



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

December 18, 2018

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

RE: Notice of Exempt Modification for Verizon: 876384
Verizon: 102488
798 Toby Hill Rd. Westbrook, Connecticut 06498
Latitude: 41° 19' 12.6"/Longitude: 72° 26' 30.0"

Dear Ms. Bachman:

Verizon currently maintains nine (9) antennas at the 140-foot level of the existing 150-foot monopole tower at 798 Toby Hill Rd. Westbrook, CT. 06498. The tower is owned by Crown Castle. Toby Hill Farm LLC owns the property. Verizon now intends to replace three (3) antennas with three (3) new antennas and add three (3) new antennas. These antennas would be installed at the 140-foot level of the tower. Verizon also intends to install six (6) RRHs, add two (2) hybrid cables, two (2) OVP's and three (3) diplexers as well as remove twelve (12) coaxial cables

This facility was approved by the Town of Westbrook Planning and Zoning Department on October 11, 2000. This approval was given with conditions that were met.

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 First Selectman Noel Bishop, Town of Westbrook, David Maiden, Building Official, Town of Westbrook, as well as the property owner, 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.

Melanie A. Bachman

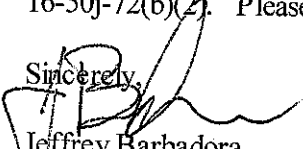
October 2, 2018

Page 2

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)

cc: The Honorable Noel Bishop
866 Boston Post Road
Westbrook, CT 06498

David Maiden, Building Official
866 Boston Post Road
Westbrook, CT 06498

Toby Hill Farms LLC
PO Box 700
Westbrook, CT 06498



**TOWN OF WESTBROOK
ZONING**

P.O. BOX G
WESTBROOK, CONNECTICUT 06498-0676
(860) 399-3046 • FAX (860) 399-9568

May 25, 2000

Donald Duthaler, Jr.
O'Brien & Gere Engineers, Inc.
Raritan Plaza 1
Edison, NJ 08837

MAY 25 2000

RE: Special Permit/Site Plan application from Sprint Spectrum LP for a telecommunications facility at Toby Hill Road

Dear Mr. Duthaler:

At its meeting of May 23, 2000 the Westbrook Zoning Commission took the following action on the above named application:

APPROVED: To approve the Special Permit application for a telecommunications facility at Toby Hill Road as shown in drawing entitled " Site Plans Sprint PCS Site #CT 33XC548 Orsina Property Toby Hill Road Westbrook, Connecticut" dated October 26, 1999, prepared by Vanasse Hangen Brustlin, Inc.

A mylar and three (3) copies of the Site Plan must be delivered to the Zoning Office. Please include an approval signature block on these plans.

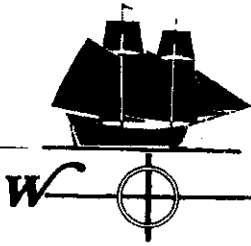
Sincerely,

James R. Taylor
James R. Taylor
Zoning Enforcement Officer

Cc: Town Clerk
Assessor
Building Dept.

JRT:egg

CERTIFIED MAIL # Z 033 664 069



**TOWN OF WESTBROOK
INLAND WETLANDS AND WATERCOURSES**

P.O. BOX G
WESTBROOK, CONNECTICUT 06498-0676
(203) 399-3046

April 17, 2000

Sprint Spectrum, L.P.
One International Blvd.
Suite 800
Mahwah, NJ 07495

Re: Toby Hill Rd, Map 67, Lot 70, Westbrook, CT --Construction of Telecommunication Facility, 150-foot monopole tower

Ladies and Gentlemen:

At the last regular meeting of the Westbrook Inland Wetlands & Watercourses Commission on Tuesday, April 4, 2000, it was voted to approve the above-referenced application with the following stipulations:

To approve this activity with the following 5 stipulations:

1. A reference point denoting the water elevation will be outside the construction area
2. Asphalt will be used on downhill section of road, starting where drainage swale is and continuing to drainage basin #4, with 2" stone on embankments
3. Soil and erosion control measures must be shown on the plans
4. Detailed sequence of wetland crossing dewatering plan must be on file in the Town Hall Wetland Office at least 5 days prior to the start of dewatering
5. Inland Wetland Enforcement Officer must be notified prior to the start of construction so she may monitor the process.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Heidi K. Wallace
Inland Wetland Enforcement Officer
Town of Westbrook

798 TOBY HILL RD

Location 798 TOBY HILL RD

Mblu 134/ / 010/ /

Acct# 134/010

Owner TOBY HILL FARM LLC

Assessment \$3,690

Appraisal \$146,890

PID 2783

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$2,490	\$144,400	\$146,890

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$1,740	\$1,950	\$3,690

Owner of Record

Owner TOBY HILL FARM LLC

Sale Price \$0

Co-Owner

Certificate

Address PO BOX 700
WESTBROOK, CT 06498

Book & Page 337/ 439

Sale Date 11/05/2015

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
TOBY HILL FARM LLC	\$0		337/ 439	11/05/2015
TOBY HILL FARM LLC	\$0		327/ 637	12/12/2013
ORSINA PAUL J TRUSTEE	\$0		136/ 480	01/01/1901

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Replacement Cost: \$0

Building Percent

Good:

Replacement Cost

Less Depreciation: \$0

Building Attributes

Land Use

Use Code 610
Description Forest
Zone RR
Neighborhood 0050
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 11.59
Depth
Assessed Value \$1,950
Appraised Value \$144,400

Special Land			
Land Use Code	Land Use Description	Units	Unit Type
610	Forest	2	AC
610	Forest	9	AC

Outbuildings

Outbuildings							Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #	Comment
TCM	Telecomm			75 S.F.&HGT	\$2,490	1	TELECOM TOWER
TCS	Telecomm Site			0 UNITS	\$0	1	3 NEW ANT

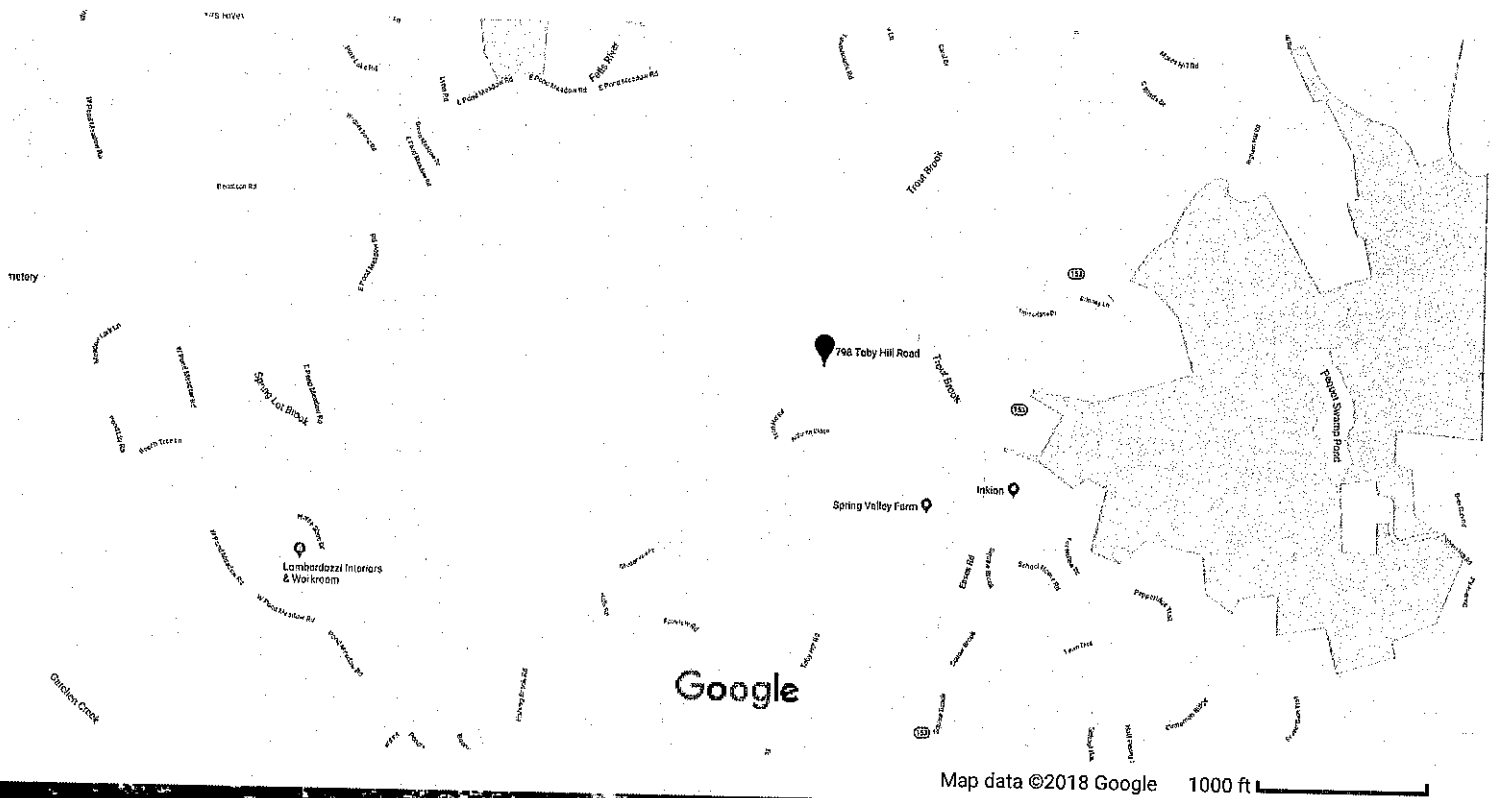
Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$2,490	\$144,400	\$146,890
2015	\$27,490	\$144,400	\$171,890
2014	\$27,490	\$144,400	\$171,890

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$1,740	\$1,950	\$3,690
2015	\$19,240	\$1,050	\$20,290
2014	\$19,240	\$1,050	\$20,290

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Google Maps 798 Toby Hill Rd



798 Toby Hill Rd
Westbrook, CT 06498

8HC4+5Q Westbrook, CT



Site Name: WESTBROOK NE CT
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure (mW/cm ²)	Fraction of MPE (%)
VZW 700	746	1	1245	1245	140	0.0228	0.4973	4.59%
VZW Cellular	876	3	365	1096	140	0.0201	0.5840	3.44%
VZW 850 LTE	869	1	1415	1415	140	0.0260	0.5793	4.48%
VZW PCS	1970	1	3054	3054	140	0.0560	1.0000	5.60%
VZW AWS	2145	1	3148	3148	140	0.0578	1.0000	5.78%
Total Percentage of Maximum Permissible Exposure								23.90%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Wednesday, December 19, 2018 1:11 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 774009476600 Delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Your package has been delivered

Tracking # 774009476600

Ship date:
Tue, 12/18/2018

Jeff Barbadora
Crown Castle
WOBURN, MA 01801
US



Delivery date:
Wed, 12/19/2018 1:01
pm

The Honorable Noel Bishop
Town of Westbrook
866 Boston Post Road
WESTBROOK, CT 06498
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: 774009476600
Status: Delivered: 12/19/2018 1:01 PM
Signed for By: J.BRAINARD
Reference: 1766.6680
Signed for by: J.BRAINARD
Delivery location: WESTBROOK, CT
Delivered to: Receptionist/Front Desk
Service type: FedEx Priority Overnight®
Packaging type: FedEx® Envelope
Number of pieces: 1
Weight: 0.50 lb.

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Wednesday, December 19, 2018 1:11 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 774009497583 Delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Your package has been delivered

Tracking # 774009497583

Ship date:
Tue, 12/18/2018

Jeff Barbadora

Crown Castle
WOBURN, MA 01801
US

Delivery date:
Wed, 12/19/2018 1:00
pm

David Maiden- Building Dept
Town of Westbrook
866 Boston Post Road
WESTBROOK, CT 06498
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: 774009497583
Status: Delivered: 12/19/2018 1:00 PM Signed for By: M.HEIDI
Reference: 1766.6680
Signed for by: M.HEIDI
Delivery location: WESTBROOK, CT
Delivered to: Receptionist/Front Desk
Service type: FedEx Priority Overnight®
Packaging type: FedEx® Envelope
Number of pieces: 1
Weight: 0.50 lb.
Special handling/Services: Deliver Weekday



December 19, 2018

Dear Jeffrey Barbadora:

The following is in response to your request for proof of delivery on your item with the tracking number: **EE35 8882 996U S**.

Item Details

Status: Delivered
Status Date / Time: December 19, 2018, 8:39 am
Location: WESTBROOK, CT 06498
Postal Product: Priority Mail Express 1-Day™
Extra Services: Insured
PO to Addressee
Up to \$100 insurance included
Actual Recipient Name: WAIVED

Note: Actual Recipient Name may vary if the intended recipient is not available at the time of delivery.

Shipment Details

Weight: 6.0oz

Destination Delivery Address

Street Address: PO BOX 700
City, State ZIP Code: WESTBROOK, CT 06498-0700

Recipient Signature

The recipient's signature is not available because the waiver of signature that you authorized was exercised at the time of delivery.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

Date: **December 3, 2018**

Charles Trask
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277



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

Subject: Structural Analysis Report

Carrier Designation:

Verizon Wireless Co-Locate
Carrier Site Number: 102448
Carrier Site Name: Westbrook NE CT

Crown Castle Designation:

Crown Castle BU Number: 876384
Crown Castle Site Name: Westbrook / Orsina
Crown Castle JDE Job Number: 528414
Crown Castle Work Order Number: 1665996
Crown Castle Order Number: 457782 Rev. 0

Engineering Firm Designation:

TEP Project Number: 25589.198788

Site Data:

798 Toby Hill Road, Westbrook, Middlesex County, CT 06498
Latitude 41° 19' 12.60", Longitude -72° 26' 30.00"
150 Foot - Monopole Tower

Dear Charles Trask,

Tower Engineering Professionals is pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above mentioned tower.

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

LC7: Proposed Equipment Configuration

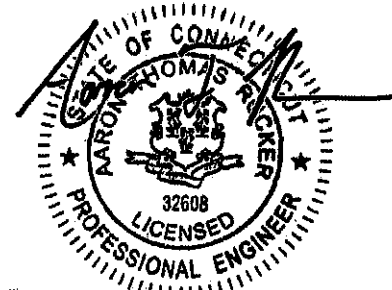
Sufficient Capacity

This analysis utilizes an ultimate 3-second gust wind speed of 135 mph as required by the 2018 Connecticut Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Kevin P. Lasky, P.E. / JWB

Respectfully submitted by:

Aaron T. Rucker, P.E.



Electronic Copy

12/03/2018

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1) INTRODUCTION

This tower is a 150-ft monopole tower designed by Engineered Endeavors, Inc. The tower has been modified multiple times in the past to accommodate additional loading. All information provided to TEP was assumed to be accurate and complete.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	135 mph
Exposure Category:	B
Topographic Factor:	1.0
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
140.0	140.0	6	Commscope	JAHH-65B-R3B w/ Mount Pipe	6 2	1-5/8 1-1/4
		4	Decibel	DB846H80E-SX w/ Mount Pipe		
		2	Decibel	DB846F65ZAXY w/ Mount Pipe		
		3	Samsung Telecomm.	RFV01U-D2A		
		3	Samsung Telecomm.	RFV01U-D1A		
		3	RFS Celwave	FDJ85020Q7-S1		
		2	Raycap	RVZDC-6627-PF-48		
		1	Tower Mounts	Platform Mount [LP 304-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
150.0	152.0	3	Commscope	NNVV-65B-R4	4	1-1/4
		3	RFS Celwave	APXVTM14-ALU-I20		
		6	Alcatel Lucent	RRH2X50-800		
		3	Alcatel Lucent	TD-RRH8x20-25		
		3	Alcatel Lucent	PCS 1900MHz 4x45W-65MHz		
	150.0	1	Tower Mounts	Site Pro 1 HRK12		
		1	Tower Mounts	Site Pro 1 RMQP-496		

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	6	Powerwave Tech.	7770.00 w/ Mount Pipe	12 2 1	1-5/8 7/16 3/8
		1	Andrew	DBXNH-6565B-R2M w/ Mount Pipe		
		1	Powerwave Tech.	P65-16-XLH-RR w/ Mount Pipe		
		1	KMW Comm.	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		6	Powerwave Tech.	TMA DD 1900 with 850 Bypass		
		6	Powerwave Tech.	LGP21901		
		3	Ericsson	RRUS 11 B12		
		1	Raycap	DC6-48-60-18-8F		
		1	Tower Mounts	Side Arm Mount [SO 102-3]		
		1	Tower Mounts	Side Arm Mount [SO 701-3]		
		1	Tower Mounts	Platform Mount [LP 304-1]		
80.0	81.0	1	Lucent	KS24019-L112A	1	1/2
	80.0	1	Tower Mounts	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Geotechnical Report	Dr. Clarence Welti, P.E., P.C.	1615342	CCISites
Tower Foundation Drawings	Engineered Endeavors, Inc.	1615435	CCISites
Tower Manufacturer Drawings	Engineered Endeavors, Inc.	1615370	CCISites
Tower Reinforcement Drawings	Tower Engineering Professionals	2154747	CCISites
Post-Modification Inspection			
Tower Reinforcement Drawings	Tower Engineering Professionals	5650397	CCISites
Post-Modification Inspection	Sinott Gering and Schmitt Towers, Inc.	5840467	CCISites

3.1) Analysis Method

tnxTower (version 8.0.4.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

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) The tower and foundation were built and maintained in accordance with the manufacturer's specification.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2, and the referenced drawings.
- 3) All tower components are in sufficient condition to carry their full design capacity.
- 4) Serviceability with respect to antenna twist, tilt, roll, or lateral translation, is not checked and is left to the carrier or tower owner to ensure conformance.
- 5) All antenna mounts and mounting hardware are structurally sufficient to carry the full design capacity requirements of appurtenance wind area and weight as provided by the original manufacturer specifications. It is the carrier's responsibility to ensure compliance to the structural limitations of the existing and/or proposed antenna mounts. TEP did not perform a site visit to verify the size, condition or capacity of the antenna mounts and did not analyze antennas supporting mounts as part of this structural analysis report.
- 6) The following soil parameters were assumed:
 - a) Base friction factor, μ : 0.30
- 7) The existing base plate grout was not considered in this analysis.

This analysis may be affected if any assumptions are not valid or have been made in error. Tower Engineering Professionals should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)¹

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP14.12x13x0.1875	Pole	18.9%	Pass
145 - 140	Pole	TP15.24x14.12x0.1875	Pole	29.5%	Pass
140 - 136.29	Pole	TP16.65x15.24x0.1875	Pole	45.0%	Pass
136.29 - 131.29	Pole	TP16.804x15.696x0.3125	Pole	39.1%	Pass
131.29 - 126.29	Pole	TP17.912x16.804x0.3125	Pole	50.2%	Pass
126.29 - 121.29	Pole	TP19.02x17.912x0.3125	Pole	59.4%	Pass
121.29 - 116.29	Pole	TP20.128x19.02x0.3125	Pole	66.5%	Pass
116.29 - 111.29	Pole	TP21.236x20.128x0.3125	Pole	72.0%	Pass
111.29 - 108.25	Pole	TP21.911x21.236x0.3125	Pole	74.8%	Pass
108.25 - 108	Pole + Reinf.	TP21.966x21.911x0.6375	Reinf. 9 Tension Rupture	61.7%	Pass
108 - 103	Pole + Reinf.	TP23.074x21.966x0.6125	Reinf. 9 Tension Rupture	66.4%	Pass
103 - 98	Pole + Reinf.	TP24.182x23.074x0.6	Reinf. 9 Tension Rupture	70.6%	Pass
98 - 93	Pole + Reinf.	TP25.29x24.182x0.5875	Reinf. 9 Tension Rupture	74.4%	Pass
93 - 91.92	Pole + Reinf.	TP26.38x25.29x0.5875	Reinf. 9 Tension Rupture	75.2%	Pass
91.92 - 86.92	Pole + Reinf.	TP26.012x24.905x0.6375	Reinf. 9 Tension Rupture	73.6%	Pass
86.92 - 85.17	Pole + Reinf.	TP26.399x26.012x0.6375	Reinf. 9 Tension Rupture	74.6%	Pass
85.17 - 84.92	Pole + Reinf.	TP26.454x26.399x0.6375	Reinf. 5 Tension Rupture	74.7%	Pass
84.92 - 79.92	Pole + Reinf.	TP27.561x26.454x0.625	Reinf. 5 Tension Rupture	77.2%	Pass
79.92 - 77	Pole + Reinf.	TP28.206x27.561x0.6125	Reinf. 5 Tension Rupture	78.6%	Pass
77 - 76.75	Pole + Reinf.	TP28.262x28.206x0.5375	Reinf. 5 Tension Rupture	80.2%	Pass
76.75 - 75	Pole + Reinf.	TP28.649x28.262x0.5313	Reinf. 5 Tension Rupture	81.0%	Pass
75 - 74.75	Pole + Reinf.	TP28.704x28.649x0.6125	Reinf. 5 Tension Rupture	79.6%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
74.75 - 69.75	Pole + Reinf.	TP29.811x28.704x0.6	Reinf. 5 Tension Rupture	81.6%	Pass
69.75 - 65.08	Pole + Reinf.	TP30.843x29.811x0.5875	Reinf. 5 Tension Rupture	83.3%	Pass
65.08 - 64.83	Pole + Reinf.	TP30.899x30.843x0.5875	Reinf. 3 Tension Rupture	83.4%	Pass
64.83 - 59.83	Pole + Reinf.	TP32.005x30.899x0.5875	Reinf. 3 Tension Rupture	85.0%	Pass
59.83 - 54.83	Pole + Reinf.	TP33.111x32.005x0.575	Reinf. 3 Tension Rupture	86.6%	Pass
54.83 - 49.83	Pole + Reinf.	TP34.218x33.111x0.5625	Reinf. 3 Tension Rupture	87.9%	Pass
49.83 - 48.5	Pole + Reinf.	TP35.62x34.218x0.5625	Reinf. 3 Tension Rupture	88.3%	Pass
48.5 - 42.5	Pole + Reinf.	TP35.092x33.764x0.5625	Reinf. 3 Tension Rupture	93.0%	Pass
42.5 - 37.5	Pole + Reinf.	TP36.199x35.092x0.55	Reinf. 3 Tension Rupture	94.1%	Pass
37.5 - 33	Pole + Reinf.	TP37.194x36.199x0.55	Reinf. 3 Tension Rupture	94.9%	Pass
33 - 32.75	Pole + Reinf.	TP37.25x37.194x0.6625	Reinf. 4 Tension Rupture	81.3%	Pass
32.75 - 32	Pole + Reinf.	TP37.416x37.25x0.6625	Reinf. 4 Tension Rupture	81.5%	Pass
32 - 31.75	Pole + Reinf.	TP37.471x37.416x0.5875	Reinf. 4 Tension Rupture	83.9%	Pass
31.75 - 30	Pole + Reinf.	TP37.858x37.471x0.5875	Reinf. 4 Tension Rupture	84.2%	Pass
30 - 29.75	Pole + Reinf.	TP37.914x37.858x0.5875	Reinf. 2 Tension Rupture	84.2%	Pass
29.75 - 24.75	Pole + Reinf.	TP39.021x37.914x0.575	Reinf. 2 Tension Rupture	85.0%	Pass
24.75 - 19.75	Pole + Reinf.	TP40.128x39.021x0.5688	Reinf. 1 Tension Rupture	85.8%	Pass
19.75 - 14.75	Pole + Reinf.	TP41.235x40.128x0.5625	Reinf. 2 Tension Rupture	86.5%	Pass
14.75 - 9.75	Pole + Reinf.	TP42.342x41.235x0.5625	Reinf. 1 Tension Rupture	87.1%	Pass
9.75 - 4.75	Pole + Reinf.	TP43.448x42.342x0.55	Reinf. 2 Tension Rupture	87.6%	Pass
4.75 - 0	Pole + Reinf.	TP44.5x43.448x0.55	Reinf. 2 Tension Rupture	88.1%	Pass
				Summary	
			Pole	74.8%	Pass
			Reinforcement	94.9%	Pass
			Overall	94.9%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rods	-	94.7	Pass
1,2	Base Plate	-	87.4	Pass
1,2	Base Foundation Soil Interaction	-	66.7	Pass
1,2	Base Foundation Structural	-	94.7	Pass

Structure Rating (max from all components) =	94.9%
---	--------------

Notes:

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

4.1) Recommendations

- 1) If the load differs from that described in Tables 1 and 2 of this report, the referenced drawings, or the provisions of this analysis are found to be invalid, another structural analysis should be performed.
- 2) 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

tnxTower Tower Engineering Professionals 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job Westbrook / Orsina (BU 876384)	Page 1 of 38
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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 Middlesex County, Connecticut.
- Tower base elevation above sea level: 160.00 ft.
- Basic wind speed of 135 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height 0.00 ft.
- Nominal ice thickness of 1.275 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- Equivalent thickness model.
- 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.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="padding-left: 20px;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--|---|---|

Tapered Pole Section Geometry

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Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	150.00-145.00	5.00	0.000	18	13.000	14.120	0.188	0.750	A572-65 (65 ksi)
L2	145.00-140.00	5.00	0.000	18	14.120	15.241	0.188	0.750	A572-65 (65 ksi)
L3	140.00-133.71	6.29	2.583	18	15.241	16.650	0.188	0.750	A572-65 (65 ksi)
L4	133.71-131.29	5.00	0.000	18	15.696	16.804	0.313	1.250	A572-65 (65 ksi)
L5	131.29-126.29	5.00	0.000	18	16.804	17.912	0.313	1.250	A572-65 (65 ksi)
L6	126.29-121.29	5.00	0.000	18	17.912	19.020	0.313	1.250	A572-65 (65 ksi)
L7	121.29-116.29	5.00	0.000	18	19.020	20.128	0.313	1.250	A572-65 (65 ksi)
L8	116.29-111.29	5.00	0.000	18	20.128	21.236	0.313	1.250	A572-65 (65 ksi)
L9	111.29-108.25	3.04	0.000	18	21.236	21.911	0.313	1.250	A572-65 (65 ksi)
L10	108.25-108.00	0.25	0.000	18	21.911	21.966	0.637	2.550	A572-65 (65 ksi)
L11	108.00-103.00	5.00	0.000	18	21.966	23.074	0.613	2.450	A572-65 (65 ksi)
L12	103.00-98.00	5.00	0.000	18	23.074	24.182	0.600	2.400	A572-65 (65 ksi)
L13	98.00-93.00	5.00	0.000	18	24.182	25.290	0.588	2.350	A572-65 (65 ksi)
L14	93.00-88.08	4.92	3.833	18	25.290	26.380	0.588	2.350	A572-65 (65 ksi)
L15	88.08-86.92	5.00	0.000	18	24.905	26.012	0.637	2.550	A572-65 (65 ksi)
L16	86.92-85.17	1.75	0.000	18	26.012	26.399	0.637	2.550	A572-65 (65 ksi)
L17	85.17-84.92	0.25	0.000	18	26.399	26.454	0.637	2.550	A572-65 (65 ksi)
L18	84.92-79.92	5.00	0.000	18	26.454	27.561	0.625	2.500	A572-65 (65 ksi)
L19	79.92-77.00	2.92	0.000	18	27.561	28.206	0.613	2.450	A572-65 (65 ksi)
L20	77.00-76.75	0.25	0.000	18	28.206	28.262	0.537	2.150	A572-65 (65 ksi)
L21	76.75-75.00	1.75	0.000	18	28.262	28.649	0.531	2.125	A572-65 (65 ksi)
L22	75.00-74.75	0.25	0.000	18	28.649	28.704	0.613	2.450	A572-65 (65 ksi)
L23	74.75-69.75	5.00	0.000	18	28.704	29.811	0.600	2.400	A572-65 (65 ksi)
L24	69.75-65.08	4.67	0.000	18	29.811	30.843	0.588	2.350	A572-65 (65 ksi)
L25	65.08-64.83	0.25	0.000	18	30.843	30.899	0.588	2.350	A572-65 (65 ksi)
L26	64.83-59.83	5.00	0.000	18	30.899	32.005	0.588	2.350	A572-65 (65 ksi)
L27	59.83-54.83	5.00	0.000	18	32.005	33.111	0.575	2.300	A572-65 (65 ksi)
L28	54.83-49.83	5.00	0.000	18	33.111	34.218	0.563	2.250	A572-65 (65 ksi)
L29	49.83-43.50	6.34	5.000	18	34.218	35.620	0.563	2.250	A572-65 (65 ksi)
L30	43.50-42.50	6.00	0.000	18	33.764	35.092	0.563	2.250	A572-65 (65 ksi)

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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
L31	42.50-37.50	5.00	0.000	18	35.092	36.199	0.550	2.200	A572-65 (65 ksi)
L32	37.50-33.00	4.50	0.000	18	36.199	37.194	0.550	2.200	A572-65 (65 ksi)
L33	33.00-32.75	0.25	0.000	18	37.194	37.250	0.662	2.650	A572-65 (65 ksi)
L34	32.75-32.00	0.75	0.000	18	37.250	37.416	0.662	2.650	A572-65 (65 ksi)
L35	32.00-31.75	0.25	0.000	18	37.416	37.471	0.588	2.350	A572-65 (65 ksi)
L36	31.75-30.00	1.75	0.000	18	37.471	37.858	0.588	2.350	A572-65 (65 ksi)
L37	30.00-29.75	0.25	0.000	18	37.858	37.914	0.588	2.350	A572-65 (65 ksi)
L38	29.75-24.75	5.00	0.000	18	37.914	39.021	0.575	2.300	A572-65 (65 ksi)
L39	24.75-19.75	5.00	0.000	18	39.021	40.128	0.569	2.275	A572-65 (65 ksi)
L40	19.75-14.75	5.00	0.000	18	40.128	41.235	0.563	2.250	A572-65 (65 ksi)
L41	14.75-9.75	5.00	0.000	18	41.235	42.342	0.563	2.250	A572-65 (65 ksi)
L42	9.75-4.75	5.00	0.000	18	42.342	43.448	0.550	2.200	A572-65 (65 ksi)
L43	4.75-0.00	4.75		18	43.448	44.500	0.550	2.200	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	Iv/Q in ²	w in	w/t
L1	13.172	7.625	158.142	4.548	6.604	23.946	316.492	3.813	1.958	10.443
L2	14.309	8.292	203.359	4.946	7.173	28.350	406.985	4.147	2.155	11.494
L3	15.447	8.958	256.464	5.344	7.742	33.125	513.266	4.480	2.352	12.546
L4	16.878	9.797	335.454	5.844	8.458	39.660	671.349	4.900	2.600	13.869
L5	17.015	10.157	356.220	5.944	8.744	41.844	729.416	5.213	2.713	14.352
L6	18.140	11.063	448.149	6.248	9.099	49.706	913.040	5.761	2.913	15.548
L7	19.266	12.033	562.473	6.641	9.662	59.195	1124.885	6.313	3.113	16.869
L8	20.391	13.067	700.066	7.035	10.225	70.359	1367.197	6.929	3.313	18.313
L9	21.516	14.167	872.953	7.428	10.788	83.195	1642.025	7.613	3.513	19.889
L10	22.201	15.333	1081.209	7.667	11.131	97.741	1951.415	8.373	3.713	21.600
L11	22.211	15.333	1081.209	7.581	11.159	97.741	1951.415	8.373	3.713	21.600
L12	23.338	16.667	1366.459	7.974	11.722	121.195	2297.416	9.213	3.913	23.548
L13	24.465	18.117	1746.601	8.376	12.285	151.908	2729.274	10.113	4.113	25.813

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Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L14	25.590	46.064	3551.378	8.770	12.848	276.425	7107.429	23.036	3.417	5.816
	25.590	46.064	3551.378	8.770	12.848	276.425	7107.429	23.036	3.417	5.816
	26.696	48.096	4042.337	9.156	13.401	301.644	8089.994	24.053	3.609	6.143
L15	26.053	49.104	3653.644	8.615	12.652	288.780	7312.096	24.557	3.261	5.116
	26.315	51.343	4176.498	9.008	13.214	316.065	8358.492	25.676	3.456	5.421
L16	26.315	51.343	4176.498	9.008	13.214	316.065	8358.492	25.676	3.456	5.421
	26.708	52.127	4370.608	9.145	13.411	325.904	8746.968	26.068	3.524	5.528
L17	26.708	52.127	4370.608	9.145	13.411	325.904	8746.968	26.068	3.524	5.528
	26.764	52.239	4398.826	9.165	13.439	327.322	8803.439	26.124	3.534	5.543
L18	26.766	51.239	4318.841	9.169	13.439	321.370	8643.365	25.624	3.556	5.69
	27.890	53.434	4897.952	9.562	14.001	349.831	9802.350	26.722	3.751	6.001
L19	27.891	52.390	4806.679	9.567	14.001	343.312	9619.683	26.200	3.773	6.16
	28.547	53.644	5160.416	9.796	14.329	360.143	10327.621	26.827	3.886	6.345
L20	28.559	47.204	4565.554	9.822	14.329	318.628	9137.115	23.606	4.018	7.476
	28.615	47.298	4592.993	9.842	14.357	319.915	9192.030	23.654	4.028	7.494
L21	28.616	46.759	4542.657	9.844	14.357	316.409	9091.292	23.384	4.039	7.603
	29.009	47.412	4735.637	9.982	14.554	325.392	9477.506	23.710	4.107	7.731
L22	28.996	54.505	5412.716	9.953	14.554	371.915	10832.555	27.258	3.964	6.472
	29.052	54.612	5444.820	9.973	14.582	373.400	10896.805	27.311	3.974	6.488
L23	29.054	53.522	5340.825	9.977	14.582	366.268	10688.677	26.766	3.996	6.66
	30.178	55.629	5996.760	10.370	15.144	395.988	12001.412	27.820	4.191	6.984
L24	30.180	54.493	5879.369	10.374	15.144	388.237	11766.475	27.252	4.213	7.17
	31.228	56.419	6524.976	10.741	15.668	416.442	13058.538	28.215	4.394	7.48
L25	31.228	56.419	6524.976	10.741	15.668	416.442	13058.538	28.215	4.394	7.48
	31.285	56.522	6560.833	10.760	15.697	417.980	13130.298	28.266	4.404	7.496
L26	31.285	56.522	6560.833	10.760	15.697	417.980	13130.298	28.266	4.404	7.496
	32.408	58.585	7305.825	11.153	16.259	449.352	14621.263	29.298	4.599	7.828
L27	32.410	57.361	7158.920	11.158	16.259	440.317	14327.260	28.686	4.621	8.036
	33.534	59.381	7941.880	11.550	16.821	472.151	15894.210	29.696	4.816	8.375
L28	33.535	58.112	7778.188	11.555	16.821	462.420	15566.611	29.062	4.838	8.6
	34.659	60.087	8598.651	11.948	17.383	494.668	17208.616	30.049	5.032	8.946
L29	34.659	60.087	8598.651	11.948	17.383	494.668	17208.616	30.049	5.032	8.946
	36.083	62.591	9718.735	12.445	18.095	537.096	19450.258	31.301	5.279	9.385
L30	35.322	59.276	8255.128	11.786	17.152	481.295	16521.118	29.644	4.952	8.804
	35.546	61.648	9286.109	12.258	17.827	520.911	18584.437	30.830	5.186	9.22
L31	35.548	60.300	9089.615	12.262	17.827	509.888	18191.191	30.156	5.208	9.469
	36.672	62.232	9991.770	12.655	18.389	543.356	19996.687	31.122	5.403	9.824
L32	36.672	62.232	9991.770	12.655	18.389	543.356	19996.687	31.122	5.403	9.824
	37.683	63.970	10852.421	13.009	18.895	574.363	21719.122	31.991	5.578	10.142
L33	37.666	76.818	12952.206	12.969	18.895	685.494	25921.456	38.416	5.380	8.121
	37.722	76.935	13011.165	12.988	18.923	687.591	26039.450	38.475	5.390	8.136
L34	37.722	76.935	13011.165	12.988	18.923	687.591	26039.450	38.475	5.390	8.136
	37.891	77.284	13189.110	13.047	19.007	693.902	26395.574	38.649	5.419	8.18
L35	37.902	68.674	11767.751	13.074	19.007	619.122	23550.987	34.344	5.551	9.449
	37.958	68.778	11820.885	13.094	19.035	620.999	23657.325	34.395	5.561	9.465
L36	37.958	68.778	11820.885	13.094	19.035	620.999	23657.325	34.395	5.561	9.465
	38.352	69.500	12197.310	13.231	19.232	634.216	24410.669	34.757	5.629	9.581
L37	38.352	69.500	12197.310	13.231	19.232	634.216	24410.669	34.757	5.629	9.581
	38.408	69.603	12251.729	13.251	19.260	636.116	24519.579	34.808	5.639	9.598
L38	38.410	68.145	12003.105	13.255	19.260	623.207	24022.004	34.079	5.661	9.845
	39.534	70.165	13102.573	13.648	19.823	660.994	26222.387	35.089	5.856	10.184
L39	39.535	69.414	12966.475	13.650	19.823	654.128	25950.012	34.714	5.867	10.315
	40.659	71.412	14118.824	14.043	20.385	692.614	28256.227	35.713	6.061	10.658
L40	40.660	70.639	13970.292	14.046	20.385	685.327	27958.966	35.326	6.072	10.795
	41.784	72.615	15175.952	14.439	20.947	724.487	30371.873	36.314	6.267	11.142
L41	41.784	72.615	15175.952	14.439	20.947	724.487	30371.873	36.314	6.267	11.142
	42.908	74.591	16449.058	14.832	21.509	764.735	32919.759	37.303	6.462	11.488
L42	42.910	72.955	16097.964	14.836	21.509	748.412	32217.109	36.485	6.484	11.789
	44.034	74.888	17411.294	15.229	22.072	788.848	34845.498	37.451	6.679	12.143
L43	44.034	74.888	17411.294	15.229	22.072	788.848	34845.498	37.451	6.679	12.143
	45.102	76.724	18723.356	15.602	22.606	828.247	37471.349	38.369	6.864	12.48

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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 in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
L1				1	1	1			
150.00-145.00									
L2				1	1	1			
145.00-140.00									
L3				1	1	1			
140.00-133.71									
L4				1	1	1			
133.71-131.29									
L5				1	1	1			
131.29-126.29									
L6				1	1	1			
126.29-121.29									
L7				1	1	1			
121.29-116.29									
L8				1	1	1			
116.29-111.29									
L9				1	1	1			
111.29-108.25									
L10				1	1	0.914761			
108.25-108.00									
L11				1	1	0.92924			
108.00-103.00									
L12				1	1	0.927997			
103.00-98.00									
L13				1	1	0.92861			
98.00-93.00									
L14				1	1	0.924792			
93.00-88.08									
L15				1	1	0.944915			
88.08-86.92									
L16				1	1	0.939555			
86.92-85.17									
L17				1	1	0.938802			
85.17-84.92									
L18				1	1	0.942446			
84.92-79.92									
L19				1	1	0.95307			
79.92-77.00									
L20				1	1	0.955483			
77.00-76.75									
L21				1	1	0.962917			
76.75-75.00									
L22				1	1	0.947029			
75.00-74.75									
L23				1	1	0.9534			
74.75-69.75									
L24				1	1	0.961835			
69.75-65.08									
L25				1	1	0.961245			
65.08-64.83									
L26				1	1	0.949872			
64.83-59.83									
L27				1	1	0.959323			
59.83-54.83									
L28				1	1	0.969955			
54.83-49.83									
L29				1	1	0.967313			

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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
49.83-43.50									
L30				1	1	0.962278			
43.50-42.50									
L31				1	1	0.974415			
42.50-37.50									
L32				1	1	0.966466			
37.50-33.00									
L33				1	1	0.960441			
33.00-32.75									
L34				1	1	0.95866			
32.75-32.00									
L35				1	1	0.990938			
32.00-31.75									
L36				1	1	0.987273			
31.75-30.00									
L37				1	1	0.986755			
30.00-29.75									
L38				1	1	0.997628			
29.75-24.75									
L39				1	1	0.998659			
24.75-19.75									
L40				1	1	1.00026			
19.75-14.75									
L41 14.75-9.75				1	1	0.991424			
L42 9.75-4.75				1	1	1.00509			
L43 4.75-0.00				1	1	0.997356			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement	Total Number	Number Per Row	Start/End Position	Width or Diameter	Perimeter	Weight
				ft				in	in	plf
Misc										
Safety Line 3/8	A	No	Surface Af (CaAa)	150.00 - 0.00	1	1	0.500 0.500	0.000	0.750	0.220
LCF158-50JA-A7(1-5/8)	C	No	Surface Af (CaAa)	140.00 - 0.00	6	6	0.000 0.000	0.000	3.960	0.720
Mods										
CCI-65FP-060100	A	No	Surface Af (CaAa)	35.00 - 0.00	1	1	0.500 0.500	6.000	14.000	0.000
CCI-65FP-060100	A	No	Surface Af (CaAa)	35.00 - 0.00	1	1	-0.250 -0.250	6.000	14.000	0.000
CCI-65FP-060100	B	No	Surface Af (CaAa)	30.00 - 0.00	1	1	0.250 0.250	6.000	14.000	0.000
CCI-65FP-060100 (Shielded)	C	No	Surface Af (CaAa)	30.00 - 0.00	1	1	0.000 0.000	6.000	12.000	0.000

CCI-65FP-060100	A	No	Surface Af (CaAa)	65.08 - 35.00	1	1	0.500 0.500	6.000	14.000	0.000
CCI-65FP-060100	A	No	Surface Af (CaAa)	65.08 - 35.00	1	1	-0.250 -0.250	6.000	14.000	0.000
CCI-65FP-060100	B	No	Surface Af (CaAa)	65.08 - 30.00	1	1	0.250 0.250	6.000	14.000	0.000

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Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _{AA} ft ² /ft	Weight plf

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
L1	150.00-145.00	A	0.000	0.000	0.000	0.000	24.06
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L2	145.00-140.00	A	0.000	0.000	0.000	0.000	24.06
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L3	140.00-133.71	A	0.000	0.000	0.000	0.000	30.27
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	48.56
L4	133.71-131.29	A	0.000	0.000	0.000	0.000	11.63
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	18.66
L5	131.29-126.29	A	0.000	0.000	0.000	0.000	24.06
		B	0.000	0.000	0.000	0.000	36.47
		C	0.000	0.000	0.000	0.000	40.39
L6	126.29-121.29	A	0.000	0.000	0.000	0.000	24.06
		B	0.000	0.000	0.000	0.000	49.20
		C	0.000	0.000	0.000	0.000	41.01
L7	121.29-116.29	A	0.000	0.000	0.000	0.000	24.06
		B	0.000	0.000	0.000	0.000	49.20
		C	0.000	0.000	0.000	0.000	41.01
L8	116.29-111.29	A	0.000	0.000	0.000	0.000	24.06
		B	0.000	0.000	0.000	0.000	49.20
		C	0.000	0.000	0.000	0.000	41.01
L9	111.29-108.25	A	0.000	0.000	4.000	0.000	14.64
		B	0.000	0.000	2.000	0.000	29.95
		C	0.000	0.000	0.000	0.000	24.96
L10	108.25-108.00	A	0.000	0.000	0.500	0.000	1.20
		B	0.000	0.000	0.250	0.000	2.46
		C	0.000	0.000	0.000	0.000	2.05
L11	108.00-103.00	A	0.000	0.000	10.000	0.000	24.06
		B	0.000	0.000	5.000	0.000	49.20
		C	0.000	0.000	0.000	0.000	41.01
L12	103.00-98.00	A	0.000	0.000	10.000	0.000	24.06
		B	0.000	0.000	5.000	0.000	49.20
		C	0.000	0.000	0.000	0.000	41.01
L13	98.00-93.00	A	0.000	0.000	10.000	0.000	24.06
		B	0.000	0.000	5.000	0.000	49.20
		C	0.000	0.000	0.000	0.000	41.01
L14	93.00-88.08	A	0.000	0.000	9.833	0.000	23.66
		B	0.000	0.000	4.917	0.000	48.38
		C	0.000	0.000	0.000	0.000	40.33
L15	88.08-86.92	A	0.000	0.000	2.333	0.000	5.61
		B	0.000	0.000	1.167	0.000	11.48
		C	0.000	0.000	0.000	0.000	9.57
L16	86.92-85.17	A	0.000	0.000	3.499	0.000	8.42
		B	0.000	0.000	1.750	0.000	17.22

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Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
L17	85.17-84.92	C	0.000	0.000	0.000	0.000	14.35
		A	0.000	0.000	0.500	0.000	1.20
		B	0.000	0.000	0.250	0.000	2.46
L18	84.92-79.92	C	0.000	0.000	0.000	0.000	2.05
		A	0.000	0.000	10.000	0.000	24.07
		B	0.000	0.000	5.000	0.000	49.20
L19	79.92-77.00	C	0.000	0.000	0.000	0.000	41.01
		A	0.000	0.000	5.834	0.000	14.47
		B	0.000	0.000	2.917	0.000	28.70
L20	77.00-76.75	C	0.000	0.000	0.000	0.000	23.93
		A	0.000	0.000	0.500	0.000	1.24
		B	0.000	0.000	0.250	0.000	2.46
L21	76.75-75.00	C	0.000	0.000	0.000	0.000	2.05
		A	0.000	0.000	3.500	0.000	8.68
		B	0.000	0.000	1.750	0.000	17.22
L22	75.00-74.75	C	0.000	0.000	0.000	0.000	14.35
		A	0.000	0.000	0.500	0.000	1.24
		B	0.000	0.000	0.250	0.000	2.46
L23	74.75-69.75	C	0.000	0.000	0.000	0.000	2.05
		A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
L24	69.75-65.08	C	0.000	0.000	0.000	0.000	41.01
		A	0.000	0.000	9.334	0.000	23.16
		B	0.000	0.000	4.667	0.000	45.92
L25	65.08-64.83	C	0.000	0.000	0.000	0.000	38.28
		A	0.000	0.000	0.500	0.000	1.24
		B	0.000	0.000	0.250	0.000	2.46
L26	64.83-59.83	C	0.000	0.000	0.000	0.000	2.05
		A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
L27	59.83-54.83	C	0.000	0.000	0.000	0.000	41.01
		A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
L28	54.83-49.83	C	0.000	0.000	0.000	0.000	41.01
		A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
L29	49.83-43.50	C	0.000	0.000	0.000	0.000	41.01
		A	0.000	0.000	12.673	0.000	31.44
		B	0.000	0.000	6.336	0.000	62.35
L30	43.50-42.50	C	0.000	0.000	0.000	0.000	51.97
		A	0.000	0.000	2.000	0.000	4.96
		B	0.000	0.000	1.000	0.000	9.84
L31	42.50-37.50	C	0.000	0.000	0.000	0.000	8.20
		A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
L32	37.50-33.00	C	0.000	0.000	0.000	0.000	41.01
		A	0.000	0.000	8.993	0.000	22.31
		B	0.000	0.000	4.497	0.000	44.25
L33	33.00-32.75	C	0.000	0.000	0.000	0.000	36.88
		A	0.000	0.000	0.500	0.000	1.24
		B	0.000	0.000	0.250	0.000	2.46
L34	32.75-32.00	C	0.000	0.000	0.000	0.000	2.05
		A	0.000	0.000	1.500	0.000	3.72
		B	0.000	0.000	0.750	0.000	7.38
L35	32.00-31.75	C	0.000	0.000	0.000	0.000	6.15
		A	0.000	0.000	0.500	0.000	1.24
		B	0.000	0.000	0.250	0.000	2.46
L36	31.75-30.00	C	0.000	0.000	0.000	0.000	2.05
		A	0.000	0.000	3.500	0.000	8.68
		B	0.000	0.000	1.750	0.000	17.22
		C	0.000	0.000	0.000	0.000	14.35

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Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
L37	30.00-29.75	A	0.000	0.000	0.500	0.000	1.24
		B	0.000	0.000	0.250	0.000	2.46
		C	0.000	0.000	0.250	0.000	2.05
L38	29.75-24.75	A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
		C	0.000	0.000	5.000	0.000	41.01
L39	24.75-19.75	A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
		C	0.000	0.000	5.000	0.000	41.01
L40	19.75-14.75	A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
		C	0.000	0.000	5.000	0.000	41.01
L41	14.75-9.75	A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
		C	0.000	0.000	5.000	0.000	41.01
L42	9.75-4.75	A	0.000	0.000	10.000	0.000	24.81
		B	0.000	0.000	5.000	0.000	49.20
		C	0.000	0.000	5.000	0.000	41.01
L43	4.75-0.00	A	0.000	0.000	9.500	0.000	23.57
		B	0.000	0.000	4.750	0.000	46.74
		C	0.000	0.000	4.750	0.000	38.96

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 _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
L1	150.00-145.00	A	1.481	0.000	0.000	1.481	0.000	42.36
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L2	145.00-140.00	A	1.476	0.000	0.000	1.476	0.000	42.24
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L3	140.00-133.71	A	1.470	0.000	0.000	1.849	0.000	52.97
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	61.42
L4	133.71-131.29	A	1.465	0.000	0.000	0.710	0.000	20.35
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	23.60
L5	131.29-126.29	A	1.461	0.000	0.000	1.461	0.000	41.90
		B		0.000	0.000	0.000	0.000	36.47
		C		0.000	0.000	0.000	0.000	77.27
L6	126.29-121.29	A	1.455	0.000	0.000	1.455	0.000	41.77
		B		0.000	0.000	0.000	0.000	49.20
		C		0.000	0.000	0.000	0.000	86.88
L7	121.29-116.29	A	1.449	0.000	0.000	1.449	0.000	41.63
		B		0.000	0.000	0.000	0.000	49.20
		C		0.000	0.000	0.000	0.000	86.45
L8	116.29-111.29	A	1.443	0.000	0.000	1.443	0.000	41.49
		B		0.000	0.000	0.000	0.000	49.20
		C		0.000	0.000	0.000	0.000	86.01
L9	111.29-108.25	A	1.438	0.000	0.000	6.025	0.000	68.67
		B		0.000	0.000	2.575	0.000	51.69
		C		0.000	0.000	0.000	0.000	52.13
L10	108.25-108.00	A	1.436	0.000	0.000	0.715	0.000	7.49
		B		0.000	0.000	0.322	0.000	5.17
		C		0.000	0.000	0.000	0.000	4.27
L11	108.00-103.00	A	1.432	0.000	0.000	14.296	0.000	149.41

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
		B		0.000	0.000	6.432	0.000	103.28
		C		0.000	0.000	0.000	0.000	85.24
L12	103.00-98.00	A	1.425	0.000	0.000	14.276	0.000	148.58
		B		0.000	0.000	6.425	0.000	102.95
		C		0.000	0.000	0.000	0.000	84.74
L13	98.00-93.00	A	1.418	0.000	0.000	14.254	0.000	147.72
		B		0.000	0.000	6.418	0.000	102.60
		C		0.000	0.000	0.000	0.000	84.23
L14	93.00-88.08	A	1.410	0.000	0.000	13.994	0.000	144.38
		B		0.000	0.000	6.304	0.000	100.53
		C		0.000	0.000	0.000	0.000	82.30
L15	88.08-86.92	A	1.406	0.000	0.000	3.321	0.000	34.26
		B		0.000	0.000	1.496	0.000	23.85
		C		0.000	0.000	0.000	0.000	19.53
L16	86.92-85.17	A	1.403	0.000	0.000	4.972	0.000	51.08
		B		0.000	0.000	2.241	0.000	35.66
		C		0.000	0.000	0.000	0.000	29.11
L17	85.17-84.92	A	1.402	0.000	0.000	0.710	0.000	7.29
		B		0.000	0.000	0.320	0.000	5.09
		C		0.000	0.000	0.000	0.000	4.15
L18	84.92-79.92	A	1.397	0.000	0.000	14.192	0.000	145.28
		B		0.000	0.000	6.397	0.000	101.60
		C		0.000	0.000	0.000	0.000	82.76
L19	79.92-77.00	A	1.390	0.000	0.000	8.267	0.000	84.72
		B		0.000	0.000	3.728	0.000	59.08
		C		0.000	0.000	0.000	0.000	48.00
L20	77.00-76.75	A	1.388	0.000	0.000	0.708	0.000	7.24
		B		0.000	0.000	0.319	0.000	5.06
		C		0.000	0.000	0.000	0.000	4.10
L21	76.75-75.00	A	1.386	0.000	0.000	4.955	0.000	50.64
		B		0.000	0.000	2.235	0.000	35.37
		C		0.000	0.000	0.000	0.000	28.68
L22	75.00-74.75	A	1.384	0.000	0.000	0.708	0.000	7.22
		B		0.000	0.000	0.319	0.000	5.05
		C		0.000	0.000	0.000	0.000	4.09
L23	74.75-69.75	A	1.379	0.000	0.000	14.137	0.000	143.88
		B		0.000	0.000	6.379	0.000	100.73
		C		0.000	0.000	0.000	0.000	81.48
L24	69.75-65.08	A	1.369	0.000	0.000	13.169	0.000	133.26
		B		0.000	0.000	5.945	0.000	93.60
		C		0.000	0.000	0.000	0.000	75.43
L25	65.08-64.83	A	1.364	0.000	0.000	0.705	0.000	7.11
		B		0.000	0.000	0.318	0.000	5.00
		C		0.000	0.000	0.000	0.000	4.02
L26	64.83-59.83	A	1.359	0.000	0.000	14.076	0.000	141.53
		B		0.000	0.000	6.359	0.000	99.77
		C		0.000	0.000	0.000	0.000	80.06
L27	59.83-54.83	A	1.347	0.000	0.000	14.042	0.000	140.22
		B		0.000	0.000	6.347	0.000	99.24
		C		0.000	0.000	0.000	0.000	79.27
L28	54.83-49.83	A	1.335	0.000	0.000	14.005	0.000	138.81
		B		0.000	0.000	6.335	0.000	98.67
		C		0.000	0.000	0.000	0.000	78.42
L29	49.83-43.50	A	1.320	0.000	0.000	17.691	0.000	173.70
		B		0.000	0.000	8.009	0.000	124.13
		C		0.000	0.000	0.000	0.000	98.03
L30	43.50-42.50	A	1.309	0.000	0.000	2.792	0.000	27.41
		B		0.000	0.000	1.264	0.000	19.59
		C		0.000	0.000	0.000	0.000	15.47
L31	42.50-37.50	A	1.300	0.000	0.000	13.899	0.000	134.77
		B		0.000	0.000	6.300	0.000	97.01

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
L32	37.50-33.00	C		0.000	0.000	0.000	0.000	75.96
		A	1.283	0.000	0.000	12.456	0.000	119.54
		B		0.000	0.000	5.651	0.000	86.57
		C		0.000	0.000	0.000	0.000	67.30
L33	33.00-32.75	A	1.275	0.000	0.000	0.691	0.000	6.60
		B		0.000	0.000	0.314	0.000	4.79
		C		0.000	0.000	0.000	0.000	3.71
L34	32.75-32.00	A	1.273	0.000	0.000	2.073	0.000	19.76
		B		0.000	0.000	0.941	0.000	14.36
		C		0.000	0.000	0.000	0.000	11.11
L35	32.00-31.75	A	1.271	0.000	0.000	0.691	0.000	6.57
		B		0.000	0.000	0.314	0.000	4.78
		C		0.000	0.000	0.000	0.000	3.70
L36	31.75-30.00	A	1.267	0.000	0.000	4.830	0.000	45.86
		B		0.000	0.000	2.193	0.000	33.42
		C		0.000	0.000	0.000	0.000	25.79
L37	30.00-29.75	A	1.262	0.000	0.000	0.689	0.000	6.53
		B		0.000	0.000	0.313	0.000	4.76
		C		0.000	0.000	0.313	0.000	5.73
L38	29.75-24.75	A	1.251	0.000	0.000	13.752	0.000	129.28
		B		0.000	0.000	6.251	0.000	94.76
		C		0.000	0.000	6.251	0.000	113.29
L39	24.75-19.75	A	1.226	0.000	0.000	13.677	0.000	126.50
		B		0.000	0.000	6.226	0.000	93.62
		C		0.000	0.000	6.226	0.000	110.54
L40	19.75-14.75	A	1.195	0.000	0.000	13.585	0.000	123.13
		B		0.000	0.000	6.195	0.000	92.23
		C		0.000	0.000	6.195	0.000	107.18
L41	14.75-9.75	A	1.155	0.000	0.000	13.464	0.000	118.79
		B		0.000	0.000	6.155	0.000	90.44
		C		0.000	0.000	6.155	0.000	102.84
L42	9.75-4.75	A	1.096	0.000	0.000	13.287	0.000	112.56
		B		0.000	0.000	6.096	0.000	87.86
		C		0.000	0.000	6.096	0.000	96.55
L43	4.75-0.00	A	0.980	0.000	0.000	12.292	0.000	95.72
		B		0.000	0.000	5.681	0.000	78.78
		C		0.000	0.000	5.681	0.000	80.64

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	150.00-145.00	0.000	0.000	1.021	-1.049
L2	145.00-140.00	0.000	0.000	1.043	-1.069
L3	140.00-133.71	0.000	0.000	0.911	-0.933
L4	133.71-131.29	0.000	0.000	0.924	-0.945
L5	131.29-126.29	0.000	0.000	0.937	-0.957
L6	126.29-121.29	0.000	0.000	0.954	-0.974
L7	121.29-116.29	0.000	0.000	0.970	-0.988
L8	116.29-111.29	0.000	0.000	0.984	-1.002
L9	111.29-108.25	2.159	-0.100	2.170	-0.632
L10	108.25-108.00	2.522	-0.115	2.463	-0.549
L11	108.00-103.00	2.568	-0.114	2.506	-0.555
L12	103.00-98.00	2.653	-0.112	2.586	-0.567
L13	98.00-93.00	2.735	-0.111	2.664	-0.578
L14	93.00-88.08	2.814	-0.109	2.739	-0.588

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Section	Elevation	CP _x	CP _z	CP _x	CP _z
	ft	in	in	Ice in	Ice in
L15	88.08-86.92	2.818	-0.109	2.742	-0.589
L16	86.92-85.17	2.841	-0.108	2.763	-0.590
L17	85.17-84.92	2.856	-0.108	2.777	-0.592
L18	84.92-79.92	2.896	-0.107	2.815	-0.597
L19	79.92-77.00	2.956	-0.106	2.870	-0.604
L20	77.00-76.75	2.979	-0.106	2.891	-0.607
L21	76.75-75.00	2.994	-0.105	2.905	-0.609
L22	75.00-74.75	3.009	-0.105	2.919	-0.610
L23	74.75-69.75	3.047	-0.104	2.953	-0.615
L24	69.75-65.08	3.115	-0.103	3.016	-0.622
L25	65.08-64.83	3.149	-0.102	3.047	-0.626
L26	64.83-59.83	3.185	-0.101	3.079	-0.629
L27	59.83-54.83	3.252	-0.100	3.139	-0.635
L28	54.83-49.83	3.317	-0.099	3.196	-0.641
L29	49.83-43.50	3.389	-0.097	3.259	-0.646
L30	43.50-42.50	3.393	-0.097	3.262	-0.647
L31	42.50-37.50	3.430	-0.096	3.289	-0.645
L32	37.50-33.00	3.487	-0.095	3.337	-0.647
L33	33.00-32.75	3.516	-0.094	3.360	-0.648
L34	32.75-32.00	3.522	-0.094	3.365	-0.648
L35	32.00-31.75	3.527	-0.094	3.369	-0.648
L36	31.75-30.00	3.539	-0.094	3.378	-0.648
L37	30.00-29.75	2.990	2.911	2.949	1.890
L38	29.75-24.75	3.019	2.941	2.972	1.911
L39	24.75-19.75	3.073	2.995	3.013	1.953
L40	19.75-14.75	3.126	3.049	3.051	1.997
L41	14.75-9.75	3.177	3.101	3.082	2.042
L42	9.75-4.75	3.228	3.153	3.105	2.093
L43	4.75-0.00	3.276	3.202	3.098	2.162

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	2	Safety Line 3/8	145.00 - 150.00	1.0000	1.0000
L2	2	Safety Line 3/8	140.00 - 145.00	1.0000	1.0000
L3	2	Safety Line 3/8	133.71 - 140.00	1.0000	1.0000
L3	10	LCF158-50JA-A7(1-5/8)	133.71 - 140.00	1.0000	1.0000
L5	2	Safety Line 3/8	126.29 - 131.29	1.0000	1.0000
L5	10	LCF158-50JA-A7(1-5/8)	126.29 - 131.29	1.0000	1.0000
L6	2	Safety Line 3/8	121.29 - 126.29	1.0000	1.0000
L6	10	LCF158-50JA-A7(1-5/8)	121.29 - 126.29	1.0000	1.0000
L7	2	Safety Line 3/8	116.29 - 121.29	1.0000	1.0000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L7	10	LCF158-50JA-A7(1-5/8)	116.29 - 121.29	1.0000	1.0000
L8	2	Safety Line 3/8	111.29 - 116.29	1.0000	1.0000
L8	10	LCF158-50JA-A7(1-5/8)	111.29 - 116.29	1.0000	1.0000
L9	2	Safety Line 3/8	108.25 - 111.29	1.0000	1.0000
L9	10	LCF158-50JA-A7(1-5/8)	108.25 - 111.29	1.0000	1.0000
L9	35	CCI-65FP-060100	108.25 - 110.25	1.0000	1.0000
L9	36	CCI-65FP-060100	108.25 - 110.25	1.0000	1.0000
L9	37	CCI-65FP-060100	108.25 - 110.25	1.0000	1.0000
L10	2	Safety Line 3/8	108.00 - 108.25	1.0000	1.0000
L10	10	LCF158-50JA-A7(1-5/8)	108.00 - 108.25	1.0000	1.0000
L10	35	CCI-65FP-060100	108.00 - 108.25	1.0000	1.0000
L10	36	CCI-65FP-060100	108.00 - 108.25	1.0000	1.0000
L10	37	CCI-65FP-060100	108.00 - 108.25	1.0000	1.0000
L11	2	Safety Line 3/8	103.00 - 108.00	1.0000	1.0000
L11	10	LCF158-50JA-A7(1-5/8)	103.00 - 108.00	1.0000	1.0000
L11	35	CCI-65FP-060100	103.00 - 108.00	1.0000	1.0000
L11	36	CCI-65FP-060100	103.00 - 108.00	1.0000	1.0000
L11	37	CCI-65FP-060100	103.00 - 108.00	1.0000	1.0000
L12	2	Safety Line 3/8	98.00 - 103.00	1.0000	1.0000
L12	10	LCF158-50JA-A7(1-5/8)	98.00 - 103.00	1.0000	1.0000
L12	35	CCI-65FP-060100	98.00 - 103.00	1.0000	1.0000
L12	36	CCI-65FP-060100	98.00 - 103.00	1.0000	1.0000
L12	37	CCI-65FP-060100	98.00 - 103.00	1.0000	1.0000
L13	2	Safety Line 3/8	93.00 - 98.00	1.0000	1.0000
L13	10	LCF158-50JA-A7(1-5/8)	93.00 - 98.00	1.0000	1.0000
L13	35	CCI-65FP-060100	93.00 - 98.00	1.0000	1.0000
L13	36	CCI-65FP-060100	93.00 - 98.00	1.0000	1.0000
L13	37	CCI-65FP-060100	93.00 - 98.00	1.0000	1.0000
L14	2	Safety Line 3/8	88.08 - 93.00	1.0000	1.0000
L14	10	LCF158-50JA-A7(1-5/8)	88.08 - 93.00	1.0000	1.0000
L14	35	CCI-65FP-060100	88.08 - 93.00	1.0000	1.0000
L14	36	CCI-65FP-060100	88.08 - 93.00	1.0000	1.0000
L14	37	CCI-65FP-060100	88.08 - 93.00	1.0000	1.0000
L16	2	Safety Line 3/8	85.17 - 86.92	1.0000	1.0000
L16	10	LCF158-50JA-A7(1-5/8)	85.17 - 86.92	1.0000	1.0000
L16	35	CCI-65FP-060100	85.17 - 86.92	1.0000	1.0000
L16	36	CCI-65FP-060100	85.17 - 86.92	1.0000	1.0000
L16	37	CCI-65FP-060100	85.17 - 86.92	1.0000	1.0000
L17	2	Safety Line 3/8	84.92 - 85.17	1.0000	1.0000
L17	10	LCF158-50JA-A7(1-5/8)	84.92 - 85.17	1.0000	1.0000
L17	31	CCI-65FP-060100	84.92 - 85.17	1.0000	1.0000
L17	32	CCI-65FP-060100	84.92 - 85.17	1.0000	1.0000
L17	33	CCI-65FP-060100	84.92 - 85.17	1.0000	1.0000
L18	2	Safety Line 3/8	79.92 - 84.92	1.0000	1.0000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L18	10	LCF158-50JA-A7(1-5/8)	79.92 - 84.92	1.0000	1.0000
L18	31	CCI-65FP-060100	79.92 - 84.92	1.0000	1.0000
L18	32	CCI-65FP-060100	79.92 - 84.92	1.0000	1.0000
L18	33	CCI-65FP-060100	79.92 - 84.92	1.0000	1.0000
L19	2	Safety Line 3/8	77.00 - 79.92	1.0000	1.0000
L19	10	LCF158-50JA-A7(1-5/8)	77.00 - 79.92	1.0000	1.0000
L19	31	CCI-65FP-060100	77.00 - 79.92	1.0000	1.0000
L19	32	CCI-65FP-060100	77.00 - 79.92	1.0000	1.0000
L19	33	CCI-65FP-060100	77.00 - 79.92	1.0000	1.0000
L20	2	Safety Line 3/8	76.75 - 77.00	1.0000	1.0000
L20	10	LCF158-50JA-A7(1-5/8)	76.75 - 77.00	1.0000	1.0000
L20	31	CCI-65FP-060100	76.75 - 77.00	1.0000	1.0000
L20	32	CCI-65FP-060100	76.75 - 77.00	1.0000	1.0000
L20	33	CCI-65FP-060100	76.75 - 77.00	1.0000	1.0000
L21	2	Safety Line 3/8	75.00 - 76.75	1.0000	1.0000
L21	10	LCF158-50JA-A7(1-5/8)	75.00 - 76.75	1.0000	1.0000
L21	31	CCI-65FP-060100	75.00 - 76.75	1.0000	1.0000
L21	32	CCI-65FP-060100	75.00 - 76.75	1.0000	1.0000
L21	33	CCI-65FP-060100	75.00 - 76.75	1.0000	1.0000
L22	2	Safety Line 3/8	74.75 - 75.00	1.0000	1.0000
L22	10	LCF158-50JA-A7(1-5/8)	74.75 - 75.00	1.0000	1.0000
L22	31	CCI-65FP-060100	74.75 - 75.00	1.0000	1.0000
L22	32	CCI-65FP-060100	74.75 - 75.00	1.0000	1.0000
L22	33	CCI-65FP-060100	74.75 - 75.00	1.0000	1.0000
L23	2	Safety Line 3/8	69.75 - 74.75	1.0000	1.0000
L23	10	LCF158-50JA-A7(1-5/8)	69.75 - 74.75	1.0000	1.0000
L23	31	CCI-65FP-060100	69.75 - 74.75	1.0000	1.0000
L23	32	CCI-65FP-060100	69.75 - 74.75	1.0000	1.0000
L23	33	CCI-65FP-060100	69.75 - 74.75	1.0000	1.0000
L24	2	Safety Line 3/8	65.08 - 69.75	1.0000	1.0000
L24	10	LCF158-50JA-A7(1-5/8)	65.08 - 69.75	1.0000	1.0000
L24	31	CCI-65FP-060100	65.08 - 69.75	1.0000	1.0000
L24	32	CCI-65FP-060100	65.08 - 69.75	1.0000	1.0000
L24	33	CCI-65FP-060100	65.08 - 69.75	1.0000	1.0000
L25	2	Safety Line 3/8	64.83 - 65.08	1.0000	1.0000
L25	10	LCF158-50JA-A7(1-5/8)	64.83 - 65.08	1.0000	1.0000
L25	26	CCI-65FP-060100	64.83 - 65.08	1.0000	1.0000
L25	28	CCI-65FP-060100	64.83 - 65.08	1.0000	1.0000
L25	29	CCI-65FP-060100	64.83 - 65.08	1.0000	1.0000
L26	2	Safety Line 3/8	59.83 - 64.83	1.0000	1.0000
L26	10	LCF158-50JA-A7(1-5/8)	59.83 - 64.83	1.0000	1.0000
L26	26	CCI-65FP-060100	59.83 - 64.83	1.0000	1.0000
L26	28	CCI-65FP-060100	59.83 - 64.83	1.0000	1.0000
L26	29	CCI-65FP-060100	59.83 - 64.83	1.0000	1.0000
L27	2	Safety Line 3/8	54.83 - 59.83	1.0000	1.0000
L27	10	LCF158-50JA-A7(1-5/8)	54.83 - 59.83	1.0000	1.0000
L27	26	CCI-65FP-060100	54.83 - 59.83	1.0000	1.0000
L27	28	CCI-65FP-060100	54.83 - 59.83	1.0000	1.0000
L27	29	CCI-65FP-060100	54.83 - 59.83	1.0000	1.0000
L28	2	Safety Line 3/8	49.83 - 54.83	1.0000	1.0000
L28	10	LCF158-50JA-A7(1-5/8)	49.83 - 54.83	1.0000	1.0000
L28	26	CCI-65FP-060100	49.83 - 54.83	1.0000	1.0000
L28	28	CCI-65FP-060100	49.83 - 54.83	1.0000	1.0000
L28	29	CCI-65FP-060100	49.83 - 54.83	1.0000	1.0000
L29	2	Safety Line 3/8	43.50 - 49.83	1.0000	1.0000
L29	10	LCF158-50JA-A7(1-5/8)	43.50 - 49.83	1.0000	1.0000
L29	26	CCI-65FP-060100	43.50 - 49.83	1.0000	1.0000
L29	28	CCI-65FP-060100	43.50 - 49.83	1.0000	1.0000
L29	29	CCI-65FP-060100	43.50 - 49.83	1.0000	1.0000
L31	2	Safety Line 3/8	37.50 - 42.50	1.0000	1.0000
L31	10	LCF158-50JA-A7(1-5/8)	37.50 - 42.50	1.0000	1.0000
L31	26	CCI-65FP-060100	37.50 - 42.50	1.0000	1.0000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L31	28	CCI-65FP-060100	37.50 - 42.50	1.0000	1.0000
L31	29	CCI-65FP-060100	37.50 - 42.50	1.0000	1.0000
L32	2	Safety Line 3/8	33.00 - 37.50	1.0000	1.0000
L32	10	LCF158-50JA-A7(1-5/8)	33.00 - 37.50	1.0000	1.0000
L32	20	CCI-65FP-060100	33.00 - 35.00	1.0000	1.0000
L32	21	CCI-65FP-060100	33.00 - 35.00	1.0000	1.0000
L32	26	CCI-65FP-060100	35.00 - 37.50	1.0000	1.0000
L32	28	CCI-65FP-060100	35.00 - 37.50	1.0000	1.0000
L32	29	CCI-65FP-060100	33.00 - 37.50	1.0000	1.0000
L33	2	Safety Line 3/8	32.75 - 33.00	1.0000	1.0000
L33	10	LCF158-50JA-A7(1-5/8)	32.75 - 33.00	1.0000	1.0000
L33	20	CCI-65FP-060100	32.75 - 33.00	1.0000	1.0000
L33	21	CCI-65FP-060100	32.75 - 33.00	1.0000	1.0000
L33	29	CCI-65FP-060100	32.75 - 33.00	1.0000	1.0000
L34	2	Safety Line 3/8	32.00 - 32.75	1.0000	1.0000
L34	10	LCF158-50JA-A7(1-5/8)	32.00 - 32.75	1.0000	1.0000
L34	20	CCI-65FP-060100	32.00 - 32.75	1.0000	1.0000
L34	21	CCI-65FP-060100	32.00 - 32.75	1.0000	1.0000
L34	29	CCI-65FP-060100	32.00 - 32.75	1.0000	1.0000
L35	2	Safety Line 3/8	31.75 - 32.00	1.0000	1.0000
L35	10	LCF158-50JA-A7(1-5/8)	31.75 - 32.00	1.0000	1.0000
L35	20	CCI-65FP-060100	31.75 - 32.00	1.0000	1.0000
L35	21	CCI-65FP-060100	31.75 - 32.00	1.0000	1.0000
L35	29	CCI-65FP-060100	31.75 - 32.00	1.0000	1.0000
L36	2	Safety Line 3/8	30.00 - 31.75	1.0000	1.0000
L36	10	LCF158-50JA-A7(1-5/8)	30.00 - 31.75	1.0000	1.0000
L36	20	CCI-65FP-060100	30.00 - 31.75	1.0000	1.0000
L36	21	CCI-65FP-060100	30.00 - 31.75	1.0000	1.0000
L36	29	CCI-65FP-060100	30.00 - 31.75	1.0000	1.0000
L37	2	Safety Line 3/8	29.75 - 30.00	1.0000	1.0000
L37	10	LCF158-50JA-A7(1-5/8)	29.75 - 30.00	1.0000	1.0000
L37	20	CCI-65FP-060100	29.75 - 30.00	1.0000	1.0000
L37	21	CCI-65FP-060100	29.75 - 30.00	1.0000	1.0000
L37	22	CCI-65FP-060100	29.75 - 30.00	1.0000	1.0000
L37	23	CCI-65FP-060100	29.75 - 30.00	1.0000	1.0000
L38	2	Safety Line 3/8	24.75 - 29.75	1.0000	1.0000
L38	10	LCF158-50JA-A7(1-5/8)	24.75 - 29.75	1.0000	1.0000
L38	20	CCI-65FP-060100	24.75 - 29.75	1.0000	1.0000
L38	21	CCI-65FP-060100	24.75 - 29.75	1.0000	1.0000
L38	22	CCI-65FP-060100	24.75 - 29.75	1.0000	1.0000
L38	23	CCI-65FP-060100	24.75 - 29.75	1.0000	1.0000
L39	2	Safety Line 3/8	19.75 - 24.75	1.0000	1.0000
L39	10	LCF158-50JA-A7(1-5/8)	19.75 - 24.75	1.0000	1.0000
L39	20	CCI-65FP-060100	19.75 - 24.75	1.0000	1.0000
L39	21	CCI-65FP-060100	19.75 - 24.75	1.0000	1.0000
L39	22	CCI-65FP-060100	19.75 - 24.75	1.0000	1.0000
L39	23	CCI-65FP-060100	19.75 - 24.75	1.0000	1.0000
L40	2	Safety Line 3/8	14.75 - 19.75	1.0000	1.0000
L40	10	LCF158-50JA-A7(1-5/8)	14.75 - 19.75	1.0000	1.0000
L40	20	CCI-65FP-060100	14.75 - 19.75	1.0000	1.0000
L40	21	CCI-65FP-060100	14.75 - 19.75	1.0000	1.0000
L40	22	CCI-65FP-060100	14.75 - 19.75	1.0000	1.0000
L40	23	CCI-65FP-060100	14.75 - 19.75	1.0000	1.0000
L41	2	Safety Line 3/8	9.75 - 14.75	1.0000	1.0000
L41	10	LCF158-50JA-A7(1-5/8)	9.75 - 14.75	1.0000	1.0000
L41	20	CCI-65FP-060100	9.75 - 14.75	1.0000	1.0000
L41	21	CCI-65FP-060100	9.75 - 14.75	1.0000	1.0000
L41	22	CCI-65FP-060100	9.75 - 14.75	1.0000	1.0000
L41	23	CCI-65FP-060100	9.75 - 14.75	1.0000	1.0000
L42	2	Safety Line 3/8	4.75 - 9.75	1.0000	1.0000
L42	10	LCF158-50JA-A7(1-5/8)	4.75 - 9.75	1.0000	1.0000
L42	20	CCI-65FP-060100	4.75 - 9.75	1.0000	1.0000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L42	21	CCI-65FP-060100	4.75 - 9.75	1.0000	1.0000
L42	22	CCI-65FP-060100	4.75 - 9.75	1.0000	1.0000
L42	23	CCI-65FP-060100	4.75 - 9.75	1.0000	1.0000
L43	2	Safety Line 3/8	0.00 - 4.75	1.0000	1.0000
L43	10	LCF158-50JA-A7(1-5/8)	0.00 - 4.75	1.0000	1.0000
L43	20	CCI-65FP-060100	0.00 - 4.75	1.0000	1.0000
L43	21	CCI-65FP-060100	0.00 - 4.75	1.0000	1.0000
L43	22	CCI-65FP-060100	0.00 - 4.75	1.0000	1.0000
L43	23	CCI-65FP-060100	0.00 - 4.75	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			ft ft ft	°	ft	ft ²	ft ²	lb	
150									
NNVV-65B-R4	A	From	4.00	0.000	150.00	No Ice	12.27	5.75	77.40
		Centroid-Fa	-6.000			1/2" Ice	12.77	6.21	149.54
		ce	2.000			1" Ice	13.27	6.67	228.32
						2" Ice	14.29	7.62	406.57
NNVV-65B-R4	B	From	4.00	0.000	150.00	No Ice	12.27	5.75	77.40
		Centroid-Fa	-6.000			1/2" Ice	12.77	6.21	149.54
		ce	2.000			1" Ice	13.27	6.67	228.32
						2" Ice	14.29	7.62	406.57
NNVV-65B-R4	C	From	4.00	0.000	150.00	No Ice	12.27	5.75	77.40
		Centroid-Fa	-6.000			1/2" Ice	12.77	6.21	149.54
		ce	2.000			1" Ice	13.27	6.67	228.32
						2" Ice	14.29	7.62	406.57
APXVTM14-ALU-I20	A	From	4.00	0.000	150.00	No Ice	6.34	3.61	56.22
		Centroid-Fa	6.000			1/2" Ice	6.72	3.97	95.75
		ce	2.000			1" Ice	7.10	4.33	140.34
						2" Ice	7.88	5.07	245.51
APXVTM14-ALU-I20	B	From	4.00	0.000	150.00	No Ice	6.34	3.61	56.22
		Centroid-Fa	6.000			1/2" Ice	6.72	3.97	95.75
		ce	2.000			1" Ice	7.10	4.33	140.34
						2" Ice	7.88	5.07	245.51
APXVTM14-ALU-I20	C	From	4.00	0.000	150.00	No Ice	6.34	3.61	56.22
		Centroid-Fa	6.000			1/2" Ice	6.72	3.97	95.75
		ce	2.000			1" Ice	7.10	4.33	140.34
						2" Ice	7.88	5.07	245.51
(2) RRH2X50-800	A	From	4.00	0.000	150.00	No Ice	1.70	1.28	52.90
		Centroid-Fa	-6.000			1/2" Ice	1.86	1.43	69.91
		ce	2.000			1" Ice	2.03	1.58	89.61
						2" Ice	2.40	1.91	137.85
(2) RRH2X50-800	B	From	4.00	0.000	150.00	No Ice	1.70	1.28	52.90
		Centroid-Fa	-6.000			1/2" Ice	1.86	1.43	69.91
		ce	2.000			1" Ice	2.03	1.58	89.61
						2" Ice	2.40	1.91	137.85
(2) RRH2X50-800	C	From	4.00	0.000	150.00	No Ice	1.70	1.28	52.90
		Centroid-Fa	-6.000			1/2" Ice	1.86	1.43	69.91
		ce	2.000			1" Ice	2.03	1.58	89.61
						2" Ice	2.40	1.91	137.85

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
TD-RRH8x20-25	A	From Centroid-Fa ce	4.00 -6.000 2.000	0.000	150.00	2" Ice	1.91	137.85
						No Ice	1.29	66.00
						1/2" Ice	1.46	89.94
						1" Ice	1.64	117.22
TD-RRH8x20-25	B	From Centroid-Fa ce	4.00 -6.000 2.000	0.000	150.00	2" Ice	2.02	182.59
						No Ice	1.29	66.00
						1/2" Ice	1.46	89.94
						1" Ice	1.64	117.22
TD-RRH8x20-25	C	From Centroid-Fa ce	4.00 -6.000 2.000	0.000	150.00	2" Ice	2.02	182.59
						No Ice	1.29	66.00
						1/2" Ice	1.46	89.94
						1" Ice	1.64	117.22
PCS 1900MHz 4x45W-65MHz	A	From Centroid-Fa ce	4.00 -6.000 2.000	0.000	150.00	2" Ice	2.02	182.59
						No Ice	2.23	60.00
						1/2" Ice	2.43	83.06
						1" Ice	2.64	109.35
PCS 1900MHz 4x45W-65MHz	B	From Centroid-Fa ce	4.00 -6.000 2.000	0.000	150.00	2" Ice	3.08	172.38
						No Ice	2.23	60.00
						1/2" Ice	2.43	83.06
						1" Ice	2.64	109.35
PCS 1900MHz 4x45W-65MHz	C	From Centroid-Fa ce	4.00 -6.000 2.000	0.000	150.00	2" Ice	3.08	172.38
						No Ice	2.23	60.00
						1/2" Ice	2.43	83.06
						1" Ice	2.64	109.35
Platform Mount [LP 301-1] (RMQP-496)	C	None		0.000	150.00	2" Ice	3.08	172.38
						No Ice	30.10	1588.50
						1/2" Ice	40.80	2029.18
						1" Ice	51.50	2469.86
140 (2) DB846H80E-SX w/ Mount Pipe	A	From Centroid-Le g	4.00 -4.750 0.000	10.000	140.00	2" Ice	72.90	3351.22
						No Ice	5.09	36.90
						1/2" Ice	5.55	92.31
						1" Ice	6.01	155.24
(2) DB846F65ZAXY w/ Mount Pipe	B	From Centroid-Le g	4.00 -4.750 0.000	0.000	140.00	2" Ice	11.01	307.00
						No Ice	7.27	46.55
						1/2" Ice	7.83	113.93
						1" Ice	8.35	189.25
(2) DB846H80E-SX w/ Mount Pipe	C	From Centroid-Le g	4.00 -4.750 0.000	30.000	140.00	2" Ice	11.73	367.34
						No Ice	5.09	36.90
						1/2" Ice	5.55	92.31
						1" Ice	6.01	155.24
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Centroid-Le g	4.00 4.750 0.000	40.000	140.00	2" Ice	11.01	307.00
						No Ice	9.35	88.85
						1/2" Ice	9.92	165.42
						1" Ice	10.46	250.16
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Centroid-Le g	4.00 4.750 0.000	45.000	140.00	2" Ice	11.56	447.77
						No Ice	9.35	88.85
						1/2" Ice	9.92	165.42
						1" Ice	10.46	250.16
(2) JAHH-65B-R3B w/ Mount Pipe	C	From Centroid-Le g	4.00 4.750 0.000	50.000	140.00	2" Ice	11.56	447.77
						No Ice	9.35	88.85
						1/2" Ice	9.92	165.42
						1" Ice	10.46	250.16
(2) RFV01U-D2A	A	From Centroid-Le g	4.00 -7.000 0.000	10.000	140.00	2" Ice	11.56	447.77
						No Ice	1.88	70.30
						1/2" Ice	2.05	86.73
						1" Ice	2.22	105.83

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral Vert						
			ft	ft	°	ft	ft ²	ft ²	lb	
RFV01U-D2A	B	From Centroid-Le g	4.00	0.000	0.000	140.00	2" Ice	2.60	1.59	152.80
			-7.000				No Ice	1.88	1.01	70.30
			0.000				1/2" Ice	2.05	1.14	86.73
							1" Ice	2.22	1.28	105.83
RFV01U-D1A	B	From Centroid-Le g	4.00	0.000	0.000	140.00	2" Ice	2.60	1.59	152.80
			-7.000				No Ice	1.88	1.25	84.40
			0.000				1/2" Ice	2.05	1.39	102.74
							1" Ice	2.22	1.54	123.87
(2) RFV01U-D1A	C	From Centroid-Le g	4.00	30.000	30.000	140.00	2" Ice	2.60	1.86	175.27
			-7.000				No Ice	1.88	1.25	84.40
			0.000				1/2" Ice	2.05	1.39	102.74
							1" Ice	2.22	1.54	123.87
FDJ85020Q7-S1	A	From Centroid-Le g	4.00	10.000	10.000	140.00	2" Ice	2.60	1.86	175.27
			-7.000				No Ice	1.12	0.42	23.60
			0.000				1/2" Ice	1.28	0.51	33.17
							1" Ice	1.44	0.60	44.87
FDJ85020Q7-S1	B	From Centroid-Le g	4.00	0.000	0.000	140.00	2" Ice	1.80	0.83	75.48
			-7.000				No Ice	1.12	0.42	23.60
			0.000				1/2" Ice	1.28	0.51	33.17
							1" Ice	1.44	0.60	44.87
FDJ85020Q7-S1	C	From Centroid-Le g	4.00	30.000	30.000	140.00	2" Ice	1.80	0.83	75.48
			-7.000				No Ice	1.12	0.42	23.60
			0.000				1/2" Ice	1.28	0.51	33.17
							1" Ice	1.44	0.60	44.87
RVZDC-6627-PF-48	A	From Centroid-Le g	4.00	10.000	10.000	140.00	2" Ice	1.80	0.83	75.48
			-7.000				No Ice	3.79	2.51	32.00
			0.000				1/2" Ice	4.04	2.73	63.48
							1" Ice	4.30	2.95	98.72
RVZDC-6627-PF-48	B	From Centroid-Le g	4.00	0.000	0.000	140.00	2" Ice	4.84	3.42	181.25
			-7.000				No Ice	3.79	2.51	32.00
			0.000				1/2" Ice	4.04	2.73	63.48
							1" Ice	4.30	2.95	98.72
Platform Mount [LP 304-1]	C	None		0.000	0.000	140.00	2" Ice	4.84	3.42	181.25
							No Ice	17.46	17.46	1349.00
							1/2" Ice	22.44	22.44	1624.58
							1" Ice	27.42	27.42	1900.16
130						2" Ice	37.38	37.38	2451.32	
(2) 7770.00 w/ Mount Pipe	A	From Centroid-Fa ce	4.00	-20.000	-20.000	130.00	No Ice	5.75	4.25	55.38
			0.000				1/2" Ice	6.18	5.01	102.81
			0.000				1" Ice	6.61	5.71	156.64
							2" Ice	7.49	7.16	286.58
(2) 7770.00 w/ Mount Pipe	B	From Centroid-Fa ce	4.00	-10.000	-10.000	130.00	No Ice	5.75	4.25	55.38
			0.000				1/2" Ice	6.18	5.01	102.81
			0.000				1" Ice	6.61	5.71	156.64
							2" Ice	7.49	7.16	286.58
(2) 7770.00 w/ Mount Pipe	C	From Centroid-Fa ce	4.00	-10.000	-10.000	130.00	No Ice	5.75	4.25	55.38
			0.000				1/2" Ice	6.18	5.01	102.81
			0.000				1" Ice	6.61	5.71	156.64
							2" Ice	7.49	7.16	286.58
DBXNH-6565B-R2M w/ Mount Pipe	A	From Centroid-Fa ce	4.00	-20.000	-20.000	130.00	No Ice	8.51	7.16	79.98
			0.000				1/2" Ice	9.07	8.36	149.73
			0.000				1" Ice	9.61	9.29	227.58
							2" Ice	10.70	11.14	411.20
P65-16-XLH-RR w/ Mount Pipe	B	From Centroid-Fa ce	4.00	-10.000	-10.000	130.00	No Ice	8.37	6.36	78.55
			0.000				1/2" Ice	8.93	7.54	144.33
			0.000				1" Ice	9.46	8.43	218.01

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Centroid-Fa ce	4.00 0.000 0.000	-10.000	130.00	2" Ice	10.53	392.73
						No Ice	8.26	74.05
						1/2" Ice	8.82	139.04
						1" Ice	9.35	211.91
(2) TMA DD 1900 with 850 BYPASS	A	From Centroid-Fa ce	4.00 -3.000 0.000	-20.000	130.00	2" Ice	10.42	384.96
						No Ice	0.31	17.63
						1/2" Ice	0.41	23.45
						1" Ice	0.51	31.02
(2) TMA DD 1900 with 850 BYPASS	B	From Centroid-Fa ce	4.00 -3.000 0.000	-10.000	130.00	2" Ice	0.75	52.16
						No Ice	0.31	17.63
						1/2" Ice	0.41	23.45
						1" Ice	0.51	31.02
(2) TMA DD 1900 with 850 BYPASS	C	From Centroid-Fa ce	4.00 -3.000 0.000	-10.000	130.00	2" Ice	0.75	52.16
						No Ice	0.31	17.63
						1/2" Ice	0.41	23.45
						1" Ice	0.51	31.02
(2) LGP21901	A	From Centroid-Fa ce	4.00 3.000 0.000	-20.000	130.00	2" Ice	0.75	52.16
						No Ice	0.23	5.50
						1/2" Ice	0.29	7.92
						1" Ice	0.36	11.41
(2) LGP21901	B	From Centroid-Fa ce	4.00 3.000 0.000	-10.000	130.00	2" Ice	0.53	22.43
						No Ice	0.23	5.50
						1/2" Ice	0.29	7.92
						1" Ice	0.36	11.41
(2) LGP21901	C	From Centroid-Fa ce	4.00 3.000 0.000	-10.000	130.00	2" Ice	0.53	22.43
						No Ice	0.23	5.50
						1/2" Ice	0.29	7.92
						1" Ice	0.36	11.41
RRUS 11 B12	A	From Centroid-Fa ce	3.00 0.000 0.000	-20.000	130.00	2" Ice	3.67	153.20
						No Ice	2.79	50.70
						1/2" Ice	3.00	71.57
						1" Ice	3.21	95.48
RRUS 11 B12	B	From Centroid-Fa ce	3.00 0.000 0.000	-10.000	130.00	2" Ice	3.67	153.20
						No Ice	2.79	50.70
						1/2" Ice	3.00	71.57
						1" Ice	3.21	95.48
RRUS 11 B12	C	From Centroid-Fa ce	3.00 0.000 0.000	-10.000	130.00	2" Ice	3.67	153.20
						No Ice	2.79	50.70
						1/2" Ice	3.00	71.57
						1" Ice	3.21	95.48
DC6-48-60-18-8F	C	From Centroid-Fa ce	3.00 0.000 0.000	-10.000	130.00	2" Ice	3.67	153.20
						No Ice	1.21	32.80
						1/2" Ice	1.89	54.76
						1" Ice	2.11	79.58
2.4" Dia x 4-ft Mount Pipe	A	From Centroid-Fa ce	3.00 0.000 0.000	0.000	130.00	2" Ice	2.57	138.43
						No Ice	0.87	14.64
						1/2" Ice	1.12	22.02
						1" Ice	1.37	32.24
2.4" Dia x 4-ft Mount Pipe	B	From Centroid-Fa ce	3.00 0.000 0.000	0.000	130.00	2" Ice	1.91	61.82
						No Ice	0.87	14.64
						1/2" Ice	1.12	22.02
						1" Ice	1.37	32.24
2.4" Dia x 4-ft Mount Pipe	C	From Centroid-Fa ce	3.00 0.000 0.000	0.000	130.00	2" Ice	1.91	61.82
						No Ice	0.87	14.64
						1/2" Ice	1.12	22.02
						1" Ice	1.37	32.24
2.4" Dia x 4-ft Mount Pipe	C	From Centroid-Fa ce	3.00 0.000 0.000	0.000	130.00	2" Ice	1.91	61.82
						No Ice	0.87	14.64
						1/2" Ice	1.12	22.02
						1" Ice	1.37	32.24

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			ft ft ft	°	ft	ft ²	ft ²	lb
Side Arm Mount [SO 102-3]	C	None		0.000	130.00	No Ice 3.00 1/2" Ice 3.48 1" Ice 3.96 2" Ice 4.92	3.00 3.48 3.96 4.92	81.00 111.00 141.00 201.00
Side Arm Mount [SO 701-3]	C	None		0.000	130.00	No Ice 2.83 1/2" Ice 3.92 1" Ice 5.01 2" Ice 7.19	2.83 3.92 5.01 7.19	195.00 237.00 279.00 363.00
Platform Mount [LP 304-1]	C	None		0.000	130.00	No Ice 17.46 1/2" Ice 22.44 1" Ice 27.42 2" Ice 37.38	17.46 22.44 27.42 37.38	1349.00 1624.58 1900.16 2451.32
80 KS24019-L112A	C	From Leg	3.00 0.000 1.000	30.000	80.00	No Ice 0.08 1/2" Ice 0.13 1" Ice 0.19 2" Ice 0.35	0.08 0.13 0.19 0.35	5.00 6.25 8.26 15.18
Side Arm Mount [SO 701-1]	C	From Leg	1.50 0.000 0.000	30.000	80.00	No Ice 0.85 1/2" Ice 1.14 1" Ice 1.43 2" Ice 2.01	0.85 1.14 1.43 2.01	65.00 79.00 93.00 121.00

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice

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Comb. No.	Description
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 lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L1	150 - 145	Pole	Max Tension	26	0.00	0.01	-0.04
			Max. Compression	26	-6843.56	-0.65	25.62
			Max. Mx	8	-2521.27	-34046.86	21.16
			Max. My	14	-2523.94	-9.88	-34040.31
			Max. Vy	8	5590.78	-34046.86	21.16
			Max. Vx	14	5589.59	-9.88	-34040.31
			Max. Torque	10			3.44
L2	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-7213.87	-1.24	52.80
			Max. Mx	8	-2714.78	-62601.69	38.01
			Max. My	14	-2717.56	-18.64	-62588.10
			Max. Vy	8	5835.99	-62601.69	38.01
			Max. Vx	14	5834.71	-18.64	-62588.10
			Max. Torque	10			3.36
L3	140 - 133.71	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-15052.08	-724.52	1140.32
			Max. Mx	8	-5320.49	-105835.97	-327.09
			Max. My	2	-5361.45	58.32	105737.41
			Max. Vy	8	11704.68	-105835.97	-327.09
			Max. Vx	14	11740.20	-403.24	-105619.58
			Max. Torque	10			1905.45
L4	133.71 - 131.293	Pole	Max Tension	1	0.00	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L5	131.293 - 126.293	Pole	Max. Compression	26	-15824.22	-724.30	1132.99
			Max. Mx	8	-5835.84	-165167.85	-629.58
			Max. My	14	-5840.41	-701.52	-165083.05
			Max. Vy	8	12030.85	-165167.85	-629.58
			Max. Vx	14	12033.99	-701.52	-165083.05
			Max. Torque	10			1903.26
			Max Tension	1	0.00	0.00	0.00
L6	126.293 - 121.293	Pole	Max. Compression	26	-22826.35	-656.11	833.55
			Max. Mx	8	-8863.32	-241244.90	-869.32
			Max. My	14	-8877.29	-837.07	-241151.61
			Max. Vy	8	16433.99	-241244.90	-869.32
			Max. Vx	14	16384.20	-837.07	-241151.61
			Max. Torque	8			1937.69
			Max Tension	1	0.00	0.00	0.00
L7	121.293 - 116.293	Pole	Max. Compression	26	-23573.60	-626.28	807.89
			Max. Mx	8	-9475.25	-324053.12	-951.23
			Max. My	14	-9491.65	-899.86	-323702.43
			Max. Vy	8	16712.72	-324053.12	-951.23
			Max. Vx	14	16641.46	-899.86	-323702.43
			Max. Torque	8			1935.43
			Max Tension	1	0.00	0.00	0.00
L8	116.293 - 111.293	Pole	Max. Compression	26	-24351.84	-592.50	777.70
			Max. Mx	8	-10128.66	-408226.97	-1039.74
			Max. My	14	-10146.27	-959.47	-407526.83
			Max. Vy	20	-16983.77	407864.42	590.12
			Max. Vx	14	16896.08	-959.47	-407526.83
			Max. Torque	8			1932.16
			Max Tension	1	0.00	0.00	0.00
L9	111.293 - 108.25	Pole	Max. Compression	26	-25160.93	-555.10	732.44
			Max. Mx	8	-10817.77	-493732.60	-1133.86
			Max. My	14	-10835.52	-1016.11	-492616.45
			Max. Vy	20	-17248.46	493406.19	640.48
			Max. Vx	14	17149.40	-1016.11	-492616.45
			Max. Torque	8			1928.70
			Max Tension	1	0.00	0.00	0.00
L10	108.25 - 108	Pole	Max. Compression	26	-25733.68	-523.50	734.70
			Max. Mx	8	-11250.81	-546443.85	-1193.56
			Max. My	14	-11270.02	-1049.19	-545026.09
			Max. Vy	20	-17423.99	546140.61	668.06
			Max. Vx	14	17303.47	-1049.19	-545026.09
			Max. Torque	8			1925.28
			Max Tension	1	0.00	0.00	0.00
L11	108 - 103	Pole	Max. Compression	26	-25802.35	-520.69	737.21
			Max. Mx	8	-11316.34	-550799.29	-1198.71
			Max. My	14	-11335.37	-1052.76	-549354.25
			Max. Vy	20	-17441.43	550497.99	670.11
			Max. Vx	14	17322.36	-1052.76	-549354.25
			Max. Torque	8			1923.57
			Max Tension	1	0.00	0.00	0.00
L12	103 - 98	Pole	Max. Compression	26	-27182.87	-459.78	767.15
			Max. Mx	8	-12295.06	-639376.54	-1297.09
			Max. My	14	-12313.42	-1105.22	-637383.61
			Max. Vy	20	-18009.72	639115.23	714.46
			Max. Vx	14	17888.88	-1105.22	-637383.61
			Max. Torque	8			1923.37
			Max Tension	1	0.00	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L13	98 - 93	Pole	Max. Compression	26	-28593.27	-396.57	799.15
			Max. Mx	8	-13310.55	-730785.19	-1398.61
			Max. My	14	-13328.11	-1156.97	-728246.05
			Max. Vy	20	-18580.39	730566.06	755.61
			Max. Vx	14	18459.32	-1156.97	-728246.05
			Max. Torque	8			1921.68
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30033.30	-330.98	832.28
			Max. Mx	8	-14355.08	-825058.04	-1503.00
			Max. My	14	-14371.77	-1207.21	-821974.52
L14	93 - 88.0833	Pole	Max. Vy	20	-19157.06	824883.26	793.67
			Max. Vx	14	19035.82	-1207.21	-821974.52
			Max. Torque	8			1920.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30351.09	-316.26	839.67
			Max. Mx	8	-14585.48	-845865.02	-1526.09
			Max. My	14	-14601.98	-1217.81	-842664.04
			Max. Vy	20	-19282.79	845700.30	801.42
			Max. Vx	14	19161.50	-1217.81	-842664.04
			Max. Torque	8			1918.38
L15	88.0833 - 86.9167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32778.93	-248.35	873.89
L16	86.9167 - 85.167	Pole	Max. Mx	8	-16387.73	-943966.15	-1632.22
			Max. My	14	-16403.78	-1267.11	-940221.81
			Max. Vy	20	-19964.61	943848.04	838.04
			Max. Vx	14	19842.85	-1267.11	-940221.81
			Max. Torque	8			1917.42
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33333.72	-224.42	885.81
			Max. Mx	8	-16797.01	-979048.19	-1670.01
			Max. My	14	-16812.82	-1284.12	-975113.69
			Max. Vy	20	-20173.89	978946.68	850.29
L17	85.167 - 84.917	Pole	Max. Vx	14	20052.01	-1284.12	-975113.69
			Max. Torque	8			1916.99
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33413.44	-221.15	888.57
			Max. Mx	8	-16873.49	-984090.02	-1675.77
			Max. My	14	-16889.09	-1287.05	-980128.65
			Max. Vy	20	-20189.38	983990.90	851.72
			Max. Vx	14	20070.01	-1287.05	-980128.65
			Max. Torque	8			1916.68
			Max Tension	1	0.00	0.00	0.00
L18	84.917 - 79.917	Pole	Max. Compression	26	-35146.92	160.27	742.90
			Max. Mx	20	-18153.65	1086603.85	772.94
			Max. My	14	-18166.38	-1147.35	-1082069.14
			Max. Vy	20	-20824.91	1086603.85	772.94
			Max. Vx	14	20738.00	-1147.35	-1082069.14
			Max. Torque	8			1916.49
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36100.55	202.06	763.65
			Max. Mx	20	-18870.79	1147829.75	790.78
			Max. My	14	-18883.13	-1174.48	-1143052.55
L19	79.917 - 77	Pole	Max. Vy	20	-21170.27	1147829.75	790.78
			Max. Vx	14	21083.26	-1174.48	-1143052.55
			Max. Vy	20	-21170.27	1147829.75	790.78
			Max. Vx	14	21083.26	-1174.48	-1143052.55

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L20	77 - 76.75	Pole	Max. Torque	8			5
			Max Tension	1	0.00	0.00	1855.10
			Max. Compression	26	-36176.88	205.54	0.00
			Max. Mx	20	-18941.94	1153123.23	766.30
			Max. My	14	-18954.12	-1177.14	792.02
			Max. Vy	20	-21186.20	1153123.23	-1148325.5
			Max. Vx	14	21102.02	-1177.14	792.02
L21	76.75 - 75	Pole	Max. Torque	8			1854.44
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36712.93	231.12	778.07
			Max. Mx	20	-19324.20	1190374.76	802.43
			Max. My	14	-19336.23	-1192.89	-1185431.5
			Max. Vy	20	-21401.18	1190374.76	802.43
			Max. Vx	14	21314.18	-1192.89	-1185431.5
L22	75 - 74.75	Pole	Max. Torque	8			1854.15
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36796.02	234.61	780.90
			Max. Mx	20	-19407.61	1195724.74	803.50
			Max. My	14	-19419.43	-1195.57	-1190761.0
			Max. Vy	20	-21412.41	1195724.74	803.50
			Max. Vx	14	21328.31	-1195.57	-1190761.0
L23	74.75 - 69.75	Pole	Max. Torque	8			1853.84
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38468.16	308.90	816.83
			Max. Mx	20	-20674.18	1304249.89	830.69
			Max. My	14	-20685.30	-1240.28	-1298871.6
			Max. Vy	20	-22004.20	1304249.89	830.69
			Max. Vx	14	21917.44	-1240.28	-1298871.6
L24	69.75 - 65.083	Pole	Max. Torque	8			1853.68
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40058.45	379.86	851.83
			Max. Mx	20	-21905.20	1407674.12	853.68
			Max. My	14	-21916.13	-1281.15	-1401887.4
			Max. Vy	20	-22332.67	1407674.12	853.68
			Max. Vx	14	22236.12	-1281.15	-1401887.4
L25	65.083 - 64.833	Pole	Max. Torque	8			1852.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40144.72	383.57	854.58
			Max. Mx	20	-21983.28	1413257.35	854.68
			Max. My	14	-21994.10	-1283.59	-1407447.8
			Max. Vy	20	-22339.35	1413257.35	854.68
			Max. Vx	14	22245.42	-1283.59	-1407447.8
L26	64.833 - 59.833	Pole	Max. Torque	8			1851.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41880.36	461.58	892.00
			Max. Mx	20	-23323.28	1525816.98	876.77

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L27	59.833 - 54.833	Pole	Max. My	14	-23333.61	-1325.75	-1519528.79
			Max. Vy	20	-22689.91	1525816.98	876.77
			Max. Vx	14	22587.00	-1325.75	-1519528.79
			Max. Torque	8			1851.22
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43647.31	541.15	930.81
			Max. Mx	20	-24702.02	1640058.53	896.17
			Max. My	14	-24711.51	-1366.83	-1633272.96
			Max. Vy	20	-23021.22	1640058.53	896.17
			Max. Vx	14	22916.46	-1366.83	-1633272.96
L28	54.833 - 49.833	Pole	Max. Torque	8			1850.13
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45444.98	622.27	970.09
			Max. Mx	20	-26110.52	1755929.35	913.03
			Max. My	14	-26119.06	-1406.53	-1748643.09
			Max. Vy	20	-23342.29	1755929.35	913.03
			Max. Vx	14	23237.79	-1406.53	-1748643.09
			Max. Torque	8			1849.13
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45932.07	644.38	980.62
L29	49.833 - 43.4967	Pole	Max. Mx	20	-26488.84	1787168.41	916.99
			Max. My	14	-26497.17	-1416.78	-1779748.74
			Max. Vy	20	-23429.92	1787168.41	916.99
			Max. Vx	14	23325.38	-1416.78	-1779748.74
			Max. Torque	8			1848.21
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49623.66	743.62	1028.27
			Max. Mx	20	-29363.80	1929201.85	935.24
			Max. My	14	-29371.46	-1462.93	-1921183.09
			Max. Vy	20	-23911.03	1929201.85	935.24
L30	43.4967 - 42.4967	Pole	Max. Vx	14	23806.52	-1462.93	-1921183.09
			Max. Torque	8			1847.60
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51469.61	826.11	1067.23
			Max. Mx	20	-30830.69	2049401.61	947.55
			Max. My	14	-30837.36	-1500.24	-2040885.12
			Max. Vy	20	-24188.18	2049401.61	947.55
			Max. Vx	14	24084.08	-1500.24	-2040885.12
			Max. Torque	8			1847.43
			Max Tension	1	0.00	0.00	0.00
L31	42.4967 - 37.4967	Pole	Max. Compression	26	-53154.02	901.03	1102.18
			Max. Mx	20	-32171.78	2158662.47	956.55
			Max. My	14	-32177.59	-1532.56	-2149700.81
			Max. Vy	20			
			Max. Vx	14			
L32	37.4967 - 33	Pole	Max. Vy	20			
			Max. Vx	14			
			Max. Torque	8			
			Max Tension	1			
			Max. Compression	26			

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L33	33 - 32.75	Pole	Max. Vy	20	-24429.73	2158662.47	956.55
			Max. Vx	14	24325.98	-1532.56	-2149700.8
			Max. Torque	8			1846.68
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53260.79	905.10	1104.80
			Max. Mx	20	-32269.64	2164768.86	956.80
			Max. My	14	-32275.31	-1534.38	-2155782.8
			Max. Vy	20	-24429.95	2164768.86	956.80
			Max. Vx	14	24329.06	-1534.38	-2155782.8
			L34	32.75 - 32	Pole	Max. Torque	8
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-53581.34				917.74	1110.06
Max. Mx	20	-32525.05				2183109.94	958.24
Max. My	14	-32530.65				-1539.59	-2174049.6
Max. Vy	20	-24480.28				2183109.94	958.24
Max. Vx	14	24376.80				-1539.59	-2174049.6
Max. Torque	8						1846.11
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-53682.25				921.85	1112.46
L35	32 - 31.75	Pole	Max. Mx	20	-32611.26	2189230.82	958.59
			Max. My	14	-32616.77	-1541.39	-2180146.1
			Max. Vy	20	-24487.76	2189230.82	958.59
			Max. Vx	14	24386.92	-1541.39	-2180146.1
			Max. Torque	8			1846.06
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54389.64	951.29	1125.35
			Max. Mx	20	-33165.66	2232171.81	961.78
			Max. My	14	-33171.00	-1553.51	-2222914.4
			L36	31.75 - 30	Pole	Max. Vy	20
Max. Vx	14	24500.88				-1553.51	-2222914.4
Max. Torque	8						1845.96
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-54493.13				955.39	1124.63
Max. Mx	20	-33264.32				2238319.69	961.81
Max. My	14	-33269.48				-1555.26	-2229038.0
Max. Vy	20	-24595.53				2238319.69	961.81
Max. Vx	14	24494.78				-1555.26	-2229038.0
L37	30 - 29.75	Pole				Max. Torque	8
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56568.64	1039.47	1097.09
			Max. Mx	20	-34905.76	2361966.83	968.31
			Max. My	14	-34910.10	-1588.88	-2352194.5
			Max. Vy	20	-24870.08	2361966.83	968.31
			Max. Vx	14	24767.09	-1588.88	-2352194.5
			Max. Torque	8			1845.80
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58666.60	1123.28	1069.04
L39	24.75 - 19.75	Pole	Max. Mx	20	-36583.08	2486930.92	972.28
			Max. My	14			

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. My	14	-36586.52	-1621.10	-2476671.4
			Max. Vy	20	-25134.04	2486930.92	972.28
			Max. Vx	14	25031.55	-1621.10	-2476671.4
							4
L40	19.75 - 14.75	Pole	Max. Torque	8			1845.35
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60783.72	1206.18	1039.89
			Max. Mx	20	-38287.80	2613215.86	973.91
			Max. My	14	-38290.37	-1651.86	-2602472.6
							2
			Max. Vy	20	-25398.77	2613215.86	973.91
			Max. Vx	14	25296.81	-1651.86	-2602472.6
							2
L41	14.75 - 9.75	Pole	Max. Torque	8			1844.99
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62914.65	1287.03	1009.54
			Max. Mx	20	-40018.95	2740829.86	973.24
			Max. My	14	-40020.67	-1681.15	-2729606.4
							9
			Max. Vy	20	-25665.86	2740829.86	973.24
			Max. Vx	14	25564.47	-1681.15	-2729606.4
							9
L42	9.75 - 4.75	Pole	Max. Torque	8			1844.72
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65048.97	1363.62	977.84
			Max. Mx	20	-41778.59	2869776.78	970.23
			Max. My	14	-41779.46	-1708.94	-2858077.1
							2
			Max. Vy	20	-25932.26	2869776.78	970.23
			Max. Vx	16	25905.16	1504479.75	-2615723.6
							2
L43	4.75 - 0	Pole	Max. Torque	8			1844.53
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67050.60	1426.78	945.77
			Max. Mx	20	-43473.31	2993514.37	965.29
			Max. My	14	-43473.40	-1733.97	-2981365.9
							6
			Max. Vy	10	26316.05	-2732571.9	-1585286.6
							6
			Max. Vx	16	26365.89	1575933.10	-2739847.8
							0
			Max. Torque	8			1844.42

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	36	67050.60	5374.78	-0.86
	Max. H _x	19	32614.29	26284.38	-15204.05
	Max. H _z	5	32614.29	-15167.87	26347.03
	Max. M _x	2	2815879.83	12.85	24298.85
	Max. M _z	8	2992143.26	-26170.02	-12.85
	Max. Torsion	8	1844.40	-26170.02	-12.85
	Min. Vert	25	32614.29	13855.39	24048.03
	Min. H _x	11	32614.29	-26297.24	-15226.31

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Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
	Min. H _z	17	32614.29	15167.87	-26347.03
	Min. M _x	14	-2981365.96	-12.85	-26069.92
	Min. M _z	20	-2993514.37	26170.02	12.85
	Min. Torsion	20	-1843.33	26170.02	12.85

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	36238.10	0.00	0.00	1126.54	557.09	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	43485.72	-12.85	-24298.85	-2815879.83	3126.11	282.73
0.9 Dead+1.0 Wind 0 deg - No Ice	32614.29	-12.85	-24298.85	-2774629.53	2901.42	274.91
1.2 Dead+1.0 Wind 30 deg - No Ice	43485.72	15167.87	-26347.03	-2737010.23	-1574594.71	-675.77
0.9 Dead+1.0 Wind 30 deg - No Ice	32614.29	15167.87	-26347.03	-2698856.98	-1552613.72	-680.93
1.2 Dead+1.0 Wind 60 deg - No Ice	43485.72	23972.53	-13869.30	-1498974.95	-2593007.64	-1455.43
0.9 Dead+1.0 Wind 60 deg - No Ice	32614.29	23972.53	-13869.30	-1477726.60	-2555782.94	-1456.30
1.2 Dead+1.0 Wind 90 deg - No Ice	43485.72	26170.02	12.85	3894.32	-2992143.26	-1844.40
0.9 Dead+1.0 Wind 90 deg - No Ice	32614.29	26170.02	12.85	3466.27	-2948875.72	-1840.80
1.2 Dead+1.0 Wind 120 deg - No Ice	43485.72	26297.24	15226.31	1585286.88	-2732571.83	-1738.43
0.9 Dead+1.0 Wind 120 deg - No Ice	32614.29	26297.24	15226.31	1562614.39	-2694295.18	-1731.29
1.2 Dead+1.0 Wind 150 deg - No Ice	43485.72	13855.39	24048.03	2605036.95	-1499513.44	-1167.18
0.9 Dead+1.0 Wind 150 deg - No Ice	32614.29	13855.39	24048.03	2567122.21	-1478056.96	-1158.47
1.2 Dead+1.0 Wind 180 deg - No Ice	43485.72	12.85	26069.92	2981365.96	-1733.93	-281.73
0.9 Dead+1.0 Wind 180 deg - No Ice	32614.29	12.85	26069.92	2937734.94	-1865.49	-273.76
1.2 Dead+1.0 Wind 210 deg - No Ice	43485.72	-15167.87	26347.03	2739847.85	1575933.01	678.24
0.9 Dead+1.0 Wind 210 deg - No Ice	32614.29	-15167.87	26347.03	2700958.10	1553611.15	683.40
1.2 Dead+1.0 Wind 240 deg - No Ice	43485.72	-26284.38	15204.05	1581090.21	2731553.53	1455.84
0.9 Dead+1.0 Wind 240 deg - No Ice	32614.29	-26284.38	15204.05	1558499.49	2692969.08	1456.72
1.2 Dead+1.0 Wind 270 deg - No Ice	43485.72	-26170.02	-12.85	-965.03	2993514.37	1843.33
0.9 Dead+1.0 Wind 270 deg - No Ice	32614.29	-26170.02	-12.85	-1299.94	2949897.13	1839.71
1.2 Dead+1.0 Wind 300 deg - No Ice	43485.72	-23985.38	-13891.56	-1503154.90	2596779.77	1736.89
0.9 Dead+1.0 Wind 300 deg - No Ice	32614.29	-23985.38	-13891.56	-1481830.02	2559159.36	1729.83
1.2 Dead+1.0 Wind 330 deg - No Ice	43485.72	-13855.39	-24048.03	-2602180.90	1500947.28	1165.62

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Load Combination	Vertical lb	Shear _x lb	Shear _y lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _y lb-ft	Torque lb-ft
0.9 Dead+1.0 Wind 330 deg - No Ice	32614.29	-13855.39	-24048.03	-2565008.10	1479122.43	1156.96
1.2 Dead+1.0 Ice+1.0 Temp	67050.60	0.00	-0.01	-945.77	1426.78	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	67050.60	0.86	-5358.14	-637734.45	1428.72	72.34
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	67050.60	2668.51	-4640.72	-552479.20	-315496.27	-98.29
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	67050.60	4621.14	-2679.81	-319475.98	-547479.65	-242.61
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	67050.60	5374.78	-0.86	-1158.56	-638343.67	-322.32
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	67050.60	4620.29	2678.33	317178.81	-547396.57	-315.02
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	67050.60	2667.03	4639.86	550237.83	-315354.33	-223.62
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	67050.60	-0.86	5358.14	635571.97	1589.54	-72.25
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	67050.60	-2668.51	4640.72	550317.28	318511.31	98.50
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	67050.60	-4621.14	2679.81	317317.13	550493.57	242.84
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	67050.60	-5374.78	0.86	-997.74	641359.70	322.44
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	67050.60	-4620.29	-2678.33	-319335.75	550415.82	315.02
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	67050.60	-2667.03	-4639.86	-552397.82	318374.70	223.60
Dead+Wind 0 deg - Service	36238.09	-2.27	-4296.96	-493565.85	996.89	51.01
Dead+Wind 30 deg - Service	36238.10	2681.95	-4658.62	-479938.51	-276188.07	-123.49
Dead+Wind 60 deg - Service	36238.10	4238.95	-2452.44	-262376.72	-455013.72	-265.07
Dead+Wind 90 deg - Service	36238.10	4627.66	2.27	1601.80	-525121.37	-335.62
Dead+Wind 120 deg - Service	36238.10	4649.82	2692.28	279438.23	-479640.02	-316.25
Dead+Wind 150 deg - Service	36238.10	2449.98	4252.30	458512.08	-262951.72	-212.03
Dead+Wind 180 deg - Service	36238.09	2.27	4609.97	524590.53	144.90	-51.04
Dead+Wind 210 deg - Service	36238.10	-2681.95	4658.62	482287.74	277328.49	123.57
Dead+Wind 240 deg - Service	36238.10	-4647.55	2688.34	278700.25	480355.61	265.09
Dead+Wind 270 deg - Service	36238.10	-4627.66	-2.27	749.80	526262.64	335.54
Dead+Wind 300 deg - Service	36238.10	-4241.22	-2456.38	-263114.24	456580.95	316.09
Dead+Wind 330 deg - Service	36238.10	-2449.98	-4252.30	-456162.38	264094.61	211.98

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-36238.10	0.00	0.00	36238.10	0.00	0.000%
2	-12.85	-43485.72	-24298.85	12.85	43485.72	24298.85	0.000%
3	-12.85	-32614.29	-24298.85	12.85	32614.29	24298.85	0.000%
4	15167.87	-43485.72	-26347.03	-15167.87	43485.72	26347.03	0.000%
5	15167.87	-32614.29	-26347.03	-15167.87	32614.29	26347.03	0.000%
6	23972.53	-43485.72	-13869.30	-23972.53	43485.72	13869.30	0.000%
7	23972.53	-32614.29	-13869.30	-23972.53	32614.29	13869.30	0.000%
8	26170.02	-43485.72	12.85	-26170.02	43485.72	-12.85	0.000%
9	26170.02	-32614.29	12.85	-26170.02	32614.29	-12.85	0.000%
10	26297.24	-43485.72	15226.31	-26297.24	43485.72	-15226.31	0.000%
11	26297.24	-32614.29	15226.31	-26297.24	32614.29	-15226.31	0.000%
12	13855.39	-43485.72	24048.03	-13855.39	43485.72	-24048.03	0.000%
13	13855.39	-32614.29	24048.03	-13855.39	32614.29	-24048.03	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
14	12.85	-43485.72	26069.92	-12.85	43485.72	-26069.92	0.000%
15	12.85	-32614.29	26069.92	-12.85	32614.29	-26069.92	0.000%
16	-15167.87	-43485.72	26347.03	15167.87	43485.72	-26347.03	0.000%
17	-15167.87	-32614.29	26347.03	15167.87	32614.29	-26347.03	0.000%
18	-26284.38	-43485.72	15204.05	26284.38	43485.72	-15204.05	0.000%
19	-26284.38	-32614.29	15204.05	26284.38	32614.29	-15204.05	0.000%
20	-26170.02	-43485.72	-12.85	26170.02	43485.72	12.85	0.000%
21	-26170.02	-32614.29	-12.85	26170.02	32614.29	12.85	0.000%
22	-23985.38	-43485.72	-13891.56	23985.38	43485.72	13891.56	0.000%
23	-23985.38	-32614.29	-13891.56	23985.38	32614.29	13891.56	0.000%
24	-13855.39	-43485.72	-24048.03	13855.39	43485.72	24048.03	0.000%
25	-13855.39	-32614.29	-24048.03	13855.39	32614.29	24048.03	0.000%
26	0.00	-67050.60	0.00	-0.00	67050.60	0.01	0.000%
27	0.86	-67050.60	-5358.14	-0.86	67050.60	5358.14	0.000%
28	2668.51	-67050.60	-4640.71	-2668.51	67050.60	4640.72	0.000%
29	4621.14	-67050.60	-2679.81	-4621.14	67050.60	2679.81	0.000%
30	5374.78	-67050.60	-0.86	-5374.78	67050.60	0.86	0.000%
31	4620.28	-67050.60	2678.32	-4620.29	67050.60	-2678.33	0.000%
32	2667.02	-67050.60	4639.85	-2667.03	67050.60	-4639.86	0.000%
33	-0.86	-67050.60	5358.14	0.86	67050.60	-5358.14	0.000%
34	-2668.51	-67050.60	4640.71	2668.51	67050.60	-4640.72	0.000%
35	-4621.14	-67050.60	2679.81	4621.14	67050.60	-2679.81	0.000%
36	-5374.78	-67050.60	0.86	5374.78	67050.60	-0.86	0.000%
37	-4620.28	-67050.60	-2678.32	4620.29	67050.60	2678.33	0.000%
38	-2667.02	-67050.60	-4639.85	2667.03	67050.60	4639.86	0.000%
39	-2.27	-36238.10	-4296.95	2.27	36238.09	4296.96	0.000%
40	2681.95	-36238.10	-4658.62	-2681.95	36238.10	4658.62	0.000%
41	4238.95	-36238.10	-2452.44	-4238.95	36238.10	2452.44	0.000%
42	4627.66	-36238.10	2.27	-4627.66	36238.10	-2.27	0.000%
43	4649.82	-36238.10	2692.28	-4649.82	36238.10	-2692.28	0.000%
44	2449.98	-36238.10	4252.30	-2449.98	36238.10	-4252.30	0.000%
45	2.27	-36238.10	4609.97	-2.27	36238.09	-4609.97	0.000%
46	-2681.95	-36238.10	4658.62	2681.95	36238.10	-4658.62	0.000%
47	-4647.55	-36238.10	2688.34	4647.55	36238.10	-2688.34	0.000%
48	-4627.66	-36238.10	-2.27	4627.66	36238.10	2.27	0.000%
49	-4241.22	-36238.10	-2456.38	4241.22	36238.10	2456.38	0.000%
50	-2449.98	-36238.10	-4252.30	2449.98	36238.10	4252.30	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.0000001
2	Yes	5	0.0000001	0.00042604
3	Yes	5	0.0000001	0.00016814
4	Yes	7	0.0000001	0.00018498
5	Yes	6	0.0000001	0.00088388
6	Yes	7	0.0000001	0.00018854
7	Yes	6	0.0000001	0.00091119
8	Yes	6	0.0000001	0.00014022
9	Yes	5	0.0000001	0.00099010
10	Yes	7	0.0000001	0.00018156
11	Yes	6	0.0000001	0.00086676
12	Yes	7	0.0000001	0.00018795
13	Yes	6	0.0000001	0.00090740
14	Yes	5	0.0000001	0.00060184

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15	Yes	5	0.00000001	0.00025065
16	Yes	7	0.00000001	0.00018972
17	Yes	6	0.00000001	0.00090755
18	Yes	7	0.00000001	0.00018251
19	Yes	6	0.00000001	0.00087152
20	Yes	6	0.00000001	0.00015555
21	Yes	6	0.00000001	0.00005013
22	Yes	7	0.00000001	0.00018998
23	Yes	6	0.00000001	0.00091807
24	Yes	7	0.00000001	0.00017932
25	Yes	6	0.00000001	0.00086415
26	Yes	4	0.00000001	0.00013133
27	Yes	7	0.00000001	0.00024808
28	Yes	7	0.00000001	0.00030673
29	Yes	7	0.00000001	0.00030800
30	Yes	7	0.00000001	0.00024884
31	Yes	7	0.00000001	0.00030313
32	Yes	7	0.00000001	0.00030577
33	Yes	7	0.00000001	0.00024592
34	Yes	7	0.00000001	0.00030529
35	Yes	7	0.00000001	0.00030342
36	Yes	7	0.00000001	0.00024865
37	Yes	7	0.00000001	0.00030848
38	Yes	7	0.00000001	0.00030637
39	Yes	4	0.00000001	0.00094419
40	Yes	5	0.00000001	0.00040805
41	Yes	5	0.00000001	0.00043056
42	Yes	5	0.00000001	0.00010553
43	Yes	5	0.00000001	0.00039645
44	Yes	5	0.00000001	0.00043020
45	Yes	4	0.00000001	0.00098504
46	Yes	5	0.00000001	0.00044124
47	Yes	5	0.00000001	0.00039884
48	Yes	5	0.00000001	0.00010686
49	Yes	5	0.00000001	0.00044278
50	Yes	5	0.00000001	0.00037665

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 145	24.428	46	1.719	0.008
L2	145 - 140	22.645	46	1.691	0.008
L3	140 - 133.71	20.904	46	1.639	0.008
L4	136.293 - 131.293	19.655	46	1.582	0.006
L5	131.293 - 126.293	18.024	46	1.529	0.006
L6	126.293 - 121.293	16.466	46	1.447	0.005
L7	121.293 - 116.293	15.000	46	1.353	0.004
L8	116.293 - 111.293	13.637	46	1.251	0.003
L9	111.293 - 108.25	12.382	46	1.145	0.002
L10	108.25 - 108	11.673	46	1.080	0.002
L11	108 - 103	11.616	46	1.077	0.002
L12	103 - 98	10.519	46	1.019	0.002
L13	98 - 93	9.482	46	0.961	0.002
L14	93 - 88.0833	8.506	46	0.903	0.001
L15	91.9167 - 86.9167	8.302	46	0.890	0.001
L16	86.9167 - 85.167	7.386	46	0.855	0.001
L17	85.167 - 84.917	7.076	46	0.836	0.001
L18	84.917 - 79.917	7.032	46	0.833	0.001

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L19	79.917 - 77	6.190	46	0.777	0.001
L20	77 - 76.75	5.725	46	0.744	0.001
L21	76.75 - 75	5.686	46	0.741	0.001
L22	75 - 74.75	5.419	46	0.719	0.001
L23	74.75 - 69.75	5.381	46	0.716	0.001
L24	69.75 - 65.083	4.660	46	0.661	0.001
L25	65.083 - 64.833	4.039	46	0.610	0.001
L26	64.833 - 59.833	4.007	46	0.607	0.001
L27	59.833 - 54.833	3.400	46	0.554	0.001
L28	54.833 - 49.833	2.848	46	0.501	0.001
L29	49.833 - 43.4967	2.352	46	0.448	0.000
L30	48.4967 - 42.4967	2.228	46	0.434	0.000
L31	42.4967 - 37.4967	1.702	46	0.398	0.000
L32	37.4967 - 33	1.314	46	0.344	0.000
L33	33 - 32.75	1.012	46	0.298	0.000
L34	32.75 - 32	0.996	46	0.296	0.000
L35	32 - 31.75	0.950	46	0.289	0.000
L36	31.75 - 30	0.935	46	0.287	0.000
L37	30 - 29.75	0.833	46	0.271	0.000
L38	29.75 - 24.75	0.819	46	0.268	0.000
L39	24.75 - 19.75	0.563	46	0.221	0.000
L40	19.75 - 14.75	0.356	46	0.175	0.000
L41	14.75 - 9.75	0.197	46	0.129	0.000
L42	9.75 - 4.75	0.086	46	0.085	0.000
L43	4.75 - 0	0.020	46	0.041	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	NNVV-65B-R4	46	24.428	1.719	0.008	7001
140.00	(2) DB846H80E-SX w/ Mount Pipe	46	20.904	1.639	0.008	4617
130.00	(2) 7770.00 w/ Mount Pipe	46	17.614	1.511	0.005	3808
80.00	KS24019-L112A	46	6.203	0.778	0.001	5062

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 145	138.495	10	9.774	0.045
L2	145 - 140	128.411	10	9.617	0.045
L3	140 - 133.71	118.564	10	9.320	0.044
L4	136.293 - 131.293	111.498	10	9.002	0.035
L5	131.293 - 126.293	102.269	10	8.697	0.030
L6	126.293 - 121.293	93.451	10	8.237	0.025
L7	121.293 - 116.293	85.150	16	7.702	0.020
L8	116.293 - 111.293	77.428	16	7.121	0.016
L9	111.293 - 108.25	70.317	16	6.517	0.013
L10	108.25 - 108	66.297	16	6.144	0.011
L11	108 - 103	65.977	16	6.128	0.011

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L12	103 - 98	59.751	16	5.801	0.010
L13	98 - 93	53.867	16	5.470	0.009
L14	93 - 88.0833	48.327	16	5.137	0.008
L15	91.9167 - 86.9167	47.172	16	5.065	0.007
L16	86.9167 - 85.167	41.969	16	4.865	0.007
L17	85.167 - 84.917	40.210	16	4.755	0.007
L18	84.917 - 79.917	39.961	16	4.739	0.006
L19	79.917 - 77	35.176	16	4.419	0.006
L20	77 - 76.75	32.537	16	4.232	0.005
L21	76.75 - 75	32.317	16	4.214	0.005
L22	75 - 74.75	30.797	16	4.091	0.005
L23	74.75 - 69.75	30.583	16	4.075	0.005
L24	69.75 - 65.083	26.487	16	3.760	0.004
L25	65.083 - 64.833	22.959	16	3.468	0.004
L26	64.833 - 59.833	22.778	16	3.453	0.004
L27	59.833 - 54.833	19.326	16	3.149	0.003
L28	54.833 - 49.833	16.190	16	2.847	0.003
L29	49.833 - 43.4967	13.367	16	2.548	0.003
L30	48.4967 - 42.4967	12.665	16	2.470	0.002
L31	42.4967 - 37.4967	9.677	16	2.261	0.002
L32	37.4967 - 33	7.470	16	1.958	0.002
L33	33 - 32.75	5.752	16	1.693	0.002
L34	32.75 - 32	5.664	16	1.681	0.002
L35	32 - 31.75	5.403	16	1.645	0.001
L36	31.75 - 30	5.317	16	1.631	0.001
L37	30 - 29.75	4.736	16	1.538	0.001
L38	29.75 - 24.75	4.656	16	1.525	0.001
L39	24.75 - 19.75	3.201	16	1.256	0.001
L40	19.75 - 14.75	2.024	16	0.992	0.001
L41	14.75 - 9.75	1.122	16	0.733	0.001
L42	9.75 - 4.75	0.487	16	0.481	0.000
L43	4.75 - 0	0.115	16	0.231	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	NNVV-65B-R4	10	138.495	9.774	0.045	1299
140.00	(2) DB846H80E-SX w/ Mount Pipe	10	118.564	9.320	0.046	860
130.00	(2) 7770.00 w/ Mount Pipe	10	99.945	8.596	0.030	702
80.00	KS24019-L112A	16	35.252	4.424	0.006	901

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio P _u / φP _n
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	Client	Crown Castle	Designed by	jbalk

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio P _u /φP _n
L1	150 - 145 (1)	TP14.12x13x0.188	5.00	0.00	0.0	8.292	-2511.57	616037.00	0.004
L2	145 - 140 (2)	TP15.241x14.12x0.188	5.00	0.00	0.0	8.958	-2704.68	665572.00	0.004
L3	140 - 133.71 (3)	TP16.65x15.241x0.188	6.29	0.00	0.0	9.453	-5293.54	702293.00	0.008
L4	133.71 - 131.293 (4)	TP16.804x15.696x0.313	5.00	0.00	0.0	16.358	-5813.65	1215300.00	0.005
L5	131.293 - 126.293 (5)	TP17.912x16.804x0.313	5.00	0.00	0.0	17.457	-8874.63	1296950.00	0.007
L6	126.293 - 121.293 (6)	TP19.02x17.912x0.313	5.00	0.00	0.0	18.556	-9489.24	1378600.00	0.007
L7	121.293 - 116.293 (7)	TP20.128x19.02x0.313	5.00	0.00	0.0	19.655	-10128.70	1460260.00	0.007
L8	116.293 - 111.293 (8)	TP21.236x20.128x0.313	5.00	0.00	0.0	20.754	-10817.80	1541910.00	0.007
L9	111.293 - 108.25 (9)	TP21.911x21.236x0.313	3.04	0.00	0.0	21.423	-11250.80	1591610.00	0.007
L10	108.25 - 108 (10)	TP21.966x21.911x0.638	0.25	0.00	0.0	43.157	-11316.30	3206360.00	0.004
L11	108 - 103 (11)	TP23.074x21.966x0.613	5.00	0.00	0.0	43.667	-12295.10	3244270.00	0.004
L12	103 - 98 (12)	TP24.182x23.074x0.6	5.00	0.00	0.0	44.910	-13310.60	3336610.00	0.004
L13	98 - 93 (13)	TP25.29x24.182x0.588	5.00	0.00	0.0	46.064	-14309.90	3422340.00	0.004
L14	93 - 88.0833 (14)	TP26.38x25.29x0.588	4.92	0.00	0.0	46.512	-14539.40	3455600.00	0.004
L15	88.0833 - 86.9167 (15)	TP26.012x24.905x0.638	5.00	0.00	0.0	51.343	-16337.50	3814540.00	0.004
L16	86.9167 - 85.167 (16)	TP26.399x26.012x0.638	1.75	0.00	0.0	52.127	-16745.60	3872750.00	0.004
L17	85.167 - 84.917 (17)	TP26.454x26.399x0.638	0.25	0.00	0.0	52.239	-16822.20	3881060.00	0.004
L18	84.917 - 79.917 (18)	TP27.561x26.454x0.625	5.00	0.00	0.0	53.434	-18099.40	3969870.00	0.005
L19	79.917 - 77 (19)	TP28.206x27.561x0.613	2.92	0.00	0.0	53.644	-18815.10	3985510.00	0.005
L20	77 - 76.75 (20)	TP28.262x28.206x0.538	0.25	0.00	0.0	47.298	-18886.50	3514010.00	0.005
L21	76.75 - 75 (21)	TP28.649x28.262x0.531	1.75	0.00	0.0	47.412	-19267.80	3522440.00	0.005
L22	75 - 74.75 (22)	TP28.704x28.649x0.613	0.25	0.00	0.0	54.612	-19351.50	4057420.00	0.005
L23	74.75 - 69.75 (23)	TP29.811x28.704x0.6	5.00	0.00	0.0	55.629	-20616.50	4132930.00	0.005
L24	69.75 - 65.083 (24)	TP30.843x29.811x0.588	4.67	0.00	0.0	56.419	-21833.80	4191630.00	0.005
L25	65.083 - 64.833 (25)	TP30.899x30.843x0.588	0.25	0.00	0.0	56.522	-21911.60	4199300.00	0.005
L26	64.833 - 59.833 (26)	TP32.005x30.899x0.588	5.00	0.00	0.0	58.585	-23239.40	4352580.00	0.005
L27	59.833 - 54.833 (27)	TP33.111x32.005x0.575	5.00	0.00	0.0	59.381	-24608.10	4411690.00	0.006
L28	54.833 - 49.833 (28)	TP34.218x33.111x0.563	5.00	0.00	0.0	60.088	-26010.90	4464200.00	0.006
L29	49.833 - 43.4967 (29)	TP35.62x34.218x0.563	6.34	0.00	0.0	60.615	-26388.00	4503420.00	0.006
L30	43.4967 - 42.4967 (30)	TP35.092x33.764x0.563	6.00	0.00	0.0	61.648	-29256.00	4580130.00	0.006
L31	42.4967 - 37.4967 (31)	TP36.199x35.092x0.55	5.00	0.00	0.0	62.232	-30725.50	4623540.00	0.007
L32	37.4967 - 33 (32)	TP37.194x36.199x0.55	4.50	0.00	0.0	63.535	-31762.20	4720370.00	0.007
L33	33 - 32.75 (33)	TP37.25x37.194x0.663	0.25	0.00	0.0	76.818	-32089.70	5707210.00	0.006
L34	32.75 - 32 (34)	TP37.416x37.25x0.663	0.75	0.00	0.0	76.935	-32182.30	5715850.00	0.006
L35	32 - 31.75 (35)	TP37.471x37.416x0.588	0.25	0.00	0.0	68.674	-32438.10	5102170.00	0.006
L36	31.75 - 30 (36)	TP37.858x37.471x0.588	1.75	0.00	0.0	68.778	-32538.50	5109840.00	0.006

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio P _u / φP _n
L37	30 - 29.75 (37)	TP37.914x37.858x0.588	0.25	0.00	0.0	69.500	-33093.40	5163510.00	0.006
L38	29.75 - 24.75 (38)	TP39.021x37.914x0.575	5.00	0.00	0.0	68.145	-33185.60	5062850.00	0.007
L39	24.75 - 19.75 (39)	TP40.128x39.021x0.569	5.00	0.00	0.0	69.414	-34844.80	5157110.00	0.007
L40	19.75 - 14.75 (40)	TP41.235x40.128x0.563	5.00	0.00	0.0	70.639	-36534.00	5248100.00	0.007
L41	14.75 - 9.75 (41)	TP42.342x41.235x0.563	5.00	0.00	0.0	72.615	-38253.10	5394920.00	0.007
L42	9.75 - 4.75 (42)	TP43.448x42.342x0.55	5.00	0.00	0.0	72.955	-40001.30	5420220.00	0.007
L43	4.75 - 0 (43)	TP44.5x43.448x0.55	4.75	0.00	0.0	74.888	-41783.20	5563790.00	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} lb-ft	φM _{ux} lb-ft	Ratio M _{ux} / φM _{ux}	M _{uy} lb-ft	φM _{uy} lb-ft	Ratio M _{uy} / φM _{uy}
L1	150 - 145 (1)	TP14.12x13x0.188	34067.50	175522.50	0.194	0.00	175522.50	0.000
L2	145 - 140 (2)	TP15.241x14.12x0.188	62644.50	205086.67	0.305	0.00	205086.67	0.000
L3	140 - 133.71 (3)	TP16.65x15.241x0.188	106012.50	228489.17	0.464	0.00	228489.17	0.000
L4	133.71 - 131.293 (4)	TP16.804x15.696x0.313	165535.00	407650.83	0.406	0.00	407650.83	0.000
L5	131.293 - 126.293 (5)	TP17.912x16.804x0.313	241634.17	464814.17	0.520	0.00	464814.17	0.000
L6	126.293 - 121.293 (6)	TP19.02x17.912x0.313	324188.33	525727.50	0.617	0.00	525727.50	0.000
L7	121.293 - 116.293 (7)	TP20.128x19.02x0.313	408228.33	590391.67	0.691	0.00	590391.67	0.000
L8	116.293 - 111.293 (8)	TP21.236x20.128x0.313	493734.17	658805.00	0.749	0.00	658805.00	0.000
L9	111.293 - 108.25 (9)	TP21.911x21.236x0.313	546445.00	702282.50	0.778	0.00	702282.50	0.000
L10	108.25 - 108 (10)	TP21.966x21.911x0.638	550800.83	1376191.67	0.400	0.00	1376191.67	0.000
L11	108 - 103 (11)	TP23.074x21.966x0.613	639377.50	1470183.33	0.435	0.00	1470183.33	0.000
L12	103 - 98 (12)	TP24.182x23.074x0.6	730786.67	1590283.33	0.460	0.00	1590283.33	0.000
L13	98 - 93 (13)	TP25.29x24.182x0.588	825680.00	1711416.67	0.482	0.00	1711416.67	0.000
L14	93 - 88.0833 (14)	TP26.38x25.29x0.588	846666.67	1745233.33	0.485	0.00	1745233.33	0.000
L15	88.0833 - 86.9167 (15)	TP26.012x24.905x0.638	945741.67	1956833.33	0.483	0.00	1956833.33	0.000
L16	86.9167 - 85.167 (16)	TP26.399x26.012x0.638	981216.67	2017750.00	0.486	0.00	2017750.00	0.000
L17	85.167 - 84.917 (17)	TP26.454x26.399x0.638	986316.67	2026533.33	0.487	0.00	2026533.33	0.000
L18	84.917 - 79.917 (18)	TP27.561x26.454x0.625	1089841.67	2165891.67	0.503	0.00	2165891.67	0.000
L19	79.917 - 77 (19)	TP28.206x27.561x0.613	1151908.33	2229733.33	0.517	0.00	2229733.33	0.000
L20	77 - 76.75 (20)	TP28.262x28.206x0.538	1157275.00	1980675.00	0.584	0.00	1980675.00	0.000
L21	76.75 - 75 (21)	TP28.649x28.262x0.531	1195066.67	2014583.33	0.593	0.00	2014583.33	0.000
L22	75 - 74.75 (22)	TP28.704x28.649x0.613	1200491.67	2311816.67	0.519	0.00	2311816.67	0.000
L23	74.75 - 69.75 (23)	TP29.811x28.704x0.6	1310708.33	2451666.67	0.535	0.00	2451666.67	0.000
L24	69.75 - 65.083	TP30.843x29.811x0.588	1416391.67	2578291.67	0.549	0.00	2578291.67	0.000

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Section No.	Elevation ft	Size	M_{ux} lb-ft	ϕM_{ux} lb-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M_{uy} lb-ft	ϕM_{uy} lb-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
L25	(24) 65.083 - 64.833 (25)	TP30.899x30.843x0.588	1422133.33	2587825.00	0.550	0.00	2587825.00	0.000
L26	64.833 - 59.833 (26)	TP32.005x30.899x0.588	1538508.33	2782050.00	0.553	0.00	2782050.00	0.000
L27	59.833 - 54.833 (27)	TP33.111x32.005x0.575	1658075.00	2923208.33	0.567	0.00	2923208.33	0.000
L28	54.833 - 49.833 (28)	TP34.218x33.111x0.563	1780708.33	3062608.33	0.581	0.00	3062608.33	0.000
L29	49.833 - 43.4967 (29)	TP35.62x34.218x0.563	1813991.67	3117108.33	0.582	0.00	3117108.33	0.000
L30	43.4967 - 42.4967 (30)	TP35.092x33.764x0.563	1966458.33	3225091.67	0.610	0.00	3225091.67	0.000
L31	42.4967 - 37.4967 (31)	TP36.199x35.092x0.55	2096891.67	3364050.00	0.623	0.00	3364050.00	0.000
L32	37.4967 - 33 (32)	TP37.194x36.199x0.55	2186391.67	3507533.33	0.623	0.00	3507533.33	0.000
L33	33 - 32.75 (33)	TP37.25x37.194x0.663	2216500.00	4244066.67	0.522	0.00	4244066.67	0.000
L34	32.75 - 32 (34)	TP37.416x37.25x0.663	2223216.67	4257050.00	0.522	0.00	4257050.00	0.000
L35	32 - 31.75 (35)	TP37.471x37.416x0.588	2243400.00	3833133.33	0.585	0.00	3833133.33	0.000
L36	31.75 - 30 (36)	TP37.858x37.471x0.588	2250141.67	3844758.33	0.585	0.00	3844758.33	0.000
L37	30 - 29.75 (37)	TP37.914x37.858x0.588	2297516.67	3926591.67	0.585	0.00	3926591.67	0.000
L38	29.75 - 24.75 (38)	TP39.021x37.914x0.575	2304316.67	3858433.33	0.597	0.00	3858433.33	0.000
L39	24.75 - 19.75 (39)	TP40.128x39.021x0.569	2441600.00	4049866.67	0.603	0.00	4049866.67	0.000
L40	19.75 - 14.75 (40)	TP41.235x40.128x0.563	2581525.00	4243033.33	0.608	0.00	4243033.33	0.000
L41	14.75 - 9.75 (41)	TP42.342x41.235x0.563	2724141.67	4485483.33	0.607	0.00	4485483.33	0.000
L42	9.75 - 4.75 (42)	TP43.448x42.342x0.55	2869466.67	4633608.33	0.619	0.00	4633608.33	0.000
L43	4.75 - 0 (43)	TP44.5x43.448x0.55	3017525.00	4883958.33	0.618	0.00	4883958.33	0.000

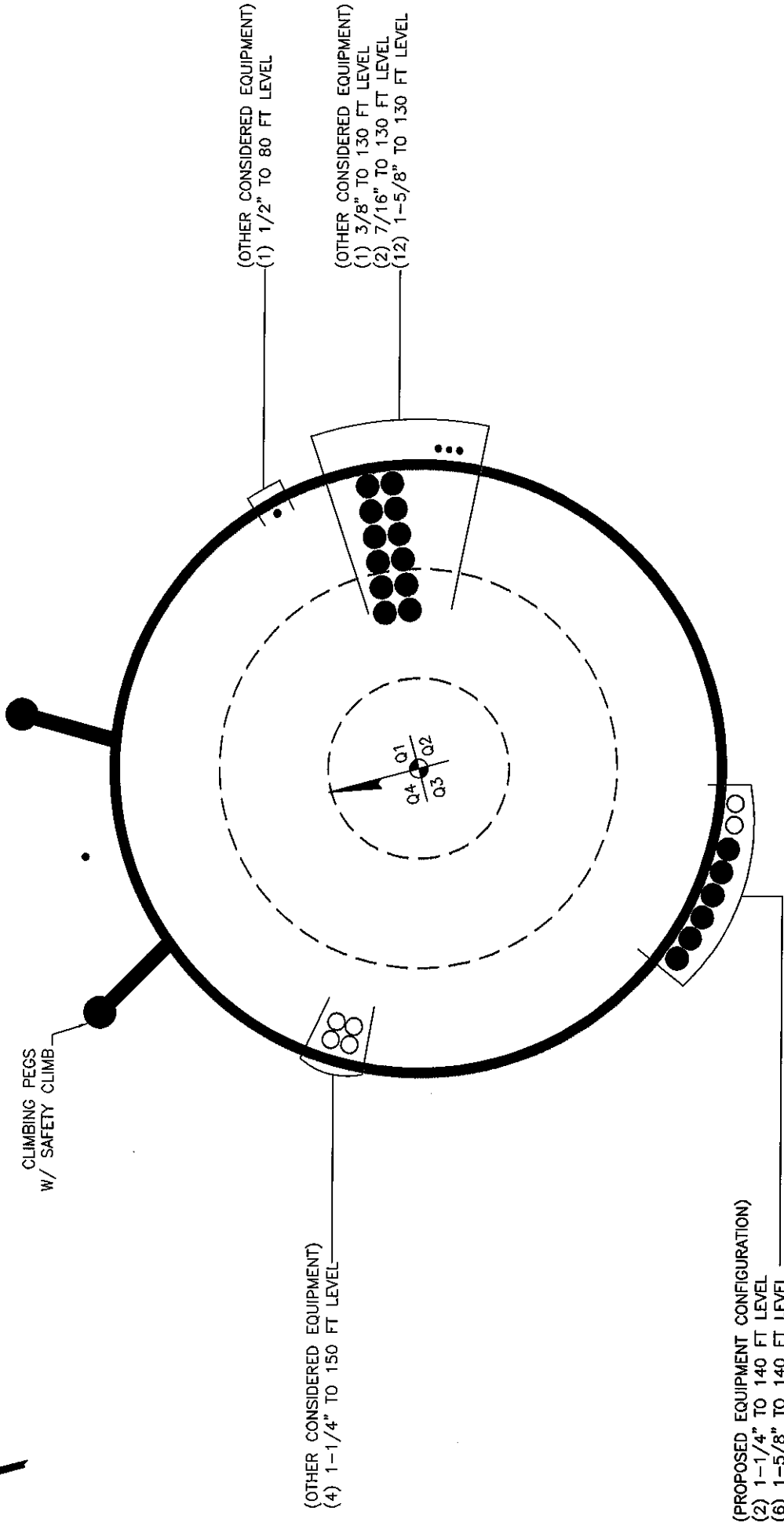
Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u lb	ϕV_u lb	Ratio $\frac{V_u}{\phi V_u}$	Actual T_u lb-ft	ϕT_u lb-ft	Ratio $\frac{T_u}{\phi T_u}$
L1	150 - 145 (1)	TP14.12x13x0.188	5595.18	145521.00	0.038	3.39	172812.50	0.000
L2	145 - 140 (2)	TP15.241x14.12x0.188	5840.72	157222.00	0.037	3.13	202130.83	0.000
L3	140 - 133.71 (3)	TP16.65x15.241x0.188	11756.10	165896.00	0.071	1904.41	225347.50	0.008
L4	133.71 - 131.293 (4)	TP16.804x15.696x0.313	12051.00	287078.00	0.042	1902.73	399051.67	0.005
L5	131.293 - 126.293 (5)	TP17.912x16.804x0.313	16387.30	306366.00	0.053	1376.84	455582.50	0.003
L6	126.293 - 121.293 (6)	TP19.02x17.912x0.313	16644.50	325655.00	0.051	1374.71	515856.67	0.003
L7	121.293 - 116.293 (7)	TP20.128x19.02x0.313	16983.70	344943.00	0.049	1929.39	579874.17	0.003
L8	116.293 - 111.293 (8)	TP21.236x20.128x0.313	17248.30	364231.00	0.047	1925.95	647635.00	0.003
L9	111.293 - 108.25 (9)	TP21.911x21.236x0.313	17423.80	375971.00	0.046	1923.95	690710.83	0.003
L10	108.25 - 108 (10)	TP21.966x21.911x0.638	17441.20	757408.00	0.023	1923.58	1331433.33	0.001

tnxTower Tower Engineering Professionals 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job Westbrook / Orsina (BU 876384)	Page 38 of 38
	Project TEP No. 25589.198788	Date 16:39:11 12/03/18
	Client Crown Castle	Designed by jbalk

Section No.	Elevation ft	Size	Actual V_u lb	ϕV_n lb	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u lb-ft	ϕT_n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L11	108 - 103 (11)	TP23.074x21.966x0.613	18009.40	766364.00	0.023	1922.02	1426416.67	0.001
L12	103 - 98 (12)	TP24.182x23.074x0.6	18580.00	788175.00	0.024	1920.34	1545983.33	0.001
L13	98 - 93 (13)	TP25.29x24.182x0.588	19315.20	808426.00	0.024	1896.42	1666716.67	0.001
L14	93 - 88.0833 (14)	TP26.38x25.29x0.588	19450.10	816283.00	0.024	1896.09	1700066.67	0.001
L15	88.0833 - 86.9167 (15)	TP26.012x24.905x0.638	20176.30	901073.00	0.022	1895.17	1902983.33	0.001
L16	86.9167 - 85.167 (16)	TP26.399x26.012x0.638	20400.50	914822.00	0.022	1894.75	1963016.67	0.001
L17	85.167 - 84.917 (17)	TP26.454x26.399x0.638	20419.60	916787.00	0.022	1894.45	1971675.00	0.001
L18	84.917 - 79.917 (18)	TP27.561x26.454x0.625	21104.70	937765.00	0.023	1893.13	2110633.33	0.001
L19	79.917 - 77 (19)	TP28.206x27.561x0.613	21474.20	941459.00	0.023	1748.47	2175183.33	0.001
L20	77 - 76.75 (20)	TP28.262x28.206x0.538	21493.20	830080.00	0.026	1748.24	1937991.67	0.001
L21	76.75 - 75 (21)	TP28.649x28.262x0.531	21721.50	832073.00	0.026	1747.95	1972200.00	0.001
L22	75 - 74.75 (22)	TP28.704x28.649x0.613	21735.90	958446.00	0.023	1747.67	2256200.00	0.001
L23	74.75 - 69.75 (23)	TP29.811x28.704x0.6	22367.10	976283.00	0.023	1746.53	2395900.00	0.001
L24	69.75 - 65.083 (24)	TP30.843x29.811x0.588	22949.70	990150.00	0.023	1745.45	2522658.33	0.001
L25	65.083 - 64.833 (25)	TP30.899x30.843x0.588	22970.80	991960.00	0.023	1745.29	2532075.00	0.001
L26	64.833 - 59.833 (26)	TP32.005x30.899x0.588	23598.50	1028170.00	0.023	1744.31	2724083.33	0.001
L27	59.833 - 54.833 (27)	TP33.111x32.005x0.575	24226.30	1042130.00	0.023	680.16	2865400.00	0.000
L28	54.833 - 49.833 (28)	TP34.218x33.111x0.563	24831.00	1054540.00	0.024	679.81	3005075.00	0.000
L29	49.833 - 43.4967 (29)	TP35.62x34.218x0.563	24992.90	1063800.00	0.023	679.73	3059025.00	0.000
L30	43.4967 - 42.4967 (30)	TP35.092x33.764x0.563	25814.30	1081920.00	0.024	679.50	3165908.33	0.000
L31	42.4967 - 37.4967 (31)	TP36.199x35.092x0.55	26364.10	1092170.00	0.024	679.20	3305308.33	0.000
L32	37.4967 - 33 (32)	TP37.194x36.199x0.55	26846.90	1122670.00	0.024	678.97	3447425.00	0.000
L33	33 - 32.75 (33)	TP37.25x37.194x0.663	26860.10	1350200.00	0.020	678.94	4158108.33	0.000
L34	32.75 - 32 (34)	TP37.416x37.25x0.663	26950.40	1356330.00	0.020	678.92	4170950.00	0.000
L35	32 - 31.75 (35)	TP37.471x37.416x0.588	26971.00	1207050.00	0.022	678.90	3764133.33	0.000
L36	31.75 - 30 (36)	TP37.858x37.471x0.588	27180.40	1219730.00	0.022	678.87	3775641.67	0.000
L37	30 - 29.75 (37)	TP37.914x37.858x0.588	27183.90	1221540.00	0.022	678.82	3856666.67	0.000
L38	29.75 - 24.75 (38)	TP39.021x37.914x0.575	27300.50	1203040.00	0.023	678.80	3791166.67	0.000
L39	24.75 - 19.75 (39)	TP40.128x39.021x0.569	27829.10	1225230.00	0.023	678.62	3981800.00	0.000
L40	19.75 - 14.75 (40)	TP41.235x40.128x0.563	28363.40	1246640.00	0.023	678.48	4174216.67	0.000
L41	14.75 - 9.75 (41)	TP42.342x41.235x0.563	28903.40	1281330.00	0.023	678.37	4414508.33	0.000
L42	9.75 - 4.75 (42)	TP43.448x42.342x0.55	29450.50	1287150.00	0.023	678.30	4563475.00	0.000
L43	4.75 - 0 (43)	TP44.5x43.448x0.55	30025.60	1322330.00	0.023	678.25	4811733.33	0.000

APPENDIX B
BASE LEVEL DRAWING



CLIMBING PEGS
W/ SAFETY CLIMB

(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/2" TO 80 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(4) 1-1/4" TO 150 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 130 FT LEVEL
(2) 7/16" TO 130 FT LEVEL
(12) 1-5/8" TO 130 FT LEVEL

(PROPOSED EQUIPMENT CONFIGURATION)
(2) 1-1/4" TO 140 FT LEVEL
(6) 1-5/8" TO 140 FT LEVEL

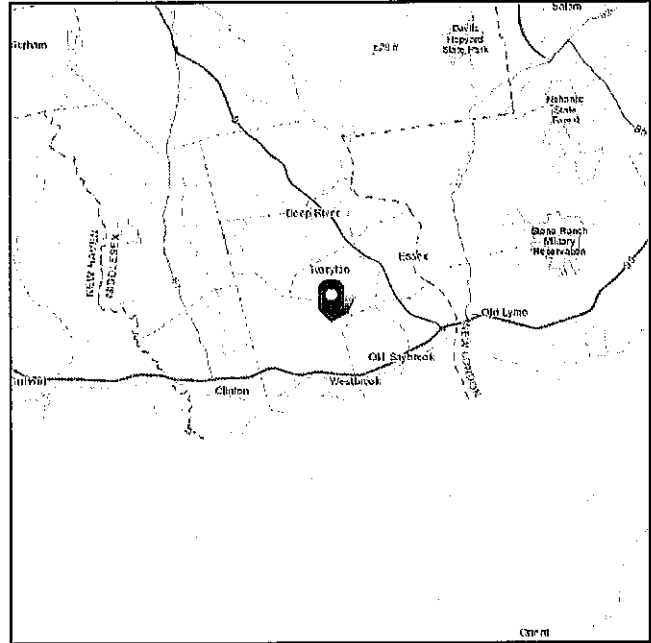
APPENDIX C
ADDITIONAL CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 159.59 ft (NAVD 88)
Latitude: 41.320167
Longitude: -72.441667

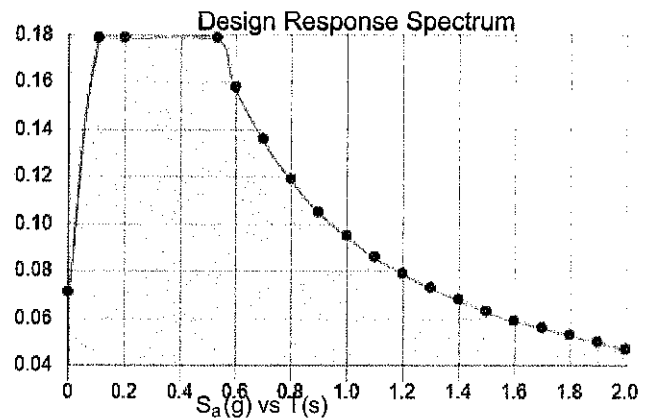
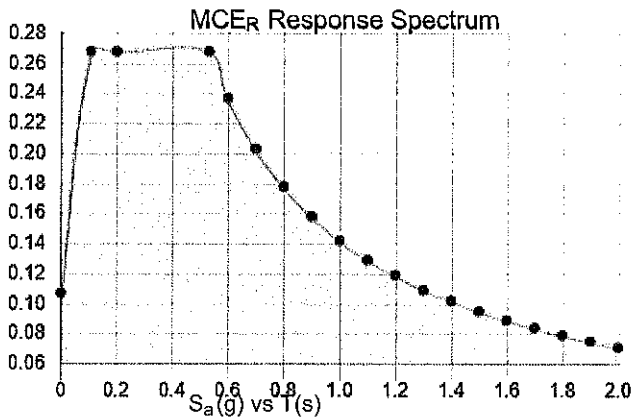


Site Soil Class: D - Stiff Soil

Results:

S_s :	0.167	S_{DS} :	0.179
S_1 :	0.059	S_{D1} :	0.095
F_a :	1.600	T_L :	6.000
F_v :	2.400	PGA :	0.084
S_{MS} :	0.268	PGA _M :	0.135
S_{M1} :	0.142	F_{PGA} :	1.600
		I_e :	1

Seismic Design Category B



Data Accessed:

Fri Nov 30 2018

Date Source:

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

Results:

Ice Thickness: 0.75 in.
Concurrent Temperature: 15 F
Gust Speed: 50 mph

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

Date Accessed: Fri Nov 30 2018

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

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

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Site BU: 876384

Work Order: 1665996

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	150	16.29	2.58333	18	13	16.65	0.1875	0.75	A572-65
2	136.29333	48.21	3.83333	18	15.70	26.38	0.3125	1.25	A572-65
3	91.91666	48.42	5	18	24.91	35.62	0.375	1.5	A572-65
4	48.49666	48.49666	0	18	33.76	44.5	0.375	1.5	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	33	plate	CCI-WSP-060100	2										X								X
2	0	30	plate	CCI-WSP-060100	2	X																	
3	32	65.083	plate	CCI-SFP-060100	1																		
4	30	65.083	plate	CCI-SFP-060100	2	X																	
5	65.083	85.167	plate	CCI-SFP-060100	2	X																	
6	65.083	75	plate	CCI-SFP-060100	1																		
7	75	77	plate	PL 1" x 5" (65 ksi)	1																		
8	77	85.167	plate	CCI-SFP-060100	1																		
9	85.167	108.25	plate	CCI-SFP-060100	3	X																	
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L _y (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	6	1	6	0.5	n/a	24.000	16.000	4.750	1.1875	A572-65
2	6	1	6	0.5	n/a	24.000	16.000	4.750	1.1875	A572-65
3	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
4	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
5	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
6	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
7	5	1	5	0.5	24.000	24.000	8.000	3.750	1.1875	A572-65
8	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
9	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	150 - 145	5		18	13.000	14.120	0.1875	A572-65	1.000
2	145 - 140	5		18	14.120	15.241	0.1875	A572-65	1.000
3	140 - 136.2933	6.29	2.58333	18	15.241	16.650	0.1875	A572-65	1.000
4	136.2933 - 131.2933	5		18	15.696	16.804	0.3125	A572-65	1.000
5	131.2933 - 126.2933	5		18	16.804	17.912	0.3125	A572-65	1.000
6	126.2933 - 121.2933	5		18	17.912	19.020	0.3125	A572-65	1.000
7	121.2933 - 116.2933	5		18	19.020	20.128	0.3125	A572-65	1.000
8	116.2933 - 111.2933	5		18	20.128	21.236	0.3125	A572-65	1.000
9	111.2933 - 108.25	3.04333		18	21.236	21.911	0.3125	A572-65	1.000
10	108.25 - 108	0.25		18	21.911	21.966	0.6375	A572-65	0.915
11	108 - 103	5		18	21.966	23.074	0.6125	A572-65	0.929
12	103 - 98	5		18	23.074	24.182	0.6	A572-65	0.928
13	98 - 93	5		18	24.182	25.290	0.5875	A572-65	0.929
14	93 - 91.91666	4.91667	3.83333	18	25.290	26.380	0.5875	A572-65	0.925
15	91.91666 - 86.91666	5		18	24.905	26.012	0.6375	A572-65	0.945
16	86.91666 - 85.167	1.74966		18	26.012	26.399	0.6375	A572-65	0.940
17	85.167 - 84.917	0.25		18	26.399	26.454	0.6375	A572-65	0.939
18	84.917 - 79.917	5		18	26.454	27.561	0.625	A572-65	0.942
19	79.917 - 77	2.917		18	27.561	28.206	0.6125	A572-65	0.953
20	77 - 76.75	0.25		18	28.206	28.262	0.5375	A572-65	0.955
21	76.75 - 75	1.75		18	28.262	28.649	0.53125	A572-65	0.963
22	75 - 74.75	0.25		18	28.649	28.704	0.6125	A572-65	0.947
23	74.75 - 69.75	5		18	28.704	29.811	0.6	A572-65	0.953
24	69.75 - 65.083	4.667		18	29.811	30.843	0.5875	A572-65	0.962
25	65.083 - 64.833	0.25		18	30.843	30.899	0.5875	A572-65	0.961
26	64.833 - 59.833	5		18	30.899	32.005	0.5875	A572-65	0.950
27	59.833 - 54.833	5		18	32.005	33.111	0.575	A572-65	0.959
28	54.833 - 49.833	5		18	33.111	34.218	0.5625	A572-65	0.970
29	49.833 - 48.49666	6.33634	5	18	34.218	35.620	0.5625	A572-65	0.967
30	48.49666 - 42.49666	6		18	33.764	35.092	0.5625	A572-65	0.962
31	42.49666 - 37.49666	5		18	35.092	36.199	0.55	A572-65	0.974
32	37.49666 - 33	4.49666		18	36.199	37.194	0.55	A572-65	0.966
33	33 - 32.75	0.25		18	37.194	37.250	0.6625	A572-65	0.960
34	32.75 - 32	0.75		18	37.250	37.416	0.6625	A572-65	0.959
35	32 - 31.75	0.25		18	37.416	37.471	0.5875	A572-65	0.991
36	31.75 - 30	1.75		18	37.471	37.858	0.5875	A572-65	0.987
37	30 - 29.75	0.25		18	37.858	37.914	0.5875	A572-65	0.987
38	29.75 - 24.75	5		18	37.914	39.021	0.575	A572-65	0.998
39	24.75 - 19.75	5		18	39.021	40.128	0.56875	A572-65	0.999
40	19.75 - 14.75	5		18	40.128	41.235	0.5625	A572-65	1.000
41	14.75 - 9.75	5		18	41.235	42.342	0.5625	A572-65	0.991
42	9.75 - 4.75	5		18	42.342	43.448	0.55	A572-65	1.005
43	4.75 - 0	4.75		18	43.448	44.500	0.55	A572-65	0.997

TNX Section Forces

Increment (ft):		TNX Output			
	5	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)
1	150 - 145		2.51	34.07	5.60
2	145 - 140		2.70	62.64	5.84
3	140 - 136.293		5.29	106.01	11.76
4	136.293 - 131.293		5.81	165.54	12.05
5	131.293 - 126.293		8.87	241.63	16.39
6	126.293 - 121.293		9.49	324.19	16.64
7	121.293 - 116.293		10.13	408.23	16.98
8	116.293 - 111.293		10.82	493.73	17.25
9	111.293 - 108.25		11.25	546.45	17.42
10	108.25 - 108		11.32	550.80	17.44
11	108 - 103		12.30	639.38	18.01
12	103 - 98		13.31	730.79	18.58
13	98 - 93		14.31	825.68	19.32
14	93 - 91.9167		14.54	846.67	19.45
15	91.9167 - 86.9167		16.34	945.74	20.18
16	86.9167 - 85.167		16.75	981.22	20.40
17	85.167 - 84.917		16.82	986.32	20.42
18	84.917 - 79.917		18.10	1089.84	21.10
19	79.917 - 77		18.82	1151.91	21.47
20	77 - 76.75		18.89	1157.27	21.49
21	76.75 - 75		19.27	1195.07	21.72
22	75 - 74.75		19.35	1200.50	21.74
23	74.75 - 69.75		20.62	1310.71	22.37
24	69.75 - 65.083		21.83	1416.39	22.95
25	65.083 - 64.833		21.91	1422.13	22.97
26	64.833 - 59.833		23.24	1538.51	23.60
27	59.833 - 54.833		24.61	1658.07	24.23
28	54.833 - 49.833		26.01	1780.71	24.83
29	49.833 - 48.4967		26.39	1813.99	24.99
30	48.4967 - 42.4967		29.26	1966.46	25.81
31	42.4967 - 37.4967		30.73	2096.89	26.36
32	37.4967 - 33		32.07	2216.50	26.85
33	33 - 32.75		32.17	2223.22	26.86
34	32.75 - 32		32.43	2243.40	26.95
35	32 - 31.75		32.51	2250.14	26.97
36	31.75 - 30		33.07	2297.52	27.18
37	30 - 29.75		33.17	2304.31	27.18
38	29.75 - 24.75		34.82	2441.60	27.72
39	24.75 - 19.75		36.51	2581.53	28.26
40	19.75 - 14.75		38.23	2724.14	28.79
41	14.75 - 9.75		39.98	2869.46	29.34
42	9.75 - 4.75		41.76	3017.53	29.89
43	4.75 - 0		43.47	3160.75	30.42

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP14.12x13x0.1875	Pole	18.9%	Pass
145 - 140	Pole	TP15.24x14.12x0.1875	Pole	29.5%	Pass
140 - 136.29	Pole	TP16.65x15.24x0.1875	Pole	45.0%	Pass
136.29 - 131.29	Pole	TP16.804x15.696x0.3125	Pole	39.1%	Pass
131.29 - 126.29	Pole	TP17.912x16.804x0.3125	Pole	50.2%	Pass
126.29 - 121.29	Pole	TP19.02x17.912x0.3125	Pole	59.4%	Pass
121.29 - 116.29	Pole	TP20.128x19.02x0.3125	Pole	66.5%	Pass
116.29 - 111.29	Pole	TP21.236x20.128x0.3125	Pole	72.0%	Pass
111.29 - 108.25	Pole	TP21.911x21.236x0.3125	Pole	74.8%	Pass
108.25 - 108	Pole + Reinf.	TP21.966x21.911x0.6375	Reinf. 9 Tension Rupture	61.7%	Pass
108 - 103	Pole + Reinf.	TP23.074x21.966x0.6125	Reinf. 9 Tension Rupture	66.4%	Pass
103 - 98	Pole + Reinf.	TP24.182x23.074x0.6	Reinf. 9 Tension Rupture	70.6%	Pass
98 - 93	Pole + Reinf.	TP25.29x24.182x0.5875	Reinf. 9 Tension Rupture	74.4%	Pass
93 - 91.92	Pole + Reinf.	TP26.38x25.29x0.5875	Reinf. 9 Tension Rupture	75.2%	Pass
91.92 - 86.92	Pole + Reinf.	TP26.012x24.905x0.6375	Reinf. 9 Tension Rupture	73.6%	Pass
86.92 - 85.17	Pole + Reinf.	TP26.399x26.012x0.6375	Reinf. 9 Tension Rupture	74.6%	Pass
85.17 - 84.92	Pole + Reinf.	TP26.454x26.399x0.6375	Reinf. 5 Tension Rupture	74.7%	Pass
84.92 - 79.92	Pole + Reinf.	TP27.561x26.454x0.625	Reinf. 5 Tension Rupture	77.2%	Pass
79.92 - 77	Pole + Reinf.	TP28.206x27.561x0.6125	Reinf. 5 Tension Rupture	78.6%	Pass
77 - 76.75	Pole + Reinf.	TP28.262x28.206x0.5375	Reinf. 5 Tension Rupture	80.2%	Pass
76.75 - 75	Pole + Reinf.	TP28.649x28.262x0.5313	Reinf. 5 Tension Rupture	81.0%	Pass
75 - 74.75	Pole + Reinf.	TP28.704x28.649x0.6125	Reinf. 5 Tension Rupture	79.6%	Pass
74.75 - 69.75	Pole + Reinf.	TP29.811x28.704x0.6	Reinf. 5 Tension Rupture	81.6%	Pass
69.75 - 65.08	Pole + Reinf.	TP30.843x29.811x0.5875	Reinf. 5 Tension Rupture	83.3%	Pass
65.08 - 64.83	Pole + Reinf.	TP30.899x30.843x0.5875	Reinf. 3 Tension Rupture	83.4%	Pass
64.83 - 59.83	Pole + Reinf.	TP32.005x30.899x0.5875	Reinf. 3 Tension Rupture	85.0%	Pass
59.83 - 54.83	Pole + Reinf.	TP33.111x32.005x0.575	Reinf. 3 Tension Rupture	86.6%	Pass
54.83 - 49.83	Pole + Reinf.	TP34.218x33.111x0.5625	Reinf. 3 Tension Rupture	87.9%	Pass
49.83 - 48.5	Pole + Reinf.	TP35.62x34.218x0.5625	Reinf. 3 Tension Rupture	88.3%	Pass
48.5 - 42.5	Pole + Reinf.	TP35.092x33.764x0.5625	Reinf. 3 Tension Rupture	93.0%	Pass
42.5 - 37.5	Pole + Reinf.	TP36.199x35.092x0.55	Reinf. 3 Tension Rupture	94.1%	Pass
37.5 - 33	Pole + Reinf.	TP37.194x36.199x0.55	Reinf. 3 Tension Rupture	94.9%	Pass
33 - 32.75	Pole + Reinf.	TP37.25x37.194x0.6625	Reinf. 4 Tension Rupture	81.3%	Pass
32.75 - 32	Pole + Reinf.	TP37.416x37.25x0.6625	Reinf. 4 Tension Rupture	81.5%	Pass
32 - 31.75	Pole + Reinf.	TP37.471x37.416x0.5875	Reinf. 4 Tension Rupture	83.9%	Pass
31.75 - 30	Pole + Reinf.	TP37.858x37.471x0.5875	Reinf. 4 Tension Rupture	84.2%	Pass
30 - 29.75	Pole + Reinf.	TP37.914x37.858x0.5875	Reinf. 2 Tension Rupture	84.2%	Pass
29.75 - 24.75	Pole + Reinf.	TP39.021x37.914x0.575	Reinf. 2 Tension Rupture	85.0%	Pass
24.75 - 19.75	Pole + Reinf.	TP40.128x39.021x0.5688	Reinf. 1 Tension Rupture	85.8%	Pass
19.75 - 14.75	Pole + Reinf.	TP41.235x40.128x0.5625	Reinf. 2 Tension Rupture	86.5%	Pass
14.75 - 9.75	Pole + Reinf.	TP42.342x41.235x0.5625	Reinf. 1 Tension Rupture	87.1%	Pass
9.75 - 4.75	Pole + Reinf.	TP43.448x42.342x0.55	Reinf. 2 Tension Rupture	87.6%	Pass
4.75 - 0	Pole + Reinf.	TP44.5x43.448x0.55	Reinf. 2 Tension Rupture	88.1%	Pass
				Summary	
			Pole	74.8%	Pass
			Reinforcement	94.9%	Pass
			Overall	94.9%	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
150 - 145	203	n/a	203	8.29	n/a	8.29	18.9%									
145 - 140	256	n/a	256	8.96	n/a	8.96	29.6%									
140 - 136.29	301	n/a	301	9.45	n/a	9.45	45.0%									
136.29 - 131.29	562	n/a	562	16.36	n/a	16.36	39.1%									
131.29 - 126.29	683	n/a	683	17.46	n/a	17.46	50.2%									
126.29 - 121.29	820	n/a	820	18.56	n/a	18.56	59.4%									
121.29 - 116.29	975	n/a	975	19.65	n/a	19.65	66.5%									
116.29 - 111.29	1148	n/a	1148	20.75	n/a	20.75	72.0%									
111.29 - 108.25	1262	n/a	1262	21.42	n/a	21.42	74.8%									
108.25 - 108	1272	1215	2486	21.48	18.00	39.48	37.9%									61.7%
108 - 103	1477	1332	2809	22.58	18.00	40.58	40.9%									66.4%
103 - 98	1704	1455	3158	23.68	18.00	41.68	43.5%									70.6%
98 - 93	1952	1583	3535	24.77	18.00	42.77	46.0%									74.4%
93 - 91.92	2009	1611	3620	25.01	18.00	43.01	46.4%									75.2%
91.92 - 86.92	2533	1669	4202	30.51	18.00	48.51	45.5%									73.6%
86.92 - 85.17	2650	1717	4366	30.97	18.00	48.97	46.1%									74.6%
85.17 - 84.92	2666	1724	4390	31.04	18.00	49.04	46.2%					74.7%				74.7%
84.92 - 79.92	3020	1863	4884	32.36	18.00	50.36	47.8%					77.2%				77.2%
79.92 - 77	3241	1947	5188	33.13	18.00	51.13	48.7%					78.6%				78.6%
77 - 76.75	3312	1291	4602	33.19	12.00	45.19	60.9%					80.2%				
76.75 - 75	3451	1326	4776	33.65	12.00	45.65	61.4%					81.0%				
75 - 74.75	3418	2013	5431	33.72	18.00	51.72	49.4%					79.6%	79.6%			
74.75 - 69.75	3834	2164	5998	35.03	18.00	53.03	50.7%					81.6%	81.6%			
69.75 - 65.08	4252	2309	6561	36.26	18.00	54.26	51.8%					83.3%	83.3%			
65.08 - 64.83	4275	2317	6592	36.33	18.00	54.33	51.9%				83.4%	83.4%				
64.83 - 59.83	4757	2479	7236	37.65	18.00	55.65	63.0%					85.0%	85.0%			
59.83 - 54.83	5274	2646	7920	38.96	18.00	56.96	54.0%					86.6%	86.6%			
54.83 - 49.83	5827	2818	8645	40.28	18.00	58.28	54.9%					87.9%	87.9%			
49.83 - 48.5	5981	2865	8846	40.63	18.00	58.63	55.1%					88.3%	88.3%			
48.5 - 42.5	6290	2959	9249	41.32	18.00	59.32	58.1%					93.0%	93.0%			
42.5 - 37.5	6911	3141	10052	42.64	18.00	60.64	58.8%					94.1%	94.1%			
37.5 - 33	7503	3310	10813	43.82	18.00	61.82	59.4%					94.9%	94.9%			
33 - 32.75	7590	5391	12981	43.89	30.00	73.89	53.2%	73.2%				80.3%	81.3%			
32.75 - 32	7693	5437	13130	44.09	30.00	74.09	53.3%	73.4%				80.4%	81.5%			
32 - 31.75	7674	4095	11768	44.15	24.00	68.15	55.8%	83.9%					83.9%			
31.75 - 30	7917	4177	12093	44.61	24.00	68.61	56.0%	84.2%				84.2%				
30 - 29.75	7952	4188	12140	44.68	24.00	68.68	56.1%	84.2%	84.2%							
29.75 - 24.75	8676	4428	13104	46.00	24.00	70.00	57.1%	85.0%	85.0%							
24.75 - 19.75	9443	4674	14117	47.31	24.00	71.31	58.1%	85.8%	85.8%							
19.75 - 14.75	10254	4927	15181	48.63	24.00	72.63	59.0%	86.5%	86.5%							
14.75 - 9.75	11110	5186	16297	49.95	24.00	73.95	59.9%	87.1%	87.1%							
9.75 - 4.75	12013	5452	17465	51.27	24.00	75.27	60.8%	87.6%	87.6%							
4.75 - 0	12914	5712	18626	52.52	24.00	76.52	61.7%	88.1%	88.1%							

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

Monopole Base Plate Connection

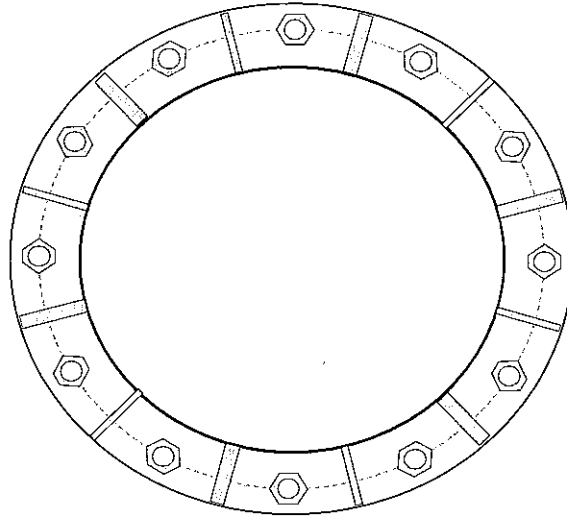


Site Info	
BU #	876384
Site Name	Westbrook / Orsina
Order #	457782 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0.75

Applied Loads	
Moment (kip-ft)	3160.749
Axial Force (kips)	43.486
Shear Force (kips)	30.401

*TIA-222-H Section 15.5 Applied



Connection Properties		Analysis Results	
Anchor Rod Data		Anchor Rod Summary	
(12) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 53" BC		<i>(units of kips, kip-in)</i>	
Base Plate Data		$P_u_c = 242$	$\phi P_n_c = 243.75$ Stress Rating
59" OD x 1.75" Plate (A871 Gr. 60; $F_y=60$ ksi, $F_u=75$ ksi)		$V_u = 2.53$	$\phi V_n = 73.13$ 94.7%
Stiffener Data		$M_u = n/a$	$\phi M_n = n/a$ Pass
(12) 18"H x 7"W x 1.5"T, Notch: 0.75"		Base Plate Summary	
plate: $F_y=50$ ksi ; weld: $F_y=70$ ksi		Max Stress (ksi):	47.8 (Roark's Flexural)
horiz. weld: 0.75" groove, 45° dbl bevel FALSE		Allowable Stress (ksi):	54
vert. weld: 0.375" fillet		Stress Rating:	84.3% Pass
Pole Data		Stiffener Summary	
44.5" x 0.375" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)		Horizontal Weld:	56.5% Pass
		Vertical Weld:	87.4% Pass
		Plate Flexure+Shear:	19.4% Pass
		Plate Tension+Shear:	57.1% Pass
		Plate Compression:	79.7% Pass
		Pole Summary	
		Punching Shear:	26.3% Pass

Pier and Pad Foundation



BU #: 876384
 Site Name: Westbrook / Orsina
 App. Number: 457782 Rev. 0

TIA-222 Revision: H
 Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	43.486	kips
Base Shear, V_{u_comp} :	30.401	kips
Moment, M_u :	3160.749	ft-kips
Tower Height, H :	150	ft
BP Dist. Above Fdn, bp_{dist} :	3	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	98.55	30.40	29.4%	Pass
Bearing Pressure (ksf)	6.26	1.55	24.7%	Pass
Overturning (kip*ft)	5026.36	3350.76	66.7%	Pass
Pier Flexure (Comp.) (kip*ft)	3269.96	3251.95	94.7%	Pass
Pier Compression (kip)	22913.28	62.93	0.3%	Pass
Pad Flexure (kip*ft)	3077.69	1498.57	46.4%	Pass
Pad Shear - 1-way (kips)	1004.09	194.47	18.4%	Pass
Pad Shear - 2-way (Comp) (ksi)	0.190	0.038	19.0%	Pass
Flexural 2-way (Comp) (kip*ft)	3248.34	1951.17	57.2%	Pass

*Rating per TIA-222-H Section 15.5

Soil Rating*:	66.7%
Structural Rating*:	94.7%

Pier Properties		
Pier Shape:	Square	
Pier Diameter, d_{pier} :	6	ft
Ext. Above Grade, E :	1	ft
Pier Rebar Size, S_c :	8	
Pier Rebar Quantity, mc :	30	
Pier Tie/Spiral Size, S_t :	4	
Pier Tie/Spiral Quantity, mt :	7	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	4.5	in

Pad Properties		
Depth, D :	5	ft
Pad Width, W :	28	ft
Pad Thickness, T :	3	ft
Pad Rebar Size (Bottom), S_p :	8	
Pad Rebar Quantity (Bottom), mp :	28	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, F_y :	60000	psi
Concrete Compressive Strength, F'_c :	4000	psi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	100	pcf
Ultimate Net Bearing, Q_{net} :	8.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	0	degrees
SPT Blow Count, N_{blows} :	13	
Base Friction, μ_b :	0.3	
Neglected Depth, N :	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	2.5	ft

<--Toggle between Gross and Net

Date: October 11, 2018

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Subject: Mount Structural Analysis

Contractor Designation: Verizon Wireless Co-Locate
Carrier Site Number: 102448
Carrier Site Name: Westbrook NE CT

Crown Castle Designation: Crown Castle BU Number: 876384
Crown Castle Site Name: WESTBROOK / ORSINA
Crown Castle JDE Number: 528414
Crown Castle PO Number: 1263867
Crown Castle Application Number: 457782 Rev. 0

Engineering Firm Designation: ETS Project No.: 184433.14

Site Data: 798 Toby Hill Road, Westbrook, Middlesex County, CT 06498
Latitude: 41° 19' 12.60" Longitude: -72° 26' 30.00"

Structure Information: Tower Height & Type: 150.0-ft Monopole
Mount Elevation: 140.0-ft
Mount Width & Type: 13.7-ft Platform Mount

Dear Charles McGuirt,

Engineered Tower Solutions, PLLC is pleased to submit this "Mount Structural Analysis Report" to determine the structural integrity of Verizon Wireless's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned 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.

Based upon our analysis, we have determined the adequacy of the antenna mounting system that will support the existing and proposed loading to be for the following Load Case:

Platform Mount

Sufficient Capacity

This analysis utilizes an ultimate 3-second gust wind speed of 135 mph as required by the 2016 Connecticut State Building Code (2012 IBC). Applicable Standard references and design criteria are listed in Section 2 – Analysis Criteria.

We at Engineered Tower Solutions, PLLC appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by:

Bach S. Tran, EI
Structural Engineer I

Respectfully Submitted by:

Frederic G. Bost, PE
Owner/President

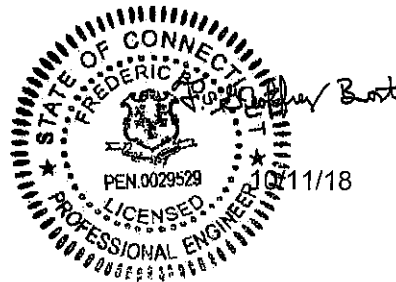


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ASCE 7 Hazards Report

1) INTRODUCTION

This mount is an existing 13.7 ft Platform mount installed at the 140.0 ft elevation of the 150.0 ft Monopole. Engineered Tower Solutions, PLLC, did not visit the site. A mapping and/or mount manufacturer drawings were not provided. Therefore, per direction of Crown Castle, photos of the tower were compared with other mounts within our database and a similar and comparable mount was used to perform this mount analysis.

2) ANALYSIS CRITERIA

Building Code: 2012 IBC
TIA-222 Revision: TIA-222-H
Risk Category: II
Ultimate Wind Speed: 135 mph
Exposure Category: B
Topographic Factor: 1
Ice Thickness: 1.50 in
Wind Speed with Ice: 50 mph
Seismic Ss: 0.167
Seismic S1: 0.059
Service Wind Speed: 30 mph
Man Live Load at Mid/End-Point: 250 lb
Man Live Load At Mount Pipes: 500 lb

Table 1 – Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
140.0	140.0	6	Commscope	JAHH-65B-R3B	13.7 ft Platform Mount
		2	Decibel	DB846F6SZAXY	
		4	Decibel	DB846H80E-SX	
		2	Raycap	RVZDC-6627-PF-48	
		3	RFS/Celwave	FDJ85020Q7-S1	
		3	Samsung Telecommunications	RFV01U-D1A	
		3	Samsung Telecommunications	RFV01U-D2A	

3) ANALYSIS PROCEDURE

Table 2 – Documents Provided

Document	Remarks	Reference	Source
Carrier Application	App # 457782 Rev. 0	08/22/2018	CCI Sites
Structural Level Drawings (Installed)	Crown Castle	08/31/2018	CCI Sites
Structural Level Drawing (Proposed)	Crown Castle	08/31/2018	CCI Sites
4-Structural Analysis Report	Tower Engineering Professionals	7812144	CCI Sites

3.1) Analysis Method

RISA-3D (version 17.0), 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 C.

3.2) Assumptions

- 1) Engineered Tower Solutions, PLLC, did not visit the site. A mapping and/or mount manufacturer drawings were not provided. Therefore, per direction of Crown Castle, photos of the tower were compared with other mounts within our database and a similar and comparable mount was used to perform this mount analysis
- 2) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer’s specification.
- 3) The configuration of antennas, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- 5) This Structural Analysis is not a condition assessment of the mount and is an evaluation of the theoretical structural capacity.
- 6) This analysis is based from the information supplied, and therefore, this report’s results are as accurate as the supplied data.
- 7) Engineered Tower Solutions, PLLC makes no warranties, expressed and/or implied, in connection with this report, and disclaims any liability associated with material, fabrication, or erection of the mount. Engineered Tower Solutions, PLLC will not be held responsible from any consequential or incidental damages sustained by any person, firm, or organization as a result of the contents of this report. The maximum liability of Engineered Tower Solutions, PLLC pursuant to this report will be limited to the total fee received for compilation of this report.
- 8) It is the tower owner’s responsibility to verify that the mount modeled and analyzed is the correct structure modeled.
- 9) The use of this report shall be limited to the purpose for which it was commissioned and may not be used for any other purposes without the written consent of Engineered Tower Solutions, PLLC.
- 10) Member connections are assumed to have been designed to meet or exceed the theoretical capacity of the connected member.
- 11) Steel grades have been assumed as follows:

a) Channel, Solid Round, Angle, Plate	ASTM A36 (Gr 36)
b) HSS (Rectangular)	ASTM 500 (Gr B-46)
c) HSS (Round)	ASTM 500 (Gr B-42)
d) Pipe	ASTM A53 (Gr 35)
e) Connection Bolts	ASTM A325
f) U-Bolts	SAE 429 Gr.2

This analysis may be affected if any assumptions are not valid or have been made in error. Engineered Tower Solutions, PLLC should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass/Fail
1	Face Mount – Horizontal	3.0SCH40	140.0	18.0	PASS
1	Mount Pipe – Vertical	2.0SCH40		19.0	PASS
1	Sidearm – Horizontal	HSS4X4X1/4		45.4	PASS
1	Brace - Horizontal	HSS4X4X1/4		11.5	PASS
1	Grate – Horizontal	L2X2X1/4		16.3	PASS

Notes:

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

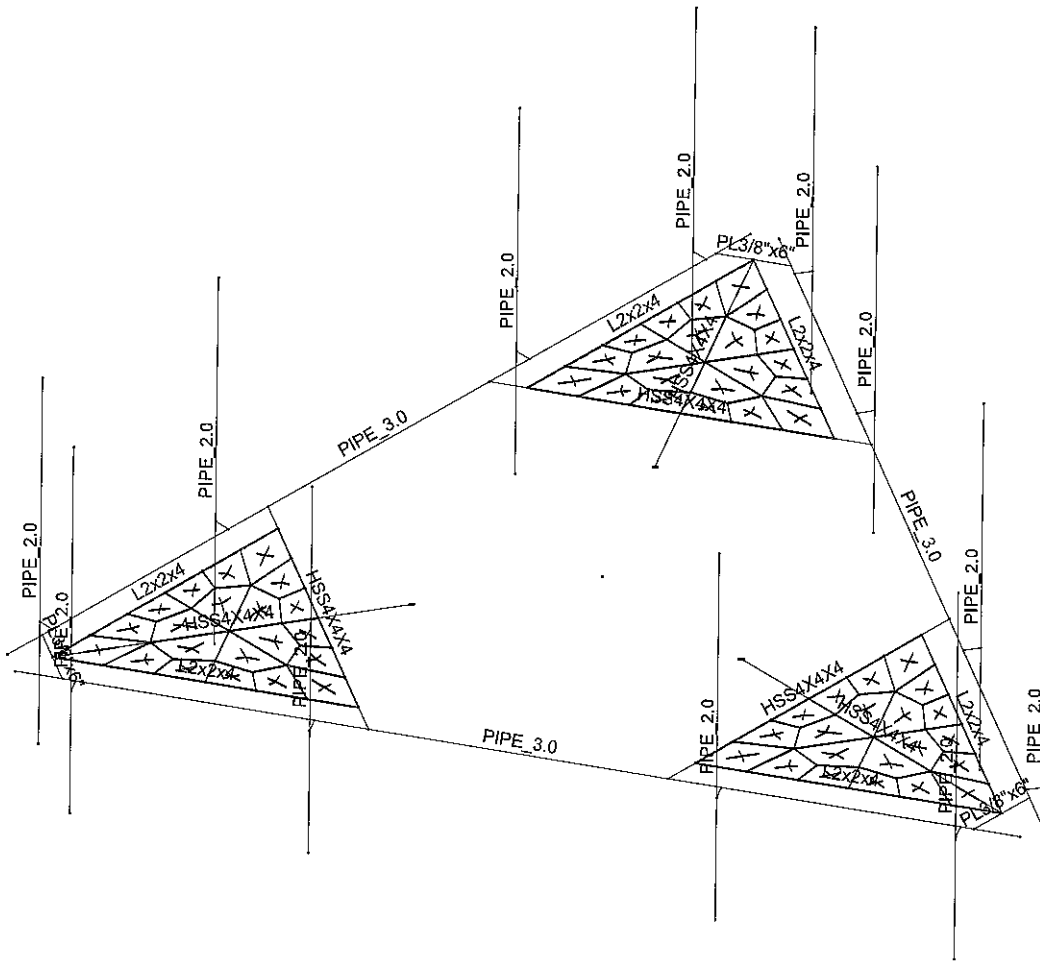
Tower Mount Rating (max from all components) =	45.4%
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Verizon Mount Classification	M1750R(200)-4[12]
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4.1) Recommendations

The tower mount has sufficient capacity to carry the existing and proposed load configuration. No modifications are required at this time.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Crown Castle

TSB

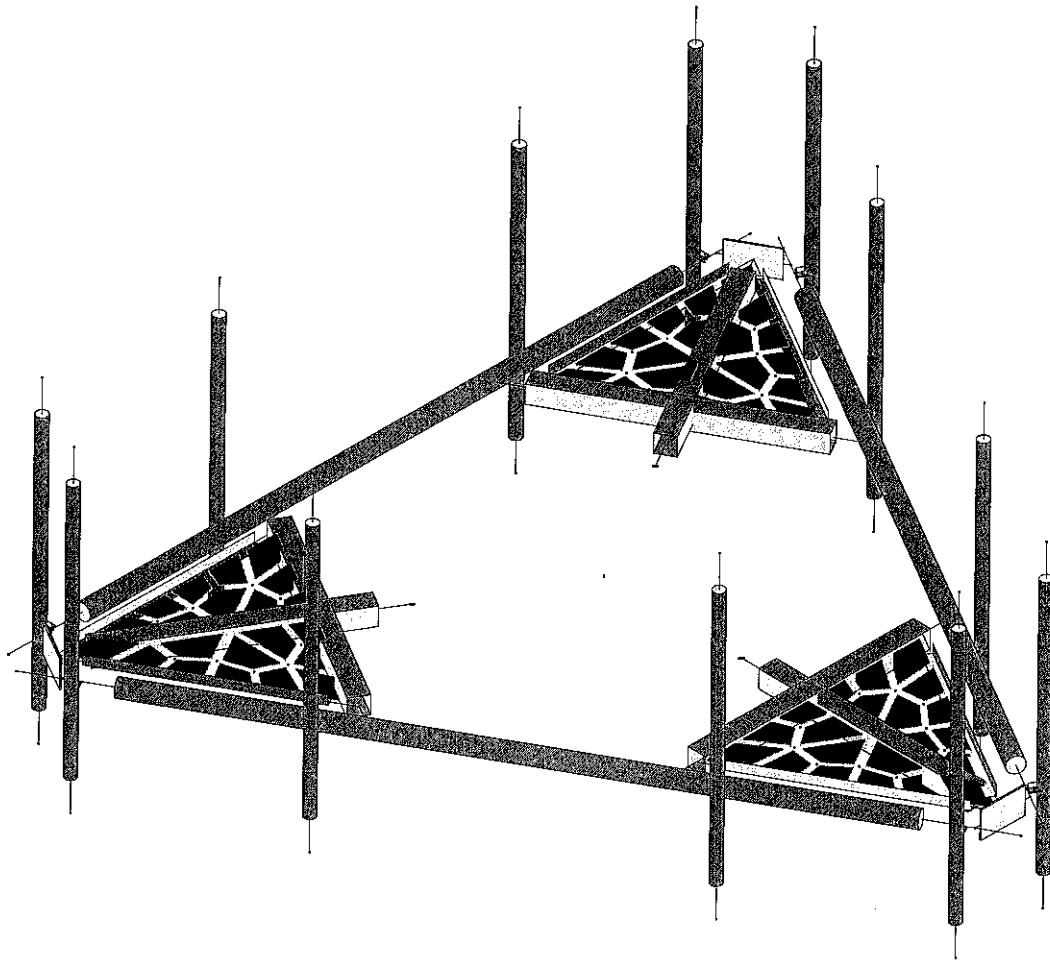
ETS Job No. 184433.14

876384 - WESTBROOK _ ORSINA _ Mount Analysis

SK - 1

Oct 9, 2018 at 10:54 AM

876384 - WESTBROOK _ ORSINA _



Crown Castle

TSB

ETS Job No. 184433.14

876384 - WESTBROOK _ ORSINA_Mount Analysis

SK - 2

Oct 9, 2018 at 10:54 AM

876384 - WESTBROOK _ ORSIN...

APPENDIX B
SOFTWARE INPUT CALCULATIONS



NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
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APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Company : Crown Castle
 Designer : TSB
 Job Number : ETS Job No. 184433.14
 Model Name : 876384 - WESTBROOK _ ORSINA_Mount Analysis

Oct 9, 2018
 10:53 AM
 Checked By: JAA

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	BRACE2	N28	N29			HSS4X4X4	None	None	A500 Gr.B..	Typical
2	BRACE3	N22	N23			HSS4X4X4	None	None	A500 Gr.B..	Typical
3	BRACE1	N16	N17			HSS4X4X4	None	None	A500 Gr.B..	Typical
4	CORNER-PL-...	N7	N8			PL3/8"x6"	None	None	A36 Gr.36	Typical
5	CORNER-PL-...	N3	N4			PL3/8"x6"	None	None	A36 Gr.36	Typical
6	CORNER-PL-...	N9	N10			PL3/8"x6"	None	None	A36 Gr.36	Typical
7	FM1	N1	N2			PIPE 3.0	None	None	A53 Gr.B	Typical
8	FM2	N5	N6			PIPE 3.0	None	None	A53 Gr.B	Typical
9	FM3	N11	N12			PIPE 3.0	None	None	A53 Gr.B	Typical
10	GRATE-H-0-1	N30	N31			L2x2x4	None	None	A36 Gr.36	Typical
11	GRATE-H-0-2	N24	N20		270	L2x2x4	None	None	A36 Gr.36	DR1
12	GRATE-H-120...	N24	N25			L2x2x4	None	None	A36 Gr.36	Typical
13	GRATE-H-120...	N18	N14		270	L2x2x4	None	None	A36 Gr.36	Typical
14	GRATE-H-240...	N18	N19			L2x2x4	None	None	A36 Gr.36	Typical
15	GRATE-H-240...	N30	N26		270	L2x2x4	None	None	A36 Gr.36	Typical
16	SA2	N30	N27			HSS4X4X4	None	None	A500 Gr.B..	Typical
17	SA3	N24	N21			HSS4X4X4	None	None	A500 Gr.B..	Typical
18	SA1	N18	N15			HSS4X4X4	None	None	A500 Gr.B..	Typical
19	M19	N116A	N120A			RIGID	None	None	RIGID	Typical
20	M20	N117A	N121A			RIGID	None	None	RIGID	Typical
21	M21	N118A	N122A			RIGID	None	None	RIGID	Typical
22	M22	N119A	N123A			RIGID	None	None	RIGID	Typical
23	M27	N133A	N137A			RIGID	None	None	RIGID	Typical
24	M30	N136A	N140A			RIGID	None	None	RIGID	Typical
25	M35	N150A	N154A			RIGID	None	None	RIGID	Typical
26	M38	N153A	N157A			RIGID	None	None	RIGID	Typical
27	MP1	N152B	N140B			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
28	MP2	N153B	N141A			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
29	MP3	N154B	N142A			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
30	MP4	N155B	N143A			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
31	MP9	N163A	N144A			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
32	MP12	N166A	N147A			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
33	MP5	N174A	N148A			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
34	MP8	N177A	N151B			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
35	M35A	N149A	N151A			RIGID	None	None	RIGID	Typical
36	M36	N150B	N152A			RIGID	None	None	RIGID	Typical
37	MP10	N155A	N153C			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
38	MP11	N156A	N154C			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
39	M39	N158A	N160A			RIGID	None	None	RIGID	Typical
40	M40	N159A	N161A			RIGID	None	None	RIGID	Typical
41	MP6	N164A	N162A			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
42	MP7	N165A	N163B			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		12	35.2	0
3	Total General		12	35.2	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	PL3/8"x6"	3	37.7	0
7	A36 Gr.36	L2x2x4	6	307.7	0
8	A500 Gr.B Rect	HSS4X4X4	6	371.1	.4
9	A53 Gr.B	PIPE 2.0	12	864	.2



Material Takeoff (Continued)

	Material	Size	Pieces	Length[in]	Weight[K]
10	A53 Gr.B	PIPE_3.0	3	504	.3
11	Total HR Steel		30	2084.5	1
12					
13	Plate Elements	Thickness (in)		Volume (yds^3)	
14	GRATE	.1	63	0	.1
15	Total Plates		63	0	.1

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	Y	-211.2	%33
2	MP2	Y	-15	%33
3	MP3	Y	-63.3	%33
4	MP4	Y	-63.3	%33
5	MP5	Y	-231.3	%33
6	MP6	Y	-21	%33
7	MP7	Y	-63.3	%33
8	MP8	Y	-63.3	%33
9	MP9	Y	-207.4	%33
10	MP10	Y	-15	%33
11	MP11	Y	-63.3	%33
12	MP12	Y	-63.3	%33

Member Point Loads (BLC 2 : Wind Load (0 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	375.1	%33
2	MP2	X	8.4	%33
3	MP3	X	8.6	%33
4	MP4	X	8.6	%33
5	MP5	X	306.2	%33
6	MP6	X	48.3	%33
7	MP7	X	48.3	%33
8	MP8	X	48.3	%33
9	MP9	X	191.5	%33
10	MP10	X	48.3	%33
11	MP11	X	48.3	%33
12	MP12	X	48.3	%33
13	MP1	Z	0	%33
14	MP2	Z	0	%33
15	MP3	Z	0	%33
16	MP4	Z	0	%33
17	MP5	Z	0	%33
18	MP6	Z	0	%33
19	MP7	Z	0	%33
20	MP8	Z	0	%33
21	MP9	Z	0	%33
22	MP10	Z	0	%33
23	MP11	Z	0	%33
24	MP12	Z	0	%33

Member Point Loads (BLC 3 : Wind Load (30 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	302.7	%33
2	MP2	X	18.8	%33
3	MP3	X	18.9	%33



Member Point Loads (BLC 3 : Wind Load (30 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
4	MP4	X	18.9	%33
5	MP5	X	245.2	%33
6	MP6	X	53.4	%33
7	MP7	X	53.4	%33
8	MP8	X	53.4	%33
9	MP9	X	177.4	%33
10	MP10	X	18.8	%33
11	MP11	X	18.9	%33
12	MP12	X	18.9	%33
13	MP1	Z	174.8	%33
14	MP2	Z	10.8	%33
15	MP3	Z	10.9	%33
16	MP4	Z	10.9	%33
17	MP5	Z	141.6	%33
18	MP6	Z	30.8	%33
19	MP7	Z	30.8	%33
20	MP8	Z	30.8	%33
21	MP9	Z	102.4	%33
22	MP10	Z	10.8	%33
23	MP11	Z	10.9	%33
24	MP12	Z	10.9	%33

Member Point Loads (BLC 4 : Wind Load (60 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	149.2	%33
2	MP2	X	24.2	%33
3	MP3	X	24.2	%33
4	MP4	X	24.2	%33
5	MP5	X	153.1	%33
6	MP6	X	24.2	%33
7	MP7	X	24.2	%33
8	MP8	X	24.2	%33
9	MP9	X	105.8	%33
10	MP10	X	4.2	%33
11	MP11	X	4.3	%33
12	MP12	X	4.3	%33
13	MP1	Z	258.4	%33
14	MP2	Z	41.8	%33
15	MP3	Z	41.9	%33
16	MP4	Z	41.9	%33
17	MP5	Z	265.1	%33
18	MP6	Z	41.9	%33
19	MP7	Z	41.9	%33
20	MP8	Z	41.9	%33
21	MP9	Z	183.2	%33
22	MP10	Z	7.3	%33
23	MP11	Z	7.4	%33
24	MP12	Z	7.4	%33

Member Point Loads (BLC 5 : Wind Load (90 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	0	%33
2	MP2	X	0	%33
3	MP3	X	0	%33
4	MP4	X	0	%33
5	MP5	X	0	%33



Member Point Loads (BLC 5 : Wind Load (90 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.,lb-ft]	Location[in. %]
6	MP6	X	0	%33
7	MP7	X	0	%33
8	MP8	X	0	%33
9	MP9	X	0	%33
10	MP10	X	0	%33
11	MP11	X	0	%33
12	MP12	X	0	%33
13	MP1	Z	272.9	%33
14	MP2	Z	61.6	%33
15	MP3	Z	61.6	%33
16	MP4	Z	61.6	%33
17	MP5	Z	352.3	%33
18	MP6	Z	21.8	%33
19	MP7	Z	21.8	%33
20	MP8	Z	21.8	%33
21	MP9	Z	204.9	%33
22	MP10	Z	21.7	%33
23	MP11	Z	21.8	%33
24	MP12	Z	21.8	%33

Member Point Loads (BLC 6 : Wind Load (120 deg))

	Member Label	Direction	Magnitude[lb.,lb-ft]	Location[in. %]
1	MP1	X	-149.2	%33
2	MP2	X	-24.2	%33
3	MP3	X	-24.2	%33
4	MP4	X	-24.2	%33
5	MP5	X	-187.7	%33
6	MP6	X	-4.3	%33
7	MP7	X	-4.3	%33
8	MP8	X	-4.3	%33
9	MP9	X	-95.8	%33
10	MP10	X	-24.2	%33
11	MP11	X	-24.2	%33
12	MP12	X	-24.2	%33
13	MP1	Z	258.4	%33
14	MP2	Z	41.8	%33
15	MP3	Z	41.9	%33
16	MP4	Z	41.9	%33
17	MP5	Z	325	%33
18	MP6	Z	7.4	%33
19	MP7	Z	7.4	%33
20	MP8	Z	7.4	%33
21	MP9	Z	165.9	%33
22	MP10	Z	41.8	%33
23	MP11	Z	41.9	%33
24	MP12	Z	41.9	%33

Member Point Loads (BLC 7 : Wind Load (150 deg))

	Member Label	Direction	Magnitude[lb.,lb-ft]	Location[in. %]
1	MP1	X	-302.7	%33
2	MP2	X	-18.8	%33
3	MP3	X	-18.9	%33
4	MP4	X	-18.9	%33
5	MP5	X	-305.1	%33
6	MP6	X	-18.9	%33
7	MP7	X	-18.9	%33



Member Point Loads (BLC 7 : Wind Load (150 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
8	MP8	X	-18.9	%33
9	MP9	X	-160.1	%33
10	MP10	X	-53.4	%33
11	MP11	X	-53.4	%33
12	MP12	X	-53.4	%33
13	MP1	Z	174.8	%33
14	MP2	Z	10.8	%33
15	MP3	Z	10.9	%33
16	MP4	Z	10.9	%33
17	MP5	Z	176.1	%33
18	MP6	Z	10.9	%33
19	MP7	Z	10.9	%33
20	MP8	Z	10.9	%33
21	MP9	Z	92.4	%33
22	MP10	Z	30.8	%33
23	MP11	Z	30.8	%33
24	MP12	Z	30.8	%33

Member Point Loads (BLC 8 : Wind Load (180 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-375.1	%33
2	MP2	X	-8.4	%33
3	MP3	X	-8.6	%33
4	MP4	X	-8.6	%33
5	MP5	X	-306.2	%33
6	MP6	X	-48.3	%33
7	MP7	X	-48.3	%33
8	MP8	X	-48.3	%33
9	MP9	X	-191.5	%33
10	MP10	X	-48.3	%33
11	MP11	X	-48.3	%33
12	MP12	X	-48.3	%33
13	MP1	Z	0	%33
14	MP2	Z	0	%33
15	MP3	Z	0	%33
16	MP4	Z	0	%33
17	MP5	Z	0	%33
18	MP6	Z	0	%33
19	MP7	Z	0	%33
20	MP8	Z	0	%33
21	MP9	Z	0	%33
22	MP10	Z	0	%33
23	MP11	Z	0	%33
24	MP12	Z	0	%33

Member Point Loads (BLC 9 : Wind Load (210 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-302.7	%33
2	MP2	X	-18.8	%33
3	MP3	X	-18.9	%33
4	MP4	X	-18.9	%33
5	MP5	X	-245.2	%33
6	MP6	X	-53.4	%33
7	MP7	X	-53.4	%33
8	MP8	X	-53.4	%33
9	MP9	X	-177.4	%33



Member Point Loads (BLC 9 : Wind Load (210 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
10	MP10	X	-18.8	%33
11	MP11	X	-18.9	%33
12	MP12	X	-18.9	%33
13	MP1	Z	-174.8	%33
14	MP2	Z	-10.8	%33
15	MP3	Z	-10.9	%33
16	MP4	Z	-10.9	%33
17	MP5	Z	-141.6	%33
18	MP6	Z	-30.8	%33
19	MP7	Z	-30.8	%33
20	MP8	Z	-30.8	%33
21	MP9	Z	-102.4	%33
22	MP10	Z	-10.8	%33
23	MP11	Z	-10.9	%33
24	MP12	Z	-10.9	%33

Member Point Loads (BLC 10 : Wind Load (240 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-149.2	%33
2	MP2	X	-24.2	%33
3	MP3	X	-24.2	%33
4	MP4	X	-24.2	%33
5	MP5	X	-153.1	%33
6	MP6	X	-24.2	%33
7	MP7	X	-24.2	%33
8	MP8	X	-24.2	%33
9	MP9	X	-105.8	%33
10	MP10	X	-4.2	%33
11	MP11	X	-4.3	%33
12	MP12	X	-4.3	%33
13	MP1	Z	-258.4	%33
14	MP2	Z	-41.8	%33
15	MP3	Z	-41.9	%33
16	MP4	Z	-41.9	%33
17	MP5	Z	-265.1	%33
18	MP6	Z	-41.9	%33
19	MP7	Z	-41.9	%33
20	MP8	Z	-41.9	%33
21	MP9	Z	-183.2	%33
22	MP10	Z	-7.3	%33
23	MP11	Z	-7.4	%33
24	MP12	Z	-7.4	%33

Member Point Loads (BLC 11 : Wind Load (270 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	0	%33
2	MP2	X	0	%33
3	MP3	X	0	%33
4	MP4	X	0	%33
5	MP5	X	0	%33
6	MP6	X	0	%33
7	MP7	X	0	%33
8	MP8	X	0	%33
9	MP9	X	0	%33
10	MP10	X	0	%33
11	MP11	X	0	%33



Member Point Loads (BLC 11 : Wind Load (270 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
12	MP12	X	0	%33
13	MP1	Z	-272.9	%33
14	MP2	Z	-61.6	%33
15	MP3	Z	-61.6	%33
16	MP4	Z	-61.6	%33
17	MP5	Z	-352.3	%33
18	MP6	Z	-21.8	%33
19	MP7	Z	-21.8	%33
20	MP8	Z	-21.8	%33
21	MP9	Z	-204.9	%33
22	MP10	Z	-21.7	%33
23	MP11	Z	-21.8	%33
24	MP12	Z	-21.8	%33

Member Point Loads (BLC 12 : Wind Load (300 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	149.2	%33
2	MP2	X	24.2	%33
3	MP3	X	24.2	%33
4	MP4	X	24.2	%33
5	MP5	X	187.7	%33
6	MP6	X	4.3	%33
7	MP7	X	4.3	%33
8	MP8	X	4.3	%33
9	MP9	X	95.8	%33
10	MP10	X	24.2	%33
11	MP11	X	24.2	%33
12	MP12	X	24.2	%33
13	MP1	Z	-258.4	%33
14	MP2	Z	-41.8	%33
15	MP3	Z	-41.9	%33
16	MP4	Z	-41.9	%33
17	MP5	Z	-325	%33
18	MP6	Z	-7.4	%33
19	MP7	Z	-7.4	%33
20	MP8	Z	-7.4	%33
21	MP9	Z	-165.9	%33
22	MP10	Z	-41.8	%33
23	MP11	Z	-41.9	%33
24	MP12	Z	-41.9	%33

Member Point Loads (BLC 13 : Wind Load (330 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	302.7	%33
2	MP2	X	18.8	%33
3	MP3	X	18.9	%33
4	MP4	X	18.9	%33
5	MP5	X	305.1	%33
6	MP6	X	18.9	%33
7	MP7	X	18.9	%33
8	MP8	X	18.9	%33
9	MP9	X	160.1	%33
10	MP10	X	53.4	%33
11	MP11	X	53.4	%33
12	MP12	X	53.4	%33
13	MP1	Z	-174.8	%33



Member Point Loads (BLC 13 : Wind Load (330 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.,lb-ft]	Location[in. %]
14	MP2	Z	-10.8	%33
15	MP3	Z	-10.9	%33
16	MP4	Z	-10.9	%33
17	MP5	Z	-176.1	%33
18	MP6	Z	-10.9	%33
19	MP7	Z	-10.9	%33
20	MP8	Z	-10.9	%33
21	MP9	Z	-92.4	%33
22	MP10	Z	-30.8	%33
23	MP11	Z	-30.8	%33
24	MP12	Z	-30.8	%33

Member Point Loads (BLC 14 : Ice Load)

	Member Label	Direction	Magnitude[lb.,lb-ft]	Location[in. %]
1	MP1	Y	-437.6	%33
2	MP2	Y	-209.6	%33
3	MP3	Y	-278.2	%33
4	MP4	Y	-278.2	%33
5	MP5	Y	-471.6	%33
6	MP6	Y	-241	%33
7	MP7	Y	-278.2	%33
8	MP8	Y	-278.2	%33
9	MP9	Y	-337.9	%33
10	MP10	Y	-209.6	%33
11	MP11	Y	-278.2	%33
12	MP12	Y	-278.2	%33

Member Point Loads (BLC 15 : Wind on Ice (0 deg))

	Member Label	Direction	Magnitude[lb.,lb-ft]	Location[in. %]
1	MP1	X	64.1	%33
2	MP2	X	3.7	%33
3	MP3	X	3.7	%33
4	MP4	X	3.7	%33
5	MP5	X	59.6	%33
6	MP6	X	13.6	%33
7	MP7	X	13.6	%33
8	MP8	X	13.6	%33
9	MP9	X	40.3	%33
10	MP10	X	13.6	%33
11	MP11	X	13.6	%33
12	MP12	X	13.6	%33
13	MP1	Z	0	%33
14	MP2	Z	0	%33
15	MP3	Z	0	%33
16	MP4	Z	0	%33
17	MP5	Z	0	%33
18	MP6	Z	0	%33
19	MP7	Z	0	%33
20	MP8	Z	0	%33
21	MP9	Z	0	%33
22	MP10	Z	0	%33
23	MP11	Z	0	%33
24	MP12	Z	0	%33

Member Point Loads (BLC 16 : Wind on Ice (30 deg))

	Member Label	Direction	Magnitude[lb.,lb-ft]	Location[in. %]
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Member Point Loads (BLC 16 : Wind on Ice (30 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	54	%33
2	MP2	X	6	%33
3	MP3	X	6.1	%33
4	MP4	X	6.1	%33
5	MP5	X	50.7	%33
6	MP6	X	14.7	%33
7	MP7	X	14.7	%33
8	MP8	X	14.7	%33
9	MP9	X	33.5	%33
10	MP10	X	6	%33
11	MP11	X	6.1	%33
12	MP12	X	6.1	%33
13	MP1	Z	31.2	%33
14	MP2	Z	3.5	%33
15	MP3	Z	3.5	%33
16	MP4	Z	3.5	%33
17	MP5	Z	29.3	%33
18	MP6	Z	8.5	%33
19	MP7	Z	8.5	%33
20	MP8	Z	8.5	%33
21	MP9	Z	19.4	%33
22	MP10	Z	3.5	%33
23	MP11	Z	3.5	%33
24	MP12	Z	3.5	%33

Member Point Loads (BLC 17 : Wind on Ice (60 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	29.4	%33
2	MP2	X	6.8	%33
3	MP3	X	6.8	%33
4	MP4	X	6.8	%33
5	MP5	X	29.8	%33
6	MP6	X	6.8	%33
7	MP7	X	6.8	%33
8	MP8	X	6.8	%33
9	MP9	X	19	%33
10	MP10	X	1.8	%33
11	MP11	X	1.9	%33
12	MP12	X	1.9	%33
13	MP1	Z	50.9	%33
14	MP2	Z	11.8	%33
15	MP3	Z	11.8	%33
16	MP4	Z	11.8	%33
17	MP5	Z	51.6	%33
18	MP6	Z	11.8	%33
19	MP7	Z	11.8	%33
20	MP8	Z	11.8	%33
21	MP9	Z	32.8	%33
22	MP10	Z	3.2	%33
23	MP11	Z	3.2	%33
24	MP12	Z	3.2	%33

Member Point Loads (BLC 18 : Wind on Ice (90 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	0	%33
2	MP2	X	0	%33



Member Point Loads (BLC 18 : Wind on Ice (90 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
3	MP3	X	0	%33
4	MP4	X	0	%33
5	MP5	X	0	%33
6	MP6	X	0	%33
7	MP7	X	0	%33
8	MP8	X	0	%33
9	MP9	X	0	%33
10	MP10	X	0	%33
11	MP11	X	0	%33
12	MP12	X	0	%33
13	MP1	Z	56.9	%33
14	MP2	Z	16.9	%33
15	MP3	Z	16.9	%33
16	MP4	Z	16.9	%33
17	MP5	Z	61.8	%33
18	MP6	Z	7	%33
19	MP7	Z	7	%33
20	MP8	Z	7	%33
21	MP9	Z	38.7	%33
22	MP10	Z	7	%33
23	MP11	Z	7	%33
24	MP12	Z	7	%33

Member Point Loads (BLC 19 : Wind on Ice (120 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-29.4	%33
2	MP2	X	-6.8	%33
3	MP3	X	-6.8	%33
4	MP4	X	-6.8	%33
5	MP5	X	-31.4	%33
6	MP6	X	-1.9	%33
7	MP7	X	-1.9	%33
8	MP8	X	-1.9	%33
9	MP9	X	-20.2	%33
10	MP10	X	-6.8	%33
11	MP11	X	-6.8	%33
12	MP12	X	-6.8	%33
13	MP1	Z	50.9	%33
14	MP2	Z	11.8	%33
15	MP3	Z	11.8	%33
16	MP4	Z	11.8	%33
17	MP5	Z	54.4	%33
18	MP6	Z	3.2	%33
19	MP7	Z	3.2	%33
20	MP8	Z	3.2	%33
21	MP9	Z	34.9	%33
22	MP10	Z	11.8	%33
23	MP11	Z	11.8	%33
24	MP12	Z	11.8	%33

Member Point Loads (BLC 20 : Wind on Ice (150 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-54	%33
2	MP2	X	-6	%33
3	MP3	X	-6.1	%33
4	MP4	X	-6.1	%33



Member Point Loads (BLC 20 : Wind on Ice (150 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
5	MP5	X	-53.5	%33
6	MP6	X	-6.1	%33
7	MP7	X	-6.1	%33
8	MP8	X	-6.1	%33
9	MP9	X	-35.6	%33
10	MP10	X	-14.7	%33
11	MP11	X	-14.7	%33
12	MP12	X	-14.7	%33
13	MP1	Z	31.2	%33
14	MP2	Z	3.5	%33
15	MP3	Z	3.5	%33
16	MP4	Z	3.5	%33
17	MP5	Z	30.9	%33
18	MP6	Z	3.5	%33
19	MP7	Z	3.5	%33
20	MP8	Z	3.5	%33
21	MP9	Z	20.6	%33
22	MP10	Z	8.5	%33
23	MP11	Z	8.5	%33
24	MP12	Z	8.5	%33

Member Point Loads (BLC 21 : Wind on Ice (180 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-64.1	%33
2	MP2	X	-3.7	%33
3	MP3	X	-3.7	%33
4	MP4	X	-3.7	%33
5	MP5	X	-59.6	%33
6	MP6	X	-13.6	%33
7	MP7	X	-13.6	%33
8	MP8	X	-13.6	%33
9	MP9	X	-40.3	%33
10	MP10	X	-13.6	%33
11	MP11	X	-13.6	%33
12	MP12	X	-13.6	%33
13	MP1	Z	0	%33
14	MP2	Z	0	%33
15	MP3	Z	0	%33
16	MP4	Z	0	%33
17	MP5	Z	0	%33
18	MP6	Z	0	%33
19	MP7	Z	0	%33
20	MP8	Z	0	%33
21	MP9	Z	0	%33
22	MP10	Z	0	%33
23	MP11	Z	0	%33
24	MP12	Z	0	%33

Member Point Loads (BLC 22 : Wind on Ice (210 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-54	%33
2	MP2	X	-6	%33
3	MP3	X	-6.1	%33
4	MP4	X	-6.1	%33
5	MP5	X	-50.7	%33
6	MP6	X	-14.7	%33



Member Point Loads (BLC 22 : Wind on Ice (210 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
7	MP7	X	-14.7	%33
8	MP8	X	-14.7	%33
9	MP9	X	-33.5	%33
10	MP10	X	-6	%33
11	MP11	X	-6.1	%33
12	MP12	X	-6.1	%33
13	MP1	Z	-31.2	%33
14	MP2	Z	-3.5	%33
15	MP3	Z	-3.5	%33
16	MP4	Z	-3.5	%33
17	MP5	Z	-29.3	%33
18	MP6	Z	-8.5	%33
19	MP7	Z	-8.5	%33
20	MP8	Z	-8.5	%33
21	MP9	Z	-19.4	%33
22	MP10	Z	-3.5	%33
23	MP11	Z	-3.5	%33
24	MP12	Z	-3.5	%33

Member Point Loads (BLC 23 : Wind on Ice (240 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-29.4	%33
2	MP2	X	-6.8	%33
3	MP3	X	-6.8	%33
4	MP4	X	-6.8	%33
5	MP5	X	-29.8	%33
6	MP6	X	-6.8	%33
7	MP7	X	-6.8	%33
8	MP8	X	-6.8	%33
9	MP9	X	-19	%33
10	MP10	X	-1.8	%33
11	MP11	X	-1.9	%33
12	MP12	X	-1.9	%33
13	MP1	Z	-50.9	%33
14	MP2	Z	-11.8	%33
15	MP3	Z	-11.8	%33
16	MP4	Z	-11.8	%33
17	MP5	Z	-51.6	%33
18	MP6	Z	-11.8	%33
19	MP7	Z	-11.8	%33
20	MP8	Z	-11.8	%33
21	MP9	Z	-32.8	%33
22	MP10	Z	-3.2	%33
23	MP11	Z	-3.2	%33
24	MP12	Z	-3.2	%33

Member Point Loads (BLC 24 : Wind on Ice (270 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	0	%33
2	MP2	X	0	%33
3	MP3	X	0	%33
4	MP4	X	0	%33
5	MP5	X	0	%33
6	MP6	X	0	%33
7	MP7	X	0	%33
8	MP8	X	0	%33



Member Point Loads (BLC 24 : Wind on Ice (270 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
9	MP9	X	0	%33
10	MP10	X	0	%33
11	MP11	X	0	%33
12	MP12	X	0	%33
13	MP1	Z	-56.9	%33
14	MP2	Z	-16.9	%33
15	MP3	Z	-16.9	%33
16	MP4	Z	-16.9	%33
17	MP5	Z	-61.8	%33
18	MP6	Z	-7	%33
19	MP7	Z	-7	%33
20	MP8	Z	-7	%33
21	MP9	Z	-38.7	%33
22	MP10	Z	-7	%33
23	MP11	Z	-7	%33
24	MP12	Z	-7	%33

Member Point Loads (BLC 25 : Wind on Ice (300 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	29.4	%33
2	MP2	X	6.8	%33
3	MP3	X	6.8	%33
4	MP4	X	6.8	%33
5	MP5	X	31.4	%33
6	MP6	X	1.9	%33
7	MP7	X	1.9	%33
8	MP8	X	1.9	%33
9	MP9	X	20.2	%33
10	MP10	X	6.8	%33
11	MP11	X	6.8	%33
12	MP12	X	6.8	%33
13	MP1	Z	-50.9	%33
14	MP2	Z	-11.8	%33
15	MP3	Z	-11.8	%33
16	MP4	Z	-11.8	%33
17	MP5	Z	-54.4	%33
18	MP6	Z	-3.2	%33
19	MP7	Z	-3.2	%33
20	MP8	Z	-3.2	%33
21	MP9	Z	-34.9	%33
22	MP10	Z	-11.8	%33
23	MP11	Z	-11.8	%33
24	MP12	Z	-11.8	%33

Member Point Loads (BLC 26 : Wind on Ice (330 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	54	%33
2	MP2	X	6	%33
3	MP3	X	6.1	%33
4	MP4	X	6.1	%33
5	MP5	X	53.5	%33
6	MP6	X	6.1	%33
7	MP7	X	6.1	%33
8	MP8	X	6.1	%33
9	MP9	X	35.6	%33
10	MP10	X	14.7	%33



Member Point Loads (BLC 26 : Wind on Ice (330 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
11	MP11	X	14.7	%33
12	MP12	X	14.7	%33
13	MP1	Z	-31.2	%33
14	MP2	Z	-3.5	%33
15	MP3	Z	-3.5	%33
16	MP4	Z	-3.5	%33
17	MP5	Z	-30.9	%33
18	MP6	Z	-3.5	%33
19	MP7	Z	-3.5	%33
20	MP8	Z	-3.5	%33
21	MP9	Z	-20.6	%33
22	MP10	Z	-8.5	%33
23	MP11	Z	-8.5	%33
24	MP12	Z	-8.5	%33

Member Point Loads (BLC 27 : Horizontal Seismic, Eh (0))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	211.2	%33
2	MP2	X	15	%33
3	MP3	X	63.3	%33
4	MP4	X	63.3	%33
5	MP5	X	231.3	%33
6	MP6	X	21	%33
7	MP7	X	63.3	%33
8	MP8	X	63.3	%33
9	MP9	X	207.4	%33
10	MP10	X	15	%33
11	MP11	X	63.3	%33
12	MP12	X	63.3	%33
13	MP1	Z	0	%33
14	MP2	Z	0	%33
15	MP3	Z	0	%33
16	MP4	Z	0	%33
17	MP5	Z	0	%33
18	MP6	Z	0	%33
19	MP7	Z	0	%33
20	MP8	Z	0	%33
21	MP9	Z	0	%33
22	MP10	Z	0	%33
23	MP11	Z	0	%33
24	MP12	Z	0	%33

Member Point Loads (BLC 28 : Horizontal Seismic, Eh (30))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	182.9	%33
2	MP2	X	13	%33
3	MP3	X	54.8	%33
4	MP4	X	54.8	%33
5	MP5	X	200.3	%33
6	MP6	X	18.2	%33
7	MP7	X	54.8	%33
8	MP8	X	54.8	%33
9	MP9	X	179.6	%33
10	MP10	X	13	%33
11	MP11	X	54.8	%33
12	MP12	X	54.8	%33



Member Point Loads (BLC 28 : Horizontal Seismic, Eh (30)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
13	MP1	Z	105.6	%33
14	MP2	Z	7.5	%33
15	MP3	Z	31.6	%33
16	MP4	Z	31.6	%33
17	MP5	Z	115.6	%33
18	MP6	Z	10.5	%33
19	MP7	Z	31.6	%33
20	MP8	Z	31.6	%33
21	MP9	Z	103.7	%33
22	MP10	Z	7.5	%33
23	MP11	Z	31.6	%33
24	MP12	Z	31.6	%33

Member Point Loads (BLC 29 : Horizontal Seismic, Eh (60))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	105.6	%33
2	MP2	X	7.5	%33
3	MP3	X	31.7	%33
4	MP4	X	31.7	%33
5	MP5	X	115.7	%33
6	MP6	X	10.5	%33
7	MP7	X	31.7	%33
8	MP8	X	31.7	%33
9	MP9	X	103.7	%33
10	MP10	X	7.5	%33
11	MP11	X	31.7	%33
12	MP12	X	31.7	%33
13	MP1	Z	182.9	%33
14	MP2	Z	13	%33
15	MP3	Z	54.8	%33
16	MP4	Z	54.8	%33
17	MP5	Z	200.3	%33
18	MP6	Z	18.2	%33
19	MP7	Z	54.8	%33
20	MP8	Z	54.8	%33
21	MP9	Z	179.6	%33
22	MP10	Z	13	%33
23	MP11	Z	54.8	%33
24	MP12	Z	54.8	%33

Member Point Loads (BLC 30 : Horizontal Seismic, Eh (90))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	%33
2	MP2	X	0	%33
3	MP3	X	0	%33
4	MP4	X	0	%33
5	MP5	X	0	%33
6	MP6	X	0	%33
7	MP7	X	0	%33
8	MP8	X	0	%33
9	MP9	X	0	%33
10	MP10	X	0	%33
11	MP11	X	0	%33
12	MP12	X	0	%33
13	MP1	Z	211.2	%33
14	MP2	Z	15	%33



Member Point Loads (BLC 30 : Horizontal Seismic, Eh (90)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
15	MP3	Z	63.3	%33
16	MP4	Z	63.3	%33
17	MP5	Z	231.3	%33
18	MP6	Z	21	%33
19	MP7	Z	63.3	%33
20	MP8	Z	63.3	%33
21	MP9	Z	207.4	%33
22	MP10	Z	15	%33
23	MP11	Z	63.3	%33
24	MP12	Z	63.3	%33

Member Point Loads (BLC 31 : Horizontal Seismic, Eh (120))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-105.6	%33
2	MP2	X	-7.5	%33
3	MP3	X	-31.6	%33
4	MP4	X	-31.6	%33
5	MP5	X	-115.6	%33
6	MP6	X	-10.5	%33
7	MP7	X	-31.6	%33
8	MP8	X	-31.6	%33
9	MP9	X	-103.7	%33
10	MP10	X	-7.5	%33
11	MP11	X	-31.6	%33
12	MP12	X	-31.6	%33
13	MP1	Z	182.9	%33
14	MP2	Z	13	%33
15	MP3	Z	54.8	%33
16	MP4	Z	54.8	%33
17	MP5	Z	200.3	%33
18	MP6	Z	18.2	%33
19	MP7	Z	54.8	%33
20	MP8	Z	54.8	%33
21	MP9	Z	179.6	%33
22	MP10	Z	13	%33
23	MP11	Z	54.8	%33
24	MP12	Z	54.8	%33

Member Point Loads (BLC 32 : Horizontal Seismic, Eh (150))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-182.9	%33
2	MP2	X	-13	%33
3	MP3	X	-54.8	%33
4	MP4	X	-54.8	%33
5	MP5	X	-200.3	%33
6	MP6	X	-18.2	%33
7	MP7	X	-54.8	%33
8	MP8	X	-54.8	%33
9	MP9	X	-179.6	%33
10	MP10	X	-13	%33
11	MP11	X	-54.8	%33
12	MP12	X	-54.8	%33
13	MP1	Z	105.6	%33
14	MP2	Z	7.5	%33
15	MP3	Z	31.6	%33
16	MP4	Z	31.6	%33



Member Point Loads (BLC 32 : Horizontal Seismic, Eh (150)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
17	MP5	Z	115.6	%33
18	MP6	Z	10.5	%33
19	MP7	Z	31.6	%33
20	MP8	Z	31.6	%33
21	MP9	Z	103.7	%33
22	MP10	Z	7.5	%33
23	MP11	Z	31.6	%33
24	MP12	Z	31.6	%33

Member Point Loads (BLC 33 : Horizontal Seismic, Eh (180))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-211.2	%33
2	MP2	X	-15	%33
3	MP3	X	-63.3	%33
4	MP4	X	-63.3	%33
5	MP5	X	-231.3	%33
6	MP6	X	-21	%33
7	MP7	X	-63.3	%33
8	MP8	X	-63.3	%33
9	MP9	X	-207.4	%33
10	MP10	X	-15	%33
11	MP11	X	-63.3	%33
12	MP12	X	-63.3	%33
13	MP1	Z	0	%33
14	MP2	Z	0	%33
15	MP3	Z	0	%33
16	MP4	Z	0	%33
17	MP5	Z	0	%33
18	MP6	Z	0	%33
19	MP7	Z	0	%33
20	MP8	Z	0	%33
21	MP9	Z	0	%33
22	MP10	Z	0	%33
23	MP11	Z	0	%33
24	MP12	Z	0	%33

Member Point Loads (BLC 34 : Horizontal Seismic, Eh (210))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-182.9	%33
2	MP2	X	-13	%33
3	MP3	X	-54.8	%33
4	MP4	X	-54.8	%33
5	MP5	X	-200.3	%33
6	MP6	X	-18.2	%33
7	MP7	X	-54.8	%33
8	MP8	X	-54.8	%33
9	MP9	X	-179.6	%33
10	MP10	X	-13	%33
11	MP11	X	-54.8	%33
12	MP12	X	-54.8	%33
13	MP1	Z	-105.6	%33
14	MP2	Z	-7.5	%33
15	MP3	Z	-31.7	%33
16	MP4	Z	-31.7	%33
17	MP5	Z	-115.7	%33
18	MP6	Z	-10.5	%33



Member Point Loads (BLC 34 : Horizontal Seismic, Eh (210)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
19	MP7	Z	-31.7	%33
20	MP8	Z	-31.7	%33
21	MP9	Z	-103.7	%33
22	MP10	Z	-7.5	%33
23	MP11	Z	-31.7	%33
24	MP12	Z	-31.7	%33

Member Point Loads (BLC 35 : Horizontal Seismic, Eh (240))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-105.6	%33
2	MP2	X	-7.5	%33
3	MP3	X	-31.7	%33
4	MP4	X	-31.7	%33
5	MP5	X	-115.7	%33
6	MP6	X	-10.5	%33
7	MP7	X	-31.7	%33
8	MP8	X	-31.7	%33
9	MP9	X	-103.7	%33
10	MP10	X	-7.5	%33
11	MP11	X	-31.7	%33
12	MP12	X	-31.7	%33
13	MP1	Z	-182.9	%33
14	MP2	Z	-13	%33
15	MP3	Z	-54.8	%33
16	MP4	Z	-54.8	%33
17	MP5	Z	-200.3	%33
18	MP6	Z	-18.2	%33
19	MP7	Z	-54.8	%33
20	MP8	Z	-54.8	%33
21	MP9	Z	-179.6	%33
22	MP10	Z	-13	%33
23	MP11	Z	-54.8	%33
24	MP12	Z	-54.8	%33

Member Point Loads (BLC 36 : Horizontal Seismic, Eh (270))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	%33
2	MP2	X	0	%33
3	MP3	X	0	%33
4	MP4	X	0	%33
5	MP5	X	0	%33
6	MP6	X	0	%33
7	MP7	X	0	%33
8	MP8	X	0	%33
9	MP9	X	0	%33
10	MP10	X	0	%33
11	MP11	X	0	%33
12	MP12	X	0	%33
13	MP1	Z	-211.2	%33
14	MP2	Z	-15	%33
15	MP3	Z	-63.3	%33
16	MP4	Z	-63.3	%33
17	MP5	Z	-231.3	%33
18	MP6	Z	-21	%33
19	MP7	Z	-63.3	%33
20	MP8	Z	-63.3	%33



Member Point Loads (BLC 36 : Horizontal Seismic, Eh (270)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
21	MP9	Z	-207.4	%33
22	MP10	Z	-15	%33
23	MP11	Z	-63.3	%33
24	MP12	Z	-63.3	%33

Member Point Loads (BLC 37 : Horizontal Seismic, Eh (300))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	105.6	%33
2	MP2	X	7.5	%33
3	MP3	X	31.7	%33
4	MP4	X	31.7	%33
5	MP5	X	115.7	%33
6	MP6	X	10.5	%33
7	MP7	X	31.7	%33
8	MP8	X	31.7	%33
9	MP9	X	103.7	%33
10	MP10	X	7.5	%33
11	MP11	X	31.7	%33
12	MP12	X	31.7	%33
13	MP1	Z	-182.9	%33
14	MP2	Z	-13	%33
15	MP3	Z	-54.8	%33
16	MP4	Z	-54.8	%33
17	MP5	Z	-200.3	%33
18	MP6	Z	-18.2	%33
19	MP7	Z	-54.8	%33
20	MP8	Z	-54.8	%33
21	MP9	Z	-179.6	%33
22	MP10	Z	-13	%33
23	MP11	Z	-54.8	%33
24	MP12	Z	-54.8	%33

Member Point Loads (BLC 38 : Horizontal Seismic, Eh (330))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	182.9	%33
2	MP2	X	13	%33
3	MP3	X	54.8	%33
4	MP4	X	54.8	%33
5	MP5	X	200.3	%33
6	MP6	X	18.2	%33
7	MP7	X	54.8	%33
8	MP8	X	54.8	%33
9	MP9	X	179.6	%33
10	MP10	X	13	%33
11	MP11	X	54.8	%33
12	MP12	X	54.8	%33
13	MP1	Z	-105.6	%33
14	MP2	Z	-7.5	%33
15	MP3	Z	-31.7	%33
16	MP4	Z	-31.7	%33
17	MP5	Z	-115.7	%33
18	MP6	Z	-10.5	%33
19	MP7	Z	-31.7	%33
20	MP8	Z	-31.7	%33
21	MP9	Z	-103.7	%33
22	MP10	Z	-7.5	%33



Member Point Loads (BLC 38 : Horizontal Seismic, Eh (330)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
23	MP11	Z	-31.7	%33
24	MP12	Z	-31.7	%33

Member Point Loads (BLC 39 : Maintenance Load, Lm (MP1))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	Y	-500	%50

Member Point Loads (BLC 40 : Maintenance Load, Lm (MP2))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP2	Y	-500	%50

Member Point Loads (BLC 41 : Maintenance Load, Lm (MP3))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	Y	-500	%50

Member Point Loads (BLC 42 : Maintenance Load, Lm (MP4))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP4	Y	-500	%50

Member Point Loads (BLC 43 : Maintenance Load, Lm (MP5))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP5	Y	-500	%50

Member Point Loads (BLC 44 : Maintenance Load, Lm (MP6))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP6	Y	-500	%50

Member Point Loads (BLC 45 : Maintenance Load, Lm (MP7))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP7	Y	-500	%50

Member Point Loads (BLC 46 : Maintenance Load, Lm (MP8))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP8	Y	-500	%50

Member Point Loads (BLC 47 : Maintenance Load, Lm (MP9))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP9	Y	-500	%50

Member Point Loads (BLC 48 : Maintenance Load, Lm (MP10))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP10	Y	-500	%50

Member Point Loads (BLC 49 : Maintenance Load, Lm (MP11))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP11	Y	-500	%50

Member Point Loads (BLC 50 : Maintenance Load, Lm (MP12))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP12	Y	-500	%50



Member Point Loads (BLC 57 : Maintenance Load, Lv (Pos. 1))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	FM1	Y	-250	%50

Member Point Loads (BLC 58 : Maintenance Load, Lv (Pos. 2))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	FM2	Y	-250	%50

Member Point Loads (BLC 59 : Maintenance Load, Lv (Pos. 3))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	FM3	Y	-250	%50

Member Point Loads (BLC 60 : Maintenance Load, Lv (Pos. 4))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	BRACE1	Y	-250	%50

Member Point Loads (BLC 61 : Maintenance Load, Lv (Pos. 5))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	BRACE2	Y	-250	%50

Member Point Loads (BLC 62 : Maintenance Load, Lv (Pos. 6))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	BRACE3	Y	-250	%50

Member Point Loads (BLC 63 : Maintenance Load, Lv (Pos. 7))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	SA1	Y	-250	%100

Member Point Loads (BLC 64 : Maintenance Load, Lv (Pos. 8))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	SA2	Y	-250	%100

Member Point Loads (BLC 65 : Maintenance Load, Lv (Pos. 9))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	SA3	Y	-250	%100

Member Distributed Loads (BLC 2 : Wind Load (0 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	15.1	15.1	0	0
2	FM2	X	15.1	15.1	0	0
3	FM3	X	15.1	15.1	0	0
4	BRACE1	X	15.1	15.1	0	0
5	BRACE2	X	15.1	15.1	0	0
6	BRACE3	X	15.1	15.1	0	0
7	SA1	X	0	0	0	0
8	SA2	X	28.8	28.8	0	0
9	SA3	X	28.8	28.8	0	0
10	FM1	Z	0	0	0	0
11	FM2	Z	0	0	0	0
12	FM3	Z	0	0	0	0
13	BRACE1	Z	0	0	0	0
14	BRACE2	Z	0	0	0	0
15	BRACE3	Z	0	0	0	0



Member Distributed Loads (BLC 2 : Wind Load (0 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
16	SA1	Z	0	0	0	0
17	SA2	Z	0	0	0	0
18	SA3	Z	0	0	0	0
19	MP1	X	43.8	43.8	0	%83.681
20	MP2	X	43.8	43.8	0	%83.681
21	MP3	X	78.6	78.6	0	%83.333
22	MP4	X	78.6	78.6	0	%83.333
23	MP5	X	55	55	0	%83.333
24	MP6	X	55	55	0	%83.333
25	MP7	X	58.4	58.4	0	%83.333
26	MP8	X	58.4	58.4	0	%83.333
27	MP9	X	50	50	0	%83.681
28	MP10	X	50	50	0	%83.681
29	MP11	X	58.4	58.4	0	%83.333
30	MP12	X	58.4	58.4	0	%83.333
31	MP1	Z	0	0	0	0
32	MP2	Z	0	0	0	0
33	MP3	Z	0	0	0	0
34	MP4	Z	0	0	0	0
35	MP5	Z	0	0	0	0
36	MP6	Z	0	0	0	0
37	MP7	Z	0	0	0	0
38	MP8	Z	0	0	0	0
39	MP9	Z	0	0	0	0
40	MP10	Z	0	0	0	0
41	MP11	Z	0	0	0	0
42	MP12	Z	0	0	0	0

Member Distributed Loads (BLC 3 : Wind Load (30 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	13.1	13.1	0	0
2	FM2	X	0	0	0	0
3	FM3	X	13.1	13.1	0	0
4	BRACE1	X	13.1	13.1	0	0
5	BRACE2	X	0	0	0	0
6	BRACE3	X	13.1	13.1	0	0
7	SA1	X	24.9	24.9	0	0
8	SA2	X	24.9	24.9	0	0
9	SA3	X	24.9	24.9	0	0
10	FM1	Z	7.6	7.6	0	0
11	FM2	Z	0	0	0	0
12	FM3	Z	7.6	7.6	0	0
13	BRACE1	Z	7.6	7.6	0	0
14	BRACE2	Z	0	0	0	0
15	BRACE3	Z	7.6	7.6	0	0
16	SA1	Z	14.4	14.4	0	0
17	SA2	Z	14.4	14.4	0	0
18	SA3	Z	14.4	14.4	0	0
19	MP1	X	39.7	39.7	0	%83.681
20	MP2	X	39.7	39.7	0	%83.681
21	MP3	X	62.3	62.3	0	%83.333
22	MP4	X	62.3	62.3	0	%83.333
23	MP5	X	46	46	0	%83.333
24	MP6	X	46	46	0	%83.333
25	MP7	X	44.7	44.7	0	%83.333
26	MP8	X	44.7	44.7	0	%83.333



Member Distributed Loads (BLC 3 : Wind Load (30 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
27	MP9	X	39.7	39.7	0	%83.681
28	MP10	X	39.7	39.7	0	%83.681
29	MP11	X	62.3	62.3	0	%83.333
30	MP12	X	62.3	62.3	0	%83.333
31	MP1	Z	22.9	22.9	0	%83.681
32	MP2	Z	22.9	22.9	0	%83.681
33	MP3	Z	35.9	35.9	0	%83.333
34	MP4	Z	35.9	35.9	0	%83.333
35	MP5	Z	26.6	26.6	0	%83.333
36	MP6	Z	26.6	26.6	0	%83.333
37	MP7	Z	25.8	25.8	0	%83.333
38	MP8	Z	25.8	25.8	0	%83.333
39	MP9	Z	22.9	22.9	0	%83.681
40	MP10	Z	22.9	22.9	0	%83.681
41	MP11	Z	35.9	35.9	0	%83.333
42	MP12	Z	35.9	35.9	0	%83.333

Member Distributed Loads (BLC 4 : Wind Load (60 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM1	X	7.6	7.6	0	0
2	FM2	X	7.6	7.6	0	0
3	FM3	X	7.6	7.6	0	0
4	BRACE1	X	7.6	7.6	0	0
5	BRACE2	X	7.6	7.6	0	0
6	BRACE3	X	7.6	7.6	0	0
7	SA1	X	14.4	14.4	0	0
8	SA2	X	14.4	14.4	0	0
9	SA3	X	0	0	0	0
10	FM1	Z	13.1	13.1	0	0
11	FM2	Z	13.1	13.1	0	0
12	FM3	Z	13.1	13.1	0	0
13	BRACE1	Z	13.1	13.1	0	0
14	BRACE2	Z	13.1	13.1	0	0
15	BRACE3	Z	13.1	13.1	0	0
16	SA1	Z	24.9	24.9	0	0
17	SA2	Z	24.9	24.9	0	0
18	SA3	Z	0	0	0	0
19	MP1	X	25	25	0	%83.681
20	MP2	X	25	25	0	%83.681
21	MP3	X	29.2	29.2	0	%83.333
22	MP4	X	29.2	29.2	0	%83.333
23	MP5	X	27.5	27.5	0	%83.333
24	MP6	X	27.5	27.5	0	%83.333
25	MP7	X	29.2	29.2	0	%83.333
26	MP8	X	29.2	29.2	0	%83.333
27	MP9	X	21.9	21.9	0	%83.681
28	MP10	X	21.9	21.9	0	%83.681
29	MP11	X	39.3	39.3	0	%83.333
30	MP12	X	39.3	39.3	0	%83.333
31	MP1	Z	43.3	43.3	0	%83.681
32	MP2	Z	43.3	43.3	0	%83.681
33	MP3	Z	50.6	50.6	0	%83.333
34	MP4	Z	50.6	50.6	0	%83.333
35	MP5	Z	47.7	47.7	0	%83.333
36	MP6	Z	47.7	47.7	0	%83.333
37	MP7	Z	50.6	50.6	0	%83.333



Member Distributed Loads (BLC 4 : Wind Load (60 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
38	MP8	Z	50.6	50.6	0	%83.333
39	MP9	Z	37.9	37.9	0	%83.681
40	MP10	Z	37.9	37.9	0	%83.681
41	MP11	Z	68.1	68.1	0	%83.333
42	MP12	Z	68.1	68.1	0	%83.333

Member Distributed Loads (BLC 5 : Wind Load (90 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	0	0	0	0
2	FM2	X	0	0	0	0
3	FM3	X	0	0	0	0
4	BRACE1	X	0	0	0	0
5	BRACE2	X	0	0	0	0
6	BRACE3	X	0	0	0	0
7	SA1	X	0	0	0	0
8	SA2	X	0	0	0	0
9	SA3	X	0	0	0	0
10	FM1	Z	0	0	0	0
11	FM2	Z	15.1	15.1	0	0
12	FM3	Z	15.1	15.1	0	0
13	BRACE1	Z	0	0	0	0
14	BRACE2	Z	15.1	15.1	0	0
15	BRACE3	Z	15.1	15.1	0	0
16	SA1	Z	28.8	28.8	0	0
17	SA2	Z	28.8	28.8	0	0
18	SA3	Z	28.8	28.8	0	0
19	MP1	X	0	0	0	0
20	MP2	X	0	0	0	0
21	MP3	X	0	0	0	0
22	MP4	X	0	0	0	0
23	MP5	X	0	0	0	0
24	MP6	X	0	0	0	0
25	MP7	X	0	0	0	0
26	MP8	X	0	0	0	0
27	MP9	X	0	0	0	0
28	MP10	X	0	0	0	0
29	MP11	X	0	0	0	0
30	MP12	X	0	0	0	0
31	MP1	Z	52.1	52.1	0	%83.681
32	MP2	Z	52.1	52.1	0	%83.681
33	MP3	Z	51.6	51.6	0	%83.333
34	MP4	Z	51.6	51.6	0	%83.333
35	MP5	Z	58.8	58.8	0	%83.333
36	MP6	Z	58.8	58.8	0	%83.333
37	MP7	Z	71.9	71.9	0	%83.333
38	MP8	Z	71.9	71.9	0	%83.333
39	MP9	Z	45.9	45.9	0	%83.681
40	MP10	Z	45.9	45.9	0	%83.681
41	MP11	Z	71.9	71.9	0	%83.333
42	MP12	Z	71.9	71.9	0	%83.333

Member Distributed Loads (BLC 6 : Wind Load (120 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	-7.6	-7.6	0	0
2	FM2	X	-7.6	-7.6	0	0
3	FM3	X	-7.6	-7.6	0	0



Member Distributed Loads (BLC 6 : Wind Load (120 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
4	BRACE1	X	-7.6	-7.6	0	0
5	BRACE2	X	-7.6	-7.6	0	0
6	BRACE3	X	-7.6	-7.6	0	0
7	SA1	X	-14.4	-14.4	0	0
8	SA2	X	0	0	0	0
9	SA3	X	-14.4	-14.4	0	0
10	FM1	Z	13.1	13.1	0	0
11	FM2	Z	13.1	13.1	0	0
12	FM3	Z	13.1	13.1	0	0
13	BRACE1	Z	13.1	13.1	0	0
14	BRACE2	Z	13.1	13.1	0	0
15	BRACE3	Z	13.1	13.1	0	0
16	SA1	Z	24.9	24.9	0	0
17	SA2	Z	0	0	0	0
18	SA3	Z	24.9	24.9	0	0
19	MP1	X	-25	-25	0	%83.681
20	MP2	X	-25	-25	0	%83.681
21	MP3	X	-29.2	-29.2	0	%83.333
22	MP4	X	-29.2	-29.2	0	%83.333
23	MP5	X	-30.3	-30.3	0	%83.333
24	MP6	X	-30.3	-30.3	0	%83.333
25	MP7	X	-39.3	-39.3	0	%83.333
26	MP8	X	-39.3	-39.3	0	%83.333
27	MP9	X	-25	-25	0	%83.681
28	MP10	X	-25	-25	0	%83.681
29	MP11	X	-29.2	-29.2	0	%83.333
30	MP12	X	-29.2	-29.2	0	%83.333
31	MP1	Z	43.3	43.3	0	%83.681
32	MP2	Z	43.3	43.3	0	%83.681
33	MP3	Z	50.6	50.6	0	%83.333
34	MP4	Z	50.6	50.6	0	%83.333
35	MP5	Z	52.6	52.6	0	%83.333
36	MP6	Z	52.6	52.6	0	%83.333
37	MP7	Z	68.1	68.1	0	%83.333
38	MP8	Z	68.1	68.1	0	%83.333
39	MP9	Z	43.3	43.3	0	%83.681
40	MP10	Z	43.3	43.3	0	%83.681
41	MP11	Z	50.6	50.6	0	%83.333
42	MP12	Z	50.6	50.6	0	%83.333

Member Distributed Loads (BLC 7 : Wind Load (150 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-13.1	-13.1	0	0
2	FM2	X	-13.1	-13.1	0	0
3	FM3	X	0	0	0	0
4	BRACE1	X	-13.1	-13.1	0	0
5	BRACE2	X	-13.1	-13.1	0	0
6	BRACE3	X	0	0	0	0
7	SA1	X	-24.9	-24.9	0	0
8	SA2	X	-24.9	-24.9	0	0
9	SA3	X	-24.9	-24.9	0	0
10	FM1	Z	7.6	7.6	0	0
11	FM2	Z	7.6	7.6	0	0
12	FM3	Z	0	0	0	0
13	BRACE1	Z	7.6	7.6	0	0
14	BRACE2	Z	7.6	7.6	0	0



Member Distributed Loads (BLC 7 : Wind Load (150 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
15	BRACE3	Z	0	0	0	0
16	SA1	Z	14.4	14.4	0	0
17	SA2	Z	14.4	14.4	0	0
18	SA3	Z	14.4	14.4	0	0
19	MP1	X	-39.7	-39.7	0	%83.681
20	MP2	X	-39.7	-39.7	0	%83.681
21	MP3	X	-62.3	-62.3	0	%83.333
22	MP4	X	-62.3	-62.3	0	%83.333
23	MP5	X	-50.9	-50.9	0	%83.333
24	MP6	X	-50.9	-50.9	0	%83.333
25	MP7	X	-62.3	-62.3	0	%83.333
26	MP8	X	-62.3	-62.3	0	%83.333
27	MP9	X	-45.1	-45.1	0	%83.681
28	MP10	X	-45.1	-45.1	0	%83.681
29	MP11	X	-44.7	-44.7	0	%83.333
30	MP12	X	-44.7	-44.7	0	%83.333
31	MP1	Z	22.9	22.9	0	%83.681
32	MP2	Z	22.9	22.9	0	%83.681
33	MP3	Z	35.9	35.9	0	%83.333
34	MP4	Z	35.9	35.9	0	%83.333
35	MP5	Z	29.4	29.4	0	%83.333
36	MP6	Z	29.4	29.4	0	%83.333
37	MP7	Z	35.9	35.9	0	%83.333
38	MP8	Z	35.9	35.9	0	%83.333
39	MP9	Z	26.1	26.1	0	%83.681
40	MP10	Z	26.1	26.1	0	%83.681
41	MP11	Z	25.8	25.8	0	%83.333
42	MP12	Z	25.8	25.8	0	%83.333

Member Distributed Loads (BLC 8 : Wind Load (180 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	-15.1	-15.1	0	0
2	FM2	X	-15.1	-15.1	0	0
3	FM3	X	-15.1	-15.1	0	0
4	BRACE1	X	-15.1	-15.1	0	0
5	BRACE2	X	-15.1	-15.1	0	0
6	BRACE3	X	-15.1	-15.1	0	0
7	SA1	X	0	0	0	0
8	SA2	X	-28.8	-28.8	0	0
9	SA3	X	-28.8	-28.8	0	0
10	FM1	Z	0	0	0	0
11	FM2	Z	0	0	0	0
12	FM3	Z	0	0	0	0
13	BRACE1	Z	0	0	0	0
14	BRACE2	Z	0	0	0	0
15	BRACE3	Z	0	0	0	0
16	SA1	Z	0	0	0	0
17	SA2	Z	0	0	0	0
18	SA3	Z	0	0	0	0
19	MP1	X	-43.8	-43.8	0	%83.681
20	MP2	X	-43.8	-43.8	0	%83.681
21	MP3	X	-78.6	-78.6	0	%83.333
22	MP4	X	-78.6	-78.6	0	%83.333
23	MP5	X	-55	-55	0	%83.333
24	MP6	X	-55	-55	0	%83.333
25	MP7	X	-58.4	-58.4	0	%83.333



Member Distributed Loads (BLC 8 : Wind Load (180 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
26	MP8	X	-58.4	-58.4	0	%83.333
27	MP9	X	-50	-50	0	%83.681
28	MP10	X	-50	-50	0	%83.681
29	MP11	X	-58.4	-58.4	0	%83.333
30	MP12	X	-58.4	-58.4	0	%83.333
31	MP1	Z	0	0	0	0
32	MP2	Z	0	0	0	0
33	MP3	Z	0	0	0	0
34	MP4	Z	0	0	0	0
35	MP5	Z	0	0	0	0
36	MP6	Z	0	0	0	0
37	MP7	Z	0	0	0	0
38	MP8	Z	0	0	0	0
39	MP9	Z	0	0	0	0
40	MP10	Z	0	0	0	0
41	MP11	Z	0	0	0	0
42	MP12	Z	0	0	0	0

Member Distributed Loads (BLC 9 : Wind Load (210 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-13.1	-13.1	0	0
2	FM2	X	0	0	0	0
3	FM3	X	-13.1	-13.1	0	0
4	BRACE1	X	-13.1	-13.1	0	0
5	BRACE2	X	0	0	0	0
6	BRACE3	X	-13.1	-13.1	0	0
7	SA1	X	-24.9	-24.9	0	0
8	SA2	X	-24.9	-24.9	0	0
9	SA3	X	-24.9	-24.9	0	0
10	FM1	Z	-7.6	-7.6	0	0
11	FM2	Z	0	0	0	0
12	FM3	Z	-7.6	-7.6	0	0
13	BRACE1	Z	-7.6	-7.6	0	0
14	BRACE2	Z	0	0	0	0
15	BRACE3	Z	-7.6	-7.6	0	0
16	SA1	Z	-14.4	-14.4	0	0
17	SA2	Z	-14.4	-14.4	0	0
18	SA3	Z	-14.4	-14.4	0	0
19	MP1	X	-39.7	-39.7	0	%83.681
20	MP2	X	-39.7	-39.7	0	%83.681
21	MP3	X	-62.3	-62.3	0	%83.333
22	MP4	X	-62.3	-62.3	0	%83.333
23	MP5	X	-46	-46	0	%83.333
24	MP6	X	-46	-46	0	%83.333
25	MP7	X	-44.7	-44.7	0	%83.333
26	MP8	X	-44.7	-44.7	0	%83.333
27	MP9	X	-39.7	-39.7	0	%83.681
28	MP10	X	-39.7	-39.7	0	%83.681
29	MP11	X	-62.3	-62.3	0	%83.333
30	MP12	X	-62.3	-62.3	0	%83.333
31	MP1	Z	-22.9	-22.9	0	%83.681
32	MP2	Z	-22.9	-22.9	0	%83.681
33	MP3	Z	-35.9	-35.9	0	%83.333
34	MP4	Z	-35.9	-35.9	0	%83.333
35	MP5	Z	-26.6	-26.6	0	%83.333
36	MP6	Z	-26.6	-26.6	0	%83.333



Member Distributed Loads (BLC 9 : Wind Load (210 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
37	MP7	Z	-25.8	-25.8	0	%83.333
38	MP8	Z	-25.8	-25.8	0	%83.333
39	MP9	Z	-22.9	-22.9	0	%83.681
40	MP10	Z	-22.9	-22.9	0	%83.681
41	MP11	Z	-35.9	-35.9	0	%83.333
42	MP12	Z	-35.9	-35.9	0	%83.333

Member Distributed Loads (BLC 10 : Wind Load (240 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	-7.6	-7.6	0	0
2	FM2	X	-7.6	-7.6	0	0
3	FM3	X	-7.6	-7.6	0	0
4	BRACE1	X	-7.6	-7.6	0	0
5	BRACE2	X	-7.6	-7.6	0	0
6	BRACE3	X	-7.6	-7.6	0	0
7	SA1	X	-14.4	-14.4	0	0
8	SA2	X	-14.4	-14.4	0	0
9	SA3	X	0	0	0	0
10	FM1	Z	-13.1	-13.1	0	0
11	FM2	Z	-13.1	-13.1	0	0
12	FM3	Z	-13.1	-13.1	0	0
13	BRACE1	Z	-13.1	-13.1	0	0
14	BRACE2	Z	-13.1	-13.1	0	0
15	BRACE3	Z	-13.1	-13.1	0	0
16	SA1	Z	-24.9	-24.9	0	0
17	SA2	Z	-24.9	-24.9	0	0
18	SA3	Z	0	0	0	0
19	MP1	X	-25	-25	0	%83.681
20	MP2	X	-25	-25	0	%83.681
21	MP3	X	-29.2	-29.2	0	%83.333
22	MP4	X	-29.2	-29.2	0	%83.333
23	MP5	X	-27.5	-27.5	0	%83.333
24	MP6	X	-27.5	-27.5	0	%83.333
25	MP7	X	-29.2	-29.2	0	%83.333
26	MP8	X	-29.2	-29.2	0	%83.333
27	MP9	X	-21.9	-21.9	0	%83.681
28	MP10	X	-21.9	-21.9	0	%83.681
29	MP11	X	-39.3	-39.3	0	%83.333
30	MP12	X	-39.3	-39.3	0	%83.333
31	MP1	Z	-43.3	-43.3	0	%83.681
32	MP2	Z	-43.3	-43.3	0	%83.681
33	MP3	Z	-50.6	-50.6	0	%83.333
34	MP4	Z	-50.6	-50.6	0	%83.333
35	MP5	Z	-47.7	-47.7	0	%83.333
36	MP6	Z	-47.7	-47.7	0	%83.333
37	MP7	Z	-50.6	-50.6	0	%83.333
38	MP8	Z	-50.6	-50.6	0	%83.333
39	MP9	Z	-37.9	-37.9	0	%83.681
40	MP10	Z	-37.9	-37.9	0	%83.681
41	MP11	Z	-68.1	-68.1	0	%83.333
42	MP12	Z	-68.1	-68.1	0	%83.333

Member Distributed Loads (BLC 11 : Wind Load (270 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	0	0	0	0
2	FM2	X	0	0	0	0



Member Distributed Loads (BLC 11 : Wind Load (270 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
3	FM3	X	0	0	0	0
4	BRACE1	X	0	0	0	0
5	BRACE2	X	0	0	0	0
6	BRACE3	X	0	0	0	0
7	SA1	X	0	0	0	0
8	SA2	X	0	0	0	0
9	SA3	X	0	0	0	0
10	FM1	Z	0	0	0	0
11	FM2	Z	-15.1	-15.1	0	0
12	FM3	Z	-15.1	-15.1	0	0
13	BRACE1	Z	0	0	0	0
14	BRACE2	Z	-15.1	-15.1	0	0
15	BRACE3	Z	-15.1	-15.1	0	0
16	SA1	Z	-28.8	-28.8	0	0
17	SA2	Z	-28.8	-28.8	0	0
18	SA3	Z	-28.8	-28.8	0	0
19	MP1	X	0	0	0	0
20	MP2	X	0	0	0	0
21	MP3	X	0	0	0	0
22	MP4	X	0	0	0	0
23	MP5	X	0	0	0	0
24	MP6	X	0	0	0	0
25	MP7	X	0	0	0	0
26	MP8	X	0	0	0	0
27	MP9	X	0	0	0	0
28	MP10	X	0	0	0	0
29	MP11	X	0	0	0	0
30	MP12	X	0	0	0	0
31	MP1	Z	-52.1	-52.1	0	%83.681
32	MP2	Z	-52.1	-52.1	0	%83.681
33	MP3	Z	-51.6	-51.6	0	%83.333
34	MP4	Z	-51.6	-51.6	0	%83.333
35	MP5	Z	-58.8	-58.8	0	%83.333
36	MP6	Z	-58.8	-58.8	0	%83.333
37	MP7	Z	-71.9	-71.9	0	%83.333
38	MP8	Z	-71.9	-71.9	0	%83.333
39	MP9	Z	-45.9	-45.9	0	%83.681
40	MP10	Z	-45.9	-45.9	0	%83.681
41	MP11	Z	-71.9	-71.9	0	%83.333
42	MP12	Z	-71.9	-71.9	0	%83.333

Member Distributed Loads (BLC 12 : Wind Load (300 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM1	X	7.6	7.6	0	0
2	FM2	X	7.6	7.6	0	0
3	FM3	X	7.6	7.6	0	0
4	BRACE1	X	7.6	7.6	0	0
5	BRACE2	X	7.6	7.6	0	0
6	BRACE3	X	7.6	7.6	0	0
7	SA1	X	14.4	14.4	0	0
8	SA2	X	0	0	0	0
9	SA3	X	14.4	14.4	0	0
10	FM1	Z	-13.1	-13.1	0	0
11	FM2	Z	-13.1	-13.1	0	0
12	FM3	Z	-13.1	-13.1	0	0
13	BRACE1	Z	-13.1	-13.1	0	0



Member Distributed Loads (BLC 12 : Wind Load (300 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
14	BRACE2	Z	-13.1	-13.1	0	0
15	BRACE3	Z	-13.1	-13.1	0	0
16	SA1	Z	-24.9	-24.9	0	0
17	SA2	Z	0	0	0	0
18	SA3	Z	-24.9	-24.9	0	0
19	MP1	X	25	25	0	%83.681
20	MP2	X	25	25	0	%83.681
21	MP3	X	29.2	29.2	0	%83.333
22	MP4	X	29.2	29.2	0	%83.333
23	MP5	X	30.3	30.3	0	%83.333
24	MP6	X	30.3	30.3	0	%83.333
25	MP7	X	39.3	39.3	0	%83.333
26	MP8	X	39.3	39.3	0	%83.333
27	MP9	X	25	25	0	%83.681
28	MP10	X	25	25	0	%83.681
29	MP11	X	29.2	29.2	0	%83.333
30	MP12	X	29.2	29.2	0	%83.333
31	MP1	Z	-43.3	-43.3	0	%83.681
32	MP2	Z	-43.3	-43.3	0	%83.681
33	MP3	Z	-50.6	-50.6	0	%83.333
34	MP4	Z	-50.6	-50.6	0	%83.333
35	MP5	Z	-52.6	-52.6	0	%83.333
36	MP6	Z	-52.6	-52.6	0	%83.333
37	MP7	Z	-68.1	-68.1	0	%83.333
38	MP8	Z	-68.1	-68.1	0	%83.333
39	MP9	Z	-43.3	-43.3	0	%83.681
40	MP10	Z	-43.3	-43.3	0	%83.681
41	MP11	Z	-50.6	-50.6	0	%83.333
42	MP12	Z	-50.6	-50.6	0	%83.333

Member Distributed Loads (BLC 13 : Wind Load (330 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	13.1	13.1	0	0
2	FM2	X	13.1	13.1	0	0
3	FM3	X	0	0	0	0
4	BRACE1	X	13.1	13.1	0	0
5	BRACE2	X	13.1	13.1	0	0
6	BRACE3	X	0	0	0	0
7	SA1	X	24.9	24.9	0	0
8	SA2	X	24.9	24.9	0	0
9	SA3	X	24.9	24.9	0	0
10	FM1	Z	-7.6	-7.6	0	0
11	FM2	Z	-7.6	-7.6	0	0
12	FM3	Z	0	0	0	0
13	BRACE1	Z	-7.6	-7.6	0	0
14	BRACE2	Z	-7.6	-7.6	0	0
15	BRACE3	Z	0	0	0	0
16	SA1	Z	-14.4	-14.4	0	0
17	SA2	Z	-14.4	-14.4	0	0
18	SA3	Z	-14.4	-14.4	0	0
19	MP1	X	39.7	39.7	0	%83.681
20	MP2	X	39.7	39.7	0	%83.681
21	MP3	X	62.3	62.3	0	%83.333
22	MP4	X	62.3	62.3	0	%83.333
23	MP5	X	50.9	50.9	0	%83.333
24	MP6	X	50.9	50.9	0	%83.333



Member Distributed Loads (BLC 13 : Wind Load (330 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
25	MP7	X	62.3	62.3	0	%83.333
26	MP8	X	62.3	62.3	0	%83.333
27	MP9	X	45.1	45.1	0	%83.681
28	MP10	X	45.1	45.1	0	%83.681
29	MP11	X	44.7	44.7	0	%83.333
30	MP12	X	44.7	44.7	0	%83.333
31	MP1	Z	-22.9	-22.9	0	%83.681
32	MP2	Z	-22.9	-22.9	0	%83.681
33	MP3	Z	-35.9	-35.9	0	%83.333
34	MP4	Z	-35.9	-35.9	0	%83.333
35	MP5	Z	-29.4	-29.4	0	%83.333
36	MP6	Z	-29.4	-29.4	0	%83.333
37	MP7	Z	-35.9	-35.9	0	%83.333
38	MP8	Z	-35.9	-35.9	0	%83.333
39	MP9	Z	-26.1	-26.1	0	%83.681
40	MP10	Z	-26.1	-26.1	0	%83.681
41	MP11	Z	-25.8	-25.8	0	%83.333
42	MP12	Z	-25.8	-25.8	0	%83.333

Member Distributed Loads (BLC 14 : Ice Load)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	Y	-11.1	-11.1	0	0
2	FM2	Y	-11.1	-11.1	0	0
3	FM3	Y	-11.1	-11.1	0	0
4	BRACE1	Y	-11.1	-11.1	0	0
5	BRACE2	Y	-11.1	-11.1	0	0
6	BRACE3	Y	-11.1	-11.1	0	0
7	SA1	Y	-15.6	-15.6	0	0
8	SA2	Y	-15.6	-15.6	0	0
9	SA3	Y	-15.6	-15.6	0	0

Member Distributed Loads (BLC 15 : Wind on Ice (0 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	4.1	4.1	0	0
2	FM2	X	4.1	4.1	0	0
3	FM3	X	4.1	4.1	0	0
4	BRACE1	X	4.1	4.1	0	0
5	BRACE2	X	4.1	4.1	0	0
6	BRACE3	X	4.1	4.1	0	0
7	SA1	X	0	0	0	0
8	SA2	X	6	6	0	0
9	SA3	X	6	6	0	0
10	FM1	Z	0	0	0	0
11	FM2	Z	0	0	0	0
12	FM3	Z	0	0	0	0
13	BRACE1	Z	0	0	0	0
14	BRACE2	Z	0	0	0	0
15	BRACE3	Z	0	0	0	0
16	SA1	Z	0	0	0	0
17	SA2	Z	0	0	0	0
18	SA3	Z	0	0	0	0
19	MP1	X	7.3	7.3	0	%83.681
20	MP2	X	7.3	7.3	0	%83.681
21	MP3	X	12.1	12.1	0	%83.333
22	MP4	X	12.1	12.1	0	%83.333
23	MP5	X	9	9	0	%83.333



Member Distributed Loads (BLC 15 : Wind on Ice (0 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
24	MP6	X	9	9	0	%83.333
25	MP7	X	9.4	9.4	0	%83.333
26	MP8	X	9.4	9.4	0	%83.333
27	MP9	X	8.3	8.3	0	%83.681
28	MP10	X	8.3	8.3	0	%83.681
29	MP11	X	9.4	9.4	0	%83.333
30	MP12	X	9.4	9.4	0	%83.333
31	MP1	Z	0	0	0	0
32	MP2	Z	0	0	0	0
33	MP3	Z	0	0	0	0
34	MP4	Z	0	0	0	0
35	MP5	Z	0	0	0	0
36	MP6	Z	0	0	0	0
37	MP7	Z	0	0	0	0
38	MP8	Z	0	0	0	0
39	MP9	Z	0	0	0	0
40	MP10	Z	0	0	0	0
41	MP11	Z	0	0	0	0
42	MP12	Z	0	0	0	0

Member Distributed Loads (BLC 16 : Wind on Ice (30 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	3.6	3.6	0	0
2	FM2	X	0	0	0	0
3	FM3	X	3.6	3.6	0	0
4	BRACE1	X	3.6	3.6	0	0
5	BRACE2	X	0	0	0	0
6	BRACE3	X	3.6	3.6	0	0
7	SA1	X	5.2	5.2	0	0
8	SA2	X	5.2	5.2	0	0
9	SA3	X	5.2	5.2	0	0
10	FM1	Z	2.1	2.1	0	0
11	FM2	Z	0	0	0	0
12	FM3	Z	2.1	2.1	0	0
13	BRACE1	Z	2.1	2.1	0	0
14	BRACE2	Z	0	0	0	0
15	BRACE3	Z	2.1	2.1	0	0
16	SA1	Z	3	3	0	0
17	SA2	Z	3	3	0	0
18	SA3	Z	3	3	0	0
19	MP1	X	6.6	6.6	0	%83.681
20	MP2	X	6.6	6.6	0	%83.681
21	MP3	X	9.7	9.7	0	%83.333
22	MP4	X	9.7	9.7	0	%83.333
23	MP5	X	7.6	7.6	0	%83.333
24	MP6	X	7.6	7.6	0	%83.333
25	MP7	X	7.4	7.4	0	%83.333
26	MP8	X	7.4	7.4	0	%83.333
27	MP9	X	6.6	6.6	0	%83.681
28	MP10	X	6.6	6.6	0	%83.681
29	MP11	X	9.7	9.7	0	%83.333
30	MP12	X	9.7	9.7	0	%83.333
31	MP1	Z	3.8	3.8	0	%83.681
32	MP2	Z	3.8	3.8	0	%83.681
33	MP3	Z	5.6	5.6	0	%83.333
34	MP4	Z	5.6	5.6	0	%83.333



Member Distributed Loads (BLC 16 : Wind on Ice (30 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
35	MP5	Z	4.4	4.4	0	%83.333
36	MP6	Z	4.4	4.4	0	%83.333
37	MP7	Z	4.3	4.3	0	%83.333
38	MP8	Z	4.3	4.3	0	%83.333
39	MP9	Z	3.8	3.8	0	%83.681
40	MP10	Z	3.8	3.8	0	%83.681
41	MP11	Z	5.6	5.6	0	%83.333
42	MP12	Z	5.6	5.6	0	%83.333

Member Distributed Loads (BLC 17 : Wind on Ice (60 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM1	X	2.1	2.1	0	0
2	FM2	X	2.1	2.1	0	0
3	FM3	X	2.1	2.1	0	0
4	BRACE1	X	2.1	2.1	0	0
5	BRACE2	X	2.1	2.1	0	0
6	BRACE3	X	2.1	2.1	0	0
7	SA1	X	3	3	0	0
8	SA2	X	3	3	0	0
9	SA3	X	0	0	0	0
10	FM1	Z	3.6	3.6	0	0
11	FM2	Z	3.6	3.6	0	0
12	FM3	Z	3.6	3.6	0	0
13	BRACE1	Z	3.6	3.6	0	0
14	BRACE2	Z	3.6	3.6	0	0
15	BRACE3	Z	3.6	3.6	0	0
16	SA1	Z	5.2	5.2	0	0
17	SA2	Z	5.2	5.2	0	0
18	SA3	Z	0	0	0	0
19	MP1	X	4.1	4.1	0	%83.681
20	MP2	X	4.1	4.1	0	%83.681
21	MP3	X	4.7	4.7	0	%83.333
22	MP4	X	4.7	4.7	0	%83.333
23	MP5	X	4.5	4.5	0	%83.333
24	MP6	X	4.5	4.5	0	%83.333
25	MP7	X	4.7	4.7	0	%83.333
26	MP8	X	4.7	4.7	0	%83.333
27	MP9	X	3.7	3.7	0	%83.681
28	MP10	X	3.7	3.7	0	%83.681
29	MP11	X	6	6	0	%83.333
30	MP12	X	6	6	0	%83.333
31	MP1	Z	7.2	7.2	0	%83.681
32	MP2	Z	7.2	7.2	0	%83.681
33	MP3	Z	8.2	8.2	0	%83.333
34	MP4	Z	8.2	8.2	0	%83.333
35	MP5	Z	7.8	7.8	0	%83.333
36	MP6	Z	7.8	7.8	0	%83.333
37	MP7	Z	8.2	8.2	0	%83.333
38	MP8	Z	8.2	8.2	0	%83.333
39	MP9	Z	6.3	6.3	0	%83.681
40	MP10	Z	6.3	6.3	0	%83.681
41	MP11	Z	10.5	10.5	0	%83.333
42	MP12	Z	10.5	10.5	0	%83.333

Member Distributed Loads (BLC 18 : Wind on Ice (90 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
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Member Distributed Loads (BLC 18 : Wind on Ice (90 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	0	0	0	0
2	FM2	X	0	0	0	0
3	FM3	X	0	0	0	0
4	BRACE1	X	0	0	0	0
5	BRACE2	X	0	0	0	0
6	BRACE3	X	0	0	0	0
7	SA1	X	0	0	0	0
8	SA2	X	0	0	0	0
9	SA3	X	0	0	0	0
10	FM1	Z	0	0	0	0
11	FM2	Z	4.1	4.1	0	0
12	FM3	Z	4.1	4.1	0	0
13	BRACE1	Z	0	0	0	0
14	BRACE2	Z	4.1	4.1	0	0
15	BRACE3	Z	4.1	4.1	0	0
16	SA1	Z	6	6	0	0
17	SA2	Z	6	6	0	0
18	SA3	Z	6	6	0	0
19	MP1	X	0	0	0	0
20	MP2	X	0	0	0	0
21	MP3	X	0	0	0	0
22	MP4	X	0	0	0	0
23	MP5	X	0	0	0	0
24	MP6	X	0	0	0	0
25	MP7	X	0	0	0	0
26	MP8	X	0	0	0	0
27	MP9	X	0	0	0	0
28	MP10	X	0	0	0	0
29	MP11	X	0	0	0	0
30	MP12	X	0	0	0	0
31	MP1	Z	8.6	8.6	0	%83.681
32	MP2	Z	8.6	8.6	0	%83.681
33	MP3	Z	8.6	8.6	0	%83.333
34	MP4	Z	8.6	8.6	0	%83.333
35	MP5	Z	9.4	9.4	0	%83.333
36	MP6	Z	9.4	9.4	0	%83.333
37	MP7	Z	11.2	11.2	0	%83.333
38	MP8	Z	11.2	11.2	0	%83.333
39	MP9	Z	7.6	7.6	0	%83.681
40	MP10	Z	7.6	7.6	0	%83.681
41	MP11	Z	11.2	11.2	0	%83.333
42	MP12	Z	11.2	11.2	0	%83.333

Member Distributed Loads (BLC 19 : Wind on Ice (120 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	-2.1	-2.1	0	0
2	FM2	X	-2.1	-2.1	0	0
3	FM3	X	-2.1	-2.1	0	0
4	BRACE1	X	-2.1	-2.1	0	0
5	BRACE2	X	-2.1	-2.1	0	0
6	BRACE3	X	-2.1	-2.1	0	0
7	SA1	X	-3	-3	0	0
8	SA2	X	0	0	0	0
9	SA3	X	-3	-3	0	0
10	FM1	Z	3.6	3.6	0	0
11	FM2	Z	3.6	3.6	0	0



Member Distributed Loads (BLC 19 : Wind on Ice (120 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in. %]	End Location[in. %]
12	FM3	Z	3.6	3.6	0	0
13	BRACE1	Z	3.6	3.6	0	0
14	BRACE2	Z	3.6	3.6	0	0
15	BRACE3	Z	3.6	3.6	0	0
16	SA1	Z	5.2	5.2	0	0
17	SA2	Z	0	0	0	0
18	SA3	Z	5.2	5.2	0	0
19	MP1	X	-4.1	-4.1	0	%83.681
20	MP2	X	-4.1	-4.1	0	%83.681
21	MP3	X	-4.7	-4.7	0	%83.333
22	MP4	X	-4.7	-4.7	0	%83.333
23	MP5	X	-4.8	-4.8	0	%83.333
24	MP6	X	-4.8	-4.8	0	%83.333
25	MP7	X	-6	-6	0	%83.333
26	MP8	X	-6	-6	0	%83.333
27	MP9	X	-4.1	-4.1	0	%83.681
28	MP10	X	-4.1	-4.1	0	%83.681
29	MP11	X	-4.7	-4.7	0	%83.333
30	MP12	X	-4.7	-4.7	0	%83.333
31	MP1	Z	7.2	7.2	0	%83.681
32	MP2	Z	7.2	7.2	0	%83.681
33	MP3	Z	8.2	8.2	0	%83.333
34	MP4	Z	8.2	8.2	0	%83.333
35	MP5	Z	8.3	8.3	0	%83.333
36	MP6	Z	8.3	8.3	0	%83.333
37	MP7	Z	10.5	10.5	0	%83.333
38	MP8	Z	10.5	10.5	0	%83.333
39	MP9	Z	7.2	7.2	0	%83.681
40	MP10	Z	7.2	7.2	0	%83.681
41	MP11	Z	8.2	8.2	0	%83.333
42	MP12	Z	8.2	8.2	0	%83.333

Member Distributed Loads (BLC 20 : Wind on Ice (150 deg))

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in. %]	End Location[in. %]
1	FM1	X	-3.6	-3.6	0	0
2	FM2	X	-3.6	-3.6	0	0
3	FM3	X	0	0	0	0
4	BRACE1	X	-3.6	-3.6	0	0
5	BRACE2	X	-3.6	-3.6	0	0
6	BRACE3	X	0	0	0	0
7	SA1	X	-5.2	-5.2	0	0
8	SA2	X	-5.2	-5.2	0	0
9	SA3	X	-5.2	-5.2	0	0
10	FM1	Z	2.1	2.1	0	0
11	FM2	Z	2.1	2.1	0	0
12	FM3	Z	0	0	0	0
13	BRACE1	Z	2.1	2.1	0	0
14	BRACE2	Z	2.1	2.1	0	0
15	BRACE3	Z	0	0	0	0
16	SA1	Z	3	3	0	0
17	SA2	Z	3	3	0	0
18	SA3	Z	3	3	0	0
19	MP1	X	-6.6	-6.6	0	%83.681
20	MP2	X	-6.6	-6.6	0	%83.681
21	MP3	X	-9.7	-9.7	0	%83.333
22	MP4	X	-9.7	-9.7	0	%83.333



Member Distributed Loads (BLC 20 : Wind on Ice (150 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
23	MP5	X	-8.1	-8.1	0	%83.333
24	MP6	X	-8.1	-8.1	0	%83.333
25	MP7	X	-9.7	-9.7	0	%83.333
26	MP8	X	-9.7	-9.7	0	%83.333
27	MP9	X	-7.5	-7.5	0	%83.681
28	MP10	X	-7.5	-7.5	0	%83.681
29	MP11	X	-7.4	-7.4	0	%83.333
30	MP12	X	-7.4	-7.4	0	%83.333
31	MP1	Z	3.8	3.8	0	%83.681
32	MP2	Z	3.8	3.8	0	%83.681
33	MP3	Z	5.6	5.6	0	%83.333
34	MP4	Z	5.6	5.6	0	%83.333
35	MP5	Z	4.7	4.7	0	%83.333
36	MP6	Z	4.7	4.7	0	%83.333
37	MP7	Z	5.6	5.6	0	%83.333
38	MP8	Z	5.6	5.6	0	%83.333
39	MP9	Z	4.3	4.3	0	%83.681
40	MP10	Z	4.3	4.3	0	%83.681
41	MP11	Z	4.3	4.3	0	%83.333
42	MP12	Z	4.3	4.3	0	%83.333

Member Distributed Loads (BLC 21 : Wind on Ice (180 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-4.1	-4.1	0	0
2	FM2	X	-4.1	-4.1	0	0
3	FM3	X	-4.1	-4.1	0	0
4	BRACE1	X	-4.1	-4.1	0	0
5	BRACE2	X	-4.1	-4.1	0	0
6	BRACE3	X	-4.1	-4.1	0	0
7	SA1	X	0	0	0	0
8	SA2	X	-6	-6	0	0
9	SA3	X	-6	-6	0	0
10	FM1	Z	0	0	0	0
11	FM2	Z	0	0	0	0
12	FM3	Z	0	0	0	0
13	BRACE1	Z	0	0	0	0
14	BRACE2	Z	0	0	0	0
15	BRACE3	Z	0	0	0	0
16	SA1	Z	0	0	0	0
17	SA2	Z	0	0	0	0
18	SA3	Z	0	0	0	0
19	MP1	X	-7.3	-7.3	0	%83.681
20	MP2	X	-7.3	-7.3	0	%83.681
21	MP3	X	-12.1	-12.1	0	%83.333
22	MP4	X	-12.1	-12.1	0	%83.333
23	MP5	X	-9	-9	0	%83.333
24	MP6	X	-9	-9	0	%83.333
25	MP7	X	-9.4	-9.4	0	%83.333
26	MP8	X	-9.4	-9.4	0	%83.333
27	MP9	X	-8.3	-8.3	0	%83.681
28	MP10	X	-8.3	-8.3	0	%83.681
29	MP11	X	-9.4	-9.4	0	%83.333
30	MP12	X	-9.4	-9.4	0	%83.333
31	MP1	Z	0	0	0	0
32	MP2	Z	0	0	0	0
33	MP3	Z	0	0	0	0



Member Distributed Loads (BLC 21 : Wind on Ice (180 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
34	MP4	Z	0	0	0	0
35	MP5	Z	0	0	0	0
36	MP6	Z	0	0	0	0
37	MP7	Z	0	0	0	0
38	MP8	Z	0	0	0	0
39	MP9	Z	0	0	0	0
40	MP10	Z	0	0	0	0
41	MP11	Z	0	0	0	0
42	MP12	Z	0	0	0	0

Member Distributed Loads (BLC 22 : Wind on Ice (210 deg))

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
1	FM1	X	-3.6	-3.6	0	0
2	FM2	X	0	0	0	0
3	FM3	X	-3.6	-3.6	0	0
4	BRACE1	X	-3.6	-3.6	0	0
5	BRACE2	X	0	0	0	0
6	BRACE3	X	-3.6	-3.6	0	0
7	SA1	X	-5.2	-5.2	0	0
8	SA2	X	-5.2	-5.2	0	0
9	SA3	X	-5.2	-5.2	0	0
10	FM1	Z	-2.1	-2.1	0	0
11	FM2	Z	0	0	0	0
12	FM3	Z	-2.1	-2.1	0	0
13	BRACE1	Z	-2.1	-2.1	0	0
14	BRACE2	Z	0	0	0	0
15	BRACE3	Z	-2.1	-2.1	0	0
16	SA1	Z	-3	-3	0	0
17	SA2	Z	-3	-3	0	0
18	SA3	Z	-3	-3	0	0
19	MP1	X	-6.6	-6.6	0	%83.681
20	MP2	X	-6.6	-6.6	0	%83.681
21	MP3	X	-9.7	-9.7	0	%83.333
22	MP4	X	-9.7	-9.7	0	%83.333
23	MP5	X	-7.6	-7.6	0	%83.333
24	MP6	X	-7.6	-7.6	0	%83.333
25	MP7	X	-7.4	-7.4	0	%83.333
26	MP8	X	-7.4	-7.4	0	%83.333
27	MP9	X	-6.6	-6.6	0	%83.681
28	MP10	X	-6.6	-6.6	0	%83.681
29	MP11	X	-9.7	-9.7	0	%83.333
30	MP12	X	-9.7	-9.7	0	%83.333
31	MP1	Z	-3.8	-3.8	0	%83.681
32	MP2	Z	-3.8	-3.8	0	%83.681
33	MP3	Z	-5.6	-5.6	0	%83.333
34	MP4	Z	-5.6	-5.6	0	%83.333
35	MP5	Z	-4.4	-4.4	0	%83.333
36	MP6	Z	-4.4	-4.4	0	%83.333
37	MP7	Z	-4.3	-4.3	0	%83.333
38	MP8	Z	-4.3	-4.3	0	%83.333
39	MP9	Z	-3.8	-3.8	0	%83.681
40	MP10	Z	-3.8	-3.8	0	%83.681
41	MP11	Z	-5.6	-5.6	0	%83.333
42	MP12	Z	-5.6	-5.6	0	%83.333

Member Distributed Loads (BLC 23 : Wind on Ice (240 deg))

Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1 FM1	X	-2.1	-2.1	0	0
2 FM2	X	-2.1	-2.1	0	0
3 FM3	X	-2.1	-2.1	0	0
4 BRACE1	X	-2.1	-2.1	0	0
5 BRACE2	X	-2.1	-2.1	0	0
6 BRACE3	X	-2.1	-2.1	0	0
7 SA1	X	-3	-3	0	0
8 SA2	X	-3	-3	0	0
9 SA3	X	0	0	0	0
10 FM1	Z	-3.6	-3.6	0	0
11 FM2	Z	-3.6	-3.6	0	0
12 FM3	Z	-3.6	-3.6	0	0
13 BRACE1	Z	-3.6	-3.6	0	0
14 BRACE2	Z	-3.6	-3.6	0	0
15 BRACE3	Z	-3.6	-3.6	0	0
16 SA1	Z	-5.2	-5.2	0	0
17 SA2	Z	-5.2	-5.2	0	0
18 SA3	Z	0	0	0	0
19 MP1	X	-4.1	-4.1	0	%83.681
20 MP2	X	-4.1	-4.1	0	%83.681
21 MP3	X	-4.7	-4.7	0	%83.333
22 MP4	X	-4.7	-4.7	0	%83.333
23 MP5	X	-4.5	-4.5	0	%83.333
24 MP6	X	-4.5	-4.5	0	%83.333
25 MP7	X	-4.7	-4.7	0	%83.333
26 MP8	X	-4.7	-4.7	0	%83.333
27 MP9	X	-3.7	-3.7	0	%83.681
28 MP10	X	-3.7	-3.7	0	%83.681
29 MP11	X	-6	-6	0	%83.333
30 MP12	X	-6	-6	0	%83.333
31 MP1	Z	-7.2	-7.2	0	%83.681
32 MP2	Z	-7.2	-7.2	0	%83.681
33 MP3	Z	-8.2	-8.2	0	%83.333
34 MP4	Z	-8.2	-8.2	0	%83.333
35 MP5	Z	-7.8	-7.8	0	%83.333
36 MP6	Z	-7.8	-7.8	0	%83.333
37 MP7	Z	-8.2	-8.2	0	%83.333
38 MP8	Z	-8.2	-8.2	0	%83.333
39 MP9	Z	-6.3	-6.3	0	%83.681
40 MP10	Z	-6.3	-6.3	0	%83.681
41 MP11	Z	-10.5	-10.5	0	%83.333
42 MP12	Z	-10.5	-10.5	0	%83.333

Member Distributed Loads (BLC 24 : Wind on Ice (270 deg))

Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1 FM1	X	0	0	0	0
2 FM2	X	0	0	0	0
3 FM3	X	0	0	0	0
4 BRACE1	X	0	0	0	0
5 BRACE2	X	0	0	0	0
6 BRACE3	X	0	0	0	0
7 SA1	X	0	0	0	0
8 SA2	X	0	0	0	0
9 SA3	X	0	0	0	0
10 FM1	Z	0	0	0	0
11 FM2	Z	-4.1	-4.1	0	0



Member Distributed Loads (BLC 24 : Wind on Ice (270 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in. %]	End Location[in. %]
12	FM3	Z	-4.1	-4.1	0	0
13	BRACE1	Z	0	0	0	0
14	BRACE2	Z	-4.1	-4.1	0	0
15	BRACE3	Z	-4.1	-4.1	0	0
16	SA1	Z	-6	-6	0	0
17	SA2	Z	-6	-6	0	0
18	SA3	Z	-6	-6	0	0
19	MP1	X	0	0	0	0
20	MP2	X	0	0	0	0
21	MP3	X	0	0	0	0
22	MP4	X	0	0	0	0
23	MP5	X	0	0	0	0
24	MP6	X	0	0	0	0
25	MP7	X	0	0	0	0
26	MP8	X	0	0	0	0
27	MP9	X	0	0	0	0
28	MP10	X	0	0	0	0
29	MP11	X	0	0	0	0
30	MP12	X	0	0	0	0
31	MP1	Z	-8.6	-8.6	0	%83.681
32	MP2	Z	-8.6	-8.6	0	%83.681
33	MP3	Z	-8.6	-8.6	0	%83.333
34	MP4	Z	-8.6	-8.6	0	%83.333
35	MP5	Z	-9.4	-9.4	0	%83.333
36	MP6	Z	-9.4	-9.4	0	%83.333
37	MP7	Z	-11.2	-11.2	0	%83.333
38	MP8	Z	-11.2	-11.2	0	%83.333
39	MP9	Z	-7.6	-7.6	0	%83.681
40	MP10	Z	-7.6	-7.6	0	%83.681
41	MP11	Z	-11.2	-11.2	0	%83.333
42	MP12	Z	-11.2	-11.2	0	%83.333

Member Distributed Loads (BLC 25 : Wind on Ice (300 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in. %]	End Location[in. %]
1	FM1	X	2.1	2.1	0	0
2	FM2	X	2.1	2.1	0	0
3	FM3	X	2.1	2.1	0	0
4	BRACE1	X	2.1	2.1	0	0
5	BRACE2	X	2.1	2.1	0	0
6	BRACE3	X	2.1	2.1	0	0
7	SA1	X	3	3	0	0
8	SA2	X	0	0	0	0
9	SA3	X	3	3	0	0
10	FM1	Z	-3.6	-3.6	0	0
11	FM2	Z	-3.6	-3.6	0	0
12	FM3	Z	-3.6	-3.6	0	0
13	BRACE1	Z	-3.6	-3.6	0	0
14	BRACE2	Z	-3.6	-3.6	0	0
15	BRACE3	Z	-3.6	-3.6	0	0
16	SA1	Z	-5.2	-5.2	0	0
17	SA2	Z	0	0	0	0
18	SA3	Z	-5.2	-5.2	0	0
19	MP1	X	4.1	4.1	0	%83.681
20	MP2	X	4.1	4.1	0	%83.681
21	MP3	X	4.7	4.7	0	%83.333
22	MP4	X	4.7	4.7	0	%83.333



Member Distributed Loads (BLC 25 : Wind on Ice (300 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
23	MP5	X	4.8	4.8	0	%83.333
24	MP6	X	4.8	4.8	0	%83.333
25	MP7	X	6	6	0	%83.333
26	MP8	X	6	6	0	%83.333
27	MP9	X	4.1	4.1	0	%83.681
28	MP10	X	4.1	4.1	0	%83.681
29	MP11	X	4.7	4.7	0	%83.333
30	MP12	X	4.7	4.7	0	%83.333
31	MP1	Z	-7.2	-7.2	0	%83.681
32	MP2	Z	-7.2	-7.2	0	%83.681
33	MP3	Z	-8.2	-8.2	0	%83.333
34	MP4	Z	-8.2	-8.2	0	%83.333
35	MP5	Z	-8.3	-8.3	0	%83.333
36	MP6	Z	-8.3	-8.3	0	%83.333
37	MP7	Z	-10.5	-10.5	0	%83.333
38	MP8	Z	-10.5	-10.5	0	%83.333
39	MP9	Z	-7.2	-7.2	0	%83.681
40	MP10	Z	-7.2	-7.2	0	%83.681
41	MP11	Z	-8.2	-8.2	0	%83.333
42	MP12	Z	-8.2	-8.2	0	%83.333

Member Distributed Loads (BLC 26 : Wind on Ice (330 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	3.6	3.6	0	0
2	FM2	X	3.6	3.6	0	0
3	FM3	X	0	0	0	0
4	BRACE1	X	3.6	3.6	0	0
5	BRACE2	X	3.6	3.6	0	0
6	BRACE3	X	0	0	0	0
7	SA1	X	5.2	5.2	0	0
8	SA2	X	5.2	5.2	0	0
9	SA3	X	5.2	5.2	0	0
10	FM1	Z	-2.1	-2.1	0	0
11	FM2	Z	-2.1	-2.1	0	0
12	FM3	Z	0	0	0	0
13	BRACE1	Z	-2.1	-2.1	0	0
14	BRACE2	Z	-2.1	-2.1	0	0
15	BRACE3	Z	0	0	0	0
16	SA1	Z	-3	-3	0	0
17	SA2	Z	-3	-3	0	0
18	SA3	Z	-3	-3	0	0
19	MP1	X	6.6	6.6	0	%83.681
20	MP2	X	6.6	6.6	0	%83.681
21	MP3	X	9.7	9.7	0	%83.333
22	MP4	X	9.7	9.7	0	%83.333
23	MP5	X	8.1	8.1	0	%83.333
24	MP6	X	8.1	8.1	0	%83.333
25	MP7	X	9.7	9.7	0	%83.333
26	MP8	X	9.7	9.7	0	%83.333
27	MP9	X	7.5	7.5	0	%83.681
28	MP10	X	7.5	7.5	0	%83.681
29	MP11	X	7.4	7.4	0	%83.333
30	MP12	X	7.4	7.4	0	%83.333
31	MP1	Z	-3.8	-3.8	0	%83.681
32	MP2	Z	-3.8	-3.8	0	%83.681
33	MP3	Z	-5.6	-5.6	0	%83.333



Company : Crown Castle
 Designer : TSB
 Job Number : ETS Job No. 184433.14
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Member Distributed Loads (BLC 26 : Wind on Ice (330 deg)) (Continued)

Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
34	MP4	Z	-5.6	-5.6	0 %83.333
35	MP5	Z	-4.7	-4.7	0 %83.333
36	MP6	Z	-4.7	-4.7	0 %83.333
37	MP7	Z	-5.6	-5.6	0 %83.333
38	MP8	Z	-5.6	-5.6	0 %83.333
39	MP9	Z	-4.3	-4.3	0 %83.681
40	MP10	Z	-4.3	-4.3	0 %83.681
41	MP11	Z	-4.3	-4.3	0 %83.333
42	MP12	Z	-4.3	-4.3	0 %83.333

Load Combinations

Description	Solve	PDelta	S...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
1	1.4D	Yes	Y	1	1.4												
2	1.2D + 1.0W (0 deg)	Yes	Y	1	1.2	2	1										
3	1.2D + 1.0W (30 deg)	Yes	Y	1	1.2	3	1										
4	1.2D + 1.0W (60 deg)	Yes	Y	1	1.2	4	1										
5	1.2D + 1.0W (90 deg)	Yes	Y	1	1.2	5	1										
6	1.2D + 1.0W (120 deg)	Yes	Y	1	1.2	6	1										
7	1.2D + 1.0W (150 deg)	Yes	Y	1	1.2	7	1										
8	1.2D + 1.0W (180 deg)	Yes	Y	1	1.2	8	1										
9	1.2D + 1.0W (210 deg)	Yes	Y	1	1.2	9	1										
10	1.2D + 1.0W (240 deg)	Yes	Y	1	1.2	10	1										
11	1.2D + 1.0W (270 deg)	Yes	Y	1	1.2	11	1										
12	1.2D + 1.0W (300 deg)	Yes	Y	1	1.2	12	1										
13	1.2D + 1.0W (330 deg)	Yes	Y	1	1.2	13	1										
14	1.2D + Di + Wi (0 deg)	Yes	Y	1	1.2	14	1	15	1								
15	1.2D + Di + Wi (30 deg)	Yes	Y	1	1.2	14	1	16	1								
16	1.2D + Di + Wi (60 deg)	Yes	Y	1	1.2	14	1	17	1								
17	1.2D + Di + Wi (90 deg)	Yes	Y	1	1.2	14	1	18	1								
18	1.2D + Di + Wi (120 deg)	Yes	Y	1	1.2	14	1	19	1								
19	1.2D + Di + Wi (150 deg)	Yes	Y	1	1.2	14	1	20	1								
20	1.2D + Di + Wi (180 deg)	Yes	Y	1	1.2	14	1	21	1								
21	1.2D + Di + Wi (210 deg)	Yes	Y	1	1.2	14	1	22	1								
22	1.2D + Di + Wi (240 deg)	Yes	Y	1	1.2	14	1	23	1								
23	1.2D + Di + Wi (270 deg)	Yes	Y	1	1.2	14	1	24	1								
24	1.2D + Di + Wi (300 deg)	Yes	Y	1	1.2	14	1	25	1								
25	1.2D + Di + Wi (330 deg)	Yes	Y	1	1.2	14	1	26	1								
26	1.2D + 1.0 Ev + 1.0Eh (0 deg)	Yes	Y	1	1.2	1	0...	27	0...								
27	1.2D + 1.0 Ev + 1.0Eh (30 de...	Yes	Y	1	1.2	1	0...	28	0...								
28	1.2D + 1.0 Ev + 1.0Eh (60 de...	Yes	Y	1	1.2	1	0...	29	0...								
29	1.2D + 1.0 Ev + 1.0Eh (90 de...	Yes	Y	1	1.2	1	0...	30	0...								
30	1.2D + 1.0 Ev + 1.0Eh (120 d...	Yes	Y	1	1.2	1	0...	31	0...								
31	1.2D + 1.0 Ev + 1.0Eh (150 d...	Yes	Y	1	1.2	1	0...	32	0...								
32	1.2D + 1.0 Ev + 1.0Eh (180 d...	Yes	Y	1	1.2	1	0...	33	0...								
33	1.2D + 1.0 Ev + 1.0Eh (210 d...	Yes	Y	1	1.2	1	0...	34	0...								
34	1.2D + 1.0 Ev + 1.0Eh (240 d...	Yes	Y	1	1.2	1	0...	35	0...								
35	1.2D + 1.0 Ev + 1.0Eh (270 d...	Yes	Y	1	1.2	1	0...	36	0...								
36	1.2D + 1.0 Ev + 1.0Eh (300 d...	Yes	Y	1	1.2	1	0...	37	0...								
37	1.2D + 1.0 Ev + 1.0Eh (330 d...	Yes	Y	1	1.2	1	0...	38	0...								
38	1.2D + 1.5Lm1 + 1.0Wm (0 d...	Yes	Y	1	1.2	39	1.5	2	0...								
39	1.2D + 1.5Lm1 + 1.0Wm (30 ...	Yes	Y	1	1.2	39	1.5	3	0...								
40	1.2D + 1.5Lm1 + 1.0Wm (60 ...	Yes	Y	1	1.2	39	1.5	4	0...								
41	1.2D + 1.5Lm1 + 1.0Wm (90 ...	Yes	Y	1	1.2	39	1.5	5	0...								
42	1.2D + 1.5Lm1 + 1.0Wm (12...	Yes	Y	1	1.2	39	1.5	6	0...								
43	1.2D + 1.5Lm1 + 1.0Wm (15...	Yes	Y	1	1.2	39	1.5	7	0...								



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Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
44	1.2D + 1.5Lm1 + 1.0Wm (18...	Yes	Y	1	1.2	39	1.5	8	.0...									
45	1.2D + 1.5Lm1 + 1.0Wm (21...	Yes	Y	1	1.2	39	1.5	9	.0...									
46	1.2D + 1.5Lm1 + 1.0Wm (24...	Yes	Y	1	1.2	39	1.5	10	.0...									
47	1.2D + 1.5Lm1 + 1.0Wm (27...	Yes	Y	1	1.2	39	1.5	11	.0...									
48	1.2D + 1.5Lm1 + 1.0Wm (30...	Yes	Y	1	1.2	39	1.5	12	.0...									
49	1.2D + 1.5Lm1 + 1.0Wm (33...	Yes	Y	1	1.2	39	1.5	13	.0...									
50	1.2D + 1.5Lm2 + 1.0Wm (0 d...	Yes	Y	1	1.2	40	1.5	2	.0...									
51	1.2D + 1.5Lm2 + 1.0Wm (30 ...	Yes	Y	1	1.2	40	1.5	3	.0...									
52	1.2D + 1.5Lm2 + 1.0Wm (60 ...	Yes	Y	1	1.2	40	1.5	4	.0...									
53	1.2D + 1.5Lm2 + 1.0Wm (90 ...	Yes	Y	1	1.2	40	1.5	5	.0...									
54	1.2D + 1.5Lm2 + 1.0Wm (12...	Yes	Y	1	1.2	40	1.5	6	.0...									
55	1.2D + 1.5Lm2 + 1.0Wm (15...	Yes	Y	1	1.2	40	1.5	7	.0...									
56	1.2D + 1.5Lm2 + 1.0Wm (18...	Yes	Y	1	1.2	40	1.5	8	.0...									
57	1.2D + 1.5Lm2 + 1.0Wm (21...	Yes	Y	1	1.2	40	1.5	9	.0...									
58	1.2D + 1.5Lm2 + 1.0Wm (24...	Yes	Y	1	1.2	40	1.5	10	.0...									
59	1.2D + 1.5Lm2 + 1.0Wm (27...	Yes	Y	1	1.2	40	1.5	11	.0...									
60	1.2D + 1.5Lm2 + 1.0Wm (30...	Yes	Y	1	1.2	40	1.5	12	.0...									
61	1.2D + 1.5Lm2 + 1.0Wm (33...	Yes	Y	1	1.2	40	1.5	13	.0...									
62	1.2D + 1.5Lm3 + 1.0Wm (0 d...	Yes	Y	1	1.2	41	1.5	2	.0...									
63	1.2D + 1.5Lm3 + 1.0Wm (30 ...	Yes	Y	1	1.2	41	1.5	3	.0...									
64	1.2D + 1.5Lm3 + 1.0Wm (60 ...	Yes	Y	1	1.2	41	1.5	4	.0...									
65	1.2D + 1.5Lm3 + 1.0Wm (90 ...	Yes	Y	1	1.2	41	1.5	5	.0...									
66	1.2D + 1.5Lm3 + 1.0Wm (12...	Yes	Y	1	1.2	41	1.5	6	.0...									
67	1.2D + 1.5Lm3 + 1.0Wm (15...	Yes	Y	1	1.2	41	1.5	7	.0...									
68	1.2D + 1.5Lm3 + 1.0Wm (18...	Yes	Y	1	1.2	41	1.5	8	.0...									
69	1.2D + 1.5Lm3 + 1.0Wm (21...	Yes	Y	1	1.2	41	1.5	9	.0...									
70	1.2D + 1.5Lm3 + 1.0Wm (24...	Yes	Y	1	1.2	41	1.5	10	.0...									
71	1.2D + 1.5Lm3 + 1.0Wm (27...	Yes	Y	1	1.2	41	1.5	11	.0...									
72	1.2D + 1.5Lm3 + 1.0Wm (30...	Yes	Y	1	1.2	41	1.5	12	.0...									
73	1.2D + 1.5Lm3 + 1.0Wm (33...	Yes	Y	1	1.2	41	1.5	13	.0...									
74	1.2D + 1.5Lm4 + 1.0Wm (0 d...	Yes	Y	1	1.2	42	1.5	2	.0...									
75	1.2D + 1.5Lm4 + 1.0Wm (30 ...	Yes	Y	1	1.2	42	1.5	3	.0...									
76	1.2D + 1.5Lm4 + 1.0Wm (60 ...	Yes	Y	1	1.2	42	1.5	4	.0...									
77	1.2D + 1.5Lm4 + 1.0Wm (90 ...	Yes	Y	1	1.2	42	1.5	5	.0...									
78	1.2D + 1.5Lm4 + 1.0Wm (12...	Yes	Y	1	1.2	42	1.5	6	.0...									
79	1.2D + 1.5Lm4 + 1.0Wm (15...	Yes	Y	1	1.2	42	1.5	7	.0...									
80	1.2D + 1.5Lm4 + 1.0Wm (18...	Yes	Y	1	1.2	42	1.5	8	.0...									
81	1.2D + 1.5Lm4 + 1.0Wm (21...	Yes	Y	1	1.2	42	1.5	9	.0...									
82	1.2D + 1.5Lm4 + 1.0Wm (24...	Yes	Y	1	1.2	42	1.5	10	.0...									
83	1.2D + 1.5Lm4 + 1.0Wm (27...	Yes	Y	1	1.2	42	1.5	11	.0...									
84	1.2D + 1.5Lm4 + 1.0Wm (30...	Yes	Y	1	1.2	42	1.5	12	.0...									
85	1.2D + 1.5Lm4 + 1.0Wm (33...	Yes	Y	1	1.2	42	1.5	13	.0...									
86	1.2D + 1.5Lm5 + 1.0Wm (0 d...	Yes	Y	1	1.2	43	1.5	2	.0...									
87	1.2D + 1.5Lm5 + 1.0Wm (30 ...	Yes	Y	1	1.2	43	1.5	3	.0...									
88	1.2D + 1.5Lm5 + 1.0Wm (60 ...	Yes	Y	1	1.2	43	1.5	4	.0...									
89	1.2D + 1.5Lm5 + 1.0Wm (90 ...	Yes	Y	1	1.2	43	1.5	5	.0...									
90	1.2D + 1.5Lm5 + 1.0Wm (12...	Yes	Y	1	1.2	43	1.5	6	.0...									
91	1.2D + 1.5Lm5 + 1.0Wm (15...	Yes	Y	1	1.2	43	1.5	7	.0...									
92	1.2D + 1.5Lm5 + 1.0Wm (18...	Yes	Y	1	1.2	43	1.5	8	.0...									
93	1.2D + 1.5Lm5 + 1.0Wm (21...	Yes	Y	1	1.2	43	1.5	9	.0...									
94	1.2D + 1.5Lm5 + 1.0Wm (24...	Yes	Y	1	1.2	43	1.5	10	.0...									
95	1.2D + 1.5Lm5 + 1.0Wm (27...	Yes	Y	1	1.2	43	1.5	11	.0...									
96	1.2D + 1.5Lm5 + 1.0Wm (30...	Yes	Y	1	1.2	43	1.5	12	.0...									
97	1.2D + 1.5Lm5 + 1.0Wm (33...	Yes	Y	1	1.2	43	1.5	13	.0...									
98	1.2D + 1.5Lm6 + 1.0Wm (0 d...	Yes	Y	1	1.2	44	1.5	2	.0...									
99	1.2D + 1.5Lm6 + 1.0Wm (30 ...	Yes	Y	1	1.2	44	1.5	3	.0...									
100	1.2D + 1.5Lm6 + 1.0Wm (60 ...	Yes	Y	1	1.2	44	1.5	4	.0...									



Company : Crown Castle
 Designer : TSB
 Job Number : ETS Job No. 184433.14
 Model Name : 876384 - WESTBROOK _ ORSINA_Mount Analysis

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Load Combinations (Continued)

Description	Solve	PDelta	S	B	F	B	F	B	F	B	F	B	F	B	F	B	F
101 1.2D + 1.5Lm6 + 1.0Wm (90 ...	Yes	Y	1	1.2	44	1.5	5	0...									
102 1.2D + 1.5Lm6 + 1.0Wm (12...	Yes	Y	1	1.2	44	1.5	6	0...									
103 1.2D + 1.5Lm6 + 1.0Wm (15...	Yes	Y	1	1.2	44	1.5	7	0...									
104 1.2D + 1.5Lm6 + 1.0Wm (18...	Yes	Y	1	1.2	44	1.5	8	0...									
105 1.2D + 1.5Lm6 + 1.0Wm (21...	Yes	Y	1	1.2	44	1.5	9	0...									
106 1.2D + 1.5Lm6 + 1.0Wm (24...	Yes	Y	1	1.2	44	1.5	10	0...									
107 1.2D + 1.5Lm6 + 1.0Wm (27...	Yes	Y	1	1.2	44	1.5	11	0...									
108 1.2D + 1.5Lm6 + 1.0Wm (30...	Yes	Y	1	1.2	44	1.5	12	0...									
109 1.2D + 1.5Lm6 + 1.0Wm (33...	Yes	Y	1	1.2	44	1.5	13	0...									
110 1.2D + 1.5Lm7 + 1.0Wm (0 d...	Yes	Y	1	1.2	45	1.5	2	0...									
111 1.2D + 1.5Lm7 + 1.0Wm (30 ...	Yes	Y	1	1.2	45	1.5	3	0...									
112 1.2D + 1.5Lm7 + 1.0Wm (60 ...	Yes	Y	1	1.2	45	1.5	4	0...									
113 1.2D + 1.5Lm7 + 1.0Wm (90 ...	Yes	Y	1	1.2	45	1.5	5	0...									
114 1.2D + 1.5Lm7 + 1.0Wm (12...	Yes	Y	1	1.2	45	1.5	6	0...									
115 1.2D + 1.5Lm7 + 1.0Wm (15...	Yes	Y	1	1.2	45	1.5	7	0...									
116 1.2D + 1.5Lm7 + 1.0Wm (18...	Yes	Y	1	1.2	45	1.5	8	0...									
117 1.2D + 1.5Lm7 + 1.0Wm (21...	Yes	Y	1	1.2	45	1.5	9	0...									
118 1.2D + 1.5Lm7 + 1.0Wm (24...	Yes	Y	1	1.2	45	1.5	10	0...									
119 1.2D + 1.5Lm7 + 1.0Wm (27...	Yes	Y	1	1.2	45	1.5	11	0...									
120 1.2D + 1.5Lm7 + 1.0Wm (30...	Yes	Y	1	1.2	45	1.5	12	0...									
121 1.2D + 1.5Lm7 + 1.0Wm (33...	Yes	Y	1	1.2	45	1.5	13	0...									
122 1.2D + 1.5Lm8 + 1.0Wm (0 d...	Yes	Y	1	1.2	46	1.5	2	0...									
123 1.2D + 1.5Lm8 + 1.0Wm (30 ...	Yes	Y	1	1.2	46	1.5	3	0...									
124 1.2D + 1.5Lm8 + 1.0Wm (60 ...	Yes	Y	1	1.2	46	1.5	4	0...									
125 1.2D + 1.5Lm8 + 1.0Wm (90 ...	Yes	Y	1	1.2	46	1.5	5	0...									
126 1.2D + 1.5Lm8 + 1.0Wm (12...	Yes	Y	1	1.2	46	1.5	6	0...									
127 1.2D + 1.5Lm8 + 1.0Wm (15...	Yes	Y	1	1.2	46	1.5	7	0...									
128 1.2D + 1.5Lm8 + 1.0Wm (18...	Yes	Y	1	1.2	46	1.5	8	0...									
129 1.2D + 1.5Lm8 + 1.0Wm (21...	Yes	Y	1	1.2	46	1.5	9	0...									
130 1.2D + 1.5Lm8 + 1.0Wm (24...	Yes	Y	1	1.2	46	1.5	10	0...									
131 1.2D + 1.5Lm8 + 1.0Wm (27...	Yes	Y	1	1.2	46	1.5	11	0...									
132 1.2D + 1.5Lm8 + 1.0Wm (30...	Yes	Y	1	1.2	46	1.5	12	0...									
133 1.2D + 1.5Lm8 + 1.0Wm (33...	Yes	Y	1	1.2	46	1.5	13	0...									
134 1.2D + 1.5Lm9 + 1.0Wm (0 d...	Yes	Y	1	1.2	47	1.5	2	0...									
135 1.2D + 1.5Lm9 + 1.0Wm (30 ...	Yes	Y	1	1.2	47	1.5	3	0...									
136 1.2D + 1.5Lm9 + 1.0Wm (60 ...	Yes	Y	1	1.2	47	1.5	4	0...									
137 1.2D + 1.5Lm9 + 1.0Wm (90 ...	Yes	Y	1	1.2	47	1.5	5	0...									
138 1.2D + 1.5Lm9 + 1.0Wm (12...	Yes	Y	1	1.2	47	1.5	6	0...									
139 1.2D + 1.5Lm9 + 1.0Wm (15...	Yes	Y	1	1.2	47	1.5	7	0...									
140 1.2D + 1.5Lm9 + 1.0Wm (18...	Yes	Y	1	1.2	47	1.5	8	0...									
141 1.2D + 1.5Lm9 + 1.0Wm (21...	Yes	Y	1	1.2	47	1.5	9	0...									
142 1.2D + 1.5Lm9 + 1.0Wm (24...	Yes	Y	1	1.2	47	1.5	10	0...									
143 1.2D + 1.5Lm9 + 1.0Wm (27...	Yes	Y	1	1.2	47	1.5	11	0...									
144 1.2D + 1.5Lm9 + 1.0Wm (30...	Yes	Y	1	1.2	47	1.5	12	0...									
145 1.2D + 1.5Lm9 + 1.0Wm (33...	Yes	Y	1	1.2	47	1.5	13	0...									
146 1.2D + 1.5Lm10 + 1.0Wm (0 ...	Yes	Y	1	1.2	48	1.5	2	0...									
147 1.2D + 1.5Lm10 + 1.0Wm (3...	Yes	Y	1	1.2	48	1.5	3	0...									
148 1.2D + 1.5Lm10 + 1.0Wm (6...	Yes	Y	1	1.2	48	1.5	4	0...									
149 1.2D + 1.5Lm10 + 1.0Wm (9...	Yes	Y	1	1.2	48	1.5	5	0...									
150 1.2D + 1.5Lm10 + 1.0Wm (1...	Yes	Y	1	1.2	48	1.5	6	0...									
151 1.2D + 1.5Lm10 + 1.0Wm (1...	Yes	Y	1	1.2	48	1.5	7	0...									
152 1.2D + 1.5Lm10 + 1.0Wm (1...	Yes	Y	1	1.2	48	1.5	8	0...									
153 1.2D + 1.5Lm10 + 1.0Wm (2...	Yes	Y	1	1.2	48	1.5	9	0...									
154 1.2D + 1.5Lm10 + 1.0Wm (2...	Yes	Y	1	1.2	48	1.5	10	0...									
155 1.2D + 1.5Lm10 + 1.0Wm (2...	Yes	Y	1	1.2	48	1.5	11	0...									
156 1.2D + 1.5Lm10 + 1.0Wm (3...	Yes	Y	1	1.2	48	1.5	12	0...									
157 1.2D + 1.5Lm10 + 1.0Wm (3...	Yes	Y	1	1.2	48	1.5	13	0...									



Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
158	1.2D + 1.5Lm11 + 1.0Wm (0...	Yes	Y	1	1.2	49	1.5	2	.0...									
159	1.2D + 1.5Lm11 + 1.0Wm (3...	Yes	Y	1	1.2	49	1.5	3	.0...									
160	1.2D + 1.5Lm11 + 1.0Wm (6...	Yes	Y	1	1.2	49	1.5	4	.0...									
161	1.2D + 1.5Lm11 + 1.0Wm (9...	Yes	Y	1	1.2	49	1.5	5	.0...									
162	1.2D + 1.5Lm11 + 1.0Wm (1...	Yes	Y	1	1.2	49	1.5	6	.0...									
163	1.2D + 1.5Lm11 + 1.0Wm (1...	Yes	Y	1	1.2	49	1.5	7	.0...									
164	1.2D + 1.5Lm11 + 1.0Wm (1...	Yes	Y	1	1.2	49	1.5	8	.0...									
165	1.2D + 1.5Lm11 + 1.0Wm (2...	Yes	Y	1	1.2	49	1.5	9	.0...									
166	1.2D + 1.5Lm11 + 1.0Wm (2...	Yes	Y	1	1.2	49	1.5	10	.0...									
167	1.2D + 1.5Lm11 + 1.0Wm (2...	Yes	Y	1	1.2	49	1.5	11	.0...									
168	1.2D + 1.5Lm11 + 1.0Wm (3...	Yes	Y	1	1.2	49	1.5	12	.0...									
169	1.2D + 1.5Lm11 + 1.0Wm (3...	Yes	Y	1	1.2	49	1.5	13	.0...									
170	1.2D + 1.5Lm12 + 1.0Wm (0...	Yes	Y	1	1.2	50	1.5	2	.0...									
171	1.2D + 1.5Lm12 + 1.0Wm (3...	Yes	Y	1	1.2	50	1.5	3	.0...									
172	1.2D + 1.5Lm12 + 1.0Wm (6...	Yes	Y	1	1.2	50	1.5	4	.0...									
173	1.2D + 1.5Lm12 + 1.0Wm (9...	Yes	Y	1	1.2	50	1.5	5	.0...									
174	1.2D + 1.5Lm12 + 1.0Wm (1...	Yes	Y	1	1.2	50	1.5	6	.0...									
175	1.2D + 1.5Lm12 + 1.0Wm (1...	Yes	Y	1	1.2	50	1.5	7	.0...									
176	1.2D + 1.5Lm12 + 1.0Wm (1...	Yes	Y	1	1.2	50	1.5	8	.0...									
177	1.2D + 1.5Lm12 + 1.0Wm (2...	Yes	Y	1	1.2	50	1.5	9	.0...									
178	1.2D + 1.5Lm12 + 1.0Wm (2...	Yes	Y	1	1.2	50	1.5	10	.0...									
179	1.2D + 1.5Lm12 + 1.0Wm (2...	Yes	Y	1	1.2	50	1.5	11	.0...									
180	1.2D + 1.5Lm12 + 1.0Wm (3...	Yes	Y	1	1.2	50	1.5	12	.0...									
181	1.2D + 1.5Lm12 + 1.0Wm (3...	Yes	Y	1	1.2	50	1.5	13	.0...									
182	1.2D + 1.5Lm13 + 1.0Wm (0...	Yes	Y	1	1.2	51	1.5	2	.0...									
183	1.2D + 1.5Lm13 + 1.0Wm (3...	Yes	Y	1	1.2	51	1.5	3	.0...									
184	1.2D + 1.5Lm13 + 1.0Wm (6...	Yes	Y	1	1.2	51	1.5	4	.0...									
185	1.2D + 1.5Lm13 + 1.0Wm (9...	Yes	Y	1	1.2	51	1.5	5	.0...									
186	1.2D + 1.5Lm13 + 1.0Wm (1...	Yes	Y	1	1.2	51	1.5	6	.0...									
187	1.2D + 1.5Lm13 + 1.0Wm (1...	Yes	Y	1	1.2	51	1.5	7	.0...									
188	1.2D + 1.5Lm13 + 1.0Wm (1...	Yes	Y	1	1.2	51	1.5	8	.0...									
189	1.2D + 1.5Lm13 + 1.0Wm (2...	Yes	Y	1	1.2	51	1.5	9	.0...									
190	1.2D + 1.5Lm13 + 1.0Wm (2...	Yes	Y	1	1.2	51	1.5	10	.0...									
191	1.2D + 1.5Lm13 + 1.0Wm (2...	Yes	Y	1	1.2	51	1.5	11	.0...									
192	1.2D + 1.5Lm13 + 1.0Wm (3...	Yes	Y	1	1.2	51	1.5	12	.0...									
193	1.2D + 1.5Lm13 + 1.0Wm (3...	Yes	Y	1	1.2	51	1.5	13	.0...									
194	1.2D + 1.5Lm14 + 1.0Wm (0...	Yes	Y	1	1.2	52	1.5	2	.0...									
195	1.2D + 1.5Lm14 + 1.0Wm (3...	Yes	Y	1	1.2	52	1.5	3	.0...									
196	1.2D + 1.5Lm14 + 1.0Wm (6...	Yes	Y	1	1.2	52	1.5	4	.0...									
197	1.2D + 1.5Lm14 + 1.0Wm (9...	Yes	Y	1	1.2	52	1.5	5	.0...									
198	1.2D + 1.5Lm14 + 1.0Wm (1...	Yes	Y	1	1.2	52	1.5	6	.0...									
199	1.2D + 1.5Lm14 + 1.0Wm (1...	Yes	Y	1	1.2	52	1.5	7	.0...									
200	1.2D + 1.5Lm14 + 1.0Wm (1...	Yes	Y	1	1.2	52	1.5	8	.0...									
201	1.2D + 1.5Lm14 + 1.0Wm (2...	Yes	Y	1	1.2	52	1.5	9	.0...									
202	1.2D + 1.5Lm14 + 1.0Wm (2...	Yes	Y	1	1.2	52	1.5	10	.0...									
203	1.2D + 1.5Lm14 + 1.0Wm (2...	Yes	Y	1	1.2	52	1.5	11	.0...									
204	1.2D + 1.5Lm14 + 1.0Wm (3...	Yes	Y	1	1.2	52	1.5	12	.0...									
205	1.2D + 1.5Lm14 + 1.0Wm (3...	Yes	Y	1	1.2	52	1.5	13	.0...									
206	1.2D + 1.5Lm15 + 1.0Wm (0...	Yes	Y	1	1.2	53	1.5	2	.0...									
207	1.2D + 1.5Lm15 + 1.0Wm (3...	Yes	Y	1	1.2	53	1.5	3	.0...									
208	1.2D + 1.5Lm15 + 1.0Wm (6...	Yes	Y	1	1.2	53	1.5	4	.0...									
209	1.2D + 1.5Lm15 + 1.0Wm (9...	Yes	Y	1	1.2	53	1.5	5	.0...									
210	1.2D + 1.5Lm15 + 1.0Wm (1...	Yes	Y	1	1.2	53	1.5	6	.0...									
211	1.2D + 1.5Lm15 + 1.0Wm (1...	Yes	Y	1	1.2	53	1.5	7	.0...									
212	1.2D + 1.5Lm15 + 1.0Wm (1...	Yes	Y	1	1.2	53	1.5	8	.0...									
213	1.2D + 1.5Lm15 + 1.0Wm (2...	Yes	Y	1	1.2	53	1.5	9	.0...									
214	1.2D + 1.5Lm15 + 1.0Wm (2...	Yes	Y	1	1.2	53	1.5	10	.0...									



Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
215	1.2D + 1.5Lm15 + 1.0Wm (2...	Yes	Y	1	1.2	53	1.5	11	.0...									
216	1.2D + 1.5Lm15 + 1.0Wm (3...	Yes	Y	1	1.2	53	1.5	12	.0...									
217	1.2D + 1.5Lm15 + 1.0Wm (3...	Yes	Y	1	1.2	53	1.5	13	.0...									
218	1.2D + 1.5Lm16 + 1.0Wm (0 ...	Yes	Y	1	1.2	54	1.5	2	.0...									
219	1.2D + 1.5Lm16 + 1.0Wm (3...	Yes	Y	1	1.2	54	1.5	3	.0...									
220	1.2D + 1.5Lm16 + 1.0Wm (6...	Yes	Y	1	1.2	54	1.5	4	.0...									
221	1.2D + 1.5Lm16 + 1.0Wm (9...	Yes	Y	1	1.2	54	1.5	5	.0...									
222	1.2D + 1.5Lm16 + 1.0Wm (1...	Yes	Y	1	1.2	54	1.5	6	.0...									
223	1.2D + 1.5Lm16 + 1.0Wm (1...	Yes	Y	1	1.2	54	1.5	7	.0...									
224	1.2D + 1.5Lm16 + 1.0Wm (1...	Yes	Y	1	1.2	54	1.5	8	.0...									
225	1.2D + 1.5Lm16 + 1.0Wm (2...	Yes	Y	1	1.2	54	1.5	9	.0...									
226	1.2D + 1.5Lm16 + 1.0Wm (2...	Yes	Y	1	1.2	54	1.5	10	.0...									
227	1.2D + 1.5Lm16 + 1.0Wm (2...	Yes	Y	1	1.2	54	1.5	11	.0...									
228	1.2D + 1.5Lm16 + 1.0Wm (3...	Yes	Y	1	1.2	54	1.5	12	.0...									
229	1.2D + 1.5Lm16 + 1.0Wm (3...	Yes	Y	1	1.2	54	1.5	13	.0...									
230	1.2D + 1.5Lm17 + 1.0Wm (0 ...	Yes	Y	1	1.2	55	1.5	2	.0...									
231	1.2D + 1.5Lm17 + 1.0Wm (3...	Yes	Y	1	1.2	55	1.5	3	.0...									
232	1.2D + 1.5Lm17 + 1.0Wm (6...	Yes	Y	1	1.2	55	1.5	4	.0...									
233	1.2D + 1.5Lm17 + 1.0Wm (9...	Yes	Y	1	1.2	55	1.5	5	.0...									
234	1.2D + 1.5Lm17 + 1.0Wm (1...	Yes	Y	1	1.2	55	1.5	6	.0...									
235	1.2D + 1.5Lm17 + 1.0Wm (1...	Yes	Y	1	1.2	55	1.5	7	.0...									
236	1.2D + 1.5Lm17 + 1.0Wm (1...	Yes	Y	1	1.2	55	1.5	8	.0...									
237	1.2D + 1.5Lm17 + 1.0Wm (2...	Yes	Y	1	1.2	55	1.5	9	.0...									
238	1.2D + 1.5Lm17 + 1.0Wm (2...	Yes	Y	1	1.2	55	1.5	10	.0...									
239	1.2D + 1.5Lm17 + 1.0Wm (2...	Yes	Y	1	1.2	55	1.5	11	.0...									
240	1.2D + 1.5Lm17 + 1.0Wm (3...	Yes	Y	1	1.2	55	1.5	12	.0...									
241	1.2D + 1.5Lm17 + 1.0Wm (3...	Yes	Y	1	1.2	55	1.5	13	.0...									
242	1.2D + 1.5Lm18 + 1.0Wm (0 ...	Yes	Y	1	1.2	56	1.5	2	.0...									
243	1.2D + 1.5Lm18 + 1.0Wm (3...	Yes	Y	1	1.2	56	1.5	3	.0...									
244	1.2D + 1.5Lm18 + 1.0Wm (6...	Yes	Y	1	1.2	56	1.5	4	.0...									
245	1.2D + 1.5Lm18 + 1.0Wm (9...	Yes	Y	1	1.2	56	1.5	5	.0...									
246	1.2D + 1.5Lm18 + 1.0Wm (1...	Yes	Y	1	1.2	56	1.5	6	.0...									
247	1.2D + 1.5Lm18 + 1.0Wm (1...	Yes	Y	1	1.2	56	1.5	7	.0...									
248	1.2D + 1.5Lm18 + 1.0Wm (1...	Yes	Y	1	1.2	56	1.5	8	.0...									
249	1.2D + 1.5Lm18 + 1.0Wm (2...	Yes	Y	1	1.2	56	1.5	9	.0...									
250	1.2D + 1.5Lm18 + 1.0Wm (2...	Yes	Y	1	1.2	56	1.5	10	.0...									
251	1.2D + 1.5Lm18 + 1.0Wm (2...	Yes	Y	1	1.2	56	1.5	11	.0...									
252	1.2D + 1.5Lm18 + 1.0Wm (3...	Yes	Y	1	1.2	56	1.5	12	.0...									
253	1.2D + 1.5Lm18 + 1.0Wm (3...	Yes	Y	1	1.2	56	1.5	13	.0...									
254	1.2D + 1.5Lv (Position 1)	Yes	Y	1	1.2	57	1.5											
255	1.2D + 1.5Lv (Position 2)	Yes	Y	1	1.2	58	1.5											
256	1.2D + 1.5Lv (Position 3)	Yes	Y	1	1.2	59	1.5											
257	1.2D + 1.5Lv (Position 4)	Yes	Y	1	1.2	60	1.5											
258	1.2D + 1.5Lv (Position 5)	Yes	Y	1	1.2	61	1.5											
259	1.2D + 1.5Lv (Position 6)	Yes	Y	1	1.2	62	1.5											
260	1.2D + 1.5Lv (Position 7)	Yes	Y	1	1.2	63	1.5											
261	1.2D + 1.5Lv (Position 8)	Yes	Y	1	1.2	64	1.5											
262	1.2D + 1.5Lv (Position 9)	Yes	Y	1	1.2	65	1.5											
263	1.2D + 1.5Lv (Position 10)	Yes	Y	1	1.2	66	1.5											
264	1.2D + 1.5Lv (Position 11)	Yes	Y	1	1.2	67	1.5											
265	1.2D + 1.5Lv (Position 12)	Yes	Y	1	1.2	68	1.5											
266	1.2D + 1.5Lv (Position 13)	Yes	Y	1	1.2	69	1.5											
267	1.2D + 1.5Lv (Position 14)	Yes	Y	1	1.2	70	1.5											
268	1.2D + 1.5Lv (Position 15)	Yes	Y	1	1.2	71	1.5											
269	1.2D + 1.5Lv (Position 16)	Yes	Y	1	1.2	72	1.5											
270	1.2D + 1.5Lv (Position 17)	Yes	Y	1	1.2	73	1.5											
271	1.2D + 1.5Lv (Position 18)	Yes	Y	1	1.2	74	1.5											



Load Combinations (Continued)

Description	Solve	PDelta	S...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
272 1.2D + 1.5Lv (Position 19)	Yes	Y	1	1.2	75	1.5											
273 1.2D + 1.5Lv (Position 20)	Yes	Y	1	1.2	76	1.5											
274 1.2D + 1.5Lv (Position 21)	Yes	Y	1	1.2	77	1.5											
275 1.2D + 1.5Lv (Position 22)	Yes	Y	1	1.2	78	1.5											
276 1.2D + 1.5Lv (Position 23)	Yes	Y	1	1.2	79	1.5											
277 1.2D + 1.5Lv (Position 24)	Yes	Y	1	1.2	80	1.5											

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 N27 max	1463.38	7	2455.106	18	2482.807	12	-1660.689	11	937.866	9	-916.347	2
2 min	-1485.851	13	731.007	108	-2444.364	6	-5970.196	17	-937.47	3	-3448.845	20
3 N21 max	1609.733	8	2594.14	22	2434.224	10	6289.703	23	1078.27	13	-874.813	2
4 min	-1631.901	2	774.54	148	-2472.952	4	1825.794	5	-1077.962	7	-3530.878	20
5 N15 max	2790.663	8	2337.991	14	954.126	11	917.846	119	753.851	5	6460.662	14
6 min	-2746.156	2	730.416	56	-953.914	5	-931.592	149	-753.645	11	1985.187	8
7 Totals: max	5796.63	8	7324.728	17	5686.149	11						
8 min	-5796.63	2	2679.432	11	-5686.149	5						

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

Member	Shape	Code Check	Loc...	LC	Shear Check	Loc...	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn...	Eqn
1 SA3	HSS4X4...	.454	59...	24	.114	59...	y 13119...	139518	16180.5	16180.5...	H1-1b
2 SA2	HSS4X4...	.434	59...	16	.111	59...	y 57 13119...	139518	16180.5	16180.5...	H1-1b
3 SA1	HSS4X4...	.405	59...	24	.111	59...	y 57 13119...	139518	16180.5	16180.5...	H1-1b
4 MP8	PIPE_2.0	.190	24	12	.024	24	12 20866...	32130	1871.6...	1871.6...	H1-1b
5 MP12	PIPE_2.0	.190	24	4	.024	24	4 20866...	32130	1871.6...	1871.6...	H1-1b
6 MP7	PIPE_2.0	.190	24	12	.024	24	12 20866...	32130	1871.6...	1871.6...	H1-1b
7 MP11	PIPE_2.0	.190	24	4	.024	24	4 20866...	32130	1871.6...	1871.6...	H1-1b
8 MP4	PIPE_2.0	.190	24	8	.024	24	8 20866...	32130	1871.6...	1871.6...	H1-1b
9 MP3	PIPE_2.0	.190	24	8	.024	24	8 20866...	32130	1871.6...	1871.6...	H1-1b
10 FM2	PIPE_3.0	.180	110...	21	.073	57.75	12 56522...	65205	5748.75	5748.75...	H1-1b
11 FM1	PIPE_3.0	.177	110...	23	.074	110...	8 56522...	65205	5748.75	5748.75...	H1-1b
12 FM3	PIPE_3.0	.169	57.75	18	.074	57.75	4 56522...	65205	5748.75	5748.75...	H1-1b
13 GRATE...	L2x2x4	.163	51...	11	.011	0	z 80 12134...	30585.6	690.934	1576.8...	H2-1
14 GRATE...	L2x2x4	.157	51...	7	.011	0	z 12134...	30585.6	690.934	1576.8...	H2-1
15 MP5	PIPE_2.0	.150	24	12	.052	24	12 20866...	32130	1871.6...	1871.6...	H1-1b
16 GRATE...	L2x2x4	.149	51...	9	.015	0	y 24 12134...	30585.6	690.934	1568.0...	H2-1
17 GRATE...	L2x2x4	.148	51...	3	.011	0	z 12134...	30585.6	690.934	1576.8...	H2-1
18 GRATE...	L2x2x4	.148	51...	13	.013	0	y 16 12134...	30585.6	690.934	1571.62...	H2-1
19 GRATE...	L2x2x4	.147	51...	5	.014	0	y 20 12134...	30585.6	690.934	1572.5...	H2-1
20 MP6	PIPE_2.0	.147	24	12	.019	24	12 20866...	32130	1871.6...	1871.6...	H1-1b
21 MP1	PIPE_2.0	.131	24	5	.048	24	8 20866...	32130	1871.6...	1871.6...	H1-1b
22 MP9	PIPE_2.0	.131	24	13	.031	24	4 20866...	32130	1871.6...	1871.6...	H1-1b
23 MP10	PIPE_2.0	.128	24	13	.017	24	13 20866...	32130	1871.6...	1871.6...	H1-1b
24 MP2	PIPE_2.0	.127	24	5	.017	24	5 20866...	32130	1871.6...	1871.6...	H1-1b
25 BRACE3	HSS4X4...	.115	31...	21	.047	5.985	z 11 13517...	139518	16180.5	16180.5...	H1-1b
26 BRACE2	HSS4X4...	.110	31...	17	.046	57...	y 13517...	139518	16180.5	16180.5...	H1-1b
27 BRACE1	HSS4X4...	.109	31...	25	.046	57...	y 13517...	139518	16180.5	16180.5...	H1-1b
28 CORNER...	PL3/8"x6"	.097	6.276	12	.076	6.276	y 86 30674...	72900	569.533	9112.5...	H1-1b
29 CORNER...	PL3/8"x6"	.087	6.276	7	.075	6.276	y 46 30674...	72900	569.533	9112.5...	H1-1b
30 CORNER...	PL3/8"x6"	.082	6.276	3	.074	6.276	y 30674...	72900	569.533	9112.5...	H1-1b

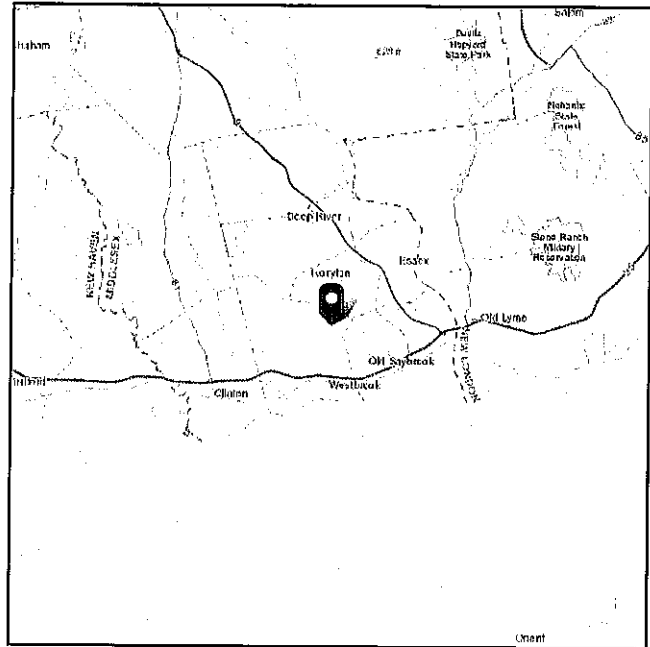
APPENDIX D
ASCE 7 HAZARDS REPORT

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 159.59 ft (NAVD 88)
Latitude: 41.320167
Longitude: -72.441667



Wind

Results:

Wind Speed:	131 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	97 Vmph
100-year MRI	107 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: Tue Oct 09 2018

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

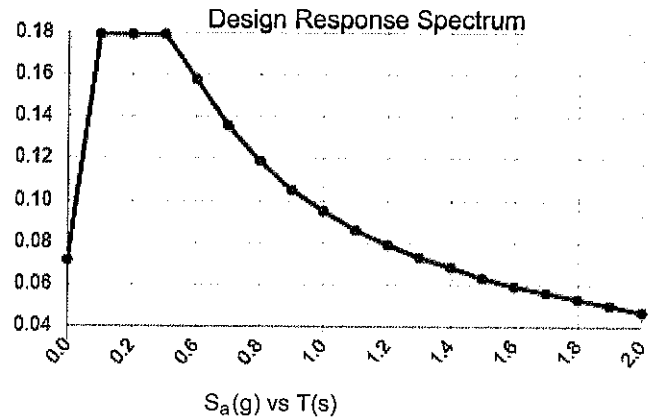
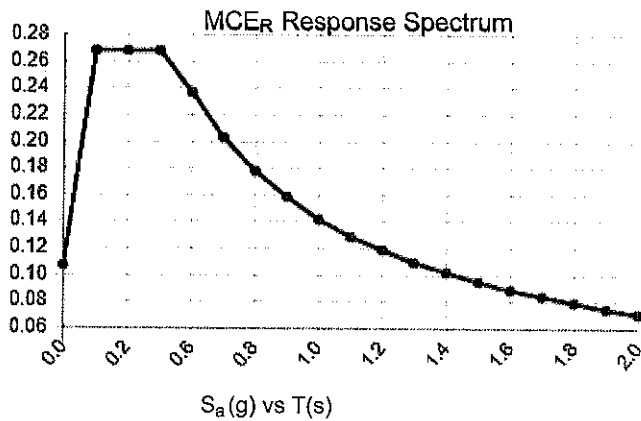
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.167	S_{DS} :	0.179
S_1 :	0.059	S_{D1} :	0.095
F_a :	1.600	T_L :	6.000
F_v :	2.400	PGA :	0.084
S_{MS} :	0.268	PGA _M :	0.135
S_{M1} :	0.142	F_{PGA} :	1.600
		I_e :	1

Seismic Design Category B



Data Accessed:

Tue Oct 09 2018

Date Source:

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

Ice

Results:

Ice Thickness: 0.75 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

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

Date Accessed: Tue Oct 09 2018

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

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

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