.0019
L11	96.75 - 91.75	10.3075	41	1.0379	0.0016
L12	95 - 90.75	9.9306	41	1.0184	0.0016
L13	90.75 - 85.75	9.0365	41	0.9847	0.0014
L14	85.75 - 85.33	8.0419	41	0.9145	0.0012
L15	85.33 - 85.08	7.9617	41	0.9085	0.0012
L16	85.08 - 82.5	7.9142	41	0.9051	0.0012
L17	82.5 - 82.25	7.4349	41	0.8688	0.0011
L18	82.25 - 82	7.3895	41	0.8663	0.0011
L19	82 - 81.75	7.3442	41	0.8638	0.0011
L20	81.75 - 78.17	7.2991	41	0.8613	0.0011
L21	78.17 - 77.92	6.6664	41	0.8262	0.0010
L22	77.92 - 77.67	6.6232	41	0.8241	0.0010
L23	77.67 - 77.42	6.5801	41	0.8220	0.0010
L24	77.42 - 77.167	6.5371	41	0.8194	0.0010
L25	77.167 - 72.167	6.4938	41	0.8168	0.0010
L26	72.167 - 67.167	5.6664	41	0.7633	0.0009
L27	67.167 - 66.483	4.8953	41	0.7093	0.0008
L28	66.483 - 66.233	4.7942	41	0.7032	0.0008
L29	66.233 - 65.5	4.7574	41	0.7009	0.0008
L30	65.5 - 65.25	4.6503	41	0.6944	0.0008
L31	65.25 - 62.67	4.6140	41	0.6916	0.0008
L32	62.67 - 62.42	4.2479	41	0.6636	0.0007
L33	62.42 - 60	4.2132	41	0.6608	0.0007
L34	60 - 59.75	3.8851	41	0.6341	0.0007
L35	59.75 - 54.75	3.8519	41	0.6314	0.0007
L36	54.75 - 53.42	3.2200	41	0.5756	0.0006
L37	53.42 - 53.17	3.0617	41	0.5610	0.0006
L38	53.17 - 51.417	3.0324	41	0.5589	0.0006
L39	51.417 - 51.167	2.8298	41	0.5447	0.0006
L40	51.167 - 46.5	2.8013	41	0.5420	0.0006
L41	51 - 45.5	2.7824	41	0.5402	0.0006
L42	45.5 - 43.667	2.1776	41	0.5054	0.0005
L43	43.667 - 43.417	1.9872	41	0.4863	0.0005
L44	43.417 - 43.25	1.9618	41	0.4839	0.0005
L45	43.25 - 43	1.9449	41	0.4823	0.0005
L46	43 - 38	1.9198	41	0.4785	0.0005
L47	38 - 33	1.4585	41	0.4025	0.0004
L48	33 - 29.25	1.0763	41	0.3276	0.0003
L49	29.25 - 29	0.8409	41	0.2720	0.0002
L50	29 - 28.08	0.8268	41	0.2691	0.0002
L51	28.08 - 27.73	0.7759	41	0.2584	0.0002
L52	27.73 - 27.5	0.7571	41	0.2553	0.0002
L53	27.5 - 24.083	0.7449	41	0.2533	0.0002
L54	24.083 - 23.833	0.5743	41	0.2234	0.0002
L55	23.833 - 22.667	0.5627	41	0.2213	0.0002
L56	22.667 - 22.417	0.5098	41	0.2114	0.0002
L57	22.417 - 18.917	0.4988	41	0.2088	0.0002
L58	18.917 - 18.667	0.3591	41	0.1725	0.0001
L59	18.667 - 18.083	0.3501	41	0.1700	0.0001
L60	18.083 - 17.833	0.3297	41	0.1640	0.0001
L61	17.833 - 14.08	0.3211	41	0.1619	0.0001
L62	14.08 - 13.83	0.2061	41	0.1307	0.0001
L63	13.83 - 8.83	0.1993	41	0.1286	0.0001
L64	8.83 - 3.83	0.0870	41	0.0861	0.0001
L65	3.83 - 3.25	0.0192	41	0.0435	0.0000
L66	3.25 - 3	0.0142	41	0.0387	0.0000
L67	3 - 2.17	0.0122	41	0.0364	0.0000
L68	2.17 - 1.92	0.0065	41	0.0288	0.0000
L69	1.92 - 0	0.0051	41	0.0254	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
140.00	Lightning Rod	41	21.8149	1.4022	0.0030	30940
139.00	APXV9ERR18-C-A20	41	21.5212	1.4018	0.0030	30940
137.00	PCS 1900MHz 4x45W-65MHz	41	20.9341	1.4006	0.0030	30940
135.00	Detuning Arm	41	20.3480	1.3982	0.0030	30940
130.00	RRUS 11	41	18.8906	1.3842	0.0030	14828
128.00	7770.00 w/ Mount Pipe	41	18.3125	1.3754	0.0030	11437
108.00	(2) SBNHH-1D65B w/ Mount Pipe	41	12.9075	1.1797	0.0023	4275
100.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	41	11.0257	1.0730	0.0018	5049
85.00	Detuning Arm	41	7.8990	0.9039	0.0012	4204
70.00	KS24019-L112A	41	5.3253	0.7387	0.0008	5399
49.00	KS24019-L112A	41	2.5579	0.5253	0.0005	8395
6.00	Detuning Arm	41	0.0431	0.0617	0.0000	6563

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	140 - 135	101.1681	6	6.5137	0.0141
L2	135 - 130	94.3783	6	6.4947	0.0141
L3	130 - 125	87.6332	6	6.4285	0.0141
L4	125 - 120	80.9819	6	6.3064	0.0135
L5	120 - 115	74.4962	6	6.1134	0.0127
L6	115 - 110	68.2379	6	5.8703	0.0119
L7	110 - 105	62.2517	6	5.5908	0.0112
L8	105 - 102	56.5716	6	5.2793	0.0098
L9	102 - 101.75	53.3260	6	5.0746	0.0087
L10	101.75 - 96.75	53.0612	6	5.0633	0.0086
L11	96.75 - 91.75	47.8947	6	4.8218	0.0076
L12	95 - 90.75	46.1473	6	4.7319	0.0072
L13	90.75 - 85.75	42.0004	6	4.5760	0.0067
L14	85.75 - 85.33	37.3852	6	4.2511	0.0057
L15	85.33 - 85.08	37.0131	6	4.2233	0.0057
L16	85.08 - 82.5	36.7927	6	4.2072	0.0056
L17	82.5 - 82.25	34.5679	6	4.0392	0.0052
L18	82.25 - 82	34.3570	6	4.0275	0.0052
L19	82 - 81.75	34.1468	6	4.0158	0.0051
L20	81.75 - 78.17	33.9371	6	4.0046	0.0051
L21	78.17 - 77.92	30.9993	6	3.8418	0.0047
L22	77.92 - 77.67	30.7987	6	3.8320	0.0047
L23	77.67 - 77.42	30.5986	6	3.8222	0.0047
L24	77.42 - 77.167	30.3990	6	3.8102	0.0046
L25	77.167 - 72.167	30.1977	6	3.7981	0.0046
L26	72.167 - 67.167	26.3545	6	3.5501	0.0041
L27	67.167 - 66.483	22.7718	6	3.2992	0.0037
L28	66.483 - 66.233	22.3016	6	3.2708	0.0036
L29	66.233 - 65.5	22.1308	6	3.2603	0.0036
L30	65.5 - 65.25	21.6331	6	3.2299	0.0036
L31	65.25 - 62.67	21.4645	6	3.2173	0.0036
L32	62.67 - 62.42	19.7627	6	3.0868	0.0034

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L33	62.42 - 60	19.6015	6	3.0742	0.0034
L34	60 - 59.75	18.0760	6	2.9502	0.0032
L35	59.75 - 54.75	17.9220	6	2.9373	0.0032
L36	54.75 - 53.42	14.9838	6	2.6782	0.0028
L37	53.42 - 53.17	14.2477	6	2.6102	0.0027
L38	53.17 - 51.417	14.1113	6	2.6007	0.0027
L39	51.417 - 51.167	13.1691	6	2.5348	0.0026
L40	51.167 - 46.5	13.0368	6	2.5222	0.0026
L41	51 - 45.5	12.9488	6	2.5138	0.0026
L42	45.5 - 43.667	10.1356	6	2.3520	0.0024
L43	43.667 - 43.417	9.2500	6	2.2631	0.0023
L44	43.417 - 43.25	9.1319	6	2.2520	0.0023
L45	43.25 - 43	9.0533	6	2.2446	0.0023
L46	43 - 38	8.9363	6	2.2269	0.0022
L47	38 - 33	6.7902	6	1.8739	0.0018
L48	33 - 29.25	5.0114	6	1.5251	0.0014
L49	29.25 - 29	3.9154	6	1.2666	0.0011
L50	29 - 28.08	3.8494	6	1.2529	0.0011
L51	28.08 - 27.73	3.6128	6	1.2032	0.0011
L52	27.73 - 27.5	3.5252	6	1.1889	0.0011
L53	27.5 - 24.083	3.4681	6	1.1795	0.0010
L54	24.083 - 23.833	2.6740	6	1.0402	0.0009
L55	23.833 - 22.667	2.6198	6	1.0303	0.0009
L56	22.667 - 22.417	2.3738	6	0.9845	0.0008
L57	22.417 - 18.917	2.3226	6	0.9723	0.0008
L58	18.917 - 18.667	1.6718	6	0.8035	0.0007
L59	18.667 - 18.083	1.6301	6	0.7915	0.0007
L60	18.083 - 17.833	1.5350	6	0.7636	0.0006
L61	17.833 - 14.08	1.4952	6	0.7541	0.0006
L62	14.08 - 13.83	0.9597	6	0.6087	0.0005
L63	13.83 - 8.83	0.9281	6	0.5988	0.0005
L64	8.83 - 3.83	0.4050	6	0.4009	0.0003
L65	3.83 - 3.25	0.0892	6	0.2027	0.0002
L66	3.25 - 3	0.0660	6	0.1800	0.0001
L67	3 - 2.17	0.0568	6	0.1694	0.0001
L68	2.17 - 1.92	0.0305	6	0.1340	0.0001
L69	1.92 - 0	0.0239	6	0.1183	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
140.00	Lightning Rod	6	101.1681	6.5137	0.0141	6782
139.00	APXV9ERR18-C-A20	6	99.8087	6.5118	0.0141	6782
137.00	PCS 1900MHz 4x45W-65MHz	6	97.0913	6.5061	0.0141	6782
135.00	Detuning Arm	6	94.3783	6.4947	0.0141	6782
130.00	RRUS 11	6	87.6332	6.4285	0.0141	3243
128.00	7770.00 w/ Mount Pipe	6	84.9577	6.3875	0.0140	2509
108.00	(2) SBNHH-1D65B w/ Mount Pipe	6	59.9409	5.4754	0.0107	941
100.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	6	51.2242	4.9837	0.0082	1113
85.00	Detuning Arm	6	36.7224	4.2020	0.0056	919
70.00	KS24019-L112A	6	24.7698	3.4356	0.0039	1173
49.00	KS24019-L112A	6	11.9045	2.4447	0.0025	1814
6.00	Detuning Arm	6	0.2009	0.2872	0.0002	1410

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	140 - 139	TP17.025x16x0.25	5.00	0.00	0.0	12.844	-0.17	693.56	0.000
	139 - 138					13.009	-3.69	702.47	0.005
	138 - 137					13.174	-3.74	711.38	0.005
	137 - 136					13.339	-4.24	720.29	0.006
	136 - 135					13.504	-4.29	729.20	0.006
L2	135 - 134	TP18.05x17.025x0.25	5.00	0.00	0.0	13.669	-4.38	738.11	0.006
	134 - 133					13.834	-4.43	747.02	0.006
	133 - 132					13.999	-4.49	755.93	0.006
	132 - 131					14.164	-4.55	764.85	0.006
	131 - 130					14.329	-4.60	773.76	0.006
L3	130 - 129	TP19.075x18.05x0.25	5.00	0.00	0.0	14.494	-5.04	782.66	0.006
	129 - 128					14.659	-5.11	791.58	0.006
	128 - 127					14.824	-7.39	800.49	0.009
	127 - 126					14.989	-7.46	809.40	0.009
	126 - 125					15.154	-7.53	818.31	0.009
L4	125 - 124	TP20.099x19.075x0.25	5.00	0.00	0.0	15.319	-7.60	827.22	0.009
	124 - 123					15.484	-7.68	836.13	0.009
	123 - 122					15.649	-7.76	845.04	0.009
	122 - 121					15.814	-7.84	853.95	0.009
	121 - 120					15.979	-7.92	862.86	0.009
L5	120 - 119	TP21.124x20.099x0.25	5.00	0.00	0.0	16.144	-8.00	871.77	0.009
	119 - 118					16.309	-8.08	880.68	0.009
	118 - 117					16.474	-8.17	889.59	0.009
	117 - 116					16.639	-8.25	898.50	0.009
	116 - 115					16.804	-8.34	907.41	0.009
L6	115 - 114	TP22.149x21.124x0.25	5.00	0.00	0.0	16.969	-8.42	916.32	0.009
	114 - 113					17.134	-8.51	925.23	0.009
	113 - 112					17.299	-8.60	934.14	0.009
	112 - 111					17.464	-8.69	943.05	0.009
	111 - 110					17.629	-8.78	951.96	0.009
L7	110 - 109	TP23.174x22.149x0.25	5.00	0.00	0.0	17.794	-8.88	960.87	0.009
	109 - 108					17.959	-8.97	969.78	0.009
	108 - 107					18.124	-12.18	978.69	0.012
	107 - 106					18.289	-12.28	987.60	0.012
	106 - 105					18.454	-12.39	996.51	0.012
L8	105 - 104	TP23.789x23.174x0.25	3.00	0.00	0.0	18.619	-12.49	1005.42	0.012
	104 - 103					18.784	-12.60	1014.33	0.012
	103 - 102					18.949	-12.71	1023.24	0.012
L9	102 - 101.75 (9)	TP23.84x23.789x0.394	0.25	0.00	0.0	29.727	-12.76	1605.27	0.008
L10	101.75 - 100.75	TP24.865x23.84x0.388	5.00	0.00	0.0	29.519	-12.90	1594.02	0.008
	100.75 - 99.75					29.775	-15.65	1607.83	0.010
	99.75 - 98.75					30.030	-15.80	1621.64	0.010
	98.75 - 97.75					30.286	-15.95	1635.46	0.010
	97.75 - 96.75					30.542	-16.11	1649.27	0.010
L11	96.75 - 95	TP25.89x24.865x0.388	5.00	0.00	0.0	30.990	-16.37	1673.44	0.010
	95 - 91.75					31.821	-9.10	1718.32	0.005
L12	95 - 91.75	TP25.595x24.724x0.356	4.25	0.00	0.0	28.717	-8.25	1679.95	0.005

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	91.75 - 90.75					28.952	-17.55	1693.70	0.010
L13	90.75 - 89.75	TP26.62x25.595x0.356	5.00	0.00	0.0	29.187	-17.74	1707.46	0.010
	89.75 - 88.75					29.423	-17.94	1721.22	0.010
	88.75 - 87.75					29.658	-18.14	1734.98	0.010
	87.75 - 86.75					29.893	-18.31	1748.74	0.010
	86.75 - 85.75					30.128	-18.51	1762.50	0.011
L14	85.75 - 85.33 (14)	TP26.706x26.62x0.356	0.42	0.00	0.0	30.227	-18.61	1768.27	0.011
L15	85.33 - 85.08 (15)	TP26.758x26.706x0.369	0.25	0.00	0.0	31.333	-18.68	1833.01	0.010
L16	85.08 - 83.79	TP27.287x26.758x0.369	2.58	0.00	0.0	31.648	-19.00	1851.38	0.010
	83.79 - 82.5					31.962	-19.31	1869.75	0.010
L17	82.5 - 82.25 (17)	TP27.338x27.287x0.525	0.25	0.00	0.0	45.327	-19.40	2651.64	0.007
L18	82.25 - 82 (18)	TP27.389x27.338x0.525	0.25	0.00	0.0	45.414	-19.47	2656.71	0.007
L19	82 - 81.75 (19)	TP27.44x27.389x0.55	0.25	0.00	0.0	47.623	-19.53	2785.94	0.007
L20	81.75 - 80.5567	TP28.174x27.44x0.55	3.58	0.00	0.0	48.056	-19.83	2811.29	0.007
	80.5567 - 79.3633					48.489	-20.14	2836.63	0.007
	79.3633 - 78.17					48.923	-20.45	2861.98	0.007
L21	78.17 - 77.92 (21)	TP28.226x28.174x0.65	0.25	0.00	0.0	57.716	-20.53	3376.37	0.006
L22	77.92 - 77.67 (22)	TP28.277x28.226x0.65	0.25	0.00	0.0	57.823	-20.60	3382.65	0.006
L23	77.67 - 77.42 (23)	TP28.328x28.277x0.525	0.25	0.00	0.0	47.001	-20.67	2749.57	0.008
L24	77.42 - 77.167 (24)	TP28.38x28.328x0.525	0.25	0.00	0.0	47.089	-20.74	2754.70	0.008
L25	77.167 - 76.167	TP29.406x28.38x0.513	5.00	0.00	0.0	46.327	-20.99	2710.12	0.008
	76.167 - 75.167					46.665	-21.24	2729.92	0.008
	75.167 - 74.167					47.004	-21.50	2749.72	0.008
	74.167 - 73.167					47.342	-21.75	2769.52	0.008
	73.167 - 72.167					47.681	-22.01	2789.32	0.008
L26	72.167 - 71.167	TP30.431x29.406x0.513	5.00	0.00	0.0	48.019	-22.27	2809.12	0.008
	71.167 - 70.167					48.358	-22.53	2828.92	0.008
	70.167 - 69.167					48.696	-22.95	2848.73	0.008
	69.167 - 68.167					49.035	-23.21	2868.53	0.008
	68.167 - 67.167					49.373	-23.47	2888.33	0.008
L27	67.167 - 66.483 (27)	TP30.571x30.431x0.625	0.68	0.00	0.0	60.267	-23.67	3525.62	0.007
L28	66.483 - 66.233 (28)	TP30.623x30.571x0.625	0.25	0.00	0.0	60.370	-23.74	3531.66	0.007
L29	66.233 - 65.5 (29)	TP30.773x30.623x0.625	0.73	0.00	0.0	60.673	-23.94	3549.36	0.007
L30	65.5 - 65.25 (30)	TP30.824x30.773x0.513	0.25	0.00	0.0	50.022	-24.01	2926.29	0.008
L31	65.25 - 63.96	TP31.353x30.824x0.513	2.58	0.00	0.0	50.459	-24.33	2951.83	0.008
	63.96 - 62.67					50.895	-24.65	2977.37	0.008

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L32	62.67 - 62.42 (32)	TP31.405x31.353x0.513	0.25	0.00	0.0	50.980	-24.73	2982.32	0.008
L33	62.42 - 61.21	TP31.901x31.405x0.506	2.42	0.00	0.0	50.773	-25.04	2970.22	0.008
	61.21 - 60					51.178	-25.36	2993.88	0.008
L34	60 - 59.75 (34)	TP31.952x31.901x0.5	0.25	0.00	0.0	50.638	-25.44	2962.34	0.009
L35	59.75 - 58.75	TP32.978x31.952x0.5	5.00	0.00	0.0	50.968	-25.70	2981.66	0.009
	58.75 - 57.75					51.299	-25.97	3000.97	0.009
	57.75 - 56.75					51.629	-26.24	3020.29	0.009
	56.75 - 55.75					51.959	-26.52	3039.61	0.009
	55.75 - 54.75					52.289	-26.79	3058.93	0.009
L36	54.75 - 53.42 (36)	TP33.251x32.978x0.5	1.33	0.00	0.0	52.729	-27.16	3084.62	0.009
L37	53.42 - 53.17 (37)	TP33.302x33.251x0.688	0.25	0.00	0.0	72.200	-27.26	4223.71	0.006
L38	53.17 - 51.417 (38)	TP33.661x33.302x0.688	1.75	0.00	0.0	72.996	-27.89	4270.28	0.007
L39	51.417 - 51.167 (39)	TP33.713x33.661x0.513	0.25	0.00	0.0	54.789	-27.98	3205.14	0.009
L40	51.167 - 51	TP34.67x33.713x0.513	4.67	0.00	0.0	54.845	-28.03	3208.45	0.009
	51 - 46.5					56.368	-14.94	3297.55	0.005
L41	51 - 46.5	TP34.25x33.122x0.55	5.50	0.00	0.0	59.319	-15.52	3470.18	0.004
	46.5 - 45.5					59.682	-30.77	3491.42	0.009
L42	45.5 - 43.667 (42)	TP34.626x34.25x0.55	1.83	0.00	0.0	60.348	-31.46	3530.36	0.009
L43	43.667 - 43.417 (43)	TP34.677x34.626x0.613	0.25	0.00	0.0	67.184	-31.59	3930.24	0.008
L44	43.417 - 43.25 (44)	TP34.711x34.677x0.613	0.17	0.00	0.0	67.251	-31.66	3934.20	0.008
L45	43.25 - 43 (45)	TP34.762x34.711x0.375	0.25	0.00	0.0	41.523	-31.74	2429.09	0.013
L46	43 - 42	TP35.788x34.762x0.375	5.00	0.00	0.0	41.771	-32.05	2443.57	0.013
	42 - 41					42.018	-32.38	2458.06	0.013
	41 - 40					42.266	-32.71	2472.54	0.013
	40 - 39					42.513	-33.03	2487.03	0.013
	39 - 38					42.761	-33.36	2501.51	0.013
L47	38 - 37	TP36.813x35.788x0.375	5.00	0.00	0.0	43.008	-33.70	2516.00	0.013
	37 - 36					43.256	-34.03	2530.48	0.013
	36 - 35					43.504	-34.36	2544.97	0.014
	35 - 34					43.751	-34.70	2559.45	0.014
	34 - 33					43.999	-35.03	2573.94	0.014
L48	33 - 31.75	TP37.582x36.813x0.375	3.75	0.00	0.0	44.308	-35.45	2592.05	0.014
	31.75 - 30.5					44.618	-35.86	2610.15	0.014
	30.5 - 29.25					44.928	-36.28	2628.26	0.014
L49	29.25 - 29 (49)	TP37.633x37.582x0.475	0.25	0.00	0.0	56.834	-36.40	3324.77	0.011
L50	29 - 28.08 (50)	TP37.822x37.633x0.475	0.92	0.00	0.0	57.122	-36.75	3341.65	0.011
L51	28.08 - 27.73 (51)	TP37.894x37.822x0.638	0.35	0.00	0.0	76.478	-36.91	4473.95	0.008
L52	27.73 - 27.5 (52)	TP37.941x37.894x0.638	0.23	0.00	0.0	76.575	-37.01	4479.61	0.008
L53	27.5 - 26.361	TP38.642x37.941x0.638	3.42	0.00	0.0	77.054	-37.51	4507.66	0.008
	26.361 - 25.222					77.533	-38.03	4535.71	0.008
	25.222 - 24.083					78.013	-38.54	4563.75	0.008
L54	24.083 - 23.833 (54)	TP38.693x38.642x0.65	0.25	0.00	0.0	79.624	-38.67	4657.98	0.008
L55	23.833 - 22.667 (55)	TP38.932x38.693x0.65	1.17	0.00	0.0	80.124	-39.23	4687.26	0.008
L56	22.667 - 22.417 (56)	TP38.983x38.932x0.525	0.25	0.00	0.0	65.014	-39.34	3803.30	0.010
L57	22.417 -	TP39.701x38.983x0.525	3.50	0.00	0.0	65.418	-39.79	3826.95	0.010

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	21.2503								
	21.2503 - 20.0837					65.822	-40.24	3850.61	0.010
	20.0837 - 18.917					66.227	-40.71	3874.27	0.011
L58	18.917 - 18.667 (58)	TP39.752x39.701x0.525	0.25	0.00	0.0	66.313	-40.81	3879.34	0.011
L59	18.667 - 18.083 (59)	TP39.872x39.752x0.525	0.58	0.00	0.0	66.516	-41.02	3891.19	0.011
L60	18.083 - 17.833 (60)	TP39.923x39.872x0.663	0.25	0.00	0.0	83.753	-41.14	4899.54	0.008
L61	17.833 - 16.582	TP40.693x39.923x0.65	3.75	0.00	0.0	82.736	-41.67	4840.04	0.009
	16.582 - 15.331					83.273	-42.21	4871.45	0.009
	15.331 - 14.08					83.810	-42.76	4902.86	0.009
L62	14.08 - 13.83 (62)	TP40.744x40.693x0.625	0.25	0.00	0.0	80.740	-42.87	4723.27	0.009
L63	13.83 - 12.83	TP41.769x40.744x0.625	5.00	0.00	0.0	81.152	-43.27	4747.41	0.009
	12.83 - 11.83					81.565	-43.68	4771.55	0.009
	11.83 - 10.83					81.978	-44.09	4795.69	0.009
	10.83 - 9.83					82.390	-44.50	4819.83	0.009
	9.83 - 8.83					82.803	-44.91	4843.97	0.009
L64	8.83 - 7.83	TP42.795x41.769x0.613	5.00	0.00	0.0	81.576	-45.32	4772.20	0.009
	7.83 - 6.83					81.980	-45.73	4795.85	0.010
	6.83 - 5.83					82.385	-46.18	4819.51	0.010
	5.83 - 4.83					82.789	-46.60	4843.17	0.010
	4.83 - 3.83					83.194	-47.02	4866.83	0.010
L65	3.83 - 3.25 (65)	TP42.914x42.795x0.613	0.58	0.00	0.0	83.428	-47.27	4880.55	0.010
L66	3.25 - 3 (66)	TP42.965x42.914x0.563	0.25	0.00	0.0	76.801	-47.37	4492.87	0.011
L67	3 - 2.17 (67)	TP43.135x42.965x0.556	0.83	0.00	0.0	76.264	-47.68	4461.44	0.011
L68	2.17 - 1.92 (68)	TP43.186x43.135x0.375	0.25	0.00	0.0	51.695	-47.77	3024.14	0.016
L69	1.92 - 0 (69)	TP43.58x43.186x0.375	1.92	0.00	0.0	52.170	-48.32	3051.95	0.016

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	140 - 139	TP17.025x16x0.25	0.09	281.89	0.000	0.00	281.89	0.000
	139 - 138		4.06	289.23	0.014	0.00	289.23	0.000
	138 - 137		7.01	296.67	0.024	0.00	296.67	0.000
	137 - 136		11.38	304.21	0.037	0.00	304.21	0.000
	136 - 135		15.12	311.84	0.048	0.00	311.84	0.000
L2	135 - 134	TP18.05x17.025x0.25	18.97	319.56	0.059	0.00	319.56	0.000
	134 - 133		22.89	327.38	0.070	0.00	327.38	0.000
	133 - 132		26.88	335.29	0.080	0.00	335.29	0.000
	132 - 131		30.93	343.30	0.090	0.00	343.30	0.000
	131 - 130		35.06	351.40	0.100	0.00	351.40	0.000
L3	130 - 129	TP19.075x18.05x0.25	39.88	359.60	0.111	0.00	359.60	0.000
	129 - 128		44.77	367.89	0.122	0.00	367.89	0.000
	128 - 127		60.21	376.28	0.160	0.00	376.28	0.000
	127 - 126		69.23	384.76	0.180	0.00	384.76	0.000
	126 - 125		78.33	393.33	0.199	0.00	393.33	0.000
L4	125 - 124	TP20.099x19.075x0.25	87.49	402.00	0.218	0.00	402.00	0.000
	124 - 123		96.73	410.76	0.235	0.00	410.76	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	123 - 122		106.04	419.62	0.253	0.00	419.62	0.000
	122 - 121		115.42	428.57	0.269	0.00	428.57	0.000
	121 - 120		124.87	437.62	0.285	0.00	437.62	0.000
L5	120 - 119	TP21.124x20.099x0.25	134.39	446.76	0.301	0.00	446.76	0.000
	119 - 118		143.99	456.00	0.316	0.00	456.00	0.000
	118 - 117		153.65	465.33	0.330	0.00	465.33	0.000
	117 - 116		163.39	474.75	0.344	0.00	474.75	0.000
	116 - 115		173.21	484.27	0.358	0.00	484.27	0.000
L6	115 - 114	TP22.149x21.124x0.25	183.09	493.89	0.371	0.00	493.89	0.000
	114 - 113		193.05	503.60	0.383	0.00	503.60	0.000
	113 - 112		203.08	512.14	0.397	0.00	512.14	0.000
	112 - 111		213.19	520.54	0.410	0.00	520.54	0.000
	111 - 110		223.37	528.98	0.422	0.00	528.98	0.000
L7	110 - 109	TP23.174x22.149x0.25	233.62	537.46	0.435	0.00	537.46	0.000
	109 - 108		243.95	545.97	0.447	0.00	545.97	0.000
	108 - 107		261.44	554.52	0.471	0.00	554.52	0.000
	107 - 106		275.33	563.11	0.489	0.00	563.11	0.000
	106 - 105		289.30	571.73	0.506	0.00	571.73	0.000
L8	105 - 104	TP23.789x23.174x0.25	303.33	580.38	0.523	0.00	580.38	0.000
	104 - 103		317.44	589.06	0.539	0.00	589.06	0.000
	103 - 102		331.62	597.78	0.555	0.00	597.78	0.000
L9	102 - 101.75 (9)	TP23.84x23.789x0.394	335.18	957.73	0.350	0.00	957.73	0.000
L10	101.75 - 100.75	TP24.865x23.84x0.388	349.45	959.97	0.364	0.00	959.97	0.000
	100.75 - 99.75		364.58	976.81	0.373	0.00	976.81	0.000
	99.75 - 98.75		382.08	993.80	0.384	0.00	993.80	0.000
	98.75 - 97.75		399.66	1010.93	0.395	0.00	1010.93	0.000
	97.75 - 96.75		417.31	1028.22	0.406	0.00	1028.22	0.000
L11	96.75 - 95	TP25.89x24.865x0.388	448.44	1058.81	0.424	0.00	1058.81	0.000
	95 - 91.75		271.40	1116.82	0.243	0.00	1116.82	0.000
L12	95 - 91.75	TP25.595x24.724x0.356	235.76	1072.83	0.220	0.00	1072.83	0.000
	91.75 - 90.75		525.46	1090.60	0.482	0.00	1090.60	0.000
L13	90.75 - 89.75	TP26.62x25.595x0.356	543.89	1108.52	0.491	0.00	1108.52	0.000
	89.75 - 88.75		562.47	1126.58	0.499	0.00	1126.58	0.000
	88.75 - 87.75		581.15	1144.78	0.508	0.00	1144.78	0.000
	87.75 - 86.75		599.97	1163.14	0.516	0.00	1163.14	0.000
	86.75 - 85.75		619.04	1181.63	0.524	0.00	1181.63	0.000
L14	85.75 - 85.33 (14)	TP26.706x26.62x0.356	627.08	1189.45	0.527	0.00	1189.45	0.000
L15	85.33 - 85.08 (15)	TP26.758x26.706x0.369	631.88	1234.26	0.512	0.00	1234.26	0.000
L16	85.08 - 83.79	TP27.287x26.758x0.369	656.79	1259.29	0.522	0.00	1259.29	0.000
	83.79 - 82.5		681.91	1284.58	0.531	0.00	1284.58	0.000
L17	82.5 - 82.25 (17)	TP27.338x27.287x0.525	686.80	1804.19	0.381	0.00	1804.19	0.000
L18	82.25 - 82 (18)	TP27.389x27.338x0.525	691.70	1811.16	0.382	0.00	1811.16	0.000
L19	82 - 81.75 (19)	TP27.44x27.389x0.55	696.61	1899.42	0.367	0.00	1899.42	0.000
L20	81.75 - 80.5567	TP28.174x27.44x0.55	720.17	1934.49	0.372	0.00	1934.49	0.000
	80.5567 - 79.3633		743.95	1969.88	0.378	0.00	1969.88	0.000
	79.3633 - 78.17		767.95	2005.59	0.383	0.00	2005.59	0.000
L21	78.17 - 77.92 (21)	TP28.226x28.174x0.65	773.00	2353.44	0.328	0.00	2353.44	0.000
L22	77.92 - 77.67 (22)	TP28.277x28.226x0.65	778.07	2362.30	0.329	0.00	2362.30	0.000
L23	77.67 - 77.42 (23)	TP28.328x28.277x0.525	783.14	1941.24	0.403	0.00	1941.24	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L24	77.42 - 77.167 (24)	TP28.38x28.328x0.525	788.29	1948.56	0.405	0.00	1948.56	0.000
L25	77.167 - 76.167	TP29.406x28.38x0.513	808.71	1933.13	0.418	0.00	1933.13	0.000
	76.167 - 75.167		829.27	1961.73	0.423	0.00	1961.73	0.000
	75.167 - 74.167		849.98	1990.54	0.427	0.00	1990.54	0.000
	74.167 - 73.167		870.84	2019.58	0.431	0.00	2019.58	0.000
	73.167 - 72.167		891.84	2048.81	0.435	0.00	2048.81	0.000
L26	72.167 - 71.167	TP30.431x29.406x0.513	912.99	2078.26	0.439	0.00	2078.26	0.000
	71.167 - 70.167		934.28	2107.92	0.443	0.00	2107.92	0.000
	70.167 - 69.167		955.71	2137.78	0.447	0.00	2137.78	0.000
	69.167 - 68.167		977.39	2167.86	0.451	0.00	2167.86	0.000
	68.167 - 67.167		999.23	2198.14	0.455	0.00	2198.14	0.000
L27	67.167 - 66.483 (27)	TP30.571x30.431x0.625	1014.26	2675.81	0.379	0.00	2675.81	0.000
L28	66.483 - 66.233 (28)	TP30.623x30.571x0.625	1019.77	2685.07	0.380	0.00	2685.07	0.000
L29	66.233 - 65.5 (29)	TP30.773x30.623x0.625	1035.97	2712.32	0.382	0.00	2712.32	0.000
L30	65.5 - 65.25 (30)	TP30.824x30.773x0.513	1041.53	2256.79	0.462	0.00	2256.79	0.000
L31	65.25 - 63.96	TP31.353x30.824x0.513	1070.27	2296.69	0.466	0.00	2296.69	0.000
	63.96 - 62.67		1099.20	2336.94	0.470	0.00	2336.94	0.000
L32	62.67 - 62.42 (32)	TP31.405x31.353x0.513	1104.83	2344.78	0.471	0.00	2344.78	0.000
L33	62.42 - 61.21	TP31.901x31.405x0.506	1132.17	2355.28	0.481	0.00	2355.28	0.000
	61.21 - 60		1159.67	2393.27	0.485	0.00	2393.27	0.000
L34	60 - 59.75 (34)	TP31.952x31.901x0.5	1165.37	2372.93	0.491	0.00	2372.93	0.000
L35	59.75 - 58.75	TP32.978x31.952x0.5	1188.24	2404.22	0.494	0.00	2404.22	0.000
	58.75 - 57.75		1211.22	2435.72	0.497	0.00	2435.72	0.000
	57.75 - 56.75		1234.31	2467.42	0.500	0.00	2467.42	0.000
	56.75 - 55.75		1257.51	2499.32	0.503	0.00	2499.32	0.000
	55.75 - 54.75		1280.81	2531.44	0.506	0.00	2531.44	0.000
L36	54.75 - 53.42 (36)	TP33.251x32.978x0.5	1311.98	2574.47	0.510	0.00	2574.47	0.000
L37	53.42 - 53.17 (37)	TP33.302x33.251x0.688	1317.87	3490.52	0.378	0.00	3490.52	0.000
L38	53.17 - 51.417 (38)	TP33.661x33.302x0.688	1359.32	3568.71	0.381	0.00	3568.71	0.000
L39	51.417 - 51.167 (39)	TP33.713x33.661x0.513	1365.27	2711.32	0.504	0.00	2711.32	0.000
L40	51.167 - 51	TP34.67x33.713x0.513	1369.23	2716.97	0.504	0.00	2716.97	0.000
	51 - 46.5		734.97	2871.15	0.256	0.00	2871.15	0.000
L41	51 - 46.5	TP34.25x33.122x0.55	742.95	2958.70	0.251	0.00	2958.70	0.000
	46.5 - 45.5		1502.39	2995.33	0.502	0.00	2995.33	0.000
L42	45.5 - 43.667 (42)	TP34.626x34.25x0.55	1547.43	3063.07	0.505	0.00	3063.07	0.000
L43	43.667 - 43.417 (43)	TP34.677x34.626x0.613	1553.59	3402.72	0.457	0.00	3402.72	0.000
L44	43.417 - 43.25 (44)	TP34.711x34.677x0.613	1557.72	3409.63	0.457	0.00	3409.63	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L45	43.25 - 43 (45)	TP34.762x34.711x0.375	1563.91	2064.27	0.758	0.00	2064.27	0.000
L46	43 - 42	TP35.788x34.762x0.375	1588.71	2084.87	0.762	0.00	2084.87	0.000
	42 - 41		1613.61	2105.52	0.766	0.00	2105.52	0.000
	41 - 40		1638.62	2126.22	0.771	0.00	2126.22	0.000
	40 - 39		1663.72	2146.96	0.775	0.00	2146.96	0.000
	39 - 38		1688.92	2167.75	0.779	0.00	2167.75	0.000
L47	38 - 37	TP36.813x35.788x0.375	1714.22	2188.57	0.783	0.00	2188.57	0.000
	37 - 36		1739.61	2209.45	0.787	0.00	2209.45	0.000
	36 - 35		1765.08	2230.37	0.791	0.00	2230.37	0.000
	35 - 34		1790.66	2251.32	0.795	0.00	2251.32	0.000
	34 - 33		1816.33	2272.32	0.799	0.00	2272.32	0.000
L48	33 - 31.75	TP37.582x36.813x0.375	1848.53	2298.63	0.804	0.00	2298.63	0.000
	31.75 - 30.5		1880.87	2324.99	0.809	0.00	2324.99	0.000
	30.5 - 29.25		1913.35	2351.42	0.814	0.00	2351.42	0.000
L49	29.25 - 29 (49)	TP37.633x37.582x0.475	1919.86	3156.07	0.608	0.00	3156.07	0.000
L50	29 - 28.08 (50)	TP37.822x37.633x0.475	1943.87	3188.40	0.610	0.00	3188.40	0.000
L51	28.08 - 27.73 (51)	TP37.894x37.822x0.638	1953.03	4240.01	0.461	0.00	4240.01	0.000
L52	27.73 - 27.5 (52)	TP37.941x37.894x0.638	1959.05	4250.84	0.461	0.00	4250.84	0.000
L53	27.5 - 26.361	TP38.642x37.941x0.638	1988.95	4304.69	0.462	0.00	4304.69	0.000
	26.361 - 25.222		2018.99	4358.88	0.463	0.00	4358.88	0.000
	25.222 - 24.083		2049.18	4413.40	0.464	0.00	4413.40	0.000
L54	24.083 - 23.833 (54)	TP38.693x38.642x0.65	2055.82	4507.74	0.456	0.00	4507.74	0.000
L55	23.833 - 22.667 (55)	TP38.932x38.693x0.65	2086.89	4565.06	0.457	0.00	4565.06	0.000
L56	22.667 - 22.417 (56)	TP38.983x38.932x0.525	2093.57	3733.42	0.561	0.00	3733.42	0.000
L57	22.417 - 21.2503	TP39.701x38.983x0.525	2124.87	3780.32	0.562	0.00	3780.32	0.000
	21.2503 - 20.0837		2156.30	3827.53	0.563	0.00	3827.53	0.000
	20.0837 - 18.917		2187.88	3875.02	0.565	0.00	3875.02	0.000
L58	18.917 - 18.667 (58)	TP39.752x39.701x0.525	2194.66	3885.23	0.565	0.00	3885.23	0.000
L59	18.667 - 18.083 (59)	TP39.872x39.752x0.525	2210.54	3909.14	0.565	0.00	3909.14	0.000
L60	18.083 - 17.833 (60)	TP39.923x39.872x0.663	2217.36	4894.32	0.453	0.00	4894.32	0.000
L61	17.833 - 16.582	TP40.693x39.923x0.65	2251.55	4870.07	0.462	0.00	4870.07	0.000
	16.582 - 15.331		2285.92	4933.99	0.463	0.00	4933.99	0.000
	15.331 - 14.08		2320.45	4998.34	0.464	0.00	4998.34	0.000
L62	14.08 - 13.83 (62)	TP40.744x40.693x0.625	2327.38	4827.52	0.482	0.00	4827.52	0.000
L63	13.83 - 12.83	TP41.769x40.744x0.625	2355.13	4877.38	0.483	0.00	4877.38	0.000
	12.83 - 11.83		2382.99	4927.50	0.484	0.00	4927.50	0.000
	11.83 - 10.83		2410.95	4977.87	0.484	0.00	4977.87	0.000
	10.83 - 9.83		2439.02	5028.49	0.485	0.00	5028.49	0.000
	9.83 - 8.83		2467.18	5079.37	0.486	0.00	5079.37	0.000
L64	8.83 - 7.83	TP42.795x41.769x0.613	2495.45	5032.46	0.496	0.00	5032.46	0.000
	7.83 - 6.83		2523.82	5082.84	0.497	0.00	5082.84	0.000
	6.83 - 5.83		2552.29	5133.48	0.497	0.00	5133.48	0.000
	5.83 - 4.83		2580.88	5184.38	0.498	0.00	5184.38	0.000
	4.83 - 3.83		2609.58	5235.52	0.498	0.00	5235.52	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L65	3.83 - 3.25 (65)	TP42.914x42.795x0.613	2626.28	5265.29	0.499	0.00	5265.29	0.000
L66	3.25 - 3 (66)	TP42.965x42.914x0.563	2633.48	4864.48	0.541	0.00	4864.48	0.000
L67	3 - 2.17 (67)	TP43.135x42.965x0.556	2657.45	4851.51	0.548	0.00	4851.51	0.000
L68	2.17 - 1.92 (68)	TP43.186x43.135x0.375	2664.68	2940.07	0.906	0.00	2940.07	0.000
L69	1.92 - 0 (69)	TP43.58x43.186x0.375	2720.41	2981.97	0.912	0.00	2981.97	0.000

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Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	140 - 139	TP17.025x16x0.25	0.03	208.07	0.000	0.00	292.01	0.000
	139 - 138		2.92	210.74	0.014	0.00	299.57	0.000
	138 - 137		2.98	213.41	0.014	0.00	307.21	0.000
	137 - 136		3.71	216.09	0.017	0.00	314.96	0.000
	136 - 135		3.77	218.76	0.017	0.00	322.80	0.000
L2	135 - 134	TP18.05x17.025x0.25	3.89	221.43	0.018	0.00	330.73	0.000
	134 - 133		3.95	224.11	0.018	0.00	338.77	0.000
	133 - 132		4.02	226.78	0.018	0.00	346.90	0.000
	132 - 131		4.09	229.45	0.018	0.00	355.12	0.000
	131 - 130		4.16	232.13	0.018	0.00	363.44	0.000
L3	130 - 129	TP19.075x18.05x0.25	4.86	234.80	0.021	0.00	371.86	0.000
	129 - 128		4.93	237.47	0.021	0.00	380.38	0.000
	128 - 127		8.99	240.15	0.037	0.01	388.99	0.000
	127 - 126		9.06	242.82	0.037	0.01	397.70	0.000
	126 - 125		9.13	245.49	0.037	0.01	406.50	0.000
L4	125 - 124	TP20.099x19.075x0.25	9.20	248.16	0.037	0.01	415.40	0.000
	124 - 123		9.27	250.84	0.037	0.01	424.40	0.000
	123 - 122		9.35	253.51	0.037	0.01	433.49	0.000
	122 - 121		9.42	256.18	0.037	0.01	442.68	0.000
	121 - 120		9.49	258.86	0.037	0.01	451.97	0.000
L5	120 - 119	TP21.124x20.099x0.25	9.56	261.53	0.037	0.01	461.35	0.000
	119 - 118		9.63	264.20	0.036	0.01	470.83	0.000
	118 - 117		9.71	266.88	0.036	0.01	480.41	0.000
	117 - 116		9.78	269.55	0.036	0.01	490.08	0.000
	116 - 115		9.85	272.22	0.036	0.01	499.85	0.000
L6	115 - 114	TP22.149x21.124x0.25	9.93	274.90	0.036	0.01	509.71	0.000
	114 - 113		10.00	277.57	0.036	0.01	519.67	0.000
	113 - 112		10.07	280.24	0.036	0.01	529.73	0.000
	112 - 111		10.15	282.92	0.036	0.01	539.88	0.000
	111 - 110		10.22	285.59	0.036	0.01	550.13	0.000
L7	110 - 109	TP23.174x22.149x0.25	10.30	288.26	0.036	0.01	560.48	0.000
	109 - 108		10.37	290.93	0.036	0.01	570.92	0.000
	108 - 107		13.87	293.61	0.047	0.37	581.46	0.001
	107 - 106		13.94	296.28	0.047	0.37	592.10	0.001
	106 - 105		14.01	298.95	0.047	0.37	602.83	0.001
L8	105 - 104	TP23.789x23.174x0.25	14.08	301.63	0.047	0.37	613.66	0.001
	104 - 103		14.15	304.30	0.047	0.37	624.58	0.001
	103 - 102		14.22	306.97	0.046	0.37	635.61	0.001
L9	102 - 101.75 (9)	TP23.84x23.789x0.394	14.24	481.58	0.030	0.37	993.23	0.000
L10	101.75 - 100.75	TP24.865x23.84x0.388	14.32	478.21	0.030	0.37	995.15	0.000
	100.75 - 99.75		17.46	482.35	0.036	0.37	1012.47	0.000
	99.75 - 98.75		17.54	486.49	0.036	0.37	1029.94	0.000
	98.75 - 97.75		17.62	490.64	0.036	0.37	1047.56	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 $\frac{T_u}{\phi T_n}$
	97.75 - 96.75		17.70	494.78	0.036	0.37	1065.33	0.000
L11	96.75 - 95	TP25.89x24.865x0.388	17.88	502.03	0.036	0.37	1096.78	0.000
	95 - 91.75		9.85	515.50	0.019	0.20	1156.40	0.000
L12	95 - 91.75	TP25.595x24.724x0.356	8.42	503.98	0.017	0.17	1109.80	0.000
	91.75 - 90.75		18.37	508.11	0.036	0.37	1128.05	0.000
L13	90.75 - 89.75	TP26.62x25.595x0.356	18.54	512.24	0.036	0.35	1146.46	0.000
	89.75 - 88.75		18.64	516.37	0.036	0.35	1165.01	0.000
	88.75 - 87.75		18.74	520.49	0.036	0.35	1183.70	0.000
	87.75 - 86.75		19.03	524.62	0.036	1.08	1202.55	0.001
	86.75 - 85.75		19.14	528.75	0.036	1.08	1221.55	0.001
L14	85.75 - 85.33 (14)	TP26.706x26.62x0.356	19.18	530.48	0.036	1.08	1229.58	0.001
L15	85.33 - 85.08 (15)	TP26.758x26.706x0.369	19.20	549.90	0.035	1.08	1276.46	0.001
L16	85.08 - 83.79	TP27.287x26.758x0.369	19.41	555.41	0.035	1.08	1302.18	0.001
	83.79 - 82.5		19.56	560.93	0.035	1.08	1328.15	0.001
L17	82.5 - 82.25 (17)	TP27.338x27.287x0.525	19.59	795.49	0.025	1.08	1876.20	0.001
L18	82.25 - 82 (18)	TP27.389x27.338x0.525	19.62	797.01	0.025	1.08	1883.38	0.001
L19	82 - 81.75 (19)	TP27.44x27.389x0.55	19.65	835.78	0.024	1.08	1976.93	0.001
L20	81.75 - 80.5567	TP28.174x27.44x0.55	19.84	843.39	0.024	1.09	2013.06	0.001
	80.5567 - 79.3633		20.02	850.99	0.024	1.10	2049.53	0.001
	79.3633 - 78.17		20.21	858.59	0.024	1.11	2086.32	0.001
L21	78.17 - 77.92 (21)	TP28.226x28.174x0.65	20.24	1012.91	0.020	1.11	2456.95	0.000
L22	77.92 - 77.67 (22)	TP28.277x28.226x0.65	20.28	1014.79	0.020	1.12	2466.09	0.000
L23	77.67 - 77.42 (23)	TP28.328x28.277x0.525	20.32	824.87	0.025	1.12	2017.34	0.001
L24	77.42 - 77.167 (24)	TP28.38x28.328x0.525	20.36	826.41	0.025	1.12	2024.88	0.001
L25	77.167 - 76.167	TP29.406x28.38x0.513	20.51	813.04	0.025	1.13	2007.67	0.001
	76.167 - 75.167		20.65	818.98	0.025	1.14	2037.12	0.001
	75.167 - 74.167		20.80	824.92	0.025	1.14	2066.78	0.001
	74.167 - 73.167		20.94	830.86	0.025	1.15	2096.64	0.001
	73.167 - 72.167		21.09	836.80	0.025	1.16	2126.73	0.001
L26	72.167 - 71.167	TP30.431x29.406x0.513	21.24	842.74	0.025	1.17	2157.03	0.001
	71.167 - 70.167		21.38	848.68	0.025	1.17	2187.55	0.001
	70.167 - 69.167		21.63	854.62	0.025	1.17	2218.28	0.001
	69.167 - 68.167		21.78	860.56	0.025	1.03	2249.22	0.000
	68.167 - 67.167		21.93	866.50	0.025	1.04	2280.38	0.000
L27	67.167 - 66.483 (27)	TP30.571x30.431x0.625	22.03	1057.69	0.021	1.04	2786.13	0.000
L28	66.483 - 66.233 (28)	TP30.623x30.571x0.625	22.07	1059.50	0.021	1.04	2795.68	0.000
L29	66.233 - 65.5 (29)	TP30.773x30.623x0.625	22.19	1064.81	0.021	1.05	2823.77	0.000

tnxTower	Job: East Farmington, BU# 876335	Page: 119 of 125
FDH Infrastructure Services, LLC 6521 Meridien Drive Raleigh, North Carolina 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Project: 19BOZR1400	Date: 15:53:46 08/22/19
	Client: Crown Castle	Designed by: Eric Schaub

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 $\frac{T_u}{\phi T_n}$
L30	65.5 - 65.25 (30)	TP30.824x30.773x0.513	22.22	877.89	0.025	1.05	2340.72	0.000
L31	65.25 - 63.96	TP31.353x30.824x0.513	22.38	885.55	0.025	1.05	2381.76	0.000
	63.96 - 62.67		22.52	893.21	0.025	1.05	2423.16	0.000
L32	62.67 - 62.42 (32)	TP31.405x31.353x0.513	22.54	894.70	0.025	1.05	2431.22	0.000
L33	62.42 - 61.21	TP31.901x31.405x0.506	22.68	891.07	0.025	1.05	2441.29	0.000
	61.21 - 60		22.81	898.16	0.025	1.05	2480.35	0.000
L34	60 - 59.75 (34)	TP31.952x31.901x0.5	22.83	888.70	0.026	1.05	2458.72	0.000
L35	59.75 - 58.75	TP32.978x31.952x0.5	22.95	894.50	0.026	1.05	2490.89	0.000
	58.75 - 57.75		23.06	900.29	0.026	1.05	2523.28	0.000
	57.75 - 56.75		23.16	906.09	0.026	1.05	2555.86	0.000
	56.75 - 55.75		23.27	911.88	0.026	1.05	2588.66	0.000
	55.75 - 54.75		23.38	917.68	0.025	1.05	2621.67	0.000
L36	54.75 - 53.42 (36)	TP33.251x32.978x0.5	23.54	925.39	0.025	1.05	2665.89	0.000
L37	53.42 - 53.17 (37)	TP33.302x33.251x0.688	23.55	1267.11	0.019	1.05	3635.18	0.000
L38	53.17 - 51.417 (38)	TP33.661x33.302x0.688	23.78	1281.08	0.019	1.05	3715.77	0.000
L39	51.417 - 51.167 (39)	TP33.713x33.661x0.513	23.80	961.54	0.025	1.05	2808.08	0.000
L40	51.167 - 51	TP34.67x33.713x0.513	23.82	962.53	0.025	1.05	2813.88	0.000
	51 - 46.5		12.30	989.27	0.012	0.62	2972.34	0.000
L41	51 - 46.5	TP34.25x33.122x0.55	12.17	1041.05	0.012	0.57	3067.26	0.000
	46.5 - 45.5		24.54	1047.43	0.023	1.19	3104.93	0.000
L42	45.5 - 43.667 (42)	TP34.626x34.25x0.55	24.78	1059.11	0.023	1.19	3174.57	0.000
L43	43.667 - 43.417 (43)	TP34.677x34.626x0.613	24.79	1179.07	0.021	1.19	3532.99	0.000
L44	43.417 - 43.25 (44)	TP34.711x34.677x0.613	24.81	1180.26	0.021	1.19	3540.10	0.000
L45	43.25 - 43 (45)	TP34.762x34.711x0.375	24.84	728.73	0.034	1.19	2204.28	0.001
L46	43 - 42	TP35.788x34.762x0.375	24.95	733.07	0.034	1.19	2230.64	0.001
	42 - 41		25.05	737.42	0.034	1.19	2257.17	0.001
	41 - 40		25.15	741.76	0.034	1.19	2283.84	0.001
	40 - 39		25.25	746.11	0.034	1.19	2310.68	0.001
	39 - 38		25.35	750.45	0.034	1.19	2337.68	0.001
L47	38 - 37	TP36.813x35.788x0.375	25.45	754.80	0.034	1.19	2364.82	0.001
	37 - 36		25.54	759.14	0.034	1.19	2392.13	0.000
	36 - 35		25.63	763.49	0.034	1.19	2419.60	0.000
	35 - 34		25.72	767.84	0.034	1.19	2447.22	0.000
	34 - 33		25.82	772.18	0.033	1.19	2475.00	0.000
L48	33 - 31.75	TP37.582x36.813x0.375	25.93	777.61	0.033	1.19	2509.94	0.000
	31.75 - 30.5		26.04	783.05	0.033	1.19	2545.13	0.000
	30.5 - 29.25		26.15	788.48	0.033	1.19	2580.57	0.000
L49	29.25 - 29 (49)	TP37.633x37.582x0.475	26.15	997.43	0.026	1.19	3260.16	0.000
L50	29 - 28.08 (50)	TP37.822x37.633x0.475	26.25	1002.49	0.026	1.19	3293.34	0.000
L51	28.08 - 27.73 (51)	TP37.894x37.822x0.638	26.28	1342.18	0.020	1.19	4398.57	0.000
L52	27.73 - 27.5 (52)	TP37.941x37.894x0.638	26.30	1343.88	0.020	1.19	4409.71	0.000
L53	27.5 - 26.361	TP38.642x37.941x0.638	26.44	1352.30	0.020	1.19	4465.10	0.000
	26.361 - 25.222		26.56	1360.71	0.020	1.19	4520.83	0.000
	25.222 - 24.083		26.69	1369.13	0.019	1.19	4576.93	0.000
L54	24.083 - 23.833 (54)	TP38.693x38.642x0.65	26.70	1397.40	0.019	1.19	4676.19	0.000
L55	23.833 -	TP38.932x38.693x0.65	26.85	1406.18	0.019	1.19	4735.15	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 $\frac{T_u}{\phi T_n}$
	22.667 (55)							
L56	22.667 - 22.417 (56)	TP38.983x38.932x0.525	26.86	1140.99	0.024	1.19	3859.85	0.000
L57	22.417 - 21.2503	TP39.701x38.983x0.525	27.00	1148.09	0.024	1.19	3908.02	0.000
	21.2503 - 20.0837		27.12	1155.18	0.023	1.19	3956.49	0.000
	20.0837 - 18.917		27.24	1162.28	0.023	1.19	4005.26	0.000
L58	18.917 - 18.667 (58)	TP39.752x39.701x0.525	27.25	1163.80	0.023	1.19	4015.74	0.000
L59	18.667 - 18.083 (59)	TP39.872x39.752x0.525	27.32	1167.36	0.023	1.19	4040.30	0.000
L60	18.083 - 17.833 (60)	TP39.923x39.872x0.663	27.34	1469.86	0.019	1.19	5076.15	0.000
L61	17.833 - 16.582	TP40.693x39.923x0.65	27.48	1452.01	0.019	1.19	5048.87	0.000
	16.582 - 15.331		27.62	1461.43	0.019	1.19	5114.61	0.000
	15.331 - 14.08		27.75	1470.86	0.019	1.19	5180.77	0.000
L62	14.08 - 13.83 (62)	TP40.744x40.693x0.625	27.77	1416.98	0.020	1.19	5000.51	0.000
L63	13.83 - 12.83	TP41.769x40.744x0.625	27.88	1424.22	0.020	1.19	5051.76	0.000
	12.83 - 11.83		27.98	1431.46	0.020	1.19	5103.27	0.000
	11.83 - 10.83		28.09	1438.71	0.020	1.19	5155.03	0.000
	10.83 - 9.83		28.19	1445.95	0.019	1.19	5207.07	0.000
	9.83 - 8.83		28.29	1453.19	0.019	1.19	5259.36	0.000
L64	8.83 - 7.83	TP42.795x41.769x0.613	28.39	1431.66	0.020	1.19	5208.82	0.000
	7.83 - 6.83		28.49	1438.76	0.020	1.19	5260.60	0.000
	6.83 - 5.83		28.62	1445.85	0.020	1.19	5312.63	0.000
	5.83 - 4.83		28.72	1452.95	0.020	1.19	5364.92	0.000
	4.83 - 3.83		28.83	1460.05	0.020	1.19	5417.46	0.000
L65	3.83 - 3.25 (65)	TP42.914x42.795x0.613	28.88	1464.17	0.020	1.19	5448.06	0.000
L66	3.25 - 3 (66)	TP42.965x42.914x0.563	28.90	1347.86	0.021	1.19	5027.30	0.000
L67	3 - 2.17 (67)	TP43.135x42.965x0.556	28.99	1338.43	0.022	1.19	5012.90	0.000
L68	2.17 - 1.92 (68)	TP43.186x43.135x0.375	29.00	907.24	0.032	1.19	3416.49	0.000
L69	1.92 - 0 (69)	TP43.58x43.186x0.375	29.20	915.58	0.032	1.19	3479.63	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	140 - 139	0.000	0.000	0.000	0.000	0.000	0.001	1.050	4.8.2
	139 - 138	0.005	0.014	0.000	0.014	0.000	0.019	1.050	4.8.2
	138 - 137	0.005	0.024	0.000	0.014	0.000	0.029	1.050	4.8.2
	137 - 136	0.006	0.037	0.000	0.017	0.000	0.044	1.050	4.8.2
	136 - 135	0.006	0.048	0.000	0.017	0.000	0.055	1.050	4.8.2
L2	135 - 134	0.006	0.059	0.000	0.018	0.000	0.066	1.050	4.8.2
	134 - 133	0.006	0.070	0.000	0.018	0.000	0.076	1.050	4.8.2
	133 - 132	0.006	0.080	0.000	0.018	0.000	0.086	1.050	4.8.2
	132 - 131	0.006	0.090	0.000	0.018	0.000	0.096	1.050	4.8.2
	131 - 130	0.006	0.100	0.000	0.018	0.000	0.106	1.050	4.8.2
L3	130 - 129	0.006	0.111	0.000	0.021	0.000	0.118	1.050	4.8.2
	129 - 128	0.006	0.122	0.000	0.021	0.000	0.129	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	128 - 127	0.009	0.160	0.000	0.037	0.000	0.171	1.050	4.8.2
	127 - 126	0.009	0.180	0.000	0.037	0.000	0.191	1.050	4.8.2
	126 - 125	0.009	0.199	0.000	0.037	0.000	0.210	1.050	4.8.2
L4	125 - 124	0.009	0.218	0.000	0.037	0.000	0.228	1.050	4.8.2
	124 - 123	0.009	0.235	0.000	0.037	0.000	0.246	1.050	4.8.2
	123 - 122	0.009	0.253	0.000	0.037	0.000	0.263	1.050	4.8.2
	122 - 121	0.009	0.269	0.000	0.037	0.000	0.280	1.050	4.8.2
	121 - 120	0.009	0.285	0.000	0.037	0.000	0.296	1.050	4.8.2
L5	120 - 119	0.009	0.301	0.000	0.037	0.000	0.311	1.050	4.8.2
	119 - 118	0.009	0.316	0.000	0.036	0.000	0.326	1.050	4.8.2
	118 - 117	0.009	0.330	0.000	0.036	0.000	0.341	1.050	4.8.2
	117 - 116	0.009	0.344	0.000	0.036	0.000	0.355	1.050	4.8.2
	116 - 115	0.009	0.358	0.000	0.036	0.000	0.368	1.050	4.8.2
L6	115 - 114	0.009	0.371	0.000	0.036	0.000	0.381	1.050	4.8.2
	114 - 113	0.009	0.383	0.000	0.036	0.000	0.394	1.050	4.8.2
	113 - 112	0.009	0.397	0.000	0.036	0.000	0.407	1.050	4.8.2
	112 - 111	0.009	0.410	0.000	0.036	0.000	0.420	1.050	4.8.2
	111 - 110	0.009	0.422	0.000	0.036	0.000	0.433	1.050	4.8.2
L7	110 - 109	0.009	0.435	0.000	0.036	0.000	0.445	1.050	4.8.2
	109 - 108	0.009	0.447	0.000	0.036	0.000	0.457	1.050	4.8.2
	108 - 107	0.012	0.471	0.000	0.047	0.001	0.486	1.050	4.8.2
	107 - 106	0.012	0.489	0.000	0.047	0.001	0.504	1.050	4.8.2
	106 - 105	0.012	0.506	0.000	0.047	0.001	0.521	1.050	4.8.2
L8	105 - 104	0.012	0.523	0.000	0.047	0.001	0.537	1.050	4.8.2
	104 - 103	0.012	0.539	0.000	0.047	0.001	0.554	1.050	4.8.2
	103 - 102	0.012	0.555	0.000	0.046	0.001	0.569	1.050	4.8.2
L9	102 - 101.75 (9)	0.008	0.350	0.000	0.030	0.000	0.359	1.050	4.8.2
L10	101.75 - 100.75	0.008	0.364	0.000	0.030	0.000	0.373	1.050	4.8.2
	100.75 - 99.75	0.010	0.373	0.000	0.036	0.000	0.384	1.050	4.8.2
	99.75 - 98.75	0.010	0.384	0.000	0.036	0.000	0.396	1.050	4.8.2
	98.75 - 97.75	0.010	0.395	0.000	0.036	0.000	0.406	1.050	4.8.2
	97.75 - 96.75	0.010	0.406	0.000	0.036	0.000	0.417	1.050	4.8.2
L11	96.75 - 95	0.010	0.424	0.000	0.036	0.000	0.435	1.050	4.8.2
	95 - 91.75	0.005	0.243	0.000	0.019	0.000	0.249	1.050	4.8.2
L12	95 - 91.75	0.005	0.220	0.000	0.017	0.000	0.225	1.050	4.8.2
	91.75 - 90.75	0.010	0.482	0.000	0.036	0.000	0.494	1.050	4.8.2
L13	90.75 - 89.75	0.010	0.491	0.000	0.036	0.000	0.502	1.050	4.8.2
	89.75 - 88.75	0.010	0.499	0.000	0.036	0.000	0.511	1.050	4.8.2
	88.75 - 87.75	0.010	0.508	0.000	0.036	0.000	0.519	1.050	4.8.2
	87.75 - 86.75	0.010	0.516	0.000	0.036	0.001	0.528	1.050	4.8.2
	86.75 - 85.75	0.011	0.524	0.000	0.036	0.001	0.536	1.050	4.8.2
L14	85.75 - 85.33 (14)	0.011	0.527	0.000	0.036	0.001	0.539	1.050	4.8.2
L15	85.33 - 85.08 (15)	0.010	0.512	0.000	0.035	0.001	0.523	1.050	4.8.2
L16	85.08 - 83.79	0.010	0.522	0.000	0.035	0.001	0.533	1.050	4.8.2
	83.79 - 82.5	0.010	0.531	0.000	0.035	0.001	0.542	1.050	4.8.2
L17	82.5 - 82.25 (17)	0.007	0.381	0.000	0.025	0.001	0.389	1.050	4.8.2
L18	82.25 - 82 (18)	0.007	0.382	0.000	0.025	0.001	0.390	1.050	4.8.2
L19	82 - 81.75 (19)	0.007	0.367	0.000	0.024	0.001	0.374	1.050	4.8.2
L20	81.75 - 80.5567	0.007	0.372	0.000	0.024	0.001	0.380	1.050	4.8.2
	80.5567 - 79.3633	0.007	0.378	0.000	0.024	0.001	0.385	1.050	4.8.2
	79.3633 - 78.17	0.007	0.383	0.000	0.024	0.001	0.391	1.050	4.8.2
L21	78.17 - 77.92	0.006	0.328	0.000	0.020	0.000	0.335	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	(21)								
L22	77.92 - 77.67	0.006	0.329	0.000	0.020	0.000	0.336	1.050	4.8.2
	(22)								
L23	77.67 - 77.42	0.008	0.403	0.000	0.025	0.001	0.412	1.050	4.8.2
	(23)								
L24	77.42 - 77.167	0.008	0.405	0.000	0.025	0.001	0.413	1.050	4.8.2
	(24)								
L25	77.167 - 76.167	0.008	0.418	0.000	0.025	0.001	0.427	1.050	4.8.2
	76.167 - 75.167	0.008	0.423	0.000	0.025	0.001	0.431	1.050	4.8.2
	75.167 - 74.167	0.008	0.427	0.000	0.025	0.001	0.435	1.050	4.8.2
	74.167 - 73.167	0.008	0.431	0.000	0.025	0.001	0.440	1.050	4.8.2
	73.167 - 72.167	0.008	0.435	0.000	0.025	0.001	0.444	1.050	4.8.2
L26	72.167 - 71.167	0.008	0.439	0.000	0.025	0.001	0.448	1.050	4.8.2
	71.167 - 70.167	0.008	0.443	0.000	0.025	0.001	0.452	1.050	4.8.2
	70.167 - 69.167	0.008	0.447	0.000	0.025	0.001	0.456	1.050	4.8.2
	69.167 - 68.167	0.008	0.451	0.000	0.025	0.000	0.460	1.050	4.8.2
	68.167 - 67.167	0.008	0.455	0.000	0.025	0.000	0.463	1.050	4.8.2
L27	67.167 - 66.483 (27)	0.007	0.379	0.000	0.021	0.000	0.386	1.050	4.8.2
L28	66.483 - 66.233 (28)	0.007	0.380	0.000	0.021	0.000	0.387	1.050	4.8.2
L29	66.233 - 65.5 (29)	0.007	0.382	0.000	0.021	0.000	0.389	1.050	4.8.2
L30	65.5 - 65.25 (30)	0.008	0.462	0.000	0.025	0.000	0.470	1.050	4.8.2
L31	65.25 - 63.96	0.008	0.466	0.000	0.025	0.000	0.475	1.050	4.8.2
	63.96 - 62.67	0.008	0.470	0.000	0.025	0.000	0.479	1.050	4.8.2
L32	62.67 - 62.42 (32)	0.008	0.471	0.000	0.025	0.000	0.480	1.050	4.8.2
L33	62.42 - 61.21	0.008	0.481	0.000	0.025	0.000	0.490	1.050	4.8.2
	61.21 - 60	0.008	0.485	0.000	0.025	0.000	0.494	1.050	4.8.2
L34	60 - 59.75 (34)	0.009	0.491	0.000	0.026	0.000	0.500	1.050	4.8.2
L35	59.75 - 58.75	0.009	0.494	0.000	0.026	0.000	0.504	1.050	4.8.2
	58.75 - 57.75	0.009	0.497	0.000	0.026	0.000	0.507	1.050	4.8.2
	57.75 - 56.75	0.009	0.500	0.000	0.026	0.000	0.510	1.050	4.8.2
	56.75 - 55.75	0.009	0.503	0.000	0.026	0.000	0.513	1.050	4.8.2
	55.75 - 54.75	0.009	0.506	0.000	0.025	0.000	0.515	1.050	4.8.2
L36	54.75 - 53.42 (36)	0.009	0.510	0.000	0.025	0.000	0.519	1.050	4.8.2
L37	53.42 - 53.17 (37)	0.006	0.378	0.000	0.019	0.000	0.384	1.050	4.8.2
L38	53.17 - 51.417 (38)	0.007	0.381	0.000	0.019	0.000	0.388	1.050	4.8.2
L39	51.417 - 51.167 (39)	0.009	0.504	0.000	0.025	0.000	0.513	1.050	4.8.2
L40	51.167 - 51	0.009	0.504	0.000	0.025	0.000	0.513	1.050	4.8.2
	51 - 46.5	0.005	0.256	0.000	0.012	0.000	0.261	1.050	4.8.2
L41	51 - 46.5	0.004	0.251	0.000	0.012	0.000	0.256	1.050	4.8.2
	46.5 - 45.5	0.009	0.502	0.000	0.023	0.000	0.511	1.050	4.8.2
L42	45.5 - 43.667	0.009	0.505	0.000	0.023	0.000	0.515	1.050	4.8.2

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	(42)								
L43	43.667 - 43.417 (43)	0.008	0.457	0.000	0.021	0.000	0.465	1.050	4.8.2
L44	43.417 - 43.25 (44)	0.008	0.457	0.000	0.021	0.000	0.465	1.050	4.8.2
L45	43.25 - 43 (45)	0.013	0.758	0.000	0.034	0.001	0.772	1.050	4.8.2
L46	43 - 42	0.013	0.762	0.000	0.034	0.001	0.776	1.050	4.8.2
	42 - 41	0.013	0.766	0.000	0.034	0.001	0.781	1.050	4.8.2
	41 - 40	0.013	0.771	0.000	0.034	0.001	0.785	1.050	4.8.2
	40 - 39	0.013	0.775	0.000	0.034	0.001	0.789	1.050	4.8.2
	39 - 38	0.013	0.779	0.000	0.034	0.001	0.794	1.050	4.8.2
L47	38 - 37	0.013	0.783	0.000	0.034	0.001	0.798	1.050	4.8.2
	37 - 36	0.013	0.787	0.000	0.034	0.000	0.802	1.050	4.8.2
	36 - 35	0.014	0.791	0.000	0.034	0.000	0.806	1.050	4.8.2
	35 - 34	0.014	0.795	0.000	0.034	0.000	0.810	1.050	4.8.2
	34 - 33	0.014	0.799	0.000	0.033	0.000	0.814	1.050	4.8.2
L48	33 - 31.75	0.014	0.804	0.000	0.033	0.000	0.819	1.050	4.8.2
	31.75 - 30.5	0.014	0.809	0.000	0.033	0.000	0.824	1.050	4.8.2
	30.5 - 29.25	0.014	0.814	0.000	0.033	0.000	0.829	1.050	4.8.2
L49	29.25 - 29 (49)	0.011	0.608	0.000	0.026	0.000	0.620	1.050	4.8.2
L50	29 - 28.08 (50)	0.011	0.610	0.000	0.026	0.000	0.621	1.050	4.8.2
L51	28.08 - 27.73 (51)	0.008	0.461	0.000	0.020	0.000	0.469	1.050	4.8.2
L52	27.73 - 27.5 (52)	0.008	0.461	0.000	0.020	0.000	0.470	1.050	4.8.2
L53	27.5 - 26.361	0.008	0.462	0.000	0.020	0.000	0.471	1.050	4.8.2
	26.361 - 25.222	0.008	0.463	0.000	0.020	0.000	0.472	1.050	4.8.2
	25.222 - 24.083	0.008	0.464	0.000	0.019	0.000	0.473	1.050	4.8.2
L54	24.083 - 23.833 (54)	0.008	0.456	0.000	0.019	0.000	0.465	1.050	4.8.2
L55	23.833 - 22.667 (55)	0.008	0.457	0.000	0.019	0.000	0.466	1.050	4.8.2
L56	22.667 - 22.417 (56)	0.010	0.561	0.000	0.024	0.000	0.572	1.050	4.8.2
L57	22.417 - 21.2503	0.010	0.562	0.000	0.024	0.000	0.573	1.050	4.8.2
	21.2503 - 20.0837	0.010	0.563	0.000	0.023	0.000	0.574	1.050	4.8.2
	20.0837 - 18.917	0.011	0.565	0.000	0.023	0.000	0.576	1.050	4.8.2
L58	18.917 - 18.667 (58)	0.011	0.565	0.000	0.023	0.000	0.576	1.050	4.8.2
L59	18.667 - 18.083 (59)	0.011	0.565	0.000	0.023	0.000	0.577	1.050	4.8.2
L60	18.083 - 17.833 (60)	0.008	0.453	0.000	0.019	0.000	0.462	1.050	4.8.2
L61	17.833 - 16.582	0.009	0.462	0.000	0.019	0.000	0.471	1.050	4.8.2
	16.582 - 15.331	0.009	0.463	0.000	0.019	0.000	0.472	1.050	4.8.2
	15.331 - 14.08	0.009	0.464	0.000	0.019	0.000	0.473	1.050	4.8.2
L62	14.08 - 13.83 (62)	0.009	0.482	0.000	0.020	0.000	0.492	1.050	4.8.2
L63	13.83 - 12.83	0.009	0.483	0.000	0.020	0.000	0.492	1.050	4.8.2
	12.83 - 11.83	0.009	0.484	0.000	0.020	0.000	0.493	1.050	4.8.2
	11.83 - 10.83	0.009	0.484	0.000	0.020	0.000	0.494	1.050	4.8.2
	10.83 - 9.83	0.009	0.485	0.000	0.019	0.000	0.495	1.050	4.8.2
	9.83 - 8.83	0.009	0.486	0.000	0.019	0.000	0.495	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L64	8.83 - 7.83	0.009	0.496	0.000	0.020	0.000	0.506	1.050	4.8.2
	7.83 - 6.83	0.010	0.497	0.000	0.020	0.000	0.506	1.050	4.8.2
	6.83 - 5.83	0.010	0.497	0.000	0.020	0.000	0.507	1.050	4.8.2
	5.83 - 4.83	0.010	0.498	0.000	0.020	0.000	0.508	1.050	4.8.2
	4.83 - 3.83	0.010	0.498	0.000	0.020	0.000	0.508	1.050	4.8.2
L65	3.83 - 3.25 (65)	0.010	0.499	0.000	0.020	0.000	0.509	1.050	4.8.2
L66	3.25 - 3 (66)	0.011	0.541	0.000	0.021	0.000	0.552	1.050	4.8.2
L67	3 - 2.17 (67)	0.011	0.548	0.000	0.022	0.000	0.559	1.050	4.8.2
L68	2.17 - 1.92 (68)	0.016	0.906	0.000	0.032	0.000	0.923	1.050	4.8.2
L69	1.92 - 0 (69)	0.016	0.912	0.000	0.032	0.000	0.929	1.050	4.8.2

Section Capacity Table

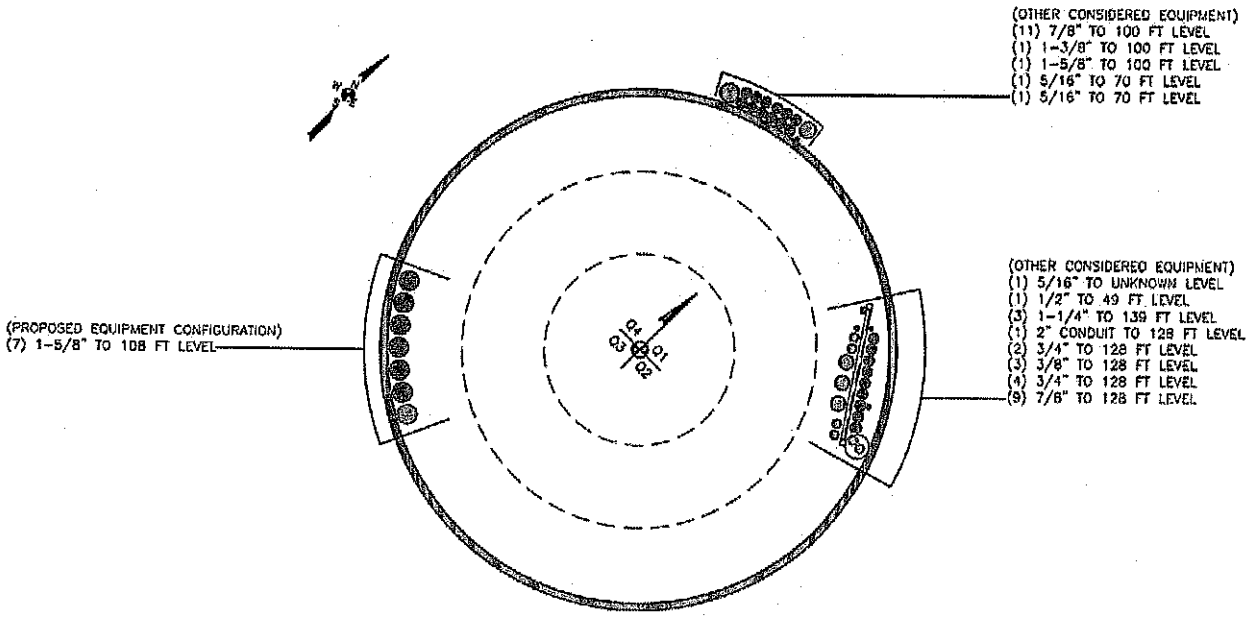
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	140 - 135	Pole	TP17.025x16x0.25	1	-4.29	765.66	5.2	Pass
L2	135 - 130	Pole	TP18.05x17.025x0.25	2	-4.60	812.44	10.1	Pass
L3	130 - 125	Pole	TP19.075x18.05x0.25	3	-7.53	859.22	20.0	Pass
L4	125 - 120	Pole	TP20.099x19.075x0.25	4	-7.92	906.00	28.2	Pass
L5	120 - 115	Pole	TP21.124x20.099x0.25	5	-8.34	952.78	35.1	Pass
L6	115 - 110	Pole	TP22.149x21.124x0.25	6	-8.78	999.56	41.2	Pass
L7	110 - 105	Pole	TP23.174x22.149x0.25	7	-12.39	1046.34	49.6	Pass
L8	105 - 102	Pole	TP23.789x23.174x0.25	8	-12.71	1074.40	54.2	Pass
L9	102 - 101.75	Pole	TP23.84x23.789x0.394	9	-12.76	1685.53	34.2	Pass
L10	101.75 - 96.75	Pole	TP24.865x23.84x0.388	10	-16.11	1731.73	39.7	Pass
L11	96.75 - 91.75	Pole	TP25.89x24.865x0.388	11	-16.37	1757.11	41.4	Pass
L12	91.75 - 90.75	Pole	TP25.595x24.724x0.356	12	-17.55	1778.38	47.0	Pass
L13	90.75 - 85.75	Pole	TP26.62x25.595x0.356	13	-18.51	1850.62	51.0	Pass
L14	85.75 - 85.33	Pole	TP26.706x26.62x0.356	14	-18.61	1856.68	51.3	Pass
L15	85.33 - 85.08	Pole	TP26.758x26.706x0.369	15	-18.68	1924.66	49.8	Pass
L16	85.08 - 82.5	Pole	TP27.287x26.758x0.369	16	-19.31	1963.24	51.7	Pass
L17	82.5 - 82.25	Pole	TP27.338x27.287x0.525	17	-19.40	2784.22	37.0	Pass
L18	82.25 - 82	Pole	TP27.389x27.338x0.525	18	-19.47	2789.55	37.1	Pass
L19	82 - 81.75	Pole	TP27.44x27.389x0.55	19	-19.53	2925.24	35.7	Pass
L20	81.75 - 78.17	Pole	TP28.174x27.44x0.55	20	-20.45	3005.08	37.2	Pass
L21	78.17 - 77.92	Pole	TP28.226x28.174x0.65	21	-20.53	3545.19	31.9	Pass
L22	77.92 - 77.67	Pole	TP28.277x28.226x0.65	22	-20.60	3551.78	32.0	Pass
L23	77.67 - 77.42	Pole	TP28.328x28.277x0.525	23	-20.67	2887.05	39.2	Pass
L24	77.42 - 77.167	Pole	TP28.38x28.328x0.525	24	-20.74	2892.43	39.3	Pass
L25	77.167 - 72.167	Pole	TP29.406x28.38x0.513	25	-22.01	2928.79	42.3	Pass
L26	72.167 - 67.167	Pole	TP30.431x29.406x0.513	26	-23.47	3032.75	44.1	Pass
L27	67.167 - 66.483	Pole	TP30.571x30.431x0.625	27	-23.67	3701.90	36.8	Pass
L28	66.483 - 66.233	Pole	TP30.623x30.571x0.625	28	-23.74	3708.24	36.9	Pass
L29	66.233 - 65.5	Pole	TP30.773x30.623x0.625	29	-23.94	3726.83	37.1	Pass
L30	65.5 - 65.25	Pole	TP30.824x30.773x0.513	30	-24.01	3072.60	44.8	Pass
L31	65.25 - 62.67	Pole	TP31.353x30.824x0.513	31	-24.65	3126.24	45.6	Pass
L32	62.67 - 62.42	Pole	TP31.405x31.353x0.513	32	-24.73	3131.44	45.7	Pass
L33	62.42 - 60	Pole	TP31.901x31.405x0.506	33	-25.36	3143.57	47.0	Pass
L34	60 - 59.75	Pole	TP31.952x31.901x0.5	34	-25.44	3110.46	47.7	Pass
L35	59.75 - 54.75	Pole	TP32.978x31.952x0.5	35	-26.79	3211.88	49.1	Pass
L36	54.75 - 53.42	Pole	TP33.251x32.978x0.5	36	-27.16	3238.85	49.4	Pass
L37	53.42 - 53.17	Pole	TP33.302x33.251x0.688	37	-27.26	4434.90	36.6	Pass
L38	53.17 - 51.417	Pole	TP33.661x33.302x0.688	38	-27.89	4483.79	36.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L39	51.417 - 51.167	Pole	TP33.713x33.661x0.513	39	-27.98	3365.40	48.8	Pass
L40	51.167 - 46.5	Pole	TP34.67x33.713x0.513	40	-28.03	3368.87	48.9	Pass
L41	46.5 - 45.5	Pole	TP34.25x33.122x0.55	41	-30.77	3665.99	48.7	Pass
L42	45.5 - 43.667	Pole	TP34.626x34.25x0.55	42	-31.46	3706.88	49.0	Pass
L43	43.667 - 43.417	Pole	TP34.677x34.626x0.613	43	-31.59	4126.75	44.3	Pass
L44	43.417 - 43.25	Pole	TP34.711x34.677x0.613	44	-31.66	4130.91	44.3	Pass
L45	43.25 - 43	Pole	TP34.762x34.711x0.375	45	-31.74	2550.54	73.5	Pass
L46	43 - 38	Pole	TP35.788x34.762x0.375	46	-33.36	2626.59	75.6	Pass
L47	38 - 33	Pole	TP36.813x35.788x0.375	47	-35.03	2702.64	77.5	Pass
L48	33 - 29.25	Pole	TP37.582x36.813x0.375	48	-36.28	2759.67	78.9	Pass
L49	29.25 - 29	Pole	TP37.633x37.582x0.475	49	-36.40	3491.01	59.0	Pass
L50	29 - 28.08	Pole	TP37.822x37.633x0.475	50	-36.75	3508.73	59.2	Pass
L51	28.08 - 27.73	Pole	TP37.894x37.822x0.638	51	-36.91	4697.65	44.7	Pass
L52	27.73 - 27.5	Pole	TP37.941x37.894x0.638	52	-37.01	4703.59	44.7	Pass
L53	27.5 - 24.083	Pole	TP38.642x37.941x0.638	53	-38.54	4791.94	45.1	Pass
L54	24.083 - 23.833	Pole	TP38.693x38.642x0.65	54	-38.67	4890.88	44.3	Pass
L55	23.833 - 22.667	Pole	TP38.932x38.693x0.65	55	-39.23	4921.62	44.4	Pass
L56	22.667 - 22.417	Pole	TP38.983x38.932x0.525	56	-39.34	3993.46	54.4	Pass
L57	22.417 - 18.917	Pole	TP39.701x38.983x0.525	57	-40.71	4067.98	54.8	Pass
L58	18.917 - 18.667	Pole	TP39.752x39.701x0.525	58	-40.81	4073.31	54.9	Pass
L59	18.667 - 18.083	Pole	TP39.872x39.752x0.525	59	-41.02	4085.75	54.9	Pass
L60	18.083 - 17.833	Pole	TP39.923x39.872x0.663	60	-41.14	5144.52	44.0	Pass
L61	17.833 - 14.08	Pole	TP40.693x39.923x0.65	61	-42.76	5148.00	45.1	Pass
L62	14.08 - 13.83	Pole	TP40.744x40.693x0.625	62	-42.87	4959.43	46.8	Pass
L63	13.83 - 8.83	Pole	TP41.769x40.744x0.625	63	-44.91	5086.17	47.2	Pass
L64	8.83 - 3.83	Pole	TP42.795x41.769x0.613	64	-47.02	5110.17	48.4	Pass
L65	3.83 - 3.25	Pole	TP42.914x42.795x0.613	65	-47.27	5124.58	48.5	Pass
L66	3.25 - 3	Pole	TP42.965x42.914x0.563	66	-47.37	4717.51	52.6	Pass
L67	3 - 2.17	Pole	TP43.135x42.965x0.556	67	-47.68	4684.51	53.2	Pass
L68	2.17 - 1.92	Pole	TP43.186x43.135x0.375	68	-47.77	3175.35	87.9	Pass
L69	1.92 - 0	Pole	TP43.58x43.186x0.375	69	-48.32	3204.55	88.5	Pass
							Summary	
						Pole (L69)	88.5	Pass
						RATING =	**88.5**	**Pass**

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

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 876335 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222-H

Site BU: 876335

Work Order: 1764806

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	140	48.25	3.25	12	16	25.89	0.25	Auto	A607-60
2	95	17.833	0	12	24.72	28.38	0.3125	Auto	A607-65
3	77.167	30.667	4.5	12	28.38	34.67	0.3125	Auto	A607-65
4	51	51	0	12	33.12	43.58	0.375	Auto	A607-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	2.17	18.083	channel	MP3-05 (1.1875in) (Weld	2		A										A
2	14.08	29.25	channel	MP3-05 (1.1875in)	1	A											
3	2.17	28.08	channel	MP3-05 (1.1875in) (Weld	2					A				A			
4	51.417	66.583	channel	MP3-05 (1.1875in)	3	A				A				A			
5	43.25	53.42	channel	MP3-05 (1.1875in)	3				B				B				B
6	65.5	78.17	channel	MP3-03 (1.1875in)	3				B				B				B
7	18.917	24.083	channel	MP3-05 (1.1875in)	1									C			
8	62.67	85.33	channel	MP3-03 (1.1875in)	1		C										
9	77.67	85.33	channel	MP3-03 (1.1875in)	2				C					C			
10	94.33	102	channel	MP3-03 (1.1875in)	3		C			C					C		
11	3.25	27.75	plate	CCI-SFP-065125	1										D		
12	22.667	43.667	plate	CCI-SFP-060100	2							D				D	
13	49	60	plate	CCI-SFP-060100	1								D				
14	66.5	82.5	plate	CCI-SFP-060100	2								D				D
15	82	93	plate	CCI-SFP-060100	2	D								D			
16																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_v (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	5.33	2.09	5.65	0.79	20.000	29.000	18.000	5.025	1.1875	A572-65
2	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
3	5.33	2.09	5.65	0.79	20.000	29.000	18.000	5.025	1.1875	A572-65
4	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
5	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
6	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65
7	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
8	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65
9	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65
10	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65
11	6.5	1.25	8.125	0.625	33.000	33.000	19.000	6.563	1.1875	A572-65
12	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
13	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
14	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
15	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	140 - 135	5		12	16.000	17.025	0.25	A607-60	1.000
2	135 - 130	5		12	17.025	18.050	0.25	A607-60	1.000
3	130 - 125	5		12	18.050	19.075	0.25	A607-60	1.000
4	125 - 120	5		12	19.075	20.099	0.25	A607-60	1.000
5	120 - 115	5		12	20.099	21.124	0.25	A607-60	1.000
6	115 - 110	5		12	21.124	22.149	0.25	A607-60	1.000
7	110 - 105	5		12	22.149	23.174	0.25	A607-60	1.000
8	105 - 102	3		12	23.174	23.789	0.25	A607-60	1.000
9	102 - 101.75	0.25		12	23.789	23.840	0.39375	A607-60	0.934
10	101.75 - 96.75	5		12	23.840	24.865	0.3875	A607-60	0.936
11	96.75 - 95	5	3.25	12	24.865	25.890	0.3875	A607-60	0.932
12	95 - 90.75	4.25		12	24.724	25.595	0.35625	A607-65	1.294
13	90.75 - 85.75	5		12	25.595	26.620	0.35625	A607-65	1.278
14	85.75 - 85.33	0.42		12	26.620	26.706	0.35625	A607-65	1.276
15	85.33 - 85.08	0.25		12	26.706	26.758	0.36875	A607-65	1.326
16	85.08 - 82.5	2.58		12	26.758	27.287	0.36875	A607-65	1.317
17	82.5 - 82.25	0.25		12	27.287	27.338	0.525	A607-65	1.195
18	82.25 - 82	0.25		12	27.338	27.389	0.525	A607-65	1.194
19	82 - 81.75	0.25		12	27.389	27.440	0.55	A607-65	1.010
20	81.75 - 78.17	3.58		12	27.440	28.174	0.55	A607-65	0.998
21	78.17 - 77.92	0.25		12	28.174	28.226	0.65	A607-65	0.999
22	77.92 - 77.67	0.25		12	28.226	28.277	0.65	A607-65	0.998
23	77.67 - 77.42	0.25		12	28.277	28.328	0.525	A607-65	1.104
24	77.42 - 77.167	0.253	0	12	28.328	28.380	0.525	A607-65	1.103
25	77.167 - 72.167	5		12	28.380	29.406	0.5125	A607-65	1.111
26	72.167 - 67.167	5		12	29.406	30.431	0.5125	A607-65	1.094
27	67.167 - 66.483	0.684		12	30.431	30.571	0.625	A607-65	0.981
28	66.483 - 66.233	0.25		12	30.571	30.623	0.625	A607-65	0.980
29	66.233 - 65.5	0.733		12	30.623	30.773	0.625	A607-65	0.978
30	65.5 - 65.25	0.25		12	30.773	30.824	0.5125	A607-65	1.012
31	65.25 - 62.67	2.58		12	30.824	31.353	0.5125	A607-65	1.005
32	62.67 - 62.42	0.25		12	31.353	31.405	0.5125	A607-65	0.947
33	62.42 - 60	2.42		12	31.405	31.901	0.50625	A607-65	0.953
34	60 - 59.75	0.25		12	31.901	31.952	0.5	A607-65	0.964
35	59.75 - 54.75	5		12	31.952	32.978	0.5	A607-65	0.953
36	54.75 - 53.42	1.33		12	32.978	33.251	0.5	A607-65	0.950
37	53.42 - 53.17	0.25		12	33.251	33.302	0.6875	A607-65	1.013
38	53.17 - 51.417	1.753		12	33.302	33.661	0.6875	A607-65	1.007
39	51.417 - 51.167	0.25		12	33.661	33.713	0.5125	A607-65	1.033
40	51.167 - 51	4.667	4.5	12	33.713	34.670	0.5125	A607-65	1.032
41	51 - 45.5	5.5		12	33.122	34.250	0.55	A607-65	0.970
42	45.5 - 43.667	1.833		12	34.250	34.626	0.55	A607-65	0.967
43	43.667 - 43.417	0.25		12	34.626	34.677	0.6125	A607-65	1.048
44	43.417 - 43.25	0.167		12	34.677	34.711	0.6125	A607-65	1.048
45	43.25 - 43	0.25		12	34.711	34.762	0.375	A607-65	1.000
46	43 - 38	5		12	34.762	35.788	0.375	A607-65	1.000
47	38 - 33	5		12	35.788	36.813	0.375	A607-65	1.000
48	33 - 29.25	3.75		12	36.813	37.582	0.375	A607-65	1.000
49	29.25 - 29	0.25		12	37.582	37.633	0.475	A607-65	1.103
50	29 - 28.08	0.92		12	37.633	37.822	0.475	A607-65	1.101
51	28.08 - 27.73	0.35		12	37.822	37.894	0.6375	A607-65	0.971
52	27.73 - 27.5	0.23		12	37.894	37.941	0.6375	A607-65	0.971
53	27.5 - 24.083	3.417		12	37.941	38.642	0.6375	A607-65	0.964
54	24.083 - 23.833	0.25		12	38.642	38.693	0.65	A607-65	1.016
55	23.833 - 22.667	1.166		12	38.693	38.932	0.65	A607-65	1.014
56	22.667 - 22.417	0.25		12	38.932	38.983	0.525	A607-65	0.978
57	22.417 - 18.917	3.5		12	38.983	39.701	0.525	A607-65	0.973
58	18.917 - 18.667	0.25		12	39.701	39.752	0.525	A607-65	0.973
59	18.667 - 18.083	0.584		12	39.752	39.872	0.525	A607-65	0.972
60	18.083 - 17.833	0.25		12	39.872	39.923	0.6625	A607-65	1.005
61	17.833 - 14.08	3.753		12	39.923	40.693	0.65	A607-65	1.016
62	14.08 - 13.83	0.25		12	40.693	40.744	0.625	A607-65	0.985
63	13.83 - 8.83	5		12	40.744	41.769	0.625	A607-65	0.975
64	8.83 - 3.83	5		12	41.769	42.795	0.6125	A607-65	0.986
65	3.83 - 3.25	0.58		12	42.795	42.914	0.6125	A607-65	0.984
66	3.25 - 3	0.25		12	42.914	42.965	0.5625	A607-65	0.964
67	3 - 2.17	0.83		12	42.965	43.135	0.55625	A607-65	0.974
68	2.17 - 1.92	0.25		12	43.135	43.186	0.375	A607-65	1.000
69	1.92 - 0	1.92		12	43.186	43.580	0.375	A607-65	1.000

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	140 - 135	4.29	15.12	3.77
2	135 - 130	4.60	35.06	4.16
3	130 - 125	7.53	78.33	9.13
4	125 - 120	7.92	124.87	9.49
5	120 - 115	8.34	173.21	9.85
6	115 - 110	8.78	223.37	10.22
7	110 - 105	12.39	289.30	14.01
8	105 - 102	12.71	331.62	14.22
9	102 - 101.75	12.76	335.18	14.24
10	101.75 - 96.75	16.11	417.31	17.70
11	96.75 - 95	16.37	448.44	17.88
12	95 - 90.75	17.55	525.46	18.37
13	90.75 - 85.75	18.51	619.04	19.14
14	85.75 - 85.33	18.61	627.08	19.18
15	85.33 - 85.08	18.68	631.88	19.20
16	85.08 - 82.5	19.31	681.91	19.56
17	82.5 - 82.25	19.40	686.80	19.59
18	82.25 - 82	19.47	691.70	19.62
19	82 - 81.75	19.53	696.61	19.65
20	81.75 - 78.17	20.45	767.95	20.21
21	78.17 - 77.92	20.53	773.00	20.24
22	77.92 - 77.67	20.60	778.07	20.28
23	77.67 - 77.42	20.67	783.14	20.32
24	77.42 - 77.167	20.74	788.29	20.36
25	77.167 - 72.167	22.01	891.84	21.09
26	72.167 - 67.167	23.47	999.23	21.93
27	67.167 - 66.483	23.67	1014.25	22.03
28	66.483 - 66.233	23.74	1019.76	22.07
29	66.233 - 65.5	23.94	1035.97	22.19
30	65.5 - 65.25	24.01	1041.52	22.22
31	65.25 - 62.67	24.65	1099.20	22.52
32	62.67 - 62.42	24.73	1104.83	22.54
33	62.42 - 60	25.36	1159.66	22.81
34	60 - 59.75	25.44	1165.37	22.83
35	59.75 - 54.75	26.79	1280.81	23.38
36	54.75 - 53.42	27.16	1311.98	23.54
37	53.42 - 53.17	27.26	1317.86	23.55
38	53.17 - 51.417	27.89	1359.32	23.78
39	51.417 - 51.167	27.98	1365.26	23.80
40	51.167 - 51	28.03	1369.24	23.82
41	51 - 45.5	30.77	1502.39	24.54
42	45.5 - 43.667	31.46	1547.42	24.78
43	43.667 - 43.417	31.59	1553.59	24.79
44	43.417 - 43.25	31.66	1557.72	24.81
45	43.25 - 43	31.74	1563.91	24.84
46	43 - 38	33.36	1688.92	25.35
47	38 - 33	35.03	1816.33	25.82
48	33 - 29.25	36.28	1913.35	26.15
49	29.25 - 29	36.40	1919.86	26.15
50	29 - 28.08	36.75	1943.87	26.25
51	28.08 - 27.73	36.91	1953.03	26.28
52	27.73 - 27.5	37.01	1959.05	26.30
53	27.5 - 24.083	38.54	2049.18	26.69
54	24.083 - 23.833	38.67	2055.82	26.70
55	23.833 - 22.667	39.23	2086.89	26.85
56	22.667 - 22.417	39.34	2093.58	26.86
57	22.417 - 18.917	40.71	2187.87	27.24
58	18.917 - 18.667	40.81	2194.66	27.25
59	18.667 - 18.083	41.02	2210.54	27.31
60	18.083 - 17.833	41.14	2217.36	27.34
61	17.833 - 14.08	42.76	2320.45	27.75
62	14.08 - 13.83	42.87	2327.38	27.77
63	13.83 - 8.83	44.91	2467.18	28.29
64	8.83 - 3.83	47.02	2609.58	28.83
65	3.83 - 3.25	47.27	2626.27	28.88
66	3.25 - 3	47.37	2633.48	28.90
67	3 - 2.17	47.68	2657.45	28.99
68	2.17 - 1.92	47.77	2664.68	29.00
69	1.92 - 0	48.32	2720.41	29.20

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
140 - 135	Pole	TP17.025x16x0.25	Pole	5.1%	Pass
135 - 130	Pole	TP18.05x17.025x0.25	Pole	9.9%	Pass
130 - 125	Pole	TP19.075x18.05x0.25	Pole	19.6%	Pass
125 - 120	Pole	TP20.099x19.075x0.25	Pole	27.8%	Pass
120 - 115	Pole	TP21.124x20.099x0.25	Pole	34.7%	Pass
115 - 110	Pole	TP22.149x21.124x0.25	Pole	40.8%	Pass
110 - 105	Pole	TP23.174x22.149x0.25	Pole	49.1%	Pass
105 - 102	Pole	TP23.789x23.174x0.25	Pole	53.7%	Pass
102 - 101.75	Pole + Reinf.	TP23.84x23.789x0.3938	Reinf. 10 Tension Rupture	48.5%	Pass
101.75 - 96.75	Pole + Reinf.	TP24.865x23.84x0.3875	Reinf. 10 Tension Rupture	56.3%	Pass
96.75 - 95	Pole + Reinf.	TP25.89x24.865x0.3875	Reinf. 10 Tension Rupture	59.0%	Pass
95 - 90.75	Pole + Reinf.	TP25.595x24.724x0.3563	Pole	50.6%	Pass
90.75 - 85.75	Pole + Reinf.	TP26.62x25.595x0.3563	Pole	55.5%	Pass
85.75 - 85.33	Pole + Reinf.	TP26.706x26.62x0.3563	Pole	56.0%	Pass
85.33 - 85.08	Pole + Reinf.	TP26.758x26.706x0.3688	Pole	54.6%	Pass
85.08 - 82.5	Pole + Reinf.	TP27.287x26.758x0.3688	Pole	57.0%	Pass
82.5 - 82.25	Pole + Reinf.	TP27.338x27.287x0.525	Reinf. 8 Tension Rupture	50.3%	Pass
82.25 - 82	Pole + Reinf.	TP27.389x27.338x0.525	Reinf. 8 Tension Rupture	50.5%	Pass
82 - 81.75	Pole + Reinf.	TP27.44x27.389x0.55	Reinf. 9 Tension Rupture	56.6%	Pass
81.75 - 78.17	Pole + Reinf.	TP28.174x27.44x0.55	Reinf. 9 Tension Rupture	59.7%	Pass
78.17 - 77.92	Pole + Reinf.	TP28.226x28.174x0.65	Reinf. 6 Tension Rupture	50.6%	Pass
77.92 - 77.67	Pole + Reinf.	TP28.277x28.226x0.65	Reinf. 6 Tension Rupture	50.8%	Pass
77.67 - 77.42	Pole + Reinf.	TP28.328x28.277x0.525	Reinf. 6 Tension Rupture	61.5%	Pass
77.42 - 77.17	Pole + Reinf.	TP28.38x28.328x0.525	Reinf. 6 Tension Rupture	61.7%	Pass
77.17 - 72.17	Pole + Reinf.	TP29.406x28.38x0.5125	Reinf. 6 Tension Rupture	65.8%	Pass
72.17 - 67.17	Pole + Reinf.	TP30.431x29.406x0.5125	Reinf. 6 Tension Rupture	69.6%	Pass
67.17 - 66.48	Pole + Reinf.	TP30.571x30.431x0.625	Reinf. 6 Tension Rupture	53.6%	Pass
66.48 - 66.23	Pole + Reinf.	TP30.623x30.571x0.625	Reinf. 6 Tension Rupture	53.8%	Pass
66.23 - 65.5	Pole + Reinf.	TP30.773x30.623x0.625	Reinf. 6 Tension Rupture	54.2%	Pass
65.5 - 65.25	Pole + Reinf.	TP30.824x30.773x0.5125	Reinf. 4 Tension Rupture	62.8%	Pass
65.25 - 62.67	Pole + Reinf.	TP31.353x30.824x0.5125	Reinf. 4 Tension Rupture	64.5%	Pass
62.67 - 62.42	Pole + Reinf.	TP31.405x31.353x0.5125	Reinf. 4 Tension Rupture	65.8%	Pass
62.42 - 60	Pole + Reinf.	TP31.901x31.405x0.5063	Reinf. 4 Tension Rupture	67.3%	Pass
60 - 59.75	Pole + Reinf.	TP31.952x31.901x0.5	Reinf. 4 Tension Rupture	67.5%	Pass
59.75 - 54.75	Pole + Reinf.	TP32.978x31.952x0.5	Reinf. 4 Tension Rupture	70.3%	Pass
54.75 - 53.42	Pole + Reinf.	TP33.251x32.978x0.5	Reinf. 4 Tension Rupture	71.1%	Pass
53.42 - 53.17	Pole + Reinf.	TP33.302x33.251x0.6875	Reinf. 4 Tension Rupture	52.4%	Pass
53.17 - 51.42	Pole + Reinf.	TP33.661x33.302x0.6875	Reinf. 4 Tension Rupture	53.2%	Pass
51.42 - 51.17	Pole + Reinf.	TP33.713x33.661x0.5125	Reinf. 5 Tension Rupture	72.2%	Pass
51.17 - 51	Pole + Reinf.	TP34.67x33.713x0.5125	Reinf. 5 Tension Rupture	72.3%	Pass
51 - 45.5	Pole + Reinf.	TP34.25x33.122x0.55	Reinf. 5 Tension Rupture	68.8%	Pass
45.5 - 43.67	Pole + Reinf.	TP34.626x34.25x0.55	Reinf. 5 Tension Rupture	69.5%	Pass
43.67 - 43.42	Pole + Reinf.	TP34.677x34.626x0.6125	Reinf. 5 Tension Rupture	66.2%	Pass
43.42 - 43.25	Pole + Reinf.	TP34.711x34.677x0.6125	Reinf. 5 Tension Rupture	66.3%	Pass
43.25 - 43	Pole	TP34.762x34.711x0.375	Pole	73.0%	Pass
43 - 38	Pole	TP35.788x34.762x0.375	Pole	75.1%	Pass
38 - 33	Pole	TP36.813x35.788x0.375	Pole	77.0%	Pass
33 - 29.25	Pole	TP37.582x36.813x0.375	Pole	78.4%	Pass
29.25 - 29	Pole + Reinf.	TP37.633x37.582x0.475	Reinf. 12 Tension Rupture	77.4%	Pass
29 - 28.08	Pole + Reinf.	TP37.822x37.633x0.475	Reinf. 12 Tension Rupture	77.7%	Pass
28.08 - 27.73	Pole + Reinf.	TP37.894x37.822x0.6375	Reinf. 2 Tension Rupture	64.4%	Pass
27.73 - 27.5	Pole + Reinf.	TP37.941x37.894x0.6375	Reinf. 2 Tension Rupture	64.5%	Pass
27.5 - 24.08	Pole + Reinf.	TP38.642x37.941x0.6375	Reinf. 2 Tension Rupture	65.4%	Pass
24.08 - 23.83	Pole + Reinf.	TP38.693x38.642x0.65	Reinf. 2 Tension Rupture	65.6%	Pass
23.83 - 22.67	Pole + Reinf.	TP38.932x38.693x0.65	Reinf. 2 Tension Rupture	65.9%	Pass
22.67 - 22.42	Pole + Reinf.	TP38.983x38.932x0.525	Reinf. 3 Tension Rupture	76.6%	Pass
22.42 - 18.92	Pole + Reinf.	TP39.701x38.983x0.525	Reinf. 3 Tension Rupture	77.5%	Pass
18.92 - 18.67	Pole + Reinf.	TP39.752x39.701x0.525	Reinf. 3 Tension Rupture	77.6%	Pass
18.67 - 18.08	Pole + Reinf.	TP39.872x39.752x0.525	Reinf. 3 Tension Rupture	77.8%	Pass
18.08 - 17.83	Pole + Reinf.	TP39.923x39.872x0.6625	Reinf. 3 Tension Rupture	69.8%	Pass
17.83 - 14.08	Pole + Reinf.	TP40.693x39.923x0.65	Reinf. 3 Tension Rupture	70.7%	Pass
14.08 - 13.83	Pole + Reinf.	TP40.744x40.693x0.625	Reinf. 3 Tension Rupture	71.3%	Pass
13.83 - 8.83	Pole + Reinf.	TP41.769x40.744x0.625	Reinf. 3 Tension Rupture	72.5%	Pass
8.83 - 3.83	Pole + Reinf.	TP42.795x41.769x0.6125	Reinf. 3 Tension Rupture	73.6%	Pass
3.83 - 3.25	Pole + Reinf.	TP42.914x42.795x0.6125	Reinf. 3 Tension Rupture	73.7%	Pass
3.25 - 3	Pole + Reinf.	TP42.965x42.914x0.5625	Reinf. 3 Tension Rupture	77.0%	Pass
3 - 2.17	Pole + Reinf.	TP43.135x42.965x0.5563	Reinf. 3 Tension Rupture	77.2%	Pass
2.17 - 1.92	Pole	TP43.186x43.135x0.375	Pole	87.5%	Pass
1.92 - 0	Pole	TP43.58x43.186x0.375	Pole	88.0%	Pass
				Summary	
			Pole	88.0%	Pass
			Reinforcement	77.8%	Pass
			Overall	88.0%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*														
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
140 - 135	486	n/a	486	13.48	n/a	13.48	5.1%															
135 - 130	580	n/a	580	14.31	n/a	14.31	9.9%															
130 - 125	686	n/a	686	15.13	n/a	15.13	19.6%															
125 - 120	805	n/a	805	15.96	n/a	15.96	27.8%															
120 - 115	936	n/a	936	16.78	n/a	16.78	34.7%															
115 - 110	1081	n/a	1081	17.60	n/a	17.60	40.8%															
110 - 105	1240	n/a	1240	18.43	n/a	18.43	49.1%															
105 - 102	1342	n/a	1342	18.92	n/a	18.92	53.7%															
102 - 101.75	1351	735	2086	18.96	8.76	27.72	35.1%										48.5%					
101.75 - 96.75	1535	796	2331	19.79	8.76	28.55	41.4%										58.3%					
96.75 - 95	1603	818	2421	20.08	8.76	28.84	43.7%										59.0%					
95 - 90.75	2193	282	2475	25.40	12.00	37.40	50.6%															47.3%
90.75 - 85.75	2464	309	2772	26.43	12.00	38.43	55.5%															52.3%
85.75 - 85.33	2487	311	2798	26.52	12.00	38.52	56.0%															52.7%
85.33 - 85.08	2473	403	2876	26.57	14.92	41.49	54.6%								48.1%							50.2%
85.08 - 82.5	2622	420	3042	27.10	14.92	42.02	57.0%								50.2%							52.4%
82.5 - 82.25	2675	1623	4298	27.16	26.92	54.08	41.3%								50.3%						45.2%	41.6%
82.25 - 82	2680	1639	4319	27.21	26.92	54.13	41.5%								50.5%						45.3%	41.8%
82 - 81.75	2594	1859	4454	27.26	20.76	48.02	37.6%								54.3%	58.8%					49.6%	
81.75 - 78.17	2810	1956	4766	28.00	20.76	48.76	40.0%								57.3%	59.7%					51.8%	
78.17 - 77.92	2836	2805	5641	28.05	29.52	57.57	33.9%						50.6%		47.8%	49.5%					44.1%	
77.92 - 77.67	2852	2815	5667	28.10	29.52	57.62	34.1%						50.8%		48.0%	49.7%					44.3%	
77.67 - 77.42	2865	1816	4681	28.15	23.68	51.83	42.2%						61.5%		52.2%						49.3%	
77.42 - 77.17	2880	1823	4703	28.20	23.68	51.88	42.3%						61.7%		52.4%						49.5%	
77.17 - 72.17	3206	1951	5157	29.23	23.68	52.91	46.7%						65.8%		56.0%						53.0%	
72.17 - 67.17	3555	2084	5639	30.26	23.68	53.94	49.0%						69.6%		59.4%						56.3%	
67.17 - 66.48	3564	3331	6895	30.40	28.63	59.03	38.5%				52.2%		53.6%		48.4%							
66.48 - 66.23	3582	3342	6924	30.46	28.63	59.09	38.6%				52.3%		53.8%		48.5%							
66.23 - 65.5	3635	3373	7008	30.61	28.63	59.24	39.0%				52.7%		54.2%		48.9%							
65.5 - 65.25	3654	2259	5913	30.66	19.87	50.53	48.6%				62.8%				58.5%							
65.25 - 62.67	3848	2333	6180	31.19	19.87	51.06	48.2%				64.5%				58.5%							
62.67 - 62.42	3866	2316	6182	31.24	16.95	48.19	47.2%				65.5%											
62.42 - 60	4054	2386	6440	31.74	16.95	48.69	48.6%				67.3%											
60 - 59.75	4074	2393	6467	31.79	16.95	48.74	48.7%				67.5%											
59.75 - 54.75	4483	2541	7024	32.82	16.95	49.77	51.5%				70.3%											
54.75 - 53.42	4596	2581	7177	33.10	16.95	50.05	52.2%				71.1%											
53.42 - 53.17	4618	5207	9825	33.15	39.90	73.05	39.4%				52.4%	52.3%								44.3%		
53.17 - 51.42	4771	5314	10085	33.51	39.90	73.41	40.2%				53.2%	53.1%								45.1%		
51.42 - 51.17	4812	2933	7745	33.56	22.95	56.51	54.6%					72.2%								57.0%		
51.17 - 51	4827	2939	7766	33.60	22.95	56.55	54.7%					72.3%								57.1%		
51 - 45.5	5999	2731	8730	40.85	16.95	57.80	47.9%					68.8%										
45.5 - 43.67	6201	2788	8989	41.30	16.95	58.25	48.6%					69.5%										
43.67 - 43.42	6314	3771	10084	41.35	28.95	70.31	48.4%					68.2%							57.0%			
43.42 - 43.25	6332	3778	10110	41.40	28.95	70.35	48.5%					66.3%							57.0%			
43.25 - 43	6276	n/a	6276	41.46	n/a	41.46	73.0%															
43 - 38	6854	n/a	6854	42.70	n/a	42.70	78.1%															
38 - 33	7467	n/a	7467	43.94	n/a	43.94	77.0%															
33 - 29.25	7949	n/a	7949	44.85	n/a	44.85	78.4%															
29.25 - 29	8123	2073	10195	44.92	17.65	62.57	67.0%		65.3%										77.4%			
29 - 28.08	8246	2094	10339	45.15	17.65	62.80	67.3%		65.5%										77.7%			
28.08 - 27.73	8207	5452	13659	45.24	28.95	74.19	49.8%		64.4%	64.4%									62.4%			
27.73 - 27.5	8238	5465	13703	45.30	28.95	74.25	49.9%		64.5%	64.5%									62.5%			
27.5 - 24.08	8706	5662	14368	46.14	28.95	75.09	51.1%		65.4%	65.4%									63.6%			
24.08 - 23.83	8795	6177	14973	46.20	34.60	80.80	50.1%		65.6%	63.0%				54.1%					61.8%			
23.83 - 22.67	8960	6252	15212	46.49	34.60	81.09	50.5%		65.9%	63.4%				54.4%					62.2%			
22.67 - 22.42	8882	3497	12379	46.35	16.95	63.30	56.2%		76.6%	76.6%												
22.42 - 18.92	9386	3621	13008	47.42	16.95	64.37	57.3%		77.5%	77.5%												
18.92 - 18.67	9423	3639	13053	47.48	16.95	64.43	57.4%		77.6%	77.6%												
18.67 - 18.08	9509	3651	13161	47.62	16.95	64.57	57.6%		77.8%	77.8%												
18.08 - 17.83	9980	6808	16788	47.69	36.38	84.06	53.0%	57.3%	65.5%	69.8%								66.4%				
17.83 - 14.08	10563	7072	17635	48.61	36.38	84.99	54.2%	58.3%	66.4%	70.7%								67.4%				
14.08 - 13.83	10423	6479	16902	48.68	30.73	79.40	55.7%	68.7%		71.3%								67.0%				
13.83 - 8.83	11228	6805	18033	49.91	30.73	80.64	57.3%	69.9%		72.5%								68.2%				
8.83 - 3.83	12074	7139	19213	51.15	30.73	81.87	58.8%	71.0%		73.6%								69.3%				
3.83 - 3.25	12174	7178	19353	51.29	30.73	82.02	59.0%	71.1%		73.7%								69.5%				
3.25 - 3	11949	5556	17505	51.35	22.60	73.95	60.4%	71.5%		77.0%												
3 - 2.17	12093	5598	17691	51.56	22.60	74.16	60.7%	71.7%		77.2%												
2.17 - 1.92	12110	n/a	12110	51.62	n/a	51.62	87.5%															
1.92 - 0	12447	n/a	12447	52.10	n/a	52.10	88.0%															

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

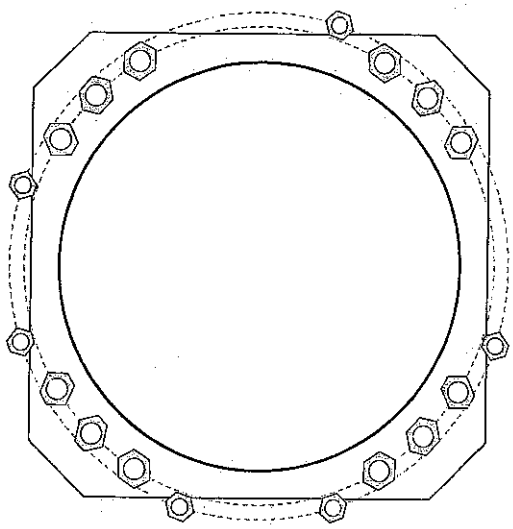
Monopole Base Plate Connection

Site Info	
BU #	876335
Site Name	East Farmington
Order #	499011 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0

Applied Loads	
Moment (kip-ft)	2720.00
Axial Force (kips)	48.00
Shear Force (kips)	30.00

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 51" BC
Anchor Spacing: 6 in
GROUP 2: (6) 1-3/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 54.1" BC

Base Plate Data

49.5" OD x 3" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Stiffener Data

N/A

Pole Data

43.58" x 0.375" 12-sided pole (A607-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

GROUP 1:

Pu_c = 174.48	ϕPn_c = 243.75	**Stress Rating**
Vu = 1.93	ϕVn = 73.13	**68.2%**
Mu = n/a	ϕMn = n/a	**Pass**

GROUP 2:

Pu_c = 105.33	ϕPn_c = 199.5	**Stress Rating**
Vu = 1.13	ϕVn = 59.85	**50.3%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	32.75	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**69.3%**	**Pass**

Pier and Pad Foundation

BU # :	876335
Site Name:	East Farmington
App. Number:	499011 Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	48	kips
Base Shear, Vu_comp:	30	kips
Moment, M_u:	2720	ft-kips
Tower Height, **H**:	140	ft
BP Dist. Above Fdn, bp_{dist}:	4.5	in

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

Pad Properties		
Depth, **D**:	9	ft
Pad Width, **W**:	20	ft
Pad Thickness, **T**:	4	ft
Pad Rebar Size (Bottom), **Sp**:	9	
Pad Rebar Quantity (Bottom), **mp**:	27	
Pad Clear Cover, cc_{pad}:	3	in

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

Soil Properties		
Total Soil Unit Weight, **γ**:	124	pcf
Ultimate Net Bearing, Qnet:	30.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, **ϕ**:	38	degrees
SPT Blow Count, N_{blows}:	50	
Base Friction, **μ**:	0.35	
Neglected Depth, **N**:	4.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	8	ft

<--Toggle between Gross and Net

Foundation Analysis Checks				
	Capacity	**Demand**	**Rating***	**Check**
Lateral (Sliding) (kips)	352.98	30.00	**8.1%**	**Pass**
Bearing Pressure (ksf)	23.29	3.23	**13.9%**	**Pass**
*Overturning (kip*ft)*	5282.25	3016.25	**57.1%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	6918.18	2885.00	**39.7%**	**Pass**
Pier Compression (kip)	30551.04	111.36	**0.3%**	**Pass**
*Pad Flexure (kip*ft)*	5101.11	912.29	**17.0%**	**Pass**
Pad Shear - 1-way (kips)	853.95	137.33	**15.3%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	10202.23	1731.00	**16.2%**	**Pass**

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

Soil Rating*:	**57.1%**
Structural Rating*:	**39.7%**

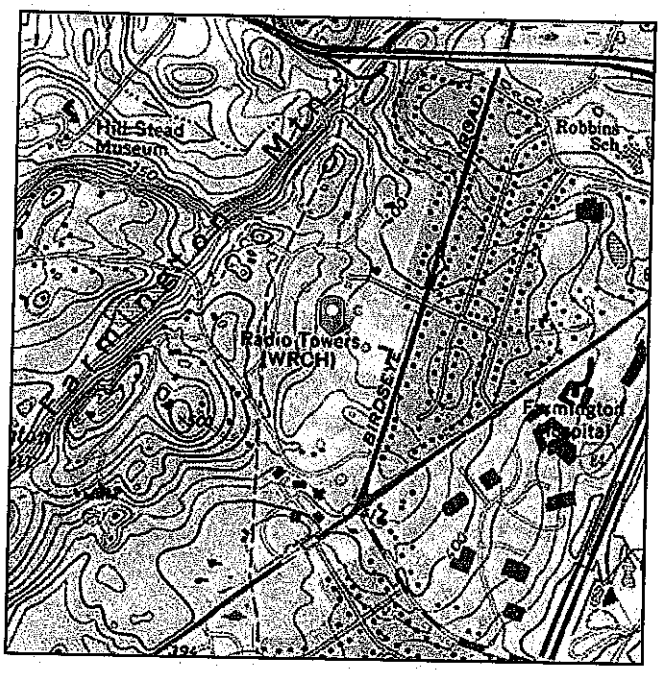
Version 3.2.0

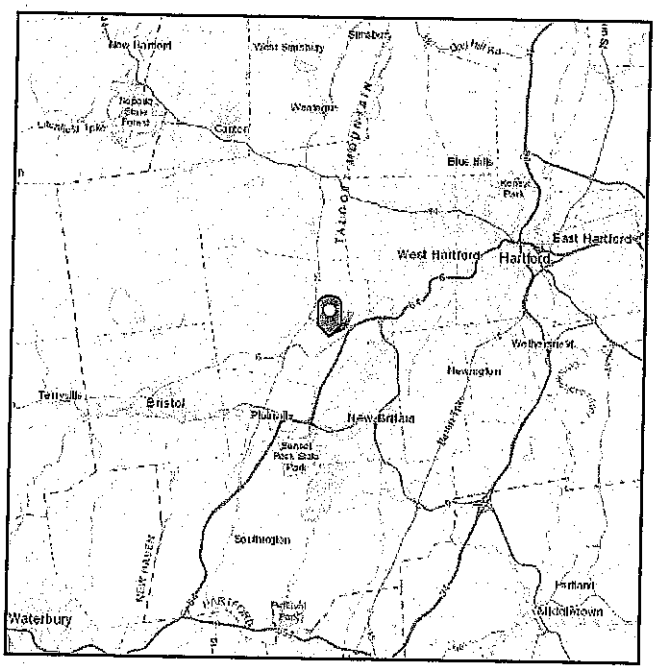
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 413.61 ft (NAVD 88)
Latitude: 41.715817
Longitude: -72.810394





Wind

Results:

Wind Speed:	121 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	92 Vmph
100-year MRI	99 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Mon Aug 19 2019

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

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

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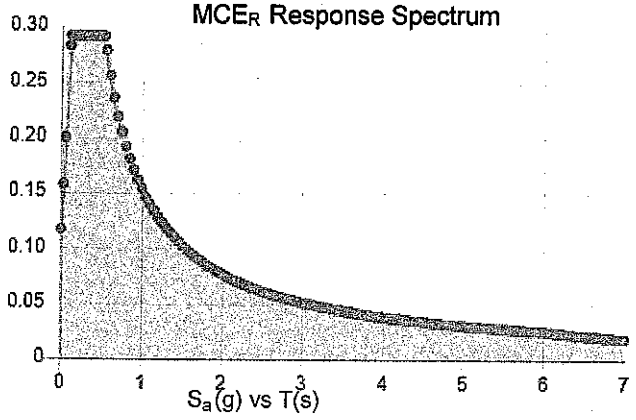
Seismic

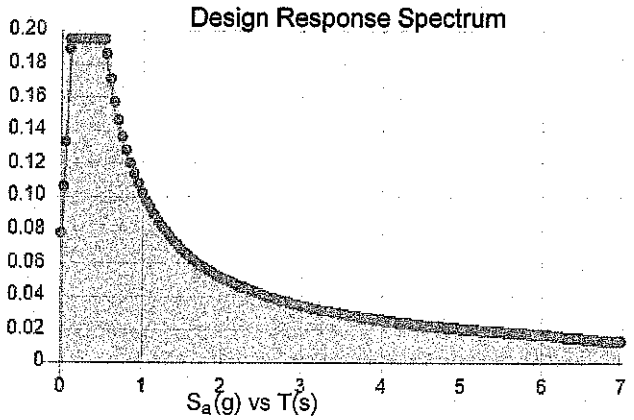
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.182	S_{DS} :	0.195
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.092
S_{MS} :	0.292	PGA_M :	0.148
S_{M1} :	0.154	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Mon Aug 19 2019

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

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Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Mon Aug 19 2019

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Date: July 24, 2019

Charles R. McGuirt II
Crown Castle
3530 Toringdon Way, Suite 300,
Charlotte, NC 28277
(704) 405-6607

CLS ENGINEERING PLLC
CLS Engineering PLLC
319 Chapanoke Road, Suite 118
Raleigh, NC 27603
(405) 348-5460
Engineering@clsengineeringpllc.com

Subject:	**Mount Modification Report**	
Carrier Designation:	**Verizon Wireless Equipment Change-Out**	
	Carrier Site Number:	64052
	Carrier Site Name:	New Britain 5 CT
Crown Castle Designation:	**Crown Castle BU Number:**	876335
	Crown Castle Site Name:	East Farmington
	Crown Castle JDE Job Number:	582368
	Crown Castle Order Number:	499011 Rev. 0
Engineering Firm Designation:	**CLS Engineering PLLC Project #:**	42284-NG64052-02-MOD
Site Data:	**3 A Birdseye Road, Farmington, CT 06030, Hartford County**	
	Latitude: 41° 42' 56.94" Longitude: -72° 48' 37.42"	
Structure Information:	**Tower Height & Type:**	140 ft Monopole
	Mount Elevation:	108 ft
	Mount Width & Type:	12.5 ft Low Profile Platform

Dear Charles R. McGuirt II,

CLS Engineering PLLC is pleased to submit this **"Mount Modification Report"** to determine the structural integrity of Verizon Wireless's antenna mounting system with the proposed appurtenance and equipment addition on the above mentioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Low Profile Platform **Sufficient***

***Sufficient upon completion of the changes listed in the 'Conclusion and Recommendations' section of this report.**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Jennifer Soza

Respectfully Submitted by:

Tyler M. Barker, P.E.
Director of Engineering

STATE OF CONNECTICUT
TYLER M BARKER
No. 32402
LICENSED
PROFESSIONAL ENGINEER

Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2020
COA # PEC.001833 Exp. 8/14/2019

Digitally signed by Tyler Barker
DN: c=US, o=Telamon Corporation, ou=A01427E0000016A4525ADF800001D17, cn=Tyler Barker
Date: 2019.07.24 21:18:46 -04'00'

TABLE OF CONTENTS

1. INTRODUCTION

The proposed equipment is to be mounted to the existing Low Profile Platform. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

2. ANALYSIS CRITERIA

STANDARD	2015 IBC / 2018 Connecticut State Building Code / TIA-222-G
BASIC WIND SPEED	125 mph, V_{ult} / 96.8 mph, V_{asd} (3-Second Gust)
BASIC WIND SPEED W/ ICE	50 mph (3-Second Gust) w/ 1" Radial Ice (Escalating)
EXPOSURE CATEGORY	B
MAX. TOPOGRAPHIC FACTOR,	1.00
RISK CATEGORY	II
MAINTENANCE LIVE LOAD	L_M: 500 lb

Table 1 - Final Equipment Configuration

ELEVATION (ft)		ANTENNAS	
MOUNT	RAD.	#	NAME
108.0	109.0	6	Antel BXA-70063-4CF-EDIN-X
		1	RFS Celwave DB-T1-6Z-8AB-0Z
		3	Samsung RFV01U-D1A
		3	Samsung RFV01U-D2A
		6	Andrew SBNHH-1D65B

3. ANALYSIS PROCEDURE

Table 2 - Documents Provided

STRUCTURAL DATA	Site Photos, dated September 05, 2018
PREVIOUS ANALYSES	Mount Analysis by CLS Engineering PLLC, Project #: 42284-NG64052-01-MA, dated July 15, 2019 Tower Structural Analysis by B+T Group, Project #77969.015.01, dated September 06, 2018
LOADING DATA	Crown Castle, Order #499011, Rev. 0, dated July 01, 2019

3.1. Analysis Method

RISA-3D, a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases. This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 Tower Mount Analysis (Revision B).

4. ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

COMPONENT	PEAK USAGE	RESULT
Corner Plates	65%	Pass
Collar Reactions	29%	Pass
Stand-Off Horizontals	23%	Pass
Mount Pipes	22%	Pass
Connections	17%	Pass
Platform Base	17%	Pass

Structure Rating (max from all components) =	65%

Notes:

1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.

4.1 Conclusion and Recommendations

According to our structural analysis, the mounts have been found to **PASS PENDING MODIFICATIONS**. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the referenced modifications are installed.

This analysis incorporates modifications per CLS Engineering PLLC, dated July 24, 2019.

- **Install (1) proposed Site Pro 1 PRK-1245 as specified.**

See "Appendix E: Mount Modification Design Drawings (MDD)" for additional details.

5. ASSUMPTIONS AND CONDITIONS

This analysis is inclusive of the antenna supporting frames/mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, CLS Engineering PLLC should be notified immediately to revise results.

This analysis assumes the following:

1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from CLS Engineering PLLC.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. CLS Engineering PLLC is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by CLS Engineering PLLC verifies the adequacy of the primary members of the structure. CLS Engineering PLLC provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.

APPENDIX A

SOFTWARE INPUT CALCULATIONS

Wind & Ice Loading

Nominal Mount Elevation (AGL), z_{mount}	108 ft	K_a	0.90
Nominal Rad Elevation (AGL), z_{rad}	109 ft	K_d	0.95
TIA Standard	G	K_z	1.01
Basic Wind Speed, V_{ult} (bare)	125 mph	K_{zt}	1.00
Basic Wind Speed, V (Ice)	50 mph	I (wind)	-
Design Ice Thickness, t_i	1 in	t_z	2.25 in
Exposure Category	B	G_h	1.00
Risk Category	II	q_z (bare)	38.4 psf
Seismic Response Coeff., C_s	-	q_z (Ice)	6.1 psf

Live Loading

At Mount Pipes, L_M	500 lb
Joint Labels Considered	M1
	M2
	M3
	M4

Member Distributed Loading

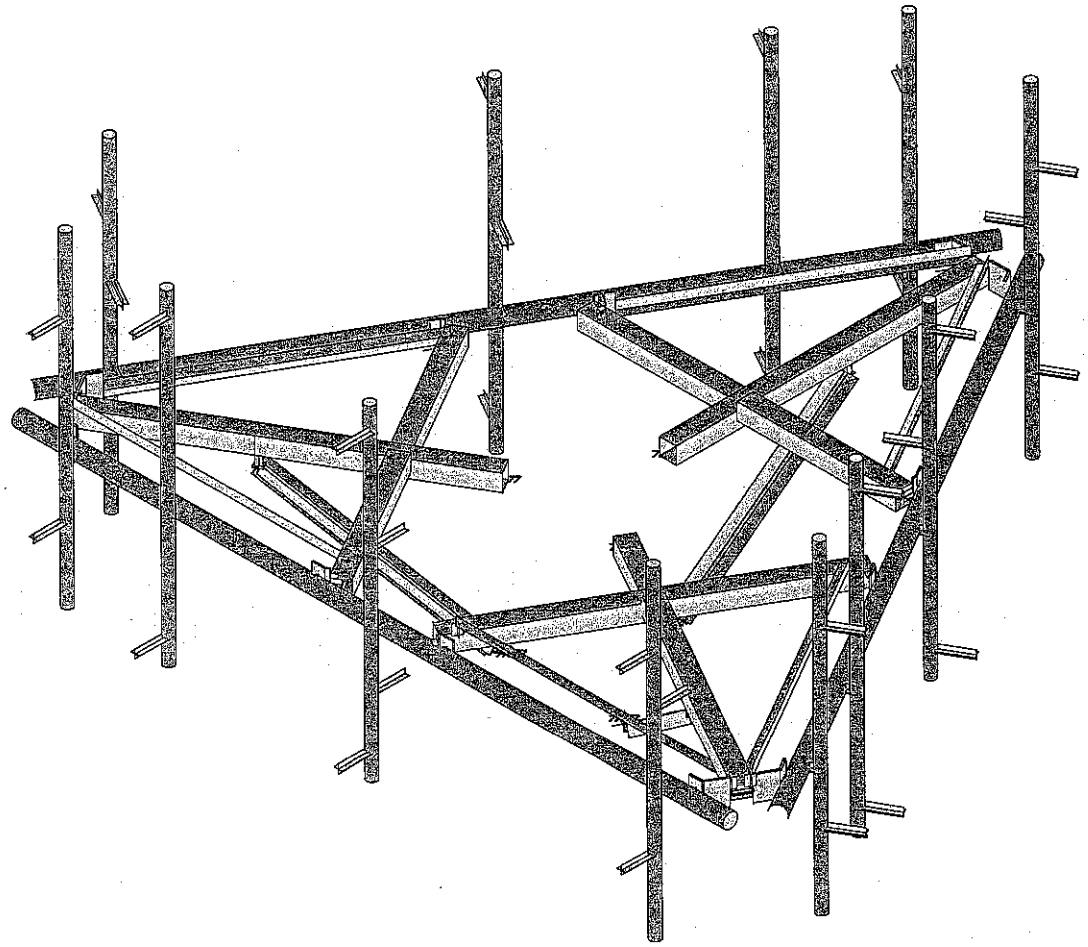
Section Set Label	Shape Label	F_A (lb/ft) Bare	F_A (lb/ft) Ice	Ice Wt. (lb/ft)
Offsett Tube	HSS4X4X4	23.03	2.77	20.21
Offset End Plate	0.5 x 6 Plate	34.55	5.82	17.58
Offset Side Plate	0.38 X 6 Plate	34.55	5.81	17.37
Grating Angle	L2x2x3	11.62	4.05	13.98
Platform Horizontal Pipe	PIPE_3.0	12.09	4.42	15.82
Mount Pipe	PIPE_2.0	8.21	3.80	12.73
MOD PRK	L2.5x2.5x3	14.40	2.66	14.53

Appurtenances

Appurtenance Model	Status	Azimuth Offset (°, D)	Rad Elev. Override (ft)	Swap Width & Depth	Area Factor Front	Area Factor Side	Qty. per Azimuth 0°	Qty. per Azimuth 120°	Qty. per Azimuth 240°	Total Qty. Override	0° Joints 1	0° Joints 2	120° Joints 1	120° Joints 2	240° Joints 1	240° Joints 2	Height (in)	Width (in)	Depth (in)	Weight (Bare) (lb)	Shape	Weight of Ice (lb)	EPA_A (Bare) (ft²) N	EPA_A (Bare) (ft²) T	EPA_A (Ice) (ft²) N	EPA_A (Ice) (ft²) T	F_A (Bare) (lb) N	F_A (Bare) (lb) T	F_A (Ice) (lb) N	F_A (Ice) (lb) T
SBNHH-1D65B				☐			1	1	1		A1	A2	B1	B2	G1	G2	0	0	0	40.6	Generic	228.27	4.16	2.49	6.01	4.25	144.10	86.25	33.30	23.54
SBNHH-1D65B				☐			1	1	1		A7	A8	B7	B8	G7	G8	0	0	0	40.6	Generic	228.27	4.16	2.49	6.01	4.25	144.10	86.25	33.30	23.54
BXA-70063-4CF-EDIN-X				☐			1	1	1		A3	A4	B3	B4	G3	G4	47.4	11.2	5.2	9.9	Flat	131.53	4.71	2.52	7.00	4.64	163.08	87.19	38.78	25.73
BXA-70063-4CF-EDIN-X				☐			1	1	1		A5	A6	B5	B6	G5	G6	47.4	11.2	5.2	9.9	Flat	131.53	4.71	2.52	7.00	4.64	163.08	87.19	38.78	25.73
DB-T1-6Z-8AB-0Z				☐	0.5		1				T1A						25.66	15.73	10.25	21.5	Flat	157.91	1.69	2.19	2.54	3.71	58.26	75.99	14.10	20.56
RFV01U-D1A				☐	0.5		1	1	1		R1A		R1B		R1G		15	15	10	84.4	Flat	82.68	0.94	1.25	1.59	2.36	32.48	43.30	8.79	13.07
RFV01U-D2A				☐	0.5		1	1	1		R2A		R2B		R2G		15	15	8.1	70.3	Flat	74.08	0.94	1.01	1.59	2.05	32.48	35.07	8.79	11.36

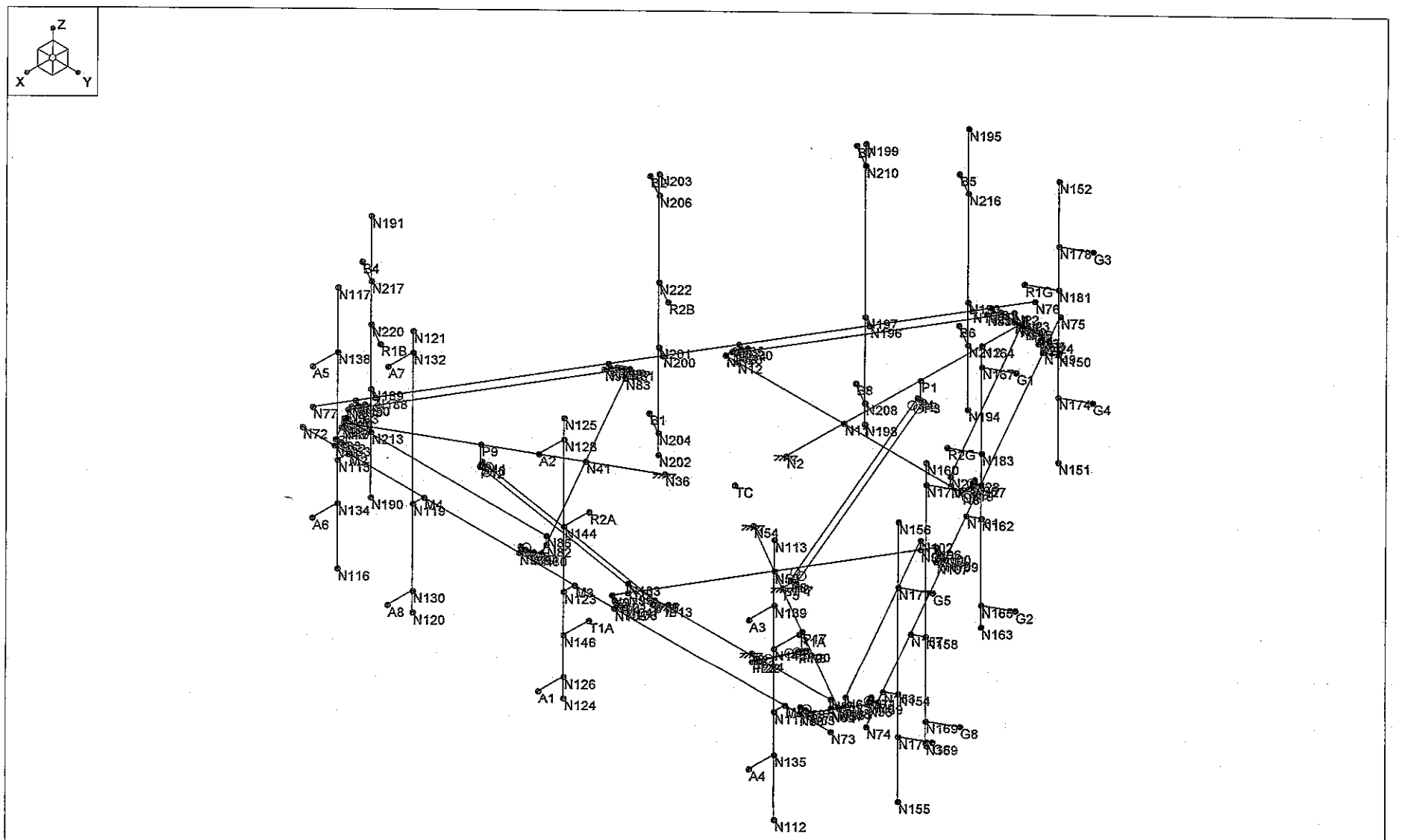
APPENDIX B

WIRE FRAME AND RENDERED MODELS



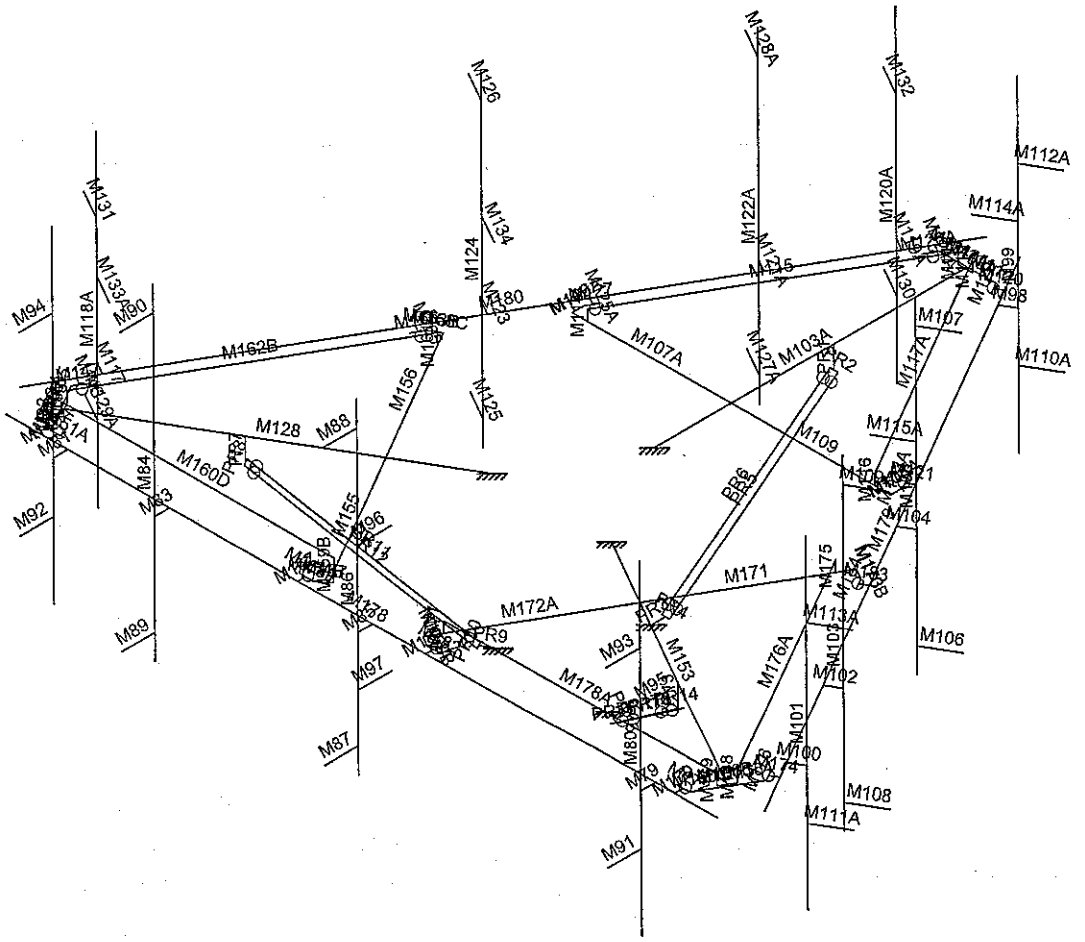
Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 1
JLS		July 24, 2019 at 2:02 PM
42284-NG64052-02-MOD	Rendered	42284-NG64052-02-MOD.r3d



Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 2
JLS	Joint Labels	July 24, 2019 at 2:02 PM
42284-NG64052-02-MOD		42284-NG64052-02-MOD.r3d



Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 3
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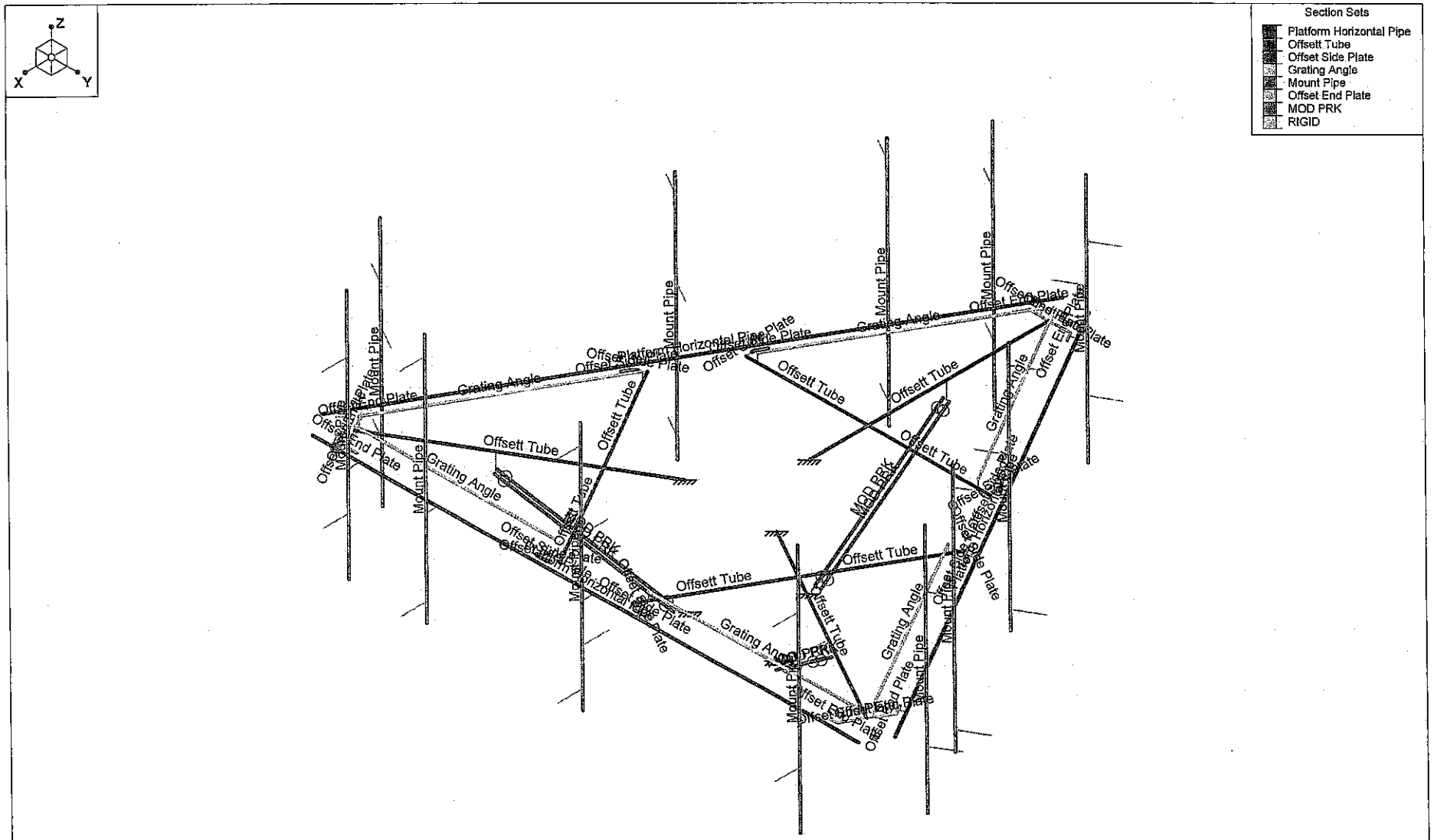
42284-NG64052-02-MOD	Member Labels	42284-NG64052-02-MOD.r3d



Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 4
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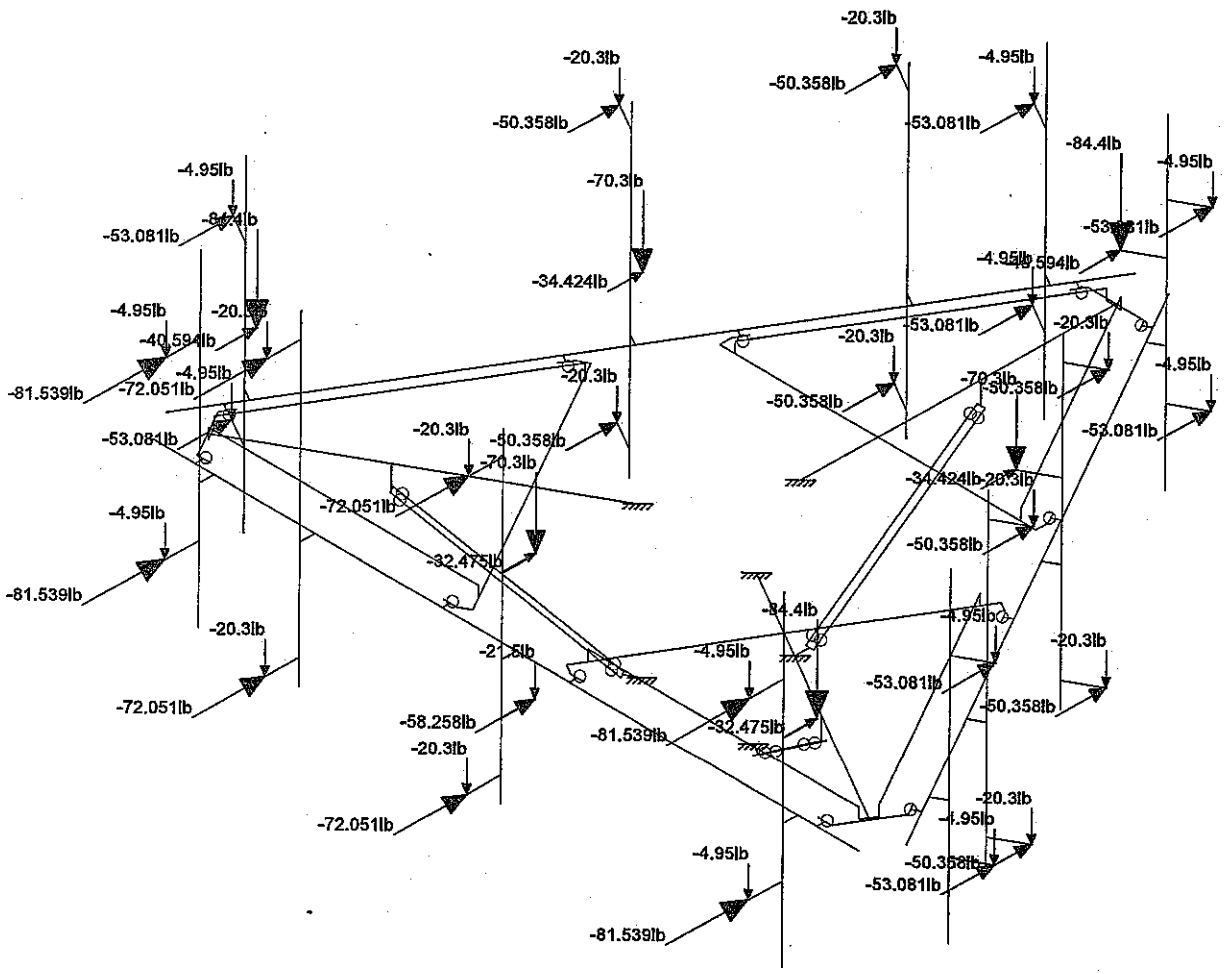

Loads: LC 1, DISPLAY (1.0D + 1.0W_0°)
Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 5
JLS	Joint Loads - Dead and Normal Wind	July 24, 2019 at 2:03 PM
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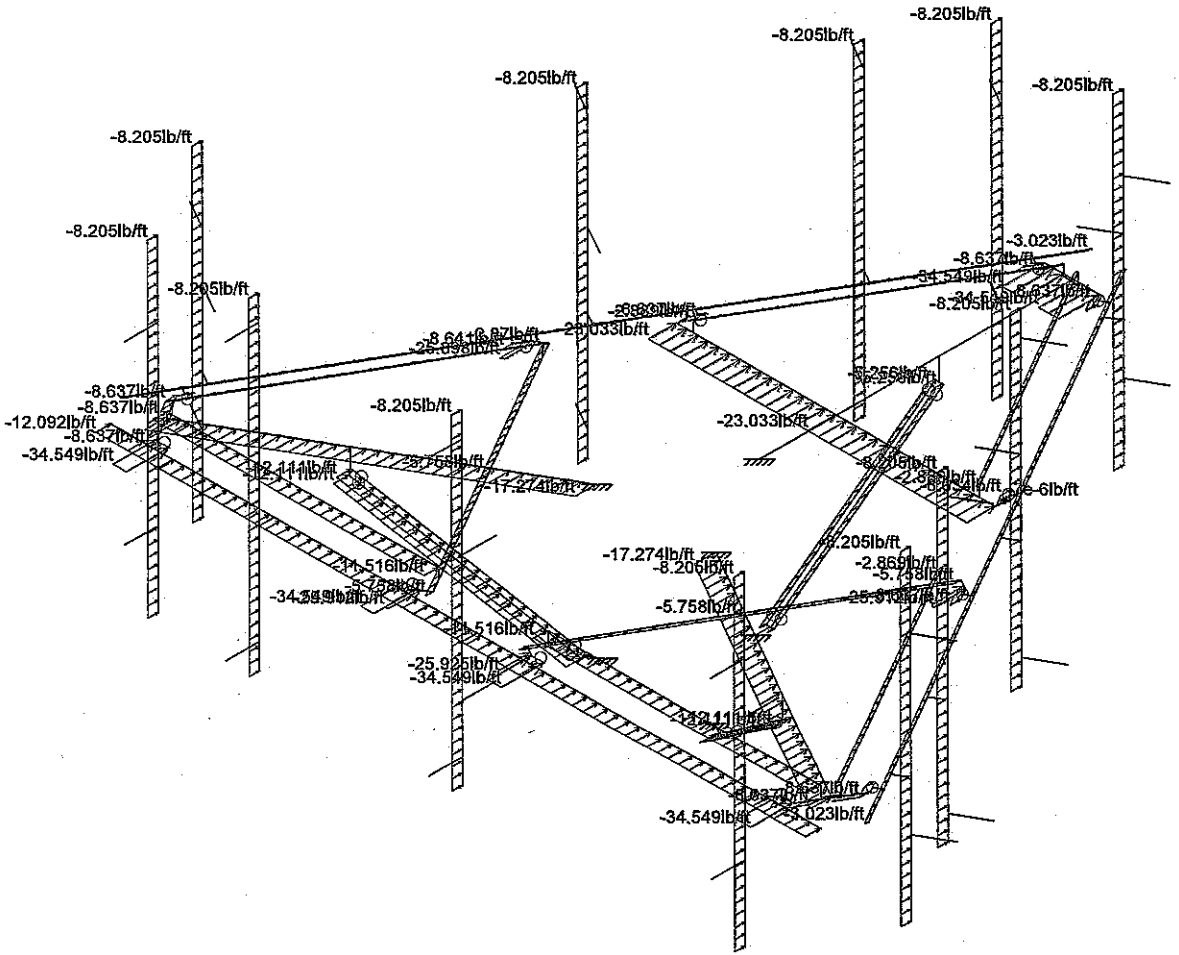
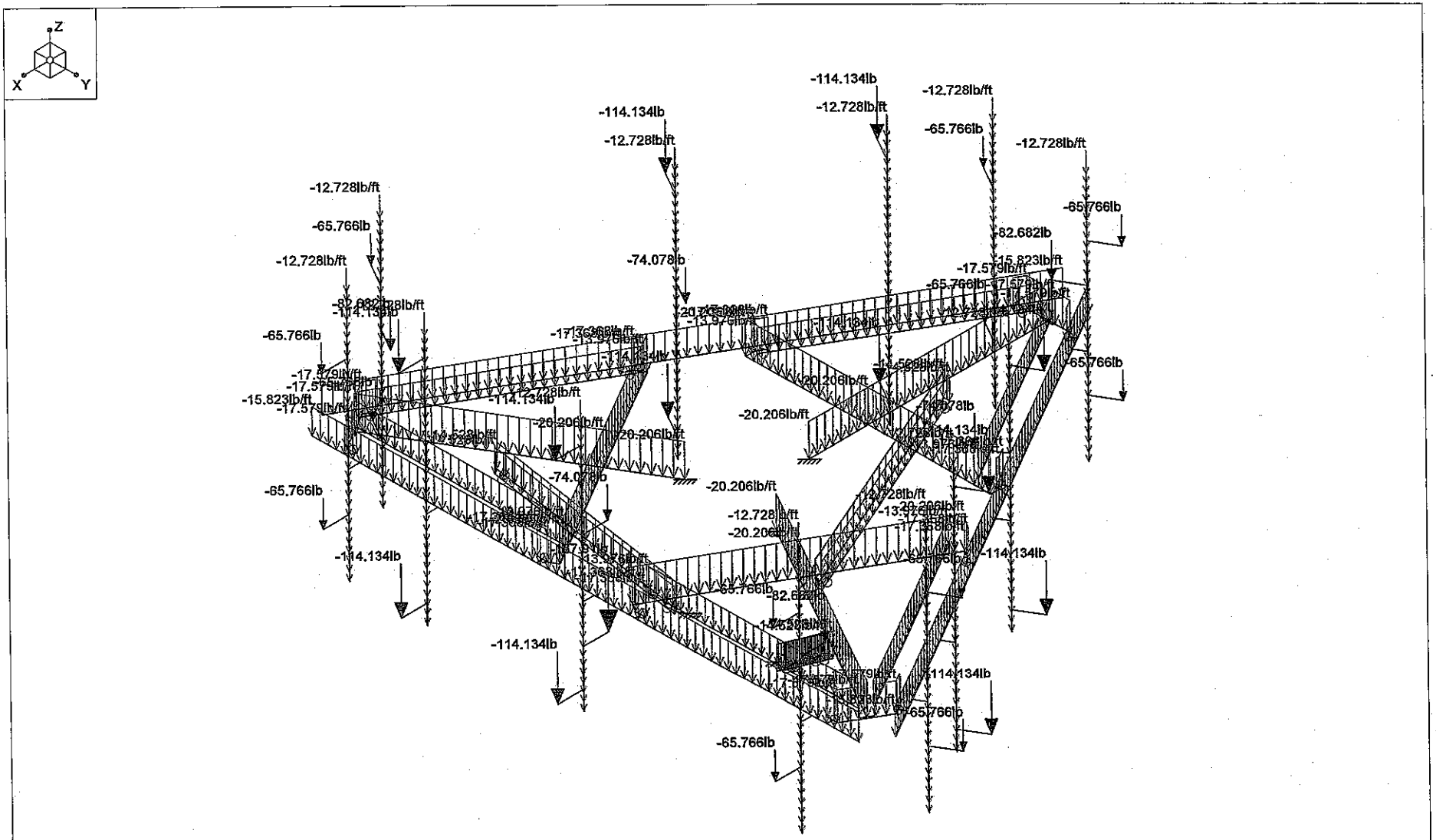


Loads: BLC 4, Structure Wind 0°
Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 6
JLS		July 24, 2019 at 2:03 PM
42284-NG64052-02-MOD	Distributed Load - Normal Wind	42284-NG64052-02-MOD.r3d



Loads: BLC 2, Ice Dead
Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 7
JLS	Ice Dead Loads	July 24, 2019 at 2:03 PM
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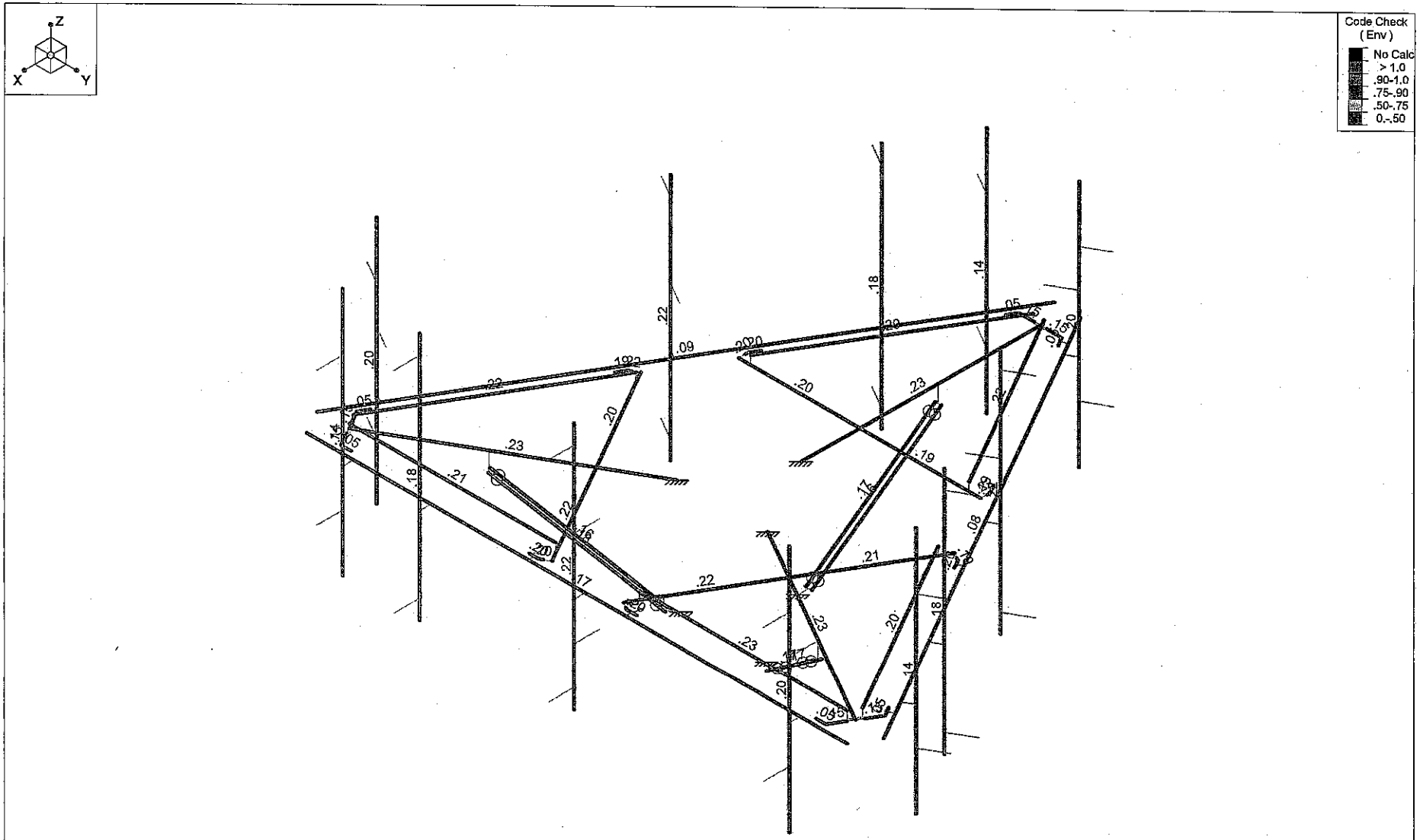

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 8
JLS	Envelope Member Unity Check Results - Bending	July 24, 2019 at 2:03 PM
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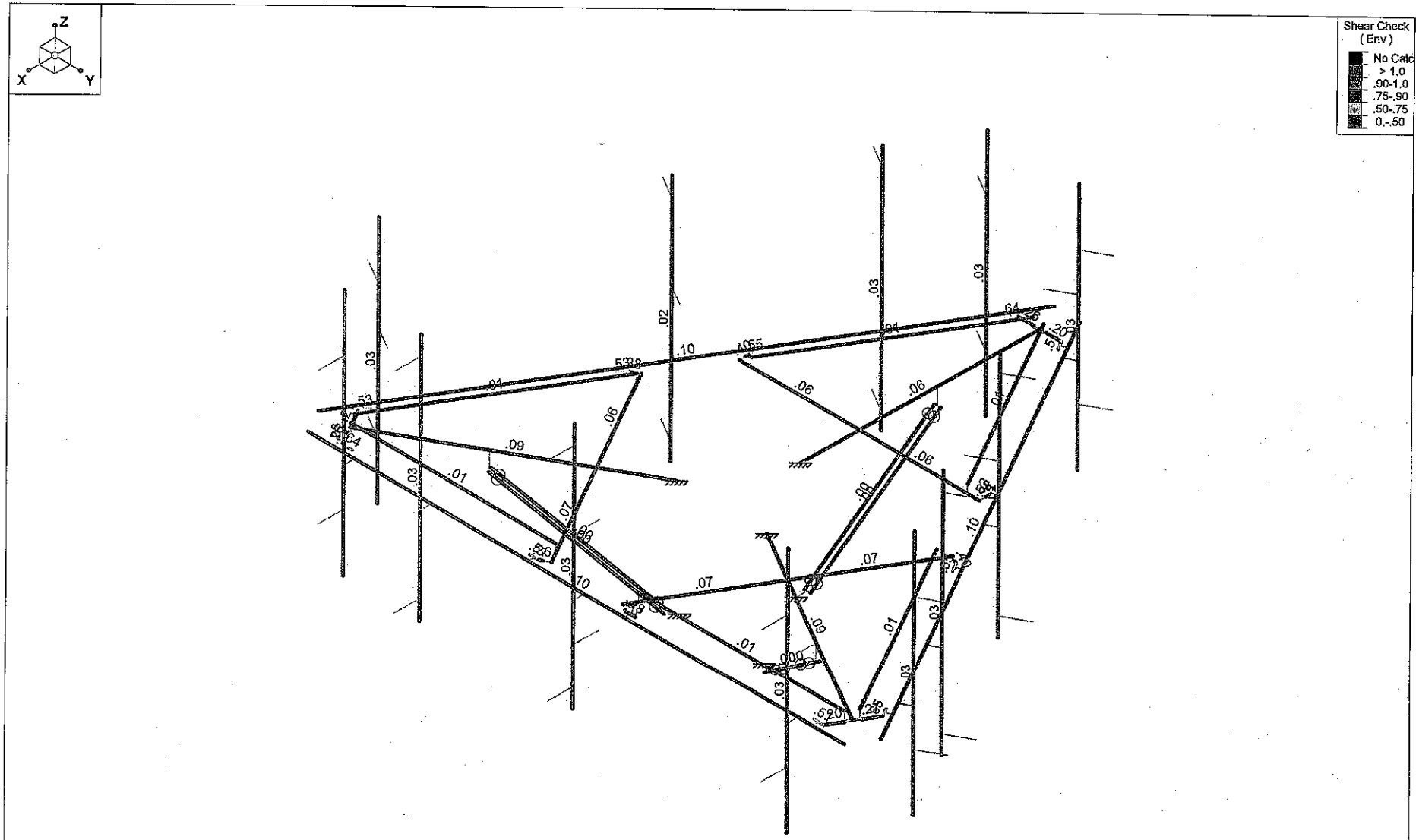


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

CLS	42284-NG64052-64052-NEW BRITAIN 5 CT	SK - 9
JLS	Envelope Member Check Results - Shear	July 24, 2019 at 2:04 PM
42284-NG64052-02-MOD		42284-NG64052-02-MOD.r3d

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Basic Load Cases

	BLC Description	Category	X Gravi...	Y Gravi...	Z Gravity	Joint	Point	Distributed	Area(Member)	Surfac...
1	Dead	DL			-1	31				
2	Ice Dead	RL				31		60		
4	Structure Wind 0°	None						58		
5	Structure Wind 30°	None						102		
6	Structure Wind 45°	None						120		
7	Structure Wind 60°	None						116		
8	Structure Wind 90°	None						51		
9	Structure Wind 120°	None						116		
10	Structure Wind 135°	None						120		
11	Structure Wind 150°	None						102		
12	Structure Wind w/ Ice 0°	None						58		
13	Structure Wind w/ Ice 30°	None						104		
14	Structure Wind w/ Ice 45°	None						120		
15	Structure Wind w/ Ice 60°	None						116		
16	Structure Wind w/ Ice 90°	None						52		
17	Structure Wind w/ Ice 120°	None						116		
18	Structure Wind w/ Ice 135°	None						120		
19	Structure Wind w/ Ice 150°	None						104		
20	Antenna Wind 0°	None				31				
21	Antenna Wind 30°	None				62				
22	Antenna Wind 45°	None				62				
23	Antenna Wind 60°	None				62				
24	Antenna Wind 90°	None				31				
25	Antenna Wind 120°	None				62				
26	Antenna Wind 135°	None				62				
27	Antenna Wind 150°	None				62				
28	Antenna Wind w/ Ice 0°	None				31				
29	Antenna Wind w/ Ice 30°	None				62				
30	Antenna Wind w/ Ice 45°	None				62				
31	Antenna Wind w/ Ice 60°	None				62				
32	Antenna Wind w/ Ice 90°	None				31				
33	Antenna Wind w/ Ice 120°	None				62				
34	Antenna Wind w/ Ice 135°	None				62				
35	Antenna Wind w/ Ice 150°	None				62				
39	Maintenance Live 500 (1)	OL1				1				
40	Maintenance Live 500 (2)	OL2				1				
41	Maintenance Live 500 (3)	OL3				1				
42	Maintenance Live 500 (4)	OL4				1				

Load Combinations

	Description	S...	P...	S...	BLC	Factor	BLC	Factor	BLC	Factor	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	DISPLAY (1.0D + ...	Y...	Y		DL	1	20	1																
2	1.4D	Y...	Y		DL	1.4																		
3	1.2D + 1.0W_0°	Y...	Y		DL	1.2	4	1	20	1														
4	1.2D + 1.0W_30°	Y...	Y		DL	1.2	5	1	21	1														
5	1.2D + 1.0W_45°	Y...	Y		DL	1.2	6	1	22	1														
6	1.2D + 1.0W_60°	Y...	Y		DL	1.2	7	1	23	1														
7	1.2D + 1.0W_90°	Y...	Y		DL	1.2	8	1	24	1														
8	1.2D + 1.0W_120°	Y...	Y		DL	1.2	9	1	25	1														
9	1.2D + 1.0W_135°	Y...	Y		DL	1.2	10	1	26	1														
10	1.2D + 1.0W_150°	Y...	Y		DL	1.2	11	1	27	1														
11	1.2D + 1.0W_180°	Y...	Y		DL	1.2	4	-1	20	-1														
12	1.2D + 1.0W_210°	Y...	Y		DL	1.2	5	-1	21	-1														
13	1.2D + 1.0W_225°	Y...	Y		DL	1.2	6	-1	22	-1														

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	Factor	BLC	Factor	BLC	Factor	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
14	1.2D + 1.0W_240°	Y...	Y		DL	1.2	7	-1	23	-1														
15	1.2D + 1.0W_270°	Y...	Y		DL	1.2	8	-1	24	-1														
16	1.2D + 1.0W_300°	Y...	Y		DL	1.2	9	-1	25	-1														
17	1.2D + 1.0W_315°	Y...	Y		DL	1.2	10	-1	26	-1														
18	1.2D + 1.0W_330°	Y...	Y		DL	1.2	11	-1	27	-1														
19	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	12	1	28	1	RL	1												
20	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	13	1	29	1	RL	1												
21	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	14	1	30	1	RL	1												
22	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	15	1	31	1	RL	1												
23	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	16	1	32	1	RL	1												
24	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	17	1	33	1	RL	1												
25	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	18	1	34	1	RL	1												
26	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	19	1	35	1	RL	1												
27	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	12	-1	28	-1	RL	1												
28	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	13	-1	29	-1	RL	1												
29	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	14	-1	30	-1	RL	1												
30	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	15	-1	31	-1	RL	1												
31	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	16	-1	32	-1	RL	1												
32	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	17	-1	33	-1	RL	1												
33	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	18	-1	34	-1	RL	1												
34	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	19	-1	35	-1	RL	1												
35	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	4	.061	20	.061	O...	1.5												
36	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	5	.061	21	.061	O...	1.5												
37	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	6	.061	22	.061	O...	1.5												
38	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	7	.061	23	.061	O...	1.5												
39	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	8	.061	24	.061	O...	1.5												
40	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	9	.061	25	.061	O...	1.5												
41	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	10	.061	26	.061	O...	1.5												
42	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	11	.061	27	.061	O...	1.5												
43	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	4	-.061	20	-.061	O...	1.5												
44	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	5	-.061	21	-.061	O...	1.5												
45	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	6	-.061	22	-.061	O...	1.5												
46	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	7	-.061	23	-.061	O...	1.5												
47	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	8	-.061	24	-.061	O...	1.5												
48	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	9	-.061	25	-.061	O...	1.5												
49	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	10	-.061	26	-.061	O...	1.5												
50	1.2D + 1.5Lm_1 +...	Y...	Y		DL	1.2	11	-.061	27	-.061	O...	1.5												
51	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	4	.061	20	.061	O...	1.5												
52	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	5	.061	21	.061	O...	1.5												
53	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	6	.061	22	.061	O...	1.5												
54	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	7	.061	23	.061	O...	1.5												
55	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	8	.061	24	.061	O...	1.5												
56	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	9	.061	25	.061	O...	1.5												
57	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	10	.061	26	.061	O...	1.5												
58	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	11	.061	27	.061	O...	1.5												
59	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	4	-.061	20	-.061	O...	1.5												
60	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	5	-.061	21	-.061	O...	1.5												
61	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	6	-.061	22	-.061	O...	1.5												
62	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	7	-.061	23	-.061	O...	1.5												
63	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	8	-.061	24	-.061	O...	1.5												
64	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	9	-.061	25	-.061	O...	1.5												
65	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	10	-.061	26	-.061	O...	1.5												
66	1.2D + 1.5Lm_2 +...	Y...	Y		DL	1.2	11	-.061	27	-.061	O...	1.5												
67	1.2D + 1.5Lm_3 +...	Y...	Y		DL	1.2	4	.061	20	.061	O...	1.5												
68	1.2D + 1.5Lm_3 +...	Y...	Y		DL	1.2	5	.061	21	.061	O...	1.5												
69	1.2D + 1.5Lm_3 +...	Y...	Y		DL	1.2	6	.061	22	.061	O...	1.5												
70	1.2D + 1.5Lm_3 +...	Y...	Y		DL	1.2	7	.061	23	.061	O...	1.5												

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	Factor	BLC	Factor	BLC	Factor	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
71	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	8	.061	24	.061	O...	1.5												
72	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	9	.061	25	.061	O...	1.5												
73	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	10	.061	26	.061	O...	1.5												
74	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	11	.061	27	.061	O...	1.5												
75	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	4	-.061	20	-.061	O...	1.5												
76	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	5	-.061	21	-.061	O...	1.5												
77	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	6	-.061	22	-.061	O...	1.5												
78	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	7	-.061	23	-.061	O...	1.5												
79	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	8	-.061	24	-.061	O...	1.5												
80	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	9	-.061	25	-.061	O...	1.5												
81	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	10	-.061	26	-.061	O...	1.5												
82	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	11	-.061	27	-.061	O...	1.5												
83	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	4	.061	20	.061	O...	1.5												
84	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	5	.061	21	.061	O...	1.5												
85	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	6	.061	22	.061	O...	1.5												
86	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	7	.061	23	.061	O...	1.5												
87	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	8	.061	24	.061	O...	1.5												
88	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	9	.061	25	.061	O...	1.5												
89	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	10	.061	26	.061	O...	1.5												
90	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	11	.061	27	.061	O...	1.5												
91	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	4	-.061	20	-.061	O...	1.5												
92	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	5	-.061	21	-.061	O...	1.5												
93	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	6	-.061	22	-.061	O...	1.5												
94	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	7	-.061	23	-.061	O...	1.5												
95	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	8	-.061	24	-.061	O...	1.5												
96	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	9	-.061	25	-.061	O...	1.5												
97	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	10	-.061	26	-.061	O...	1.5												
98	1.2D + 1.5Lm_4 +..	Y...	Y		DL	1.2	11	-.061	27	-.061	O...	1.5												

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Platform Horizontal Pipe	PIPE 3.0	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Offsett Tube	HSS4X4X4	Beam	None	A36 Gr.36	Typical	3.37	7.8	7.8	12.8
3	Offset Side Plate	0.38 X 6 Plate	Beam	None	A36 Gr.36	Typical	2.28	.027	6.84	.105
4	Grating Angle	L2x2x3	Beam	None	A36 Gr.36	Typical	.722	.271	.271	.009
5	Mount Pipe	PIPE 2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
6	Offset End Plate	0.5 x 6 Plate	Beam	None	A36 Gr.36	Typical	3	.063	9	.237
7	MOD PRK	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	.901	.535	.535	.011

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M103A	Offsett Tube	74.679									Lateral
2	M104A	Offset End ...	4.688			Lbyy						Lateral
3	M105A	Offset Side ...	.875			Lbyy						Lateral
4	M106A	Offset Side ...	.875			Lbyy						Lateral
5	M107A	Offsett Tube	37.688			Lbyy						Lateral
6	M109	Offsett Tube	37.687			Lbyy						Lateral
7	M110	Offset End ...	4.688			Lbyy						Lateral
8	M115	Grating Angle	64.434			Lbyy						Lateral
9	M117A	Grating Angle	64.434			Lbyy						Lateral
10	M122	Offset End ...	3.122			Lbyy						Lateral
11	M123A	Offset Side ...	3			Lbyy						Lateral
12	M126A	Offset End ...	3.122			Lbyy						Lateral
13	M127	Offset Side ...	3			Lbyy						Lateral
14	M128	Offsett Tube	74.679									Lateral
15	M129	Offset End ...	4.688			Lbyy						Lateral
16	M135	Offset End ...	4.688			Lbyy						Lateral
17	M147	Offset End ...	3.122			Lbyy						Lateral
18	M151A	Offset End ...	3.122			Lbyy						Lateral
19	M153	Offsett Tube	74.679									Lateral
20	M154	Offset End ...	4.688			Lbyy						Lateral
21	M160C	Offset End ...	4.688			Lbyy						Lateral
22	M172	Offset End ...	3.122			Lbyy						Lateral
23	M176	Offset End ...	3.122			Lbyy						Lateral
24	M178	Platform Ho...	168	59	67	Lbyy						Lateral
25	M179	Platform Ho...	168	59	67	Lbyy						Lateral
26	M180	Platform Ho...	168	59	67	Lbyy						Lateral
27	M153B	Offset Side ...	.875			Lbyy						Lateral
28	M154B	Offset Side ...	.875			Lbyy						Lateral
29	M155	Offsett Tube	37.688			Lbyy						Lateral
30	M156	Offsett Tube	37.687			Lbyy						Lateral
31	M160D	Grating Angle	64.434			Lbyy						Lateral
32	M162B	Grating Angle	64.434			Lbyy						Lateral
33	M166	Offset Side ...	3			Lbyy						Lateral
34	M168B	Offset Side ...	3			Lbyy						Lateral
35	M169B	Offset Side ...	.875			Lbyy						Lateral
36	M170B	Offset Side ...	.875			Lbyy						Lateral
37	M171	Offsett Tube	37.688			Lbyy						Lateral
38	M172A	Offsett Tube	37.687			Lbyy						Lateral
39	M176A	Grating Angle	64.434			Lbyy						Lateral
40	M178A	Grating Angle	64.434			Lbyy						Lateral
41	M182	Offset Side ...	3			Lbyy						Lateral
42	M184	Offset Side ...	3			Lbyy						Lateral
43	M80	Mount Pipe	78			Lbyy						Lateral
44	M82	Mount Pipe	78			Lbyy						Lateral
45	M84	Mount Pipe	78			Lbyy						Lateral
46	M86	Mount Pipe	78			Lbyy						Lateral
47	M99	Mount Pipe	78			Lbyy						Lateral
48	M101	Mount Pipe	78			Lbyy						Lateral
49	M103	Mount Pipe	78			Lbyy						Lateral
50	M105	Mount Pipe	78			Lbyy						Lateral
51	M118A	Mount Pipe	78			Lbyy						Lateral
52	M120A	Mount Pipe	78			Lbyy						Lateral
53	M122A	Mount Pipe	78			Lbyy						Lateral
54	M124	Mount Pipe	78			Lbyy						Lateral
55	PR5	MOD PRK	50.531									Lateral
56	PR6	MOD PRK	50.531									Lateral
57	PR11	MOD PRK	50.531									Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
58	PR12	MOD PRK	50.531									Lateral
59	PR17	MOD PRK	50.531									Lateral
60	PR18	MOD PRK	50.531									Lateral

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N54	max	647.641	3	1003.438	16	518.662	79	492.66	19	121.314	5	1423.379	12
2		min	-1508.142	27	-2596.95	24	-132.218	39	-314.031	43	-994.269	77	-1423.475	4
3	N36	max	829.331	3	2569.944	30	500.589	69	322.322	59	111.762	17	1419.003	18
4		min	-1547.84	27	-944.106	6	-132.703	61	-353.485	19	-938.652	73	-1418.954	10
5	N2	max	2937.905	19	917.569	15	314.046	27	253.035	7	428.731	27	1312.861	7
6		min	-1081.771	11	-917.32	7	-23.652	82	-271.394	15	-27.231	67	-1312.765	15
7	P21	max	1615.392	24	2797.798	24	2531.566	24	618.001	24	-52.893	1	66.872	12
8		min	296.441	1	513.604	1	458.668	16	110.558	16	-355.793	27	-64.748	4
9	P13	max	1609.441	30	-508.33	1	2523.095	30	-108.867	6	-51.399	1	64.999	18
10		min	293.378	1	-2788.335	30	456.206	6	-608.292	30	-368.339	27	-66.933	10
11	P5	max	-588.05	11	60.074	15	2503.505	19	35.986	7	704.111	19	64.321	7
12		min	-3193.573	19	-60.066	7	444.653	11	-36.032	15	125.059	11	-64.385	15
13	Totals:	max	3575.762	3	3593.441	15	8518.145	19						
14		min	-3575.763	11	-3593.44	7	1996.845	1						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn...	...	Eqn
1	M103A	HSS4X4X4	.232	43.235	34	.056	0	z	15	96180...	109188	12663	12663	...	H1-1b
2	M153	HSS4X4X4	.231	43.235	23	.094	0	y	77	96180...	109188	12663	12663	...	H1-1b
3	M128	HSS4X4X4	.230	43.235	29	.088	0	y	73	96180...	109188	12663	12663	...	H1-1b
4	M178A	L2x2x3	.229	64.434	22	.012	64.434	z	20	5944.9...	23392.8	557.717	1232.0...	...	H2-1
5	M162B	L2x2x3	.224	64.434	27	.012	64.434	z	26	5944.9...	23392.8	557.717	1233.2...	...	H2-1
6	M117A	L2x2x3	.221	64.434	32	.011	64.434	z	31	5944.9...	23392.8	557.717	1233.8...	...	H2-1
7	M155	HSS4X4X4	.220	37.688	28	.069	37.688	y	19	10571...	109188	12663	12663	...	H1-1b
8	M105A	0.38 X 6 Plate	.220	.875	12	.384	.875	y	22	73624...	73872	584.82	9234	...	H1-1b
9	M172A	HSS4X4X4	.217	0	26	.068	0	y	19	10571...	109188	12663	12663	...	H1-1b
10	M124	PIPE_2.0	.217	47.211	8	.025	28.737		6	19360...	32130	1871.6...	1871.6...	...	H1-1b
11	M105	PIPE_2.0	.217	47.211	14	.025	28.737		16	19360...	32130	1871.6...	1871.6...	...	H1-1b
12	M86	PIPE_2.0	.216	47.211	3	.028	49.263		15	19360...	32130	1871.6...	1871.6...	...	H1-1b
13	M153B	0.38 X 6 Plate	.215	.875	7	.381	.875	y	32	73624...	73872	584.82	9234	...	H1-1b
14	M169B	0.38 X 6 Plate	.213	.875	34	.330	.875	y	27	73624...	73872	584.82	9234	...	H1-1b
15	M171	HSS4X4X4	.208	37.688	23	.066	37.688	y	30	10571...	109188	12663	12663	...	H1-1b
16	M160D	L2x2x3	.207	64.434	33	.010	64.434	y	34	5944.8...	23392.8	557.717	1239.29...	...	H2-1
17	M176A	L2x2x3	.204	64.434	27	.010	64.434	y	29	5944.8...	23392.8	557.717	1239.29...	...	H2-1
18	M99	PIPE_2.0	.203	47.211	14	.026	28.737		16	19360...	32130	1871.6...	1871.6...	...	H1-1b
19	M118A	PIPE_2.0	.203	47.211	8	.026	28.737		11	19360...	32130	1871.6...	1871.6...	...	H1-1b
20	M80	PIPE_2.0	.203	47.211	3	.026	28.737		5	19360...	32130	1871.6...	1871.6...	...	H1-1b
21	M156	HSS4X4X4	.202	0	31	.064	0	y	24	10571...	109188	12663	12663	...	H1-1b
22	M115	L2x2x3	.200	64.434	22	.010	64.434	y	23	5944.8...	23392.8	557.717	1239.29...	...	H2-1
23	M168B	0.38 X 6 Plate	.199	1.5	4	.511	3	y	27	71019...	73872	584.82	9234	...	H1-1b
24	M127	0.38 X 6 Plate	.198	1.5	9	.549	3	y	32	71019...	73872	584.82	9234	...	H1-1b
25	M184	0.38 X 6 Plate	.198	1.5	15	.553	3	y	22	71019...	73872	584.82	9234	...	H1-1b
26	M154B	0.38 X 6 Plate	.197	.875	20	.358	.875	y	27	73624...	73872	584.82	9234	...	H1-1b
27	M107A	HSS4X4X4	.196	37.688	34	.063	37.688	y	24	10571...	109188	12663	12663	...	H1-1b
28	M106A	0.38 X 6 Plate	.196	.875	26	.405	.875	y	32	73624...	73872	584.82	9234	...	H1-1b
29	M182	0.38 X 6 Plate	.196	1.5	18	.478	3	y	27	71020...	73872	584.82	9234	...	H1-1b
30	M170B	0.38 X 6 Plate	.195	.875	31	.402	.875	y	22	73624...	73872	584.82	9234	...	H1-1b
31	M166	0.38 X 6 Plate	.194	1.5	7	.526	3	y	32	71020...	73872	584.82	9234	...	H1-1b

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pn...	phi*Pn...	phi*Mn..	phi*Mn...	...	Eqn
32	M123A	0.38 X 6 Plate	.192	1.5	12	.522	3	y	22	71020...	73872	584.82	9234	...	H1-1b
33	M109	HSS4X4X4	.191	0	20	.061	0	y	30	10571...	109188	12663	12663	...	H1-1b
34	PR12	L2.5x2.5x3	.179	25.266	27	.005	0	z	28	16255...	29192.4	872.574	1733.1...	...	H2-1
35	M103	PIPE_2.0	.176	47.211	6	.026	47.211		11	19360...	32130	1871.6..	1871.6..	...	H1-1b
36	M122A	PIPE_2.0	.176	47.211	16	.026	47.211		6	19360...	32130	1871.6..	1871.6..	...	H1-1b
37	M84	PIPE_2.0	.176	47.211	11	.026	47.211		16	19360...	32130	1871.6..	1871.6..	...	H1-1b
38	PR6	L2.5x2.5x3	.175	25.266	32	.004	50.531	z	34	16255...	29192.4	872.574	1733.1...	...	H2-1
39	PR18	L2.5x2.5x3	.173	25.266	21	.004	50.531	z	23	16255...	29192.4	872.574	1733.1...	...	H2-1
40	PR17	L2.5x2.5x3	.169	25.266	27	.004	0	y	23	16255...	29192.4	872.574	1733.1...	...	H2-1
41	M178	PIPE_3.0	.168	39.789	87	.101	13.263		27	55183...	65205	5748.75	5748.75	1	H1-1b
42	PR5	L2.5x2.5x3	.164	25.266	22	.004	50.531	y	34	16255...	29192.4	872.574	1733.1...	...	H2-1
43	PR11	L2.5x2.5x3	.162	25.266	33	.005	50.531	y	28	16255...	29192.4	872.574	1733.1...	...	H2-1
44	M135	0.5 x 6 Plate	.152	0	15	.209	0	y	32	91950...	97200	1012.5	12150	...	H1-1b
45	M160C	0.5 x 6 Plate	.151	0	10	.199	0	y	27	91950...	97200	1012.5	12150	...	H1-1b
46	M110	0.5 x 6 Plate	.151	0	4	.202	0	y	22	91950...	97200	1012.5	12150	...	H1-1b
47	M154	0.5 x 6 Plate	.150	4.688	7	.266	4.688	y	22	91950...	97200	1012.5	12150	...	H1-1b
48	M129	0.5 x 6 Plate	.150	4.688	12	.258	4.688	y	27	91950...	97200	1012.5	12150	...	H1-1b
49	M104A	0.5 x 6 Plate	.149	4.688	18	.259	4.688	y	32	91950...	97200	1012.5	12150	...	H1-1b
50	M101	PIPE_2.0	.143	47.211	6	.027	47.211		11	19360...	32130	1871.6..	1871.6..	...	H1-1b
51	M82	PIPE_2.0	.143	47.211	11	.028	47.211		17	19360...	32130	1871.6..	1871.6..	...	H1-1b
52	M120A	PIPE_2.0	.143	47.211	16	.027	47.211		6	19360...	32130	1871.6..	1871.6..	...	H1-1b
53	M180	PIPE_3.0	.088	39.789	28	.102	13.263		32	55183...	65205	5748.75	5748.75	1	H1-1b
54	M179	PIPE_3.0	.083	39.789	34	.103	13.263		22	55183...	65205	5748.75	5748.75	1	H1-1b
55	M172	0.5 x 6 Plate	.049	0	18	.510	0	y	27	94834...	97200	1012.5	12150	...	H1-1b
56	M147	0.5 x 6 Plate	.049	0	7	.526	0	y	32	94834...	97200	1012.5	12150	...	H1-1b
57	M122	0.5 x 6 Plate	.048	0	12	.514	0	y	22	94834...	97200	1012.5	12150	...	H1-1b
58	M151A	0.5 x 6 Plate	.047	0	4	.637	0	y	27	94834...	97200	1012.5	12150	...	H1-1b
59	M176	0.5 x 6 Plate	.047	0	15	.651	0	y	22	94834...	97200	1012.5	12150	...	H1-1b
60	M126A	0.5 x 6 Plate	.047	0	10	.639	0	y	32	94834...	97200	1012.5	12150	...	H1-1b

APPENDIX D

ADDITIONAL CALCULATIONS

CLSGroup

Bolted Connection Checks
AISC 14th Edition (360-10)

Member/ Node Number	LC	Tensile Load, T_u (kips)	Shear Load, V_u (kips)	Bolt Diameter (in)	Number of Bolts	Shear Planes per Bolt	U-Bolt?	Bolt Grade	Connected Member Thickness (in)	Connected Member Edge Clear Distance (in)	Connected Member Ultimate Strength, F_u (ksi)	Bolt Tensile Usage	Bolt Shear Usage	Member Bearing Usage
PR6	31	0.000	2.130	0.625	1	1	No	A325-N (1/2" to 1" Dia)	0.5	0.875	58	0%	17%	9%
M83	18	0.197	0.412	0.5	2	1	Yes	A36	0.5	0.875	58	2%	3%	0%

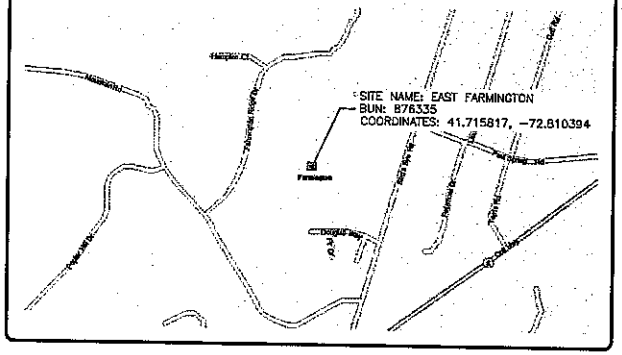
APPENDIX E

MOUNT MODIFICATION DESIGN DRAWINGS (MDD)

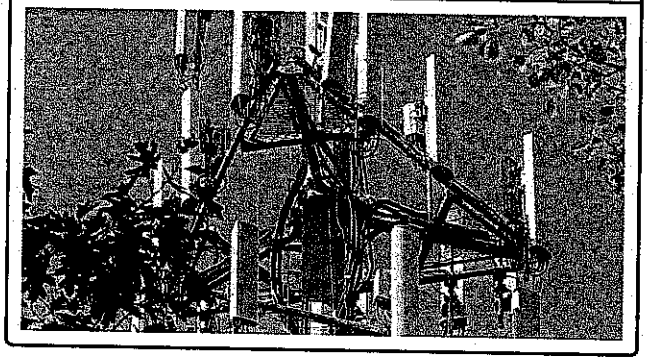
verizonwireless
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CARRIER SITE NAME	NUMBER:	NEW BRITAIN 5 CT	64052
BUN	ORDER ID:	876335	499011 REV. #0
CROWN CASTLE SITE NAME:	EAST FARMINGTON
STRUCTURE TYPE:	140'-0" MONOPOLE
PROJECT SCOPE:	MOUNT REINFORCEMENT

LOCATION MAP



STRUCTURE ELEVATION PHOTOGRAPH



DRAWING INDEX

SHEET	SHEET DESCRIPTION	REV
T-1	TITLE SHEET & DRAWING INDEX	0
GN-1	STRUCTURAL NOTES	0
IN-1	MODIFICATION INSPECTION NOTES	0
S-1	MOUNT VIEWS & MODIFICATION SCHEDULE	0
S-2	MODIFICATION DETAIL VIEWS	0

SCOPE OF WORK

1. THIS MODIFICATION PLAN HAS BEEN DESIGNED UTILIZING THE STRUCTURAL ANALYSIS BY CLS ENGINEERING, REPORT #42284-NG64052-02-MOD, DATED JULY 24, 2019.
2. FULL MODIFICATION SCHEDULE CAN BE FOUND ON S-1.
3. CONTRACTOR SHALL SCHEDULE A SITE VISIT TO CONFIRM ALL EXISTING STRUCTURE DIMENSIONS, SITE CONSTRAINTS, PROPOSED REINFORCING DIMENSIONS, THE CLEARANCES OF THE PROPOSED REINFORCING, EXISTING FOUNDATION INFORMATION, EXISTING SITE UTILITIES, AND ALL OTHER INFORMATION NECESSARY TO PERFORM THE WORK ON THESE DRAWINGS IN ORDER TO ELIMINATE THE RISK OF RFIS ONCE CONSTRUCTION AND FABRICATION HAVE BEGUN. THE CONTRACTOR SHALL NOT BEGIN FABRICATION OR CONSTRUCTION PRIOR TO PERFORMING THIS SITE VISIT AND VALIDATING THE INFORMATION ON THESE DRAWINGS AND ANY ADDITIONAL INFORMATION THE CONTRACTOR NEEDS TO PERFORM THE WORK.
4. THE CONTRACTOR SHALL PERFORM THIS PRE-CONSTRUCTION WORK AND REPORT ALL DISCREPANCIES TO THE CUSTOMER AND THE ENGINEER OF RECORD OR BE LIABLE FOR THE LABOR & MATERIALS FOR DISCREPANCIES NOT CAUGHT BY THE CONTRACTOR'S DUE DILIGENCE SITE VISIT.

DRIVING DIRECTIONS

FROM BRADLEY INTERNATIONAL AIRPORT.

DEPART BRADLEY INTL AIRPORT TOWARD BRADLEY FIELD CONNECTOR. IN 0.4 MILES KEEP RIGHT ONTO BRADLEY FIELD CONNECTOR. IN 0.9 MILES ROAD NAME CHANGES TO CT-20 E. IN 3.2 MILES TAKE RAMP RIGHT FOR I-91 SOUTH TOWARD HARTFORD. IN 9.4 MILES TAKE EXIT RAMP 32A-32B ON THE RIGHT FOR I-84 WEST TOWARD WATERBURY. IN 8.5 MILES TAKE EXIT RAMP 38 ON THE RIGHT FOR US-6 WEST TOWARD BRISTOL. IN 0.3 MILES KEEP STRAIGHT ONTO US-6 W/ COLT HWY. IN 0.8 MILES TURN RIGHT ONTO BIRD'S EYE RD. IN 0.2 MILES TURN LEFT ONTO DOUGLAS WAY. IN 0.1 MILES ARRIVE AT SITE ACCESS ON THE RIGHT.

PROJECT TEAM

ENGINEER/ARCHITECT:
CLS ENGINEERING, PLLC.
319 CHAPANOKE ROAD, SUITE 118
RALEIGH, NC 27603
(405) 348-5460

APPLICANT/CUSTOMER:
VERIZON WIRELESS
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

STRUCTURE OWNER:
CROWN CASTLE
2000 CORPORATE DRIVE
CANONSBURG, PA 15317

OWNER SITE NAME:
EAST FARMINGTON

BUN:
876335

PROJECT INFORMATION

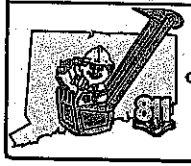
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	140'-0"
LATITUDE:	41.715817 (NAD 83)
LONGITUDE:	-72.810394 (NAD 83)
ADDRESS:	876335 - EAST FARMINGTON
	3 A BIRDSEYE ROAD
	FARMINGTON, CT 06030
COUNTY:	HARTFORD
CODE JURISDICTION:	TOWN OF FARMINGTON
GROUND ELEVATION:	414' AMSL

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

STRUCTURAL CODE: IBC 2015/2018 CT STATE BUILDING CODE
DESIGN STANDARD: TIA-222-G

ONE CALL



CALL CONNECTICUT ONE-CALL
3 DAYS BEFORE YOU DIG
811 OR 1-800-922-4455

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OR ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE SAME.

verizonwireless
180 WASHINGTON VALLEY ROAD BEDMINSTER, NJ 07921

CROWN CASTLE

CLS ENGINEERING PLLC
319 CHAPANOKE ROAD, SUITE 118, RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4855

CLS PROJECT ID: 42284-876335-499011-64052
COA# PEC.001633 EXP: 08/14/2019

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/19	PRELIMINARY ISSUE	CWD
0	07/24/19	FOR CONSTRUCTION	CWD

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

STATE OF CONNECTICUT
TYLER M BARKER
No. 32402
LICENSED
PROFESSIONAL ENGINEER

Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2020
COA # PEC.001633 Exp. 8/14/2019

7/24/2019

PE# 32402 EXP: 1/31/2020

NEW BRITAIN 5 CT
CARRIER SITE NUMBER: 64052
BUN: 876335
3 A BIRDSEYE ROAD
FARMINGTON, CT 06030

SHEET TITLE
TITLE SHEET & DRAWING INDEX

SHEET NUMBER
T-1

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222, ASCE 7, AWS, ACI, AND AISC. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE-MENTIONED CODES AND THE CONTRACT SPECIFICATIONS.
2. ALL MATERIALS UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS.
3. ALL PRODUCT OR MATERIAL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER SUITABLE TO DETERMINE IF SUBSTITUTE IS ACCEPTABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWING(S) TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
5. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS AND REINFORCING SHALL MAINTAIN THE EXISTING MEMBER WORK LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
6. ANY CONTRACTOR-CAUSED DAMAGE TO PROPERTY OF THE LAND OWNER, PROPERTY OF THE STRUCTURE OWNER, PROPERTY OF THE CUSTOMER, SITE FENCING OR GATES, ANY AND ALL UTILITY AND/OR SERVICE LINES, SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE REPAIRED OR REPLACED AT THE SOLE COST OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED BY THE CONTRACTOR OR SUBCONTRACTOR AS APPROVED BY THE ENGINEER OF RECORD AND LAND OWNER. DAMAGE TO EQUIPMENT OR PROPERTY OF ANY KIND BELONGING TO OTHER COMPANIES (BESIDES THE INDICATED CUSTOMER) SHALL BE ADDRESSED BY THE CONTRACTOR WITH THE COMPANIES THAT OWN THE DAMAGED ITEMS.

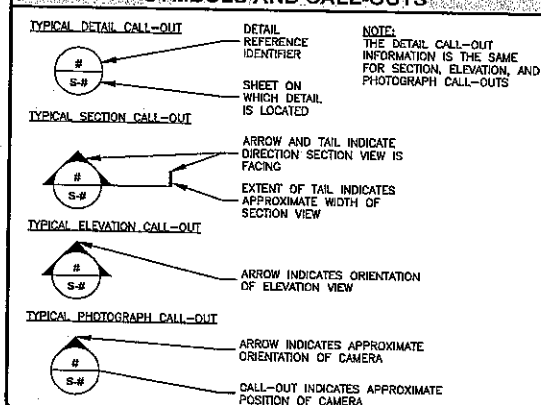
STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS:
   - A. STRUCTURAL STEEL SHAPES, PLATES AND BARS (EXCEPT W-SHAPES)- ASTM A36, Fy=36 KSI
   - B. PIPES – ASTM A53, GRADE B, Fy=35 KSI
   - C. HSS-SHAPES – ASTM A500, GRADE B, Fy=42 KSI (ROUND)
     Fy=46 KSI (SQUARE & RECTANGULAR)
   - D. ANCHOR & ALL-THREAD RODS – ASTM F1554, GRADE 55
   - E. STRUCTURAL BOLTS 1/2"ø AND LARGER – ASTM A325
   - F. STRUCTURAL BOLTS SMALLER THAN 1/2"ø – DIMENSIONS: ASME B18.2.1
     MATERIAL: SAE J429 GRADE 5 | THREADING: ASME B1.1, UNC, CLASS 2A | FINISH: HOT-DIP GALVANIZED OR ZINC-PLATED
   - G. SHEET METAL SCREWS – DIMENSIONS: ASME B18.6.3
     MATERIAL: SAE J933 | FINISH: HOT-DIP GALVANIZED OR ZINC-PLATED
   - H. NUTS FOR BOLTS/ALL-THREAD – ASTM A563 (THREADING TO MATCH BOLT)
   - I. WASHERS FOR BOLTS/ALL-THREAD – ASTM F436
   - J. W & WT SHAPES – ASTM A36, Fy=36 KSI
     ALTERNATE SPEC: ASTM A992 (IF OTHER SPEC IS UNAVAILABLE)
2. STRUCTURAL BOLTS SHALL CONFORM TO THIS NOTE. ALL BOLT HOLES SHALL BE STANDARD SIZE BOLT HOLES PER AISC 360, UNLESS OTHERWISE NOTED. ALL HOLES SHALL BE SHOP DRILLED OR SUB-PUNCHED AND REAMED. BURNING OF HOLES IS NOT PERMITTED. WHERE SLOTTED OR OVERSIZE HOLES ARE SPECIFIED ON THE DRAWINGS, EXTRA-THICK ASTM F436 PLATE WASHERS SHALL BE USED (5/16" MINIMUM THICKNESS) WITH A DIAMETER SUITABLE TO COVER THE EXTENTS OF THE SLOT OR HOLE. BOLTS SHALL BE HEAVY-HEX WHERE AVAILABLE IN THE SIZE AND GRADE SPECIFIED, OTHERWISE BOLTS SHALL BE HEX HEAD CAP SCREWS.
3. ALL STEEL HARDWARE, INCLUDING ADHESIVE OR EMBEDDED ANCHOR BOLTS AND THEIR ACCESSORIES, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 (EXCEPT BOLTS SMALLER THAN 1/2" SHALL CONFORM TO FE/ZN 3 AT PER ASTM F1941 WHERE HOT-DIP GALVANIZED BOLTS ARE NOT AVAILABLE). ALL STEEL MEMBERS, INCLUDING WELDMENTS, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. REPAIR DAMAGE TO GALVANIZED COATINGS USING ASTM A780 PROCEDURES WITH A ZINC RICH PAINT (SUCH AS ZRC GALVILITE) FOR GALVANIZING DAMAGED BY HANDLING, TRANSPORTING, CUTTING, WELDING, OR BOLTING. DO NOT HEAT SURFACES TO WHICH REPAIR PAINT HAS BEEN APPLIED. CALL OUT HOLES REQUIRED FOR HOT-DIP GALVANIZING ON SHOP DRAWINGS.
4. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL WELDING CODE – STEEL". WELD ELECTRODES SHALL BE E70XX. UNLESS OTHERWISE NOTED, PROVIDE CONTINUOUS FILLET WELDS WITH MINIMUM SIZE OF 3/16 INCH OR OF A SIZE EQUAL TO THE THICKNESS OF THE THINNER MATERIAL BEING JOINED (WHICHEVER IS LESS). FOR ACUTE OR OBTUSE JOINT ANGLES, THE FILLET WELD LEG SIZE SHALL BE ADJUSTED AS REQUIRED TO MAINTAIN THE EFFECTIVE THROAT OF A 3/16 INCH FILLET WELD IN A 90° JOINT. ALL WELD SIZES SHOWN IN INCHES.
5. PRIOR TO WELDING, THE CONTRACTOR SHALL SUBMIT CERTIFICATION FOR EACH WELDER STATING THE TYPE OF WELDING AND POSITIONS QUALIFIED FOR, THE CODE AND PROCEDURE QUALIFIED UNDER, DATE QUALIFIED, AND THE FIRM AND INDIVIDUAL CERTIFYING THE QUALIFICATION TESTS. THIS INFORMATION SHALL BE SUBMITTED TO THE MODIFICATION INSPECTOR (SEE SHEET S-003) AS WELL AS ANY THIRD-PARTY CERTIFIED WELD INSPECTOR (CWI).
6. MEMBERS SHALL BE SHOP-FABRICATED AND WELDED TO THE EXTENT PRACTICABLE IN ORDER TO REDUCE FIELD INSTALLATION COSTS.

CONTRACTOR NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, ALL CONTRACTORS AND SUBCONTRACTORS MUST ACKNOWLEDGE IN WRITING TO STRUCTURE OWNER THAT THEY HAVE OBTAINED, UNDERSTAND, AND WILL FOLLOW STRUCTURE OWNER STANDARDS OF PRACTICE, CONSTRUCTION GUIDELINES, ALL SITE AND STRUCTURE/TOWER SAFETY PROCEDURES, ALL PRODUCT LIMITATIONS AND INSTALLATION PROCEDURES USED ON SITE, AND PROPOSED MODIFICATIONS DESCRIBED. RECEIPT OF ACKNOWLEDGEMENT MUST OCCUR PRIOR TO BEGINNING CONSTRUCTION OR CLIMBING. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THIS DOCUMENTATION FOR STRUCTURE OWNER ON COMPANY LETTERHEAD AND THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN THIS DOCUMENTATION FROM ANY SUBCONTRACTORS (ON SUBCONTRACTOR LETTERHEAD) AND DELIVER IT TO THE STRUCTURE OWNER.
2. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, THE ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY TO EVALUATE THE SIGNIFICANCE OF THE DEVIATION.
3. THE CONTRACTOR SHALL SOLICIT AND HIRE THE SERVICES OF A QUALIFIED MODIFICATION INSPECTOR PRIOR TO BEGINNING CONSTRUCTION. THE MODIFICATION INSPECTOR MAY BE AN EMPLOYEE OF THE CONTRACTOR'S FIRM, HOWEVER THE INSPECTOR'S ONLY DUTIES SHALL BE INSPECTION, TESTING, AND REPORT CREATION AS REQUIRED ON THE "MODIFICATION INSPECTION NOTES" SHEET. THE INSPECTOR SHALL BE QUALIFIED AS A REGISTERED PROFESSIONAL ENGINEER (PE) OR AS AN ENGINEERING INTERN (EI) OR ENGINEER IN TRAINING (EIT) UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER (PE). IT IS ALSO ACCEPTABLE FOR THE CONTRACTOR TO SUBCONTRACT THE MODIFICATION INSPECTOR DUTIES TO A THIRD PARTY FIRM MEETING THE ABOVE REQUIREMENTS.
4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AND TOWER OWNER OF THE PLANNED CONSTRUCTION & INSPECTION SCHEDULE, AS WELL AS ANY CHANGES TO THE SCHEDULE, WITHIN TWO BUSINESS DAYS OF THE COMPLETION OF THE SCHEDULE OR SCHEDULE REVISION BOTH PRIOR TO BEGINNING CONSTRUCTION AND DURING CONSTRUCTION AS THE SCHEDULE CHANGES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD WHEN PHASES OF CONSTRUCTION HAVE BEEN MOVED UP AND SHALL GIVE THE ENGINEER ADEQUATE NOTICE SO THAT THE ENGINEER OF RECORD MAY, AT THEIR DISCRETION, INSPECT PORTIONS OF THE WORK THAT ARE DEEMED CRITICAL TO THE INTEGRITY OF THE STRUCTURE. FAILURE TO PROVIDE THIS NOTICE MAY RESULT IN REJECTION OF THE CONTRACTOR'S WORK. THE CONTRACTOR SHALL ALSO NOTIFY THE ENGINEER OF RECORD AND THE STRUCTURE OWNER WHEN THE WORK HAS BEEN COMPLETED WITHIN 2 BUSINESS DAYS OF THE COMPLETION OF THE WORK AND ASSOCIATED MODIFICATION INSPECTIONS & TESTING.
5. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE. THIS INCLUDES PROVIDING THE NECESSARY CERTIFICATIONS TO THE STRUCTURE OWNER AND ENGINEER INCLUDING BUT NOT LIMITED TO TOWER CLIMBER AND RESCUE CLIMBER CERTIFICATIONS, QUALIFIED WELDER CERTIFICATES, CERTIFIED WELDING INSPECTOR CREDENTIALS, ET CETERA.
6. THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
7. CONTRACTOR SHALL WORK WITHIN THE LIMITS OF THE STRUCTURE OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR.

SYMBOLS AND CALL-OUTS



NOTE:
THE DETAIL CALL-OUT INFORMATION IS THE SAME FOR SECTION, ELEVATION, AND PHOTOGRAPH CALL-OUTS

STANDARD ABBREVIATIONS

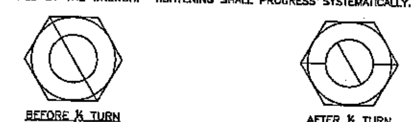
AFF	ABOVE FINISHED FLOOR	LONG	LONGITUDINAL
ARCH	ARCHITECT, -URAL	MAS	MASONRY
BLDG	BUILDING	MATL	MATERIAL
BOD	BOTTOM OF DECK	MAX	MAXIMUM
BOT	BOTTOM	MECH	MECHANICAL
BRCG	BRACING	MFR	MANUFACTURER
BRDG	BRIDGING	MIN	MINIMUM
C	CHANNEL	MOD	MODIFICATION
CL	CENTER LINE	MPH	MILES PER HOUR
CLR	CLEAR	MRI	MEAN RECURRENCE INTERVAL
CMU	CONCRETE MASONRY UNIT	#	NUMBER
CONC	CONCRETE	NTS	NOT TO SCALE
CONT	CONTINUOUS	OC	ON CENTER
DIA (OR) ø	DIAMETER	OPH	OPPOSITE HAND
DWGS	DRAWINGS	OPNG	OPENING
EA	EACH	PC	PIECE
EL	ELEVATION	PL	PLATE
EQ, EQUIV	EQUAL, EQUIVALENT	PSF	POUNDS PER SQUARE FOOT
EW	EACH WAY	PSI	POUNDS PER SQUARE INCH
EXIST	EXISTING	REF	REFERENCE
' OR FT	FEET (DIMENSION)	REINF	REINFORCE/REINFORCEMENT
f'c	COMPRESSIVE STRESS	REQD	REQUIRED
FDN	FOUNDATION	REV	REVISION
FTG	FOOTING	SF	SQUARE FEET
GALV	GALVANIZED	SIM	SIMILAR
HORIZ	HORIZONTAL	SR	SOLID ROUND (SHAPE)
HSS	HOLLOW STRUCTURAL SHAPES	STD	STANDARD
		T&B	TOP AND BOTTOM
KIP	KILOPOUNDS (1000 LBS PER UNIT)	THK	THICKNESS
		TOF	TOP OF FOOTING
KSI	KIPS PER SQUARE INCH	TOM	TOP OF MASONRY
" OR IN	INCH	TOS	TOP OF STEEL
L	ANGLE	TYP	TYPICAL
LB	POUND	UON	UNLESS OTHERWISE NOTED
LLH	LONG LEG HORIZONTAL	VERT	VERTICAL
LLV	LONG LEG VERTICAL	W/	WITH

BOLT TIGHTENING PROCEDURE

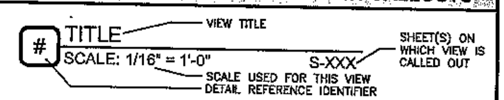
1. TIGHTEN BOLTS BY AISC "TURN OF THE NUT" METHOD USING THE CHART BELOW:
   BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS:
   +1/3 TURN BEYOND SNUG TIGHT
   BOLT LENGTHS OVER FOUR AND UP TO EIGHT DIAMETERS:
   +1/2 TURN BEYOND SNUG TIGHT
   BOLT LENGTHS OVER EIGHT AND UP TO TWELVE DIAMETERS:
   +2/3 TURN BEYOND SNUG TIGHT
2. SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8(d)(1) OF THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS AS FOLLOWS:

   "FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND BE TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8(d)(1) THROUGH 8(d)(4).

   8(d)(1) TURN-OF-THE-NUT TIGHTENING.
   BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION. SNUG TIGHT IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN THE PLIES OF A JOINT ARE IN FIRM CONTACT. THIS MAY BE OBTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. SNUG TIGHTENING SHALL PROGRESS SYSTEMATICALLY...UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION, ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION, THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.



SECTION / ELEVATION / DETAIL VIEW CALLOUTS



verizon wireless

CROWN CASTLE

CLS ENGINEERING PLLC

CLS PROJECT ID: 42284-876335-499011-54052
COA# PEC.001833 EXP. 08/14/2019

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/19	PRELIMINARY ISSUE	CWD
0	07/24/19	FOR CONSTRUCTION	CWD

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

Tyler M. Barker
CLS Engineering, PLLC
7/24/2019

PE# 32402 EXP: 1/31/2020

NEW BRITAIN 5 CT
CARRIER SITE NUMBER: 64052
BU#: 876335
3 A BIRDSEYE ROAD
FARMINGTON, CT 06030

SHEET TITLE
STRUCTURAL NOTES

SHEET NUMBER
GN-1

T:\CROWN CASTLE\42284 - CROWN MOUNT ANALYSIS\876335 EAST FARMINGTON\02 - MOD\CAD\42284-876335-499011-54052.DWG - CLS PROJECT ID: 42284-876335-499011-54052

PRE-CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	MODIFICATION INSPECTION CHECKLIST
√	SHOP DRAWINGS APPROVED BY ENGINEER OF RECORD (LATEST REVISION)
√	FABRICATION INSPECTION
	FABRICATOR'S CERTIFIED WELD INSPECTOR (CWI)
	FABRICATOR'S QUALIFIED PERSONNEL FOR WELDING
√	MATERIAL TEST REPORT(S) / MILL CERTIFICATE(S)
	FABRICATOR'S NON-DESTRUCTIVE TESTING (NDT) TECHNICIAN
√	PACKING SLIPS FOR STRUCTURAL MATERIALS

CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	CONSTRUCTION INSPECTIONS
	FOUNDATION INSPECTIONS
	CONCRETE COMPRESSIVE STRENGTH AND SLUMP TESTING RESULTS/CERTIFICATES
	ADHESIVE ANCHOR ROD(S) INSTALLATION INSPECTION
	BASE PLATE GROUT INSPECTION
	THIRD-PARTY CERTIFIED WELD INSPECTION (INCLUDING IBC SPECIAL INSPECTIONS)
	SOIL EXCAVATION – DENSITY TESTING, COMPACTION INSPECTION/VERIFICATION, USE OF SUITABLE FILL
√	GALVANIZING REPAIR MATERIAL PREPARATION, INSPECTION, & PAINT APPLICATION
	GUY WIRE (RE-)TENSION REPORT AND INSPECTION
√	PRIME CONTRACTOR'S AS-BUILT DOCUMENTS (SIGNED & DATED)

POST-CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	MODIFICATION INSPECTOR'S ISSUE LIST (INCLUDING CORRECTIVE ACTIONS TAKEN) AND/OR REDLINED RECORD DRAWINGS
	POST-INSTALLED ADHESIVE ANCHOR ROD PULL-OUT TESTING
√	PHOTOGRAPHS OF MODIFICATIONS (INCLUDE PHOTOS OF BOTH SIDES OF WELDED OR BOLTED CONNECTIONS, OF OVERALL AND DETAIL VIEWS OF INSTALLED MODIFICATIONS, AND BEFORE/AFTER PHOTOS OF ANY ISSUES IDENTIFIED BY THE INSPECTOR)

GENERAL NOTES

1. THE POST-MODIFICATION INSPECTION IS A VISUAL EXAMINATION OF STRUCTURE MODIFICATIONS AND A REVIEW OF ANY REQUIRED CONSTRUCTION INSPECTIONS, TESTING, AND OTHER DATA TO VERIFY THAT THE MODIFICATIONS ARE INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AS DESIGNED BY THE ENGINEER OF RECORD. THE CONTRACT DOCUMENTS INCLUDE THESE MODIFICATION DRAWINGS, ANY PROJECT SPECIFICATIONS REFERENCED TO IN THE PROJECT NOTES OR OTHERWISE PROVIDED WITH THE DRAWINGS, AND OTHER DOCUMENTS OR DRAWINGS PROVIDED WITH THE MODIFICATION DRAWINGS WITH THE INTENT THAT THEY BE USED AS A DESIGN AID OR GUIDELINE FOR CONSTRUCTION.
2. THE POST-MODIFICATION INSPECTION SHALL CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A QUALITATIVE REVIEW OF THE ENGINEERING ASPECTS OF THE DESIGN OR THE DESIGN DRAWINGS. THE MODIFICATION INSPECTOR IS NOT TAKING OWNERSHIP OF THE MODIFICATION DESIGN IN THE PERFORMANCE OF THEIR DUTIES. OWNERSHIP OF THE MODIFICATION DESIGN'S EFFECTIVENESS AND INTENT, AS WELL AS ALL ASSOCIATED RISK, LIES WITH THE ENGINEER OF RECORD AT ALL TIMES.
3. TO ENSURE THAT THE REQUIREMENTS OF THE POST-MODIFICATION INSPECTION ARE MET, IT IS ESSENTIAL THAT COORDINATION BETWEEN THE PRIME CONTRACTOR AND THE MODIFICATION INSPECTOR BEGIN AS SOON AS THE PROJECT IS FUNDED AND WORK ENTERS THE PLANNING STAGE. THE PRIME CONTRACTOR AND MODIFICATION INSPECTOR SHALL BE PROACTIVE IN IDENTIFYING CONSTRUCTION ISSUES AND COMMUNICATING THESE ISSUES TO EACH OTHER AND TO THE ENGINEER OF RECORD AND STRUCTURE OWNER & CUSTOMER, AS REQUIRED.

INSPECTION AND REPORT RECOMMENDATIONS

1. THE FOLLOWING ARE PROVIDED WITH THE INTENT OF ENHANCING THE EFFECTIVENESS OF THE MODIFICATION INSPECTION AND IMPROVING THE EFFICIENCY OF THE PROCESS OF COLLECTING AND COMPILING THE INFORMATION INTO A USABLE REPORT:

1.1. IT IS RECOMMENDED THAT THE PRIME CONTRACTOR PROVIDE THE MODIFICATION INSPECTOR AT LEAST 5 BUSINESS DAYS NOTICE FOR WHEN THE SITE WILL BE READY FOR THE MODIFICATION INSPECTION.

1.2. THE PRIME CONTRACTOR AND THE MODIFICATION INSPECTOR SHALL COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.

1.3. THE PRIME CONTRACTOR AND MODIFICATION INSPECTOR SHALL BOTH BE PRESENT DURING THE INITIAL INSPECTION IN ORDER TO ALLOW FOR THE REMEDIATION OF DEFICIENCIES DURING THE INSPECTION, AS PRACTICABLE. IT MAY BE PREFERABLE TO KEEP WORK CREWS AND THEIR EQUIPMENT ON-SITE TO REMEDIATE DEFICIENCIES DURING INSPECTIONS.

INSPECTION RESCHEDULING AND CANCELLATION

1. IF THE PRIME CONTRACTOR AND MODIFICATION INSPECTOR HAVE AGREED UPON A TIME AND DATE FOR A GIVEN INSPECTION AND EITHER PARTY RESCHEDULES OR CANCELS THE INSPECTION, THE STRUCTURE OWNER SHALL NOT BE RESPONSIBLE FOR COSTS, FEES, LOST DEPOSITS, OR OTHER EXPENSES INCURRED BY THE PRIME CONTRACTOR, THEIR SUBCONTRACTOR(S), OR THE MODIFICATION INSPECTOR DUE TO THESE SCHEDULING CHANGES. EXCEPTIONS MAY BE MADE IN THE EVENT OF UNCONTROLLABLE SITUATIONS SUCH AS NATURAL DISASTERS, SEVERE WEATHER, OR OTHER CONDITIONS THAT COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

REMEDIATION OF FAILING INSPECTION

1. IN THE EVENT THAT ANY PORTION OF THE MODIFICATION WORK IS DETERMINED TO BE UNSATISFACTORY BY THE MODIFICATION INSPECTOR, THE PRIME CONTRACTOR SHALL WORK WITH THE MODIFICATION INSPECTOR TO CREATE A PLAN OF ACTION THAT WILL EITHER:

1.1. REPAIR THE DEFICIENT WORK TO SATISFACTORY CONDITION AND INCLUDE A SUBSEQUENT RE-INSPECTION OF THE WORK TO VERIFY THAT IT IS SATISFACTORY

1.2. OR, WITH THE PERMISSION OF THE STRUCTURE OWNER AND/OR CUSTOMER, THE PRIME CONTRACTOR MAY WORK WITH THE ENGINEER OF RECORD TO REVIEW THE AS-BUILT CONDITION OF THE MODIFICATION TO DETERMINE IF IT IS STRUCTURALLY ACCEPTABLE. IF THIS ACTION IS NOT ACCEPTABLE TO ANY PARTY, THE PRIME CONTRACTOR SHALL PROCEED TO REPAIR THE DEFICIENT WORK TO A SATISFACTORY CONDITION.

MODIFICATION INSPECTOR'S RESPONSIBILITIES

1. THE MODIFICATION INSPECTOR SHALL CONTACT THE PRIME CONTRACTOR AS SOON AS THEY HAVE RECEIVED A PURCHASE ORDER OR PAYMENT FOR THIS INSPECTION. THE MODIFICATION INSPECTOR SHALL REVIEW THE REQUIREMENTS OF THE INSPECTION CHECKLIST, SHALL WORK WITH THE PRIME CONTRACTOR TO DEVELOP A SCHEDULE OF NECESSARY ON-SITE INSPECTIONS, AND SHALL DISCUSS ANY SITE-SPECIFIC INSPECTION REQUIREMENTS OR OTHER CONCERNS.
2. THE MODIFICATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL PRIME CONTRACTOR INSPECTION AND TEST REPORTS (INCLUDING THOSE OF ASSIGNED SUB-CONTRACTORS), SHALL REVIEW THE REPORTS FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, SHALL CONDUCT THE NECESSARY ON-SITE INSPECTIONS, AND SHALL COMPILE AND SUBMIT THE MODIFICATION INSPECTION REPORT.

PRIME CONTRACTOR'S RESPONSIBILITIES

1. THE PRIME CONTRACTOR SHALL CONTACT THE MODIFICATION INSPECTOR AS SOON AS THEY HAVE RECEIVED A PURCHASE ORDER OR PAYMENT FOR THE MODIFICATION INSTALLATION OR PROJECT. THE PRIME CONTRACTOR SHALL REVIEW THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST, SHALL WORK WITH THE MODIFICATION INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, AND SHALL DISCUSS SPECIFIC INSPECTION AND TESTING REQUIREMENTS WITH THE MODIFICATION INSPECTOR IN DETAIL TO OBTAIN A FULL UNDERSTANDING OF THE REQUIRED INSPECTIONS AND TESTING.
2. THE PRIME CONTRACTOR SHALL PERFORM AND RECORD THE TESTING AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST.

PHOTOGRAPHY REQUIREMENTS

1. THE PRIME CONTRACTOR AND MODIFICATION INSPECTOR SHALL, BETWEEN THE EFFORTS OF BOTH PARTIES AND THEIR EMPLOYED PERSONNEL, PROVIDE PHOTOGRAPHS WITH THE INSPECTION REPORT TO INCLUDE THE FOLLOWING:

a. GENERAL SITE PHOTOGRAPHS PRE-CONSTRUCTION

b. MODIFICATION INSTALLATION PHOTOGRAPHS DURING CONSTRUCTION/ERECTION OPERATIONS AND INSPECTIONS

b.1. RAW MATERIALS

b.2. PHOTOS OF DETAILED WORK REQUIRED ON THE DRAWINGS (CONNECTIONS, WELDMENTS, FIELD-FABRICATED MEMBERS, ETC)

b.3. WELD PREPARATION AND COMPLETED WELD INSPECTION (INCLUDING A FILLET WELD SIZE GAUGE, AS APPLICABLE)

b.4. BOLT INSTALLATION AND TORQUE/PRETENSION.

b.5. FINAL INSTALLED CONDITION (AFTER DEFICIENT CONDITIONS, IF ANY, ARE REMEDIATED).

b.6. REPAIR OF SURFACE COATINGS (INCLUDING GALVANIZING AND/OR PAINT COATING)

c. POST-MODIFICATION PHOTOGRAPHS OF THE SITE & WORK.

d. PHOTOGRAPHS OF THE FINAL STATE OF THE SITE AT CONCLUSION OF THE WORK BY THE PRIME CONTRACTOR, ASSOCIATED SUBCONTRACTORS, AND THE MODIFICATION INSPECTOR.

e. OTHER PHOTOS MAY BE INCLUDED AT PRIME CONTRACTOR & MODIFICATION INSPECTOR'S DISCRETION.

NOTE: PHOTOS OF MODIFICATIONS INSTALLED ON THE STRUCTURE ABOVE AN ELEVATION OF 20 FT SHALL REQUIRE PHOTOS TAKEN FROM THE STRUCTURE AS WELL AS OVERALL PHOTOGRAPHS OF THE MODIFICATIONS TAKEN FROM THE GROUND.

OWNER INSPECTIONS

1. THE STRUCTURE OWNER MAY CONDUCT INSPECTIONS TO VERIFY THE QUALITY AND COMPLETENESS OF THE PREVIOUSLY COMPLETED MODIFICATION INSPECTION REPORTS FOR THE MODIFICATION INSTALLATION WORK.
2. INSPECTIONS MAY BE COMPLETED BY A 3RD-PARTY FIRM OF THE STRUCTURE OWNER'S CHOOSING AFTER A MODIFICATION PROJECT IS COMPLETED AND A PASSING MODIFICATION INSPECTION REPORT IS ISSUED.

verizonwireless

CROWN CASTLE

CLS ENGINEERING PLLC
319 CHAPANOKE ROAD, SUITE 118, RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625

CLS PROJECT ID: 42284-878335-499011-84052
COA# PEC.001833 EXP. 08/14/2019

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/19	PRELIMINARY ISSUE	CWD
0	07/24/19	FOR CONSTRUCTION	CWD

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

STATE OF CONNECTICUT · TYLER M BARKER · No. 32402 · LICENSED · PROFESSIONAL ENGINEER

Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2020
COA # PEC.001833 Exp. 8/14/2019
7/24/2019

PE# 32402 EXP: 1/31/2020

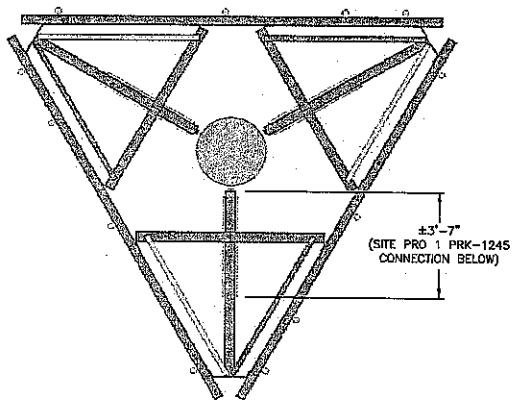
NEW BRITAIN 5 CT
CARRIER SITE NUMBER: 84052
BU#: 876335
3 A BIRDSEYE ROAD
FARMINGTON, CT 06030

SHEET TITLE
MODIFICATION INSPECTION NOTES

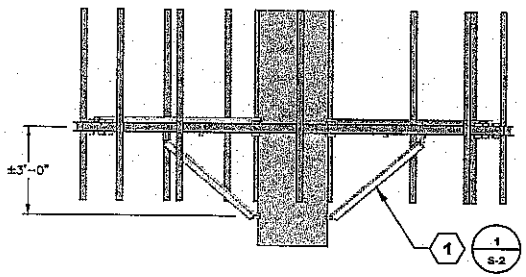
SHEET NUMBER
IN-1

T:\CROWN CASTLE\42284 - CROWN MOUNT ANALYSIS\876335 EAST FARMINGTON\02 - MOD\CAD\42284-876335-499011-84052.DWG - CLS PROJECT ID: 42284-876335-499011-84052

NOTE:
EXISTING MOUNT SHOWN IS REPRESENTATIVE TO ILLUSTRATE MODIFICATION AND MAY DIFFER SLIGHTLY ON SITE



2 MOUNT - PLAN VIEW
SCALE: N.T.S.



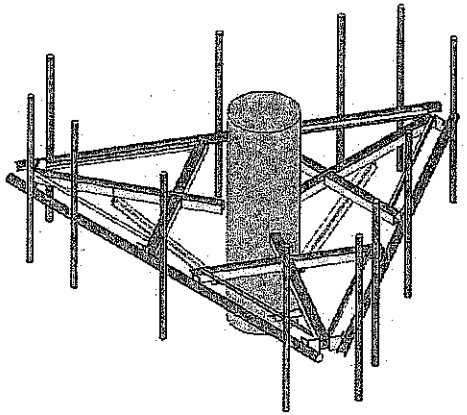
1 MOUNT - FRONT ELEVATION VIEW
SCALE: N.T.S.

CONSTRUCTION NOTES

1. SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH.
2. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHOULD FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
3. ALL HARDWARE SHOULD BE INSTALLED WITH "TURN OF THE NUT" METHOD (RE: GN-1).

MODIFICATION SCHEDULE

LABEL	ELEVATION	SCOPE	MATERIAL	NOTES
1	±108'-0"	INSTALL (1) PROPOSED SITE PRO 1 PRK-1245 AS SPECIFIED.	SITE PRO 1 PRK-1245	S-1 S-2



3 MOUNT - ISOMETRIC VIEW
SCALE: N.T.S.

verizonwireless
320 WASHINGTON VALLEY ROAD BRIDGEWATER, NJ 08807

CROWN CASTLE

CLS ENGINEERING PLLC
310 CHAPANOKE ROAD, SUITE 110, RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625

CLS PROJECT ID: 42284-876335-699011-84052
COA# PEC.001833 EXP. 08/14/2019

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/19	PRELIMINARY ISSUE	CMD
B	07/24/19	FOR CONSTRUCTION	CMD

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

STATE OF CONNECTICUT
TYLER M BARKER
No. 32402
LICENSED
PROFESSIONAL ENGINEER

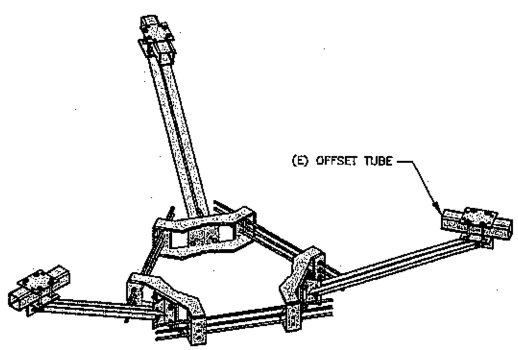
Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2020
COA # PEC.001833 Exp. 8/14/2019 7/24/2019

PE# 32402 EXP: 1/31/2020

NEW BRITAIN 5 CT
CARRIER SITE NUMBER: 84052
BUN: 876335
3 A BIRDSEYE ROAD
FARMINGTON, CT 06030

SHEET TITLE
MOUNT VIEWS & MODIFICATION SCHEDULE

SHEET NUMBER
S-1



1 SITE PRO 1 PRK-1245
SCALE: N.T.S.

verizon wireless

CROWN CASTLE

CLS ENGINEERING PLLC

CLS PROJECT ID: 42284-876335-499011-84052
COA# PEC.001833 EXP. 08/14/2019

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/19	PRELIMINARY ISSUE	CWD
0	07/24/19	FOR CONSTRUCTION	CWD

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

STATE OF CONNECTICUT
TYLER M BARKER
No. 32402
LICENSED
PROFESSIONAL ENGINEER

7/24/2019

PE# 32402 EXP: 1/31/2020

NEW BRITAIN 5 CT
CARRIER SITE NUMBER: 64052
BUN: 876335
3 A BIRDSEYE ROAD
FARMINGTON, CT 06030

SHEET TITLE
MODIFICATION DETAIL VIEWS

SHEET NUMBER
S-2

verizo

EAST FARMIN
130 BIRDSEYE
FARMINGTON,

PROJECT SUMMARY

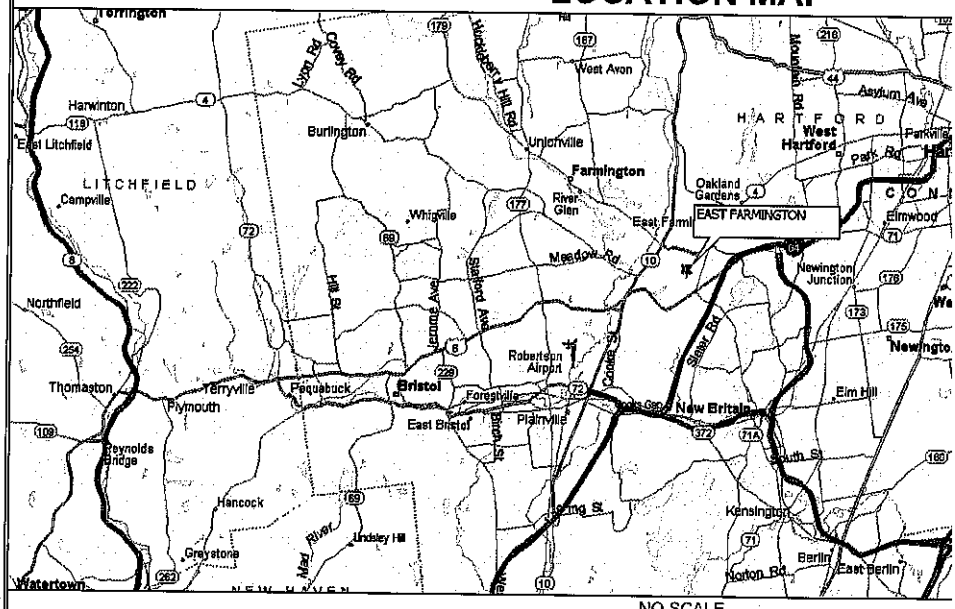
SITE NAME:	EAST FARMINGTON
SITE ADDRESS:	130 BIRDSEYE ROAD FARMINGTON, CT 06032
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DR CANONSBURG, PA 15317
BU NUMBER:	876335
MAP NUMBER:	N/A
LOT NUMBER:	N/A
CUSTOMER/APPLICANT:	VERIZON WIRELESS 400 FRIEBERG PARKWAY WESTBOROUGH, MA 01581
CONTACT:	DAN MYZYRI (617) 945-7288
NAD83	
LATITUDE:	41° 42' 56.94" N
LONGITUDE:	72° 48' 37.42" W
ELEVATION:	462'
CURRENT ZONING:	PR
A&E FIRM:	B+T GROUP 1717 S. BOULDER, SUITE 300 TULSA, OK 74119 MIKE OAKES (918) 587-4630
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE
STRUCTURAL	2018 CT STATE BUILDING CODE
MECHANICAL	2018 CT STATE BUILDING CODE
ELECTRICAL	NEC 2017

LOCATION MAP



NO SCALE

DRIVING DIRECTIONS

DEPART HARTFORD-BRAINARD AIRPORT ON MAXIM RD. ROAD NAME CHANGES TO BRAINARD RD. TAKE F
ONTO I-91. AT EXIT 32A-32B, TURN LEFT ONTO RAMP. TAKE RAMP ONTO I-84 [US-6]. AT EXIT 38,
CHANGES TO US-6 [COLT HWY]. TURN RIGHT ONTO BIRD'S EYE RD [BIRDSEYE RD]. TURN LEFT ONTO
LOCAL ROAD(S) AND ARRIVE AT EAST FARMINGTON.

NOTES:
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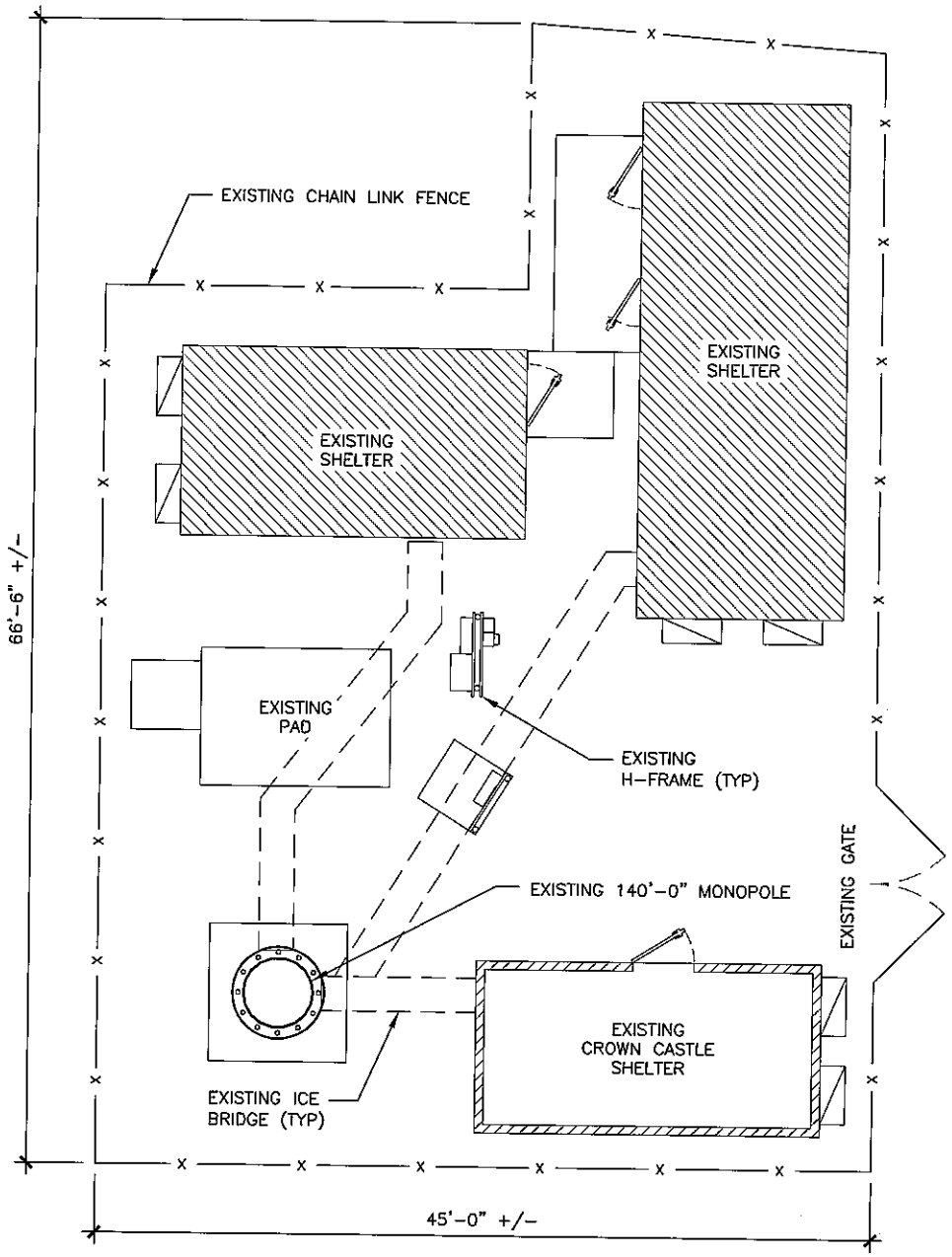
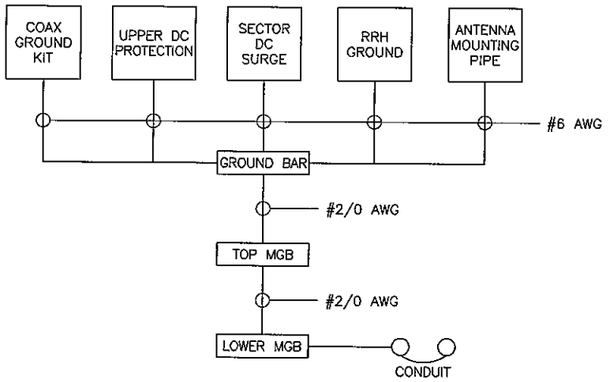


1 COMPOUND PLAN

SCALE: 0' 4' 8' 16' 32'

N

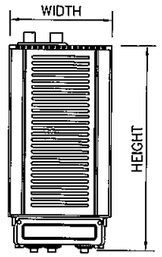
NOTE:
1. INSTALL ALL EQUIPMENT, MOUNTING BRACKETS AND HARDWARE ACCORDING WITH MANUFACTURE'S RECOMMENDATIONS.
2. GROUND DISTRIBUTION BOXES, MOUNTING PIPES AND RRHs IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
3. INSTALLED EQUIPMENT AND MOUNTING BRACKETS SHALL NOT INTERFERE WITH CLIMBING ACCESS NOR ANT INSTALLED SAFETY DEVICES.
4. EQUIPMENT TO BE INSTALLED AT VERIZON'S RAD. CENTER IN ACCORDANCE WITH TOWER STRUCTURAL ANALYSIS (ANALYSIS BY OTHERS).



NOTE:
1. BOND ANTENNA GROUNDING KIT CABLES TO TOP CIBE.
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIBE.
3. TYPICAL FOR ALL SECTORS.

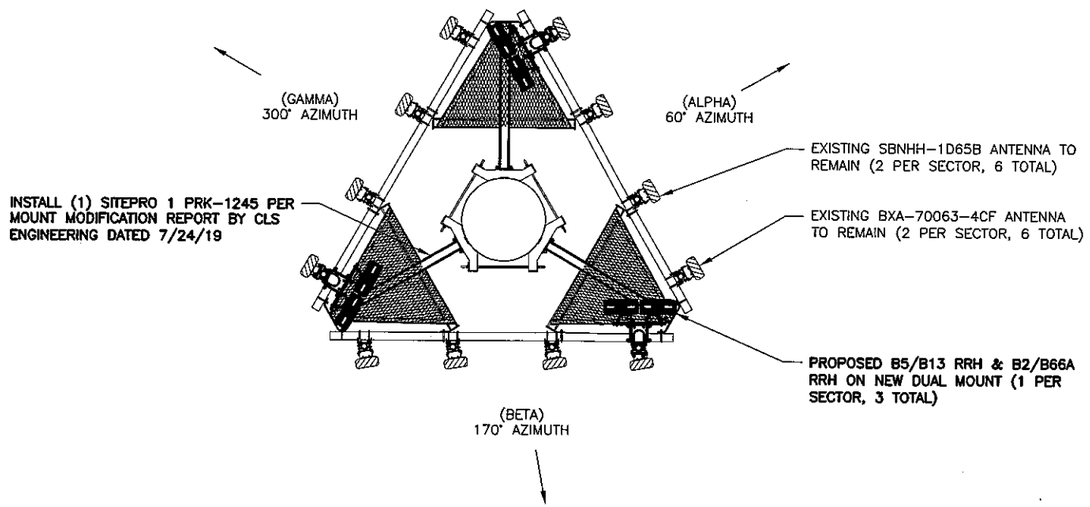
1 GROUNDING SCHEMATIC DIAGRAM
SCALE: N.T.S.

REMOTE RADIO HEAD DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
B2/B66A	15"	15"	10"	84.4 LBS
B5/B13	15"	15"	8.10"	70.3 LBS



2 RRH SPECIFICATIONS
SCALE: N.T.S.

3 NOT USED
SCALE: N.T.S.



4 NOT USED
SCALE: N.T.S.

5 PROPOSED ANTENNA ORIENTATION
SCALE: N.T.S.

N

B+T GRP

verizon
400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

EAST FARMINGTON

130 BIRDSEYE ROAD
FARMINGTON, CT 06032

EXISTING MONOPOLE

PROJECT NO:	77969.017.01
CHECKED BY:	RMC

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	9/17/19	FWP	PERMITTING

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED PROFESSIONAL ENGINEER
9/17/19

SHEET NUMBER:	REVISION:
A-2	0

verizon

EAST FARMINGTON
130 BIRDSEYE ROAD
FARMINGTON, CT 06032

PROJECT SUMMARY

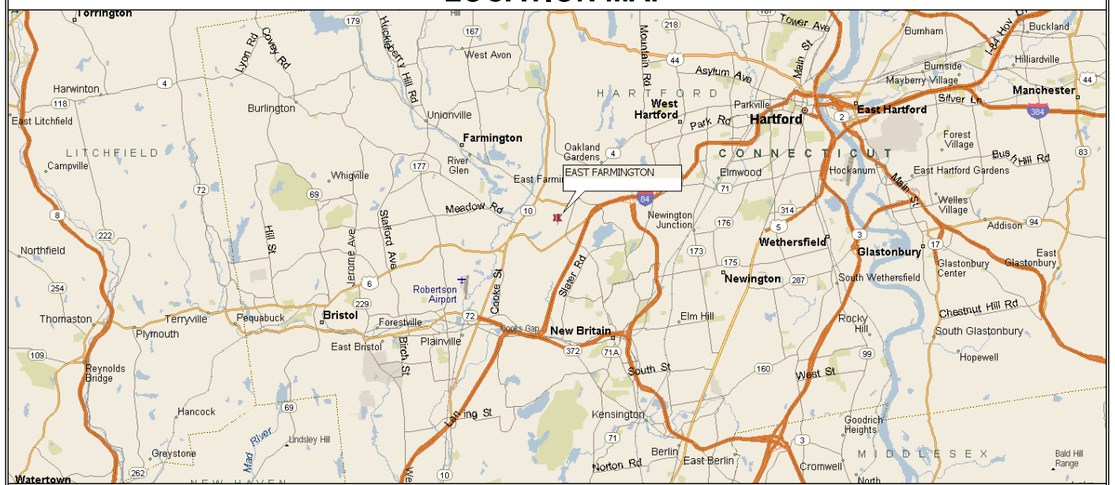
SITE NAME:	EAST FARMINGTON
SITE ADDRESS:	130 BIRDSEYE ROAD FARMINGTON, CT 06032
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DR CANONSBURG, PA 15317
BU NUMBER:	876335
MAP NUMBER:	N/A
LOT NUMBER:	N/A
CUSTOMER/APPLICANT:	VERIZON WIRELESS 400 FRIEBERG PARKWAY WESTBOROUGH, MA 01581
CONTACT:	DAN MYZYRI (617) 945-7288
NAD83	
LATITUDE:	41° 42' 56.94" N
LONGITUDE:	72° 48' 37.42" W
ELEVATION:	462'
CURRENT ZONING:	PR
A&E FIRM:	B+T GROUP 1717 S. BOULDER, SUITE 300 TULSA, OK 74119 MIKE OAKES (918) 587-4630
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE
STRUCTURAL	2018 CT STATE BUILDING CODE
MECHANICAL	2018 CT STATE BUILDING CODE
ELECTRICAL	NEC 2017

LOCATION MAP



NO SCALE

DRIVING DIRECTIONS

DEPART HARTFORD-BRAINARD AIRPORT ON MAXIM RD. ROAD NAME CHANGES TO BRAINARD RD. TAKE RAMP ONTO US-5 [CT-15]. TAKE RAMP ONTO I-91. AT EXIT 32A-32B, TURN LEFT ONTO RAMP. TAKE RAMP ONTO I-84 [US-6]. AT EXIT 38, TURN RIGHT ONTO RAMP. ROAD NAME CHANGES TO US-6 [COLT HWY]. TURN RIGHT ONTO BIRD'S EYE RD [BIRDSEYE RD]. TURN LEFT ONTO MOUNTAIN RD. TURN RIGHT ONTO LOCAL ROAD(S) AND ARRIVE AT EAST FARMINGTON.

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	0
A-1	COMPOUND PLAN AND TOWER ELEVATION	0
A-2	EQUIPMENT DETAILS	0
A-3	SECTOR MOUNT DETAIL	0

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
OWNER:		
R.F. ENGINEER:		
CONSTRUCTION MGR.:		
LEASING & ZONING:		
VERIZON WIRELESS:		

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11x17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL CONNECTICUT ONE CALL
(800) 922-4455
CALL 3 WORKING DAYS
BEFORE YOU DIG!

811

B+T GRP

verizon
400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

EAST FARMINGTON
130 BIRDSEYE ROAD
FARMINGTON, CT 06032
EXISTING MONOPOLE

PROJECT NO:	77969.017.01
CHECKED BY:	RMC

ISSUED FOR:

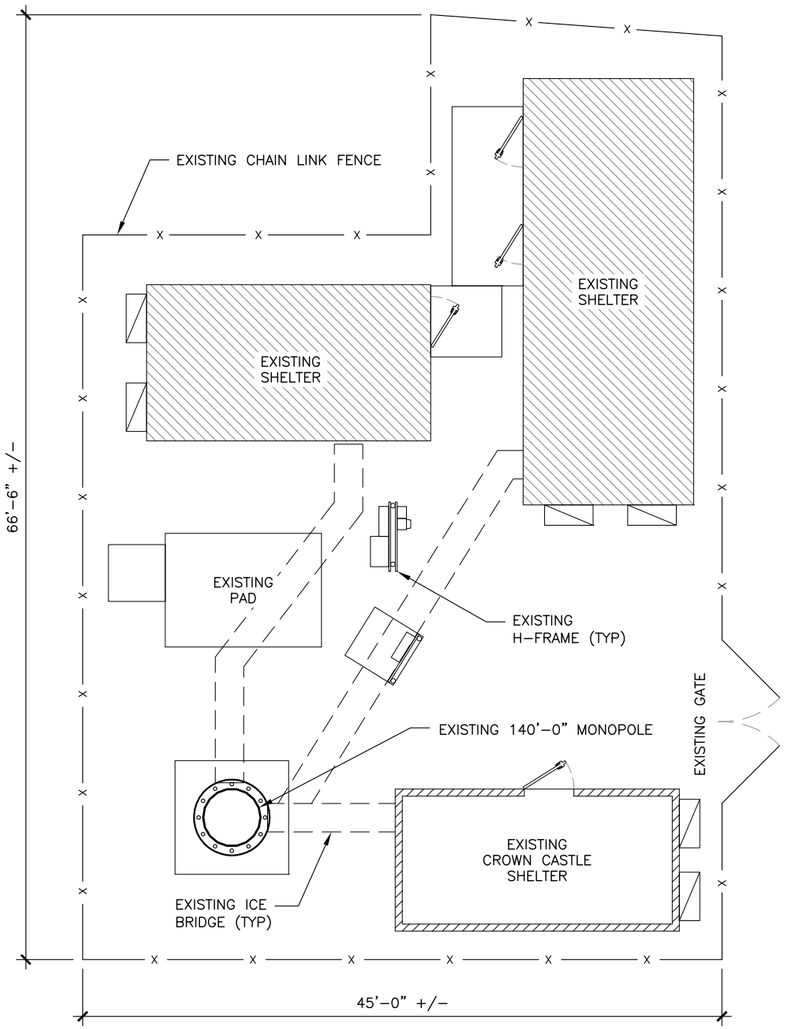
REV	DATE	DRWN	DESCRIPTION
0	9/17/19	FWP	PERMITTING

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
9/17/19

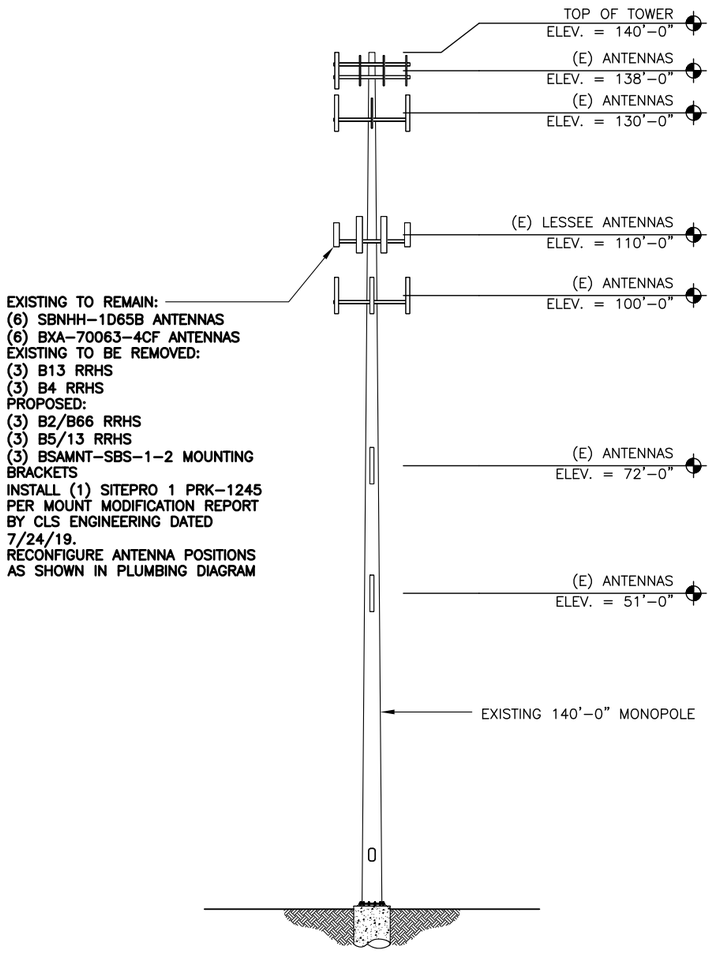
SHEET NUMBER: T-1
REVISION: 0

NOTES:
1. CONTRACTOR TO VERIFY EXACT COAX AND ANTENNA INSTALLATION AND ANTENNA HEIGHT WITH LATEST RF DATA SHEETS PRIOR TO INSTALLATION.
2. STRUCTURAL ANALYSIS DONE BY OTHERS.
3. VERIZON SHALL PROVIDE A STRUCTURAL ANALYSIS OF THE TOWER PREPARED BY A LICENSED STATE STRUCTURAL ENGINEER CERTIFYING THAT THE EXISTING TOWER AND PROPOSED IMPROVEMENTS HAVE SUFFICIENT CAPACITY TO SUPPORT ALL NEW WORK THAT WILL BE DONE IN COMPLIANCE WITH THE CURRENT EDITION OF BUILDING CODES AND EIA/TIA CRITERIA. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY AND ALL IMPROVEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWING OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.CAP AND WEATHERPROFF UNUSED ANTENNA PORTS.
4. ESTIMATED HYBRIFLEX CABLE LENGTH: 159' (EACH RUN)



1 COMPOUND PLAN
SCALE: 0' 4' 8' 16' 32'

N



2 FINAL TOWER ELEVATION
SCALE: 0' 4' 8' 16' 32'

B+T GRP

verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

EAST FARMINGTON

130 BIRDSEYE ROAD
FARMINGTON, CT 06032

EXISTING MONOPOLE

PROJECT NO:	77969.017.01
CHECKED BY:	RMC

ISSUED FOR:

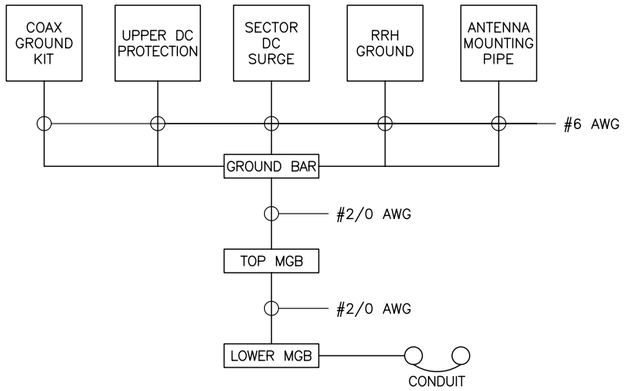
REV	DATE	DRWN	DESCRIPTION
0	9/17/19	FWP	PERMITTING

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED PROFESSIONAL ENGINEER
9/17/19

SHEET NUMBER:	REVISION:
A-1	0

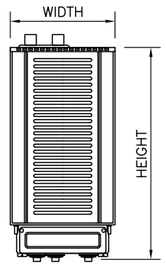
NOTE:
1. INSTALL ALL EQUIPMENT, MOUNTING BRACKETS AND HARDWARE ACCORDING WITH MANUFACTURE'S RECOMMENDATIONS.
2. GROUND DISTRIBUTION BOXES, MOUNTING PIPES AND RRHs IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
3. INSTALLED EQUIPMENT AND MOUNTING BRACKETS SHALL NOT INTERFERE WITH CLIMBING ACCESS NOR ANT INSTALLED SAFETY DEVICES.
4. EQUIPMENT TO BE INSTALLED AT VERIZON'S RAD. CENTER IN ACCORDANCE WITH TOWER STRUCTURAL ANALYSIS (ANALYSIS BY OTHERS).



NOTE:
1. BOND ANTENNA GROUNDING KIT CABLES TO TOP CIBE.
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIBE.
3. TYPICAL FOR ALL SECTORS.

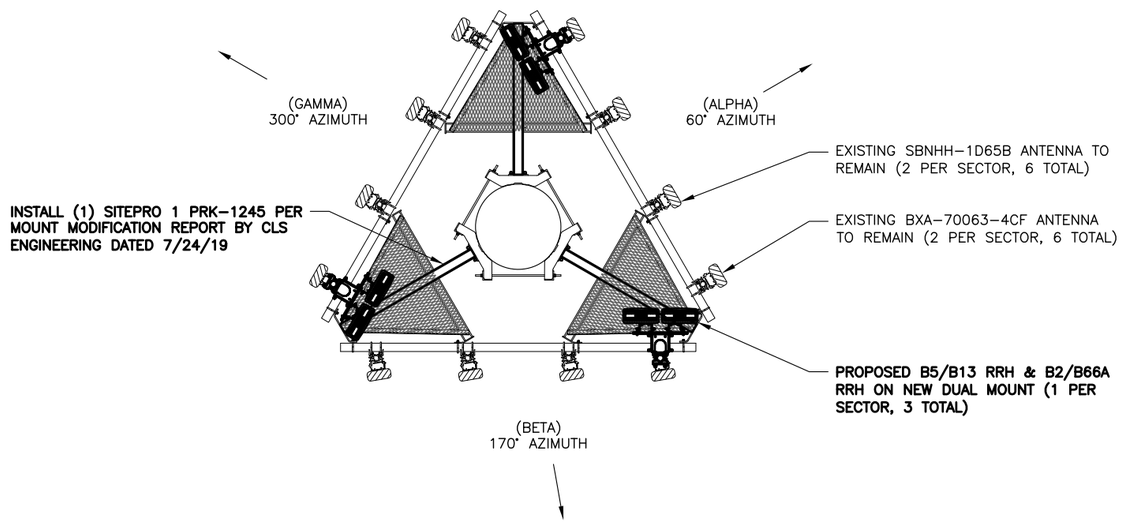
1 GROUNDING SCHEMATIC DIAGRAM
SCALE: N.T.S.

REMOTE RADIO HEAD DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
B2/B66A	15"	15"	10"	84.4 LBS
B5/B13	15"	15"	8.10"	70.3 LBS



2 RRH SPECIFICATIONS
SCALE: N.T.S.

3 NOT USED
SCALE: N.T.S.



4 NOT USED
SCALE: N.T.S.

5 PROPOSED ANTENNA ORIENTATION
SCALE: N.T.S.

N

B+T GRP

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400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

EAST FARMINGTON

130 BIRDSEYE ROAD
FARMINGTON, CT 06032

EXISTING MONOPOLE

PROJECT NO:	77969.017.01
CHECKED BY:	RMC

ISSUED FOR:

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B&T ENGINEERING, INC.
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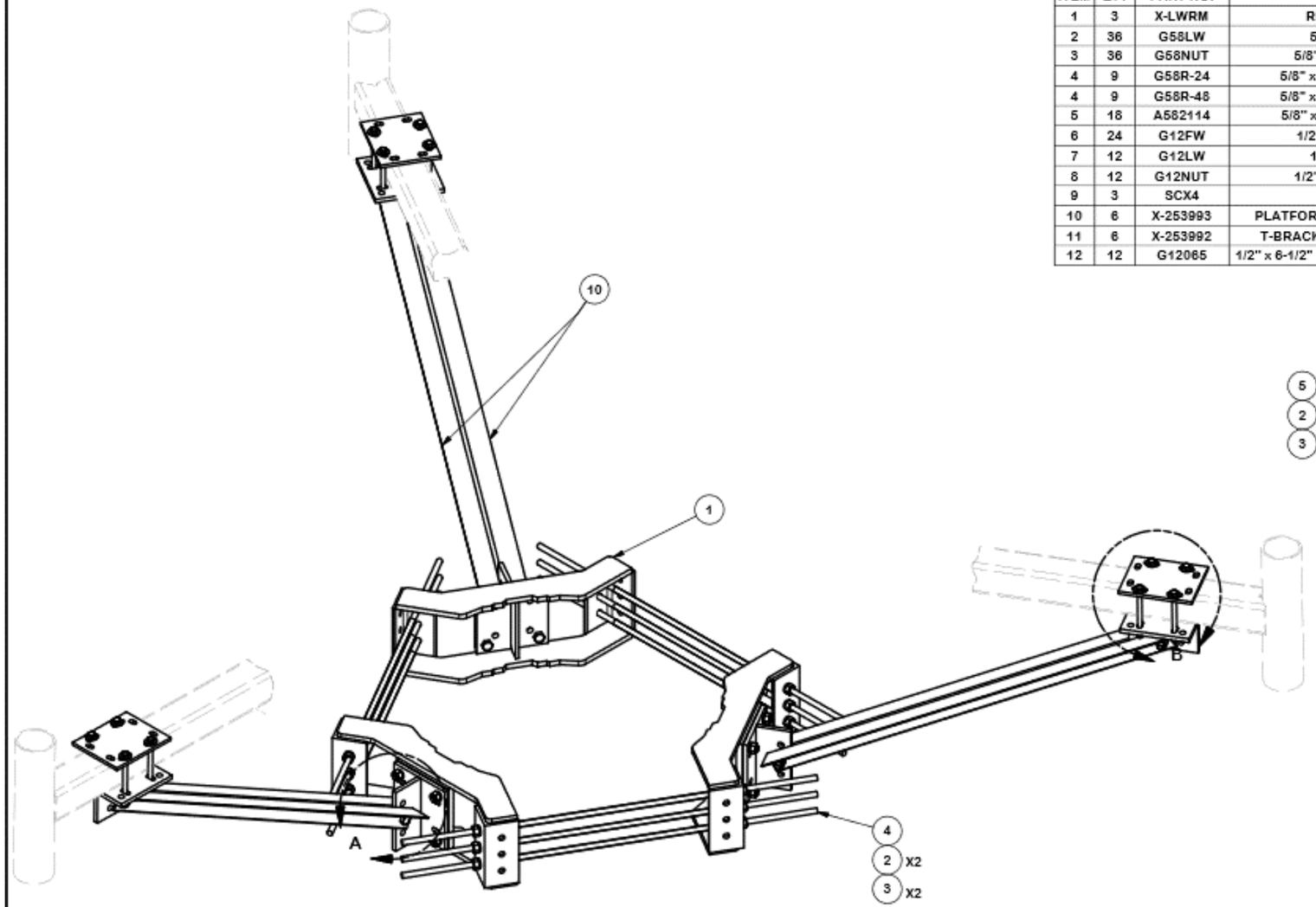
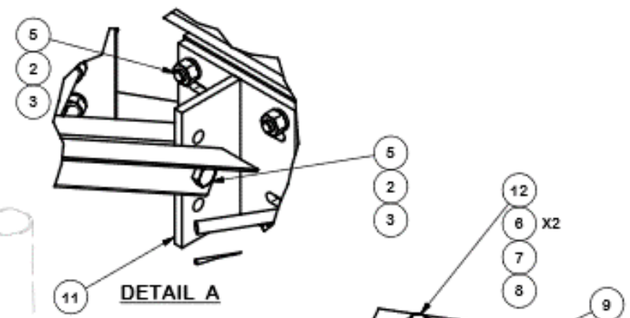
LICENSED
PROFESSIONAL ENGINEER
9/17/19

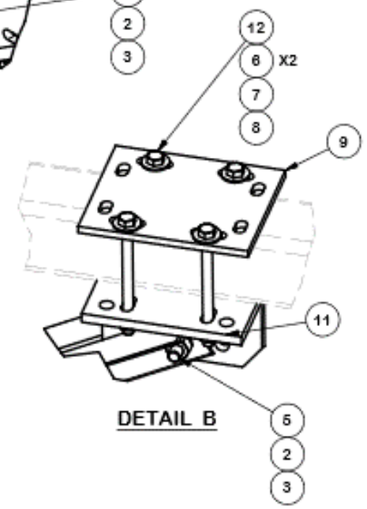
SHEET NUMBER:	REVISION:
A-2	0

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.81	206.42
2	36	G58LW	5/8" HDG LOCKWASHER		0.03	0.94
3	36	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	4.68
4	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	3.59
4	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	3.59
5	18	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	5.62
6	24	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.82
7	12	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.17
8	12	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.86
9	3	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	18.06
10	6	X-253993	PLATFORM REINFORCEMENT KIT ANGLE	52 25/32 in	14.33	85.99
11	6	X-253992	T-BRACKET FOR REINFORCEMENT KIT		13.55	81.27
12	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	4.91
					TOTAL WT. #	466.20





DETAIL A



DETAIL B

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 ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED ALL 5/8" BOLTS TO A582114	4488	CEK	10/1/2015

REVISION HISTORY

DESCRIPTION
PLATFORM RENIFORCEMENT
ON A 12" TO 45" POLE
4' 6" ANGLE

SITE PRO 1 — A valmont COMPANY
Engineering Support Team: 1-888-753-7448
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

OPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
4488	CEK 4/11/2014		PRK-1245	1 OF 2
CLASS / SUB	DRAWING USAGE	CHECKED BY	DWG. NO.	
81 / 01	CUSTOMER	BMC 1/18/2016	PRK-1245	

B+T GRP

verizon
400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

EAST FARMINGTON

130 BIRDSEYE ROAD
FARMINGTON, CT 06032

EXISTING MONOPOLE

PROJECT NO: 77969.017.01
CHECKED BY: RMC

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	9/17/19	FWP	PERMITTING

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED PROFESSIONAL ENGINEER
9/17/19

SHEET NUMBER: A-3
REVISION: 0

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, September 19, 2019 6:26 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 776286601670 Tendered to FedEx

This shipment was tendered to FedEx Express on 09/19/2019.

See "Preparing for Delivery" for helpful tips

Tracking # 776286601670

Ship date:
Thu, 9/19/2019

Jeff Barbadora
Crown Castle
WOBURN, MA 01801
US

Picked up

Scheduled delivery:
Fri, 9/20/2019 by 10:30 am

Director Public Works Russell Arnol
Town of Farmington
1 Monteith Drive
FARMINGTON, CT 06032
US

Shipment Facts

Tracking number:	776286601670
Reference:	1766.6680
Service type:	FedEx Priority Overnight®
Packaging type:	FedEx® Envelope
Number of pieces:	1
Weight:	0.50 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	9/20/2019 by 10:30 am

Preparing for Delivery

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, September 19, 2019 6:26 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 776286579127 Tendered to FedEx

This shipment was tendered to FedEx Express on 09/19/2019.

See "Preparing for Delivery" for helpful tips

Tracking # 776286579127

Ship date:
Thu, 9/19/2019

Jeff Barbadora
Crown Castle
WOBURN, MA 01801
US

Picked up

Scheduled delivery:
Fri, 9/20/2019 by 10:30 am

Town Manager Kathleen Blonski
Town of Farmington
1 Monteith Drive
FARMINGTON, CT 06032
US

Shipment Facts

Tracking number:	776286579127
Reference:	1766.6680
Service type:	FedEx Priority Overnight®
Packaging type:	FedEx® Envelope
Number of pieces:	1
Weight:	0.50 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	9/20/2019 by 10:30 am

Preparing for Delivery

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, September 19, 2019 6:27 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 776286640211 Tendered to FedEx

This shipment was tendered to FedEx Express on 09/19/2019.

See "Preparing for Delivery" for helpful tips

Tracking # 776286640211

Ship date:
Thu, 9/19/2019

Jeff Barbadora
Crown Castle
WOBURN, MA 01801
US

Picked up

Scheduled delivery:
Fri, 9/20/2019 by 12:00 pm

GOIS Holdings of Connecticut, LLC
GOIS Holdings of Connecticut, LLC
125 Brookside Drive
UXBRIDGE, MA 01569
US

Shipment Facts

Tracking number:	776286640211
Reference:	1766.6680
Service type:	FedEx Priority Overnight®
Packaging type:	FedEx® Envelope
Number of pieces:	1
Weight:	0.50 lb.
Special handling/Services:	Deliver Weekday
	Residential Delivery
Standard transit:	9/20/2019 by 12:00 pm