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

September 17, 2019

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

RE: **Notice of Exempt Modification for Verizon Wireless: 829046**
Verizon Site ID:20840
56 Norfield Rd. Weston, CT 06883
Latitude: 41° -12' 8.4"/ Longitude: -73° -22' 46.6"

Dear Ms. Bachman:

Verizon currently maintains twelve (12) antennas at the 150-foot level of the existing 190-foot monopole tower at 56 Norfield Road, Weston CT 06883. The tower is owned by Crown Castle and the Town of Weston is the property owner. Verizon now intends to replace six (6) antennas with six (6) new antennas. Verizon also intends to replace six (6) remote radios, one (1) hybrid cable, six (6) coaxial cables and one (1) OVP.

A request for the original zoning document (s) was sent on September 10, 2019 and a reply from the town Administrator was received stating that no original zoning documents exist. A copy of the correspondence is included with this letter.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j- 73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.S.C.A. § 16-50j-73, a copy of this letter is being sent to the First-Selectman – Mr. Chris Spaulding, Town of Weston and Planning & Zoning Department, Town of Weston. The property owner is the Town of Weston and Crown Castle is the tower owner.

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

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

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

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

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

Sincerely,

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

Attachments:

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

First-Selectman – Mr. Chris Spaulding
Town of Weston
56 Norfield Road
Weston, CT 06883
203-222-2656

Planning and Zoning Department
Town of Weston
Town Hall Annex
24 School Road
Weston, CT 06883
203-222-2618

Barbadora, Jeff

From: Barbadora, Jeff
Sent: Tuesday, September 10, 2019 1:24 PM
To: Jonathan Luiz
Cc: Donna Anastasia
Subject: RE: 56 Norfield Road, Weston, CT - 829046

Okay, thank you very much Jonathan.

Thanks,

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

From: Jonathan Luiz <jluiz@westonct.gov>
Sent: Tuesday, September 10, 2019 1:16 PM
To: Barbadora, Jeff <Jeff.Barbadora@crowncastle.com>
Cc: Donna Anastasia <danastasia@westonct.gov>
Subject: Re: 56 Norfield Road, Weston, CT - 829046

Hello Jeffrey,

The Tower is owned by the Town and located on Town-owned property. The Town is exempt from the local zoning regulations. Please make sure that the proposal will be in accordance will all existing agreements with the Town.

Sincerely,
Jonathan Luiz
Weston Town Administrator

On Tue, Sep 10, 2019 at 1:10 PM Donna Anastasia <danastasia@westonct.gov> wrote:

> Hi This is something I believe is for you
>
> ---------- Forwarded message ---------
> From: **Barbadora, Jeff** <Jeff.Barbadora@crowncastle.com>
> Date: Tue, Sep 10, 2019 at 12:41 PM
> Subject: 56 Norfield Road, Weston, CT - 829046
> To: danastasia@westonct.gov <danastasia@westonct.gov>

Hi Donna,

My office is preparing to file with the Connecticut Siting Counsel (CSC) for Verizon to remove and replace their antennas at the cell tower on Town property, 56 Norfield Road. The CSC does require us to provide the original zoning document with the file package, if available. Would you know if there is an original zoning document for the approval of the tower?

I appreciate your time on this matter.

Thanks,

Jeffrey Barbadora

781-970-0053

12 Gill Street, Suite 5800, Woburn, MA 01801

CrownCastle.com

--

Sincerely,
Jonathan Luiz
Weston Town Administrator

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2018.

Town of Weston, CT

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

Parcel Information

Location:	56 NORFIELD ROAD	Property Use:	Miscellaneous Areas	Primary Use:	Support Area
Unique ID:	20010013	Map Block Lot:	22 6 28A	Acres:	0.00
490 Acres:	0.00	Zone:	C	Volume / Page:	
Developers Map / Lot:		Census:			

Value Information

	Appraised Value	Assessed Value
Land	0	0
Buildings	51,449	36,010
Detached Outbuildings	275,000	192,500
Total	326,449	228,510

Owner's Information

Owner's Data
VOICESTREAM WIRELESS ATTN. MARTHA JACKLE 12920 S.E. 38TH STREET BELLEVUE, WA 98006

Building 1

	80		
24	1S UTILITY BLDG-		

Category:	Industrial	Use:	Utility Building	GLA:	1,920
Stories:	1.00	Construction:	Masonry	Year Built:	2007

Heating:	Forced Hot Air	Fuel:	Natural Gas	Cooling Percent:	100
Siding:	Masonry/Masonry	Roof Material:	Asphalt	Beds/Units:	0

Special Features

Attached Components

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Cell Tower	2007	4.00	0.00	4

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
VOICESTREAM WIRELESS	0000	0000			No	$0

Information Published With Permission From The Assessor

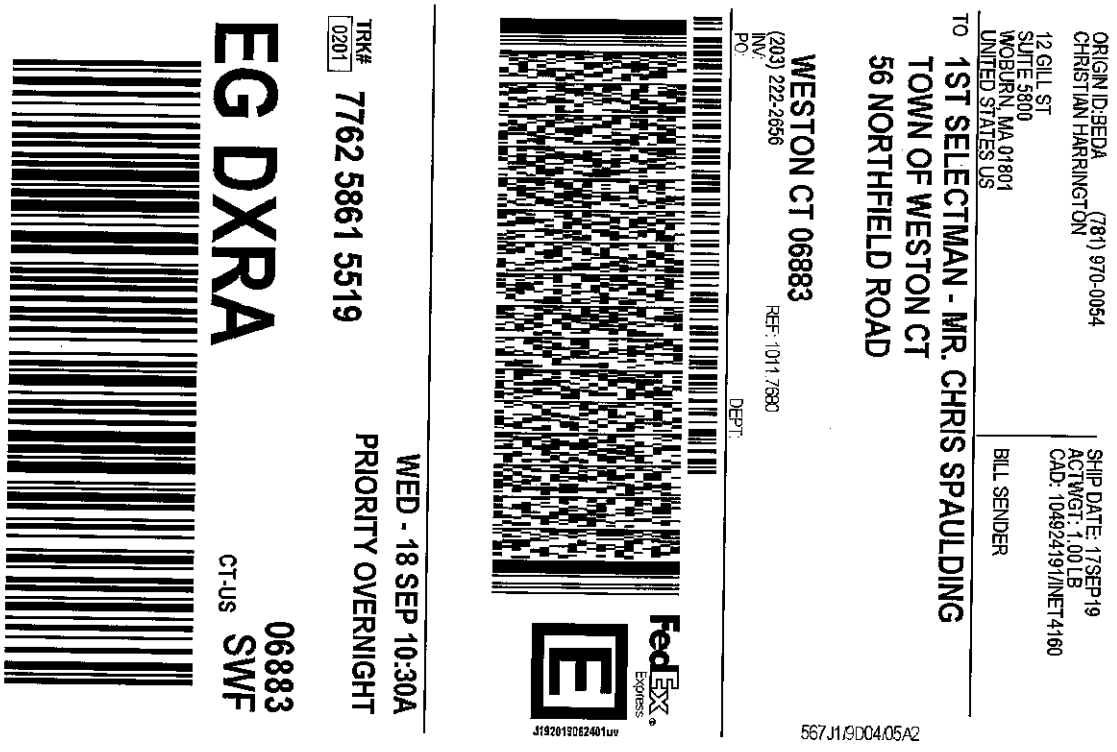
Site Name: WESTON CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	4	2137	8547.88	153	0.1313	1.0	13.13%
VZW Cellular CDMA	869	3	498	1494	153	0.0230	0.579333333	3.96%
VZW Cellular LTE	880	4	339	1354.72	153	0.0208	0.586666667	3.55%
VZW AWS	2145	4	2398	9590.88	153	0.1473	1.0	14.73%
VZW 700	746	4	589	2354.28	153	0.0362	0.497333333	7.27%
Total Percentage of Maximum Permissible Exposure								42.65%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-19

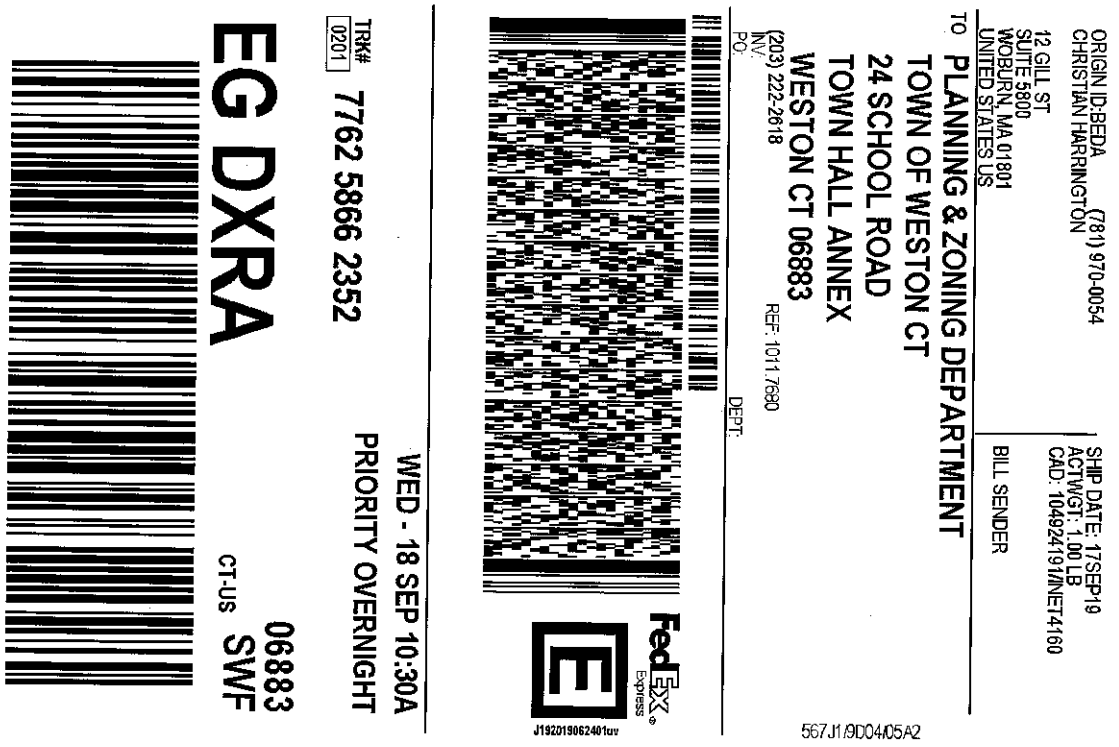
MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

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



After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



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Date: **July 15, 2019**

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

Engineered Tower Solutions, PLLC
8120 Sheridan Blvd, Suite A-311
Westminster, CO 80003
(919) 782-2710
brandon.little@ets-pllc.com

Subject:	**Mount Analysis Report**	
Carrier Designation:	**Verizon Wireless Equipment Change-Out**	
	Carrier Site Number:	20840
	Carrier Site Name:	Weston CT
Crown Castle Designation:	**Crown Castle BU Number:**	829046
	Crown Castle Site Name:	Weston/ Rt-57/ Norfield R
	Crown Castle JDE Number:	582614
	Crown Castle Order Number:	499102 Rev. 0
Engineering Firm Designation:	**ETS Report Designation:**	194467.14
Site Data:	**56 Norfield Rd. (Town Hall), Weston, Fairfield County, CT 06883** **Latitude: 41° 12' 8.40" Longitude: -73° 22' 46.60"**	
Structure Information:	**Tower Height & Type:**	190.0 ft Monopole
	Mount Elevation:	150.0 ft
	Mount Type:	14.0 ft Platform Mount

Dear Charles McGuirt,

Engineered Tower Solutions, PLLC is pleased to submit this **"Mount 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.

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

Platform Mount **Sufficient**

This analysis utilizes an ultimate 3-second gust wind speed of 120 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 – Analysis Criteria.

Mount structural analysis prepared by: Brandon R. Little, EI

Respectfully Submitted by:

Frederic G. Bost, PE, CWI, GC
Owner/President
(919) 782-2710
Geoff.Bost@ets-pllc.com

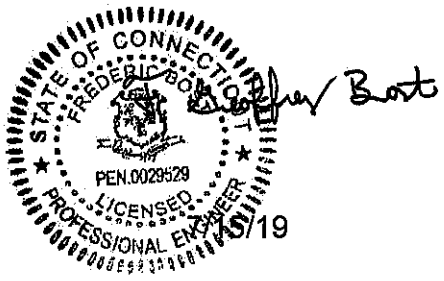


TABLE OF CONTENTS

1) INTRODUCTION

This mount is an existing 14.0 ft Platform Mount. This mount is installed at the 150.0 ft elevation of the 190.0 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:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	120 mph
Exposure Category:	B
Topographic Factor at Base:	1.000
Topographic Factor at Mount:	1.000
Ice Thickness:	1.50 in
Wind Speed with Ice:	50 mph
Seismic Ss:	0.226
Seismic S1:	0.067
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	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
150.0	150.0	2	Antel	LPA-80080/6CF	14.0 ft Platform Mount
		4	Decibel	DB846F65ZAXY	
		6	Quintel Technology	QS6656-5D	
		1	RFS/Celwave	DB-C1-12C-24AB-0Z	
		3	Samsung Telecommunications	RFV01U-D1A	
		3	Samsung Telecommunications	RFV01U-D2A	

3) ANALYSIS PROCEDURE

Table 2 – Documents Provided

Document	Remarks	Reference	Source
Carrier Application	Verizon Wireless	07/02/2019	CCISites
4-Structural Analysis Report	Black & Veatch Corp.	7536644	CCISites
Structure Level Drawings (Proposed)	Verizon Wireless	07/02/2019	CCISites

3.1) Analysis Method

RISA-3D (version 17.0.2), 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.

A tool internally developed, using Microsoft Excel, by ETS, PLLC was used to calculate wind loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the analysis is included in Appendix B.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision 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 Table 1 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) Steel grades have been assumed as follows:

a)	Channel, Solid Round, Angle, Plate	ASTM A36 (Gr 36)
b)	HSS (Rectangular)	ASTM A500 (Gr B-46)
c)	HSS (Round)	ASTM A500 (Gr B-42)
d)	Pipe	ASTM A53 (Gr 35)
e)	Connection Bolts	ASTM A325
f)	Unistrut	ASTM A653 SS (Gr 33)

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 (Platform Mount)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1	Face Mount (3.0SCH40)	FM3	150.0	45.1	PASS
1	Grate Support (L1.5x2.5x1/4)	GRATE7		99.4	PASS
1	Mount Pipe (2.0SCH40)	MP15		14.9	PASS
1	Sidearm (HSS3x3x3/8)	SA-BOT-2		77.1	PASS

Notes:

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

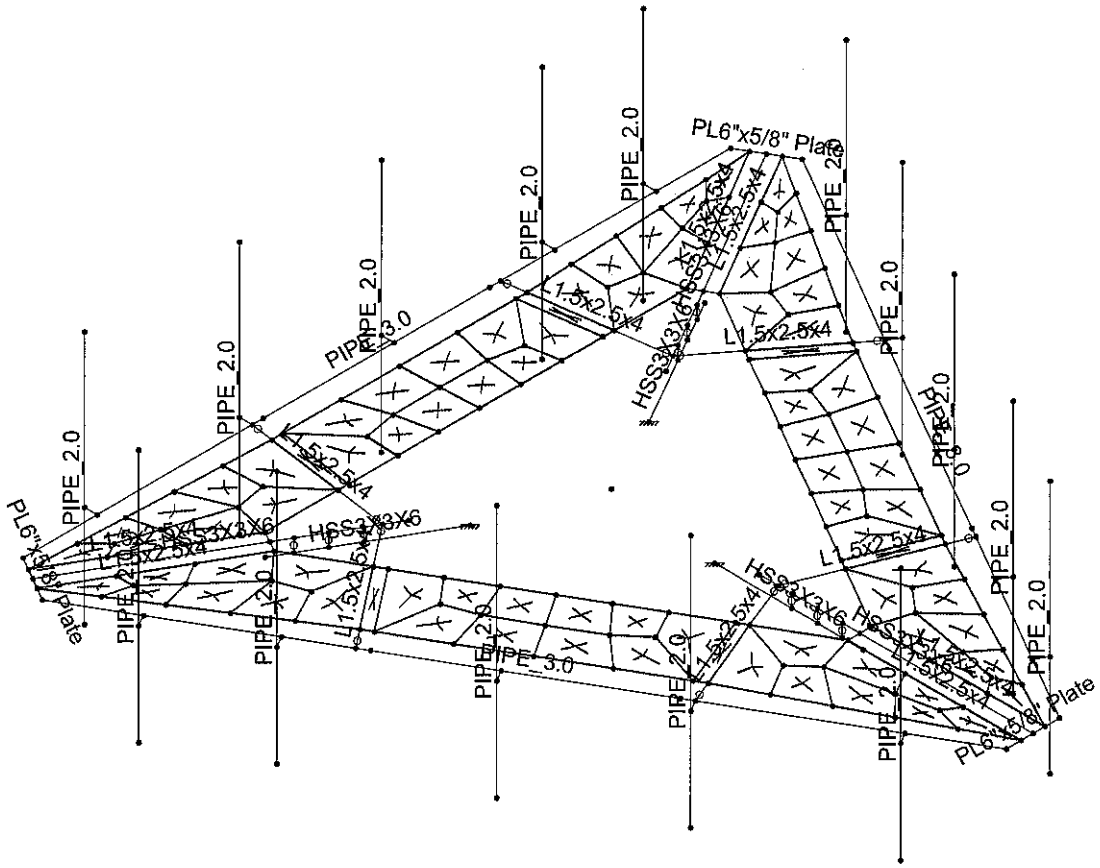
Tower Mount Rating (max from all components) =	99.4%

4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



ETS, PLLC	829046 - Weston/ Rt-57/ Norfield R Mount Analysis	SK - 1
BRL		July 15, 2019 at 5:03 PM
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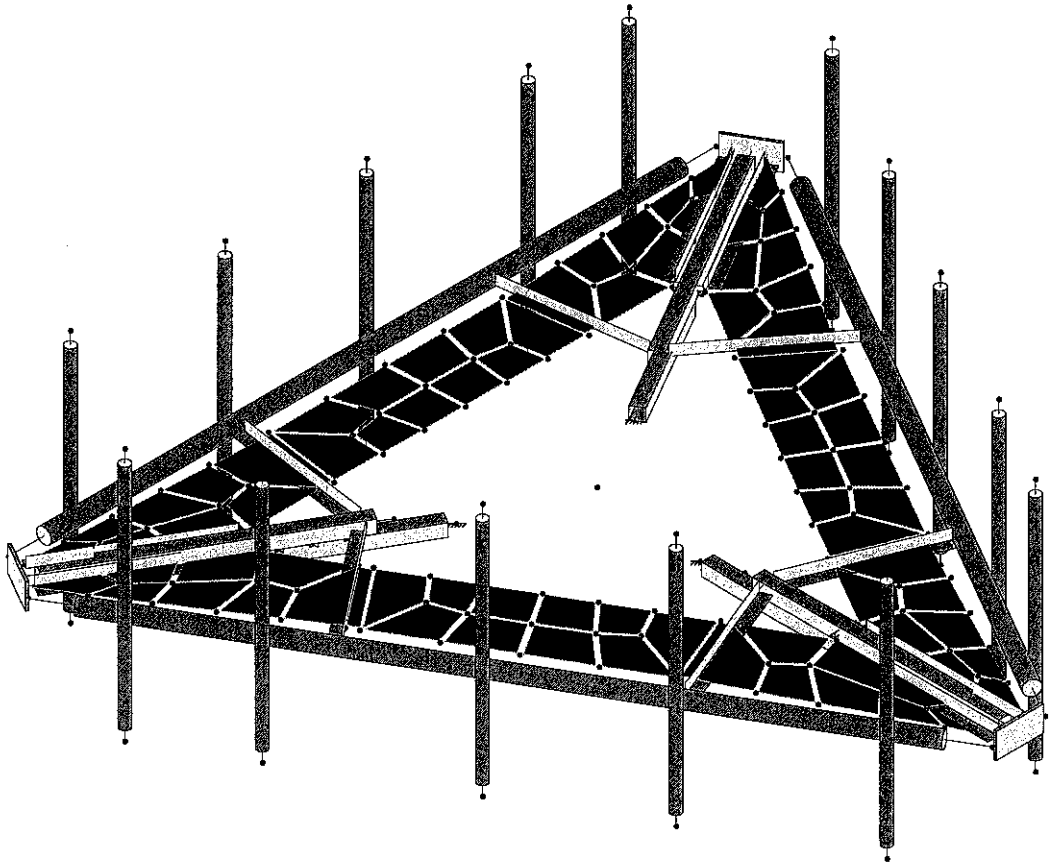


ETS, PLLC	829046 - Weston/ Rt-57/ Norfield R Mount Analysis	SK - 2
BRL		July 15, 2019 at 5:03 PM
194467.14		829046_Loaded.r3d

APPENDIX B

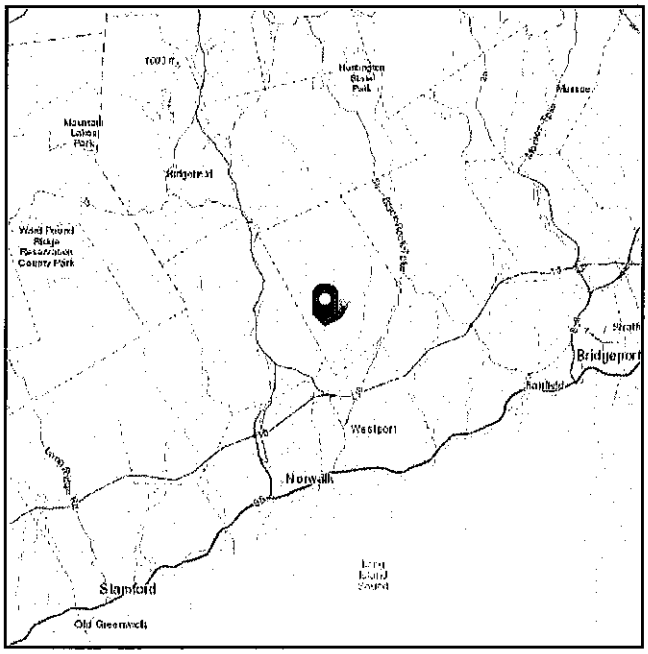
SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 321.79 ft (NAVD 88)
Latitude: 41.202333
Longitude: -73.379611



Wind

Results:

Wind Speed:	119 Vmph	120 mph per WSEL
10-year MRI	76 Vmph	
25-year MRI	86 Vmph	
50-year MRI	91 Vmph	
100-year MRI	98 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: Fri Jul 12 2019

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

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

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

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

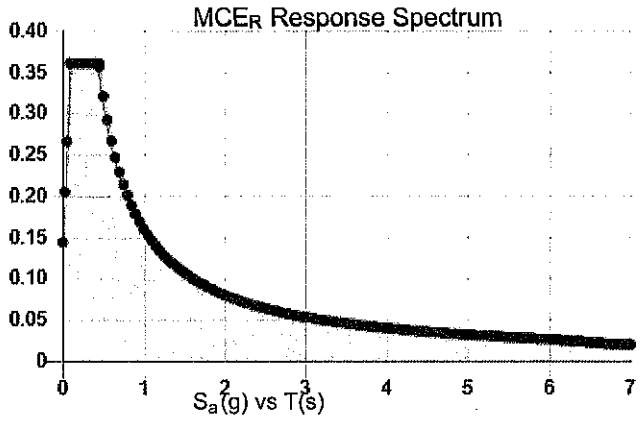
Seismic

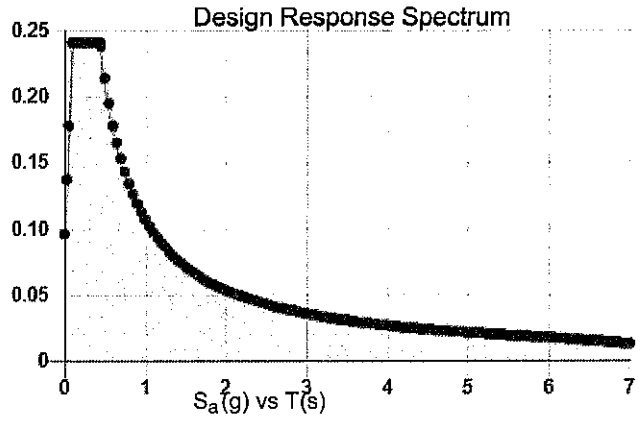
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.226	S_{DS} :	0.241
S_1 :	0.067	S_{D1} :	0.107
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.126
S_{MS} :	0.361	PGA_M :	0.195
S_{M1} :	0.16	F_{PGA} :	1.548
		I_e :	1

Seismic Design Category B





Data Accessed: Fri Jul 12 2019

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

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

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:	Fri Jul 12 2019

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

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

ENGINEERED TOWER
SOLUTIONS, PLLC

Site Input

[illegible]

Seismic Design Input/Output

[illegible]

[illegible]

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
1	FM1	N5	N6			PIPE_3.0	None	None	A53 Gr.B	Typical
2	FM2	N1	N4			PIPE_3.0	None	None	A53 Gr.B	Typical
3	FM3	N2	N3			PIPE_3.0	None	None	A53 Gr.B	Typical
4	GRATE1	N101	N102			L1.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
5	GRATE2	N49	N44			L1.5x2.5x4	None	None	A36 Gr.36	Typical
6	GRATE3	N74B	N75B			L1.5x2.5x4	None	None	A36 Gr.36	Typical
7	GRATE4	N77	N76A			L1.5x2.5x4	None	None	A36 Gr.36	Typical
8	GRATE5	N46	N52			L1.5x2.5x4	None	None	A36 Gr.36	Typical
9	GRATE6	N98	N97			L1.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
10	GRATE7	N95A	N96			L1.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
11	GRATE8	N50	N46			L1.5x2.5x4	None	None	A36 Gr.36	Typical
12	GRATE9	N80	N81			L1.5x2.5x4	None	None	A36 Gr.36	Typical
13	GRATE10	N79	N78			L1.5x2.5x4	None	None	A36 Gr.36	Typical
14	GRATE11	N45	N47			L1.5x2.5x4	None	None	A36 Gr.36	Typical
15	GRATE12	N95	N94			L1.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
16	GRATE13	N92	N93			L1.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
17	GRATE14	N48	N45			L1.5x2.5x4	None	None	A36 Gr.36	Typical
18	GRATE15	N82	N83			L1.5x2.5x4	None	None	A36 Gr.36	Typical
19	GRATE16	N85	N84			L1.5x2.5x4	None	None	A36 Gr.36	Typical
20	GRATE17	N44	N51			L1.5x2.5x4	None	None	A36 Gr.36	Typical
21	GRATE18	N104	N103			L1.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
22	MP1	N120	N251A			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
23	MP2	N268	N267			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
24	MP3	N124	N123			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
25	MP4	N261A	N262A			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
26	MP5	N122	N252A			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
27	MP6	N161	N255A			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
28	MP7	N293	N292			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
29	MP8	N165	N164			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
30	MP9	N287	N288			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
31	MP10	N163	N256A			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
32	MP11	N140	N253A			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
33	MP12	N280	N279			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
34	MP13	N144	N143			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
35	MP14	N274	N275			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
36	MP15	N142	N254A			PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
37	PL-BOT-1	N1	N2			PL6"x5/8" Plate	None	None	A36 Gr.36	Typical
38	PL-BOT-2	N3	N5			PL6"x5/8" Plate	None	None	A36 Gr.36	Typical
39	PL-BOT-3	N4	N6			PL6"x5/8" Plate	None	None	A36 Gr.36	Typical
40	R1	N41	N23			RIGID	None	None	RIGID	Typical
41	R2	N42	N24			RIGID	None	None	RIGID	Typical
42	R3	N43	N25			RIGID	None	None	RIGID	Typical
43	R4	N38	N19			RIGID	None	None	RIGID	Typical
44	R5	N39	N20			RIGID	None	None	RIGID	Typical
45	R6	N40	N21			RIGID	None	None	RIGID	Typical
46	R7	N35	N15			RIGID	None	None	RIGID	Typical
47	R8	N36	N16			RIGID	None	None	RIGID	Typical
48	R9	N37	N17			RIGID	None	None	RIGID	Typical
49	R10	N66	N74B			RIGID	None	None	RIGID	Typical
50	R11	N65	N86			RIGID	None	None	RIGID	Typical
51	R12	N76A	N68			RIGID	None	None	RIGID	Typical
52	R13	N87	N67			RIGID	None	None	RIGID	Typical
53	R14	N80	N70			RIGID	None	None	RIGID	Typical
54	R15	N89	N69			RIGID	None	None	RIGID	Typical
55	R16	N88	N71A			RIGID	None	None	RIGID	Typical
56	R17	N78	N72A			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
57	R18	N82	N74			RIGID	None	None	RIGID	Typical
58	R19	N90	N73A			RIGID	None	None	RIGID	Typical
59	R20	N84	N76			RIGID	None	None	RIGID	Typical
60	R21	N91	N75			RIGID	None	None	RIGID	Typical
61	R22	N92	N94			RIGID	None	None	RIGID	Typical
62	R23	N95A	N97			RIGID	None	None	RIGID	Typical
63	R24	N101	N103			RIGID	None	None	RIGID	Typical
64	R25	N104A	N112			RIGID	None	None	RIGID	Typical
65	R27	N108	N116			RIGID	None	None	RIGID	Typical
66	R29	N110	N118			RIGID	None	None	RIGID	Typical
67	R31	N125	N132			RIGID	None	None	RIGID	Typical
68	R33	N128	N136			RIGID	None	None	RIGID	Typical
69	R35	N130	N138			RIGID	None	None	RIGID	Typical
70	R37	N146	N153			RIGID	None	None	RIGID	Typical
71	R39	N149	N157			RIGID	None	None	RIGID	Typical
72	R41	N151	N159			RIGID	None	None	RIGID	Typical
73	R43	N257B	N259B			RIGID	None	None	RIGID	Typical
74	R45	N49	N265			RIGID	None	None	RIGID	Typical
75	R47	N270	N272			RIGID	None	None	RIGID	Typical
76	R49	N48	N277			RIGID	None	None	RIGID	Typical
77	R51	N283	N285			RIGID	None	None	RIGID	Typical
78	R53	N50	N290			RIGID	None	None	RIGID	Typical
79	SA-BOT-1	N257A	N32			HSS3X3X6	Beam	Tube	A500 Gr.B Rect	Typical
80	SA-BOT-2	N258A	N30			HSS3X3X6	Beam	Tube	A500 Gr.B Rect	Typical
81	SA-BOT-3	N259A	N34			HSS3X3X6	Beam	Tube	A500 Gr.B Rect	Typical
82	SA-TOP-1	N18	N27			HSS3X3X6	Beam	Tube	A500 Gr.B Rect	Typical
83	SA-TOP-2	N71B	N26			HSS3X3X6	Beam	Tube	A500 Gr.B Rect	Typical
84	SA-TOP-3	N69A	N28			HSS3X3X6	Beam	Tube	A500 Gr.B Rect	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		39	120.9	0
3	Total General		39	120.9	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L1.5x2.5x4	18	608	.2
7	A36 Gr.36	PL6"x5/8" Plate	3	37.8	0
8	A500 Gr.B Rect	HSS3X3X6	6	303.1	.3
9	A53 Gr.B	PIPE_2.0	15	900	.3
10	A53 Gr.B	PIPE_3.0	3	504	.3
11	Total HR Steel		45	2352.9	1.1
12					
13	Plate Elements	Thickness (in)		Volume (yds^3)	
14	WorkPlatform	.1	84	0	.3
15	Total Plates		84	0	.3

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-260.6	%40
2	MP2	Y	-21	%50
3	MP3	Y	0	%50
4	MP4	Y	-88	%50
5	MP5	Y	-21	%50

Member Point Loads (BLC 1 : Dead Load) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
6	MP6	Y	-242.7	%40
7	MP7	Y	-88	%50
8	MP8	Y	0	%50
9	MP9	Y	-21	%50
10	MP10	Y	-21	%50
11	MP11	Y	-256.8	%40
12	MP12	Y	-88	%50
13	MP13	Y	0	%50
14	MP14	Y	-21	%50
15	MP15	Y	-21	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	269.8	%40
2	MP2	X	0	%50
3	MP3	X	41.1	%50
4	MP4	X	0	%50
5	MP5	X	0	%50
6	MP6	X	121.9	%40
7	MP7	X	30.8	%50
8	MP8	X	41.1	%50
9	MP9	X	30.8	%50
10	MP10	X	30.8	%50
11	MP11	X	128	%40
12	MP12	X	30.8	%50
13	MP13	X	41.1	%50
14	MP14	X	30.9	%50
15	MP15	X	30.9	%50
16	MP1	Z	0	%40
17	MP2	Z	0	%50
18	MP3	Z	0	%50
19	MP4	Z	0	%50
20	MP5	Z	0	%50
21	MP6	Z	0	%40
22	MP7	Z	0	%50
23	MP8	Z	0	%50
24	MP9	Z	0	%50
25	MP10	Z	0	%50
26	MP11	Z	0	%40
27	MP12	Z	0	%50
28	MP13	Z	0	%50
29	MP14	Z	0	%50
30	MP15	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	222.5	%40
2	MP2	X	8.9	%50
3	MP3	X	35.6	%50
4	MP4	X	8.9	%50
5	MP5	X	8.9	%50
6	MP6	X	103.3	%40
7	MP7	X	35.6	%50
8	MP8	X	35.6	%50
9	MP9	X	35.6	%50
10	MP10	X	35.6	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
11	MP11	X	111.8	%40
12	MP12	X	8.9	%50
13	MP13	X	35.6	%50
14	MP14	X	9.1	%50
15	MP15	X	9.1	%50
16	MP1	Z	128.5	%40
17	MP2	Z	5.1	%50
18	MP3	Z	20.5	%50
19	MP4	Z	5.1	%50
20	MP5	Z	5.1	%50
21	MP6	Z	59.7	%40
22	MP7	Z	20.5	%50
23	MP8	Z	20.5	%50
24	MP9	Z	20.5	%50
25	MP10	Z	20.5	%50
26	MP11	Z	64.6	%40
27	MP12	Z	5.1	%50
28	MP13	Z	20.5	%50
29	MP14	Z	5.3	%50
30	MP15	Z	5.3	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	115.5	%40
2	MP2	X	15.4	%50
3	MP3	X	20.5	%50
4	MP4	X	15.4	%50
5	MP5	X	15.4	%50
6	MP6	X	60.9	%40
7	MP7	X	15.4	%50
8	MP8	X	20.5	%50
9	MP9	X	15.4	%50
10	MP10	X	15.4	%50
11	MP11	X	64.8	%40
12	MP12	X	0	%50
13	MP13	X	20.5	%50
14	MP14	X	.2	%50
15	MP15	X	.2	%50
16	MP1	Z	200.1	%40
17	MP2	Z	26.7	%50
18	MP3	Z	35.6	%50
19	MP4	Z	26.7	%50
20	MP5	Z	26.7	%50
21	MP6	Z	105.6	%40
22	MP7	Z	26.7	%50
23	MP8	Z	35.6	%50
24	MP9	Z	26.7	%50
25	MP10	Z	26.7	%50
26	MP11	Z	112.3	%40
27	MP12	Z	0	%50
28	MP13	Z	35.6	%50
29	MP14	Z	.3	%50
30	MP15	Z	.3	%50

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

Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%40
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%50
6	MP6	X	0	%40
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%50
10	MP10	X	0	%50
11	MP11	X	0	%40
12	MP12	X	0	%50
13	MP13	X	0	%50
14	MP14	X	0	%50
15	MP15	X	0	%50
16	MP1	Z	218.2	%40
17	MP2	Z	41.1	%50
18	MP3	Z	41.1	%50
19	MP4	Z	41.1	%50
20	MP5	Z	41.1	%50
21	MP6	Z	127	%40
22	MP7	Z	10.3	%50
23	MP8	Z	41.1	%50
24	MP9	Z	10.3	%50
25	MP10	Z	10.3	%50
26	MP11	Z	129.1	%40
27	MP12	Z	10.3	%50
28	MP13	Z	41.1	%50
29	MP14	Z	10.5	%50
30	MP15	Z	10.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-115.5	%40
2	MP2	X	-15.4	%50
3	MP3	X	-20.5	%50
4	MP4	X	-15.4	%50
5	MP5	X	-15.4	%50
6	MP6	X	-64.8	%40
7	MP7	X	0	%50
8	MP8	X	-20.5	%50
9	MP9	X	0	%50
10	MP10	X	0	%50
11	MP11	X	-64	%40
12	MP12	X	-15.4	%50
13	MP13	X	-20.5	%50
14	MP14	X	-15.4	%50
15	MP15	X	-15.4	%50
16	MP1	Z	200.1	%40
17	MP2	Z	26.7	%50
18	MP3	Z	35.6	%50
19	MP4	Z	26.7	%50
20	MP5	Z	26.7	%50
21	MP6	Z	112.3	%40
22	MP7	Z	0	%50
23	MP8	Z	35.6	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
24	MP9	Z	0	%50
25	MP10	Z	0	%50
26	MP11	Z	110.9	%40
27	MP12	Z	26.7	%50
28	MP13	Z	35.6	%50
29	MP14	Z	26.8	%50
30	MP15	Z	26.8	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-222.5	%40
2	MP2	X	-8.9	%50
3	MP3	X	-35.6	%50
4	MP4	X	-8.9	%50
5	MP5	X	-8.9	%50
6	MP6	X	-110	%40
7	MP7	X	-8.9	%50
8	MP8	X	-35.6	%50
9	MP9	X	-8.9	%50
10	MP10	X	-8.9	%50
11	MP11	X	-110.4	%40
12	MP12	X	-35.6	%50
13	MP13	X	-35.6	%50
14	MP14	X	-35.6	%50
15	MP15	X	-35.6	%50
16	MP1	Z	128.5	%40
17	MP2	Z	5.1	%50
18	MP3	Z	20.5	%50
19	MP4	Z	5.1	%50
20	MP5	Z	5.1	%50
21	MP6	Z	63.5	%40
22	MP7	Z	5.1	%50
23	MP8	Z	20.5	%50
24	MP9	Z	5.1	%50
25	MP10	Z	5.1	%50
26	MP11	Z	63.8	%40
27	MP12	Z	20.5	%50
28	MP13	Z	20.5	%50
29	MP14	Z	20.5	%50
30	MP15	Z	20.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-269.8	%40
2	MP2	X	0	%50
3	MP3	X	-41.1	%50
4	MP4	X	0	%50
5	MP5	X	0	%50
6	MP6	X	-121.9	%40
7	MP7	X	-30.8	%50
8	MP8	X	-41.1	%50
9	MP9	X	-30.8	%50
10	MP10	X	-30.8	%50
11	MP11	X	-128	%40
12	MP12	X	-30.8	%50
13	MP13	X	-41.1	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
14	MP14	X	-30.9	%50
15	MP15	X	-30.9	%50
16	MP1	Z	0	%40
17	MP2	Z	0	%50
18	MP3	Z	0	%50
19	MP4	Z	0	%50
20	MP5	Z	0	%50
21	MP6	Z	0	%40
22	MP7	Z	0	%50
23	MP8	Z	0	%50
24	MP9	Z	0	%50
25	MP10	Z	0	%50
26	MP11	Z	0	%40
27	MP12	Z	0	%50
28	MP13	Z	0	%50
29	MP14	Z	0	%50
30	MP15	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-222.5	%40
2	MP2	X	-8.9	%50
3	MP3	X	-35.6	%50
4	MP4	X	-8.9	%50
5	MP5	X	-8.9	%50
6	MP6	X	-103.3	%40
7	MP7	X	-35.6	%50
8	MP8	X	-35.6	%50
9	MP9	X	-35.6	%50
10	MP10	X	-35.6	%50
11	MP11	X	-111.8	%40
12	MP12	X	-8.9	%50
13	MP13	X	-35.6	%50
14	MP14	X	-9.1	%50
15	MP15	X	-9.1	%50
16	MP1	Z	-128.5	%40
17	MP2	Z	-5.1	%50
18	MP3	Z	-20.5	%50
19	MP4	Z	-5.1	%50
20	MP5	Z	-5.1	%50
21	MP6	Z	-59.7	%40
22	MP7	Z	-20.5	%50
23	MP8	Z	-20.5	%50
24	MP9	Z	-20.5	%50
25	MP10	Z	-20.5	%50
26	MP11	Z	-64.6	%40
27	MP12	Z	-5.1	%50
28	MP13	Z	-20.5	%50
29	MP14	Z	-5.3	%50
30	MP15	Z	-5.3	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-115.5	%40
2	MP2	X	-15.4	%50
3	MP3	X	-20.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP4	X	-15.4	%50
5	MP5	X	-15.4	%50
6	MP6	X	-60.9	%40
7	MP7	X	-15.4	%50
8	MP8	X	-20.5	%50
9	MP9	X	-15.4	%50
10	MP10	X	-15.4	%50
11	MP11	X	-64.8	%40
12	MP12	X	0	%50
13	MP13	X	-20.5	%50
14	MP14	X	-.2	%50
15	MP15	X	-.2	%50
16	MP1	Z	-200.1	%40
17	MP2	Z	-26.7	%50
18	MP3	Z	-35.6	%50
19	MP4	Z	-26.7	%50
20	MP5	Z	-26.7	%50
21	MP6	Z	-105.6	%40
22	MP7	Z	-26.7	%50
23	MP8	Z	-35.6	%50
24	MP9	Z	-26.7	%50
25	MP10	Z	-26.7	%50
26	MP11	Z	-112.3	%40
27	MP12	Z	0	%50
28	MP13	Z	-35.6	%50
29	MP14	Z	-.3	%50
30	MP15	Z	-.3	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%40
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%50
6	MP6	X	0	%40
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%50
10	MP10	X	0	%50
11	MP11	X	0	%40
12	MP12	X	0	%50
13	MP13	X	0	%50
14	MP14	X	0	%50
15	MP15	X	0	%50
16	MP1	Z	-218.2	%40
17	MP2	Z	-41.1	%50
18	MP3	Z	-41.1	%50
19	MP4	Z	-41.1	%50
20	MP5	Z	-41.1	%50
21	MP6	Z	-127	%40
22	MP7	Z	-10.3	%50
23	MP8	Z	-41.1	%50
24	MP9	Z	-10.3	%50
25	MP10	Z	-10.3	%50
26	MP11	Z	-129.1	%40

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
27	MP12	Z	-10.3	%50
28	MP13	Z	-41.1	%50
29	MP14	Z	-10.5	%50
30	MP15	Z	-10.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	115.5	%40
2	MP2	X	15.4	%50
3	MP3	X	20.5	%50
4	MP4	X	15.4	%50
5	MP5	X	15.4	%50
6	MP6	X	64.8	%40
7	MP7	X	0	%50
8	MP8	X	20.5	%50
9	MP9	X	0	%50
10	MP10	X	0	%50
11	MP11	X	64	%40
12	MP12	X	15.4	%50
13	MP13	X	20.5	%50
14	MP14	X	15.4	%50
15	MP15	X	15.4	%50
16	MP1	Z	-200.1	%40
17	MP2	Z	-26.7	%50
18	MP3	Z	-35.6	%50
19	MP4	Z	-26.7	%50
20	MP5	Z	-26.7	%50
21	MP6	Z	-112.3	%40
22	MP7	Z	0	%50
23	MP8	Z	-35.6	%50
24	MP9	Z	0	%50
25	MP10	Z	0	%50
26	MP11	Z	-110.9	%40
27	MP12	Z	-26.7	%50
28	MP13	Z	-35.6	%50
29	MP14	Z	-26.8	%50
30	MP15	Z	-26.8	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	222.5	%40
2	MP2	X	8.9	%50
3	MP3	X	35.6	%50
4	MP4	X	8.9	%50
5	MP5	X	8.9	%50
6	MP6	X	110	%40
7	MP7	X	8.9	%50
8	MP8	X	35.6	%50
9	MP9	X	8.9	%50
10	MP10	X	8.9	%50
11	MP11	X	110.4	%40
12	MP12	X	35.6	%50
13	MP13	X	35.6	%50
14	MP14	X	35.6	%50
15	MP15	X	35.6	%50
16	MP1	Z	-128.5	%40

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
17	MP2	Z	-5.1	%50
18	MP3	Z	-20.5	%50
19	MP4	Z	-5.1	%50
20	MP5	Z	-5.1	%50
21	MP6	Z	-63.5	%40
22	MP7	Z	-5.1	%50
23	MP8	Z	-20.5	%50
24	MP9	Z	-5.1	%50
25	MP10	Z	-5.1	%50
26	MP11	Z	-63.8	%40
27	MP12	Z	-20.5	%50
28	MP13	Z	-20.5	%50
29	MP14	Z	-20.5	%50
30	MP15	Z	-20.5	%50

Member Point Loads (BLC 14 : Ice Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-481	%40
2	MP2	Y	-234.2	%50
3	MP3	Y	-43.9	%50
4	MP4	Y	-262.9	%50
5	MP5	Y	-234.2	%50
6	MP6	Y	-365.7	%40
7	MP7	Y	-262.9	%50
8	MP8	Y	-43.9	%50
9	MP9	Y	-234.2	%50
10	MP10	Y	-234.2	%50
11	MP11	Y	-368.3	%40
12	MP12	Y	-262.9	%50
13	MP13	Y	-43.9	%50
14	MP14	Y	-245.9	%50
15	MP15	Y	-245.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	54.9	%40
2	MP2	X	.9	%50
3	MP3	X	13.8	%50
4	MP4	X	.9	%50
5	MP5	X	.9	%50
6	MP6	X	31.5	%40
7	MP7	X	10.5	%50
8	MP8	X	13.8	%50
9	MP9	X	10.5	%50
10	MP10	X	10.5	%50
11	MP11	X	32.7	%40
12	MP12	X	10.5	%50
13	MP13	X	13.8	%50
14	MP14	X	10.6	%50
15	MP15	X	10.6	%50
16	MP1	Z	0	%40
17	MP2	Z	0	%50
18	MP3	Z	0	%50
19	MP4	Z	0	%50
20	MP5	Z	0	%50
21	MP6	Z	0	%40

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
22	MP7	Z	0	%50
23	MP8	Z	0	%50
24	MP9	Z	0	%50
25	MP10	Z	0	%50
26	MP11	Z	0	%40
27	MP12	Z	0	%50
28	MP13	Z	0	%50
29	MP14	Z	0	%50
30	MP15	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	47.5	%40
2	MP2	X	3.5	%50
3	MP3	X	11.9	%50
4	MP4	X	3.5	%50
5	MP5	X	3.5	%50
6	MP6	X	28.5	%40
7	MP7	X	11.9	%50
8	MP8	X	11.9	%50
9	MP9	X	11.9	%50
10	MP10	X	11.9	%50
11	MP11	X	25.1	%40
12	MP12	X	3.5	%50
13	MP13	X	11.9	%50
14	MP14	X	3.6	%50
15	MP15	X	3.6	%50
16	MP1	Z	27.4	%40
17	MP2	Z	2	%50
18	MP3	Z	6.9	%50
19	MP4	Z	2	%50
20	MP5	Z	2	%50
21	MP6	Z	16.5	%40
22	MP7	Z	6.9	%50
23	MP8	Z	6.9	%50
24	MP9	Z	6.9	%50
25	MP10	Z	6.9	%50
26	MP11	Z	14.5	%40
27	MP12	Z	2	%50
28	MP13	Z	6.9	%50
29	MP14	Z	2.1	%50
30	MP15	Z	2.1	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	27.3	%40
2	MP2	X	5.3	%50
3	MP3	X	6.9	%50
4	MP4	X	5.3	%50
5	MP5	X	5.3	%50
6	MP6	X	15.7	%40
7	MP7	X	5.3	%50
8	MP8	X	6.9	%50
9	MP9	X	5.3	%50
10	MP10	X	5.3	%50
11	MP11	X	13.6	%40

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
12	MP12	X	.4	%50
13	MP13	X	6.9	%50
14	MP14	X	.5	%50
15	MP15	X	.5	%50
16	MP1	Z	47.3	%40
17	MP2	Z	9.1	%50
18	MP3	Z	11.9	%50
19	MP4	Z	9.1	%50
20	MP5	Z	9.1	%50
21	MP6	Z	27.3	%40
22	MP7	Z	9.1	%50
23	MP8	Z	11.9	%50
24	MP9	Z	9.1	%50
25	MP10	Z	9.1	%50
26	MP11	Z	23.5	%40
27	MP12	Z	.7	%50
28	MP13	Z	11.9	%50
29	MP14	Z	.9	%50
30	MP15	Z	.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%40
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%50
6	MP6	X	0	%40
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%50
10	MP10	X	0	%50
11	MP11	X	0	%40
12	MP12	X	0	%50
13	MP13	X	0	%50
14	MP14	X	0	%50
15	MP15	X	0	%50
16	MP1	Z	54.6	%40
17	MP2	Z	13.8	%50
18	MP3	Z	13.8	%50
19	MP4	Z	13.8	%50
20	MP5	Z	13.8	%50
21	MP6	Z	28.6	%40
22	MP7	Z	4.1	%50
23	MP8	Z	13.8	%50
24	MP9	Z	4.1	%50
25	MP10	Z	4.1	%50
26	MP11	Z	29	%40
27	MP12	Z	4.1	%50
28	MP13	Z	13.8	%50
29	MP14	Z	4.2	%50
30	MP15	Z	4.2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-27.3	%40

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP2	X	-5.3	%50
3	MP3	X	-6.9	%50
4	MP4	X	-5.3	%50
5	MP5	X	-5.3	%50
6	MP6	X	-13.6	%40
7	MP7	X	-.4	%50
8	MP8	X	-6.9	%50
9	MP9	X	-.4	%50
10	MP10	X	-.4	%50
11	MP11	X	-16.3	%40
12	MP12	X	-5.3	%50
13	MP13	X	-6.9	%50
14	MP14	X	-5.3	%50
15	MP15	X	-5.3	%50
16	MP1	Z	47.3	%40
17	MP2	Z	9.1	%50
18	MP3	Z	11.9	%50
19	MP4	Z	9.1	%50
20	MP5	Z	9.1	%50
21	MP6	Z	23.5	%40
22	MP7	Z	.7	%50
23	MP8	Z	11.9	%50
24	MP9	Z	.7	%50
25	MP10	Z	.7	%50
26	MP11	Z	28.3	%40
27	MP12	Z	9.1	%50
28	MP13	Z	11.9	%50
29	MP14	Z	9.1	%50
30	MP15	Z	9.1	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-47.5	%40
2	MP2	X	-3.5	%50
3	MP3	X	-11.9	%50
4	MP4	X	-3.5	%50
5	MP5	X	-3.5	%50
6	MP6	X	-24.7	%40
7	MP7	X	-3.5	%50
8	MP8	X	-11.9	%50
9	MP9	X	-3.5	%50
10	MP10	X	-3.5	%50
11	MP11	X	-29.9	%40
12	MP12	X	-11.9	%50
13	MP13	X	-11.9	%50
14	MP14	X	-11.9	%50
15	MP15	X	-11.9	%50
16	MP1	Z	27.4	%40
17	MP2	Z	2	%50
18	MP3	Z	6.9	%50
19	MP4	Z	2	%50
20	MP5	Z	2	%50
21	MP6	Z	14.3	%40
22	MP7	Z	2	%50
23	MP8	Z	6.9	%50
24	MP9	Z	2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP10	Z	2	%50
26	MP11	Z	17.3	%40
27	MP12	Z	6.9	%50
28	MP13	Z	6.9	%50
29	MP14	Z	6.9	%50
30	MP15	Z	6.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-54.9	%40
2	MP2	X	-.9	%50
3	MP3	X	-13.8	%50
4	MP4	X	-.9	%50
5	MP5	X	-.9	%50
6	MP6	X	-31.5	%40
7	MP7	X	-10.5	%50
8	MP8	X	-13.8	%50
9	MP9	X	-10.5	%50
10	MP10	X	-10.5	%50
11	MP11	X	-32.7	%40
12	MP12	X	-10.5	%50
13	MP13	X	-13.8	%50
14	MP14	X	-10.6	%50
15	MP15	X	-10.6	%50
16	MP1	Z	0	%40
17	MP2	Z	0	%50
18	MP3	Z	0	%50
19	MP4	Z	0	%50
20	MP5	Z	0	%50
21	MP6	Z	0	%40
22	MP7	Z	0	%50
23	MP8	Z	0	%50
24	MP9	Z	0	%50
25	MP10	Z	0	%50
26	MP11	Z	0	%40
27	MP12	Z	0	%50
28	MP13	Z	0	%50
29	MP14	Z	0	%50
30	MP15	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-47.5	%40
2	MP2	X	-3.5	%50
3	MP3	X	-11.9	%50
4	MP4	X	-3.5	%50
5	MP5	X	-3.5	%50
6	MP6	X	-28.5	%40
7	MP7	X	-11.9	%50
8	MP8	X	-11.9	%50
9	MP9	X	-11.9	%50
10	MP10	X	-11.9	%50
11	MP11	X	-25.1	%40
12	MP12	X	-3.5	%50
13	MP13	X	-11.9	%50
14	MP14	X	-3.6	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
15	MP15	X	-3.6	%50
16	MP1	Z	-27.4	%40
17	MP2	Z	-2	%50
18	MP3	Z	-6.9	%50
19	MP4	Z	-2	%50
20	MP5	Z	-2	%50
21	MP6	Z	-16.5	%40
22	MP7	Z	-6.9	%50
23	MP8	Z	-6.9	%50
24	MP9	Z	-6.9	%50
25	MP10	Z	-6.9	%50
26	MP11	Z	-14.5	%40
27	MP12	Z	-2	%50
28	MP13	Z	-6.9	%50
29	MP14	Z	-2.1	%50
30	MP15	Z	-2.1	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-27.3	%40
2	MP2	X	-5.3	%50
3	MP3	X	-6.9	%50
4	MP4	X	-5.3	%50
5	MP5	X	-5.3	%50
6	MP6	X	-15.7	%40
7	MP7	X	-5.3	%50
8	MP8	X	-6.9	%50
9	MP9	X	-5.3	%50
10	MP10	X	-5.3	%50
11	MP11	X	-13.6	%40
12	MP12	X	-.4	%50
13	MP13	X	-6.9	%50
14	MP14	X	-.5	%50
15	MP15	X	-.5	%50
16	MP1	Z	-47.3	%40
17	MP2	Z	-9.1	%50
18	MP3	Z	-11.9	%50
19	MP4	Z	-9.1	%50
20	MP5	Z	-9.1	%50
21	MP6	Z	-27.3	%40
22	MP7	Z	-9.1	%50
23	MP8	Z	-11.9	%50
24	MP9	Z	-9.1	%50
25	MP10	Z	-9.1	%50
26	MP11	Z	-23.5	%40
27	MP12	Z	-.7	%50
28	MP13	Z	-11.9	%50
29	MP14	Z	-.9	%50
30	MP15	Z	-.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%40
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP4	X	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP5	X	0	%50
6	MP6	X	0	%40
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%50
10	MP10	X	0	%50
11	MP11	X	0	%40
12	MP12	X	0	%50
13	MP13	X	0	%50
14	MP14	X	0	%50
15	MP15	X	0	%50
16	MP1	Z	-54.6	%40
17	MP2	Z	-13.8	%50
18	MP3	Z	-13.8	%50
19	MP4	Z	-13.8	%50
20	MP5	Z	-13.8	%50
21	MP6	Z	-28.6	%40
22	MP7	Z	-4.1	%50
23	MP8	Z	-13.8	%50
24	MP9	Z	-4.1	%50
25	MP10	Z	-4.1	%50
26	MP11	Z	-29	%40
27	MP12	Z	-4.1	%50
28	MP13	Z	-13.8	%50
29	MP14	Z	-4.2	%50
30	MP15	Z	-4.2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	27.3	%40
2	MP2	X	5.3	%50
3	MP3	X	6.9	%50
4	MP4	X	5.3	%50
5	MP5	X	5.3	%50
6	MP6	X	13.6	%40
7	MP7	X	.4	%50
8	MP8	X	6.9	%50
9	MP9	X	.4	%50
10	MP10	X	.4	%50
11	MP11	X	16.3	%40
12	MP12	X	5.3	%50
13	MP13	X	6.9	%50
14	MP14	X	5.3	%50
15	MP15	X	5.3	%50
16	MP1	Z	-47.3	%40
17	MP2	Z	-9.1	%50
18	MP3	Z	-11.9	%50
19	MP4	Z	-9.1	%50
20	MP5	Z	-9.1	%50
21	MP6	Z	-23.5	%40
22	MP7	Z	-.7	%50
23	MP8	Z	-11.9	%50
24	MP9	Z	-.7	%50
25	MP10	Z	-.7	%50
26	MP11	Z	-28.3	%40
27	MP12	Z	-9.1	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
28	MP13	Z	-11.9	%50
29	MP14	Z	-9.1	%50
30	MP15	Z	-9.1	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	47.5	%40
2	MP2	X	3.5	%50
3	MP3	X	11.9	%50
4	MP4	X	3.5	%50
5	MP5	X	3.5	%50
6	MP6	X	24.7	%40
7	MP7	X	3.5	%50
8	MP8	X	11.9	%50
9	MP9	X	3.5	%50
10	MP10	X	3.5	%50
11	MP11	X	29.9	%40
12	MP12	X	11.9	%50
13	MP13	X	11.9	%50
14	MP14	X	11.9	%50
15	MP15	X	11.9	%50
16	MP1	Z	-27.4	%40
17	MP2	Z	-2	%50
18	MP3	Z	-6.9	%50
19	MP4	Z	-2	%50
20	MP5	Z	-2	%50
21	MP6	Z	-14.3	%40
22	MP7	Z	-2	%50
23	MP8	Z	-6.9	%50
24	MP9	Z	-2	%50
25	MP10	Z	-2	%50
26	MP11	Z	-17.3	%40
27	MP12	Z	-6.9	%50
28	MP13	Z	-6.9	%50
29	MP14	Z	-6.9	%50
30	MP15	Z	-6.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	260.6	%40
2	MP2	X	21	%50
3	MP3	X	0	%50
4	MP4	X	88	%50
5	MP5	X	21	%50
6	MP6	X	242.7	%40
7	MP7	X	88	%50
8	MP8	X	0	%50
9	MP9	X	21	%50
10	MP10	X	21	%50
11	MP11	X	256.8	%40
12	MP12	X	88	%50
13	MP13	X	0	%50
14	MP14	X	21	%50
15	MP15	X	21	%50
16	MP1	Z	0	%40
17	MP2	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP3	Z	0	%50
19	MP4	Z	0	%50
20	MP5	Z	0	%50
21	MP6	Z	0	%40
22	MP7	Z	0	%50
23	MP8	Z	0	%50
24	MP9	Z	0	%50
25	MP10	Z	0	%50
26	MP11	Z	0	%40
27	MP12	Z	0	%50
28	MP13	Z	0	%50
29	MP14	Z	0	%50
30	MP15	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	225.7	%40
2	MP2	X	18.2	%50
3	MP3	X	0	%50
4	MP4	X	76.2	%50
5	MP5	X	18.2	%50
6	MP6	X	210.2	%40
7	MP7	X	76.2	%50
8	MP8	X	0	%50
9	MP9	X	18.2	%50
10	MP10	X	18.2	%50
11	MP11	X	222.4	%40
12	MP12	X	76.2	%50
13	MP13	X	0	%50
14	MP14	X	18.2	%50
15	MP15	X	18.2	%50
16	MP1	Z	130.3	%40
17	MP2	Z	10.5	%50
18	MP3	Z	0	%50
19	MP4	Z	44	%50
20	MP5	Z	10.5	%50
21	MP6	Z	121.4	%40
22	MP7	Z	44	%50
23	MP8	Z	0	%50
24	MP9	Z	10.5	%50
25	MP10	Z	10.5	%50
26	MP11	Z	128.4	%40
27	MP12	Z	44	%50
28	MP13	Z	0	%50
29	MP14	Z	10.5	%50
30	MP15	Z	10.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	130.3	%40
2	MP2	X	10.5	%50
3	MP3	X	0	%50
4	MP4	X	44	%50
5	MP5	X	10.5	%50
6	MP6	X	121.4	%40
7	MP7	X	44	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
8	MP8	X	0	%50
9	MP9	X	10.5	%50
10	MP10	X	10.5	%50
11	MP11	X	128.4	%40
12	MP12	X	44	%50
13	MP13	X	0	%50
14	MP14	X	10.5	%50
15	MP15	X	10.5	%50
16	MP1	Z	225.7	%40
17	MP2	Z	18.2	%50
18	MP3	Z	0	%50
19	MP4	Z	76.2	%50
20	MP5	Z	18.2	%50
21	MP6	Z	210.2	%40
22	MP7	Z	76.2	%50
23	MP8	Z	0	%50
24	MP9	Z	18.2	%50
25	MP10	Z	18.2	%50
26	MP11	Z	222.4	%40
27	MP12	Z	76.2	%50
28	MP13	Z	0	%50
29	MP14	Z	18.2	%50
30	MP15	Z	18.2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%40
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%50
6	MP6	X	0	%40
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%50
10	MP10	X	0	%50
11	MP11	X	0	%40
12	MP12	X	0	%50
13	MP13	X	0	%50
14	MP14	X	0	%50
15	MP15	X	0	%50
16	MP1	Z	260.6	%40
17	MP2	Z	21	%50
18	MP3	Z	0	%50
19	MP4	Z	88	%50
20	MP5	Z	21	%50
21	MP6	Z	242.7	%40
22	MP7	Z	88	%50
23	MP8	Z	0	%50
24	MP9	Z	21	%50
25	MP10	Z	21	%50
26	MP11	Z	256.8	%40
27	MP12	Z	88	%50
28	MP13	Z	0	%50
29	MP14	Z	21	%50
30	MP15	Z	21	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-130.3	%40
2	MP2	X	-10.5	%50
3	MP3	X	0	%50
4	MP4	X	-44	%50
5	MP5	X	-10.5	%50
6	MP6	X	-121.3	%40
7	MP7	X	-44	%50
8	MP8	X	0	%50
9	MP9	X	-10.5	%50
10	MP10	X	-10.5	%50
11	MP11	X	-128.4	%40
12	MP12	X	-44	%50
13	MP13	X	0	%50
14	MP14	X	-10.5	%50
15	MP15	X	-10.5	%50
16	MP1	Z	225.7	%40
17	MP2	Z	18.2	%50
18	MP3	Z	0	%50
19	MP4	Z	76.2	%50
20	MP5	Z	18.2	%50
21	MP6	Z	210.2	%40
22	MP7	Z	76.2	%50
23	MP8	Z	0	%50
24	MP9	Z	18.2	%50
25	MP10	Z	18.2	%50
26	MP11	Z	222.4	%40
27	MP12	Z	76.2	%50
28	MP13	Z	0	%50
29	MP14	Z	18.2	%50
30	MP15	Z	18.2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-225.7	%40
2	MP2	X	-18.2	%50
3	MP3	X	0	%50
4	MP4	X	-76.2	%50
5	MP5	X	-18.2	%50
6	MP6	X	-210.2	%40
7	MP7	X	-76.2	%50
8	MP8	X	0	%50
9	MP9	X	-18.2	%50
10	MP10	X	-18.2	%50
11	MP11	X	-222.4	%40
12	MP12	X	-76.2	%50
13	MP13	X	0	%50
14	MP14	X	-18.2	%50
15	MP15	X	-18.2	%50
16	MP1	Z	130.3	%40
17	MP2	Z	10.5	%50
18	MP3	Z	0	%50
19	MP4	Z	44	%50
20	MP5	Z	10.5	%50
21	MP6	Z	121.4	%40
22	MP7	Z	44	%50
23	MP8	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
24	MP9	Z	10.5	%50
25	MP10	Z	10.5	%50
26	MP11	Z	128.4	%40
27	MP12	Z	44	%50
28	MP13	Z	0	%50
29	MP14	Z	10.5	%50
30	MP15	Z	10.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-260.6	%40
2	MP2	X	-21	%50
3	MP3	X	0	%50
4	MP4	X	-88	%50
5	MP5	X	-21	%50
6	MP6	X	-242.7	%40
7	MP7	X	-88	%50
8	MP8	X	0	%50
9	MP9	X	-21	%50
10	MP10	X	-21	%50
11	MP11	X	-256.8	%40
12	MP12	X	-88	%50
13	MP13	X	0	%50
14	MP14	X	-21	%50
15	MP15	X	-21	%50
16	MP1	Z	0	%40
17	MP2	Z	0	%50
18	MP3	Z	0	%50
19	MP4	Z	0	%50
20	MP5	Z	0	%50
21	MP6	Z	0	%40
22	MP7	Z	0	%50
23	MP8	Z	0	%50
24	MP9	Z	0	%50
25	MP10	Z	0	%50
26	MP11	Z	0	%40
27	MP12	Z	0	%50
28	MP13	Z	0	%50
29	MP14	Z	0	%50
30	MP15	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-225.7	%40
2	MP2	X	-18.2	%50
3	MP3	X	0	%50
4	MP4	X	-76.2	%50
5	MP5	X	-18.2	%50
6	MP6	X	-210.2	%40
7	MP7	X	-76.2	%50
8	MP8	X	0	%50
9	MP9	X	-18.2	%50
10	MP10	X	-18.2	%50
11	MP11	X	-222.4	%40
12	MP12	X	-76.2	%50
13	MP13	X	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
14	MP14	X	-18.2	%50
15	MP15	X	-18.2	%50
16	MP1	Z	-130.3	%40
17	MP2	Z	-10.5	%50
18	MP3	Z	0	%50
19	MP4	Z	-44	%50
20	MP5	Z	-10.5	%50
21	MP6	Z	-121.4	%40
22	MP7	Z	-44	%50
23	MP8	Z	0	%50
24	MP9	Z	-10.5	%50
25	MP10	Z	-10.5	%50
26	MP11	Z	-128.4	%40
27	MP12	Z	-44	%50
28	MP13	Z	0	%50
29	MP14	Z	-10.5	%50
30	MP15	Z	-10.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-130.3	%40
2	MP2	X	-10.5	%50
3	MP3	X	0	%50
4	MP4	X	-44	%50
5	MP5	X	-10.5	%50
6	MP6	X	-121.4	%40
7	MP7	X	-44	%50
8	MP8	X	0	%50
9	MP9	X	-10.5	%50
10	MP10	X	-10.5	%50
11	MP11	X	-128.4	%40
12	MP12	X	-44	%50
13	MP13	X	0	%50
14	MP14	X	-10.5	%50
15	MP15	X	-10.5	%50
16	MP1	Z	-225.7	%40
17	MP2	Z	-18.2	%50
18	MP3	Z	0	%50
19	MP4	Z	-76.2	%50
20	MP5	Z	-18.2	%50
21	MP6	Z	-210.2	%40
22	MP7	Z	-76.2	%50
23	MP8	Z	0	%50
24	MP9	Z	-18.2	%50
25	MP10	Z	-18.2	%50
26	MP11	Z	-222.4	%40
27	MP12	Z	-76.2	%50
28	MP13	Z	0	%50
29	MP14	Z	-18.2	%50
30	MP15	Z	-18.2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%40
2	MP2	X	0	%50
3	MP3	X	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP4	X	0	%50
5	MP5	X	0	%50
6	MP6	X	0	%40
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%50
10	MP10	X	0	%50
11	MP11	X	0	%40
12	MP12	X	0	%50
13	MP13	X	0	%50
14	MP14	X	0	%50
15	MP15	X	0	%50
16	MP1	Z	-260.6	%40
17	MP2	Z	-21	%50
18	MP3	Z	0	%50
19	MP4	Z	-88	%50
20	MP5	Z	-21	%50
21	MP6	Z	-242.7	%40
22	MP7	Z	-88	%50
23	MP8	Z	0	%50
24	MP9	Z	-21	%50
25	MP10	Z	-21	%50
26	MP11	Z	-256.8	%40
27	MP12	Z	-88	%50
28	MP13	Z	0	%50
29	MP14	Z	-21	%50
30	MP15	Z	-21	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	130.3	%40
2	MP2	X	10.5	%50
3	MP3	X	0	%50
4	MP4	X	44	%50
5	MP5	X	10.5	%50
6	MP6	X	121.4	%40
7	MP7	X	44	%50
8	MP8	X	0	%50
9	MP9	X	10.5	%50
10	MP10	X	10.5	%50
11	MP11	X	128.4	%40
12	MP12	X	44	%50
13	MP13	X	0	%50
14	MP14	X	10.5	%50
15	MP15	X	10.5	%50
16	MP1	Z	-225.7	%40
17	MP2	Z	-18.2	%50
18	MP3	Z	0	%50
19	MP4	Z	-76.2	%50
20	MP5	Z	-18.2	%50
21	MP6	Z	-210.2	%40
22	MP7	Z	-76.2	%50
23	MP8	Z	0	%50
24	MP9	Z	-18.2	%50
25	MP10	Z	-18.2	%50
26	MP11	Z	-222.4	%40

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
27	MP12	Z	-76.2	%50
28	MP13	Z	0	%50
29	MP14	Z	-18.2	%50
30	MP15	Z	-18.2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	225.7	%40
2	MP2	X	18.2	%50
3	MP3	X	0	%50
4	MP4	X	76.2	%50
5	MP5	X	18.2	%50
6	MP6	X	210.2	%40
7	MP7	X	76.2	%50
8	MP8	X	0	%50
9	MP9	X	18.2	%50
10	MP10	X	18.2	%50
11	MP11	X	222.4	%40
12	MP12	X	76.2	%50
13	MP13	X	0	%50
14	MP14	X	18.2	%50
15	MP15	X	18.2	%50
16	MP1	Z	-130.3	%40
17	MP2	Z	-10.5	%50
18	MP3	Z	0	%50
19	MP4	Z	-44	%50
20	MP5	Z	-10.5	%50
21	MP6	Z	-121.4	%40
22	MP7	Z	-44	%50
23	MP8	Z	0	%50
24	MP9	Z	-10.5	%50
25	MP10	Z	-10.5	%50
26	MP11	Z	-128.4	%40
27	MP12	Z	-44	%50
28	MP13	Z	0	%50
29	MP14	Z	-10.5	%50
30	MP15	Z	-10.5	%50

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 51 : Maintenance Load, Lm (MP13))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP13	Y	-500	%50

Member Point Loads (BLC 52 : Maintenance Load, Lm (MP14))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP14	Y	-500	%50

Member Point Loads (BLC 53 : Maintenance Load, Lm (MP15))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP15	Y	-500	%50

Member Point Loads (BLC 75 : Maintenance Load, Lv (Pos. 1))

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

Member Point Loads (BLC 76 : Maintenance Load, Lv (Pos. 2))

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

Member Point Loads (BLC 77 : Maintenance Load, Lv (Pos. 3))

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

Member Point Loads (BLC 78 : Maintenance Load, Lv (Pos. 4))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE1	Y	-250	%50

Member Point Loads (BLC 79 : Maintenance Load, Lv (Pos. 5))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE2	Y	-250	%50

Member Point Loads (BLC 80 : Maintenance Load, Lv (Pos. 6))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE3	Y	-250	%50

Member Point Loads (BLC 81 : Maintenance Load, Lv (Pos. 7))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE4	Y	-250	%50

Member Point Loads (BLC 82 : Maintenance Load, Lv (Pos. 8))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE5	Y	-250	%50

Member Point Loads (BLC 83 : Maintenance Load, Lv (Pos. 9))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE6	Y	-250	%50

Member Point Loads (BLC 84 : Maintenance Load, Lv (Pos. 10))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE7	Y	-250	%50

Member Point Loads (BLC 85 : Maintenance Load, Lv (Pos. 11))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE8	Y	-250	%50

Member Point Loads (BLC 86 : Maintenance Load, Lv (Pos. 12))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE9	Y	-250	%50

Member Point Loads (BLC 87 : Maintenance Load, Lv (Pos. 13))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE10	Y	-250	%50

Member Point Loads (BLC 88 : Maintenance Load, Lv (Pos. 14))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE11	Y	-250	%50

Member Point Loads (BLC 89 : Maintenance Load, Lv (Pos. 15))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE12	Y	-250	%50

Member Point Loads (BLC 90 : Maintenance Load, Lv (Pos. 16))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE13	Y	-250	%50

Member Point Loads (BLC 91 : Maintenance Load, Lv (Pos. 17))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE14	Y	-250	%50

Member Point Loads (BLC 92 : Maintenance Load, Lv (Pos. 18))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE15	Y	-250	%50

Member Point Loads (BLC 93 : Maintenance Load, Lv (Pos. 19))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE16	Y	-250	%50

Member Point Loads (BLC 94 : Maintenance Load, Lv (Pos. 20))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE17	Y	-250	%50

Member Point Loads (BLC 95 : Maintenance Load, Lv (Pos. 21))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	GRATE18	Y	-250	%50

Member Point Loads (BLC 96 : Maintenance Load, Lv (Pos. 22))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	SA-BOT-1	Y	-250	%100

Member Point Loads (BLC 97 : Maintenance Load, Lv (Pos. 23))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	SA-BOT-2	Y	-250	%100

Member Point Loads (BLC 98 : Maintenance Load, Lv (Pos. 24))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	SA-BOT-3	Y	-250	%100

Member Point Loads (BLC 99 : Maintenance Load, Lv (Pos. 25))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	SA-TOP-1	Y	-250	%100

Member Point Loads (BLC 100 : Maintenance Load, Lv (Pos. 26))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	SA-TOP-2	Y	-250	%100

Member Point Loads (BLC 101 : Maintenance Load, Lv (Pos. 27))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	SA-TOP-3	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	12.1	12.1	0	0
2	FM2	X	12.1	12.1	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,%]
3	FM3	X	12.1	12.1	0	0
4	GRATE1	X	8.6	8.6	0	0
5	GRATE2	X	8.6	8.6	0	0
6	GRATE3	X	8.6	8.6	0	0
7	GRATE4	X	8.6	8.6	0	0
8	GRATE5	X	8.6	8.6	0	0
9	GRATE6	X	8.6	8.6	0	0
10	GRATE7	X	8.6	8.6	0	0
11	GRATE8	X	8.6	8.6	0	0
12	GRATE9	X	8.6	8.6	0	0
13	GRATE10	X	8.6	8.6	0	0
14	GRATE11	X	8.6	8.6	0	0
15	GRATE12	X	0	0	0	0
16	GRATE13	X	0	0	0	0
17	GRATE14	X	8.6	8.6	0	0
18	GRATE15	X	8.6	8.6	0	0
19	GRATE16	X	8.6	8.6	0	0
20	GRATE17	X	8.6	8.6	0	0
21	GRATE18	X	8.6	8.6	0	0
22	PL-BOT-1	X	34.6	34.6	0	0
23	PL-BOT-2	X	34.6	34.6	0	0
24	PL-BOT-3	X	34.6	34.6	0	0
25	SA-BOT-1	X	0	0	0	0
26	SA-BOT-2	X	17.3	17.3	0	0
27	SA-BOT-3	X	17.3	17.3	0	0
28	SA-TOP-1	X	0	0	0	0
29	SA-TOP-2	X	17.3	17.3	0	0
30	SA-TOP-3	X	17.3	17.3	0	0
31	FM1	Z	0	0	0	0
32	FM2	Z	0	0	0	0
33	FM3	Z	0	0	0	0
34	GRATE1	Z	0	0	0	0
35	GRATE2	Z	0	0	0	0
36	GRATE3	Z	0	0	0	0
37	GRATE4	Z	0	0	0	0
38	GRATE5	Z	0	0	0	0
39	GRATE6	Z	0	0	0	0
40	GRATE7	Z	0	0	0	0
41	GRATE8	Z	0	0	0	0
42	GRATE9	Z	0	0	0	0
43	GRATE10	Z	0	0	0	0
44	GRATE11	Z	0	0	0	0
45	GRATE12	Z	0	0	0	0
46	GRATE13	Z	0	0	0	0
47	GRATE14	Z	0	0	0	0
48	GRATE15	Z	0	0	0	0
49	GRATE16	Z	0	0	0	0
50	GRATE17	Z	0	0	0	0
51	GRATE18	Z	0	0	0	0
52	PL-BOT-1	Z	0	0	0	0
53	PL-BOT-2	Z	0	0	0	0
54	PL-BOT-3	Z	0	0	0	0
55	SA-BOT-1	Z	0	0	0	0
56	SA-BOT-2	Z	0	0	0	0
57	SA-BOT-3	Z	0	0	0	0
58	SA-TOP-1	Z	0	0	0	0
59	SA-TOP-2	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,%]
60	SA-TOP-3	Z	0	0	0	0
61	MP1	X	56.2	56.2	0	%100
62	MP2	X	48.6	48.6	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	56.2	56.2	0	%100
65	MP5	X	48.6	48.6	0	%100
66	MP6	X	49.3	49.3	0	%100
67	MP7	X	49.3	49.3	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	44.1	44.1	0	%100
70	MP10	X	44.1	44.1	0	%100
71	MP11	X	49.3	49.3	0	%100
72	MP12	X	49.3	49.3	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	52.7	52.7	0	%99.058
75	MP15	X	52.7	52.7	0	%99.058
76	MP1	Z	0	0	0	0
77	MP2	Z	0	0	0	0
78	MP3	Z	0	0	0	0
79	MP4	Z	0	0	0	0
80	MP5	Z	0	0	0	0
81	MP6	Z	0	0	0	0
82	MP7	Z	0	0	0	0
83	MP8	Z	0	0	0	0
84	MP9	Z	0	0	0	0
85	MP10	Z	0	0	0	0
86	MP11	Z	0	0	0	0
87	MP12	Z	0	0	0	0
88	MP13	Z	0	0	0	0
89	MP14	Z	0	0	0	0
90	MP15	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	10.5	10.5	0	0
2	FM2	X	0	0	0	0
3	FM3	X	10.5	10.5	0	0
4	GRATE1	X	7.5	7.5	0	0
5	GRATE2	X	7.5	7.5	0	0
6	GRATE3	X	7.5	7.5	0	0
7	GRATE4	X	7.5	7.5	0	0
8	GRATE5	X	7.5	7.5	0	0
9	GRATE6	X	7.5	7.5	0	0
10	GRATE7	X	7.5	7.5	0	0
11	GRATE8	X	7.5	7.5	0	0
12	GRATE9	X	7.5	7.5	0	0
13	GRATE10	X	7.5	7.5	0	0
14	GRATE11	X	7.5	7.5	0	0
15	GRATE12	X	7.5	7.5	0	0
16	GRATE13	X	7.5	7.5	0	0
17	GRATE14	X	7.5	7.5	0	0
18	GRATE15	X	7.5	7.5	0	0
19	GRATE16	X	7.5	7.5	0	0
20	GRATE17	X	7.5	7.5	0	0
21	GRATE18	X	7.5	7.5	0	0
22	PL-BOT-1	X	29.9	29.9	0	0

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,%]
23	PL-BOT-2	X	0	0	0	0
24	PL-BOT-3	X	29.9	29.9	0	0
25	SA-BOT-1	X	15	15	0	0
26	SA-BOT-2	X	15	15	0	0
27	SA-BOT-3	X	15	15	0	0
28	SA-TOP-1	X	15	15	0	0
29	SA-TOP-2	X	15	15	0	0
30	SA-TOP-3	X	15	15	0	0
31	FM1	Z	6	6	0	0
32	FM2	Z	0	0	0	0
33	FM3	Z	6	6	0	0
34	GRATE1	Z	4.3	4.3	0	0
35	GRATE2	Z	4.3	4.3	0	0
36	GRATE3	Z	4.3	4.3	0	0
37	GRATE4	Z	4.3	4.3	0	0
38	GRATE5	Z	4.3	4.3	0	0
39	GRATE6	Z	4.3	4.3	0	0
40	GRATE7	Z	4.3	4.3	0	0
41	GRATE8	Z	4.3	4.3	0	0
42	GRATE9	Z	4.3	4.3	0	0
43	GRATE10	Z	4.3	4.3	0	0
44	GRATE11	Z	4.3	4.3	0	0
45	GRATE12	Z	4.3	4.3	0	0
46	GRATE13	Z	4.3	4.3	0	0
47	GRATE14	Z	4.3	4.3	0	0
48	GRATE15	Z	4.3	4.3	0	0
49	GRATE16	Z	4.3	4.3	0	0
50	GRATE17	Z	4.3	4.3	0	0
51	GRATE18	Z	4.3	4.3	0	0
52	PL-BOT-1	Z	17.3	17.3	0	0
53	PL-BOT-2	Z	0	0	0	0
54	PL-BOT-3	Z	17.3	17.3	0	0
55	SA-BOT-1	Z	8.6	8.6	0	0
56	SA-BOT-2	Z	8.6	8.6	0	0
57	SA-BOT-3	Z	8.6	8.6	0	0
58	SA-TOP-1	Z	8.6	8.6	0	0
59	SA-TOP-2	Z	8.6	8.6	0	0
60	SA-TOP-3	Z	8.6	8.6	0	0
61	MP1	X	46.7	46.7	0	%100
62	MP2	X	40.8	40.8	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	46.7	46.7	0	%100
65	MP5	X	40.8	40.8	0	%100
66	MP6	X	40.7	40.7	0	%100
67	MP7	X	40.7	40.7	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	36.9	36.9	0	%100
70	MP10	X	36.9	36.9	0	%100
71	MP11	X	46.7	46.7	0	%100
72	MP12	X	46.7	46.7	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	32.6	32.6	0	%99.058
75	MP15	X	32.6	32.6	0	%99.058
76	MP1	Z	27	27	0	%100
77	MP2	Z	23.6	23.6	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	27	27	0	%100

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,%]
80	MP5	Z	23.6	23.6	0	%100
81	MP6	Z	23.5	23.5	0	%100
82	MP7	Z	23.5	23.5	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	21.3	21.3	0	%100
85	MP10	Z	21.3	21.3	0	%100
86	MP11	Z	27	27	0	%100
87	MP12	Z	27	27	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	18.8	18.8	0	%99.058
90	MP15	Z	18.8	18.8	0	%99.058

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	6	6	0	0
2	FM2	X	6	6	0	0
3	FM3	X	6	6	0	0
4	GRATE1	X	4.3	4.3	0	0
5	GRATE2	X	4.3	4.3	0	0
6	GRATE3	X	4.3	4.3	0	0
7	GRATE4	X	4.3	4.3	0	0
8	GRATE5	X	4.3	4.3	0	0
9	GRATE6	X	0	0	0	0
10	GRATE7	X	0	0	0	0
11	GRATE8	X	4.3	4.3	0	0
12	GRATE9	X	4.3	4.3	0	0
13	GRATE10	X	4.3	4.3	0	0
14	GRATE11	X	4.3	4.3	0	0
15	GRATE12	X	4.3	4.3	0	0
16	GRATE13	X	4.3	4.3	0	0
17	GRATE14	X	4.3	4.3	0	0
18	GRATE15	X	4.3	4.3	0	0
19	GRATE16	X	4.3	4.3	0	0
20	GRATE17	X	4.3	4.3	0	0
21	GRATE18	X	4.3	4.3	0	0
22	PL-BOT-1	X	17.3	17.3	0	0
23	PL-BOT-2	X	17.3	17.3	0	0
24	PL-BOT-3	X	17.3	17.3	0	0
25	SA-BOT-1	X	8.6	8.6	0	0
26	SA-BOT-2	X	8.6	8.6	0	0
27	SA-BOT-3	X	0	0	0	0
28	SA-TOP-1	X	8.6	8.6	0	0
29	SA-TOP-2	X	8.6	8.6	0	0
30	SA-TOP-3	X	0	0	0	0
31	FM1	Z	10.5	10.5	0	0
32	FM2	Z	10.5	10.5	0	0
33	FM3	Z	10.5	10.5	0	0
34	GRATE1	Z	7.5	7.5	0	0
35	GRATE2	Z	7.5	7.5	0	0
36	GRATE3	Z	7.5	7.5	0	0
37	GRATE4	Z	7.5	7.5	0	0
38	GRATE5	Z	7.5	7.5	0	0
39	GRATE6	Z	0	0	0	0
40	GRATE7	Z	0	0	0	0
41	GRATE8	Z	7.5	7.5	0	0
42	GRATE9	Z	7.5	7.5	0	0

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,%]
43	GRATE10	Z	7.5	7.5	0	0
44	GRATE11	Z	7.5	7.5	0	0
45	GRATE12	Z	7.5	7.5	0	0
46	GRATE13	Z	7.5	7.5	0	0
47	GRATE14	Z	7.5	7.5	0	0
48	GRATE15	Z	7.5	7.5	0	0
49	GRATE16	Z	7.5	7.5	0	0
50	GRATE17	Z	7.5	7.5	0	0
51	GRATE18	Z	7.5	7.5	0	0
52	PL-BOT-1	Z	29.9	29.9	0	0
53	PL-BOT-2	Z	29.9	29.9	0	0
54	PL-BOT-3	Z	29.9	29.9	0	0
55	SA-BOT-1	Z	15	15	0	0
56	SA-BOT-2	Z	15	15	0	0
57	SA-BOT-3	Z	0	0	0	0
58	SA-TOP-1	Z	15	15	0	0
59	SA-TOP-2	Z	15	15	0	0
60	SA-TOP-3	Z	0	0	0	0
61	MP1	X	24.7	24.7	0	%100
62	MP2	X	22	22	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	24.7	24.7	0	%100
65	MP5	X	22	22	0	%100
66	MP6	X	24.7	24.7	0	%100
67	MP7	X	24.7	24.7	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	22	22	0	%100
70	MP10	X	22	22	0	%100
71	MP11	X	28.1	28.1	0	%100
72	MP12	X	28.1	28.1	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	15.1	15.1	0	%99.058
75	MP15	X	15.1	15.1	0	%99.058
76	MP1	Z	42.7	42.7	0	%100
77	MP2	Z	38.2	38.2	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	42.7	42.7	0	%100
80	MP5	Z	38.2	38.2	0	%100
81	MP6	Z	42.7	42.7	0	%100
82	MP7	Z	42.7	42.7	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	38.2	38.2	0	%100
85	MP10	Z	38.2	38.2	0	%100
86	MP11	Z	48.7	48.7	0	%100
87	MP12	Z	48.7	48.7	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	26.1	26.1	0	%99.058
90	MP15	Z	26.1	26.1	0	%99.058

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	GRATE1	X	0	0	0	0
5	GRATE2	X	0	0	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
6	GRATE3	X	0	0	0	0
7	GRATE4	X	0	0	0	0
8	GRATE5	X	0	0	0	0
9	GRATE6	X	0	0	0	0
10	GRATE7	X	0	0	0	0
11	GRATE8	X	0	0	0	0
12	GRATE9	X	0	0	0	0
13	GRATE10	X	0	0	0	0
14	GRATE11	X	0	0	0	0
15	GRATE12	X	0	0	0	0
16	GRATE13	X	0	0	0	0
17	GRATE14	X	0	0	0	0
18	GRATE15	X	0	0	0	0
19	GRATE16	X	0	0	0	0
20	GRATE17	X	0	0	0	0
21	GRATE18	X	0	0	0	0
22	PL-BOT-1	X	0	0	0	0
23	PL-BOT-2	X	0	0	0	0
24	PL-BOT-3	X	0	0	0	0
25	SA-BOT-1	X	0	0	0	0
26	SA-BOT-2	X	0	0	0	0
27	SA-BOT-3	X	0	0	0	0
28	SA-TOP-1	X	0	0	0	0
29	SA-TOP-2	X	0	0	0	0
30	SA-TOP-3	X	0	0	0	0
31	FM1	Z	0	0	0	0
32	FM2	Z	12.1	12.1	0	0
33	FM3	Z	12.1	12.1	0	0
34	GRATE1	Z	8.6	8.6	0	0
35	GRATE2	Z	8.6	8.6	0	0
36	GRATE3	Z	8.6	8.6	0	0
37	GRATE4	Z	8.6	8.6	0	0
38	GRATE5	Z	8.6	8.6	0	0
39	GRATE6	Z	8.6	8.6	0	0
40	GRATE7	Z	8.6	8.6	0	0
41	GRATE8	Z	8.6	8.6	0	0
42	GRATE9	Z	8.6	8.6	0	0
43	GRATE10	Z	8.6	8.6	0	0
44	GRATE11	Z	8.6	8.6	0	0
45	GRATE12	Z	8.6	8.6	0	0
46	GRATE13	Z	8.6	8.6	0	0
47	GRATE14	Z	8.6	8.6	0	0
48	GRATE15	Z	8.6	8.6	0	0
49	GRATE16	Z	8.6	8.6	0	0
50	GRATE17	Z	8.6	8.6	0	0
51	GRATE18	Z	8.6	8.6	0	0
52	PL-BOT-1	Z	0	0	0	0
53	PL-BOT-2	Z	34.6	34.6	0	0
54	PL-BOT-3	Z	34.6	34.6	0	0
55	SA-BOT-1	Z	17.3	17.3	0	0
56	SA-BOT-2	Z	17.3	17.3	0	0
57	SA-BOT-3	Z	17.3	17.3	0	0
58	SA-TOP-1	Z	17.3	17.3	0	0
59	SA-TOP-2	Z	17.3	17.3	0	0
60	SA-TOP-3	Z	17.3	17.3	0	0
61	MP1	X	0	0	0	0
62	MP2	X	0	0	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
63	MP3	X	0	0	0	0
64	MP4	X	0	0	0	0
65	MP5	X	0	0	0	0
66	MP6	X	0	0	0	0
67	MP7	X	0	0	0	0
68	MP8	X	0	0	0	0
69	MP9	X	0	0	0	0
70	MP10	X	0	0	0	0
71	MP11	X	0	0	0	0
72	MP12	X	0	0	0	0
73	MP13	X	0	0	0	0
74	MP14	X	0	0	0	0
75	MP15	X	0	0	0	0
76	MP1	Z	47	47	0	%100
77	MP2	Z	42.6	42.6	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	47	47	0	%100
80	MP5	Z	42.6	42.6	0	%100
81	MP6	Z	53.9	53.9	0	%100
82	MP7	Z	53.9	53.9	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	47.1	47.1	0	%100
85	MP10	Z	47.1	47.1	0	%100
86	MP11	Z	53.9	53.9	0	%100
87	MP12	Z	53.9	53.9	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	37.7	37.7	0	%99.058
90	MP15	Z	37.7	37.7	0	%99.058

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	-6	-6	0	0
2	FM2	X	-6	-6	0	0
3	FM3	X	-6	-6	0	0
4	GRATE1	X	0	0	0	0
5	GRATE2	X	-4.3	-4.3	0	0
6	GRATE3	X	-4.3	-4.3	0	0
7	GRATE4	X	-4.3	-4.3	0	0
8	GRATE5	X	-4.3	-4.3	0	0
9	GRATE6	X	-4.3	-4.3	0	0
10	GRATE7	X	-4.3	-4.3	0	0
11	GRATE8	X	-4.3	-4.3	0	0
12	GRATE9	X	-4.3	-4.3	0	0
13	GRATE10	X	-4.3	-4.3	0	0
14	GRATE11	X	-4.3	-4.3	0	0
15	GRATE12	X	-4.3	-4.3	0	0
16	GRATE13	X	-4.3	-4.3	0	0
17	GRATE14	X	-4.3	-4.3	0	0
18	GRATE15	X	-4.3	-4.3	0	0
19	GRATE16	X	-4.3	-4.3	0	0
20	GRATE17	X	-4.3	-4.3	0	0
21	GRATE18	X	0	0	0	0
22	PL-BOT-1	X	-17.3	-17.3	0	0
23	PL-BOT-2	X	-17.3	-17.3	0	0
24	PL-BOT-3	X	-17.3	-17.3	0	0
25	SA-BOT-1	X	-8.6	-8.6	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,%]
26	SA-BOT-2	X	0	0	0	0
27	SA-BOT-3	X	-8.6	-8.6	0	0
28	SA-TOP-1	X	-8.6	-8.6	0	0
29	SA-TOP-2	X	0	0	0	0
30	SA-TOP-3	X	-8.6	-8.6	0	0
31	FM1	Z	10.5	10.5	0	0
32	FM2	Z	10.5	10.5	0	0
33	FM3	Z	10.5	10.5	0	0
34	GRATE1	Z	0	0	0	0
35	GRATE2	Z	7.5	7.5	0	0
36	GRATE3	Z	7.5	7.5	0	0
37	GRATE4	Z	7.5	7.5	0	0
38	GRATE5	Z	7.5	7.5	0	0
39	GRATE6	Z	7.5	7.5	0	0
40	GRATE7	Z	7.5	7.5	0	0
41	GRATE8	Z	7.5	7.5	0	0
42	GRATE9	Z	7.5	7.5	0	0
43	GRATE10	Z	7.5	7.5	0	0
44	GRATE11	Z	7.5	7.5	0	0
45	GRATE12	Z	7.5	7.5	0	0
46	GRATE13	Z	7.5	7.5	0	0
47	GRATE14	Z	7.5	7.5	0	0
48	GRATE15	Z	7.5	7.5	0	0
49	GRATE16	Z	7.5	7.5	0	0
50	GRATE17	Z	7.5	7.5	0	0
51	GRATE18	Z	0	0	0	0
52	PL-BOT-1	Z	29.9	29.9	0	0
53	PL-BOT-2	Z	29.9	29.9	0	0
54	PL-BOT-3	Z	29.9	29.9	0	0
55	SA-BOT-1	Z	15	15	0	0
56	SA-BOT-2	Z	0	0	0	0
57	SA-BOT-3	Z	15	15	0	0
58	SA-TOP-1	Z	15	15	0	0
59	SA-TOP-2	Z	0	0	0	0
60	SA-TOP-3	Z	15	15	0	0
61	MP1	X	-24.7	-24.7	0	%100
62	MP2	X	-22	-22	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-24.7	-24.7	0	%100
65	MP5	X	-22	-22	0	%100
66	MP6	X	-28.1	-28.1	0	%100
67	MP7	X	-28.1	-28.1	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-24.3	-24.3	0	%100
70	MP10	X	-24.3	-24.3	0	%100
71	MP11	X	-24.7	-24.7	0	%100
72	MP12	X	-24.7	-24.7	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-26.3	-26.3	0	%99.058
75	MP15	X	-26.3	-26.3	0	%99.058
76	MP1	Z	42.7	42.7	0	%100
77	MP2	Z	38.2	38.2	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	42.7	42.7	0	%100
80	MP5	Z	38.2	38.2	0	%100
81	MP6	Z	48.7	48.7	0	%100
82	MP7	Z	48.7	48.7	0	%100

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,%]
83	MP8	Z	0	0	0	0
84	MP9	Z	42.1	42.1	0	%100
85	MP10	Z	42.1	42.1	0	%100
86	MP11	Z	42.7	42.7	0	%100
87	MP12	Z	42.7	42.7	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	45.6	45.6	0	%99.058
90	MP15	Z	45.6	45.6	0	%99.058

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	-10.5	-10.5	0	0
2	FM2	X	-10.5	-10.5	0	0
3	FM3	X	0	0	0	0
4	GRATE1	X	-7.5	-7.5	0	0
5	GRATE2	X	-7.5	-7.5	0	0
6	GRATE3	X	-7.5	-7.5	0	0
7	GRATE4	X	-7.5	-7.5	0	0
8	GRATE5	X	-7.5	-7.5	0	0
9	GRATE6	X	-7.5	-7.5	0	0
10	GRATE7	X	-7.5	-7.5	0	0
11	GRATE8	X	-7.5	-7.5	0	0
12	GRATE9	X	-7.5	-7.5	0	0
13	GRATE10	X	-7.5	-7.5	0	0
14	GRATE11	X	-7.5	-7.5	0	0
15	GRATE12	X	-7.5	-7.5	0	0
16	GRATE13	X	-7.5	-7.5	0	0
17	GRATE14	X	-7.5	-7.5	0	0
18	GRATE15	X	-7.5	-7.5	0	0
19	GRATE16	X	-7.5	-7.5	0	0
20	GRATE17	X	-7.5	-7.5	0	0
21	GRATE18	X	-7.5	-7.5	0	0
22	PL-BOT-1	X	-29.9	-29.9	0	0
23	PL-BOT-2	X	-29.9	-29.9	0	0
24	PL-BOT-3	X	0	0	0	0
25	SA-BOT-1	X	-15	-15	0	0
26	SA-BOT-2	X	-15	-15	0	0
27	SA-BOT-3	X	-15	-15	0	0
28	SA-TOP-1	X	-15	-15	0	0
29	SA-TOP-2	X	-15	-15	0	0
30	SA-TOP-3	X	-15	-15	0	0
31	FM1	Z	6	6	0	0
32	FM2	Z	6	6	0	0
33	FM3	Z	0	0	0	0
34	GRATE1	Z	4.3	4.3	0	0
35	GRATE2	Z	4.3	4.3	0	0
36	GRATE3	Z	4.3	4.3	0	0
37	GRATE4	Z	4.3	4.3	0	0
38	GRATE5	Z	4.3	4.3	0	0
39	GRATE6	Z	4.3	4.3	0	0
40	GRATE7	Z	4.3	4.3	0	0
41	GRATE8	Z	4.3	4.3	0	0
42	GRATE9	Z	4.3	4.3	0	0
43	GRATE10	Z	4.3	4.3	0	0
44	GRATE11	Z	4.3	4.3	0	0
45	GRATE12	Z	4.3	4.3	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,%]
46	GRATE13	Z	4.3	4.3	0	0
47	GRATE14	Z	4.3	4.3	0	0
48	GRATE15	Z	4.3	4.3	0	0
49	GRATE16	Z	4.3	4.3	0	0
50	GRATE17	Z	4.3	4.3	0	0
51	GRATE18	Z	4.3	4.3	0	0
52	PL-BOT-1	Z	17.3	17.3	0	0
53	PL-BOT-2	Z	17.3	17.3	0	0
54	PL-BOT-3	Z	0	0	0	0
55	SA-BOT-1	Z	8.6	8.6	0	0
56	SA-BOT-2	Z	8.6	8.6	0	0
57	SA-BOT-3	Z	8.6	8.6	0	0
58	SA-TOP-1	Z	8.6	8.6	0	0
59	SA-TOP-2	Z	8.6	8.6	0	0
60	SA-TOP-3	Z	8.6	8.6	0	0
61	MP1	X	-46.7	-46.7	0	%100
62	MP2	X	-40.8	-40.8	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-46.7	-46.7	0	%100
65	MP5	X	-40.8	-40.8	0	%100
66	MP6	X	-46.7	-46.7	0	%100
67	MP7	X	-46.7	-46.7	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-40.8	-40.8	0	%100
70	MP10	X	-40.8	-40.8	0	%100
71	MP11	X	-40.7	-40.7	0	%100
72	MP12	X	-40.7	-40.7	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-52.1	-52.1	0	%99.058
75	MP15	X	-52.1	-52.1	0	%99.058
76	MP1	Z	27	27	0	%100
77	MP2	Z	23.6	23.6	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	27	27	0	%100
80	MP5	Z	23.6	23.6	0	%100
81	MP6	Z	27	27	0	%100
82	MP7	Z	27	27	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	23.6	23.6	0	%100
85	MP10	Z	23.6	23.6	0	%100
86	MP11	Z	23.5	23.5	0	%100
87	MP12	Z	23.5	23.5	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	30.1	30.1	0	%99.058
90	MP15	Z	30.1	30.1	0	%99.058

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	-12.1	-12.1	0	0
2	FM2	X	-12.1	-12.1	0	0
3	FM3	X	-12.1	-12.1	0	0
4	GRATE1	X	-8.6	-8.6	0	0
5	GRATE2	X	-8.6	-8.6	0	0
6	GRATE3	X	-8.6	-8.6	0	0
7	GRATE4	X	-8.6	-8.6	0	0
8	GRATE5	X	-8.6	-8.6	0	0

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,%]
9	GRATE6	X	-8.6	-8.6	0	0
10	GRATE7	X	-8.6	-8.6	0	0
11	GRATE8	X	-8.6	-8.6	0	0
12	GRATE9	X	-8.6	-8.6	0	0
13	GRATE10	X	-8.6	-8.6	0	0
14	GRATE11	X	-8.6	-8.6	0	0
15	GRATE12	X	0	0	0	0
16	GRATE13	X	0	0	0	0
17	GRATE14	X	-8.6	-8.6	0	0
18	GRATE15	X	-8.6	-8.6	0	0
19	GRATE16	X	-8.6	-8.6	0	0
20	GRATE17	X	-8.6	-8.6	0	0
21	GRATE18	X	-8.6	-8.6	0	0
22	PL-BOT-1	X	-34.6	-34.6	0	0
23	PL-BOT-2	X	-34.6	-34.6	0	0
24	PL-BOT-3	X	-34.6	-34.6	0	0
25	SA-BOT-1	X	0	0	0	0
26	SA-BOT-2	X	-17.3	-17.3	0	0
27	SA-BOT-3	X	-17.3	-17.3	0	0
28	SA-TOP-1	X	0	0	0	0
29	SA-TOP-2	X	-17.3	-17.3	0	0
30	SA-TOP-3	X	-17.3	-17.3	0	0
31	FM1	Z	0	0	0	0
32	FM2	Z	0	0	0	0
33	FM3	Z	0	0	0	0
34	GRATE1	Z	0	0	0	0
35	GRATE2	Z	0	0	0	0
36	GRATE3	Z	0	0	0	0
37	GRATE4	Z	0	0	0	0
38	GRATE5	Z	0	0	0	0
39	GRATE6	Z	0	0	0	0
40	GRATE7	Z	0	0	0	0
41	GRATE8	Z	0	0	0	0
42	GRATE9	Z	0	0	0	0
43	GRATE10	Z	0	0	0	0
44	GRATE11	Z	0	0	0	0
45	GRATE12	Z	0	0	0	0
46	GRATE13	Z	0	0	0	0
47	GRATE14	Z	0	0	0	0
48	GRATE15	Z	0	0	0	0
49	GRATE16	Z	0	0	0	0
50	GRATE17	Z	0	0	0	0
51	GRATE18	Z	0	0	0	0
52	PL-BOT-1	Z	0	0	0	0
53	PL-BOT-2	Z	0	0	0	0
54	PL-BOT-3	Z	0	0	0	0
55	SA-BOT-1	Z	0	0	0	0
56	SA-BOT-2	Z	0	0	0	0
57	SA-BOT-3	Z	0	0	0	0
58	SA-TOP-1	Z	0	0	0	0
59	SA-TOP-2	Z	0	0	0	0
60	SA-TOP-3	Z	0	0	0	0
61	MP1	X	-56.2	-56.2	0	%100
62	MP2	X	-48.6	-48.6	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-56.2	-56.2	0	%100
65	MP5	X	-48.6	-48.6	0	%100

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,%]
66	MP6	X	-49.3	-49.3	0	%100
67	MP7	X	-49.3	-49.3	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-44.1	-44.1	0	%100
70	MP10	X	-44.1	-44.1	0	%100
71	MP11	X	-49.3	-49.3	0	%100
72	MP12	X	-49.3	-49.3	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-52.7	-52.7	0	%99.058
75	MP15	X	-52.7	-52.7	0	%99.058
76	MP1	Z	0	0	0	0
77	MP2	Z	0	0	0	0
78	MP3	Z	0	0	0	0
79	MP4	Z	0	0	0	0
80	MP5	Z	0	0	0	0
81	MP6	Z	0	0	0	0
82	MP7	Z	0	0	0	0
83	MP8	Z	0	0	0	0
84	MP9	Z	0	0	0	0
85	MP10	Z	0	0	0	0
86	MP11	Z	0	0	0	0
87	MP12	Z	0	0	0	0
88	MP13	Z	0	0	0	0
89	MP14	Z	0	0	0	0
90	MP15	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	-10.5	-10.5	0	0
2	FM2	X	0	0	0	0
3	FM3	X	-10.5	-10.5	0	0
4	GRATE1	X	-7.5	-7.5	0	0
5	GRATE2	X	-7.5	-7.5	0	0
6	GRATE3	X	-7.5	-7.5	0	0
7	GRATE4	X	-7.5	-7.5	0	0
8	GRATE5	X	-7.5	-7.5	0	0
9	GRATE6	X	-7.5	-7.5	0	0
10	GRATE7	X	-7.5	-7.5	0	0
11	GRATE8	X	-7.5	-7.5	0	0
12	GRATE9	X	-7.5	-7.5	0	0
13	GRATE10	X	-7.5	-7.5	0	0
14	GRATE11	X	-7.5	-7.5	0	0
15	GRATE12	X	-7.5	-7.5	0	0
16	GRATE13	X	-7.5	-7.5	0	0
17	GRATE14	X	-7.5	-7.5	0	0
18	GRATE15	X	-7.5	-7.5	0	0
19	GRATE16	X	-7.5	-7.5	0	0
20	GRATE17	X	-7.5	-7.5	0	0
21	GRATE18	X	-7.5	-7.5	0	0
22	PL-BOT-1	X	-29.9	-29.9	0	0
23	PL-BOT-2	X	0	0	0	0
24	PL-BOT-3	X	-29.9	-29.9	0	0
25	SA-BOT-1	X	-15	-15	0	0
26	SA-BOT-2	X	-15	-15	0	0
27	SA-BOT-3	X	-15	-15	0	0
28	SA-TOP-1	X	-15	-15	0	0

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,%]
29	SA-TOP-2	X	-15	-15	0	0
30	SA-TOP-3	X	-15	-15	0	0
31	FM1	Z	-6	-6	0	0
32	FM2	Z	0	0	0	0
33	FM3	Z	-6	-6	0	0
34	GRATE1	Z	-4.3	-4.3	0	0
35	GRATE2	Z	-4.3	-4.3	0	0
36	GRATE3	Z	-4.3	-4.3	0	0
37	GRATE4	Z	-4.3	-4.3	0	0
38	GRATE5	Z	-4.3	-4.3	0	0
39	GRATE6	Z	-4.3	-4.3	0	0
40	GRATE7	Z	-4.3	-4.3	0	0
41	GRATE8	Z	-4.3	-4.3	0	0
42	GRATE9	Z	-4.3	-4.3	0	0
43	GRATE10	Z	-4.3	-4.3	0	0
44	GRATE11	Z	-4.3	-4.3	0	0
45	GRATE12	Z	-4.3	-4.3	0	0
46	GRATE13	Z	-4.3	-4.3	0	0
47	GRATE14	Z	-4.3	-4.3	0	0
48	GRATE15	Z	-4.3	-4.3	0	0
49	GRATE16	Z	-4.3	-4.3	0	0
50	GRATE17	Z	-4.3	-4.3	0	0
51	GRATE18	Z	-4.3	-4.3	0	0
52	PL-BOT-1	Z	-17.3	-17.3	0	0
53	PL-BOT-2	Z	0	0	0	0
54	PL-BOT-3	Z	-17.3	-17.3	0	0
55	SA-BOT-1	Z	-8.6	-8.6	0	0
56	SA-BOT-2	Z	-8.6	-8.6	0	0
57	SA-BOT-3	Z	-8.6	-8.6	0	0
58	SA-TOP-1	Z	-8.6	-8.6	0	0
59	SA-TOP-2	Z	-8.6	-8.6	0	0
60	SA-TOP-3	Z	-8.6	-8.6	0	0
61	MP1	X	-46.7	-46.7	0	%100
62	MP2	X	-40.8	-40.8	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-46.7	-46.7	0	%100
65	MP5	X	-40.8	-40.8	0	%100
66	MP6	X	-40.7	-40.7	0	%100
67	MP7	X	-40.7	-40.7	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-36.9	-36.9	0	%100
70	MP10	X	-36.9	-36.9	0	%100
71	MP11	X	-46.7	-46.7	0	%100
72	MP12	X	-46.7	-46.7	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-32.6	-32.6	0	%99.058
75	MP15	X	-32.6	-32.6	0	%99.058
76	MP1	Z	-27	-27	0	%100
77	MP2	Z	-23.6	-23.6	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-27	-27	0	%100
80	MP5	Z	-23.6	-23.6	0	%100
81	MP6	Z	-23.5	-23.5	0	%100
82	MP7	Z	-23.5	-23.5	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-21.3	-21.3	0	%100
85	MP10	Z	-21.3	-21.3	0	%100

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,%]
86	MP11	Z	-27	-27	0	%100
87	MP12	Z	-27	-27	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-18.8	-18.8	0	%99.058
90	MP15	Z	-18.8	-18.8	0	%99.058

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	-6	-6	0	0
2	FM2	X	-6	-6	0	0
3	FM3	X	-6	-6	0	0
4	GRATE1	X	-4.3	-4.3	0	0
5	GRATE2	X	-4.3	-4.3	0	0
6	GRATE3	X	-4.3	-4.3	0	0
7	GRATE4	X	-4.3	-4.3	0	0
8	GRATE5	X	-4.3	-4.3	0	0
9	GRATE6	X	0	0	0	0
10	GRATE7	X	0	0	0	0
11	GRATE8	X	-4.3	-4.3	0	0
12	GRATE9	X	-4.3	-4.3	0	0
13	GRATE10	X	-4.3	-4.3	0	0
14	GRATE11	X	-4.3	-4.3	0	0
15	GRATE12	X	-4.3	-4.3	0	0
16	GRATE13	X	-4.3	-4.3	0	0
17	GRATE14	X	-4.3	-4.3	0	0
18	GRATE15	X	-4.3	-4.3	0	0
19	GRATE16	X	-4.3	-4.3	0	0
20	GRATE17	X	-4.3	-4.3	0	0
21	GRATE18	X	-4.3	-4.3	0	0
22	PL-BOT-1	X	-17.3	-17.3	0	0
23	PL-BOT-2	X	-17.3	-17.3	0	0
24	PL-BOT-3	X	-17.3	-17.3	0	0
25	SA-BOT-1	X	-8.6	-8.6	0	0
26	SA-BOT-2	X	-8.6	-8.6	0	0
27	SA-BOT-3	X	0	0	0	0
28	SA-TOP-1	X	-8.6	-8.6	0	0
29	SA-TOP-2	X	-8.6	-8.6	0	0
30	SA-TOP-3	X	0	0	0	0
31	FM1	Z	-10.5	-10.5	0	0
32	FM2	Z	-10.5	-10.5	0	0
33	FM3	Z	-10.5	-10.5	0	0
34	GRATE1	Z	-7.5	-7.5	0	0
35	GRATE2	Z	-7.5	-7.5	0	0
36	GRATE3	Z	-7.5	-7.5	0	0
37	GRATE4	Z	-7.5	-7.5	0	0
38	GRATE5	Z	-7.5	-7.5	0	0
39	GRATE6	Z	0	0	0	0
40	GRATE7	Z	0	0	0	0
41	GRATE8	Z	-7.5	-7.5	0	0
42	GRATE9	Z	-7.5	-7.5	0	0
43	GRATE10	Z	-7.5	-7.5	0	0
44	GRATE11	Z	-7.5	-7.5	0	0
45	GRATE12	Z	-7.5	-7.5	0	0
46	GRATE13	Z	-7.5	-7.5	0	0
47	GRATE14	Z	-7.5	-7.5	0	0
48	GRATE15	Z	-7.5	-7.5	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
49	GRATE16	Z	-7.5	-7.5	0	0
50	GRATE17	Z	-7.5	-7.5	0	0
51	GRATE18	Z	-7.5	-7.5	0	0
52	PL-BOT-1	Z	-29.9	-29.9	0	0
53	PL-BOT-2	Z	-29.9	-29.9	0	0
54	PL-BOT-3	Z	-29.9	-29.9	0	0
55	SA-BOT-1	Z	-15	-15	0	0
56	SA-BOT-2	Z	-15	-15	0	0
57	SA-BOT-3	Z	0	0	0	0
58	SA-TOP-1	Z	-15	-15	0	0
59	SA-TOP-2	Z	-15	-15	0	0
60	SA-TOP-3	Z	0	0	0	0
61	MP1	X	-24.7	-24.7	0	%100
62	MP2	X	-22	-22	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-24.7	-24.7	0	%100
65	MP5	X	-22	-22	0	%100
66	MP6	X	-24.7	-24.7	0	%100
67	MP7	X	-24.7	-24.7	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-22	-22	0	%100
70	MP10	X	-22	-22	0	%100
71	MP11	X	-28.1	-28.1	0	%100
72	MP12	X	-28.1	-28.1	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-15.1	-15.1	0	%99.058
75	MP15	X	-15.1	-15.1	0	%99.058
76	MP1	Z	-42.7	-42.7	0	%100
77	MP2	Z	-38.2	-38.2	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-42.7	-42.7	0	%100
80	MP5	Z	-38.2	-38.2	0	%100
81	MP6	Z	-42.7	-42.7	0	%100
82	MP7	Z	-42.7	-42.7	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-38.2	-38.2	0	%100
85	MP10	Z	-38.2	-38.2	0	%100
86	MP11	Z	-48.7	-48.7	0	%100
87	MP12	Z	-48.7	-48.7	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-26.1	-26.1	0	%99.058
90	MP15	Z	-26.1	-26.1	0	%99.058

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
3	FM3	X	0	0	0	0
4	GRATE1	X	0	0	0	0
5	GRATE2	X	0	0	0	0
6	GRATE3	X	0	0	0	0
7	GRATE4	X	0	0	0	0
8	GRATE5	X	0	0	0	0
9	GRATE6	X	0	0	0	0
10	GRATE7	X	0	0	0	0
11	GRATE8	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,%]
12	GRATE9	X	0	0	0	0
13	GRATE10	X	0	0	0	0
14	GRATE11	X	0	0	0	0
15	GRATE12	X	0	0	0	0
16	GRATE13	X	0	0	0	0
17	GRATE14	X	0	0	0	0
18	GRATE15	X	0	0	0	0
19	GRATE16	X	0	0	0	0
20	GRATE17	X	0	0	0	0
21	GRATE18	X	0	0	0	0
22	PL-BOT-1	X	0	0	0	0
23	PL-BOT-2	X	0	0	0	0
24	PL-BOT-3	X	0	0	0	0
25	SA-BOT-1	X	0	0	0	0
26	SA-BOT-2	X	0	0	0	0
27	SA-BOT-3	X	0	0	0	0
28	SA-TOP-1	X	0	0	0	0
29	SA-TOP-2	X	0	0	0	0
30	SA-TOP-3	X	0	0	0	0
31	FM1	Z	0	0	0	0
32	FM2	Z	-12.1	-12.1	0	0
33	FM3	Z	-12.1	-12.1	0	0
34	GRATE1	Z	-8.6	-8.6	0	0
35	GRATE2	Z	-8.6	-8.6	0	0
36	GRATE3	Z	-8.6	-8.6	0	0
37	GRATE4	Z	-8.6	-8.6	0	0
38	GRATE5	Z	-8.6	-8.6	0	0
39	GRATE6	Z	-8.6	-8.6	0	0
40	GRATE7	Z	-8.6	-8.6	0	0
41	GRATE8	Z	-8.6	-8.6	0	0
42	GRATE9	Z	-8.6	-8.6	0	0
43	GRATE10	Z	-8.6	-8.6	0	0
44	GRATE11	Z	-8.6	-8.6	0	0
45	GRATE12	Z	-8.6	-8.6	0	0
46	GRATE13	Z	-8.6	-8.6	0	0
47	GRATE14	Z	-8.6	-8.6	0	0
48	GRATE15	Z	-8.6	-8.6	0	0
49	GRATE16	Z	-8.6	-8.6	0	0
50	GRATE17	Z	-8.6	-8.6	0	0
51	GRATE18	Z	-8.6	-8.6	0	0
52	PL-BOT-1	Z	0	0	0	0
53	PL-BOT-2	Z	-34.6	-34.6	0	0
54	PL-BOT-3	Z	-34.6	-34.6	0	0
55	SA-BOT-1	Z	-17.3	-17.3	0	0
56	SA-BOT-2	Z	-17.3	-17.3	0	0
57	SA-BOT-3	Z	-17.3	-17.3	0	0
58	SA-TOP-1	Z	-17.3	-17.3	0	0
59	SA-TOP-2	Z	-17.3	-17.3	0	0
60	SA-TOP-3	Z	-17.3	-17.3	0	0
61	MP1	X	0	0	0	0
62	MP2	X	0	0	0	0
63	MP3	X	0	0	0	0
64	MP4	X	0	0	0	0
65	MP5	X	0	0	0	0
66	MP6	X	0	0	0	0
67	MP7	X	0	0	0	0
68	MP8	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,%]
69	MP9	X	0	0	0	0
70	MP10	X	0	0	0	0
71	MP11	X	0	0	0	0
72	MP12	X	0	0	0	0
73	MP13	X	0	0	0	0
74	MP14	X	0	0	0	0
75	MP15	X	0	0	0	0
76	MP1	Z	-47	-47	0	%100
77	MP2	Z	-42.6	-42.6	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-47	-47	0	%100
80	MP5	Z	-42.6	-42.6	0	%100
81	MP6	Z	-53.9	-53.9	0	%100
82	MP7	Z	-53.9	-53.9	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-47.1	-47.1	0	%100
85	MP10	Z	-47.1	-47.1	0	%100
86	MP11	Z	-53.9	-53.9	0	%100
87	MP12	Z	-53.9	-53.9	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-37.7	-37.7	0	%99.058
90	MP15	Z	-37.7	-37.7	0	%99.058

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	6	6	0	0
2	FM2	X	6	6	0	0
3	FM3	X	6	6	0	0
4	GRATE1	X	0	0	0	0
5	GRATE2	X	4.3	4.3	0	0
6	GRATE3	X	4.3	4.3	0	0
7	GRATE4	X	4.3	4.3	0	0
8	GRATE5	X	4.3	4.3	0	0
9	GRATE6	X	4.3	4.3	0	0
10	GRATE7	X	4.3	4.3	0	0
11	GRATE8	X	4.3	4.3	0	0
12	GRATE9	X	4.3	4.3	0	0
13	GRATE10	X	4.3	4.3	0	0
14	GRATE11	X	4.3	4.3	0	0
15	GRATE12	X	4.3	4.3	0	0
16	GRATE13	X	4.3	4.3	0	0
17	GRATE14	X	4.3	4.3	0	0
18	GRATE15	X	4.3	4.3	0	0
19	GRATE16	X	4.3	4.3	0	0
20	GRATE17	X	4.3	4.3	0	0
21	GRATE18	X	0	0	0	0
22	PL-BOT-1	X	17.3	17.3	0	0
23	PL-BOT-2	X	17.3	17.3	0	0
24	PL-BOT-3	X	17.3	17.3	0	0
25	SA-BOT-1	X	8.6	8.6	0	0
26	SA-BOT-2	X	0	0	0	0
27	SA-BOT-3	X	8.6	8.6	0	0
28	SA-TOP-1	X	8.6	8.6	0	0
29	SA-TOP-2	X	0	0	0	0
30	SA-TOP-3	X	8.6	8.6	0	0
31	FM1	Z	-10.5	-10.5	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,%]
32	FM2	Z	-10.5	-10.5	0	0
33	FM3	Z	-10.5	-10.5	0	0
34	GRATE1	Z	0	0	0	0
35	GRATE2	Z	-7.5	-7.5	0	0
36	GRATE3	Z	-7.5	-7.5	0	0
37	GRATE4	Z	-7.5	-7.5	0	0
38	GRATE5	Z	-7.5	-7.5	0	0
39	GRATE6	Z	-7.5	-7.5	0	0
40	GRATE7	Z	-7.5	-7.5	0	0
41	GRATE8	Z	-7.5	-7.5	0	0
42	GRATE9	Z	-7.5	-7.5	0	0
43	GRATE10	Z	-7.5	-7.5	0	0
44	GRATE11	Z	-7.5	-7.5	0	0
45	GRATE12	Z	-7.5	-7.5	0	0
46	GRATE13	Z	-7.5	-7.5	0	0
47	GRATE14	Z	-7.5	-7.5	0	0
48	GRATE15	Z	-7.5	-7.5	0	0
49	GRATE16	Z	-7.5	-7.5	0	0
50	GRATE17	Z	-7.5	-7.5	0	0
51	GRATE18	Z	0	0	0	0
52	PL-BOT-1	Z	-29.9	-29.9	0	0
53	PL-BOT-2	Z	-29.9	-29.9	0	0
54	PL-BOT-3	Z	-29.9	-29.9	0	0
55	SA-BOT-1	Z	-15	-15	0	0
56	SA-BOT-2	Z	0	0	0	0
57	SA-BOT-3	Z	-15	-15	0	0
58	SA-TOP-1	Z	-15	-15	0	0
59	SA-TOP-2	Z	0	0	0	0
60	SA-TOP-3	Z	-15	-15	0	0
61	MP1	X	24.7	24.7	0	%100
62	MP2	X	22	22	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	24.7	24.7	0	%100
65	MP5	X	22	22	0	%100
66	MP6	X	28.1	28.1	0	%100
67	MP7	X	28.1	28.1	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	24.3	24.3	0	%100
70	MP10	X	24.3	24.3	0	%100
71	MP11	X	24.7	24.7	0	%100
72	MP12	X	24.7	24.7	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	26.3	26.3	0	%99.058
75	MP15	X	26.3	26.3	0	%99.058
76	MP1	Z	-42.7	-42.7	0	%100
77	MP2	Z	-38.2	-38.2	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-42.7	-42.7	0	%100
80	MP5	Z	-38.2	-38.2	0	%100
81	MP6	Z	-48.7	-48.7	0	%100
82	MP7	Z	-48.7	-48.7	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-42.1	-42.1	0	%100
85	MP10	Z	-42.1	-42.1	0	%100
86	MP11	Z	-42.7	-42.7	0	%100
87	MP12	Z	-42.7	-42.7	0	%100
88	MP13	Z	0	0	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,%]
89	MP14	Z	-45.6	-45.6	0	%99.058
90	MP15	Z	-45.6	-45.6	0	%99.058

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	10.5	10.5	0	0
2	FM2	X	10.5	10.5	0	0
3	FM3	X	0	0	0	0
4	GRATE1	X	7.5	7.5	0	0
5	GRATE2	X	7.5	7.5	0	0
6	GRATE3	X	7.5	7.5	0	0
7	GRATE4	X	7.5	7.5	0	0
8	GRATE5	X	7.5	7.5	0	0
9	GRATE6	X	7.5	7.5	0	0
10	GRATE7	X	7.5	7.5	0	0
11	GRATE8	X	7.5	7.5	0	0
12	GRATE9	X	7.5	7.5	0	0
13	GRATE10	X	7.5	7.5	0	0
14	GRATE11	X	7.5	7.5	0	0
15	GRATE12	X	7.5	7.5	0	0
16	GRATE13	X	7.5	7.5	0	0
17	GRATE14	X	7.5	7.5	0	0
18	GRATE15	X	7.5	7.5	0	0
19	GRATE16	X	7.5	7.5	0	0
20	GRATE17	X	7.5	7.5	0	0
21	GRATE18	X	7.5	7.5	0	0
22	PL-BOT-1	X	29.9	29.9	0	0
23	PL-BOT-2	X	29.9	29.9	0	0
24	PL-BOT-3	X	0	0	0	0
25	SA-BOT-1	X	15	15	0	0
26	SA-BOT-2	X	15	15	0	0
27	SA-BOT-3	X	15	15	0	0
28	SA-TOP-1	X	15	15	0	0
29	SA-TOP-2	X	15	15	0	0
30	SA-TOP-3	X	15	15	0	0
31	FM1	Z	-6	-6	0	0
32	FM2	Z	-6	-6	0	0
33	FM3	Z	0	0	0	0
34	GRATE1	Z	-4.3	-4.3	0	0
35	GRATE2	Z	-4.3	-4.3	0	0
36	GRATE3	Z	-4.3	-4.3	0	0
37	GRATE4	Z	-4.3	-4.3	0	0
38	GRATE5	Z	-4.3	-4.3	0	0
39	GRATE6	Z	-4.3	-4.3	0	0
40	GRATE7	Z	-4.3	-4.3	0	0
41	GRATE8	Z	-4.3	-4.3	0	0
42	GRATE9	Z	-4.3	-4.3	0	0
43	GRATE10	Z	-4.3	-4.3	0	0
44	GRATE11	Z	-4.3	-4.3	0	0
45	GRATE12	Z	-4.3	-4.3	0	0
46	GRATE13	Z	-4.3	-4.3	0	0
47	GRATE14	Z	-4.3	-4.3	0	0
48	GRATE15	Z	-4.3	-4.3	0	0
49	GRATE16	Z	-4.3	-4.3	0	0
50	GRATE17	Z	-4.3	-4.3	0	0
51	GRATE18	Z	-4.3	-4.3	0	0

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,%]
52	PL-BOT-1	Z	-17.3	-17.3	0	0
53	PL-BOT-2	Z	-17.3	-17.3	0	0
54	PL-BOT-3	Z	0	0	0	0
55	SA-BOT-1	Z	-8.6	-8.6	0	0
56	SA-BOT-2	Z	-8.6	-8.6	0	0
57	SA-BOT-3	Z	-8.6	-8.6	0	0
58	SA-TOP-1	Z	-8.6	-8.6	0	0
59	SA-TOP-2	Z	-8.6	-8.6	0	0
60	SA-TOP-3	Z	-8.6	-8.6	0	0
61	MP1	X	46.7	46.7	0	%100
62	MP2	X	40.8	40.8	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	46.7	46.7	0	%100
65	MP5	X	40.8	40.8	0	%100
66	MP6	X	46.7	46.7	0	%100
67	MP7	X	46.7	46.7	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	40.8	40.8	0	%100
70	MP10	X	40.8	40.8	0	%100
71	MP11	X	40.7	40.7	0	%100
72	MP12	X	40.7	40.7	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	52.1	52.1	0	%99.058
75	MP15	X	52.1	52.1	0	%99.058
76	MP1	Z	-27	-27	0	%100
77	MP2	Z	-23.6	-23.6	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-27	-27	0	%100
80	MP5	Z	-23.6	-23.6	0	%100
81	MP6	Z	-27	-27	0	%100
82	MP7	Z	-27	-27	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-23.6	-23.6	0	%100
85	MP10	Z	-23.6	-23.6	0	%100
86	MP11	Z	-23.5	-23.5	0	%100
87	MP12	Z	-23.5	-23.5	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-30.1	-30.1	0	%99.058
90	MP15	Z	-30.1	-30.1	0	%99.058

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	-11.2	-11.2	0	0
2	FM2	Y	-11.2	-11.2	0	0
3	FM3	Y	-11.2	-11.2	0	0
4	GRATE1	Y	-9.9	-9.9	0	0
5	GRATE2	Y	-9.9	-9.9	0	0
6	GRATE3	Y	-9.9	-9.9	0	0
7	GRATE4	Y	-9.9	-9.9	0	0
8	GRATE5	Y	-9.9	-9.9	0	0
9	GRATE6	Y	-9.9	-9.9	0	0
10	GRATE7	Y	-9.9	-9.9	0	0
11	GRATE8	Y	-9.9	-9.9	0	0
12	GRATE9	Y	-9.9	-9.9	0	0
13	GRATE10	Y	-9.9	-9.9	0	0
14	GRATE11	Y	-9.9	-9.9	0	0

Member Distributed Loads (BLC 14 : Ice Load) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
15	GRATE12	Y	-9.9	-9.9	0	0
16	GRATE13	Y	-9.9	-9.9	0	0
17	GRATE14	Y	-9.9	-9.9	0	0
18	GRATE15	Y	-9.9	-9.9	0	0
19	GRATE16	Y	-9.9	-9.9	0	0
20	GRATE17	Y	-9.9	-9.9	0	0
21	GRATE18	Y	-9.9	-9.9	0	0
22	PL-BOT-1	Y	-16.6	-16.6	0	0
23	PL-BOT-2	Y	-16.6	-16.6	0	0
24	PL-BOT-3	Y	-16.6	-16.6	0	0
25	SA-BOT-1	Y	-12.8	-12.8	0	0
26	SA-BOT-2	Y	-12.8	-12.8	0	0
27	SA-BOT-3	Y	-12.8	-12.8	0	0
28	SA-TOP-1	Y	-12.8	-12.8	0	0
29	SA-TOP-2	Y	-12.8	-12.8	0	0
30	SA-TOP-3	Y	-12.8	-12.8	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	4.2	4.2	0	0
2	FM2	X	4.2	4.2	0	0
3	FM3	X	4.2	4.2	0	0
4	GRATE1	X	3.6	3.6	0	0
5	GRATE2	X	3.6	3.6	0	0
6	GRATE3	X	3.6	3.6	0	0
7	GRATE4	X	3.6	3.6	0	0
8	GRATE5	X	3.6	3.6	0	0
9	GRATE6	X	3.6	3.6	0	0
10	GRATE7	X	3.6	3.6	0	0
11	GRATE8	X	3.6	3.6	0	0
12	GRATE9	X	3.6	3.6	0	0
13	GRATE10	X	3.6	3.6	0	0
14	GRATE11	X	3.6	3.6	0	0
15	GRATE12	X	0	0	0	0
16	GRATE13	X	0	0	0	0
17	GRATE14	X	3.6	3.6	0	0
18	GRATE15	X	3.6	3.6	0	0
19	GRATE16	X	3.6	3.6	0	0
20	GRATE17	X	3.6	3.6	0	0
21	GRATE18	X	3.6	3.6	0	0
22	PL-BOT-1	X	8.1	8.1	0	0
23	PL-BOT-2	X	8.1	8.1	0	0
24	PL-BOT-3	X	8.1	8.1	0	0
25	SA-BOT-1	X	0	0	0	0
26	SA-BOT-2	X	5.1	5.1	0	0
27	SA-BOT-3	X	5.1	5.1	0	0
28	SA-TOP-1	X	0	0	0	0
29	SA-TOP-2	X	5.1	5.1	0	0
30	SA-TOP-3	X	5.1	5.1	0	0
31	FM1	Z	0	0	0	0
32	FM2	Z	0	0	0	0
33	FM3	Z	0	0	0	0
34	GRATE1	Z	0	0	0	0
35	GRATE2	Z	0	0	0	0
36	GRATE3	Z	0	0	0	0
37	GRATE4	Z	0	0	0	0

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,%]
38	GRATE5	Z	0	0	0	0
39	GRATE6	Z	0	0	0	0
40	GRATE7	Z	0	0	0	0
41	GRATE8	Z	0	0	0	0
42	GRATE9	Z	0	0	0	0
43	GRATE10	Z	0	0	0	0
44	GRATE11	Z	0	0	0	0
45	GRATE12	Z	0	0	0	0
46	GRATE13	Z	0	0	0	0
47	GRATE14	Z	0	0	0	0
48	GRATE15	Z	0	0	0	0
49	GRATE16	Z	0	0	0	0
50	GRATE17	Z	0	0	0	0
51	GRATE18	Z	0	0	0	0
52	PL-BOT-1	Z	0	0	0	0
53	PL-BOT-2	Z	0	0	0	0
54	PL-BOT-3	Z	0	0	0	0
55	SA-BOT-1	Z	0	0	0	0
56	SA-BOT-2	Z	0	0	0	0
57	SA-BOT-3	Z	0	0	0	0
58	SA-TOP-1	Z	0	0	0	0
59	SA-TOP-2	Z	0	0	0	0
60	SA-TOP-3	Z	0	0	0	0
61	MP1	X	11.1	11.1	0	%100
62	MP2	X	9.7	9.7	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	11.1	11.1	0	%100
65	MP5	X	9.7	9.7	0	%100
66	MP6	X	10	10	0	%100
67	MP7	X	10	10	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	9.1	9.1	0	%100
70	MP10	X	9.1	9.1	0	%100
71	MP11	X	10	10	0	%100
72	MP12	X	10	10	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	10.7	10.7	0	%99.058
75	MP15	X	10.7	10.7	0	%99.058
76	MP1	Z	0	0	0	0
77	MP2	Z	0	0	0	0
78	MP3	Z	0	0	0	0
79	MP4	Z	0	0	0	0
80	MP5	Z	0	0	0	0
81	MP6	Z	0	0	0	0
82	MP7	Z	0	0	0	0
83	MP8	Z	0	0	0	0
84	MP9	Z	0	0	0	0
85	MP10	Z	0	0	0	0
86	MP11	Z	0	0	0	0
87	MP12	Z	0	0	0	0
88	MP13	Z	0	0	0	0
89	MP14	Z	0	0	0	0
90	MP15	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,%]

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,%]
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	GRATE1	X	3.1	3.1	0	0
5	GRATE2	X	3.1	3.1	0	0
6	GRATE3	X	3.1	3.1	0	0
7	GRATE4	X	3.1	3.1	0	0
8	GRATE5	X	3.1	3.1	0	0
9	GRATE6	X	3.1	3.1	0	0
10	GRATE7	X	3.1	3.1	0	0
11	GRATE8	X	3.1	3.1	0	0
12	GRATE9	X	3.1	3.1	0	0
13	GRATE10	X	3.1	3.1	0	0
14	GRATE11	X	3.1	3.1	0	0
15	GRATE12	X	3.1	3.1	0	0
16	GRATE13	X	3.1	3.1	0	0
17	GRATE14	X	3.1	3.1	0	0
18	GRATE15	X	3.1	3.1	0	0
19	GRATE16	X	3.1	3.1	0	0
20	GRATE17	X	3.1	3.1	0	0
21	GRATE18	X	3.1	3.1	0	0
22	PL-BOT-1	X	7	7	0	0
23	PL-BOT-2	X	0	0	0	0
24	PL-BOT-3	X	7	7	0	0
25	SA-BOT-1	X	4.4	4.4	0	0
26	SA-BOT-2	X	4.4	4.4	0	0
27	SA-BOT-3	X	4.4	4.4	0	0
28	SA-TOP-1	X	4.4	4.4	0	0
29	SA-TOP-2	X	4.4	4.4	0	0
30	SA-TOP-3	X	4.4	4.4	0	0
31	FM1	Z	2.1	2.1	0	0
32	FM2	Z	0	0	0	0
33	FM3	Z	2.1	2.1	0	0
34	GRATE1	Z	1.8	1.8	0	0
35	GRATE2	Z	1.8	1.8	0	0
36	GRATE3	Z	1.8	1.8	0	0
37	GRATE4	Z	1.8	1.8	0	0
38	GRATE5	Z	1.8	1.8	0	0
39	GRATE6	Z	1.8	1.8	0	0
40	GRATE7	Z	1.8	1.8	0	0
41	GRATE8	Z	1.8	1.8	0	0
42	GRATE9	Z	1.8	1.8	0	0
43	GRATE10	Z	1.8	1.8	0	0
44	GRATE11	Z	1.8	1.8	0	0
45	GRATE12	Z	1.8	1.8	0	0
46	GRATE13	Z	1.8	1.8	0	0
47	GRATE14	Z	1.8	1.8	0	0
48	GRATE15	Z	1.8	1.8	0	0
49	GRATE16	Z	1.8	1.8	0	0
50	GRATE17	Z	1.8	1.8	0	0
51	GRATE18	Z	1.8	1.8	0	0
52	PL-BOT-1	Z	4	4	0	0
53	PL-BOT-2	Z	0	0	0	0
54	PL-BOT-3	Z	4	4	0	0
55	SA-BOT-1	Z	2.5	2.5	0	0
56	SA-BOT-2	Z	2.5	2.5	0	0
57	SA-BOT-3	Z	2.5	2.5	0	0

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,%]
58	SA-TOP-1	Z	2.5	2.5	0	0
59	SA-TOP-2	Z	2.5	2.5	0	0
60	SA-TOP-3	Z	2.5	2.5	0	0
61	MP1	X	9.3	9.3	0	%100
62	MP2	X	8.2	8.2	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	9.3	9.3	0	%100
65	MP5	X	8.2	8.2	0	%100
66	MP6	X	8.4	8.4	0	%100
67	MP7	X	8.4	8.4	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	7.7	7.7	0	%100
70	MP10	X	7.7	7.7	0	%100
71	MP11	X	9.3	9.3	0	%100
72	MP12	X	9.3	9.3	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	6.9	6.9	0	%99.058
75	MP15	X	6.9	6.9	0	%99.058
76	MP1	Z	5.4	5.4	0	%100
77	MP2	Z	4.8	4.8	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	5.4	5.4	0	%100
80	MP5	Z	4.8	4.8	0	%100
81	MP6	Z	4.8	4.8	0	%100
82	MP7	Z	4.8	4.8	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	4.4	4.4	0	%100
85	MP10	Z	4.4	4.4	0	%100
86	MP11	Z	5.4	5.4	0	%100
87	MP12	Z	5.4	5.4	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	4	4	0	%99.058
90	MP15	Z	4	4	0	%99.058

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	GRATE1	X	1.8	1.8	0	0
5	GRATE2	X	1.8	1.8	0	0
6	GRATE3	X	1.8	1.8	0	0
7	GRATE4	X	1.8	1.8	0	0
8	GRATE5	X	1.8	1.8	0	0
9	GRATE6	X	0	0	0	0
10	GRATE7	X	0	0	0	0
11	GRATE8	X	1.8	1.8	0	0
12	GRATE9	X	1.8	1.8	0	0
13	GRATE10	X	1.8	1.8	0	0
14	GRATE11	X	1.8	1.8	0	0
15	GRATE12	X	1.8	1.8	0	0
16	GRATE13	X	1.8	1.8	0	0
17	GRATE14	X	1.8	1.8	0	0
18	GRATE15	X	1.8	1.8	0	0
19	GRATE16	X	1.8	1.8	0	0
20	GRATE17	X	1.8	1.8	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
21	GRATE18	X	1.8	1.8	0	0
22	PL-BOT-1	X	4	4	0	0
23	PL-BOT-2	X	4	4	0	0
24	PL-BOT-3	X	4	4	0	0
25	SA-BOT-1	X	2.5	2.5	0	0
26	SA-BOT-2	X	2.5	2.5	0	0
27	SA-BOT-3	X	0	0	0	0
28	SA-TOP-1	X	2.5	2.5	0	0
29	SA-TOP-2	X	2.5	2.5	0	0
30	SA-TOP-3	X	0	0	0	0
31	FM1	Z	3.6	3.6	0	0
32	FM2	Z	3.6	3.6	0	0
33	FM3	Z	3.6	3.6	0	0
34	GRATE1	Z	3.1	3.1	0	0
35	GRATE2	Z	3.1	3.1	0	0
36	GRATE3	Z	3.1	3.1	0	0
37	GRATE4	Z	3.1	3.1	0	0
38	GRATE5	Z	3.1	3.1	0	0
39	GRATE6	Z	0	0	0	0
40	GRATE7	Z	0	0	0	0
41	GRATE8	Z	3.1	3.1	0	0
42	GRATE9	Z	3.1	3.1	0	0
43	GRATE10	Z	3.1	3.1	0	0
44	GRATE11	Z	3.1	3.1	0	0
45	GRATE12	Z	3.1	3.1	0	0
46	GRATE13	Z	3.1	3.1	0	0
47	GRATE14	Z	3.1	3.1	0	0
48	GRATE15	Z	3.1	3.1	0	0
49	GRATE16	Z	3.1	3.1	0	0
50	GRATE17	Z	3.1	3.1	0	0
51	GRATE18	Z	3.1	3.1	0	0
52	PL-BOT-1	Z	7	7	0	0
53	PL-BOT-2	Z	7	7	0	0
54	PL-BOT-3	Z	7	7	0	0
55	SA-BOT-1	Z	4.4	4.4	0	0
56	SA-BOT-2	Z	4.4	4.4	0	0
57	SA-BOT-3	Z	0	0	0	0
58	SA-TOP-1	Z	4.4	4.4	0	0
59	SA-TOP-2	Z	4.4	4.4	0	0
60	SA-TOP-3	Z	0	0	0	0
61	MP1	X	5	5	0	%100
62	MP2	X	4.6	4.6	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	5	5	0	%100
65	MP5	X	4.6	4.6	0	%100
66	MP6	X	5	5	0	%100
67	MP7	X	5	5	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	4.6	4.6	0	%100
70	MP10	X	4.6	4.6	0	%100
71	MP11	X	5.5	5.5	0	%100
72	MP12	X	5.5	5.5	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	3.3	3.3	0	%99.058
75	MP15	X	3.3	3.3	0	%99.058
76	MP1	Z	8.7	8.7	0	%100
77	MP2	Z	7.9	7.9	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
78	MP3	Z	0	0	0	0
79	MP4	Z	8.7	8.7	0	%100
80	MP5	Z	7.9	7.9	0	%100
81	MP6	Z	8.7	8.7	0	%100
82	MP7	Z	8.7	8.7	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	7.9	7.9	0	%100
85	MP10	Z	7.9	7.9	0	%100
86	MP11	Z	9.6	9.6	0	%100
87	MP12	Z	9.6	9.6	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	5.7	5.7	0	%99.058
90	MP15	Z	5.7	5.7	0	%99.058

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,%]
1	FM1	X	0	0	0	0
2	FM2	X	0	0	0	0
3	FM3	X	0	0	0	0
4	GRATE1	X	0	0	0	0
5	GRATE2	X	0	0	0	0
6	GRATE3	X	0	0	0	0
7	GRATE4	X	0	0	0	0
8	GRATE5	X	0	0	0	0
9	GRATE6	X	0	0	0	0
10	GRATE7	X	0	0	0	0
11	GRATE8	X	0	0	0	0
12	GRATE9	X	0	0	0	0
13	GRATE10	X	0	0	0	0
14	GRATE11	X	0	0	0	0
15	GRATE12	X	0	0	0	0
16	GRATE13	X	0	0	0	0
17	GRATE14	X	0	0	0	0
18	GRATE15	X	0	0	0	0
19	GRATE16	X	0	0	0	0
20	GRATE17	X	0	0	0	0
21	GRATE18	X	0	0	0	0
22	PL-BOT-1	X	0	0	0	0
23	PL-BOT-2	X	0	0	0	0
24	PL-BOT-3	X	0	0	0	0
25	SA-BOT-1	X	0	0	0	0
26	SA-BOT-2	X	0	0	0	0
27	SA-BOT-3	X	0	0	0	0
28	SA-TOP-1	X	0	0	0	0
29	SA-TOP-2	X	0	0	0	0
30	SA-TOP-3	X	0	0	0	0
31	FM1	Z	0	0	0	0
32	FM2	Z	4.2	4.2	0	0
33	FM3	Z	4.2	4.2	0	0
34	GRATE1	Z	3.6	3.6	0	0
35	GRATE2	Z	3.6	3.6	0	0
36	GRATE3	Z	3.6	3.6	0	0
37	GRATE4	Z	3.6	3.6	0	0
38	GRATE5	Z	3.6	3.6	0	0
39	GRATE6	Z	3.6	3.6	0	0
40	GRATE7	Z	3.6	3.6	0	0

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,%]
41	GRATE8	Z	3.6	3.6	0	0
42	GRATE9	Z	3.6	3.6	0	0
43	GRATE10	Z	3.6	3.6	0	0
44	GRATE11	Z	3.6	3.6	0	0
45	GRATE12	Z	3.6	3.6	0	0
46	GRATE13	Z	3.6	3.6	0	0
47	GRATE14	Z	3.6	3.6	0	0
48	GRATE15	Z	3.6	3.6	0	0
49	GRATE16	Z	3.6	3.6	0	0
50	GRATE17	Z	3.6	3.6	0	0
51	GRATE18	Z	3.6	3.6	0	0
52	PL-BOT-1	Z	0	0	0	0
53	PL-BOT-2	Z	8.1	8.1	0	0
54	PL-BOT-3	Z	8.1	8.1	0	0
55	SA-BOT-1	Z	5.1	5.1	0	0
56	SA-BOT-2	Z	5.1	5.1	0	0
57	SA-BOT-3	Z	5.1	5.1	0	0
58	SA-TOP-1	Z	5.1	5.1	0	0
59	SA-TOP-2	Z	5.1	5.1	0	0
60	SA-TOP-3	Z	5.1	5.1	0	0
61	MP1	X	0	0	0	0
62	MP2	X	0	0	0	0
63	MP3	X	0	0	0	0
64	MP4	X	0	0	0	0
65	MP5	X	0	0	0	0
66	MP6	X	0	0	0	0
67	MP7	X	0	0	0	0
68	MP8	X	0	0	0	0
69	MP9	X	0	0	0	0
70	MP10	X	0	0	0	0
71	MP11	X	0	0	0	0
72	MP12	X	0	0	0	0
73	MP13	X	0	0	0	0
74	MP14	X	0	0	0	0
75	MP15	X	0	0	0	0
76	MP1	Z	9.7	9.7	0	%100
77	MP2	Z	8.9	8.9	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	9.7	9.7	0	%100
80	MP5	Z	8.9	8.9	0	%100
81	MP6	Z	10.7	10.7	0	%100
82	MP7	Z	10.7	10.7	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	9.5	9.5	0	%100
85	MP10	Z	9.5	9.5	0	%100
86	MP11	Z	10.7	10.7	0	%100
87	MP12	Z	10.7	10.7	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	7.9	7.9	0	%99.058
90	MP15	Z	7.9	7.9	0	%99.058

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

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,%]
4	GRATE1	X	0	0	0	0
5	GRATE2	X	-1.8	-1.8	0	0
6	GRATE3	X	-1.8	-1.8	0	0
7	GRATE4	X	-1.8	-1.8	0	0
8	GRATE5	X	-1.8	-1.8	0	0
9	GRATE6	X	-1.8	-1.8	0	0
10	GRATE7	X	-1.8	-1.8	0	0
11	GRATE8	X	-1.8	-1.8	0	0
12	GRATE9	X	-1.8	-1.8	0	0
13	GRATE10	X	-1.8	-1.8	0	0
14	GRATE11	X	-1.8	-1.8	0	0
15	GRATE12	X	-1.8	-1.8	0	0
16	GRATE13	X	-1.8	-1.8	0	0
17	GRATE14	X	-1.8	-1.8	0	0
18	GRATE15	X	-1.8	-1.8	0	0
19	GRATE16	X	-1.8	-1.8	0	0
20	GRATE17	X	-1.8	-1.8	0	0
21	GRATE18	X	0	0	0	0
22	PL-BOT-1	X	-4	-4	0	0
23	PL-BOT-2	X	-4	-4	0	0
24	PL-BOT-3	X	-4	-4	0	0
25	SA-BOT-1	X	-2.5	-2.5	0	0
26	SA-BOT-2	X	0	0	0	0
27	SA-BOT-3	X	-2.5	-2.5	0	0
28	SA-TOP-1	X	-2.5	-2.5	0	0
29	SA-TOP-2	X	0	0	0	0
30	SA-TOP-3	X	-2.5	-2.5	0	0
31	FM1	Z	3.6	3.6	0	0
32	FM2	Z	3.6	3.6	0	0
33	FM3	Z	3.6	3.6	0	0
34	GRATE1	Z	0	0	0	0
35	GRATE2	Z	3.1	3.1	0	0
36	GRATE3	Z	3.1	3.1	0	0
37	GRATE4	Z	3.1	3.1	0	0
38	GRATE5	Z	3.1	3.1	0	0
39	GRATE6	Z	3.1	3.1	0	0
40	GRATE7	Z	3.1	3.1	0	0
41	GRATE8	Z	3.1	3.1	0	0
42	GRATE9	Z	3.1	3.1	0	0
43	GRATE10	Z	3.1	3.1	0	0
44	GRATE11	Z	3.1	3.1	0	0
45	GRATE12	Z	3.1	3.1	0	0
46	GRATE13	Z	3.1	3.1	0	0
47	GRATE14	Z	3.1	3.1	0	0
48	GRATE15	Z	3.1	3.1	0	0
49	GRATE16	Z	3.1	3.1	0	0
50	GRATE17	Z	3.1	3.1	0	0
51	GRATE18	Z	0	0	0	0
52	PL-BOT-1	Z	7	7	0	0
53	PL-BOT-2	Z	7	7	0	0
54	PL-BOT-3	Z	7	7	0	0
55	SA-BOT-1	Z	4.4	4.4	0	0
56	SA-BOT-2	Z	0	0	0	0
57	SA-BOT-3	Z	4.4	4.4	0	0
58	SA-TOP-1	Z	4.4	4.4	0	0
59	SA-TOP-2	Z	0	0	0	0
60	SA-TOP-3	Z	4.4	4.4	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,%]
61	MP1	X	-5	-5	0	%100
62	MP2	X	-4.6	-4.6	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-5	-5	0	%100
65	MP5	X	-4.6	-4.6	0	%100
66	MP6	X	-5.5	-5.5	0	%100
67	MP7	X	-5.5	-5.5	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-4.9	-4.9	0	%100
70	MP10	X	-4.9	-4.9	0	%100
71	MP11	X	-5	-5	0	%100
72	MP12	X	-5	-5	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-5.3	-5.3	0	%99.058
75	MP15	X	-5.3	-5.3	0	%99.058
76	MP1	Z	8.7	8.7	0	%100
77	MP2	Z	7.9	7.9	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	8.7	8.7	0	%100
80	MP5	Z	7.9	7.9	0	%100
81	MP6	Z	9.6	9.6	0	%100
82	MP7	Z	9.6	9.6	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	8.4	8.4	0	%100
85	MP10	Z	8.4	8.4	0	%100
86	MP11	Z	8.7	8.7	0	%100
87	MP12	Z	8.7	8.7	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	9.2	9.2	0	%99.058
90	MP15	Z	9.2	9.2	0	%99.058

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	GRATE1	X	-3.1	-3.1	0	0
5	GRATE2	X	-3.1	-3.1	0	0
6	GRATE3	X	-3.1	-3.1	0	0
7	GRATE4	X	-3.1	-3.1	0	0
8	GRATE5	X	-3.1	-3.1	0	0
9	GRATE6	X	-3.1	-3.1	0	0
10	GRATE7	X	-3.1	-3.1	0	0
11	GRATE8	X	-3.1	-3.1	0	0
12	GRATE9	X	-3.1	-3.1	0	0
13	GRATE10	X	-3.1	-3.1	0	0
14	GRATE11	X	-3.1	-3.1	0	0
15	GRATE12	X	-3.1	-3.1	0	0
16	GRATE13	X	-3.1	-3.1	0	0
17	GRATE14	X	-3.1	-3.1	0	0
18	GRATE15	X	-3.1	-3.1	0	0
19	GRATE16	X	-3.1	-3.1	0	0
20	GRATE17	X	-3.1	-3.1	0	0
21	GRATE18	X	-3.1	-3.1	0	0
22	PL-BOT-1	X	-7	-7	0	0
23	PL-BOT-2	X	-7	-7	0	0

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,%]
24	PL-BOT-3	X	0	0	0	0
25	SA-BOT-1	X	-4.4	-4.4	0	0
26	SA-BOT-2	X	-4.4	-4.4	0	0
27	SA-BOT-3	X	-4.4	-4.4	0	0
28	SA-TOP-1	X	-4.4	-4.4	0	0
29	SA-TOP-2	X	-4.4	-4.4	0	0
30	SA-TOP-3	X	-4.4	-4.4	0	0
31	FM1	Z	2.1	2.1	0	0
32	FM2	Z	2.1	2.1	0	0
33	FM3	Z	0	0	0	0
34	GRATE1	Z	1.8	1.8	0	0
35	GRATE2	Z	1.8	1.8	0	0
36	GRATE3	Z	1.8	1.8	0	0
37	GRATE4	Z	1.8	1.8	0	0
38	GRATE5	Z	1.8	1.8	0	0
39	GRATE6	Z	1.8	1.8	0	0
40	GRATE7	Z	1.8	1.8	0	0
41	GRATE8	Z	1.8	1.8	0	0
42	GRATE9	Z	1.8	1.8	0	0
43	GRATE10	Z	1.8	1.8	0	0
44	GRATE11	Z	1.8	1.8	0	0
45	GRATE12	Z	1.8	1.8	0	0
46	GRATE13	Z	1.8	1.8	0	0
47	GRATE14	Z	1.8	1.8	0	0
48	GRATE15	Z	1.8	1.8	0	0
49	GRATE16	Z	1.8	1.8	0	0
50	GRATE17	Z	1.8	1.8	0	0
51	GRATE18	Z	1.8	1.8	0	0
52	PL-BOT-1	Z	4	4	0	0
53	PL-BOT-2	Z	4	4	0	0
54	PL-BOT-3	Z	0	0	0	0
55	SA-BOT-1	Z	2.5	2.5	0	0
56	SA-BOT-2	Z	2.5	2.5	0	0
57	SA-BOT-3	Z	2.5	2.5	0	0
58	SA-TOP-1	Z	2.5	2.5	0	0
59	SA-TOP-2	Z	2.5	2.5	0	0
60	SA-TOP-3	Z	2.5	2.5	0	0
61	MP1	X	-9.3	-9.3	0	%100
62	MP2	X	-8.2	-8.2	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-9.3	-9.3	0	%100
65	MP5	X	-8.2	-8.2	0	%100
66	MP6	X	-9.3	-9.3	0	%100
67	MP7	X	-9.3	-9.3	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-8.2	-8.2	0	%100
70	MP10	X	-8.2	-8.2	0	%100
71	MP11	X	-8.4	-8.4	0	%100
72	MP12	X	-8.4	-8.4	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-10.4	-10.4	0	%99.058
75	MP15	X	-10.4	-10.4	0	%99.058
76	MP1	Z	5.4	5.4	0	%100
77	MP2	Z	4.8	4.8	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	5.4	5.4	0	%100
80	MP5	Z	4.8	4.8	0	%100

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,%]
81	MP6	Z	5.4	5.4	0	%100
82	MP7	Z	5.4	5.4	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	4.8	4.8	0	%100
85	MP10	Z	4.8	4.8	0	%100
86	MP11	Z	4.8	4.8	0	%100
87	MP12	Z	4.8	4.8	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	6	6	0	%99.058
90	MP15	Z	6	6	0	%99.058

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	-4.2	-4.2	0	0
2	FM2	X	-4.2	-4.2	0	0
3	FM3	X	-4.2	-4.2	0	0
4	GRATE1	X	-3.6	-3.6	0	0
5	GRATE2	X	-3.6	-3.6	0	0
6	GRATE3	X	-3.6	-3.6	0	0
7	GRATE4	X	-3.6	-3.6	0	0
8	GRATE5	X	-3.6	-3.6	0	0
9	GRATE6	X	-3.6	-3.6	0	0
10	GRATE7	X	-3.6	-3.6	0	0
11	GRATE8	X	-3.6	-3.6	0	0
12	GRATE9	X	-3.6	-3.6	0	0
13	GRATE10	X	-3.6	-3.6	0	0
14	GRATE11	X	-3.6	-3.6	0	0
15	GRATE12	X	0	0	0	0
16	GRATE13	X	0	0	0	0
17	GRATE14	X	-3.6	-3.6	0	0
18	GRATE15	X	-3.6	-3.6	0	0
19	GRATE16	X	-3.6	-3.6	0	0
20	GRATE17	X	-3.6	-3.6	0	0
21	GRATE18	X	-3.6	-3.6	0	0
22	PL-BOT-1	X	-8.1	-8.1	0	0
23	PL-BOT-2	X	-8.1	-8.1	0	0
24	PL-BOT-3	X	-8.1	-8.1	0	0
25	SA-BOT-1	X	0	0	0	0
26	SA-BOT-2	X	-5.1	-5.1	0	0
27	SA-BOT-3	X	-5.1	-5.1	0	0
28	SA-TOP-1	X	0	0	0	0
29	SA-TOP-2	X	-5.1	-5.1	0	0
30	SA-TOP-3	X	-5.1	-5.1	0	0
31	FM1	Z	0	0	0	0
32	FM2	Z	0	0	0	0
33	FM3	Z	0	0	0	0
34	GRATE1	Z	0	0	0	0
35	GRATE2	Z	0	0	0	0
36	GRATE3	Z	0	0	0	0
37	GRATE4	Z	0	0	0	0
38	GRATE5	Z	0	0	0	0
39	GRATE6	Z	0	0	0	0
40	GRATE7	Z	0	0	0	0
41	GRATE8	Z	0	0	0	0
42	GRATE9	Z	0	0	0	0
43	GRATE10	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,%]
44	GRATE11	Z	0	0	0	0
45	GRATE12	Z	0	0	0	0
46	GRATE13	Z	0	0	0	0
47	GRATE14	Z	0	0	0	0
48	GRATE15	Z	0	0	0	0
49	GRATE16	Z	0	0	0	0
50	GRATE17	Z	0	0	0	0
51	GRATE18	Z	0	0	0	0
52	PL-BOT-1	Z	0	0	0	0
53	PL-BOT-2	Z	0	0	0	0
54	PL-BOT-3	Z	0	0	0	0
55	SA-BOT-1	Z	0	0	0	0
56	SA-BOT-2	Z	0	0	0	0
57	SA-BOT-3	Z	0	0	0	0
58	SA-TOP-1	Z	0	0	0	0
59	SA-TOP-2	Z	0	0	0	0
60	SA-TOP-3	Z	0	0	0	0
61	MP1	X	-11.1	-11.1	0	%100
62	MP2	X	-9.7	-9.7	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-11.1	-11.1	0	%100
65	MP5	X	-9.7	-9.7	0	%100
66	MP6	X	-10	-10	0	%100
67	MP7	X	-10	-10	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-9.1	-9.1	0	%100
70	MP10	X	-9.1	-9.1	0	%100
71	MP11	X	-10	-10	0	%100
72	MP12	X	-10	-10	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-10.7	-10.7	0	%99.058
75	MP15	X	-10.7	-10.7	0	%99.058
76	MP1	Z	0	0	0	0
77	MP2	Z	0	0	0	0
78	MP3	Z	0	0	0	0
79	MP4	Z	0	0	0	0
80	MP5	Z	0	0	0	0
81	MP6	Z	0	0	0	0
82	MP7	Z	0	0	0	0
83	MP8	Z	0	0	0	0
84	MP9	Z	0	0	0	0
85	MP10	Z	0	0	0	0
86	MP11	Z	0	0	0	0
87	MP12	Z	0	0	0	0
88	MP13	Z	0	0	0	0
89	MP14	Z	0	0	0	0
90	MP15	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	GRATE1	X	-3.1	-3.1	0	0
5	GRATE2	X	-3.1	-3.1	0	0
6	GRATE3	X	-3.1	-3.1	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
7	GRATE4	X	-3.1	-3.1	0	0
8	GRATE5	X	-3.1	-3.1	0	0
9	GRATE6	X	-3.1	-3.1	0	0
10	GRATE7	X	-3.1	-3.1	0	0
11	GRATE8	X	-3.1	-3.1	0	0
12	GRATE9	X	-3.1	-3.1	0	0
13	GRATE10	X	-3.1	-3.1	0	0
14	GRATE11	X	-3.1	-3.1	0	0
15	GRATE12	X	-3.1	-3.1	0	0
16	GRATE13	X	-3.1	-3.1	0	0
17	GRATE14	X	-3.1	-3.1	0	0
18	GRATE15	X	-3.1	-3.1	0	0
19	GRATE16	X	-3.1	-3.1	0	0
20	GRATE17	X	-3.1	-3.1	0	0
21	GRATE18	X	-3.1	-3.1	0	0
22	PL-BOT-1	X	-7	-7	0	0
23	PL-BOT-2	X	0	0	0	0
24	PL-BOT-3	X	-7	-7	0	0
25	SA-BOT-1	X	-4.4	-4.4	0	0
26	SA-BOT-2	X	-4.4	-4.4	0	0
27	SA-BOT-3	X	-4.4	-4.4	0	0
28	SA-TOP-1	X	-4.4	-4.4	0	0
29	SA-TOP-2	X	-4.4	-4.4	0	0
30	SA-TOP-3	X	-4.4	-4.4	0	0
31	FM1	Z	-2.1	-2.1	0	0
32	FM2	Z	0	0	0	0
33	FM3	Z	-2.1	-2.1	0	0
34	GRATE1	Z	-1.8	-1.8	0	0
35	GRATE2	Z	-1.8	-1.8	0	0
36	GRATE3	Z	-1.8	-1.8	0	0
37	GRATE4	Z	-1.8	-1.8	0	0
38	GRATE5	Z	-1.8	-1.8	0	0
39	GRATE6	Z	-1.8	-1.8	0	0
40	GRATE7	Z	-1.8	-1.8	0	0
41	GRATE8	Z	-1.8	-1.8	0	0
42	GRATE9	Z	-1.8	-1.8	0	0
43	GRATE10	Z	-1.8	-1.8	0	0
44	GRATE11	Z	-1.8	-1.8	0	0
45	GRATE12	Z	-1.8	-1.8	0	0
46	GRATE13	Z	-1.8	-1.8	0	0
47	GRATE14	Z	-1.8	-1.8	0	0
48	GRATE15	Z	-1.8	-1.8	0	0
49	GRATE16	Z	-1.8	-1.8	0	0
50	GRATE17	Z	-1.8	-1.8	0	0
51	GRATE18	Z	-1.8	-1.8	0	0
52	PL-BOT-1	Z	-4	-4	0	0
53	PL-BOT-2	Z	0	0	0	0
54	PL-BOT-3	Z	-4	-4	0	0
55	SA-BOT-1	Z	-2.5	-2.5	0	0
56	SA-BOT-2	Z	-2.5	-2.5	0	0
57	SA-BOT-3	Z	-2.5	-2.5	0	0
58	SA-TOP-1	Z	-2.5	-2.5	0	0
59	SA-TOP-2	Z	-2.5	-2.5	0	0
60	SA-TOP-3	Z	-2.5	-2.5	0	0
61	MP1	X	-9.3	-9.3	0	%100
62	MP2	X	-8.2	-8.2	0	%100
63	MP3	X	0	0	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
64	MP4	X	-9.3	-9.3	0	%100
65	MP5	X	-8.2	-8.2	0	%100
66	MP6	X	-8.4	-8.4	0	%100
67	MP7	X	-8.4	-8.4	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-7.7	-7.7	0	%100
70	MP10	X	-7.7	-7.7	0	%100
71	MP11	X	-9.3	-9.3	0	%100
72	MP12	X	-9.3	-9.3	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-6.9	-6.9	0	%99.058
75	MP15	X	-6.9	-6.9	0	%99.058
76	MP1	Z	-5.4	-5.4	0	%100
77	MP2	Z	-4.8	-4.8	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-5.4	-5.4	0	%100
80	MP5	Z	-4.8	-4.8	0	%100
81	MP6	Z	-4.8	-4.8	0	%100
82	MP7	Z	-4.8	-4.8	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-4.4	-4.4	0	%100
85	MP10	Z	-4.4	-4.4	0	%100
86	MP11	Z	-5.4	-5.4	0	%100
87	MP12	Z	-5.4	-5.4	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-4	-4	0	%99.058
90	MP15	Z	-4	-4	0	%99.058

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	GRATE1	X	-1.8	-1.8	0	0
5	GRATE2	X	-1.8	-1.8	0	0
6	GRATE3	X	-1.8	-1.8	0	0
7	GRATE4	X	-1.8	-1.8	0	0
8	GRATE5	X	-1.8	-1.8	0	0
9	GRATE6	X	0	0	0	0
10	GRATE7	X	0	0	0	0
11	GRATE8	X	-1.8	-1.8	0	0
12	GRATE9	X	-1.8	-1.8	0	0
13	GRATE10	X	-1.8	-1.8	0	0
14	GRATE11	X	-1.8	-1.8	0	0
15	GRATE12	X	-1.8	-1.8	0	0
16	GRATE13	X	-1.8	-1.8	0	0
17	GRATE14	X	-1.8	-1.8	0	0
18	GRATE15	X	-1.8	-1.8	0	0
19	GRATE16	X	-1.8	-1.8	0	0
20	GRATE17	X	-1.8	-1.8	0	0
21	GRATE18	X	-1.8	-1.8	0	0
22	PL-BOT-1	X	-4	-4	0	0
23	PL-BOT-2	X	-4	-4	0	0
24	PL-BOT-3	X	-4	-4	0	0
25	SA-BOT-1	X	-2.5	-2.5	0	0
26	SA-BOT-2	X	-2.5	-2.5	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
27	SA-BOT-3	X	0	0	0	0
28	SA-TOP-1	X	-2.5	-2.5	0	0
29	SA-TOP-2	X	-2.5	-2.5	0	0
30	SA-TOP-3	X	0	0	0	0
31	FM1	Z	-3.6	-3.6	0	0
32	FM2	Z	-3.6	-3.6	0	0
33	FM3	Z	-3.6	-3.6	0	0
34	GRATE1	Z	-3.1	-3.1	0	0
35	GRATE2	Z	-3.1	-3.1	0	0
36	GRATE3	Z	-3.1	-3.1	0	0
37	GRATE4	Z	-3.1	-3.1	0	0
38	GRATE5	Z	-3.1	-3.1	0	0
39	GRATE6	Z	0	0	0	0
40	GRATE7	Z	0	0	0	0
41	GRATE8	Z	-3.1	-3.1	0	0
42	GRATE9	Z	-3.1	-3.1	0	0
43	GRATE10	Z	-3.1	-3.1	0	0
44	GRATE11	Z	-3.1	-3.1	0	0
45	GRATE12	Z	-3.1	-3.1	0	0
46	GRATE13	Z	-3.1	-3.1	0	0
47	GRATE14	Z	-3.1	-3.1	0	0
48	GRATE15	Z	-3.1	-3.1	0	0
49	GRATE16	Z	-3.1	-3.1	0	0
50	GRATE17	Z	-3.1	-3.1	0	0
51	GRATE18	Z	-3.1	-3.1	0	0
52	PL-BOT-1	Z	-7	-7	0	0
53	PL-BOT-2	Z	-7	-7	0	0
54	PL-BOT-3	Z	-7	-7	0	0
55	SA-BOT-1	Z	-4.4	-4.4	0	0
56	SA-BOT-2	Z	-4.4	-4.4	0	0
57	SA-BOT-3	Z	0	0	0	0
58	SA-TOP-1	Z	-4.4	-4.4	0	0
59	SA-TOP-2	Z	-4.4	-4.4	0	0
60	SA-TOP-3	Z	0	0	0	0
61	MP1	X	-5	-5	0	%100
62	MP2	X	-4.6	-4.6	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	-5	-5	0	%100
65	MP5	X	-4.6	-4.6	0	%100
66	MP6	X	-5	-5	0	%100
67	MP7	X	-5	-5	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	-4.6	-4.6	0	%100
70	MP10	X	-4.6	-4.6	0	%100
71	MP11	X	-5.5	-5.5	0	%100
72	MP12	X	-5.5	-5.5	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	-3.3	-3.3	0	%99.058
75	MP15	X	-3.3	-3.3	0	%99.058
76	MP1	Z	-8.7	-8.7	0	%100
77	MP2	Z	-7.9	-7.9	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-8.7	-8.7	0	%100
80	MP5	Z	-7.9	-7.9	0	%100
81	MP6	Z	-8.7	-8.7	0	%100
82	MP7	Z	-8.7	-8.7	0	%100
83	MP8	Z	0	0	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
84	MP9	Z	-7.9	-7.9	0	%100
85	MP10	Z	-7.9	-7.9	0	%100
86	MP11	Z	-9.6	-9.6	0	%100
87	MP12	Z	-9.6	-9.6	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-5.7	-5.7	0	%99.058
90	MP15	Z	-5.7	-5.7	0	%99.058

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	GRATE1	X	0	0	0	0
5	GRATE2	X	0	0	0	0
6	GRATE3	X	0	0	0	0
7	GRATE4	X	0	0	0	0
8	GRATE5	X	0	0	0	0
9	GRATE6	X	0	0	0	0
10	GRATE7	X	0	0	0	0
11	GRATE8	X	0	0	0	0
12	GRATE9	X	0	0	0	0
13	GRATE10	X	0	0	0	0
14	GRATE11	X	0	0	0	0
15	GRATE12	X	0	0	0	0
16	GRATE13	X	0	0	0	0
17	GRATE14	X	0	0	0	0
18	GRATE15	X	0	0	0	0
19	GRATE16	X	0	0	0	0
20	GRATE17	X	0	0	0	0
21	GRATE18	X	0	0	0	0
22	PL-BOT-1	X	0	0	0	0
23	PL-BOT-2	X	0	0	0	0
24	PL-BOT-3	X	0	0	0	0
25	SA-BOT-1	X	0	0	0	0
26	SA-BOT-2	X	0	0	0	0
27	SA-BOT-3	X	0	0	0	0
28	SA-TOP-1	X	0	0	0	0
29	SA-TOP-2	X	0	0	0	0
30	SA-TOP-3	X	0	0	0	0
31	FM1	Z	0	0	0	0
32	FM2	Z	-4.2	-4.2	0	0
33	FM3	Z	-4.2	-4.2	0	0
34	GRATE1	Z	-3.6	-3.6	0	0
35	GRATE2	Z	-3.6	-3.6	0	0
36	GRATE3	Z	-3.6	-3.6	0	0
37	GRATE4	Z	-3.6	-3.6	0	0
38	GRATE5	Z	-3.6	-3.6	0	0
39	GRATE6	Z	-3.6	-3.6	0	0
40	GRATE7	Z	-3.6	-3.6	0	0
41	GRATE8	Z	-3.6	-3.6	0	0
42	GRATE9	Z	-3.6	-3.6	0	0
43	GRATE10	Z	-3.6	-3.6	0	0
44	GRATE11	Z	-3.6	-3.6	0	0
45	GRATE12	Z	-3.6	-3.6	0	0
46	GRATE13	Z	-3.6	-3.6	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,%]
47	GRATE14	Z	-3.6	-3.6	0	0
48	GRATE15	Z	-3.6	-3.6	0	0
49	GRATE16	Z	-3.6	-3.6	0	0
50	GRATE17	Z	-3.6	-3.6	0	0
51	GRATE18	Z	-3.6	-3.6	0	0
52	PL-BOT-1	Z	0	0	0	0
53	PL-BOT-2	Z	-8.1	-8.1	0	0
54	PL-BOT-3	Z	-8.1	-8.1	0	0
55	SA-BOT-1	Z	-5.1	-5.1	0	0
56	SA-BOT-2	Z	-5.1	-5.1	0	0
57	SA-BOT-3	Z	-5.1	-5.1	0	0
58	SA-TOP-1	Z	-5.1	-5.1	0	0
59	SA-TOP-2	Z	-5.1	-5.1	0	0
60	SA-TOP-3	Z	-5.1	-5.1	0	0
61	MP1	X	0	0	0	0
62	MP2	X	0	0	0	0
63	MP3	X	0	0	0	0
64	MP4	X	0	0	0	0
65	MP5	X	0	0	0	0
66	MP6	X	0	0	0	0
67	MP7	X	0	0	0	0
68	MP8	X	0	0	0	0
69	MP9	X	0	0	0	0
70	MP10	X	0	0	0	0
71	MP11	X	0	0	0	0
72	MP12	X	0	0	0	0
73	MP13	X	0	0	0	0
74	MP14	X	0	0	0	0
75	MP15	X	0	0	0	0
76	MP1	Z	-9.7	-9.7	0	%100
77	MP2	Z	-8.9	-8.9	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-9.7	-9.7	0	%100
80	MP5	Z	-8.9	-8.9	0	%100
81	MP6	Z	-10.7	-10.7	0	%100
82	MP7	Z	-10.7	-10.7	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-9.5	-9.5	0	%100
85	MP10	Z	-9.5	-9.5	0	%100
86	MP11	Z	-10.7	-10.7	0	%100
87	MP12	Z	-10.7	-10.7	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-7.9	-7.9	0	%99.058
90	MP15	Z	-7.9	-7.9	0	%99.058

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	GRATE1	X	0	0	0	0
5	GRATE2	X	1.8	1.8	0	0
6	GRATE3	X	1.8	1.8	0	0
7	GRATE4	X	1.8	1.8	0	0
8	GRATE5	X	1.8	1.8	0	0
9	GRATE6	X	1.8	1.8	0	0

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,%]
10	GRATE7	X	1.8	1.8	0	0
11	GRATE8	X	1.8	1.8	0	0
12	GRATE9	X	1.8	1.8	0	0
13	GRATE10	X	1.8	1.8	0	0
14	GRATE11	X	1.8	1.8	0	0
15	GRATE12	X	1.8	1.8	0	0
16	GRATE13	X	1.8	1.8	0	0
17	GRATE14	X	1.8	1.8	0	0
18	GRATE15	X	1.8	1.8	0	0
19	GRATE16	X	1.8	1.8	0	0
20	GRATE17	X	1.8	1.8	0	0
21	GRATE18	X	0	0	0	0
22	PL-BOT-1	X	4	4	0	0
23	PL-BOT-2	X	4	4	0	0
24	PL-BOT-3	X	4	4	0	0
25	SA-BOT-1	X	2.5	2.5	0	0
26	SA-BOT-2	X	0	0	0	0
27	SA-BOT-3	X	2.5	2.5	0	0
28	SA-TOP-1	X	2.5	2.5	0	0
29	SA-TOP-2	X	0	0	0	0
30	SA-TOP-3	X	2.5	2.5	0	0
31	FM1	Z	-3.6	-3.6	0	0
32	FM2	Z	-3.6	-3.6	0	0
33	FM3	Z	-3.6	-3.6	0	0
34	GRATE1	Z	0	0	0	0
35	GRATE2	Z	-3.1	-3.1	0	0
36	GRATE3	Z	-3.1	-3.1	0	0
37	GRATE4	Z	-3.1	-3.1	0	0
38	GRATE5	Z	-3.1	-3.1	0	0
39	GRATE6	Z	-3.1	-3.1	0	0
40	GRATE7	Z	-3.1	-3.1	0	0
41	GRATE8	Z	-3.1	-3.1	0	0
42	GRATE9	Z	-3.1	-3.1	0	0
43	GRATE10	Z	-3.1	-3.1	0	0
44	GRATE11	Z	-3.1	-3.1	0	0
45	GRATE12	Z	-3.1	-3.1	0	0
46	GRATE13	Z	-3.1	-3.1	0	0
47	GRATE14	Z	-3.1	-3.1	0	0
48	GRATE15	Z	-3.1	-3.1	0	0
49	GRATE16	Z	-3.1	-3.1	0	0
50	GRATE17	Z	-3.1	-3.1	0	0
51	GRATE18	Z	0	0	0	0
52	PL-BOT-1	Z	-7	-7	0	0
53	PL-BOT-2	Z	-7	-7	0	0
54	PL-BOT-3	Z	-7	-7	0	0
55	SA-BOT-1	Z	-4.4	-4.4	0	0
56	SA-BOT-2	Z	0	0	0	0
57	SA-BOT-3	Z	-4.4	-4.4	0	0
58	SA-TOP-1	Z	-4.4	-4.4	0	0
59	SA-TOP-2	Z	0	0	0	0
60	SA-TOP-3	Z	-4.4	-4.4	0	0
61	MP1	X	5	5	0	%100
62	MP2	X	4.6	4.6	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	5	5	0	%100
65	MP5	X	4.6	4.6	0	%100
66	MP6	X	5.5	5.5	0	%100

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,%]
67	MP7	X	5.5	5.5	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	4.9	4.9	0	%100
70	MP10	X	4.9	4.9	0	%100
71	MP11	X	5	5	0	%100
72	MP12	X	5	5	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	5.3	5.3	0	%99.058
75	MP15	X	5.3	5.3	0	%99.058
76	MP1	Z	-8.7	-8.7	0	%100
77	MP2	Z	-7.9	-7.9	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-8.7	-8.7	0	%100
80	MP5	Z	-7.9	-7.9	0	%100
81	MP6	Z	-9.6	-9.6	0	%100
82	MP7	Z	-9.6	-9.6	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-8.4	-8.4	0	%100
85	MP10	Z	-8.4	-8.4	0	%100
86	MP11	Z	-8.7	-8.7	0	%100
87	MP12	Z	-8.7	-8.7	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-9.2	-9.2	0	%99.058
90	MP15	Z	-9.2	-9.2	0	%99.058

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	GRATE1	X	3.1	3.1	0	0
5	GRATE2	X	3.1	3.1	0	0
6	GRATE3	X	3.1	3.1	0	0
7	GRATE4	X	3.1	3.1	0	0
8	GRATE5	X	3.1	3.1	0	0
9	GRATE6	X	3.1	3.1	0	0
10	GRATE7	X	3.1	3.1	0	0
11	GRATE8	X	3.1	3.1	0	0
12	GRATE9	X	3.1	3.1	0	0
13	GRATE10	X	3.1	3.1	0	0
14	GRATE11	X	3.1	3.1	0	0
15	GRATE12	X	3.1	3.1	0	0
16	GRATE13	X	3.1	3.1	0	0
17	GRATE14	X	3.1	3.1	0	0
18	GRATE15	X	3.1	3.1	0	0
19	GRATE16	X	3.1	3.1	0	0
20	GRATE17	X	3.1	3.1	0	0
21	GRATE18	X	3.1	3.1	0	0
22	PL-BOT-1	X	7	7	0	0
23	PL-BOT-2	X	7	7	0	0
24	PL-BOT-3	X	0	0	0	0
25	SA-BOT-1	X	4.4	4.4	0	0
26	SA-BOT-2	X	4.4	4.4	0	0
27	SA-BOT-3	X	4.4	4.4	0	0
28	SA-TOP-1	X	4.4	4.4	0	0
29	SA-TOP-2	X	4.4	4.4	0	0

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,%]
30	SA-TOP-3	X	4.4	4.4	0	0
31	FM1	Z	-2.1	-2.1	0	0
32	FM2	Z	-2.1	-2.1	0	0
33	FM3	Z	0	0	0	0
34	GRATE1	Z	-1.8	-1.8	0	0
35	GRATE2	Z	-1.8	-1.8	0	0
36	GRATE3	Z	-1.8	-1.8	0	0
37	GRATE4	Z	-1.8	-1.8	0	0
38	GRATE5	Z	-1.8	-1.8	0	0
39	GRATE6	Z	-1.8	-1.8	0	0
40	GRATE7	Z	-1.8	-1.8	0	0
41	GRATE8	Z	-1.8	-1.8	0	0
42	GRATE9	Z	-1.8	-1.8	0	0
43	GRATE10	Z	-1.8	-1.8	0	0
44	GRATE11	Z	-1.8	-1.8	0	0
45	GRATE12	Z	-1.8	-1.8	0	0
46	GRATE13	Z	-1.8	-1.8	0	0
47	GRATE14	Z	-1.8	-1.8	0	0
48	GRATE15	Z	-1.8	-1.8	0	0
49	GRATE16	Z	-1.8	-1.8	0	0
50	GRATE17	Z	-1.8	-1.8	0	0
51	GRATE18	Z	-1.8	-1.8	0	0
52	PL-BOT-1	Z	-4	-4	0	0
53	PL-BOT-2	Z	-4	-4	0	0
54	PL-BOT-3	Z	0	0	0	0
55	SA-BOT-1	Z	-2.5	-2.5	0	0
56	SA-BOT-2	Z	-2.5	-2.5	0	0
57	SA-BOT-3	Z	-2.5	-2.5	0	0
58	SA-TOP-1	Z	-2.5	-2.5	0	0
59	SA-TOP-2	Z	-2.5	-2.5	0	0
60	SA-TOP-3	Z	-2.5	-2.5	0	0
61	MP1	X	9.3	9.3	0	%100
62	MP2	X	8.2	8.2	0	%100
63	MP3	X	0	0	0	0
64	MP4	X	9.3	9.3	0	%100
65	MP5	X	8.2	8.2	0	%100
66	MP6	X	9.3	9.3	0	%100
67	MP7	X	9.3	9.3	0	%100
68	MP8	X	0	0	0	0
69	MP9	X	8.2	8.2	0	%100
70	MP10	X	8.2	8.2	0	%100
71	MP11	X	8.4	8.4	0	%100
72	MP12	X	8.4	8.4	0	%100
73	MP13	X	0	0	0	0
74	MP14	X	10.4	10.4	0	%99.058
75	MP15	X	10.4	10.4	0	%99.058
76	MP1	Z	-5.4	-5.4	0	%100
77	MP2	Z	-4.8	-4.8	0	%100
78	MP3	Z	0	0	0	0
79	MP4	Z	-5.4	-5.4	0	%100
80	MP5	Z	-4.8	-4.8	0	%100
81	MP6	Z	-5.4	-5.4	0	%100
82	MP7	Z	-5.4	-5.4	0	%100
83	MP8	Z	0	0	0	0
84	MP9	Z	-4.8	-4.8	0	%100
85	MP10	Z	-4.8	-4.8	0	%100
86	MP11	Z	-4.8	-4.8	0	%100

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,%]
87	MP12	Z	-4.8	-4.8	0	%100
88	MP13	Z	0	0	0	0
89	MP14	Z	-6	-6	0	%99.058
90	MP15	Z	-6	-6	0	%99.058

Load Combinations

	Description	Solve	P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.4D	Yes	Y		1	1.4																				
2	1.2D + 1.0W (0 ...	Yes	Y		1	1.2	2	1																		
3	1.2D + 1.0W (30...	Yes	Y		1	1.2	3	1																		
4	1.2D + 1.0W (60...	Yes	Y		1	1.2	4	1																		
5	1.2D + 1.0W (90...	Yes	Y		1	1.2	5	1																		
6	1.2D + 1.0W (12...	Yes	Y		1	1.2	6	1																		
7	1.2D + 1.0W (15...	Yes	Y		1	1.2	7	1																		
8	1.2D + 1.0W (18...	Yes	Y		1	1.2	8	1																		
9	1.2D + 1.0W (21...	Yes	Y		1	1.2	9	1																		
10	1.2D + 1.0W (24...	Yes	Y		1	1.2	10	1																		
11	1.2D + 1.0W (27...	Yes	Y		1	1.2	11	1																		
12	1.2D + 1.0W (30...	Yes	Y		1	1.2	12	1																		
13	1.2D + 1.0W (33...	Yes	Y		1	1.2	13	1																		
14	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	15	1																
15	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	16	1																
16	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	17	1																
17	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	18	1																
18	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	19	1																
19	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	20	1																
20	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	21	1																
21	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	22	1																
22	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	23	1																
23	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	24	1																
24	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	25	1																
25	1.2D + Di + Wi (...	Yes	Y		1	1.2	14	1	26	1																
26	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	27	.121																
27	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	28	.121																
28	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	29	.121																
29	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	30	.121																
30	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	31	.121																
31	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	32	.121																
32	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	33	.121																
33	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	34	.121																
34	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	35	.121																
35	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	36	.121																
36	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	37	.121																
37	1.2D + 1.0 Ev + ...	Yes	Y		1	1.2	1	.048	38	.121																
38	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	2	.063																
39	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	3	.063																
40	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	4	.063																
41	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	5	.063																
42	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	6	.063																
43	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	7	.063																
44	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	8	.063																
45	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	9	.063																
46	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	10	.063																
47	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	11	.063																
48	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	12	.063																

Load Combinations (Continued)

	Description	Solve	P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
49	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.5	13	.063																
50	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	2	.063																
51	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	3	.063																
52	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	4	.063																
53	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	5	.063																
54	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	6	.063																
55	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	7	.063																
56	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	8	.063																
57	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	9	.063																
58	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	10	.063																
59	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	11	.063																
60	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	12	.063																
61	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	40	1.5	13	.063																
62	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	2	.063																
63	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	3	.063																
64	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	4	.063																
65	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	5	.063																
66	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	6	.063																
67	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	7	.063																
68	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	8	.063																
69	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	9	.063																
70	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	10	.063																
71	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	11	.063																
72	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	12	.063																
73	1.2D + 1.5Lm3 +...	Yes	Y		1	1.2	41	1.5	13	.063																
74	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	2	.063																
75	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	3	.063																
76	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	4	.063																
77	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	5	.063																
78	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	6	.063																
79	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	7	.063																
80	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	8	.063																
81	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	9	.063																
82	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	10	.063																
83	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	11	.063																
84	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	12	.063																
85	1.2D + 1.5Lm4 +...	Yes	Y		1	1.2	42	1.5	13	.063																
86	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	2	.063																
87	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	3	.063																
88	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	4	.063																
89	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	5	.063																
90	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	6	.063																
91	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	7	.063																
92	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	8	.063																
93	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	9	.063																
94	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	10	.063																
95	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	11	.063																
96	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	12	.063																
97	1.2D + 1.5Lm5 +...	Yes	Y		1	1.2	43	1.5	13	.063																
98	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	2	.063																
99	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	3	.063																
100	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	4	.063																
101	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	5	.063																
102	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	6	.063																
103	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	7	.063																
104	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	8	.063																
105	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	9	.063																

Load Combinations (Continued)

	Description	Solve	P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
106	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	10	.063																
107	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	11	.063																
108	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	12	.063																
109	1.2D + 1.5Lm6 +...	Yes	Y		1	1.2	44	1.5	13	.063																
110	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	2	.063																
111	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	3	.063																
112	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	4	.063																
113	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	5	.063																
114	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	6	.063																
115	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	7	.063																
116	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	8	.063																
117	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	9	.063																
118	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	10	.063																
119	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	11	.063																
120	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	12	.063																
121	1.2D + 1.5Lm7 +...	Yes	Y		1	1.2	45	1.5	13	.063																
122	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	2	.063																
123	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	3	.063																
124	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	4	.063																
125	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	5	.063																
126	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	6	.063																
127	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	7	.063																
128	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	8	.063																
129	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	9	.063																
130	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	10	.063																
131	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	11	.063																
132	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	12	.063																
133	1.2D + 1.5Lm8 +...	Yes	Y		1	1.2	46	1.5	13	.063																
134	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	2	.063																
135	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	3	.063																
136	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	4	.063																
137	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	5	.063																
138	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	6	.063																
139	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	7	.063																
140	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	8	.063																
141	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	9	.063																
142	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	10	.063																
143	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	11	.063																
144	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	12	.063																
145	1.2D + 1.5Lm9 +...	Yes	Y		1	1.2	47	1.5	13	.063																
146	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	2	.063																
147	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	3	.063																
148	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	4	.063																
149	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	5	.063																
150	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	6	.063																
151	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	7	.063																
152	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	8	.063																
153	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	9	.063																
154	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	10	.063																
155	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	11	.063																
156	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	12	.063																
157	1.2D + 1.5Lm10 ...	Yes	Y		1	1.2	48	1.5	13	.063																
158	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	2	.063																
159	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	3	.063																
160	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	4	.063																
161	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	5	.063																
162	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	6	.063																

Load Combinations (Continued)

	Description	Solve	P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
163	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	7	.063																
164	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	8	.063																
165	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	9	.063																
166	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	10	.063																
167	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	11	.063																
168	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	12	.063																
169	1.2D + 1.5Lm11 ...	Yes	Y		1	1.2	49	1.5	13	.063																
170	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	2	.063																
171	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	3	.063																
172	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	4	.063																
173	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	5	.063																
174	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	6	.063																
175	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	7	.063																
176	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	8	.063																
177	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	9	.063																
178	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	10	.063																
179	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	11	.063																
180	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	12	.063																
181	1.2D + 1.5Lm12 ...	Yes	Y		1	1.2	50	1.5	13	.063																
182	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	2	.063																
183	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	3	.063																
184	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	4	.063																
185	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	5	.063																
186	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	6	.063																
187	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	7	.063																
188	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	8	.063																
189	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	9	.063																
190	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	10	.063																
191	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	11	.063																
192	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	12	.063																
193	1.2D + 1.5Lm13 ...	Yes	Y		1	1.2	51	1.5	13	.063																
194	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	2	.063																
195	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	3	.063																
196	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	4	.063																
197	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	5	.063																
198	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	6	.063																
199	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	7	.063																
200	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	8	.063																
201	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	9	.063																
202	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	10	.063																
203	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	11	.063																
204	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	12	.063																
205	1.2D + 1.5Lm14 ...	Yes	Y		1	1.2	52	1.5	13	.063																
206	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	2	.063																
207	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	3	.063																
208	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	4	.063																
209	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	5	.063																
210	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	6	.063																
211	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	7	.063																
212	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	8	.063																
213	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	9	.063																
214	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	10	.063																
215	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	11	.063																
216	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	12	.063																
217	1.2D + 1.5Lm15 ...	Yes	Y		1	1.2	53	1.5	13	.063																
218	1.2D + 1.5Lm16 ...		Y		1	1.2	54	1.5	2	.063																
219	1.2D + 1.5Lm16 ...		Y		1	1.2	54	1.5	3	.063																

Load Combinations (Continued)

	Description	Solve P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
220	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	4	.063														
221	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	5	.063														
222	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	6	.063														
223	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	7	.063														
224	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	8	.063														
225	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	9	.063														
226	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	10	.063														
227	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	11	.063														
228	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	12	.063														
229	1.2D + 1.5Lm16 ...	Y		1	1.2	54	1.5	13	.063														
230	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	2	.063														
231	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	3	.063														
232	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	4	.063														
233	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	5	.063														
234	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	6	.063														
235	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	7	.063														
236	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	8	.063														
237	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	9	.063														
238	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	10	.063														
239	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	11	.063														
240	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	12	.063														
241	1.2D + 1.5Lm17 ...	Y		1	1.2	55	1.5	13	.063														
242	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	2	.063														
243	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	3	.063														
244	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	4	.063														
245	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	5	.063														
246	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	6	.063														
247	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	7	.063														
248	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	8	.063														
249	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	9	.063														
250	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	10	.063														
251	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	11	.063														
252	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	12	.063														
253	1.2D + 1.5Lm18 ...	Y		1	1.2	56	1.5	13	.063														
254	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	2	.063														
255	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	3	.063														
256	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	4	.063														
257	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	5	.063														
258	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	6	.063														
259	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	7	.063														
260	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	8	.063														
261	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	9	.063														
262	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	10	.063														
263	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	11	.063														
264	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	12	.063														
265	1.2D + 1.5Lm19 ...	Y		1	1.2	57	1.5	13	.063														
266	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	2	.063														
267	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	3	.063														
268	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	4	.063														
269	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	5	.063														
270	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	6	.063														
271	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	7	.063														
272	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	8	.063														
273	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	9	.063														
274	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	10	.063														
275	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	11	.063														
276	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	12	.063														

Load Combinations (Continued)

	Description	Solve P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
277	1.2D + 1.5Lm20 ...	Y		1	1.2	58	1.5	13	.063																
278	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	2	.063																
279	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	3	.063																
280	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	4	.063																
281	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	5	.063																
282	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	6	.063																
283	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	7	.063																
284	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	8	.063																
285	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	9	.063																
286	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	10	.063																
287	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	11	.063																
288	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	12	.063																
289	1.2D + 1.5Lm21 ...	Y		1	1.2	59	1.5	13	.063																
290	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	2	.063																
291	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	3	.063																
292	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	4	.063																
293	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	5	.063																
294	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	6	.063																
295	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	7	.063																
296	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	8	.063																
297	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	9	.063																
298	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	10	.063																
299	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	11	.063																
300	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	12	.063																
301	1.2D + 1.5Lm22 ...	Y		1	1.2	60	1.5	13	.063																
302	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	2	.063																
303	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	3	.063																
304	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	4	.063																
305	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	5	.063																
306	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	6	.063																
307	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	7	.063																
308	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	8	.063																
309	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	9	.063																
310	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	10	.063																
311	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	11	.063																
312	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	12	.063																
313	1.2D + 1.5Lm23 ...	Y		1	1.2	61	1.5	13	.063																
314	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	2	.063																
315	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	3	.063																
316	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	4	.063																
317	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	5	.063																
318	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	6	.063																
319	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	7	.063																
320	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	8	.063																
321	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	9	.063																
322	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	10	.063																
323	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	11	.063																
324	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	12	.063																
325	1.2D + 1.5Lm24 ...	Y		1	1.2	62	1.5	13	.063																
326	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	2	.063																
327	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	3	.063																
328	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	4	.063																
329	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	5	.063																
330	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	6	.063																
331	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	7	.063																
332	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	8	.063																
333	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	9	.063																

Load Combinations (Continued)

	Description	Solve P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
334	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	10	.063																
335	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	11	.063																
336	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	12	.063																
337	1.2D + 1.5Lm25 ...	Y		1	1.2	63	1.5	13	.063																
338	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	2	.063																
339	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	3	.063																
340	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	4	.063																
341	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	5	.063																
342	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	6	.063																
343	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	7	.063																
344	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	8	.063																
345	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	9	.063																
346	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	10	.063																
347	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	11	.063																
348	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	12	.063																
349	1.2D + 1.5Lm26 ...	Y		1	1.2	64	1.5	13	.063																
350	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	2	.063																
351	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	3	.063																
352	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	4	.063																
353	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	5	.063																
354	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	6	.063																
355	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	7	.063																
356	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	8	.063																
357	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	9	.063																
358	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	10	.063																
359	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	11	.063																
360	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	12	.063																
361	1.2D + 1.5Lm27 ...	Y		1	1.2	65	1.5	13	.063																
362	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	2	.063																
363	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	3	.063																
364	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	4	.063																
365	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	5	.063																
366	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	6	.063																
367	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	7	.063																
368	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	8	.063																
369	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	9	.063																
370	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	10	.063																
371	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	11	.063																
372	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	12	.063																
373	1.2D + 1.5Lm28 ...	Y		1	1.2	66	1.5	13	.063																
374	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	2	.063																
375	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	3	.063																
376	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	4	.063																
377	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	5	.063																
378	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	6	.063																
379	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	7	.063																
380	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	8	.063																
381	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	9	.063																
382	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	10	.063																
383	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	11	.063																
384	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	12	.063																
385	1.2D + 1.5Lm29 ...	Y		1	1.2	67	1.5	13	.063																
386	1.2D + 1.5Lm30 ...	Y		1	1.2	68	1.5	2	.063																
387	1.2D + 1.5Lm30 ...	Y		1	1.2	68	1.5	3	.063																
388	1.2D + 1.5Lm30 ...	Y		1	1.2	68	1.5	4	.063																
389	1.2D + 1.5Lm30 ...	Y		1	1.2	68	1.5	5	.063																
390	1.2D + 1.5Lm30 ...	Y		1	1.2	68	1.5	6	.063																

Load Combinations (Continued)

	Description	Solve	P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
391	1.2D + 1.5Lm30 ...		Y		1	1.2	68	1.5	7	.063																
392	1.2D + 1.5Lm30 ...		Y		1	1.2	68	1.5	8	.063																
393	1.2D + 1.5Lm30 ...		Y		1	1.2	68	1.5	9	.063																
394	1.2D + 1.5Lm30 ...		Y		1	1.2	68	1.5	10	.063																
395	1.2D + 1.5Lm30 ...		Y		1	1.2	68	1.5	11	.063																
396	1.2D + 1.5Lm30 ...		Y		1	1.2	68	1.5	12	.063																
397	1.2D + 1.5Lm30 ...		Y		1	1.2	68	1.5	13	.063																
398	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	2	.063																
399	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	3	.063																
400	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	4	.063																
401	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	5	.063																
402	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	6	.063																
403	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	7	.063																
404	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	8	.063																
405	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	9	.063																
406	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	10	.063																
407	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	11	.063																
408	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	12	.063																
409	1.2D + 1.5Lm31 ...		Y		1	1.2	69	1.5	13	.063																
410	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	2	.063																
411	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	3	.063																
412	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	4	.063																
413	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	5	.063																
414	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	6	.063																
415	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	7	.063																
416	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	8	.063																
417	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	9	.063																
418	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	10	.063																
419	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	11	.063																
420	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	12	.063																
421	1.2D + 1.5Lm32 ...		Y		1	1.2	70	1.5	13	.063																
422	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	2	.063																
423	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	3	.063																
424	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	4	.063																
425	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	5	.063																
426	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	6	.063																
427	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	7	.063																
428	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	8	.063																
429	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	9	.063																
430	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	10	.063																
431	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	11	.063																
432	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	12	.063																
433	1.2D + 1.5Lm33 ...		Y		1	1.2	71	1.5	13	.063																
434	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	2	.063																
435	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	3	.063																
436	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	4	.063																
437	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	5	.063																
438	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	6	.063																
439	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	7	.063																
440	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	8	.063																
441	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	9	.063																
442	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	10	.063																
443	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	11	.063																
444	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	12	.063																
445	1.2D + 1.5Lm34 ...		Y		1	1.2	72	1.5	13	.063																
446	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	2	.063																
447	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	3	.063																

Load Combinations (Continued)

	Description	Solve	P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
448	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	4	.063														
449	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	5	.063														
450	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	6	.063														
451	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	7	.063														
452	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	8	.063														
453	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	9	.063														
454	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	10	.063														
455	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	11	.063														
456	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	12	.063														
457	1.2D + 1.5Lm35 ...		Y		1	1.2	73	1.5	13	.063														
458	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	2	.063														
459	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	3	.063														
460	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	4	.063														
461	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	5	.063														
462	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	6	.063														
463	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	7	.063														
464	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	8	.063														
465	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	9	.063														
466	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	10	.063														
467	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	11	.063														
468	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	12	.063														
469	1.2D + 1.5Lm36 ...		Y		1	1.2	74	1.5	13	.063														
470	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	75	1.5																
471	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	76	1.5																
472	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	77	1.5																
473	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	78	1.5																
474	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	79	1.5																
475	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	80	1.5																
476	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	81	1.5																
477	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	82	1.5																
478	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	83	1.5																
479	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	84	1.5																
480	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	85	1.5																
481	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	86	1.5																
482	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	87	1.5																
483	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	88	1.5																
484	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	89	1.5																
485	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	90	1.5																
486	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	91	1.5																
487	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	92	1.5																
488	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	93	1.5																
489	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	94	1.5																
490	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	95	1.5																
491	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	96	1.5																
492	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	97	1.5																
493	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	98	1.5																
494	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	99	1.5																
495	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	100	1.5																
496	1.2D + 1.5Lv (P...	Yes	Y		1	1.2	101	1.5																
497	1.2D + 1.5Lv (P...		Y		1	1.2	102	1.5																
498	1.2D + 1.5Lv (P...		Y		1	1.2	103	1.5																
499	1.2D + 1.5Lv (P...		Y		1	1.2	104	1.5																
500	1.2D + 1.5Lv (P...		Y		1	1.2	105	1.5																
501	1.2D + 1.5Lv (P...		Y		1	1.2	106	1.5																
502	1.2D + 1.5Lv (P...		Y		1	1.2	107	1.5																
503	1.2D + 1.5Lv (P...		Y		1	1.2	108	1.5																
504	1.2D + 1.5Lv (P...		Y		1	1.2	109	1.5																

Load Combinations (Continued)

	Description	Solve	P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
505	1.2D + 1.5Lv (P...		Y		1	1.2	110	1.5																
506	1.2D + 1.5Lv (P...		Y		1	1.2	111	1.5																
507	1.2D + 1.5Lv (P...		Y		1	1.2	112	1.5																
508	1.2D + 1.5Lv (P...		Y		1	1.2	113	1.5																
509	1.2D + 1.5Lv (P...		Y		1	1.2	114	1.5																
510	1.2D + 1.5Lv (P...		Y		1	1.2	115	1.5																
511	1.2D + 1.5Lv (P...		Y		1	1.2	116	1.5																
512	1.2D + 1.5Lv (P...		Y		1	1.2	117	1.5																
513	1.2D + 1.5Lv (P...		Y		1	1.2	118	1.5																
514	1.2D + 1.5Lv (P...		Y		1	1.2	119	1.5																
515	1.2D + 1.5Lv (P...		Y		1	1.2	120	1.5																
516	1.2D + 1.5Lv (P...		Y		1	1.2	121	1.5																
517	1.2D + 1.5Lv (P...		Y		1	1.2	122	1.5																
518	1.2D + 1.5Lv (P...		Y		1	1.2	123	1.5																
519	1.2D + 1.5Lv (P...		Y		1	1.2	124	1.5																
520	1.2D + 1.5Lv (P...		Y		1	1.2	125	1.5																
521	1.2D + 1.5Lv (P...		Y		1	1.2	126	1.5																
522	1.2D + 1.5Lv (P...		Y		1	1.2	127	1.5																
523	1.2D + 1.5Lv (P...		Y		1	1.2	128	1.5																
524	1.2D + 1.5Lv (P...		Y		1	1.2	129	1.5																
525	1.2D + 1.5Lv (P...		Y		1	1.2	130	1.5																
526	1.2D + 1.5Lv (P...		Y		1	1.2	131	1.5																
527	1.2D + 1.5Lv (P...		Y		1	1.2	132	1.5																
528	1.2D + 1.5Lv (P...		Y		1	1.2	133	1.5																
529	1.2D + 1.5Lv (P...		Y		1	1.2	134	1.5																
530	1.2D + 1.5Lv (P...		Y		1	1.2	135	1.5																
531	1.2D + 1.5Lv (P...		Y		1	1.2	136	1.5																
532	1.2D + 1.5Lv (P...		Y		1	1.2	137	1.5																
533	1.2D + 1.5Lv (P...		Y		1	1.2	138	1.5																
534	1.2D + 1.5Lv (P...		Y		1	1.2	139	1.5																
535	1.2D + 1.5Lv (P...		Y		1	1.2	140	1.5																
536	1.2D + 1.5Lv (P...		Y		1	1.2	141	1.5																
537	1.2D + 1.5Lv (P...		Y		1	1.2	142	1.5																
538	1.2D + 1.5Lv (P...		Y		1	1.2	143	1.5																
539	1.2D + 1.5Lv (P...		Y		1	1.2	144	1.5																
540	1.2D + 1.5Lv (P...		Y		1	1.2	145	1.5																
541	1.2D + 1.5Lv (P...		Y		1	1.2	146	1.5																
542	1.2D + 1.5Lv (P...		Y		1	1.2	147	1.5																
543	1.2D + 1.5Lv (P...		Y		1	1.2	148	1.5																
544	1.2D + 1.5Lv (P...		Y		1	1.2	149	1.5																
545	1.2D + 1.5Lv (P...		Y		1	1.2	150	1.5																
546	1.2D + 1.5Lv (P...		Y		1	1.2	151	1.5																
547	1.2D + 1.5Lv (P...		Y		1	1.2	152	1.5																
548	1.2D + 1.5Lv (P...		Y		1	1.2	153	1.5																
549	1.2D + 1.5Lv (P...		Y		1	1.2	154	1.5																
550	1.2D + 1.5Lv (P...		Y		1	1.2	155	1.5																
551	1.2D + 1.5Lv (P...		Y		1	1.2	156	1.5																
552	1.2D + 1.5Lv (P...		Y		1	1.2	157	1.5																
553	1.2D + 1.5Lv (P...		Y		1	1.2	158	1.5																
554	1.2D + 1.5Lv (P...		Y		1	1.2	159	1.5																
555	1.2D + 1.5Lv (P...		Y		1	1.2	160	1.5																
556	1.2D + 1.5Lv (P...		Y		1	1.2	161	1.5																
557	1.2D + 1.5Lv (P...		Y		1	1.2	162	1.5																
558	1.2D + 1.5Lv (P...		Y		1	1.2	163	1.5																
559	1.2D + 1.5Lv (P...		Y		1	1.2	164	1.5																
560	1.2D + 1.5Lv (P...		Y		1	1.2	165	1.5																
561	1.2D + 1.5Lv (P...		Y		1	1.2	166	1.5																

Load Combinations (Continued)

	Description	Solve P...	SR...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
562	1.2D + 1.5Lv (P...	Y		1	1.2	167	1.5																
563	1.2D + 1.5Lv (P...	Y		1	1.2	168	1.5																
564	1.2D + 1.5Lv (P...	Y		1	1.2	169	1.5																
565	1.2D + 1.5Lv (P...	Y		1	1.2	170	1.5																
566	1.2D + 1.5Lv (P...	Y		1	1.2	171	1.5																
567	1.2D + 1.5Lv (P...	Y		1	1.2	172	1.5																
568	1.2D + 1.5Lv (P...	Y		1	1.2	173	1.5																
569	1.2D + 1.5Lv (P...	Y		1	1.2	174	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	N258A	max	-3309.97	7	2810.085	18	26757.948	24	-375.644	12	883.855	8	-190.857	157
2		min	-15448.392	25	831.703	12	6231.218	6	-5818.07	18	-839.546	2	-3376.235	19
3	N259A	max	-3594.648	9	2768.265	22	-6433.667	10	5555.1	22	770.54	13	-322.809	160
4		min	-15323.894	15	893.991	184	-26683.285	16	710.905	4	-725.975	7	-3236.573	22
5	N257A	max	30686.261	20	2717.692	14	843.647	11	198.053	107	739.297	5	6128.474	14
6		min	7212.255	2	861.879	8	-758.904	5	-176.865	5	-822.568	11	591.174	8
7	Totals:	max	5007.667	8	8216.908	14	4783.223	11						
8		min	-5007.663	2	2997.059	8	-4783.225	5						

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Lo...	Dir	LC	phi*Pn...	phi*P...	phi*M...	phi*M...	Cb	Eqn
1	GRATE7	L1.5x2.5x4	.994	41.264	18	.087	13...	z	20	12929...	30375	469.106	1528....	1....	H2-1
2	GRATE1	L1.5x2.5x4	.994	41.263	14	.088	13...	z	16	12929...	30375	469.106	1531....	1....	H2-1
3	GRATE18	L1.5x2.5x4	.991	0	22	.074	13...	z	21	12929...	30375	469.106	1528....	1....	H2-1
4	GRATE6	L1.5x2.5x4	.984	0	14	.073	13...	z	25	12928...	30375	469.106	1526....	1....	H2-1
5	GRATE13	L1.5x2.5x4	.974	41.264	22	.086	13...	z	24	12928...	30375	469.106	1528....	1....	H2-1
6	GRATE12	L1.5x2.5x4	.965	0	18	.073	13...	z	17	12928...	30375	469.106	1525....	1....	H2-1
7	SA-BOT-2	HSS3X3X6	.771	0	19	.397	24...	y	19	12995...	140346	11212.5	1121...	1....	H1-1a
8	SA-BOT-3	HSS3X3X6	.748	0	21	.388	24...	y	21	12995...	140346	11212.5	1121...	2....	H1-1a
9	SA-BOT-1	HSS3X3X6	.718	0	15	.379	24...	y	15	12995...	140346	11212.5	1121...	2....	H1-1a
10	SA-TOP-2	HSS3X3X6	.707	20.417	19	.305	19...	y	18	12391...	140346	11212.5	1121...	2....	H1-1a
11	SA-TOP-3	HSS3X3X6	.695	20.416	24	.298	19...	y	22	12391...	140346	11212.5	1121...	2....	H1-1a
12	SA-TOP-1	HSS3X3X6	.682	20.417	24	.291	19...	y	14	12391...	140346	11212.5	1121...	2....	H1-1a
13	FM3	PIPE_3.0	.451	167.9...	19	.122	16...		18	22812...	65205	5748.75	5748....	2....	H1-1b
14	FM1	PIPE_3.0	.442	0	17	.119	0		19	22812...	65205	5748.75	5748....	2....	H1-1b
15	FM2	PIPE_3.0	.441	168.0...	21	.112	16...		23	22811...	65205	5748.75	5748....	2....	H1-1b
16	GRATE8	L1.5x2.5x4	.386	36.216	18	.418	0	z	21	29253...	30375	469.106	1597....	2....	H2-1
17	GRATE17	L1.5x2.5x4	.384	0	23	.541	12...	z	20	29253...	30375	469.106	1534....	1....	H2-1
18	GRATE2	L1.5x2.5x4	.380	36.216	14	.419	0	z	17	29253...	30375	469.106	1597....	2....	H2-1
19	GRATE11	L1.5x2.5x4	.379	0	19	.520	12...	z	16	29253...	30375	469.106	1536....	1....	H2-1
20	PL-BOT-2	PL6"x5/8" Pl...	.378	0	14	1.701	9.1...	y	15	93935...	121500	1582....	1518...	1....	H1-1b
21	PL-BOT-3	PL6"x5/8" Pl...	.374	12.613	18	1.701	3.4...	y	20	93939...	121500	1582....	1518...	1....	H1-1b
22	PL-BOT-1	PL6"x5/8" Pl...	.373	0	22	1.662	9.1...	y	24	93937...	121500	1582....	1518...	1....	H1-1b
23	GRATE14	L1.5x2.5x4	.371	36.217	22	.412	0	z	25	29253...	30375	469.106	1597....	2....	H2-1
24	GRATE5	L1.5x2.5x4	.369	0	14	.525	12...	z	24	29253...	30375	469.106	1531....	1....	H2-1
25	MP15	PIPE_2.0	.149	24.375	13	.023	24...		13	23808...	32130	1871....	1871....	2....	H1-1b
26	MP14	PIPE_2.0	.149	24.375	13	.023	24...		13	23808...	32130	1871....	1871....	2....	H1-1b
27	MP7	PIPE_2.0	.136	24.375	12	.019	24...		3	23808...	32130	1871....	1871....	1....	H1-1b
28	MP12	PIPE_2.0	.136	24.375	4	.019	24...		7	23808...	32130	1871....	1871....	1....	H1-1b
29	MP4	PIPE_2.0	.136	24.375	8	.019	24...		5	23808...	32130	1871....	1871....	1....	H1-1b
30	MP6	PIPE_2.0	.133	24.375	12	.017	24...		12	23808...	32130	1871....	1871....	1....	H1-1b
31	MP11	PIPE_2.0	.133	24.375	4	.017	24...		4	23808...	32130	1871....	1871....	1....	H1-1b
32	MP1	PIPE_2.0	.133	24.375	8	.017	24...		8	23808...	32130	1871....	1871....	1....	H1-1b

Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Lo...	Dir	LC	phi*Pn...	phi*P...	phi*M...	phi*M...	Cb	Eqn
33	MP9	PIPE_2.0	.116	24.375	6	.017	24...		9	23808...	32130	1871....	1871....	1....	H1-1b
34	MP10	PIPE_2.0	.116	24.375	6	.017	24...		9	23808...	32130	1871....	1871....	1....	H1-1b
35	MP2	PIPE_2.0	.116	24.375	8	.017	24...		11	23808...	32130	1871....	1871....	1....	H1-1b
36	MP5	PIPE_2.0	.116	24.375	2	.017	24...		5	23808...	32130	1871....	1871....	1....	H1-1b
37	MP8	PIPE_2.0	.032	24.375	133	.004	24...		11	23808...	32130	1871....	1871....	1....	H1-...
38	MP13	PIPE_2.0	.032	24.375	193	.004	24...		11	23808...	32130	1871....	1871....	1....	H1-...
39	MP3	PIPE_2.0	.032	24.375	73	.004	24...		8	23808...	32130	1871....	1871....	1....	H1-...

Date: **July 22, 2019**
Rebecca Klein
Crown Castle
3530 Toringdon Way
Charlotte, NC 28277

BLACK & VEATCH
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(913) 458-6909

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Carrier Site Number:	20840
	Carrier Site Name:	Weston CT
Crown Castle Designation:	**Crown Castle BU Number:**	829046
	Crown Castle Site Name:	Weston/ Rt-57/ Norfield R
	Crown Castle JDE Job Number:	582614
	Crown Castle Work Order Number:	1765202
	Crown Castle Order Number:	499102 Rev. 0
Engineering Firm Designation:	**Black & Veatch Corp. Project Number:**	400087
Site Data:	**56 Norfield Rd. (Town Hall), Weston, Fairfield County, CT** **Latitude *41° 12' 8.4"*, Longitude *-73° 22' 46.6"*** **190 Foot - Monopole Tower**	

Dear Rebecca Klein,

Black & Veatch Corp. 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 - 79.4%**

This analysis utilizes an ultimate 3-second gust wind speed of 120 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Aishwarya Mahapatra / Anup Chitale

Respectfully submitted by:

Joshua J. Riley, P.E.

Professional Engineer

07/22/2019

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 190 ft Monopole tower designed by Pirod, Inc. and mapped by Tower Engineering Professionals,

The tower has been modified multiple times in the past to accommodate additional loading.

The tower has been modified per reinforcement drawings prepared by Tower Engineering Professionals and Sabre Tower & Poles, in January of 2012. Reinforcement consists of addition of reinforcement plates at elevation 0.83' – 51' and 57.5' – 112.5' and additional (8) anchor rods. Refer to Post Modification Inspection Report by Sabre Tower & Poles in November of 2012. This modification has been considered effective in this analysis.

The tower was later modified per reinforcement drawings prepared by Paul J. Ford and Company, in April of 2013. Reinforcement consisted of addition of jump plates at elevation 20', 40', 60' and 80', reinforcing plates at 80.25' to 87.25' and additional (4) transition stiffeners. Refer to Modification Inspection Report by Tower Engineering Professionals in November of 2014. This modification has been considered effective in this analysis.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	120 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
150.0	150.0	2	antel	LPA-80080/6CF w/ Mount Pipe	7	1 5/8
		1	cci tower mounts	Platform Mount [LP 403-1]		
		4	decibel	DB846F65ZAXY w/ Mount Pipe		
		6	quintel technology	QS6656-5D w/ Mount Pipe		
		1	rfs celwave	DB-C1-12C-24AB-0Z		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		

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)
188.0	193.0	1	rfs celwave	PD201-7	4 1 1 1	1 1/4 5/16 5/8 7/8
	190.0	3	alcatel lucent	TD-RRH8x20-25		
		3	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-ALU-I20 w/ Mount Pipe		
	188.0	1	cci tower mounts	Platform Mount [LP 403-1]		
	187.0	1	radio waves	SP2-5.8		
185.0	188.0	3	alcatel lucent	1900MHz RRH	-	-
		3	alcatel lucent	800MHZ RRH		
	185.0	1	cci tower mounts	Side Arm Mount [SO 102-3]		
184.0	184.0	1	cci tower mounts	Side Arm Mount [SO 701-1]	-	-
179.0	185.0	2	rfs celwave	458-2D	2	7/8
	179.0	1	cci tower mounts	Platform Mount [LP 403-1]		
		2	cci tower mounts	Side Arm Mount [SO 301-1]		
170.0	170.0	1	cci tower mounts	Platform Mount [LP 405-1]	10	1 5/8
		3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe		
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
162.0	163.0	3	cci antennas	OPA-65R-LCUU-H6 w/ Mount Pipe	12 2 4 2 1 1	1 5/8 7/8 3/4 3/8 5/8 2 Conduit
		3	ericsson	RRUS 11		
		3	ericsson	RRUS 32		
		3	ericsson	RRUS 32 B2		
		3	ericsson	RRUS 4478 B14		
		3	kathrein	80010965 w/ Mount Pipe		
		6	powerwave technologies	7020.00		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		1	raycap	DC6-48-60-18-8C		
		1	raycap	DC6-48-60-18-8F		
	162.0	1	site pro1	HRK-14 Handrail Kit [NA 510-1]		
		6	unknown	L1-1/2"x2-1/2"x1/4"x1'-2"		
		3	site pro1	PRK-SFS-L		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
				Reinforcement Kit		
		2	cci tower mounts	Platform Mount [LP 403-1]		
	160.0	6	powerwave technologies	LGP21401		
125.0	130.0	1	rfs celwave	PD128-1	1	7/8
		1	rfs celwave	PD201-1	1	1/2
	125.0	2	cci tower mounts	Side Arm Mount [SO 901-1]		
110.0	115.0	2	rfs celwave	PD128-1	2	1/2
	110.0	2	cci tower mounts	Side Arm Mount [SO 901-1]		
100.0	101.0	1	gps	GPS_A	1	1/2
	100.0	1	cci tower mounts	Side Arm Mount [SO 901-1]		
95.0	100.0	2	rfs celwave	PD128-1	2	1/2
	95.0	2	cci tower mounts	Side Arm Mount [SO 901-1]		
80.0	85.0	1	decibel	DB222	2	1/2
		1	rfs celwave	PD128-1		
	80.0	2	cci tower mounts	Side Arm Mount [SO 901-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Arcnet architects, Inc.	3529916	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Pirod, Inc.	3755295	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Pirod, Inc. & Tower Engineering Professionals (mapped)	7340070	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Sabre Tower & Poles	3667108	CCISITES
4-POST-MODIFICATION INSPECTION	Sabre Tower & Poles	3673725	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Paul J. Ford and Company	3801440	CCISITES
4-POST-MODIFICATION INSPECTION	Tower Engineering Professionals	5392198	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

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

3.2) Assumptions

1) Tower and structures were built and maintained in accordance with the manufacturer's 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) The existing base plate grout is not considered in this analysis.
4) The wind loading EPA of the panel antennas has been analyzed and determined by the tower owner. Verification of its accuracy is outside the scope of this structural analysis. Black & Veatch does not assume any responsibility for its accuracy.
5) This analysis was performed under the assumption that all information provided to Black & Veatch is current and correct. This is to include site data, appurtenance loading, tower/foundation details, and geotechnical data. The loading on the structure is based on CAD level drawings and carrier orders provided by the owner. If any of this information is not current and correct, this report should be considered obsolete and further analysis will be required.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary) (Monopole Tower)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
190 - 185	Pole	TP30x30x0.375	Pole	1.3%	Pass
185 - 180	Pole	TP30x30x0.375	Pole	3.5%	Pass
180 - 175	Pole	TP36x36x0.375	Pole	4.9%	Pass
175 - 170	Pole	TP36x36x0.375	Pole	7.2%	Pass
170 - 165	Pole	TP36x36x0.375	Pole	11.4%	Pass
165 - 160	Pole	TP36x36x0.375	Pole	16.6%	Pass
160 - 155	Pole	TP42x42x0.375	Pole	16.9%	Pass
155 - 150	Pole	TP42x42x0.375	Pole	21.4%	Pass
150 - 145	Pole	TP42x42x0.375	Pole	27.5%	Pass
145 - 140	Pole	TP42x42x0.375	Pole	33.5%	Pass
140 - 135	Pole	TP48x48x0.375	Pole	30.9%	Pass
135 - 130	Pole	TP48x48x0.375	Pole	35.8%	Pass
130 - 125	Pole	TP48x48x0.375	Pole	40.8%	Pass
125 - 120	Pole	TP48x48x0.375	Pole	46.0%	Pass
120 - 115	Pole	TP54x54x0.375	Pole	41.1%	Pass
115 - 112.67	Pole	TP54x54x0.375	Pole	43.1%	Pass
112.67 - 112.42	Pole + Reinf.	TP54x54x0.4875	Pole	33.1%	Pass
112.42 - 107.42	Pole + Reinf.	TP54x54x0.4875	Pole	36.5%	Pass

107.42 - 103.33	Pole + Reinf.	TP54x54x0.4875	Pole	39.3%	Pass
103.33 - 103.08	Pole + Reinf.	TP54x54x0.4875	Pole	39.5%	Pass
103.08 - 100	Pole + Reinf.	TP54x54x0.4875	Pole	41.6%	Pass
100 - 95	Pole + Reinf.	TP60x60x0.475	Pole	37.9%	Pass
95 - 90	Pole + Reinf.	TP60x60x0.475	Pole	41.0%	Pass
90 - 89.5	Pole + Reinf.	TP60x60x0.475	Pole	41.3%	Pass
89.5 - 89.25	Pole + Reinf.	TP60x60x0.5563	Pole	35.8%	Pass
89.25 - 85.5	Pole + Reinf.	TP60x60x0.5563	Pole	37.8%	Pass
85.5 - 85.25	Pole + Reinf.	TP60x60x0.6375	Pole	33.3%	Pass
85.25 - 84	Pole + Reinf.	TP60x60x0.6375	Pole	34.0%	Pass
84 - 83.75	Pole + Reinf.	TP60x60x0.525	Pole	40.7%	Pass
83.75 - 82.5	Pole + Reinf.	TP60x60x0.525	Pole	41.4%	Pass
82.5 - 82.25	Pole + Reinf.	TP60x60x0.45	Pole	48.6%	Pass
82.25 - 80	Pole + Reinf.	TP60x60x0.45	Pole	50.2%	Pass
80 - 75	Pole + Reinf.	TP60x60x0.575	Reinf. 3 Compression	41.3%	Pass
75 - 70	Pole + Reinf.	TP60x60x0.575	Reinf. 3 Compression	44.1%	Pass
70 - 65	Pole + Reinf.	TP60x60x0.575	Reinf. 3 Compression	47.0%	Pass
65 - 60	Pole + Reinf.	TP60x60x0.575	Reinf. 3 Compression	49.9%	Pass
60 - 58.5	Pole + Reinf.	TP60x60x0.7	Reinf. 3 Compression	42.0%	Pass
58.5 - 58.25	Pole	TP60x60x0.625	Pole	45.9%	Pass
58.25 - 53.25	Pole	TP60x60x0.625	Pole	48.7%	Pass
53.25 - 48.25	Pole	TP60x60x0.625	Pole	51.5%	Pass
48.25 - 48	Pole + Reinf.	TP60x60x0.775	Pole	42.1%	Pass
48 - 43	Pole + Reinf.	TP60x60x0.775	Pole	44.4%	Pass
43 - 40	Pole + Reinf.	TP60x60x0.775	Pole	45.9%	Pass
40 - 35	Pole + Reinf.	TP60x60x0.775	Pole	48.3%	Pass
35 - 32.08	Pole + Reinf.	TP60x60x0.775	Pole	49.8%	Pass
32.08 - 31.83	Pole + Reinf.	TP60x60x0.9625	Pole	40.2%	Pass
31.83 - 28.75	Pole + Reinf.	TP60x60x0.9625	Pole	41.5%	Pass
28.75 - 28.5	Pole + Reinf.	TP60x60x0.8125	Pole	48.8%	Pass
28.5 - 23.5	Pole + Reinf.	TP60x60x0.8125	Pole	51.2%	Pass
23.5 - 18.5	Pole + Reinf.	TP60x60x0.95	Pole	45.6%	Pass
18.5 - 13.5	Pole + Reinf.	TP60x60x0.95	Pole	47.7%	Pass
13.5 - 8.5	Pole + Reinf.	TP60x60x0.95	Pole	49.9%	Pass
8.5 - 3.5	Pole + Reinf.	TP60x60x0.95	Pole	52.2%	Pass
3.5 - 0	Pole + Reinf.	TP60x60x0.95	Pole	53.7%	Pass
				Summary	
			Pole	53.7%	Pass
			Reinforcement	49.9%	Pass

			Overall	53.7%	Pass

Table 5 - Tower Component Stresses vs. Capacity (Monopole Tower) – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Flange Bolts	180	3.0	Pass
	Flange Plate		3.0	Pass
1,2	Flange Bolts	160	15.4	Pass
	Flange Plate		15.4	Pass
1,2	Flange Bolts	140	33.5	Pass
	Flange Plate		33.5	Pass
1,2	Flange Bolts	120	47.6	Pass
	Flange Plate		47.6	Pass
1,2	Flange Bolts	100	47.6	Pass
	Flange Plate		47.6	Pass
1,2	Flange Bolts	80	34.3	Pass
	Flange Plate		34.3	Pass
	Jump Plates		68.5	Pass
1,2	Flange Bolts	60	38.2	Pass
	Flange Plate		38.2	Pass
	Jump Plates		61.7	Pass
1,2	Flange Bolts	40	41.7	Pass
	Flange Plate		41.7	Pass
	Jump Plates		69.5	Pass
1,2	Flange Bolts	20	44.9	Pass
	Flange Plate		44.9	Pass
	Jump Plates		72.6	Pass
1,2	Anchor Rods (Original)	0	45.5	Pass
	Anchor Rods (Existing Modification)		45.5	Pass
	Base Plate		45.5	Pass
1,3	Base Foundation (Compared w/ Design Loads)	0	79.4	Pass

Structure Rating (max from all components) =	79.4%

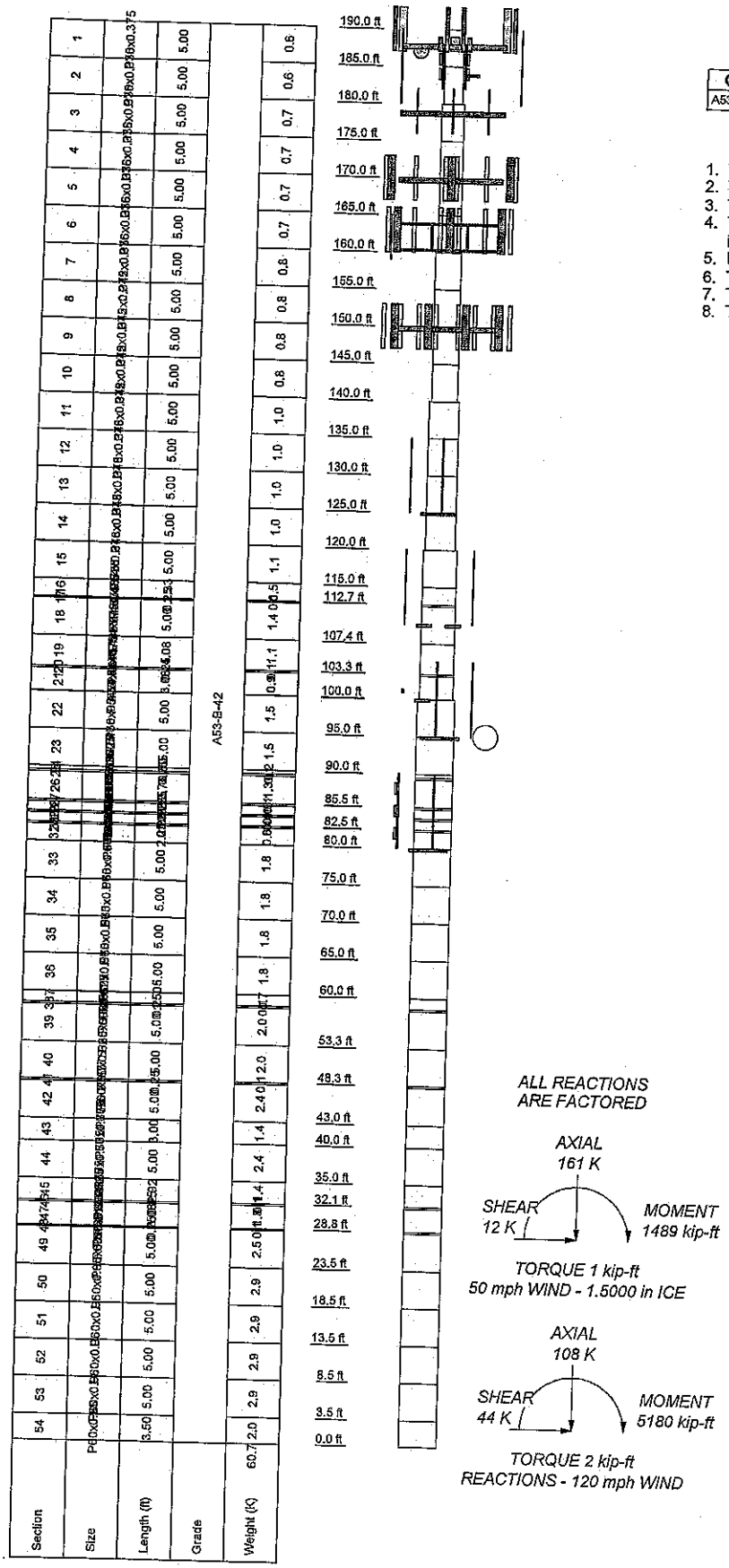
Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed. TIA-22-H Section 15.5.
2) Base/Flange plates have the same capacity as their respective splice bolts or shaft
3) Foundation capacity determined by comparing analysis reactions to original design reactions.

4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-42	42 ksi	63 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TIA-222-H Annex S

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Job: *Weston/Rt-57/Norfield (BU# 829046)*			
Project: *400087 (829046.1765202)*			
Client: Crown Castle	Drawn by: Aishwarya Mahapatra	App'd:	
Code: TIA-222-H	Date: 07/22/19	Scale: NTS	
Path:		Dwg No. E-1	

Tower Input Data

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

1. Tower is located in Fairfield County, Connecticut.
2. Tower base elevation above sea level: 322.00 ft.
3. Basic wind speed of 120 mph.
4. Risk Category II.
5. Exposure Category B.
6. Simplified Topographic Factor Procedure for wind speed-up calculations is used.
7. Topographic Category: 1.
8. Crest Height: 0.00 ft.
9. Nominal ice thickness of 1.5000 in.
10. Ice thickness is considered to increase with height.
11. Ice density of 56 pcf.
12. A wind speed of 50 mph is used in combination with ice.
13. Temperature drop of 50 °F.
14. Deflections calculated using a wind speed of 60 mph.
15. A non-linear (P-delta) analysis was used.
16. Pressures are calculated at each section.
17. Stress ratio used in pole design is 1.05.
18. Tower analysis based on target reliabilities in accordance with Annex S.
19. Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
20. Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	190.00-185.00	5.00	P30x0.375	A53-B-42 (42 ksi)	
L2	185.00-180.00	5.00	P30x0.375	A53-B-42 (42 ksi)	
L3	180.00-175.00	5.00	P36x0.375	A53-B-42 (42 ksi)	
L4	175.00-170.00	5.00	P36x0.375	A53-B-42 (42 ksi)	
L5	170.00-165.00	5.00	P36x0.375	A53-B-42 (42 ksi)	
L6	165.00-160.00	5.00	P36x0.375	A53-B-42 (42 ksi)	
L7	160.00-155.00	5.00	P42x0.375	A53-B-42 (42 ksi)	
L8	155.00-150.00	5.00	P42x0.375	A53-B-42 (42 ksi)	
L9	150.00-145.00	5.00	P42x0.375	A53-B-42 (42 ksi)	
L10	145.00-140.00	5.00	P42x0.375	A53-B-42 (42 ksi)	
L11	140.00-135.00	5.00	P48x0.375	A53-B-42 (42 ksi)	
L12	135.00-130.00	5.00	P48x0.375	A53-B-42 (42 ksi)	
L13	130.00-125.00	5.00	P48x0.375	A53-B-42 (42 ksi)	
L14	125.00-120.00	5.00	P48x0.375	A53-B-42 (42 ksi)	
L15	120.00-115.00	5.00	P54x0.375	A53-B-42 (42 ksi)	
L16	115.00-112.67	2.33	P54x0.375	A53-B-42 (42 ksi)	
L17	112.67-112.42	0.25	P54x0.4875	A53-B-42 (42 ksi)	
L18	112.42-107.42	5.00	P54x0.4875	A53-B-42 (42 ksi)	
L19	107.42-103.33	4.08	P54x0.4875	A53-B-42 (42 ksi)	
L20	103.33-103.08	0.25	P54x0.4875	A53-B-42 (42 ksi)	
L21	103.08-100.00	3.08	P54x0.4875	A53-B-42 (42 ksi)	
L22	100.00-95.00	5.00	P60x0.475	A53-B-42 (42 ksi)	
L23	95.00-90.00	5.00	P60x0.475	A53-B-42 (42 ksi)	
L24	90.00-89.50	0.50	P60x0.475	A53-B-42 (42 ksi)	
L25	89.50-89.25	0.25	P60x0.55625	A53-B-42 (42 ksi)	
L26	89.25-85.50	3.75	P60x0.55625	A53-B-42 (42 ksi)	
L27	85.50-85.25	0.25	P60x0.6375	A53-B-42 (42 ksi)	
L28	85.25-84.00	1.25	P60x0.6375	A53-B-42 (42 ksi)	
L29	84.00-83.75	0.25	P60x0.525	A53-B-42 (42 ksi)	
L30	83.75-82.50	1.25	P60x0.525	A53-B-42 (42 ksi)	
L31	82.50-82.25	0.25	P60x0.45	A53-B-42 (42 ksi)	
L32	82.25-80.00	2.25	P60x0.45	A53-B-42 (42 ksi)	
L33	80.00-75.00	5.00	P60x0.575	A53-B-42 (42 ksi)	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L34	75.00-70.00	5.00	P60x0.575	(42 ksi) A53-B-42 (42 ksi)	
L35	70.00-65.00	5.00	P60x0.575	A53-B-42 (42 ksi)	
L36	65.00-60.00	5.00	P60x0.575	A53-B-42 (42 ksi)	
L37	60.00-58.50	1.50	P60x0.7	A53-B-42 (42 ksi)	
L38	58.50-58.25	0.25	P60x0.625	A53-B-42 (42 ksi)	
L39	58.25-53.25	5.00	P60x0.625	A53-B-42 (42 ksi)	
L40	53.25-48.25	5.00	P60x0.625	A53-B-42 (42 ksi)	
L41	48.25-48.00	0.25	P60x0.775	A53-B-42 (42 ksi)	
L42	48.00-43.00	5.00	P60x0.775	A53-B-42 (42 ksi)	
L43	43.00-40.00	3.00	P60x0.775	A53-B-42 (42 ksi)	
L44	40.00-35.00	5.00	P60x0.775	A53-B-42 (42 ksi)	
L45	35.00-32.08	2.92	P60x0.775	A53-B-42 (42 ksi)	
L46	32.08-31.83	0.25	P60x0.9625	A53-B-42 (42 ksi)	
L47	31.83-28.75	3.08	P60x0.9625	A53-B-42 (42 ksi)	
L48	28.75-28.50	0.25	P60x0.8125	A53-B-42 (42 ksi)	
L49	28.50-23.50	5.00	P60x0.8125	A53-B-42 (42 ksi)	
L50	23.50-18.50	5.00	P60x0.95	A53-B-42 (42 ksi)	
L51	18.50-13.50	5.00	P60x0.95	A53-B-42 (42 ksi)	
L52	13.50-8.50	5.00	P60x0.95	A53-B-42 (42 ksi)	
L53	8.50-3.50	5.00	P60x0.95	A53-B-42 (42 ksi)	
L54	3.50-0.00	3.50	P60x0.95	A53-B-42 (42 ksi)	

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 190.00-185.00				1	1	1			
L2 185.00-180.00				1	1	1			
L3 180.00-175.00				1	1	1			
L4 175.00-170.00				1	1	1			
L5 170.00-165.00				1	1	1			
L6 165.00-160.00				1	1	1			
L7 160.00-155.00				1	1	1			
L8 155.00-150.00				1	1	1			
L9 150.00-145.00				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
L10 145.00-140.00				1	1	1			
L11 140.00-135.00				1	1	1			
L12 135.00-130.00				1	1	1			
L13 130.00-125.00				1	1	1			
L14 125.00-120.00				1	1	1			
L15 120.00-115.00				1	1	1			
L16 115.00-112.67				1	1	1			
L17 112.67-112.42				1	1	0.990478			
L18 112.42-107.42				1	1	0.990478			
L19 107.42-103.33				1	1	0.990478			
L20 103.33-103.08				1	1	0.990478			
L21 103.08-100.00				1	1	0.990478			
L22 100.00-95.00				1	1	0.993442			
L23 95.00-90.00				1	1	0.993442			
L24 90.00-89.50				1	1	0.993442			
L25 89.50-89.25				1	1	0.979451			
L26 89.25-85.50				1	1	0.979451			
L27 85.50-85.25				1	1	0.96934			
L28 85.25-84.00				1	1	0.96934			
L29 84.00-83.75				1	1	0.991333			
L30 83.75-82.50				1	1	0.991333			
L31 82.50-82.25				1	1	0.99474			
L32 82.25-80.00				1	1	0.99474			
L33 80.00-75.00				1	1	0.996424			
L34 75.00-70.00				1	1	0.996424			
L35 70.00-65.00				1	1	0.996424			
L36 65.00-60.00				1	1	0.996424			
L37 60.00-58.50				1	1	0.997508			
L38 58.50-58.25				1	1	1			
L39 58.25-53.25				1	1	1			
L40 53.25-48.25				1	1	1			
L41 48.25-48.00				1	1	0.977534			
L42 48.00-43.00				1	1	0.977534			
L43 43.00-				1	1	0.977534			

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
40.00									
L44 40.00-35.00				1	1	0.977534			
L45 35.00-32.08				1	1	0.977534			
L46 32.08-31.83				1	1	0.96816			
L47 31.83-28.75				1	1	0.96816			
L48 28.75-28.50				1	1	0.98265			
L49 28.50-23.50				1	1	0.98265			
L50 23.50-18.50				1	1	0.973014			
L51 18.50-13.50				1	1	0.973014			
L52 13.50-8.50				1	1	0.973014			
L53 8.50-3.50				1	1	0.973014			
L54 3.50-0.00				1	1	0.973014			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	C	No	Surface Ar (CaAa)	190.00 - 10.00	1	1	0.490 0.500	0.3750		0.22
Climbing Rungs ***188***	C	No	Surface Ar (CaAa)	190.00 - 10.00	1	1	0.000 0.000	0.8000		7.90
(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4) ***170***	B	No	Surface Ar (CaAa)	188.00 - 6.00	3	3	0.032 0.131	1.5400		1.22
(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) ***160***	B	No	Surface Ar (CaAa)	170.00 - 8.00	10	10	-0.380 0.032	1.9800		0.82
(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	A	No	Surface Ar (CaAa)	162.00 - 11.00	6	3	0.443 0.491	0.7950		0.58
LDF7-50A(1-5/8) **********	A	No	Surface Ar (CaAa)	162.00 - 11.00	12	6	0.200 0.443	1.9800		0.82
***MOD 2012 ***										
8.5" x 1.25" Flat Plate	A	No	Surface Af (CaAa)	35.83 - 0.83	1	1	0.000 0.000	8.5000	19.5000	0.00
8.5" x 1.25" Flat Plate	B	No	Surface Af (CaAa)	35.83 - 0.83	1	1	0.000 0.000	8.5000	19.5000	0.00
8.5" x 1.25" Flat Plate *	C	No	Surface Af (CaAa)	35.83 - 0.83	1	1	0.000 0.000	8.5000	19.5000	0.00
6.5" x 1.25" Flat Plate	A	No	Surface Af (CaAa)	51.00 - 26.00	1	1	0.000 0.000	6.5000	15.5000	0.00
6.5" x 1.25" Flat Plate	B	No	Surface Af (CaAa)	51.00 - 26.00	1	1	0.000 0.000	6.5000	15.5000	0.00
6.5" x 1.25" Flat Plate	C	No	Surface Af	51.00 -	1	1	0.000	6.5000	15.5000	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
*			(CaAa)	26.00			0.000			
4.5" x 1" Flat Plate	A	No	Surface Af (CaAa)	87.00 - 57.00	1	1	0.000 0.000	4.5000	11.0000	0.00
4.5" x 1" Flat Plate	B	No	Surface Af (CaAa)	87.00 - 57.00	1	1	0.000 0.000	4.5000	11.0000	0.00
4.5" x 1" Flat Plate	C	No	Surface Af (CaAa)	87.00 - 57.00	1	1	0.000 0.000	4.5000	11.0000	0.00
*										
6" x 1" Flat Plate	A	No	Surface Af (CaAa)	105.33 - 82.00	1	1	0.000 0.000	6.0000	14.0000	0.00
6" x 1" Flat Plate	B	No	Surface Af (CaAa)	105.33 - 82.00	1	1	0.000 0.000	6.0000	14.0000	0.00
6" x 1" Flat Plate	C	No	Surface Af (CaAa)	105.33 - 82.00	1	1	0.000 0.000	6.0000	14.0000	0.00
*										
6" x 1" Flat Plate	A	No	Surface Af (CaAa)	114.67 - 101.33	1	1	0.000 0.000	6.0000	14.0000	0.00
6" x 1" Flat Plate	B	No	Surface Af (CaAa)	114.67 - 101.33	1	1	0.000 0.000	6.0000	14.0000	0.00
6" x 1" Flat Plate	C	No	Surface Af (CaAa)	114.67 - 101.33	1	1	0.000 0.000	6.0000	14.0000	0.00
MOD 2013										
4.5" x 1" Flat Plate	A	No	Surface Af (CaAa)	91.00 - 81.00	1	1	0.000 0.000	4.5000	11.0000	0.00
4.5" x 1" Flat Plate	B	No	Surface Af (CaAa)	91.00 - 81.00	1	1	0.000 0.000	4.5000	11.0000	0.00
4.5" x 1" Flat Plate	C	No	Surface Af (CaAa)	91.00 - 81.00	1	1	0.000 0.000	4.5000	11.0000	0.00
**********										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
TYPE I(1-1/4)	C	No	No	Inside Pole	188.00 - 0.00	1	No Ice	0.00	0.63
							1/2" Ice	0.00	0.63
							1" Ice	0.00	0.63
							2" Ice	0.00	0.63
ATCB-B01(5/16)	C	No	No	Inside Pole	188.00 - 0.00	1	No Ice	0.00	0.07
							1/2" Ice	0.00	0.07
							1" Ice	0.00	0.07
							2" Ice	0.00	0.07
LDF4.5-50(5/8)	C	No	No	Inside Pole	188.00 - 0.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15
LDF5-50A(7/8)	C	No	No	Inside Pole	188.00 - 0.00	1	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33
179									
LDF5-50A(7/8)	C	No	No	Inside Pole	179.00 - 0.00	2	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33
2" innerduct conduit	C	No	No	Inside Pole	162.00 - 0.00	1	No Ice	0.00	0.20
							1/2" Ice	0.00	0.20
							1" Ice	0.00	0.20
							2" Ice	0.00	0.20
9776(5/8)	C	No	No	Inside Pole	162.00 - 0.00	1	No Ice	0.00	0.28
							1/2" Ice	0.00	0.28
							1" Ice	0.00	0.28

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF5-50A(7/8)	C	No	No	Inside Pole	162.00 - 0.00	2	2" Ice	0.00	0.28
							No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33
150									
HB158-1-13U6-S6F18(1-5/8)	C	No	No	Inside Pole	150.00 - 0.00	1	No Ice	0.00	1.90
							1/2" Ice	0.00	1.90
							1" Ice	0.00	1.90
							2" Ice	0.00	1.90
LDF7-50A(1-5/8)	C	No	No	Inside Pole	150.00 - 0.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
125									
LDF4-50A(1/2)	C	No	No	Inside Pole	125.00 - 0.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15
LDF5-50A(7/8)	C	No	No	Inside Pole	125.00 - 0.00	1	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33
110									
LDF4-50A(1/2)	C	No	No	Inside Pole	110.00 - 0.00	2	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15
100									
LDF4-50A(1/2)	C	No	No	Inside Pole	100.00 - 0.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15
95									
LDF4-50A(1/2)	C	No	No	Inside Pole	95.00 - 0.00	2	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15
80									
LDF4-50A(1/2)	C	No	No	Inside Pole	80.00 - 0.00	2	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15
**********									
**********									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	190.00-185.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	1.386	0.000	0.01
		C	0.000	0.000	0.588	0.000	0.04
L2	185.00-180.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.310	0.000	0.02
		C	0.000	0.000	0.588	0.000	0.05
L3	180.00-175.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.310	0.000	0.02
		C	0.000	0.000	0.588	0.000	0.05
L4	175.00-170.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.310	0.000	0.02
		C	0.000	0.000	0.588	0.000	0.05
L5	170.00-165.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	12.210	0.000	0.06

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	0.588	0.000	0.05
L6	165.00-160.00	A	0.000	0.000	2.853	0.000	0.03
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.05
L7	160.00-155.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.06
L8	155.00-150.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.06
L9	150.00-145.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.09
L10	145.00-140.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.09
L11	140.00-135.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.09
L12	135.00-130.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.09
L13	130.00-125.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.09
L14	125.00-120.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.09
L15	120.00-115.00	A	0.000	0.000	7.132	0.000	0.07
		B	0.000	0.000	12.210	0.000	0.06
		C	0.000	0.000	0.588	0.000	0.09
L16	115.00-112.67	A	0.000	0.000	5.329	0.000	0.03
		B	0.000	0.000	7.700	0.000	0.03
		C	0.000	0.000	2.274	0.000	0.04
L17	112.67-112.42	A	0.000	0.000	0.607	0.000	0.00
		B	0.000	0.000	0.861	0.000	0.00
		C	0.000	0.000	0.279	0.000	0.00
L18	112.42-107.42	A	0.000	0.000	12.133	0.000	0.07
		B	0.000	0.000	17.210	0.000	0.06
		C	0.000	0.000	5.588	0.000	0.09
L19	107.42-103.33	A	0.000	0.000	11.907	0.000	0.05
		B	0.000	0.000	16.054	0.000	0.05
		C	0.000	0.000	6.563	0.000	0.08
L20	103.33-103.08	A	0.000	0.000	0.857	0.000	0.00
		B	0.000	0.000	1.111	0.000	0.00
		C	0.000	0.000	0.529	0.000	0.00
L21	103.08-100.00	A	0.000	0.000	9.231	0.000	0.04
		B	0.000	0.000	12.362	0.000	0.04
		C	0.000	0.000	5.195	0.000	0.06
L22	100.00-95.00	A	0.000	0.000	12.133	0.000	0.07
		B	0.000	0.000	17.210	0.000	0.06
		C	0.000	0.000	5.588	0.000	0.09
L23	95.00-90.00	A	0.000	0.000	12.883	0.000	0.07
		B	0.000	0.000	17.960	0.000	0.06
		C	0.000	0.000	6.338	0.000	0.10
L24	90.00-89.50	A	0.000	0.000	1.588	0.000	0.01
		B	0.000	0.000	2.096	0.000	0.01
		C	0.000	0.000	0.934	0.000	0.01
L25	89.50-89.25	A	0.000	0.000	0.794	0.000	0.00
		B	0.000	0.000	1.048	0.000	0.00
		C	0.000	0.000	0.467	0.000	0.00
L26	89.25-85.50	A	0.000	0.000	13.037	0.000	0.05
		B	0.000	0.000	16.845	0.000	0.04
		C	0.000	0.000	8.128	0.000	0.07
L27	85.50-85.25	A	0.000	0.000	0.982	0.000	0.00
		B	0.000	0.000	1.236	0.000	0.00
		C	0.000	0.000	0.654	0.000	0.00
L28	85.25-84.00	A	0.000	0.000	4.908	0.000	0.02
		B	0.000	0.000	6.178	0.000	0.01

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	3.272	0.000	0.02
L29	84.00-83.75	A	0.000	0.000	0.982	0.000	0.00
		B	0.000	0.000	1.236	0.000	0.00
		C	0.000	0.000	0.654	0.000	0.00
L30	83.75-82.50	A	0.000	0.000	4.908	0.000	0.02
		B	0.000	0.000	6.178	0.000	0.01
		C	0.000	0.000	3.272	0.000	0.02
L31	82.50-82.25	A	0.000	0.000	0.982	0.000	0.00
		B	0.000	0.000	1.236	0.000	0.00
		C	0.000	0.000	0.654	0.000	0.00
L32	82.25-80.00	A	0.000	0.000	6.085	0.000	0.03
		B	0.000	0.000	8.370	0.000	0.03
		C	0.000	0.000	3.139	0.000	0.04
L33	80.00-75.00	A	0.000	0.000	10.883	0.000	0.07
		B	0.000	0.000	15.960	0.000	0.06
		C	0.000	0.000	4.338	0.000	0.10
L34	75.00-70.00	A	0.000	0.000	10.883	0.000	0.07
		B	0.000	0.000	15.960	0.000	0.06
		C	0.000	0.000	4.338	0.000	0.10
L35	70.00-65.00	A	0.000	0.000	10.883	0.000	0.07
		B	0.000	0.000	15.960	0.000	0.06
		C	0.000	0.000	4.338	0.000	0.10
L36	65.00-60.00	A	0.000	0.000	10.883	0.000	0.07
		B	0.000	0.000	15.960	0.000	0.06
		C	0.000	0.000	4.338	0.000	0.10
L37	60.00-58.50	A	0.000	0.000	3.265	0.000	0.02
		B	0.000	0.000	4.788	0.000	0.02
		C	0.000	0.000	1.301	0.000	0.03
L38	58.50-58.25	A	0.000	0.000	0.544	0.000	0.00
		B	0.000	0.000	0.798	0.000	0.00
		C	0.000	0.000	0.217	0.000	0.00
L39	58.25-53.25	A	0.000	0.000	8.070	0.000	0.07
		B	0.000	0.000	13.148	0.000	0.06
		C	0.000	0.000	1.525	0.000	0.10
L40	53.25-48.25	A	0.000	0.000	10.112	0.000	0.07
		B	0.000	0.000	15.189	0.000	0.06
		C	0.000	0.000	3.567	0.000	0.10
L41	48.25-48.00	A	0.000	0.000	0.627	0.000	0.00
		B	0.000	0.000	0.881	0.000	0.00
		C	0.000	0.000	0.300	0.000	0.00
L42	48.00-43.00	A	0.000	0.000	12.549	0.000	0.07
		B	0.000	0.000	17.627	0.000	0.06
		C	0.000	0.000	6.004	0.000	0.10
L43	43.00-40.00	A	0.000	0.000	7.530	0.000	0.04
		B	0.000	0.000	10.576	0.000	0.04
		C	0.000	0.000	3.603	0.000	0.06
L44	40.00-35.00	A	0.000	0.000	13.729	0.000	0.07
		B	0.000	0.000	18.807	0.000	0.06
		C	0.000	0.000	7.184	0.000	0.10
L45	35.00-32.08	A	0.000	0.000	11.465	0.000	0.04
		B	0.000	0.000	14.431	0.000	0.03
		C	0.000	0.000	7.643	0.000	0.06
L46	32.08-31.83	A	0.000	0.000	0.982	0.000	0.00
		B	0.000	0.000	1.236	0.000	0.00
		C	0.000	0.000	0.654	0.000	0.00
L47	31.83-28.75	A	0.000	0.000	12.094	0.000	0.04
		B	0.000	0.000	15.221	0.000	0.04
		C	0.000	0.000	8.062	0.000	0.06
L48	28.75-28.50	A	0.000	0.000	0.982	0.000	0.00
		B	0.000	0.000	1.236	0.000	0.00
		C	0.000	0.000	0.654	0.000	0.00
L49	28.50-23.50	A	0.000	0.000	16.924	0.000	0.07
		B	0.000	0.000	22.002	0.000	0.06
		C	0.000	0.000	10.379	0.000	0.10
L50	23.50-18.50	A	0.000	0.000	14.216	0.000	0.07
		B	0.000	0.000	19.293	0.000	0.06
		C	0.000	0.000	7.671	0.000	0.10
L51	18.50-13.50	A	0.000	0.000	14.216	0.000	0.07
		B	0.000	0.000	19.293	0.000	0.06

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	7.671	0.000	0.10
L52	13.50-8.50	A	0.000	0.000	10.650	0.000	0.03
		B	0.000	0.000	19.293	0.000	0.06
		C	0.000	0.000	7.495	0.000	0.09
L53	8.50-3.50	A	0.000	0.000	7.083	0.000	0.00
		B	0.000	0.000	9.228	0.000	0.01
		C	0.000	0.000	7.083	0.000	0.06
L54	3.50-0.00	A	0.000	0.000	3.778	0.000	0.00
		B	0.000	0.000	3.778	0.000	0.00
		C	0.000	0.000	3.778	0.000	0.04

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	190.00-185.00	A	1.517	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	2.870	0.000	0.04
		C		0.000	0.000	3.621	0.000	0.08
L2	185.00-180.00	A	1.513	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	4.779	0.000	0.07
		C		0.000	0.000	3.613	0.000	0.09
L3	180.00-175.00	A	1.509	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	4.773	0.000	0.07
		C		0.000	0.000	3.605	0.000	0.09
L4	175.00-170.00	A	1.504	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	4.768	0.000	0.07
		C		0.000	0.000	3.596	0.000	0.09
L5	170.00-165.00	A	1.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	19.012	0.000	0.26
		C		0.000	0.000	3.587	0.000	0.09
L6	165.00-160.00	A	1.495	0.000	0.000	5.062	0.000	0.09
		B		0.000	0.000	19.001	0.000	0.26
		C		0.000	0.000	3.578	0.000	0.09
L7	160.00-155.00	A	1.491	0.000	0.000	12.642	0.000	0.22
		B		0.000	0.000	18.989	0.000	0.26
		C		0.000	0.000	3.569	0.000	0.09
L8	155.00-150.00	A	1.486	0.000	0.000	12.630	0.000	0.22
		B		0.000	0.000	18.977	0.000	0.26
		C		0.000	0.000	3.559	0.000	0.09
L9	150.00-145.00	A	1.481	0.000	0.000	12.618	0.000	0.22
		B		0.000	0.000	18.965	0.000	0.26
		C		0.000	0.000	3.549	0.000	0.13
L10	145.00-140.00	A	1.476	0.000	0.000	12.605	0.000	0.22
		B		0.000	0.000	18.952	0.000	0.25
		C		0.000	0.000	3.539	0.000	0.13
L11	140.00-135.00	A	1.471	0.000	0.000	12.592	0.000	0.22
		B		0.000	0.000	18.939	0.000	0.25
		C		0.000	0.000	3.529	0.000	0.13
L12	135.00-130.00	A	1.465	0.000	0.000	12.578	0.000	0.22
		B		0.000	0.000	18.925	0.000	0.25
		C		0.000	0.000	3.518	0.000	0.13
L13	130.00-125.00	A	1.460	0.000	0.000	12.564	0.000	0.22
		B		0.000	0.000	18.911	0.000	0.25
		C		0.000	0.000	3.507	0.000	0.13
L14	125.00-120.00	A	1.454	0.000	0.000	12.550	0.000	0.22
		B		0.000	0.000	18.897	0.000	0.25
		C		0.000	0.000	3.495	0.000	0.13
L15	120.00-115.00	A	1.448	0.000	0.000	12.535	0.000	0.22
		B		0.000	0.000	18.882	0.000	0.25
		C		0.000	0.000	3.483	0.000	0.13
L16	115.00-112.67	A	1.443	0.000	0.000	8.191	0.000	0.12
		B		0.000	0.000	11.153	0.000	0.14
		C		0.000	0.000	3.966	0.000	0.08
L17	112.67-112.42	A	1.441	0.000	0.000	0.919	0.000	0.01
		B		0.000	0.000	1.236	0.000	0.02

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	0.467	0.000	0.01
L18	112.42-107.42	A	1.438	0.000	0.000	18.370	0.000	0.27
		B		0.000	0.000	24.717	0.000	0.30
		C		0.000	0.000	9.323	0.000	0.18
L19	107.42-103.33	A	1.432	0.000	0.000	17.559	0.000	0.24
		B		0.000	0.000	22.742	0.000	0.27
		C		0.000	0.000	10.174	0.000	0.17
L20	103.33-103.08	A	1.429	0.000	0.000	1.239	0.000	0.02
		B		0.000	0.000	1.556	0.000	0.02
		C		0.000	0.000	0.786	0.000	0.01
L21	103.08-100.00	A	1.427	0.000	0.000	13.708	0.000	0.18
		B		0.000	0.000	17.622	0.000	0.20
		C		0.000	0.000	8.133	0.000	0.13
L22	100.00-95.00	A	1.421	0.000	0.000	18.889	0.000	0.27
		B		0.000	0.000	25.236	0.000	0.30
		C		0.000	0.000	9.850	0.000	0.18
L23	95.00-90.00	A	1.413	0.000	0.000	19.773	0.000	0.27
		B		0.000	0.000	26.120	0.000	0.31
		C		0.000	0.000	10.738	0.000	0.19
L24	90.00-89.50	A	1.409	0.000	0.000	2.340	0.000	0.03
		B		0.000	0.000	2.974	0.000	0.03
		C		0.000	0.000	1.436	0.000	0.02
L25	89.50-89.25	A	1.409	0.000	0.000	1.170	0.000	0.02
		B		0.000	0.000	1.487	0.000	0.02
		C		0.000	0.000	0.718	0.000	0.01
L26	89.25-85.50	A	1.405	0.000	0.000	19.083	0.000	0.25
		B		0.000	0.000	23.843	0.000	0.27
		C		0.000	0.000	12.310	0.000	0.18
L27	85.50-85.25	A	1.402	0.000	0.000	1.426	0.000	0.02
		B		0.000	0.000	1.743	0.000	0.02
		C		0.000	0.000	0.975	0.000	0.01
L28	85.25-84.00	A	1.401	0.000	0.000	7.129	0.000	0.09
		B		0.000	0.000	8.716	0.000	0.10
		C		0.000	0.000	4.872	0.000	0.07
L29	84.00-83.75	A	1.400	0.000	0.000	1.425	0.000	0.02
		B		0.000	0.000	1.743	0.000	0.02
		C		0.000	0.000	0.974	0.000	0.01
L30	83.75-82.50	A	1.398	0.000	0.000	7.126	0.000	0.09
		B		0.000	0.000	8.712	0.000	0.10
		C		0.000	0.000	4.869	0.000	0.07
L31	82.50-82.25	A	1.397	0.000	0.000	1.425	0.000	0.02
		B		0.000	0.000	1.742	0.000	0.02
		C		0.000	0.000	0.973	0.000	0.01
L32	82.25-80.00	A	1.395	0.000	0.000	9.352	0.000	0.13
		B		0.000	0.000	12.208	0.000	0.14
		C		0.000	0.000	5.291	0.000	0.09
L33	80.00-75.00	A	1.389	0.000	0.000	17.526	0.000	0.25
		B		0.000	0.000	23.873	0.000	0.29
		C		0.000	0.000	8.503	0.000	0.17
L34	75.00-70.00	A	1.379	0.000	0.000	17.494	0.000	0.25
		B		0.000	0.000	23.840	0.000	0.28
		C		0.000	0.000	8.476	0.000	0.17
L35	70.00-65.00	A	1.370	0.000	0.000	17.459	0.000	0.25
		B		0.000	0.000	23.806	0.000	0.28
		C		0.000	0.000	8.446	0.000	0.17
L36	65.00-60.00	A	1.359	0.000	0.000	17.422	0.000	0.25
		B		0.000	0.000	23.769	0.000	0.28
		C		0.000	0.000	8.415	0.000	0.17
L37	60.00-58.50	A	1.352	0.000	0.000	5.219	0.000	0.07
		B		0.000	0.000	7.123	0.000	0.08
		C		0.000	0.000	2.518	0.000	0.05
L38	58.50-58.25	A	1.350	0.000	0.000	0.870	0.000	0.01
		B		0.000	0.000	1.187	0.000	0.01
		C		0.000	0.000	0.419	0.000	0.01
L39	58.25-53.25	A	1.344	0.000	0.000	13.548	0.000	0.22
		B		0.000	0.000	19.895	0.000	0.25
		C		0.000	0.000	4.548	0.000	0.14
L40	53.25-48.25	A	1.331	0.000	0.000	15.955	0.000	0.23
		B		0.000	0.000	22.301	0.000	0.26

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
		C		0.000	0.000	6.961	0.000	0.16
L41	48.25-48.00	A	1.324	0.000	0.000	0.948	0.000	0.01
		B		0.000	0.000	1.266	0.000	0.01
		C		0.000	0.000	0.499	0.000	0.01
L42	48.00-43.00	A	1.317	0.000	0.000	18.940	0.000	0.26
		B		0.000	0.000	25.287	0.000	0.28
		C		0.000	0.000	9.954	0.000	0.18
L43	43.00-40.00	A	1.305	0.000	0.000	11.339	0.000	0.15
		B		0.000	0.000	15.147	0.000	0.17
		C		0.000	0.000	5.951	0.000	0.11
L44	40.00-35.00	A	1.291	0.000	0.000	20.247	0.000	0.26
		B		0.000	0.000	26.594	0.000	0.29
		C		0.000	0.000	11.274	0.000	0.19
L45	35.00-32.08	A	1.277	0.000	0.000	15.863	0.000	0.18
		B		0.000	0.000	19.569	0.000	0.20
		C		0.000	0.000	10.626	0.000	0.14
L46	32.08-31.83	A	1.271	0.000	0.000	1.357	0.000	0.02
		B		0.000	0.000	1.674	0.000	0.02
		C		0.000	0.000	0.909	0.000	0.01
L47	31.83-28.75	A	1.264	0.000	0.000	16.696	0.000	0.19
		B		0.000	0.000	20.606	0.000	0.21
		C		0.000	0.000	11.177	0.000	0.15
L48	28.75-28.50	A	1.257	0.000	0.000	1.354	0.000	0.02
		B		0.000	0.000	1.671	0.000	0.02
		C		0.000	0.000	0.906	0.000	0.01
L49	28.50-23.50	A	1.245	0.000	0.000	23.687	0.000	0.28
		B		0.000	0.000	30.034	0.000	0.31
		C		0.000	0.000	14.737	0.000	0.21
L50	23.50-18.50	A	1.219	0.000	0.000	20.264	0.000	0.25
		B		0.000	0.000	26.611	0.000	0.28
		C		0.000	0.000	11.327	0.000	0.18
L51	18.50-13.50	A	1.186	0.000	0.000	20.150	0.000	0.24
		B		0.000	0.000	26.497	0.000	0.27
		C		0.000	0.000	11.229	0.000	0.18
L52	13.50-8.50	A	1.142	0.000	0.000	14.111	0.000	0.15
		B		0.000	0.000	26.344	0.000	0.26
		C		0.000	0.000	10.236	0.000	0.15
L53	8.50-3.50	A	1.075	0.000	0.000	8.158	0.000	0.05
		B		0.000	0.000	11.646	0.000	0.09
		C		0.000	0.000	8.158	0.000	0.11
L54	3.50-0.00	A	0.951	0.000	0.000	4.285	0.000	0.02
		B		0.000	0.000	4.285	0.000	0.02
		C		0.000	0.000	4.285	0.000	0.06

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	190.00-185.00	1.9055	0.0038	0.8161	1.0926
L2	185.00-180.00	3.0508	-0.4822	1.7458	0.5941
L3	180.00-175.00	3.1719	-0.4983	1.8706	0.6434
L4	175.00-170.00	3.1719	-0.4983	1.8711	0.6412
L5	170.00-165.00	7.1696	-6.9662	4.7465	-3.9631
L6	165.00-160.00	5.6109	-8.3154	3.6023	-5.1529
L7	160.00-155.00	4.2504	-10.8051	2.6170	-7.1208
L8	155.00-150.00	4.2504	-10.8051	2.6186	-7.1236
L9	150.00-145.00	4.2504	-10.8051	2.6201	-7.1265
L10	145.00-140.00	4.2504	-10.8051	2.6217	-7.1295
L11	140.00-135.00	4.6140	-11.6794	2.8627	-7.7493
L12	135.00-130.00	4.6140	-11.6794	2.8645	-7.7524
L13	130.00-125.00	4.6140	-11.6794	2.8663	-7.7557
L14	125.00-120.00	4.6140	-11.6794	2.8682	-7.7591
L15	120.00-115.00	4.9449	-12.4752	3.0904	-8.3295
L16	115.00-112.67	3.5716	-9.0107	2.5715	-6.9296

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L17	112.67-112.42	3.4133	-8.6113	2.5015	-6.7407
L18	112.42-107.42	3.4133	-8.6113	2.5023	-6.7419
L19	107.42-103.33	2.9637	-7.4769	2.2701	-6.1149
L20	103.33-103.08	2.1436	-5.4079	2.0660	-5.5645
L21	103.08-100.00	2.9030	-7.3237	2.2220	-5.9840
L22	100.00-95.00	3.6710	-9.2363	2.6428	-7.0959
L23	95.00-90.00	3.5127	-8.8380	2.5718	-6.9032
L24	90.00-89.50	2.9959	-7.5379	2.3172	-6.2189
L25	89.50-89.25	2.9959	-7.5379	2.3173	-6.2190
L26	89.25-85.50	2.2705	-5.7127	2.1935	-5.8859
L27	85.50-85.25	2.0853	-5.2466	2.0246	-5.4320
L28	85.25-84.00	2.0853	-5.2466	2.0248	-5.4324
L29	84.00-83.75	2.0853	-5.2466	2.0251	-5.4328
L30	83.75-82.50	2.0853	-5.2466	2.0253	-5.4331
L31	82.50-82.25	2.0853	-5.2466	2.0255	-5.4335
L32	82.25-80.00	3.3882	-8.5249	2.4948	-6.6919
L33	80.00-75.00	3.9691	-9.9863	2.7590	-7.3987
L34	75.00-70.00	3.9691	-9.9863	2.7617	-7.4032
L35	70.00-65.00	3.9691	-9.9863	2.7646	-7.4080
L36	65.00-60.00	3.9691	-9.9863	2.7677	-7.4132
L37	60.00-58.50	3.9691	-9.9863	2.7698	-7.4168
L38	58.50-58.25	3.9691	-9.9863	2.7704	-7.4178
L39	58.25-53.25	4.8564	-12.2188	3.1695	-8.4842
L40	53.25-48.25	4.1783	-10.5127	2.9069	-7.7774
L41	48.25-48.00	3.5813	-9.0107	2.6336	-7.0442
L42	48.00-43.00	3.5813	-9.0107	2.6355	-7.0472
L43	43.00-40.00	3.5813	-9.0107	2.6387	-7.0522
L44	40.00-35.00	3.3496	-8.4277	2.5313	-6.7617
L45	35.00-32.08	2.0853	-5.2466	2.0865	-5.5704
L46	32.08-31.83	2.0853	-5.2466	2.0877	-5.5720
L47	31.83-28.75	2.0853	-5.2466	2.0889	-5.5739
L48	28.75-28.50	2.0853	-5.2466	2.0902	-5.5758
L49	28.50-23.50	2.8503	-7.1716	2.2921	-6.1113
L50	23.50-18.50	3.2626	-8.2088	2.5276	-6.7319
L51	18.50-13.50	3.2626	-8.2088	2.5352	-6.7432
L52	13.50-8.50	4.2095	-6.8454	3.5348	-5.6902
L53	8.50-3.50	1.3721	-0.9409	1.4537	-0.9191
L54	3.50-0.00	0.0000	0.0000	0.0000	0.0000

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	1	Safety Line 3/8	185.00 - 190.00	1.0000	1.0000
L1	2	Climbing Rungs	185.00 - 190.00	1.0000	1.0000
L1	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	185.00 - 188.00	1.0000	1.0000
L2	1	Safety Line 3/8	180.00 - 185.00	1.0000	1.0000
L2	2	Climbing Rungs	180.00 - 185.00	1.0000	1.0000
L2	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	180.00 - 185.00	1.0000	1.0000
L3	1	Safety Line 3/8	175.00 - 180.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L3	2	Climbing Rungs	175.00 - 180.00	1.0000	1.0000
L3	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	175.00 - 180.00	1.0000	1.0000
L4	1	Safety Line 3/8	170.00 - 175.00	1.0000	1.0000
L4	2	Climbing Rungs	170.00 - 175.00	1.0000	1.0000
L4	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	170.00 - 175.00	1.0000	1.0000
L5	1	Safety Line 3/8	165.00 - 170.00	1.0000	1.0000
L5	2	Climbing Rungs	165.00 - 170.00	1.0000	1.0000
L5	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	165.00 - 170.00	1.0000	1.0000
L5	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	165.00 - 170.00	1.0000	1.0000
L6	1	Safety Line 3/8	160.00 - 165.00	1.0000	1.0000
L6	2	Climbing Rungs	160.00 - 165.00	1.0000	1.0000
L6	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	160.00 - 165.00	1.0000	1.0000
L6	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	160.00 - 165.00	1.0000	1.0000
L6	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	160.00 - 162.00	1.0000	1.0000
L6	25	LDF7-50A(1-5/8)	160.00 - 162.00	1.0000	1.0000
L7	1	Safety Line 3/8	155.00 - 160.00	1.0000	1.0000
L7	2	Climbing Rungs	155.00 - 160.00	1.0000	1.0000
L7	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	155.00 - 160.00	1.0000	1.0000
L7	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	155.00 - 160.00	1.0000	1.0000
L7	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	155.00 - 160.00	1.0000	1.0000
L7	25	LDF7-50A(1-5/8)	155.00 - 160.00	1.0000	1.0000
L8	1	Safety Line 3/8	150.00 - 155.00	1.0000	1.0000
L8	2	Climbing Rungs	150.00 - 155.00	1.0000	1.0000
L8	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	150.00 - 155.00	1.0000	1.0000
L8	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-	150.00 - 155.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		5/8)			
L8	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	150.00 - 155.00	1.0000	1.0000
L8	25	LDF7-50A(1-5/8)	150.00 - 155.00	1.0000	1.0000
L9	1	Safety Line 3/8	145.00 - 150.00	1.0000	1.0000
L9	2	Climbing Rungs	145.00 - 150.00	1.0000	1.0000
L9	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	145.00 - 150.00	1.0000	1.0000
L9	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	145.00 - 150.00	1.0000	1.0000
L9	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	145.00 - 150.00	1.0000	1.0000
L9	25	LDF7-50A(1-5/8)	145.00 - 150.00	1.0000	1.0000
L10	1	Safety Line 3/8	140.00 - 145.00	1.0000	1.0000
L10	2	Climbing Rungs	140.00 - 145.00	1.0000	1.0000
L10	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	140.00 - 145.00	1.0000	1.0000
L10	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	140.00 - 145.00	1.0000	1.0000
L10	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	140.00 - 145.00	1.0000	1.0000
L10	25	LDF7-50A(1-5/8)	140.00 - 145.00	1.0000	1.0000
L11	1	Safety Line 3/8	135.00 - 140.00	1.0000	1.0000
L11	2	Climbing Rungs	135.00 - 140.00	1.0000	1.0000
L11	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	135.00 - 140.00	1.0000	1.0000
L11	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	135.00 - 140.00	1.0000	1.0000
L11	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	135.00 - 140.00	1.0000	1.0000
L11	25	LDF7-50A(1-5/8)	135.00 - 140.00	1.0000	1.0000
L12	1	Safety Line 3/8	130.00 - 135.00	1.0000	1.0000
L12	2	Climbing Rungs	130.00 - 135.00	1.0000	1.0000
L12	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	130.00 - 135.00	1.0000	1.0000
L12	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	130.00 - 135.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L12	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	130.00 - 135.00	1.0000	1.0000
L12	25	LDF7-50A(1-5/8)	130.00 - 135.00	1.0000	1.0000
L13	1	Safety Line 3/8	125.00 - 130.00	1.0000	1.0000
L13	2	Climbing Rungs	125.00 - 130.00	1.0000	1.0000
L13	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	125.00 - 130.00	1.0000	1.0000
L13	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	125.00 - 130.00	1.0000	1.0000
L13	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	125.00 - 130.00	1.0000	1.0000
L13	25	LDF7-50A(1-5/8)	125.00 - 130.00	1.0000	1.0000
L14	1	Safety Line 3/8	120.00 - 125.00	1.0000	1.0000
L14	2	Climbing Rungs	120.00 - 125.00	1.0000	1.0000
L14	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	120.00 - 125.00	1.0000	1.0000
L14	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	120.00 - 125.00	1.0000	1.0000
L14	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	120.00 - 125.00	1.0000	1.0000
L14	25	LDF7-50A(1-5/8)	120.00 - 125.00	1.0000	1.0000
L15	1	Safety Line 3/8	115.00 - 120.00	1.0000	1.0000
L15	2	Climbing Rungs	115.00 - 120.00	1.0000	1.0000
L15	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	115.00 - 120.00	1.0000	1.0000
L15	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	115.00 - 120.00	1.0000	1.0000
L15	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	115.00 - 120.00	1.0000	1.0000
L15	25	LDF7-50A(1-5/8)	115.00 - 120.00	1.0000	1.0000
L16	1	Safety Line 3/8	112.67 - 115.00	1.0000	1.0000
L16	2	Climbing Rungs	112.67 - 115.00	1.0000	1.0000
L16	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	112.67 - 115.00	1.0000	1.0000
L16	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	112.67 - 115.00	1.0000	1.0000
L16	19	(4) WR-VG86ST-BRD(3/4)	112.67 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		+ (2) FB-L98B-034-XXX(3/8)	115.00		
L16	25	LDF7-50A(1-5/8)	112.67 - 115.00	1.0000	1.0000
L16	59	6" x 1" Flat Plate	112.67 - 114.67	1.0000	1.0000
L16	60	6" x 1" Flat Plate	112.67 - 114.67	1.0000	1.0000
L16	61	6" x 1" Flat Plate	112.67 - 114.67	1.0000	1.0000
L17	1	Safety Line 3/8	112.42 - 112.67	1.0000	1.0000
L17	2	Climbing Rungs	112.42 - 112.67	1.0000	1.0000
L17	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	112.42 - 112.67	1.0000	1.0000
L17	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	112.42 - 112.67	1.0000	1.0000
L17	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	112.42 - 112.67	1.0000	1.0000
L17	25	LDF7-50A(1-5/8)	112.42 - 112.67	1.0000	1.0000
L17	59	6" x 1" Flat Plate	112.42 - 112.67	1.0000	1.0000
L17	60	6" x 1" Flat Plate	112.42 - 112.67	1.0000	1.0000
L17	61	6" x 1" Flat Plate	112.42 - 112.67	1.0000	1.0000
L18	1	Safety Line 3/8	107.42 - 112.42	1.0000	1.0000
L18	2	Climbing Rungs	107.42 - 112.42	1.0000	1.0000
L18	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	107.42 - 112.42	1.0000	1.0000
L18	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	107.42 - 112.42	1.0000	1.0000
L18	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	107.42 - 112.42	1.0000	1.0000
L18	25	LDF7-50A(1-5/8)	107.42 - 112.42	1.0000	1.0000
L18	59	6" x 1" Flat Plate	107.42 - 112.42	1.0000	1.0000
L18	60	6" x 1" Flat Plate	107.42 - 112.42	1.0000	1.0000
L18	61	6" x 1" Flat Plate	107.42 - 112.42	1.0000	1.0000
L19	1	Safety Line 3/8	103.33 - 107.42	1.0000	1.0000
L19	2	Climbing Rungs	103.33 - 107.42	1.0000	1.0000
L19	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	103.33 - 107.42	1.0000	1.0000
L19	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	103.33 - 107.42	1.0000	1.0000
L19	19	(4) WR-VG86ST-BRD(3/4)	103.33 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		+ (2) FB-L98B-034-XXX(3/8)	107.42		
L19	25	LDF7-50A(1-5/8)	103.33 - 107.42	1.0000	1.0000
L19	55	6" x 1" Flat Plate	103.33 - 105.33	1.0000	1.0000
L19	56	6" x 1" Flat Plate	103.33 - 105.33	1.0000	1.0000
L19	57	6" x 1" Flat Plate	103.33 - 105.33	1.0000	1.0000
L19	59	6" x 1" Flat Plate	103.33 - 107.42	1.0000	1.0000
L19	60	6" x 1" Flat Plate	103.33 - 107.42	1.0000	1.0000
L19	61	6" x 1" Flat Plate	103.33 - 107.42	1.0000	1.0000
L20	1	Safety Line 3/8	103.08 - 103.33	1.0000	1.0000
L20	2	Climbing Rungs	103.08 - 103.33	1.0000	1.0000
L20	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	103.08 - 103.33	1.0000	1.0000
L20	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	103.08 - 103.33	1.0000	1.0000
L20	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	103.08 - 103.33	1.0000	1.0000
L20	25	LDF7-50A(1-5/8)	103.08 - 103.33	1.0000	1.0000
L20	55	6" x 1" Flat Plate	103.08 - 103.33	1.0000	1.0000
L20	56	6" x 1" Flat Plate	103.08 - 103.33	1.0000	1.0000
L20	57	6" x 1" Flat Plate	103.08 - 103.33	1.0000	1.0000
L20	59	6" x 1" Flat Plate	103.08 - 103.33	1.0000	1.0000
L20	60	6" x 1" Flat Plate	103.08 - 103.33	1.0000	1.0000
L20	61	6" x 1" Flat Plate	103.08 - 103.33	1.0000	1.0000
L21	1	Safety Line 3/8	100.00 - 103.08	1.0000	1.0000
L21	2	Climbing Rungs	100.00 - 103.08	1.0000	1.0000
L21	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	100.00 - 103.08	1.0000	1.0000
L21	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	100.00 - 103.08	1.0000	1.0000
L21	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	100.00 - 103.08	1.0000	1.0000
L21	25	LDF7-50A(1-5/8)	100.00 - 103.08	1.0000	1.0000
L21	55	6" x 1" Flat Plate	100.00 - 103.08	1.0000	1.0000
L21	56	6" x 1" Flat Plate	100.00 - 103.08	1.0000	1.0000
L21	57	6" x 1" Flat Plate	100.00 - 103.08	1.0000	1.0000
L21	59	6" x 1" Flat Plate	101.33 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L21	60	6" x 1" Flat Plate	103.08 - 101.33	1.0000	1.0000
L21	61	6" x 1" Flat Plate	103.08 - 101.33	1.0000	1.0000
L22	1	Safety Line 3/8	103.08 - 95.00	1.0000	1.0000
L22	2	Climbing Rungs	100.00 - 95.00	1.0000	1.0000
L22	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	100.00 - 95.00	1.0000	1.0000
L22	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	100.00 - 95.00	1.0000	1.0000
L22	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	100.00 - 95.00	1.0000	1.0000
L22	25	LDF7-50A(1-5/8)	100.00 - 95.00	1.0000	1.0000
L22	55	6" x 1" Flat Plate	100.00 - 95.00	1.0000	1.0000
L22	56	6" x 1" Flat Plate	100.00 - 95.00	1.0000	1.0000
L22	57	6" x 1" Flat Plate	100.00 - 95.00	1.0000	1.0000
L23	1	Safety Line 3/8	95.00 - 90.00	1.0000	1.0000
L23	2	Climbing Rungs	95.00 - 90.00	1.0000	1.0000
L23	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	95.00 - 90.00	1.0000	1.0000
L23	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	95.00 - 90.00	1.0000	1.0000
L23	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	95.00 - 90.00	1.0000	1.0000
L23	25	LDF7-50A(1-5/8)	95.00 - 90.00	1.0000	1.0000
L23	55	6" x 1" Flat Plate	95.00 - 90.00	1.0000	1.0000
L23	56	6" x 1" Flat Plate	95.00 - 90.00	1.0000	1.0000
L23	57	6" x 1" Flat Plate	95.00 - 90.00	1.0000	1.0000
L23	63	4.5" x 1" Flat Plate	95.00 - 91.00	1.0000	1.0000
L23	64	4.5" x 1" Flat Plate	95.00 - 91.00	1.0000	1.0000
L23	65	4.5" x 1" Flat Plate	95.00 - 91.00	1.0000	1.0000
L24	1	Safety Line 3/8	90.00 - 89.50	1.0000	1.0000
L24	2	Climbing Rungs	90.00 - 89.50	1.0000	1.0000
L24	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	90.00 - 89.50	1.0000	1.0000
L24	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	90.00 - 89.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	89.50 - 90.00	1.0000	1.0000
L24	25	LDF7-50A(1-5/8)	89.50 - 90.00	1.0000	1.0000
L24	55	6" x 1" Flat Plate	89.50 - 90.00	1.0000	1.0000
L24	56	6" x 1" Flat Plate	89.50 - 90.00	1.0000	1.0000
L24	57	6" x 1" Flat Plate	89.50 - 90.00	1.0000	1.0000
L24	63	4.5" x 1" Flat Plate	89.50 - 90.00	1.0000	1.0000
L24	64	4.5" x 1" Flat Plate	89.50 - 90.00	1.0000	1.0000
L24	65	4.5" x 1" Flat Plate	89.50 - 90.00	1.0000	1.0000
L25	1	Safety Line 3/8	89.25 - 89.50	1.0000	1.0000
L25	2	Climbing Rungs	89.25 - 89.50	1.0000	1.0000
L25	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	89.25 - 89.50	1.0000	1.0000
L25	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	89.25 - 89.50	1.0000	1.0000
L25	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	89.25 - 89.50	1.0000	1.0000
L25	25	LDF7-50A(1-5/8)	89.25 - 89.50	1.0000	1.0000
L25	55	6" x 1" Flat Plate	89.25 - 89.50	1.0000	1.0000
L25	56	6" x 1" Flat Plate	89.25 - 89.50	1.0000	1.0000
L25	57	6" x 1" Flat Plate	89.25 - 89.50	1.0000	1.0000
L25	63	4.5" x 1" Flat Plate	89.25 - 89.50	1.0000	1.0000
L25	64	4.5" x 1" Flat Plate	89.25 - 89.50	1.0000	1.0000
L25	65	4.5" x 1" Flat Plate	89.25 - 89.50	1.0000	1.0000
L26	1	Safety Line 3/8	85.50 - 89.25	1.0000	1.0000
L26	2	Climbing Rungs	85.50 - 89.25	1.0000	1.0000
L26	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	85.50 - 89.25	1.0000	1.0000
L26	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	85.50 - 89.25	1.0000	1.0000
L26	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	85.50 - 89.25	1.0000	1.0000
L26	25	LDF7-50A(1-5/8)	85.50 - 89.25	1.0000	1.0000
L26	51	4.5" x 1" Flat Plate	85.50 - 87.00	1.0000	1.0000
L26	52	4.5" x 1" Flat Plate	85.50 - 87.00	1.0000	1.0000
L26	53	4.5" x 1" Flat Plate	85.50 - 87.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L26	55	6" x 1" Flat Plate	85.50 - 89.25	1.0000	1.0000
L26	56	6" x 1" Flat Plate	85.50 - 89.25	1.0000	1.0000
L26	57	6" x 1" Flat Plate	85.50 - 89.25	1.0000	1.0000
L26	63	4.5" x 1" Flat Plate	85.50 - 89.25	1.0000	1.0000
L26	64	4.5" x 1" Flat Plate	85.50 - 89.25	1.0000	1.0000
L26	65	4.5" x 1" Flat Plate	85.50 - 89.25	1.0000	1.0000
L27	1	Safety Line 3/8	85.25 - 85.50	1.0000	1.0000
L27	2	Climbing Rungs	85.25 - 85.50	1.0000	1.0000
L27	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	85.25 - 85.50	1.0000	1.0000
L27	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	85.25 - 85.50	1.0000	1.0000
L27	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	85.25 - 85.50	1.0000	1.0000
L27	25	LDF7-50A(1-5/8)	85.25 - 85.50	1.0000	1.0000
L27	51	4.5" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L27	52	4.5" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L27	53	4.5" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L27	55	6" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L27	56	6" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L27	57	6" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L27	63	4.5" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L27	64	4.5" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L27	65	4.5" x 1" Flat Plate	85.25 - 85.50	1.0000	1.0000
L28	1	Safety Line 3/8	84.00 - 85.25	1.0000	1.0000
L28	2	Climbing Rungs	84.00 - 85.25	1.0000	1.0000
L28	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	84.00 - 85.25	1.0000	1.0000
L28	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	84.00 - 85.25	1.0000	1.0000
L28	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	84.00 - 85.25	1.0000	1.0000
L28	25	LDF7-50A(1-5/8)	84.00 - 85.25	1.0000	1.0000
L28	51	4.5" x 1" Flat Plate	84.00 - 85.25	1.0000	1.0000
L28	52	4.5" x 1" Flat Plate	84.00 - 85.25	1.0000	1.0000
L28	53	4.5" x 1" Flat Plate	84.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_e No Ice	K_e Ice
L28	55	6" x 1" Flat Plate	85.25 - 84.00	1.0000	1.0000
L28	56	6" x 1" Flat Plate	85.25 - 84.00	1.0000	1.0000
L28	57	6" x 1" Flat Plate	85.25 - 84.00	1.0000	1.0000
L28	63	4.5" x 1" Flat Plate	85.25 - 84.00	1.0000	1.0000
L28	64	4.5" x 1" Flat Plate	85.25 - 84.00	1.0000	1.0000
L28	65	4.5" x 1" Flat Plate	85.25 - 84.00	1.0000	1.0000
L29	1	Safety Line 3/8	84.00 - 83.75	1.0000	1.0000
L29	2	Climbing Rungs	84.00 - 83.75	1.0000	1.0000
L29	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	84.00 - 83.75	1.0000	1.0000
L29	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	84.00 - 83.75	1.0000	1.0000
L29	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	84.00 - 83.75	1.0000	1.0000
L29	25	LDF7-50A(1-5/8)	84.00 - 83.75	1.0000	1.0000
L29	51	4.5" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L29	52	4.5" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L29	53	4.5" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L29	55	6" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L29	56	6" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L29	57	6" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L29	63	4.5" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L29	64	4.5" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L29	65	4.5" x 1" Flat Plate	84.00 - 83.75	1.0000	1.0000
L30	1	Safety Line 3/8	83.75 - 82.50	1.0000	1.0000
L30	2	Climbing Rungs	83.75 - 82.50	1.0000	1.0000
L30	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	83.75 - 82.50	1.0000	1.0000
L30	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	83.75 - 82.50	1.0000	1.0000
L30	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	83.75 - 82.50	1.0000	1.0000
L30	25	LDF7-50A(1-5/8)	83.75 - 82.50	1.0000	1.0000
L30	51	4.5" x 1" Flat Plate	83.75 - 82.50	1.0000	1.0000
L30	52	4.5" x 1" Flat Plate	83.75 - 82.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L30	53	4.5" x 1" Flat Plate	82.50 - 83.75	1.0000	1.0000
L30	55	6" x 1" Flat Plate	82.50 - 83.75	1.0000	1.0000
L30	56	6" x 1" Flat Plate	82.50 - 83.75	1.0000	1.0000
L30	57	6" x 1" Flat Plate	82.50 - 83.75	1.0000	1.0000
L30	63	4.5" x 1" Flat Plate	82.50 - 83.75	1.0000	1.0000
L30	64	4.5" x 1" Flat Plate	82.50 - 83.75	1.0000	1.0000
L30	65	4.5" x 1" Flat Plate	82.50 - 83.75	1.0000	1.0000
L31	1	Safety Line 3/8	82.25 - 82.50	1.0000	1.0000
L31	2	Climbing Rungs	82.25 - 82.50	1.0000	1.0000
L31	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	82.25 - 82.50	1.0000	1.0000
L31	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	82.25 - 82.50	1.0000	1.0000
L31	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	82.25 - 82.50	1.0000	1.0000
L31	25	LDF7-50A(1-5/8)	82.25 - 82.50	1.0000	1.0000
L31	51	4.5" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L31	52	4.5" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L31	53	4.5" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L31	55	6" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L31	56	6" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L31	57	6" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L31	63	4.5" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L31	64	4.5" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L31	65	4.5" x 1" Flat Plate	82.25 - 82.50	1.0000	1.0000
L32	1	Safety Line 3/8	80.00 - 82.25	1.0000	1.0000
L32	2	Climbing Rungs	80.00 - 82.25	1.0000	1.0000
L32	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	80.00 - 82.25	1.0000	1.0000
L32	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	80.00 - 82.25	1.0000	1.0000
L32	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	80.00 - 82.25	1.0000	1.0000
L32	25	LDF7-50A(1-5/8)	80.00 - 82.25	1.0000	1.0000
L32	51	4.5" x 1" Flat Plate	80.00 - 82.25	1.0000	1.0000
L32	52	4.5" x 1" Flat Plate	80.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L32	53	4.5" x 1" Flat Plate	80.00 - 82.25	1.0000	1.0000
L32	55	6" x 1" Flat Plate	82.00 - 82.25	1.0000	1.0000
L32	56	6" x 1" Flat Plate	82.00 - 82.25	1.0000	1.0000
L32	57	6" x 1" Flat Plate	82.00 - 82.25	1.0000	1.0000
L32	63	4.5" x 1" Flat Plate	81.00 - 82.25	1.0000	1.0000
L32	64	4.5" x 1" Flat Plate	81.00 - 82.25	1.0000	1.0000
L32	65	4.5" x 1" Flat Plate	81.00 - 82.25	1.0000	1.0000
L33	1	Safety Line 3/8	75.00 - 80.00	1.0000	1.0000
L33	2	Climbing Rungs	75.00 - 80.00	1.0000	1.0000
L33	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	75.00 - 80.00	1.0000	1.0000
L33	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	75.00 - 80.00	1.0000	1.0000
L33	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	75.00 - 80.00	1.0000	1.0000
L33	25	LDF7-50A(1-5/8)	75.00 - 80.00	1.0000	1.0000
L33	51	4.5" x 1" Flat Plate	75.00 - 80.00	1.0000	1.0000
L33	52	4.5" x 1" Flat Plate	75.00 - 80.00	1.0000	1.0000
L33	53	4.5" x 1" Flat Plate	75.00 - 80.00	1.0000	1.0000
L34	1	Safety Line 3/8	70.00 - 75.00	1.0000	1.0000
L34	2	Climbing Rungs	70.00 - 75.00	1.0000	1.0000
L34	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	70.00 - 75.00	1.0000	1.0000
L34	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	70.00 - 75.00	1.0000	1.0000
L34	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	70.00 - 75.00	1.0000	1.0000
L34	25	LDF7-50A(1-5/8)	70.00 - 75.00	1.0000	1.0000
L34	51	4.5" x 1" Flat Plate	70.00 - 75.00	1.0000	1.0000
L34	52	4.5" x 1" Flat Plate	70.00 - 75.00	1.0000	1.0000
L34	53	4.5" x 1" Flat Plate	70.00 - 75.00	1.0000	1.0000
L35	1	Safety Line 3/8	65.00 - 70.00	1.0000	1.0000
L35	2	Climbing Rungs	65.00 - 70.00	1.0000	1.0000
L35	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	65.00 - 70.00	1.0000	1.0000
L35	14	(6) LDF7-50A(1-5/8) + (3)	65.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	70.00		
L35	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	65.00 - 70.00	1.0000	1.0000
L35	25	LDF7-50A(1-5/8)	65.00 - 70.00	1.0000	1.0000
L35	51	4.5" x 1" Flat Plate	65.00 - 70.00	1.0000	1.0000
L35	52	4.5" x 1" Flat Plate	65.00 - 70.00	1.0000	1.0000
L35	53	4.5" x 1" Flat Plate	65.00 - 70.00	1.0000	1.0000
L36	1	Safety Line 3/8	60.00 - 65.00	1.0000	1.0000
L36	2	Climbing Rungs	60.00 - 65.00	1.0000	1.0000
L36	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	60.00 - 65.00	1.0000	1.0000
L36	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	60.00 - 65.00	1.0000	1.0000
L36	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	60.00 - 65.00	1.0000	1.0000
L36	25	LDF7-50A(1-5/8)	60.00 - 65.00	1.0000	1.0000
L36	51	4.5" x 1" Flat Plate	60.00 - 65.00	1.0000	1.0000
L36	52	4.5" x 1" Flat Plate	60.00 - 65.00	1.0000	1.0000
L36	53	4.5" x 1" Flat Plate	60.00 - 65.00	1.0000	1.0000
L37	1	Safety Line 3/8	58.50 - 60.00	1.0000	1.0000
L37	2	Climbing Rungs	58.50 - 60.00	1.0000	1.0000
L37	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	58.50 - 60.00	1.0000	1.0000
L37	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	58.50 - 60.00	1.0000	1.0000
L37	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	58.50 - 60.00	1.0000	1.0000
L37	25	LDF7-50A(1-5/8)	58.50 - 60.00	1.0000	1.0000
L37	51	4.5" x 1" Flat Plate	58.50 - 60.00	1.0000	1.0000
L37	52	4.5" x 1" Flat Plate	58.50 - 60.00	1.0000	1.0000
L37	53	4.5" x 1" Flat Plate	58.50 - 60.00	1.0000	1.0000
L38	1	Safety Line 3/8	58.25 - 58.50	1.0000	1.0000
L38	2	Climbing Rungs	58.25 - 58.50	1.0000	1.0000
L38	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	58.25 - 58.50	1.0000	1.0000
L38	14	(6) LDF7-50A(1-5/8) + (3)	58.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	58.50		
L38	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	58.25 - 58.50	1.0000	1.0000
L38	25	LDF7-50A(1-5/8)	58.25 - 58.50	1.0000	1.0000
L38	51	4.5" x 1" Flat Plate	58.25 - 58.50	1.0000	1.0000
L38	52	4.5" x 1" Flat Plate	58.25 - 58.50	1.0000	1.0000
L38	53	4.5" x 1" Flat Plate	58.25 - 58.50	1.0000	1.0000
L39	1	Safety Line 3/8	53.25 - 58.25	1.0000	1.0000
L39	2	Climbing Rungs	53.25 - 58.25	1.0000	1.0000
L39	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	53.25 - 58.25	1.0000	1.0000
L39	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	53.25 - 58.25	1.0000	1.0000
L39	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	53.25 - 58.25	1.0000	1.0000
L39	25	LDF7-50A(1-5/8)	53.25 - 58.25	1.0000	1.0000
L39	51	4.5" x 1" Flat Plate	57.00 - 58.25	1.0000	1.0000
L39	52	4.5" x 1" Flat Plate	57.00 - 58.25	1.0000	1.0000
L39	53	4.5" x 1" Flat Plate	57.00 - 58.25	1.0000	1.0000
L40	1	Safety Line 3/8	48.25 - 53.25	1.0000	1.0000
L40	2	Climbing Rungs	48.25 - 53.25	1.0000	1.0000
L40	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	48.25 - 53.25	1.0000	1.0000
L40	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	48.25 - 53.25	1.0000	1.0000
L40	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	48.25 - 53.25	1.0000	1.0000
L40	25	LDF7-50A(1-5/8)	48.25 - 53.25	1.0000	1.0000
L40	47	6.5" x 1.25" Flat Plate	48.25 - 51.00	1.0000	1.0000
L40	48	6.5" x 1.25" Flat Plate	48.25 - 51.00	1.0000	1.0000
L40	49	6.5" x 1.25" Flat Plate	48.25 - 51.00	1.0000	1.0000
L41	1	Safety Line 3/8	48.00 - 48.25	1.0000	1.0000
L41	2	Climbing Rungs	48.00 - 48.25	1.0000	1.0000
L41	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	48.00 - 48.25	1.0000	1.0000
L41	14	(6) LDF7-50A(1-5/8) + (3)	48.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_e No Ice	K_e Ice
		HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	48.25		
L41	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	48.00 - 48.25	1.0000	1.0000
L41	25	LDF7-50A(1-5/8)	48.00 - 48.25	1.0000	1.0000
L41	47	6.5" x 1.25" Flat Plate	48.00 - 48.25	1.0000	1.0000
L41	48	6.5" x 1.25" Flat Plate	48.00 - 48.25	1.0000	1.0000
L41	49	6.5" x 1.25" Flat Plate	48.00 - 48.25	1.0000	1.0000
L42	1	Safety Line 3/8	43.00 - 48.00	1.0000	1.0000
L42	2	Climbing Rungs	43.00 - 48.00	1.0000	1.0000
L42	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	43.00 - 48.00	1.0000	1.0000
L42	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	43.00 - 48.00	1.0000	1.0000
L42	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	43.00 - 48.00	1.0000	1.0000
L42	25	LDF7-50A(1-5/8)	43.00 - 48.00	1.0000	1.0000
L42	47	6.5" x 1.25" Flat Plate	43.00 - 48.00	1.0000	1.0000
L42	48	6.5" x 1.25" Flat Plate	43.00 - 48.00	1.0000	1.0000
L42	49	6.5" x 1.25" Flat Plate	43.00 - 48.00	1.0000	1.0000
L43	1	Safety Line 3/8	40.00 - 43.00	1.0000	1.0000
L43	2	Climbing Rungs	40.00 - 43.00	1.0000	1.0000
L43	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	40.00 - 43.00	1.0000	1.0000
L43	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	40.00 - 43.00	1.0000	1.0000
L43	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	40.00 - 43.00	1.0000	1.0000
L43	25	LDF7-50A(1-5/8)	40.00 - 43.00	1.0000	1.0000
L43	47	6.5" x 1.25" Flat Plate	40.00 - 43.00	1.0000	1.0000
L43	48	6.5" x 1.25" Flat Plate	40.00 - 43.00	1.0000	1.0000
L43	49	6.5" x 1.25" Flat Plate	40.00 - 43.00	1.0000	1.0000
L44	1	Safety Line 3/8	35.00 - 40.00	1.0000	1.0000
L44	2	Climbing Rungs	35.00 - 40.00	1.0000	1.0000
L44	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	35.00 - 40.00	1.0000	1.0000
L44	14	(6) LDF7-50A(1-5/8) + (3)	35.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	40.00		
L44	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	35.00 - 40.00	1.0000	1.0000
L44	25	LDF7-50A(1-5/8)	35.00 - 40.00	1.0000	1.0000
L44	43	8.5" x 1.25" Flat Plate	35.00 - 35.83	1.0000	1.0000
L44	44	8.5" x 1.25" Flat Plate	35.00 - 35.83	1.0000	1.0000
L44	45	8.5" x 1.25" Flat Plate	35.00 - 35.83	1.0000	1.0000
L44	47	6.5" x 1.25" Flat Plate	35.00 - 40.00	1.0000	1.0000
L44	48	6.5" x 1.25" Flat Plate	35.00 - 40.00	1.0000	1.0000
L44	49	6.5" x 1.25" Flat Plate	35.00 - 40.00	1.0000	1.0000
L45	1	Safety Line 3/8	32.08 - 35.00	1.0000	1.0000
L45	2	Climbing Rungs	32.08 - 35.00	1.0000	1.0000
L45	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	32.08 - 35.00	1.0000	1.0000
L45	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	32.08 - 35.00	1.0000	1.0000
L45	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	32.08 - 35.00	1.0000	1.0000
L45	25	LDF7-50A(1-5/8)	32.08 - 35.00	1.0000	1.0000
L45	43	8.5" x 1.25" Flat Plate	32.08 - 35.00	1.0000	1.0000
L45	44	8.5" x 1.25" Flat Plate	32.08 - 35.00	1.0000	1.0000
L45	45	8.5" x 1.25" Flat Plate	32.08 - 35.00	1.0000	1.0000
L45	47	6.5" x 1.25" Flat Plate	32.08 - 35.00	1.0000	1.0000
L45	48	6.5" x 1.25" Flat Plate	32.08 - 35.00	1.0000	1.0000
L45	49	6.5" x 1.25" Flat Plate	32.08 - 35.00	1.0000	1.0000
L46	1	Safety Line 3/8	31.83 - 32.08	1.0000	1.0000
L46	2	Climbing Rungs	31.83 - 32.08	1.0000	1.0000
L46	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	31.83 - 32.08	1.0000	1.0000
L46	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	31.83 - 32.08	1.0000	1.0000
L46	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	31.83 - 32.08	1.0000	1.0000
L46	25	LDF7-50A(1-5/8)	31.83 - 32.08	1.0000	1.0000
L46	43	8.5" x 1.25" Flat Plate	31.83 - 32.08	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L46	44	8.5" x 1.25" Flat Plate	31.83 - 32.08	1.0000	1.0000
L46	45	8.5" x 1.25" Flat Plate	31.83 - 32.08	1.0000	1.0000
L46	47	6.5" x 1.25" Flat Plate	31.83 - 32.08	1.0000	1.0000
L46	48	6.5" x 1.25" Flat Plate	31.83 - 32.08	1.0000	1.0000
L46	49	6.5" x 1.25" Flat Plate	31.83 - 32.08	1.0000	1.0000
L47	1	Safety Line 3/8	28.75 - 31.83	1.0000	1.0000
L47	2	Climbing Rungs	28.75 - 31.83	1.0000	1.0000
L47	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	28.75 - 31.83	1.0000	1.0000
L47	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	28.75 - 31.83	1.0000	1.0000
L47	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	28.75 - 31.83	1.0000	1.0000
L47	25	LDF7-50A(1-5/8)	28.75 - 31.83	1.0000	1.0000
L47	43	8.5" x 1.25" Flat Plate	28.75 - 31.83	1.0000	1.0000
L47	44	8.5" x 1.25" Flat Plate	28.75 - 31.83	1.0000	1.0000
L47	45	8.5" x 1.25" Flat Plate	28.75 - 31.83	1.0000	1.0000
L47	47	6.5" x 1.25" Flat Plate	28.75 - 31.83	1.0000	1.0000
L47	48	6.5" x 1.25" Flat Plate	28.75 - 31.83	1.0000	1.0000
L47	49	6.5" x 1.25" Flat Plate	28.75 - 31.83	1.0000	1.0000
L48	1	Safety Line 3/8	28.50 - 28.75	1.0000	1.0000
L48	2	Climbing Rungs	28.50 - 28.75	1.0000	1.0000
L48	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	28.50 - 28.75	1.0000	1.0000
L48	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	28.50 - 28.75	1.0000	1.0000
L48	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	28.50 - 28.75	1.0000	1.0000
L48	25	LDF7-50A(1-5/8)	28.50 - 28.75	1.0000	1.0000
L48	43	8.5" x 1.25" Flat Plate	28.50 - 28.75	1.0000	1.0000
L48	44	8.5" x 1.25" Flat Plate	28.50 - 28.75	1.0000	1.0000
L48	45	8.5" x 1.25" Flat Plate	28.50 - 28.75	1.0000	1.0000
L48	47	6.5" x 1.25" Flat Plate	28.50 - 28.75	1.0000	1.0000
L48	48	6.5" x 1.25" Flat Plate	28.50 - 28.75	1.0000	1.0000
L48	49	6.5" x 1.25" Flat Plate	28.50 - 28.75	1.0000	1.0000
L49	1	Safety Line 3/8	23.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L49	2	Climbing Rungs	28.50 23.50 - 28.50	1.0000	1.0000
L49	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	23.50 - 28.50	1.0000	1.0000
L49	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	23.50 - 28.50	1.0000	1.0000
L49	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	23.50 - 28.50	1.0000	1.0000
L49	25	LDF7-50A(1-5/8)	23.50 - 28.50	1.0000	1.0000
L49	43	8.5" x 1.25" Flat Plate	23.50 - 28.50	1.0000	1.0000
L49	44	8.5" x 1.25" Flat Plate	23.50 - 28.50	1.0000	1.0000
L49	45	8.5" x 1.25" Flat Plate	23.50 - 28.50	1.0000	1.0000
L49	47	6.5" x 1.25" Flat Plate	26.00 - 28.50	1.0000	1.0000
L49	48	6.5" x 1.25" Flat Plate	26.00 - 28.50	1.0000	1.0000
L49	49	6.5" x 1.25" Flat Plate	26.00 - 28.50	1.0000	1.0000
L50	1	Safety Line 3/8	18.50 - 23.50	1.0000	1.0000
L50	2	Climbing Rungs	18.50 - 23.50	1.0000	1.0000
L50	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	18.50 - 23.50	1.0000	1.0000
L50	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	18.50 - 23.50	1.0000	1.0000
L50	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	18.50 - 23.50	1.0000	1.0000
L50	25	LDF7-50A(1-5/8)	18.50 - 23.50	1.0000	1.0000
L50	43	8.5" x 1.25" Flat Plate	18.50 - 23.50	1.0000	1.0000
L50	44	8.5" x 1.25" Flat Plate	18.50 - 23.50	1.0000	1.0000
L50	45	8.5" x 1.25" Flat Plate	18.50 - 23.50	1.0000	1.0000
L51	1	Safety Line 3/8	13.50 - 18.50	1.0000	1.0000
L51	2	Climbing Rungs	13.50 - 18.50	1.0000	1.0000
L51	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	13.50 - 18.50	1.0000	1.0000
L51	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	13.50 - 18.50	1.0000	1.0000
L51	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	13.50 - 18.50	1.0000	1.0000
L51	25	LDF7-50A(1-5/8)	13.50 - 18.50	1.0000	1.0000
L51	43	8.5" x 1.25" Flat Plate	13.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_e No Ice	K_a Ice
L51	44	8.5" x 1.25" Flat Plate	18.50 13.50 - 18.50	1.0000	1.0000
L51	45	8.5" x 1.25" Flat Plate	13.50 - 18.50	1.0000	1.0000
L52	1	Safety Line 3/8	10.00 - 13.50	1.0000	1.0000
L52	2	Climbing Rungs	10.00 - 13.50	1.0000	1.0000
L52	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	8.50 - 13.50	1.0000	1.0000
L52	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	8.50 - 13.50	1.0000	1.0000
L52	19	(4) WR-VG86ST-BRD(3/4) + (2) FB-L98B-034-XXX(3/8)	11.00 - 13.50	1.0000	1.0000
L52	25	LDF7-50A(1-5/8)	11.00 - 13.50	1.0000	1.0000
L52	43	8.5" x 1.25" Flat Plate	8.50 - 13.50	1.0000	1.0000
L52	44	8.5" x 1.25" Flat Plate	8.50 - 13.50	1.0000	1.0000
L52	45	8.5" x 1.25" Flat Plate	8.50 - 13.50	1.0000	1.0000
L53	4	(1) HB114-21U3M12-XXXF(1-1/4) + (2) TYPE I(1-1/4)	6.00 - 8.50	1.0000	1.0000
L53	14	(6) LDF7-50A(1-5/8) + (3) HCS 6X12 4AWG(1-5/8) + (1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	8.00 - 8.50	1.0000	1.0000
L53	43	8.5" x 1.25" Flat Plate	3.50 - 8.50	1.0000	1.0000
L53	44	8.5" x 1.25" Flat Plate	3.50 - 8.50	1.0000	1.0000
L53	45	8.5" x 1.25" Flat Plate	3.50 - 8.50	1.0000	1.0000
L54	43	8.5" x 1.25" Flat Plate	0.83 - 3.50	1.0000	1.0000
L54	44	8.5" x 1.25" Flat Plate	0.83 - 3.50	1.0000	1.0000
L54	45	8.5" x 1.25" Flat Plate	0.83 - 3.50	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
188									
Platform Mount [LP 403-1]	C	None		0.0000	188.00	No Ice	18.85	18.85	1.50
						1/2" Ice	24.30	24.30	1.80
						1" Ice	29.75	29.75	2.09
						2" Ice	40.65	40.65	2.69
6'x2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	188.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
6'x2" Mount Pipe	B	From Leg	4.00 0.00	0.0000	188.00	No Ice	1.43	1.43	0.02
						1/2"	1.92	1.92	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				Ice	2.29	2.29	0.05
							1" Ice	3.06	3.06	0.09
							2" Ice			
6'x2" Mount Pipe	C	From Leg	4.00	0.0000	188.00	No Ice		1.43	1.43	0.02
			0.00				1/2"	1.92	1.92	0.03
			0.00				Ice	2.29	2.29	0.05
							1" Ice	3.06	3.06	0.09
							2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.00	0.0000	188.00	No Ice		4.09	2.86	0.08
			-7.00				1/2"	4.48	3.23	0.13
			2.00				Ice	4.88	3.61	0.19
							1" Ice	5.71	4.40	0.33
							2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.00	0.0000	188.00	No Ice		4.09	2.86	0.08
			-7.00				1/2"	4.48	3.23	0.13
			2.00				Ice	4.88	3.61	0.19
							1" Ice	5.71	4.40	0.33
							2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.00	0.0000	188.00	No Ice		4.09	2.86	0.08
			-7.00				1/2"	4.48	3.23	0.13
			2.00				Ice	4.88	3.61	0.19
							1" Ice	5.71	4.40	0.33
							2" Ice			
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00	0.0000	188.00	No Ice		4.60	4.01	0.10
			7.00				1/2"	5.05	4.45	0.16
			2.00				Ice	5.50	4.89	0.23
							1" Ice	6.44	5.82	0.42
							2" Ice			
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00	0.0000	188.00	No Ice		4.60	4.01	0.10
			7.00				1/2"	5.05	4.45	0.16
			2.00				Ice	5.50	4.89	0.23
							1" Ice	6.44	5.82	0.42
							2" Ice			
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00	0.0000	188.00	No Ice		4.60	4.01	0.10
			7.00				1/2"	5.05	4.45	0.16
			2.00				Ice	5.50	4.89	0.23
							1" Ice	6.44	5.82	0.42
							2" Ice			
PD201-7	A	From Leg	4.00	0.0000	188.00	No Ice		1.02	1.02	0.00
			0.00				1/2"	1.81	1.81	0.01
			5.00				Ice	2.62	2.62	0.03
							1" Ice	3.76	3.76	0.07
							2" Ice			
TD-RRH8x20-25	A	From Leg	4.00	0.0000	188.00	No Ice		4.05	1.53	0.07
			0.00				1/2"	4.30	1.71	0.10
			2.00				Ice	4.56	1.90	0.13
							1" Ice	5.10	2.30	0.20
							2" Ice			
TD-RRH8x20-25	B	From Leg	4.00	0.0000	188.00	No Ice		4.05	1.53	0.07
			0.00				1/2"	4.30	1.71	0.10
			2.00				Ice	4.56	1.90	0.13
							1" Ice	5.10	2.30	0.20
							2" Ice			
TD-RRH8x20-25	C	From Leg	4.00	0.0000	188.00	No Ice		4.05	1.53	0.07
			0.00				1/2"	4.30	1.71	0.10
			2.00				Ice	4.56	1.90	0.13
							1" Ice	5.10	2.30	0.20
							2" Ice			
185										
Side Arm Mount [SO 102-3]	C	None		0.0000	185.00	No Ice		3.00	3.00	0.08
							1/2"	3.48	3.48	0.11
							Ice	3.96	3.96	0.14
							1" Ice	4.92	4.92	0.20
							2" Ice			
4'x2" Mount Pipe	A	From Leg	0.50	0.0000	185.00	No Ice		0.87	0.87	0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00 0.00			1/2" Ice	1.11 1.36	1.11 1.36	0.02 0.03
						1" Ice 2" Ice	1.90	1.90	0.06
4'x2" Mount Pipe	B	From Leg	0.50 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
4'x2" Mount Pipe	C	From Leg	0.50 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
800MHZ RRH	A	From Leg	1.00 0.00 3.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
800MHZ RRH	B	From Leg	1.00 0.00 3.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
800MHZ RRH	C	From Leg	1.00 0.00 3.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
1900MHz RRH	A	From Leg	1.00 0.00 3.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.49 2.70 2.91 3.35	3.26 3.48 3.72 4.21	0.04 0.08 0.11 0.19
1900MHz RRH	B	From Leg	1.00 0.00 3.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.49 2.70 2.91 3.35	3.26 3.48 3.72 4.21	0.04 0.08 0.11 0.19
1900MHz RRH	C	From Leg	1.00 0.00 3.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.49 2.70 2.91 3.35	3.26 3.48 3.72 4.21	0.04 0.08 0.11 0.19
184									
Side Arm Mount [SO 701-1]	B	From Leg	1.50 0.00 0.00	0.0000	184.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.85 1.14 1.43 2.01	1.67 2.34 3.01 4.35	0.07 0.08 0.09 0.12
4'x2" Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	184.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
179									
Platform Mount [LP 403-1]	C	None		0.0000	179.00	No Ice 1/2" Ice 1" Ice 2" Ice	18.85 24.30 29.75 40.65	18.85 24.30 29.75 40.65	1.50 1.80 2.09 2.69
Side Arm Mount [SO 301-1]	B	From Face	4.00 7.00 0.00	0.0000	179.00	No Ice 1/2" Ice 1" Ice	1.00 1.39 1.78 2.56	0.90 1.42 1.94 2.98	0.02 0.03 0.04 0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Side Arm Mount [SO 301-1]	C	From Face	4.00 7.00 0.00	0.0000	179.00	2" Ice No Ice 1/2" Ice 1" Ice 2" Ice	1.00 1.39 1.78 2.56	0.90 1.42 1.94 2.98	0.02 0.03 0.04 0.06
(4) 6' x 2" Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	179.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(4) 6' x 2" Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	179.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(4) 6' x 2" Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	179.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
458-2D	B	From Face	5.00 7.00 6.00	0.0000	179.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.67 5.03 6.41 9.10	3.67 5.03 6.41 9.10	0.02 0.05 0.08 0.18
458-2D	C	From Face	5.00 7.00 6.00	0.0000	179.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.67 5.03 6.41 9.10	3.67 5.03 6.41 9.10	0.02 0.05 0.08 0.18
170 Platform Mount [LP 405-1]	C	None		0.0000	170.00	No Ice 1/2" Ice 1" Ice 2" Ice	20.80 28.10 35.40 50.00	20.80 28.10 35.40 50.00	1.80 2.07 2.33 2.86
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Face	4.00 -8.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.33 6.78 7.21 8.12	5.64 6.43 7.13 8.59	0.11 0.17 0.23 0.38
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Face	4.00 -8.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.33 6.78 7.21 8.12	5.64 6.43 7.13 8.59	0.11 0.17 0.23 0.38
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Face	4.00 -8.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.33 6.78 7.21 8.12	5.64 6.43 7.13 8.59	0.11 0.17 0.23 0.38
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.19 0.31 0.46

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
							1" Ice	17.82	9.67	0.79
							2" Ice			
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Face	4.00	8.00	0.0000	170.00	No Ice	6.75	6.07	0.15
							1/2" Ice	7.20	6.87	0.21
			0.00					7.65	7.58	0.28
							1" Ice	8.57	9.06	0.44
							2" Ice			
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Face	4.00	8.00	0.0000	170.00	No Ice	6.75	6.07	0.15
							1/2" Ice	7.20	6.87	0.21
			0.00					7.65	7.58	0.28
							1" Ice	8.57	9.06	0.44
							2" Ice			
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Face	4.00	8.00	0.0000	170.00	No Ice	6.75	6.07	0.15
							1/2" Ice	7.20	6.87	0.21
			0.00					7.65	7.58	0.28
							1" Ice	8.57	9.06	0.44
							2" Ice			
KRY 112 144/1	A	From Face	4.00	0.00	0.0000	170.00	No Ice	0.35	0.17	0.01
							1/2" Ice	0.43	0.23	0.01
			0.00					0.51	0.30	0.02
							1" Ice	0.70	0.46	0.03
							2" Ice			
KRY 112 144/1	B	From Face	4.00	0.00	0.0000	170.00	No Ice	0.35	0.17	0.01
							1/2" Ice	0.43	0.23	0.01
			0.00					0.51	0.30	0.02
							1" Ice	0.70	0.46	0.03
							2" Ice			
KRY 112 144/1	C	From Face	4.00	0.00	0.0000	170.00	No Ice	0.35	0.17	0.01
							1/2" Ice	0.43	0.23	0.01
			0.00					0.51	0.30	0.02
							1" Ice	0.70	0.46	0.03
							2" Ice			
RADIO 4449 B12/B71	A	From Face	4.00	0.00	0.0000	170.00	No Ice	1.65	1.30	0.08
							1/2" Ice	1.81	1.44	0.09
			0.00					1.98	1.60	0.11
							1" Ice	2.34	1.92	0.16
							2" Ice			
RADIO 4449 B12/B71	B	From Face	4.00	0.00	0.0000	170.00	No Ice	1.65	1.30	0.08
							1/2" Ice	1.81	1.44	0.09
			0.00					1.98	1.60	0.11
							1" Ice	2.34	1.92	0.16
							2" Ice			
RADIO 4449 B12/B71	C	From Face	4.00	0.00	0.0000	170.00	No Ice	1.65	1.30	0.08
							1/2" Ice	1.81	1.44	0.09
			0.00					1.98	1.60	0.11
							1" Ice	2.34	1.92	0.16
							2" Ice			
160										
Platform Mount [LP 403-1]	C	None			0.0000	162.00	No Ice	18.85	18.85	1.50
							1/2" Ice	24.30	24.30	1.80
								29.75	29.75	2.09
							1" Ice	40.65	40.65	2.69
							2" Ice			
HRK-14 Handrail Kit [NA 510-1]	C	None			0.0000	162.00	No Ice	6.00	6.00	0.30
							1/2" Ice	8.50	8.50	0.40
								11.00	11.00	0.50
							1" Ice	16.00	16.00	0.70
							2" Ice			
PRK-SFS-L Reinforcement Kit	A	From Face	0.00	0.00	0.0000	162.00	No Ice	1.97	0.06	0.08
							1/2" Ice	2.54	0.10	0.96
			0.00					3.13	0.14	0.13
							1" Ice	4.35	0.26	0.22
							2" Ice			
PRK-SFS-L Reinforcement Kit	B	From Face	0.00	0.00	0.0000	162.00	No Ice	1.97	0.06	0.08
							1/2" Ice	2.54	0.10	0.96

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				Ice	3.13	0.14	0.13
							1" Ice	4.35	0.26	0.22
							2" Ice			
PRK-SFS-L Reinforcement Kit	C	From Face	0.00	0.00	0.0000	162.00	No Ice	1.97	0.06	0.08
			0.00				1/2"	2.54	0.10	0.96
			0.00				Ice	3.13	0.14	0.13
							1" Ice	4.35	0.26	0.22
							2" Ice			
(2) L1-1/2"x2-1/2"x1/4"x1'-2"	A	From Face	0.00	0.00	0.0000	162.00	No Ice	0.00	0.00	0.00
			0.00				1/2"	0.00	0.00	0.00
			0.00				Ice	0.00	0.00	0.00
							1" Ice	0.00	0.00	0.00
							2" Ice			
(2) L1-1/2"x2-1/2"x1/4"x1'-2"	B	From Face	0.00	0.00	0.0000	162.00	No Ice	0.00	0.00	0.00
			0.00				1/2"	0.00	0.00	0.00
			0.00				Ice	0.00	0.00	0.00
							1" Ice	0.00	0.00	0.00
							2" Ice			
(2) L1-1/2"x2-1/2"x1/4"x1'-2"	C	From Face	0.00	0.00	0.0000	162.00	No Ice	0.00	0.00	0.00
			0.00				1/2"	0.00	0.00	0.00
			0.00				Ice	0.00	0.00	0.00
							1" Ice	0.00	0.00	0.00
							2" Ice			
6'x2" Mount Pipe	A	From Face	4.00	0.00	0.0000	162.00	No Ice	1.43	1.43	0.02
			-6.00				1/2"	1.92	1.92	0.03
			0.00				Ice	2.29	2.29	0.05
							1" Ice	3.06	3.06	0.09
							2" Ice			
7770.00 w/ Mount Pipe	A	From Face	4.00	0.00	0.0000	162.00	No Ice	5.75	4.25	0.06
			-7.00				1/2"	6.18	5.01	0.10
			1.00				Ice	6.61	5.71	0.16
							1" Ice	7.49	7.16	0.29
							2" Ice			
7770.00 w/ Mount Pipe	B	From Face	4.00	0.00	0.0000	162.00	No Ice	5.75	4.25	0.06
			-7.00				1/2"	6.18	5.01	0.10
			1.00				Ice	6.61	5.71	0.16
							1" Ice	7.49	7.16	0.29
							2" Ice			
7770.00 w/ Mount Pipe	C	From Face	4.00	0.00	0.0000	162.00	No Ice	5.75	4.25	0.06
			-7.00				1/2"	6.18	5.01	0.10
			1.00				Ice	6.61	5.71	0.16
							1" Ice	7.49	7.16	0.29
							2" Ice			
80010965 w/ Mount Pipe	A	From Face	4.00	0.00	0.0000	162.00	No Ice	12.26	5.79	0.14
			0.00				1/2"	13.03	6.47	0.23
			1.00				Ice	13.80	7.17	0.33
							1" Ice	15.41	8.60	0.57
							2" Ice			
80010965 w/ Mount Pipe	B	From Face	4.00	0.00	0.0000	162.00	No Ice	12.26	5.79	0.14
			0.00				1/2"	13.03	6.47	0.23
			1.00				Ice	13.80	7.17	0.33
							1" Ice	15.41	8.60	0.57
							2" Ice			
80010965 w/ Mount Pipe	C	From Face	4.00	0.00	0.0000	162.00	No Ice	12.26	5.79	0.14
			0.00				1/2"	13.03	6.47	0.23
			1.00				Ice	13.80	7.17	0.33
							1" Ice	15.41	8.60	0.57
							2" Ice			
OPA-65R-LCUU-H6 w/ Mount Pipe	A	From Face	4.00	0.00	0.0000	162.00	No Ice	9.90	7.18	0.10
			7.00				1/2"	10.47	8.36	0.18
			1.00				Ice	11.01	9.26	0.26
							1" Ice	12.11	11.09	0.46
							2" Ice			
OPA-65R-LCUU-H6 w/ Mount Pipe	B	From Face	4.00	0.00	0.0000	162.00	No Ice	9.90	7.18	0.10
			7.00				1/2"	10.47	8.36	0.18

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			1.00			Ice	11.01	9.26	0.26
						1" Ice	12.11	11.09	0.46
						2" Ice			
OPA-65R-LCUU-H6 w/ Mount Pipe	C	From Face	4.00 7.00 1.00	0.0000	162.00	No Ice	9.90	7.18	0.10
						1/2"	10.47	8.36	0.18
						Ice	11.01	9.26	0.26
						1" Ice	12.11	11.09	0.46
						2" Ice			
RRUS 11	A	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.78	1.19	0.05
						1/2"	2.99	1.33	0.07
						Ice	3.21	1.49	0.10
						1" Ice	3.66	1.83	0.15
						2" Ice			
RRUS 11	B	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.78	1.19	0.05
						1/2"	2.99	1.33	0.07
						Ice	3.21	1.49	0.10
						1" Ice	3.66	1.83	0.15
						2" Ice			
RRUS 11	C	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.78	1.19	0.05
						1/2"	2.99	1.33	0.07
						Ice	3.21	1.49	0.10
						1" Ice	3.66	1.83	0.15
						2" Ice			
RRUS 32	A	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.86	1.78	0.06
						1/2"	3.08	1.97	0.08
						Ice	3.32	2.17	0.10
						1" Ice	3.81	2.58	0.16
						2" Ice			
RRUS 32	B	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.86	1.78	0.06
						1/2"	3.08	1.97	0.08
						Ice	3.32	2.17	0.10
						1" Ice	3.81	2.58	0.16
						2" Ice			
RRUS 32	C	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.86	1.78	0.06
						1/2"	3.08	1.97	0.08
						Ice	3.32	2.17	0.10
						1" Ice	3.81	2.58	0.16
						2" Ice			
RRUS 32 B2	A	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.73	1.67	0.05
						1/2"	2.95	1.86	0.07
						Ice	3.18	2.05	0.10
						1" Ice	3.66	2.46	0.16
						2" Ice			
RRUS 32 B2	B	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.73	1.67	0.05
						1/2"	2.95	1.86	0.07
						Ice	3.18	2.05	0.10
						1" Ice	3.66	2.46	0.16
						2" Ice			
RRUS 32 B2	C	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	2.73	1.67	0.05
						1/2"	2.95	1.86	0.07
						Ice	3.18	2.05	0.10
						1" Ice	3.66	2.46	0.16
						2" Ice			
RRUS 4478 B14	A	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	1.84	1.06	0.06
						1/2"	2.01	1.20	0.08
						Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
RRUS 4478 B14	B	From Face	4.00 0.00 1.00	0.0000	162.00	No Ice	1.84	1.06	0.06
						1/2"	2.01	1.20	0.08
						Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
RRUS 4478 B14	C	From Face	4.00 0.00	0.0000	162.00	No Ice	1.84	1.06	0.06
						1/2"	2.01	1.20	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight K
			1.00			Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
(2) 7020.00	A	From Face	4.00	0.0000	162.00	No Ice	0.10	0.17	0.00
			0.00			1/2"	0.15	0.24	0.01
			1.00			Ice	0.20	0.31	0.01
						1" Ice	0.33	0.48	0.02
						2" Ice			
(2) 7020.00	B	From Face	4.00	0.0000	162.00	No Ice	0.10	0.17	0.00
			0.00			1/2"	0.15	0.24	0.01
			1.00			Ice	0.20	0.31	0.01
						1" Ice	0.33	0.48	0.02
						2" Ice			
(2) 7020.00	C	From Face	4.00	0.0000	162.00	No Ice	0.10	0.17	0.00
			0.00			1/2"	0.15	0.24	0.01
			1.00			Ice	0.20	0.31	0.01
						1" Ice	0.33	0.48	0.02
						2" Ice			
(2) LGP21401	A	From Face	4.00	0.0000	162.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			-2.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
(2) LGP21401	B	From Face	4.00	0.0000	162.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			-2.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
(2) LGP21401	C	From Face	4.00	0.0000	162.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			-2.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
DC6-48-60-18-8C	A	From Face	1.00	0.0000	162.00	No Ice	1.14	1.14	0.03
			0.00			1/2"	1.79	1.79	0.05
			1.00			Ice	2.00	2.00	0.07
						1" Ice	2.45	2.45	0.13
						2" Ice			
DC6-48-60-18-8F	C	From Face	1.00	0.0000	162.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			1.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
150									
Platform Mount [LP 403-1]	C	None		0.0000	150.00	No Ice	18.85	18.85	1.50
						1/2"	24.30	24.30	1.80
						Ice	29.75	29.75	2.09
						1" Ice	40.65	40.65	2.69
						2" Ice			
QS6656-5D w/ Mount Pipe	A	From Face	4.00	0.0000	150.00	No Ice	8.37	8.46	0.11
			-7.00			1/2"	8.93	9.66	0.19
			0.00			Ice	9.46	10.55	0.27
						1" Ice	10.53	12.35	0.47
						2" Ice			
QS6656-5D w/ Mount Pipe	A	From Face	4.00	0.0000	150.00	No Ice	8.37	8.46	0.11
			2.50			1/2"	8.93	9.66	0.19
			0.00			Ice	9.46	10.55	0.27
						1" Ice	10.53	12.35	0.47
						2" Ice			
QS6656-5D w/ Mount Pipe	B	From Face	4.00	0.0000	150.00	No Ice	8.37	8.46	0.11
			-7.00			1/2"	8.93	9.66	0.19
			0.00			Ice	9.46	10.55	0.27
						1" Ice	10.53	12.35	0.47
						2" Ice			
QS6656-5D w/ Mount Pipe	B	From Face	4.00	0.0000	150.00	No Ice	8.37	8.46	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			-2.50 0.00			1/2" Ice	8.93 9.46	9.66 10.55	0.19 0.27
						1" Ice	10.53	12.35	0.47
						2" Ice			
QS6656-5D w/ Mount Pipe	C	From Face	4.00 -7.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.37 8.93 9.46 10.53	8.46 9.66 10.55 12.35	0.11 0.19 0.27 0.47
QS6656-5D w/ Mount Pipe	C	From Face	4.00 -2.50 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.37 8.93 9.46 10.53	8.46 9.66 10.55 12.35	0.11 0.19 0.27 0.47
DB846F65ZAXY w/ Mount Pipe	A	From Face	4.00 -2.50 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.27 7.83 8.35 9.40	7.82 9.01 9.91 11.73	0.05 0.11 0.19 0.37
DB846F65ZAXY w/ Mount Pipe	A	From Face	4.00 7.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.27 7.83 8.35 9.40	7.82 9.01 9.91 11.73	0.05 0.11 0.19 0.37
DB846F65ZAXY w/ Mount Pipe	B	From Face	4.00 2.50 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.27 7.83 8.35 9.40	7.82 9.01 9.91 11.73	0.05 0.11 0.19 0.37
DB846F65ZAXY w/ Mount Pipe	B	From Face	4.00 7.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.27 7.83 8.35 9.40	7.82 9.01 9.91 11.73	0.05 0.11 0.19 0.37
LPA-80080/6CF w/ Mount Pipe	C	From Face	4.00 2.50 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.56 5.11 5.61 6.65	10.26 11.43 12.31 14.13	0.05 0.11 0.19 0.36
LPA-80080/6CF w/ Mount Pipe	C	From Face	4.00 7.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.56 5.11 5.61 6.65	10.26 11.43 12.31 14.13	0.05 0.11 0.19 0.36
DB-C1-12C-24AB-0Z	A	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.06 4.32 4.58 5.14	3.10 3.34 3.58 4.09	0.03 0.07 0.11 0.20
RFV01U-D2A	A	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
RFV01U-D2A	B	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
RFV01U-D2A	C	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
RFV01U-D1A	A	From Face	4.00	0.0000	150.00	No Ice	1.88	1.25	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00 0.00			1/2" Ice	2.05 2.22	1.39 1.54	0.10 0.12
						1" Ice 2" Ice	2.60	1.86	0.18
RFV01U-D1A	B	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.08 0.10 0.12 0.18
RFV01U-D1A	C	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.08 0.10 0.12 0.18
125									
Side Arm Mount [SO 901-1]	A	From Face	0.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.50 0.68 0.86 1.22	0.88 1.13 1.38 1.88	0.11 0.11 0.11 0.12
Side Arm Mount [SO 901-1]	C	From Face	0.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.50 0.68 0.86 1.22	0.88 1.13 1.38 1.88	0.11 0.11 0.11 0.12
PD201-1	C	From Face	3.00 0.00 5.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.18 2.09 3.02 4.58	1.18 2.09 3.02 4.58	0.00 0.01 0.03 0.08
PD128-1	A	From Face	3.00 0.00 5.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.28 2.27 3.28 5.13	1.28 2.27 3.28 5.13	0.01 0.02 0.04 0.09
110									
Side Arm Mount [SO 901-1]	A	From Face	0.00 0.00 0.00	0.0000	110.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.50 0.68 0.86 1.22	0.88 1.13 1.38 1.88	0.11 0.11 0.11 0.12
Side Arm Mount [SO 901-1]	B	From Face	0.00 0.00 0.00	0.0000	110.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.50 0.68 0.86 1.22	0.88 1.13 1.38 1.88	0.11 0.11 0.11 0.12
PD128-1	A	From Face	3.00 0.00 5.00	0.0000	110.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.28 2.27 3.28 5.13	1.28 2.27 3.28 5.13	0.01 0.02 0.04 0.09
PD128-1	B	From Face	3.00 0.00 5.00	0.0000	110.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.28 2.27 3.28 5.13	1.28 2.27 3.28 5.13	0.01 0.02 0.04 0.09
100									
Side Arm Mount [SO 901-1]	C	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.50 0.68 0.86 1.22	0.88 1.13 1.38 1.88	0.11 0.11 0.11 0.12
GPS_A	C	From Leg	3.00 0.00 1.00	0.0000	100.00	No Ice 1/2" Ice	0.26 0.32 0.39	0.26 0.32 0.39	0.00 0.00 0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight K
						1" Ice	0.56	0.56	0.02
						2" Ice			
95									
Side Arm Mount [SO 901-1]	B	From Face	0.00 0.00 0.00	0.0000	95.00	No Ice	0.50	0.88	0.11
						1/2" Ice	0.68	1.13	0.11
						1" Ice	0.86	1.38	0.11
						2" Ice	1.22	1.88	0.12
Side Arm Mount [SO 901-1]	C	From Face	0.00 0.00 0.00	0.0000	95.00	No Ice	0.50	0.88	0.11
						1/2" Ice	0.68	1.13	0.11
						1" Ice	0.86	1.38	0.11
						2" Ice	1.22	1.88	0.12
PD128-1	B	From Face	3.00 0.00 5.00	0.0000	95.00	No Ice	1.28	1.28	0.01
						1/2" Ice	2.27	2.27	0.02
						1" Ice	3.28	3.28	0.04
						2" Ice	5.13	5.13	0.09
PD128-1	C	From Face	3.00 0.00 5.00	0.0000	95.00	No Ice	1.28	1.28	0.01
						1/2" Ice	2.27	2.27	0.02
						1" Ice	3.28	3.28	0.04
						2" Ice	5.13	5.13	0.09
80									
Side Arm Mount [SO 901-1]	A	From Face	0.00 0.00 0.00	0.0000	80.00	No Ice	0.50	0.88	0.11
						1/2" Ice	0.68	1.13	0.11
						1" Ice	0.86	1.38	0.11
						2" Ice	1.22	1.88	0.12
Side Arm Mount [SO 901-1]	C	From Face	0.00 0.00 0.00	0.0000	80.00	No Ice	0.50	0.88	0.11
						1/2" Ice	0.68	1.13	0.11
						1" Ice	0.86	1.38	0.11
						2" Ice	1.22	1.88	0.12
PD128-1	C	From Face	3.00 0.00 5.00	0.0000	80.00	No Ice	1.28	1.28	0.01
						1/2" Ice	2.27	2.27	0.02
						1" Ice	3.28	3.28	0.04
						2" Ice	5.13	5.13	0.09
DB222	A	From Face	3.00 0.00 5.00	0.0000	80.00	No Ice	1.60	1.60	0.02
						1/2" Ice	2.88	2.88	0.02
						1" Ice	4.16	4.16	0.03
						2" Ice	6.72	6.72	0.04
MOD 2013									
Jump Plate 120" x 4.5" x 1"	A	From Face	0.00 0.00 0.00	0.0000	80.00	No Ice	7.50	2.21	0.21
						1/2" Ice	9.24	3.09	0.25
						1" Ice	11.01	3.99	0.28
						2" Ice	14.64	5.81	0.36
Jump Plate 120" x 4.5" x 1"	B	From Face	0.00 0.00 0.00	0.0000	80.00	No Ice	7.50	2.21	0.21
						1/2" Ice	9.24	3.09	0.25
						1" Ice	11.01	3.99	0.28
						2" Ice	14.64	5.81	0.36
Jump Plate 120" x 4.5" x 1"	C	From Face	0.00 0.00 0.00	0.0000	80.00	No Ice	7.50	2.21	0.21
						1/2" Ice	9.24	3.09	0.25
						1" Ice	11.01	3.99	0.28
						2" Ice	14.64	5.81	0.36
***									
Jump Plate 120" x 6.5" x 1.25"	A	From Face	0.00 0.00 0.00	0.0000	60.00	No Ice	9.65	3.08	0.41
						1/2" Ice	11.23	3.97	0.47
						1" Ice	12.83	4.87	0.51
						2" Ice	16.11	6.71	0.59

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Jump Plate 120" x 6.5" x 1.25"	B	From Face	0.00 0.00 0.00	0.0000	60.00	2" Ice No Ice 1/2" Ice 1" Ice 2" Ice	9.65 11.23 12.83 16.11	3.08 3.97 4.87 6.71	0.41 0.47 0.51 0.59
Jump Plate 120" x 6.5" x 1.25"	C	From Face	0.00 0.00 0.00	0.0000	60.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.65 11.23 12.83 16.11	3.08 3.97 4.87 6.71	0.41 0.47 0.51 0.59
***									
(2) Jump Plate 120" x 6" x 1"	A	From Face	0.00 0.00 0.00	0.0000	40.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.17 10.78 12.43 15.79	2.42 3.30 4.19 6.03	0.30 0.35 0.38 0.47
(2) Jump Plate 120" x 6" x 1"	B	From Face	0.00 0.00 0.00	0.0000	40.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.17 10.78 12.43 15.79	2.42 3.30 4.19 6.03	0.30 0.35 0.38 0.47
(2) Jump Plate 120" x 6" x 1"	C	From Face	0.00 0.00 0.00	0.0000	40.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.17 10.78 12.43 15.79	2.42 3.30 4.19 6.03	0.30 0.35 0.38 0.47
***									
(2) Jump Plate 120" x 6.5" x 1.25"	A	From Face	0.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.65 11.23 12.83 16.11	3.08 3.97 4.87 6.71	0.41 0.47 0.51 0.59
(2) Jump Plate 120" x 6.5" x 1.25"	B	From Face	0.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.65 11.23 12.83 16.11	3.08 3.97 4.87 6.71	0.41 0.47 0.51 0.59
(2) Jump Plate 120" x 6.5" x 1.25"	C	From Face	0.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.65 11.23 12.83 16.11	3.08 3.97 4.87 6.71	0.41 0.47 0.51 0.59
***									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
SP2-5.8	A	Paraboloid w/Radome	From Face	4.00 0.00 -1.00	15.0000		188.00	2.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.14 3.41 3.68 4.21	0.02 0.04 0.06 0.09
***											

Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 190.00-185.00	187.50	1.183	39	12.500	A	0.000	12.500	12.500	100.00	0.000	0.000
					B	0.000	12.500		100.00	1.386	0.000
					C	0.000	12.500		100.00	0.588	0.000
L2 185.00-180.00	182.50	1.174	39	12.500	A	0.000	12.500	12.500	100.00	0.000	0.000
					B	0.000	12.500		100.00	2.310	0.000
					C	0.000	12.500		100.00	0.588	0.000
L3 180.00-175.00	177.50	1.164	38	15.000	A	0.000	15.000	15.000	100.00	0.000	0.000
					B	0.000	15.000		100.00	2.310	0.000
					C	0.000	15.000		100.00	0.588	0.000
L4 175.00-170.00	172.50	1.155	38	15.000	A	0.000	15.000	15.000	100.00	0.000	0.000
					B	0.000	15.000		100.00	2.310	0.000
					C	0.000	15.000		100.00	0.588	0.000
L5 170.00-165.00	167.50	1.145	38	15.000	A	0.000	15.000	15.000	100.00	0.000	0.000
					B	0.000	15.000		100.00	12.210	0.000
					C	0.000	15.000		100.00	0.588	0.000
L6 165.00-160.00	162.50	1.135	37	15.000	A	0.000	15.000	15.000	100.00	2.853	0.000
					B	0.000	15.000		100.00	12.210	0.000
					C	0.000	15.000		100.00	0.588	0.000
L7 160.00-155.00	157.50	1.125	37	17.500	A	0.000	17.500	17.500	100.00	7.132	0.000
					B	0.000	17.500		100.00	12.210	0.000
					C	0.000	17.500		100.00	0.588	0.000
L8 155.00-150.00	152.50	1.115	37	17.500	A	0.000	17.500	17.500	100.00	7.132	0.000
					B	0.000	17.500		100.00	12.210	0.000
					C	0.000	17.500		100.00	0.588	0.000
L9 150.00-145.00	147.50	1.104	36	17.500	A	0.000	17.500	17.500	100.00	7.132	0.000
					B	0.000	17.500		100.00	12.210	0.000
					C	0.000	17.500		100.00	0.588	0.000
L10 145.00-140.00	142.50	1.093	36	17.500	A	0.000	17.500	17.500	100.00	7.132	0.000
					B	0.000	17.500		100.00	12.210	0.000
					C	0.000	17.500		100.00	0.588	0.000
L11 140.00-135.00	137.50	1.082	36	20.000	A	0.000	20.000	20.000	100.00	7.132	0.000
					B	0.000	20.000		100.00	12.210	0.000
					C	0.000	20.000		100.00	0.588	0.000
L12 135.00-130.00	132.50	1.071	35	20.000	A	0.000	20.000	20.000	100.00	7.132	0.000
					B	0.000	20.000		100.00	12.210	0.000
					C	0.000	20.000		100.00	0.588	0.000
L13 130.00-125.00	127.50	1.059	35	20.000	A	0.000	20.000	20.000	100.00	7.132	0.000
					B	0.000	20.000		100.00	12.210	0.000
					C	0.000	20.000		100.00	0.588	0.000
L14 125.00-120.00	122.50	1.047	34	20.000	A	0.000	20.000	20.000	100.00	7.132	0.000
					B	0.000	20.000		100.00	12.210	0.000
					C	0.000	20.000		100.00	0.588	0.000
L15 120.00-115.00	117.50	1.035	34	22.500	A	0.000	22.500	22.500	100.00	7.132	0.000
					B	0.000	22.500		100.00	12.210	0.000
					C	0.000	22.500		100.00	0.588	0.000
L16 115.00-112.67	113.83	1.025	34	10.503	A	0.000	10.503	10.503	100.00	5.329	0.000
					B	0.000	10.503		100.00	7.700	0.000
					C	0.000	10.503		100.00	2.274	0.000
L17 112.67-112.42	112.54	1.022	34	1.125	A	0.000	1.125	1.125	100.00	0.607	0.000
					B	0.000	1.125		100.00	0.861	0.000
					C	0.000	1.125		100.00	0.279	0.000
L18 112.42-107.42	109.92	1.015	33	22.500	A	0.000	22.500	22.500	100.00	12.133	0.000
					B	0.000	22.500		100.00	17.210	0.000
					C	0.000	22.500		100.00	5.588	0.000
L19 107.42-103.33	105.37	1.003	33	18.374	A	0.000	18.374	18.374	100.00	11.907	0.000
					B	0.000	18.374		100.00	16.054	0.000
					C	0.000	18.374		100.00	6.563	0.000
L20 103.33-103.08	103.21	0.997	33	1.125	A	0.000	1.125	1.125	100.00	0.857	0.000
					B	0.000	1.125		100.00	1.111	0.000
					C	0.000	1.125		100.00	0.529	0.000
L21 103.08-	101.54	0.993	33	13.874	A	0.000	13.874	13.874	100.00	9.231	0.000

Section Elevation ft	z ft	K_z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
100.00					B	0.000	13.874		100.00	12.362	0.000
					C	0.000	13.874		100.00	5.195	0.000
L22 100.00-95.00	97.50	0.981	32	25.000	A	0.000	25.000	25.000	100.00	12.133	0.000
					B	0.000	25.000		100.00	17.210	0.000
					C	0.000	25.000		100.00	5.588	0.000
L23 95.00-90.00	92.50	0.966	32	25.000	A	0.000	25.000	25.000	100.00	12.883	0.000
					B	0.000	25.000		100.00	17.960	0.000
					C	0.000	25.000		100.00	6.338	0.000
L24 90.00-89.50	89.75	0.958	32	2.500	A	0.000	2.500	2.500	100.00	1.588	0.000
					B	0.000	2.500		100.00	2.096	0.000
					C	0.000	2.500		100.00	0.934	0.000
L25 89.50-89.25	89.38	0.957	31	1.250	A	0.000	1.250	1.250	100.00	0.794	0.000
					B	0.000	1.250		100.00	1.048	0.000
					C	0.000	1.250		100.00	0.467	0.000
L26 89.25-85.50	87.38	0.951	31	18.750	A	0.000	18.750	18.750	100.00	13.037	0.000
					B	0.000	18.750		100.00	16.845	0.000
					C	0.000	18.750		100.00	8.128	0.000
L27 85.50-85.25	85.38	0.945	31	1.250	A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
					C	0.000	1.250		100.00	0.654	0.000
L28 85.25-84.00	84.63	0.942	31	6.250	A	0.000	6.250	6.250	100.00	4.908	0.000
					B	0.000	6.250		100.00	6.178	0.000
					C	0.000	6.250		100.00	3.272	0.000
L29 84.00-83.75	83.88	0.94	31	1.250	A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
					C	0.000	1.250		100.00	0.654	0.000
L30 83.75-82.50	83.13	0.937	31	6.250	A	0.000	6.250	6.250	100.00	4.908	0.000
					B	0.000	6.250		100.00	6.178	0.000
					C	0.000	6.250		100.00	3.272	0.000
L31 82.50-82.25	82.38	0.935	31	1.250	A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
					C	0.000	1.250		100.00	0.654	0.000
L32 82.25-80.00	81.13	0.931	31	11.250	A	0.000	11.250	11.250	100.00	6.085	0.000
					B	0.000	11.250		100.00	8.370	0.000
					C	0.000	11.250		100.00	3.139	0.000
L33 80.00-75.00	77.50	0.919	30	25.000	A	0.000	25.000	25.000	100.00	10.883	0.000
					B	0.000	25.000		100.00	15.960	0.000
					C	0.000	25.000		100.00	4.338	0.000
L34 75.00-70.00	72.50	0.901	30	25.000	A	0.000	25.000	25.000	100.00	10.883	0.000
					B	0.000	25.000		100.00	15.960	0.000
					C	0.000	25.000		100.00	4.338	0.000
L35 70.00-65.00	67.50	0.883	29	25.000	A	0.000	25.000	25.000	100.00	10.883	0.000
					B	0.000	25.000		100.00	15.960	0.000
					C	0.000	25.000		100.00	4.338	0.000
L36 65.00-60.00	62.50	0.864	28	25.000	A	0.000	25.000	25.000	100.00	10.883	0.000
					B	0.000	25.000		100.00	15.960	0.000
					C	0.000	25.000		100.00	4.338	0.000
L37 60.00-58.50	59.25	0.851	28	7.500	A	0.000	7.500	7.500	100.00	3.265	0.000
					B	0.000	7.500		100.00	4.788	0.000
					C	0.000	7.500		100.00	1.301	0.000
L38 58.50-58.25	58.38	0.847	28	1.250	A	0.000	1.250	1.250	100.00	0.544	0.000
					B	0.000	1.250		100.00	0.798	0.000
					C	0.000	1.250		100.00	0.217	0.000
L39 58.25-53.25	55.75	0.836	28	25.000	A	0.000	25.000	25.000	100.00	8.070	0.000
					B	0.000	25.000		100.00	13.148	0.000
					C	0.000	25.000		100.00	1.525	0.000
L40 53.25-48.25	50.75	0.814	27	25.000	A	0.000	25.000	25.000	100.00	10.112	0.000
					B	0.000	25.000		100.00	15.189	0.000
					C	0.000	25.000		100.00	3.567	0.000
L41 48.25-48.00	48.13	0.802	26	1.250	A	0.000	1.250	1.250	100.00	0.627	0.000
					B	0.000	1.250		100.00	0.881	0.000
					C	0.000	1.250		100.00	0.300	0.000
L42 48.00-43.00	45.50	0.789	26	25.000	A	0.000	25.000	25.000	100.00	12.549	0.000
					B	0.000	25.000		100.00	17.627	0.000
					C	0.000	25.000		100.00	6.004	0.000
L43 43.00-40.00	41.50	0.769	25	15.000	A	0.000	15.000	15.000	100.00	7.530	0.000
					B	0.000	15.000		100.00	10.576	0.000
					C	0.000	15.000		100.00	3.603	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L44 40.00-35.00	37.50	0.747	25	25.000	A	0.000	25.000	25.000	100.00	13.729	0.000
					B	0.000	25.000		100.00	18.807	0.000
					C	0.000	25.000		100.00	7.184	0.000
L45 35.00-32.08	33.54	0.723	24	14.600	A	0.000	14.600	14.600	100.00	11.465	0.000
					B	0.000	14.600		100.00	14.431	0.000
					C	0.000	14.600		100.00	7.643	0.000
L46 32.08-31.83	31.96	0.713	23	1.250	A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
					C	0.000	1.250		100.00	0.654	0.000
L47 31.83-28.75	30.29	0.703	23	15.400	A	0.000	15.400	15.400	100.00	12.094	0.000
					B	0.000	15.400		100.00	15.221	0.000
					C	0.000	15.400		100.00	8.062	0.000
L48 28.75-28.50	28.63	0.7	23	1.250	A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
					C	0.000	1.250		100.00	0.654	0.000
L49 28.50-23.50	26.00	0.7	23	25.000	A	0.000	25.000	25.000	100.00	16.924	0.000
					B	0.000	25.000		100.00	22.002	0.000
					C	0.000	25.000		100.00	10.379	0.000
L50 23.50-18.50	21.00	0.7	23	25.000	A	0.000	25.000	25.000	100.00	14.216	0.000
					B	0.000	25.000		100.00	19.293	0.000
					C	0.000	25.000		100.00	7.671	0.000
L51 18.50-13.50	16.00	0.7	23	25.000	A	0.000	25.000	25.000	100.00	14.216	0.000
					B	0.000	25.000		100.00	19.293	0.000
					C	0.000	25.000		100.00	7.671	0.000
L52 13.50-8.50	11.00	0.7	23	25.000	A	0.000	25.000	25.000	100.00	10.650	0.000
					B	0.000	25.000		100.00	19.293	0.000
					C	0.000	25.000		100.00	7.495	0.000
L53 8.50-3.50	6.00	0.7	23	25.000	A	0.000	25.000	25.000	100.00	7.083	0.000
					B	0.000	25.000		100.00	9.228	0.000
					C	0.000	25.000		100.00	7.083	0.000
L54 3.50-0.00	1.75	0.7	23	17.500	A	0.000	17.500	17.500	100.00	3.778	0.000
					B	0.000	17.500		100.00	3.778	0.000
					C	0.000	17.500		100.00	3.778	0.000

Tower Pressure - With Ice

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 190.00-185.00	187.50	1.183	7	1.5169	13.764	A	0.000	13.764	13.764	100.00	0.000	0.000
						B	0.000	13.764		100.00	2.870	0.000
						C	0.000	13.764		100.00	3.621	0.000
L2 185.00-180.00	182.50	1.174	7	1.5128	13.761	A	0.000	13.761	13.761	100.00	0.000	0.000
						B	0.000	13.761		100.00	4.779	0.000
						C	0.000	13.761		100.00	3.613	0.000
L3 180.00-175.00	177.50	1.164	7	1.5086	16.257	A	0.000	16.257	16.257	100.00	0.000	0.000
						B	0.000	16.257		100.00	4.773	0.000
						C	0.000	16.257		100.00	3.605	0.000
L4 175.00-170.00	172.50	1.155	7	1.5043	16.254	A	0.000	16.254	16.254	100.00	0.000	0.000
						B	0.000	16.254		100.00	4.768	0.000
						C	0.000	16.254		100.00	3.596	0.000
L5 170.00-165.00	167.50	1.145	7	1.4999	16.250	A	0.000	16.250	16.250	100.00	0.000	0.000
						B	0.000	16.250		100.00	19.012	0.000
						C	0.000	16.250		100.00	3.587	0.000
L6 165.00-160.00	162.50	1.135	6	1.4954	16.246	A	0.000	16.246	16.246	100.00	5.062	0.000
						B	0.000	16.246		100.00	19.001	0.000
						C	0.000	16.246		100.00	3.578	0.000
L7 160.00-155.00	157.50	1.125	6	1.4907	18.742	A	0.000	18.742	18.742	100.00	12.642	0.000
						B	0.000	18.742		100.00	18.989	0.000
						C	0.000	18.742		100.00	3.569	0.000
L8 155.00-150.00	152.50	1.115	6	1.4859	18.738	A	0.000	18.738	18.738	100.00	12.630	0.000
						B	0.000	18.738		100.00	18.977	0.000

Section Elevation	z	K_z	q_z	t_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		psf	in	ft²		ft²	ft²	ft²		ft²	ft²
						C	0.000	18.738		100.00	3.559	0.000
L9 150.00-145.00	147.50	1.104	6	1.4809	18.734	A	0.000	18.734	18.734	100.00	12.618	0.000
						B	0.000	18.734		100.00	18.965	0.000
						C	0.000	18.734		100.00	3.549	0.000
L10 145.00-140.00	142.50	1.093	6	1.4758	18.730	A	0.000	18.730	18.730	100.00	12.605	0.000
						B	0.000	18.730		100.00	18.952	0.000
						C	0.000	18.730		100.00	3.539	0.000
L11 140.00-135.00	137.50	1.082	6	1.4706	21.225	A	0.000	21.225	21.225	100.00	12.592	0.000
						B	0.000	21.225		100.00	18.939	0.000
						C	0.000	21.225		100.00	3.529	0.000
L12 135.00-130.00	132.50	1.071	6	1.4651	21.221	A	0.000	21.221	21.221	100.00	12.578	0.000
						B	0.000	21.221		100.00	18.925	0.000
						C	0.000	21.221		100.00	3.518	0.000
L13 130.00-125.00	127.50	1.059	6	1.4595	21.216	A	0.000	21.216	21.216	100.00	12.564	0.000
						B	0.000	21.216		100.00	18.911	0.000
						C	0.000	21.216		100.00	3.507	0.000
L14 125.00-120.00	122.50	1.047	6	1.4537	21.211	A	0.000	21.211	21.211	100.00	12.550	0.000
						B	0.000	21.211		100.00	18.897	0.000
						C	0.000	21.211		100.00	3.495	0.000
L15 120.00-115.00	117.50	1.035	6	1.4476	23.706	A	0.000	23.706	23.706	100.00	12.535	0.000
						B	0.000	23.706		100.00	18.882	0.000
						C	0.000	23.706		100.00	3.483	0.000
L16 115.00-112.67	113.83	1.025	6	1.4431	11.064	A	0.000	11.064	11.064	100.00	8.191	0.000
						B	0.000	11.064		100.00	11.153	0.000
						C	0.000	11.064		100.00	3.966	0.000
L17 112.67-112.42	112.54	1.022	6	1.4414	1.185	A	0.000	1.185	1.185	100.00	0.919	0.000
						B	0.000	1.185		100.00	1.236	0.000
						C	0.000	1.185		100.00	0.467	0.000
L18 112.42-107.42	109.92	1.015	6	1.4380	23.698	A	0.000	23.698	23.698	100.00	18.370	0.000
						B	0.000	23.698		100.00	24.717	0.000
						C	0.000	23.698		100.00	9.323	0.000
L19 107.42-103.33	105.37	1.003	6	1.4320	19.348	A	0.000	19.348	19.348	100.00	17.559	0.000
						B	0.000	19.348		100.00	22.742	0.000
						C	0.000	19.348		100.00	10.174	0.000
L20 103.33-103.08	103.21	0.997	6	1.4290	1.185	A	0.000	1.185	1.185	100.00	1.239	0.000
						B	0.000	1.185		100.00	1.556	0.000
						C	0.000	1.185		100.00	0.786	0.000
L21 103.08-100.00	101.54	0.993	6	1.4267	14.607	A	0.000	14.607	14.607	100.00	13.708	0.000
						B	0.000	14.607		100.00	17.622	0.000
						C	0.000	14.607		100.00	8.133	0.000
L22 100.00-95.00	97.50	0.981	6	1.4209	26.184	A	0.000	26.184	26.184	100.00	18.889	0.000
						B	0.000	26.184		100.00	25.236	0.000
						C	0.000	26.184		100.00	9.850	0.000
L23 95.00-90.00	92.50	0.966	6	1.4134	26.178	A	0.000	26.178	26.178	100.00	19.773	0.000
						B	0.000	26.178		100.00	26.120	0.000
						C	0.000	26.178		100.00	10.738	0.000
L24 90.00-89.50	89.75	0.958	5	1.4092	2.617	A	0.000	2.617	2.617	100.00	2.340	0.000
						B	0.000	2.617		100.00	2.974	0.000
						C	0.000	2.617		100.00	1.436	0.000
L25 89.50-89.25	89.38	0.957	5	1.4086	1.309	A	0.000	1.309	1.309	100.00	1.170	0.000
						B	0.000	1.309		100.00	1.487	0.000
						C	0.000	1.309		100.00	0.718	0.000
L26 89.25-85.50	87.38	0.951	5	1.4054	19.628	A	0.000	19.628	19.628	100.00	19.083	0.000
						B	0.000	19.628		100.00	23.843	0.000
						C	0.000	19.628		100.00	12.310	0.000
L27 85.50-85.25	85.38	0.945	5	1.4021	1.308	A	0.000	1.308	1.308	100.00	1.426	0.000
						B	0.000	1.308		100.00	1.743	0.000
						C	0.000	1.308		100.00	0.975	0.000
L28 85.25-84.00	84.63	0.942	5	1.4009	6.542	A	0.000	6.542	6.542	100.00	7.129	0.000
						B	0.000	6.542		100.00	8.716	0.000
						C	0.000	6.542		100.00	4.872	0.000
L29 84.00-83.75	83.88	0.94	5	1.3997	1.308	A	0.000	1.308	1.308	100.00	1.425	0.000
						B	0.000	1.308		100.00	1.743	0.000
						C	0.000	1.308		100.00	0.974	0.000
L30 83.75-82.50	83.13	0.937	5	1.3984	6.541	A	0.000	6.541	6.541	100.00	7.126	0.000
						B	0.000	6.541		100.00	8.712	0.000
						C	0.000	6.541		100.00	4.869	0.000
L31 82.50-	82.38	0.935	5	1.3971	1.308	A	0.000	1.308	1.308	100.00	1.425	0.000

Section Elevation ft	z ft	K_z	q_z psf	t_z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
82.25						B	0.000	1.308		100.00	1.742	0.000
						C	0.000	1.308		100.00	0.973	0.000
L32 82.25-80.00	81.13	0.931	5	1.3950	11.773	A	0.000	11.773	11.773	100.00	9.352	0.000
						B	0.000	11.773		100.00	12.208	0.000
						C	0.000	11.773		100.00	5.291	0.000
L33 80.00-75.00	77.50	0.919	5	1.3886	26.157	A	0.000	26.157	26.157	100.00	17.526	0.000
						B	0.000	26.157		100.00	23.873	0.000
						C	0.000	26.157		100.00	8.503	0.000
L34 75.00-70.00	72.50	0.901	5	1.3794	26.150	A	0.000	26.150	26.150	100.00	17.494	0.000
						B	0.000	26.150		100.00	23.840	0.000
						C	0.000	26.150		100.00	8.476	0.000
L35 70.00-65.00	67.50	0.883	5	1.3696	26.141	A	0.000	26.141	26.141	100.00	17.459	0.000
						B	0.000	26.141		100.00	23.806	0.000
						C	0.000	26.141		100.00	8.446	0.000
L36 65.00-60.00	62.50	0.864	5	1.3591	26.133	A	0.000	26.133	26.133	100.00	17.422	0.000
						B	0.000	26.133		100.00	23.769	0.000
						C	0.000	26.133		100.00	8.415	0.000
L37 60.00-58.50	59.25	0.851	5	1.3518	7.838	A	0.000	7.838	7.838	100.00	5.219	0.000
						B	0.000	7.838		100.00	7.123	0.000
						C	0.000	7.838		100.00	2.518	0.000
L38 58.50-58.25	58.38	0.847	5	1.3498	1.306	A	0.000	1.306	1.306	100.00	0.870	0.000
						B	0.000	1.306		100.00	1.187	0.000
						C	0.000	1.306		100.00	0.419	0.000
L39 58.25-53.25	55.75	0.836	5	1.3436	26.120	A	0.000	26.120	26.120	100.00	13.548	0.000
						B	0.000	26.120		100.00	19.895	0.000
						C	0.000	26.120		100.00	4.548	0.000
L40 53.25-48.25	50.75	0.814	5	1.3311	26.109	A	0.000	26.109	26.109	100.00	15.955	0.000
						B	0.000	26.109		100.00	22.301	0.000
						C	0.000	26.109		100.00	6.961	0.000
L41 48.25-48.00	48.13	0.802	5	1.3240	1.305	A	0.000	1.305	1.305	100.00	0.948	0.000
						B	0.000	1.305		100.00	1.266	0.000
						C	0.000	1.305		100.00	0.499	0.000
L42 48.00-43.00	45.50	0.789	5	1.3166	26.097	A	0.000	26.097	26.097	100.00	18.940	0.000
						B	0.000	26.097		100.00	25.287	0.000
						C	0.000	26.097		100.00	9.954	0.000
L43 43.00-40.00	41.50	0.769	4	1.3046	15.652	A	0.000	15.652	15.652	100.00	11.339	0.000
						B	0.000	15.652		100.00	15.147	0.000
						C	0.000	15.652		100.00	5.951	0.000
L44 40.00-35.00	37.50	0.747	4	1.2914	26.076	A	0.000	26.076	26.076	100.00	20.247	0.000
						B	0.000	26.076		100.00	26.594	0.000
						C	0.000	26.076		100.00	11.274	0.000
L45 35.00-32.08	33.54	0.723	4	1.2771	15.222	A	0.000	15.222	15.222	100.00	15.863	0.000
						B	0.000	15.222		100.00	19.569	0.000
						C	0.000	15.222		100.00	10.626	0.000
L46 32.08-31.83	31.96	0.713	4	1.2709	1.303	A	0.000	1.303	1.303	100.00	1.357	0.000
						B	0.000	1.303		100.00	1.674	0.000
						C	0.000	1.303		100.00	0.909	0.000
L47 31.83-28.75	30.29	0.703	4	1.2641	16.049	A	0.000	16.049	16.049	100.00	16.696	0.000
						B	0.000	16.049		100.00	20.606	0.000
						C	0.000	16.049		100.00	11.177	0.000
L48 28.75-28.50	28.63	0.7	4	1.2570	1.302	A	0.000	1.302	1.302	100.00	1.354	0.000
						B	0.000	1.302		100.00	1.671	0.000
						C	0.000	1.302		100.00	0.906	0.000
L49 28.50-23.50	26.00	0.7	4	1.2450	26.037	A	0.000	26.037	26.037	100.00	23.687	0.000
						B	0.000	26.037		100.00	30.034	0.000
						C	0.000	26.037		100.00	14.737	0.000
L50 23.50-18.50	21.00	0.7	4	1.2187	26.016	A	0.000	26.016	26.016	100.00	20.264	0.000
						B	0.000	26.016		100.00	26.611	0.000
						C	0.000	26.016		100.00	11.327	0.000
L51 18.50-13.50	16.00	0.7	4	1.1860	25.988	A	0.000	25.988	25.988	100.00	20.150	0.000
						B	0.000	25.988		100.00	26.497	0.000
						C	0.000	25.988		100.00	11.229	0.000
L52 13.50-8.50	11.00	0.7	4	1.1423	25.952	A	0.000	25.952	25.952	100.00	14.111	0.000
						B	0.000	25.952		100.00	26.344	0.000
						C	0.000	25.952		100.00	10.236	0.000
L53 8.50-3.50	6.00	0.7	4	1.0752	25.896	A	0.000	25.896	25.896	100.00	8.158	0.000
						B	0.000	25.896		100.00	11.646	0.000
						C	0.000	25.896		100.00	8.158	0.000

Section Elevation ft	z ft	K_z	q_z psf	t_z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L54 3.50-0.00	1.75	0.7	4	0.9505	18.054	A	0.000	18.054	18.054	100.00	4.285	0.000
						B	0.000	18.054		100.00	4.285	0.000
						C	0.000	18.054		100.00	4.285	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 190.00-185.00	187.50	1.183	9	12.500	A	0.000	12.500	12.500	100.00	0.000	0.000
					B	0.000	12.500		100.00	1.386	0.000
					C	0.000	12.500		100.00	0.588	0.000
L2 185.00-180.00	182.50	1.174	9	12.500	A	0.000	12.500	12.500	100.00	0.000	0.000
					B	0.000	12.500		100.00	2.310	0.000
					C	0.000	12.500		100.00	0.588	0.000
L3 180.00-175.00	177.50	1.164	9	15.000	A	0.000	15.000	15.000	100.00	0.000	0.000
					B	0.000	15.000		100.00	2.310	0.000
					C	0.000	15.000		100.00	0.588	0.000
L4 175.00-170.00	172.50	1.155	9	15.000	A	0.000	15.000	15.000	100.00	0.000	0.000
					B	0.000	15.000		100.00	2.310	0.000
					C	0.000	15.000		100.00	0.588	0.000
L5 170.00-165.00	167.50	1.145	9	15.000	A	0.000	15.000	15.000	100.00	0.000	0.000
					B	0.000	15.000		100.00	12.210	0.000
					C	0.000	15.000		100.00	0.588	0.000
L6 165.00-160.00	162.50	1.135	9	15.000	A	0.000	15.000	15.000	100.00	2.853	0.000
					B	0.000	15.000		100.00	12.210	0.000
					C	0.000	15.000		100.00	0.588	0.000
L7 160.00-155.00	157.50	1.125	9	17.500	A	0.000	17.500	17.500	100.00	7.132	0.000
					B	0.000	17.500		100.00	12.210	0.000
					C	0.000	17.500		100.00	0.588	0.000
L8 155.00-150.00	152.50	1.115	9	17.500	A	0.000	17.500	17.500	100.00	7.132	0.000
					B	0.000	17.500		100.00	12.210	0.000
					C	0.000	17.500		100.00	0.588	0.000
L9 150.00-145.00	147.50	1.104	9	17.500	A	0.000	17.500	17.500	100.00	7.132	0.000
					B	0.000	17.500		100.00	12.210	0.000
					C	0.000	17.500		100.00	0.588	0.000
L10 145.00-140.00	142.50	1.093	8	17.500	A	0.000	17.500	17.500	100.00	7.132	0.000
					B	0.000	17.500		100.00	12.210	0.000
					C	0.000	17.500		100.00	0.588	0.000
L11 140.00-135.00	137.50	1.082	8	20.000	A	0.000	20.000	20.000	100.00	7.132	0.000
					B	0.000	20.000		100.00	12.210	0.000
					C	0.000	20.000		100.00	0.588	0.000
L12 135.00-130.00	132.50	1.071	8	20.000	A	0.000	20.000	20.000	100.00	7.132	0.000
					B	0.000	20.000		100.00	12.210	0.000
					C	0.000	20.000		100.00	0.588	0.000
L13 130.00-125.00	127.50	1.059	8	20.000	A	0.000	20.000	20.000	100.00	7.132	0.000
					B	0.000	20.000		100.00	12.210	0.000
					C	0.000	20.000		100.00	0.588	0.000
L14 125.00-120.00	122.50	1.047	8	20.000	A	0.000	20.000	20.000	100.00	7.132	0.000
					B	0.000	20.000		100.00	12.210	0.000
					C	0.000	20.000		100.00	0.588	0.000
L15 120.00-115.00	117.50	1.035	8	22.500	A	0.000	22.500	22.500	100.00	7.132	0.000
					B	0.000	22.500		100.00	12.210	0.000
					C	0.000	22.500		100.00	0.588	0.000
L16 115.00-112.67	113.83	1.025	8	10.503	A	0.000	10.503	10.503	100.00	5.329	0.000
					B	0.000	10.503		100.00	7.700	0.000
					C	0.000	10.503		100.00	2.274	0.000
L17 112.67-112.42	112.54	1.022	8	1.125	A	0.000	1.125	1.125	100.00	0.607	0.000
					B	0.000	1.125		100.00	0.861	0.000
					C	0.000	1.125		100.00	0.279	0.000

Section Elevation ft	z ft	K_z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L18 112.42-107.42	109.92	1.015	8	22.500	A	0.000	22.500	22.500	100.00	12.133	0.000
					B	0.000	22.500		100.00	17.210	0.000
					C	0.000	22.500		100.00	5.588	0.000
L19 107.42-103.33	105.37	1.003	8	18.374	A	0.000	18.374	18.374	100.00	11.907	0.000
					B	0.000	18.374		100.00	16.054	0.000
					C	0.000	18.374		100.00	6.563	0.000
L20 103.33-103.08	103.21	0.997	8	1.125	A	0.000	1.125	1.125	100.00	0.857	0.000
					B	0.000	1.125		100.00	1.111	0.000
					C	0.000	1.125		100.00	0.529	0.000
L21 103.08-100.00	101.54	0.993	8	13.874	A	0.000	13.874	13.874	100.00	9.231	0.000
					B	0.000	13.874		100.00	12.362	0.000
					C	0.000	13.874		100.00	5.195	0.000
L22 100.00-95.00	97.50	0.981	8	25.000	A	0.000	25.000	25.000	100.00	12.133	0.000
					B	0.000	25.000		100.00	17.210	0.000
					C	0.000	25.000		100.00	5.588	0.000
L23 95.00-90.00	92.50	0.966	7	25.000	A	0.000	25.000	25.000	100.00	12.883	0.000
					B	0.000	25.000		100.00	17.960	0.000
					C	0.000	25.000		100.00	6.338	0.000
L24 90.00-89.50	89.75	0.958	7	2.500	A	0.000	2.500	2.500	100.00	1.588	0.000
					B	0.000	2.500		100.00	2.096	0.000
					C	0.000	2.500		100.00	0.934	0.000
L25 89.50-89.25	89.38	0.957	7	1.250	A	0.000	1.250	1.250	100.00	0.794	0.000
					B	0.000	1.250		100.00	1.048	0.000
					C	0.000	1.250		100.00	0.467	0.000
L26 89.25-85.50	87.38	0.951	7	18.750	A	0.000	18.750	18.750	100.00	13.037	0.000
					B	0.000	18.750		100.00	16.845	0.000
					C	0.000	18.750		100.00	8.128	0.000
L27 85.50-85.25	85.38	0.945	7	1.250	A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
					C	0.000	1.250		100.00	0.654	0.000
L28 85.25-84.00	84.63	0.942	7	6.250	A	0.000	6.250	6.250	100.00	4.908	0.000
					B	0.000	6.250		100.00	6.178	0.000
					C	0.000	6.250		100.00	3.272	0.000
L29 84.00-83.75	83.88	0.94	7	1.250	A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
					C	0.000	1.250		100.00	0.654	0.000
L30 83.75-82.50	83.13	0.937	7	6.250	A	0.000	6.250	6.250	100.00	4.908	0.000
					B	0.000	6.250		100.00	6.178	0.000
					C	0.000	6.250		100.00	3.272	0.000
L31 82.50-82.25	82.38	0.935	7	1.250	A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
					C	0.000	1.250		100.00	0.654	0.000
L32 82.25-80.00	81.13	0.931	7	11.250	A	0.000	11.250	11.250	100.00	6.085	0.000
					B	0.000	11.250		100.00	8.370	0.000
					C	0.000	11.250		100.00	3.139	0.000
L33 80.00-75.00	77.50	0.919	7	25.000	A	0.000	25.000	25.000	100.00	10.883	0.000
					B	0.000	25.000		100.00	15.960	0.000
					C	0.000	25.000		100.00	4.338	0.000
L34 75.00-70.00	72.50	0.901	7	25.000	A	0.000	25.000	25.000	100.00	10.883	0.000
					B	0.000	25.000		100.00	15.960	0.000
					C	0.000	25.000		100.00	4.338	0.000
L35 70.00-65.00	67.50	0.883	7	25.000	A	0.000	25.000	25.000	100.00	10.883	0.000
					B	0.000	25.000		100.00	15.960	0.000
					C	0.000	25.000		100.00	4.338	0.000
L36 65.00-60.00	62.50	0.864	7	25.000	A	0.000	25.000	25.000	100.00	10.883	0.000
					B	0.000	25.000		100.00	15.960	0.000
					C	0.000	25.000		100.00	4.338	0.000
L37 60.00-58.50	59.25	0.851	7	7.500	A	0.000	7.500	7.500	100.00	3.265	0.000
					B	0.000	7.500		100.00	4.788	0.000
					C	0.000	7.500		100.00	1.301	0.000
L38 58.50-58.25	58.38	0.847	7	1.250	A	0.000	1.250	1.250	100.00	0.544	0.000
					B	0.000	1.250		100.00	0.798	0.000
					C	0.000	1.250		100.00	0.217	0.000
L39 58.25-53.25	55.75	0.836	6	25.000	A	0.000	25.000	25.000	100.00	8.070	0.000
					B	0.000	25.000		100.00	13.148	0.000
					C	0.000	25.000		100.00	1.525	0.000
L40 53.25-48.25	50.75	0.814	6	25.000	A	0.000	25.000	25.000	100.00	10.112	0.000
					B	0.000	25.000		100.00	15.189	0.000

Section Elevation ft	z ft	K_z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L41 48.25-48.00	48.13	0.802	6	1.250	C	0.000	25.000		100.00	3.567	0.000
					A	0.000	1.250	1.250	100.00	0.627	0.000
					B	0.000	1.250		100.00	0.881	0.000
L42 48.00-43.00	45.50	0.789	6	25.000	C	0.000	1.250		100.00	0.300	0.000
					A	0.000	25.000	25.000	100.00	12.549	0.000
					B	0.000	25.000		100.00	17.627	0.000
L43 43.00-40.00	41.50	0.769	6	15.000	C	0.000	25.000		100.00	6.004	0.000
					A	0.000	15.000	15.000	100.00	7.530	0.000
					B	0.000	15.000		100.00	10.576	0.000
L44 40.00-35.00	37.50	0.747	6	25.000	C	0.000	15.000		100.00	3.603	0.000
					A	0.000	25.000	25.000	100.00	13.729	0.000
					B	0.000	25.000		100.00	18.807	0.000
L45 35.00-32.08	33.54	0.723	6	14.600	C	0.000	25.000		100.00	7.184	0.000
					A	0.000	14.600	14.600	100.00	11.465	0.000
					B	0.000	14.600		100.00	14.431	0.000
L46 32.08-31.83	31.96	0.713	6	1.250	C	0.000	14.600		100.00	7.643	0.000
					A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
L47 31.83-28.75	30.29	0.703	5	15.400	C	0.000	1.250		100.00	0.654	0.000
					A	0.000	15.400	15.400	100.00	12.094	0.000
					B	0.000	15.400		100.00	15.221	0.000
L48 28.75-28.50	28.63	0.7	5	1.250	C	0.000	15.400		100.00	8.062	0.000
					A	0.000	1.250	1.250	100.00	0.982	0.000
					B	0.000	1.250		100.00	1.236	0.000
L49 28.50-23.50	26.00	0.7	5	25.000	C	0.000	1.250		100.00	0.654	0.000
					A	0.000	25.000	25.000	100.00	16.924	0.000
					B	0.000	25.000		100.00	22.002	0.000
L50 23.50-18.50	21.00	0.7	5	25.000	C	0.000	25.000		100.00	10.379	0.000
					A	0.000	25.000	25.000	100.00	14.216	0.000
					B	0.000	25.000		100.00	19.293	0.000
L51 18.50-13.50	16.00	0.7	5	25.000	C	0.000	25.000		100.00	7.671	0.000
					A	0.000	25.000	25.000	100.00	14.216	0.000
					B	0.000	25.000		100.00	19.293	0.000
L52 13.50-8.50	11.00	0.7	5	25.000	C	0.000	25.000		100.00	7.671	0.000
					A	0.000	25.000	25.000	100.00	10.650	0.000
					B	0.000	25.000		100.00	19.293	0.000
L53 8.50-3.50	6.00	0.7	5	25.000	C	0.000	25.000		100.00	7.495	0.000
					A	0.000	25.000	25.000	100.00	7.083	0.000
					B	0.000	25.000		100.00	9.228	0.000
L54 3.50-0.00	1.75	0.7	5	17.500	C	0.000	25.000		100.00	7.083	0.000
					A	0.000	17.500	17.500	100.00	3.778	0.000
					B	0.000	17.500		100.00	3.778	0.000
					C	0.000	17.500		100.00	3.778	0.000

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
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

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	190 - 185	Pole	Max Tension	48	0.00	-0.00	0.00
			Max. Compression	26	-6.60	0.32	0.39
			Max. Mx	20	-3.44	10.85	0.03
			Max. My	14	-3.44	0.07	-10.79
			Max. Vy	8	2.82	-10.73	0.00
			Max. Vx	14	2.82	0.07	-10.79
			Max. Torque	18			-0.51
L2	185 - 180	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-9.18	-0.23	0.05
			Max. Mx	8	-4.73	-31.43	-0.16
			Max. My	14	-4.73	-0.16	-31.49
			Max. Vy	8	3.98	-31.43	-0.16
			Max. Vx	14	4.00	-0.16	-31.49
			Max. Torque	18			-0.51
L3	180 - 175	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-14.51	-0.69	-1.81
			Max. Mx	8	-7.77	-61.13	-0.59
			Max. My	14	-7.77	-0.23	-61.67
			Max. Vy	8	6.18	-61.13	-0.59
			Max. Vx	14	6.20	-0.23	-61.67
			Max. Torque	6			-1.25
L4	175 - 170	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-15.88	-0.79	-1.89
			Max. Mx	8	-8.69	-93.08	-0.61
			Max. My	14	-8.69	-0.22	-93.74
			Max. Vy	8	6.59	-93.08	-0.61
			Max. Vx	14	6.61	-0.22	-93.74
			Max. Torque	6			-1.25

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L5	170 - 165	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-25.10	-1.16	-1.81
			Max. Mx	8	-13.59	-147.10	-0.59
			Max. My	14	-13.59	-0.28	-147.76
			Max. Vy	8	10.99	-147.10	-0.59
			Max. Vx	14	11.00	-0.28	-147.76
			Max. Torque	6			-1.25
L6	165 - 160	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.20	-0.60	-1.92
			Max. Mx	8	-18.89	-214.85	-0.62
			Max. My	14	-18.89	-0.04	-215.85
			Max. Vy	8	15.99	-214.85	-0.62
			Max. Vx	14	16.00	-0.04	-215.85
			Max. Torque	20			1.38
L7	160 - 155	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.20	-0.64	-1.60
			Max. Mx	8	-20.10	-296.17	-0.53
			Max. My	14	-20.10	0.01	-296.93
			Max. Vy	8	16.54	-296.17	-0.53
			Max. Vx	14	16.46	0.01	-296.93
			Max. Torque	20			1.38
L8	155 - 150	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.20	-0.68	-1.29
			Max. Mx	8	-21.31	-380.22	-0.45
			Max. My	14	-21.32	0.07	-380.32
			Max. Vy	8	17.09	-380.22	-0.45
			Max. Vx	14	16.92	0.07	-380.32
			Max. Torque	20			1.38
L9	150 - 145	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.05	-0.22	-0.03
			Max. Mx	8	-25.92	-489.64	0.01
			Max. My	14	-25.95	0.08	-486.49
			Max. Vy	8	22.15	-489.64	0.01
			Max. Vx	14	21.55	0.08	-486.49
			Max. Torque	20			1.83
L10	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.08	-0.26	0.28
			Max. Mx	8	-27.19	-601.66	0.03
			Max. My	14	-27.22	0.07	-595.25
			Max. Vy	8	22.67	-601.66	0.03
			Max. Vx	14	21.98	0.07	-595.25
			Max. Torque	20			1.83
L11	140 - 135	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.32	-0.30	0.63
			Max. Mx	8	-28.60	-716.36	0.06
			Max. My	14	-28.63	0.06	-706.30
			Max. Vy	8	23.23	-716.36	0.06
			Max. Vx	14	22.47	0.06	-706.30
			Max. Torque	20			1.83
L12	135 - 130	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.54	-0.35	0.98
			Max. Mx	8	-30.01	-833.82	0.09
			Max. My	14	-30.04	0.05	-819.78
			Max. Vy	8	23.77	-833.82	0.09
			Max. Vx	14	22.95	0.05	-819.78
			Max. Torque	20			1.83
L13	130 - 125	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.77	-0.40	1.33
			Max. Mx	8	-31.43	-953.97	0.11
			Max. My	14	-31.46	0.04	-935.63
			Max. Vy	8	24.30	-953.97	0.11
			Max. Vx	14	23.42	0.04	-935.63
			Max. Torque	20			1.83
L14	125 - 120	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.40	0.09	1.44
			Max. Mx	8	-33.12	-1077.73	0.06
			Max. My	14	-33.15	0.33	-1055.12
			Max. Vy	8	24.98	-1077.73	0.06
			Max. Vx	14	24.02	0.33	-1055.12

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	20			1.97
L15	120 - 115	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.82	0.04	1.82
			Max. Mx	8	-34.69	-1203.96	0.13
			Max. My	14	-34.72	0.35	-1176.41
			Max. Vy	8	25.53	-1203.96	0.13
			Max. Vx	14	24.53	0.35	-1176.41
			Max. Torque	20			1.97
L16	115 - 112.666	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.01	0.02	2.00
			Max. Mx	8	-35.42	-1263.85	0.16
			Max. My	14	-35.45	0.37	-1233.89
			Max. Vy	8	25.80	-1263.85	0.16
			Max. Vx	14	24.77	0.37	-1233.89
			Max. Torque	20			1.97
L17	112.666 - 112.416	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.16	0.01	2.02
			Max. Mx	8	-35.52	-1270.30	0.16
			Max. My	14	-35.55	0.37	-1240.09
			Max. Vy	8	25.83	-1270.30	0.16
			Max. Vx	14	24.81	0.37	-1240.09
			Max. Torque	20			1.97
L18	112.416 - 107.416	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.51	-0.04	3.08
			Max. Mx	8	-37.72	-1401.73	0.57
			Max. My	14	-37.74	0.39	-1367.16
			Max. Vy	8	26.56	-1401.73	0.57
			Max. Vx	14	25.99	0.39	-1367.16
			Max. Torque	20			1.97
L19	107.416 - 103.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.98	-0.08	3.39
			Max. Mx	8	-39.30	-1511.12	0.62
			Max. My	14	-39.31	0.41	-1474.93
			Max. Vy	8	27.04	-1511.12	0.62
			Max. Vx	14	26.83	0.41	-1474.93
			Max. Torque	20			1.65
L20	103.333 - 103.083	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.13	-0.08	3.41
			Max. Mx	8	-39.40	-1517.88	0.63
			Max. My	14	-39.41	0.42	-1481.64
			Max. Vy	8	27.08	-1517.88	0.63
			Max. Vx	14	26.88	0.42	-1481.64
			Max. Torque	20			1.65
L21	103.083 - 100	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.00	-0.12	3.64
			Max. Mx	8	-40.59	-1601.91	0.67
			Max. My	14	-40.59	0.43	-1565.43
			Max. Vy	8	27.44	-1601.91	0.67
			Max. Vx	14	27.51	0.43	-1565.43
			Max. Torque	20			1.65
L22	100 - 95	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.29	0.17	3.87
			Max. Mx	8	-42.80	-1740.48	0.57
			Max. My	14	-42.80	0.68	-1704.60
			Max. Vy	8	28.07	-1740.48	0.57
			Max. Vx	14	28.09	0.68	-1704.60
			Max. Torque	20			1.71
L23	95 - 90	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-79.85	-0.50	3.93
			Max. Mx	8	-45.16	-1883.80	0.40
			Max. My	14	-45.14	0.32	-1848.99
			Max. Vy	8	28.81	-1883.80	0.40
			Max. Vx	14	29.30	0.32	-1848.99

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L24	90 - 89.5	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.17	-0.51	3.97
			Max. Mx	8	-45.37	-1898.21	0.40
			Max. My	14	-45.35	0.32	-1863.66
			Max. Vy	8	28.87	-1898.21	0.40
			Max. Vx	14	29.41	0.32	-1863.66
L25	89.5 - 89.25	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.35	-0.51	3.99
			Max. Mx	8	-45.48	-1905.43	0.40
			Max. My	14	-45.47	0.32	-1871.01
			Max. Vy	8	28.90	-1905.43	0.40
			Max. Vx	14	29.46	0.32	-1871.01
L26	89.25 - 85.5	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.04	-0.55	4.31
			Max. Mx	8	-47.24	-2015.23	0.41
			Max. My	14	-47.23	0.30	-1982.98
			Max. Vy	8	29.68	-2015.23	0.41
			Max. Vx	14	30.29	0.30	-1982.98
L27	85.5 - 85.25	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.23	-0.56	4.33
			Max. Mx	8	-47.38	-2022.65	0.42
			Max. My	14	-47.36	0.29	-1990.55
			Max. Vy	8	29.73	-2022.65	0.42
			Max. Vx	14	30.35	0.29	-1990.55
L28	85.25 - 84	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.22	-0.57	4.43
			Max. Mx	8	-48.03	-2059.97	0.42
			Max. My	14	-48.01	0.29	-2028.64
			Max. Vy	8	30.00	-2059.97	0.42
			Max. Vx	14	30.63	0.29	-2028.64
L29	84 - 83.75	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.39	-0.57	4.45
			Max. Mx	8	-48.15	-2067.47	0.42
			Max. My	14	-48.13	0.29	-2036.30
			Max. Vy	8	30.04	-2067.47	0.42
			Max. Vx	14	30.69	0.29	-2036.30
L30	83.75 - 82.5	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.28	-0.59	4.56
			Max. Mx	8	-48.71	-2105.18	0.42
			Max. My	14	-48.69	0.28	-2074.81
			Max. Vy	8	30.31	-2105.18	0.42
			Max. Vx	14	30.97	0.28	-2074.81
L31	82.5 - 82.25	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.45	-0.59	4.58
			Max. Mx	8	-48.81	-2112.76	0.43
			Max. My	14	-48.79	0.28	-2082.56
			Max. Vy	8	30.35	-2112.76	0.43
			Max. Vx	14	31.02	0.28	-2082.56
L32	82.25 - 80	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.84	-0.61	4.76
			Max. Mx	8	-49.71	-2181.31	0.43
			Max. My	14	-49.69	0.26	-2152.82
			Max. Vy	8	30.60	-2181.31	0.43
			Max. Vx	14	31.48	0.26	-2152.82
L33	80 - 75	Pole	Max. Torque	20			1.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.73	-0.21	4.74
			Max. Mx	8	-53.20	-2338.56	0.31
			Max. My	14	-53.18	0.62	-2314.75
			Max. Vy	8	31.71	-2338.56	0.31

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	32.52	0.62	-2314.75
			Max. Torque	20			2.01
L34	75 - 70	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.19	-0.27	5.15
			Max. Mx	8	-55.68	-2498.34	0.35
			Max. My	14	-55.67	0.61	-2478.43
			Max. Vy	8	32.23	-2498.34	0.35
			Max. Vx	14	32.99	0.61	-2478.43
			Max. Torque	20			2.01
L35	70 - 65	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-98.64	-0.32	5.56
			Max. Mx	8	-58.17	-2660.67	0.40
			Max. My	14	-58.15	0.61	-2644.41
			Max. Vy	8	32.73	-2660.67	0.40
			Max. Vx	14	33.44	0.61	-2644.41
			Max. Torque	20			2.01
L36	65 - 60	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-102.08	-0.38	5.97
			Max. Mx	8	-60.66	-2825.45	0.44
			Max. My	14	-60.64	0.61	-2812.59
			Max. Vy	8	33.21	-2825.45	0.44
			Max. Vx	14	33.87	0.61	-2812.59
			Max. Torque	20			2.01
L37	60 - 58.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.10	-0.39	6.09
			Max. Mx	8	-63.01	-2876.09	0.46
			Max. My	14	-62.99	0.61	-2864.21
			Max. Vy	8	33.85	-2876.09	0.46
			Max. Vx	14	34.50	0.61	-2864.21
			Max. Torque	20			2.01
L38	58.5 - 58.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.29	-0.40	6.11
			Max. Mx	8	-63.15	-2884.55	0.46
			Max. My	14	-63.13	0.61	-2872.83
			Max. Vy	8	33.87	-2884.55	0.46
			Max. Vx	14	34.52	0.61	-2872.83
			Max. Torque	20			2.01
L39	58.25 - 53.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-108.82	-0.45	6.52
			Max. Mx	8	-65.83	-3054.92	0.51
			Max. My	14	-65.82	0.60	-3046.33
			Max. Vy	8	34.31	-3054.92	0.51
			Max. Vx	14	34.93	0.60	-3046.33
			Max. Torque	20			2.01
L40	53.25 - 48.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-112.39	-0.50	6.92
			Max. Mx	8	-68.52	-3227.42	0.55
			Max. My	14	-68.51	0.60	-3221.79
			Max. Vy	8	34.72	-3227.42	0.55
			Max. Vx	14	35.31	0.60	-3221.79
			Max. Torque	20			2.01
L41	48.25 - 48	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-112.60	-0.51	6.94
			Max. Mx	8	-68.69	-3236.10	0.55
			Max. My	14	-68.68	0.60	-3230.62
			Max. Vy	8	34.74	-3236.10	0.55
			Max. Vx	14	35.34	0.60	-3230.62
			Max. Torque	20			2.01
L42	48 - 43	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-116.74	-0.56	7.34
			Max. Mx	8	-71.87	-3410.83	0.60
			Max. My	14	-71.85	0.59	-3409.26
			Max. Vy	8	35.17	-3410.83	0.60
			Max. Vx	14	36.16	0.59	-3409.26
			Max. Torque	20			2.01
L43	43 - 40	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-119.21	-0.59	7.58

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-73.78	-3516.67	0.63
			Max. My	14	-73.76	0.59	-3518.37
			Max. Vy	8	35.42	-3516.67	0.63
			Max. Vx	14	36.62	0.59	-3518.37
			Max. Torque	20			2.01
L44	40 - 35	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-126.16	-0.64	7.97
			Max. Mx	8	-79.10	-3698.57	0.67
			Max. My	14	-79.08	0.59	-3707.20
			Max. Vy	8	36.59	-3698.57	0.67
			Max. Vx	14	38.17	0.59	-3707.20
			Max. Torque	20			2.01
L45	35 - 32.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-128.67	-0.67	8.20
			Max. Mx	8	-80.96	-3805.97	0.70
			Max. My	14	-80.94	0.59	-3819.23
			Max. Vy	8	37.01	-3805.97	0.70
			Max. Vx	14	38.62	0.59	-3819.23
			Max. Torque	20			2.01
L46	32.08 - 31.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-128.91	-0.67	8.22
			Max. Mx	8	-81.16	-3815.22	0.70
			Max. My	14	-81.14	0.59	-3828.88
			Max. Vy	8	37.03	-3815.22	0.70
			Max. Vx	14	38.65	0.59	-3828.88
			Max. Torque	20			2.01
L47	31.83 - 28.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-131.94	-0.70	8.46
			Max. Mx	8	-83.52	-3929.92	0.73
			Max. My	14	-83.50	0.58	-3948.59
			Max. Vy	8	37.47	-3929.92	0.73
			Max. Vx	14	39.13	0.58	-3948.59
			Max. Torque	20			2.01
L48	28.75 - 28.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-132.17	-0.70	8.48
			Max. Mx	8	-83.69	-3939.29	0.73
			Max. My	14	-83.67	0.58	-3958.37
			Max. Vy	8	37.50	-3939.29	0.73
			Max. Vx	14	39.16	0.58	-3958.37
			Max. Torque	20			2.01
L49	28.5 - 23.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-136.50	-0.75	8.86
			Max. Mx	8	-87.03	-4127.58	0.78
			Max. My	14	-87.02	0.58	-4155.83
			Max. Vy	8	37.84	-4127.58	0.78
			Max. Vx	14	39.87	0.58	-4155.83
			Max. Torque	20			2.01
L50	23.5 - 18.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-144.84	-0.79	9.24
			Max. Mx	8	-93.79	-4318.70	0.82
			Max. My	14	-93.78	0.57	-4357.92
			Max. Vy	8	38.96	-4318.70	0.82
			Max. Vx	14	41.34	0.57	-4357.92
			Max. Torque	20			2.01
L51	18.5 - 13.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-149.52	-0.84	9.61
			Max. Mx	8	-97.62	-4514.17	0.87
			Max. My	14	-97.60	0.57	-4566.14
			Max. Vy	8	39.26	-4514.17	0.87
			Max. Vx	14	42.00	0.57	-4566.14
			Max. Torque	20			2.01
L52	13.5 - 8.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-154.05	-1.10	9.90
			Max. Mx	8	-101.39	-4711.10	0.90
			Max. My	14	-101.38	0.47	-4777.63
			Max. Vy	8	39.51	-4711.10	0.90
			Max. Vx	14	42.64	0.47	-4777.63

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L53	8.5 - 3.5	Pole	Max. Torque	20			2.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-158.21	-1.20	9.96
			Max. Mx	8	-105.03	-4909.18	0.89
			Max. My	14	-105.03	0.41	-4992.32
			Max. Vy	8	39.74	-4909.18	0.89
			Max. Vx	14	43.27	0.41	-4992.32
L54	3.5 - 0	Pole	Max. Torque	20			2.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-161.02	-1.20	9.96
			Max. Mx	8	-107.58	-5048.47	0.87
			Max. My	14	-107.57	0.39	-5144.43
			Max. Vy	8	39.89	-5048.47	0.87
			Max. Vx	14	43.69	0.39	-5144.43
			Max. Torque	20			2.01

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	161.02	0.00	0.00
	Max. H_x	20	107.58	39.83	0.00
	Max. H_z	2	107.58	0.00	37.88
	Max. M_x	2	4828.45	0.00	37.88
	Max. M_z	8	5048.47	-39.87	-0.01
	Max. Torsion	20	2.01	39.83	0.00
	Min. Vert	5	80.69	-19.11	32.79
	Min. H_x	8	107.58	-39.87	-0.01
	Min. H_z	14	107.58	-0.01	-43.67
	Min. M_x	14	-5144.43	-0.01	-43.67
	Min. M_z	20	-5042.10	39.83	0.00
	Min. Torsion	8	-1.97	-39.87	-0.01

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	89.65	0.00	0.00	-1.18	0.78	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	107.58	-0.00	-37.88	-4828.45	0.51	-0.17
0.9 Dead+1.0 Wind 0 deg - No Ice	80.69	-0.00	-37.88	-4788.96	0.27	-0.16
1.2 Dead+1.0 Wind 30 deg - No Ice	107.58	19.11	-32.79	-4179.08	-2439.01	0.91
0.9 Dead+1.0 Wind 30 deg - No Ice	80.69	19.11	-32.79	-4144.86	-2419.48	0.91
1.2 Dead+1.0 Wind 60 deg - No Ice	107.58	38.08	-21.80	-2568.44	-4494.61	1.69
0.9 Dead+1.0 Wind 60 deg - No Ice	80.69	38.08	-21.80	-2547.75	-4459.26	1.69
1.2 Dead+1.0 Wind 90 deg - No Ice	107.58	39.87	0.01	-0.87	-5048.47	1.97
0.9 Dead+1.0 Wind 90 deg - No Ice	80.69	39.87	0.01	-0.51	-5008.01	1.97
1.2 Dead+1.0 Wind 120 deg - No Ice	107.58	33.13	18.96	2416.27	-4230.81	1.86
0.9 Dead+1.0 Wind 120 deg - No Ice	80.69	33.13	18.96	2397.04	-4196.75	1.85
1.2 Dead+1.0 Wind 150 deg	107.58	19.13	32.86	4189.31	-2442.84	1.25

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
- No Ice						
0.9 Dead+1.0 Wind 150 deg - No Ice	80.69	19.13	32.86	4155.70	-2423.27	1.25
1.2 Dead+1.0 Wind 180 deg - No Ice	107.58	0.01	43.67	5144.43	0.39	0.30
0.9 Dead+1.0 Wind 180 deg - No Ice	80.69	0.01	43.67	5104.06	0.14	0.30
1.2 Dead+1.0 Wind 210 deg - No Ice	107.58	-19.09	32.82	4182.09	2437.57	-0.84
0.9 Dead+1.0 Wind 210 deg - No Ice	80.69	-19.09	32.82	4148.55	2417.57	-0.84
1.2 Dead+1.0 Wind 240 deg - No Ice	107.58	-33.07	18.94	2413.64	4221.70	-1.67
0.9 Dead+1.0 Wind 240 deg - No Ice	80.69	-33.07	18.94	2394.43	4187.24	-1.66
1.2 Dead+1.0 Wind 270 deg - No Ice	107.58	-39.83	-0.00	-0.99	5042.10	-2.01
0.9 Dead+1.0 Wind 270 deg - No Ice	80.69	-39.83	-0.00	-0.63	5001.22	-2.01
1.2 Dead+1.0 Wind 300 deg - No Ice	107.58	-38.08	-21.82	-2571.21	4497.17	-1.81
0.9 Dead+1.0 Wind 300 deg - No Ice	80.69	-38.08	-21.82	-2550.51	4461.31	-1.80
1.2 Dead+1.0 Wind 330 deg - No Ice	107.58	-19.12	-32.84	-4187.67	2441.53	-1.22
0.9 Dead+1.0 Wind 330 deg - No Ice	80.69	-19.12	-32.84	-4153.37	2421.51	-1.21
1.2 Dead+1.0 Ice+1.0 Temp	161.02	0.00	0.00	-9.96	-1.20	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	161.02	0.00	-11.48	-1481.67	-1.83	-0.14
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	161.02	5.77	-9.94	-1284.21	-741.71	0.21
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	161.02	10.06	-5.78	-748.36	-1287.30	0.50
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	161.02	11.54	-0.00	-10.88	-1482.51	0.64
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	161.02	9.99	5.74	725.57	-1284.09	0.63
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	161.02	5.77	9.95	1265.15	-741.50	0.46
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	161.02	-0.00	11.56	1466.97	-0.92	0.17
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	161.02	-5.76	9.94	1264.46	738.44	-0.20
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	161.02	-9.98	5.74	725.79	1279.56	-0.49
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	161.02	-11.53	0.00	-9.97	1478.12	-0.64
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	161.02	-10.06	-5.78	-748.18	1284.46	-0.62
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	161.02	-5.76	-9.94	-1285.21	738.25	-0.46
Dead+Wind 0 deg - Service	89.65	-0.00	-8.92	-1131.87	0.70	-0.04
Dead+Wind 30 deg - Service	89.65	4.50	-7.72	-979.76	-570.73	0.21
Dead+Wind 60 deg - Service	89.65	8.97	-5.13	-602.57	-1052.37	0.40
Dead+Wind 90 deg - Service	89.65	9.39	0.00	-1.07	-1182.01	0.46
Dead+Wind 120 deg - Service	89.65	7.80	4.46	565.12	-990.44	0.44
Dead+Wind 150 deg - Service	89.65	4.50	7.74	980.43	-571.63	0.29
Dead+Wind 180 deg - Service	89.65	0.00	10.28	1204.32	0.67	0.07
Dead+Wind 210 deg - Service	89.65	-4.49	7.73	978.74	571.55	-0.20
Dead+Wind 240 deg - Service	89.65	-7.79	4.46	564.50	989.46	-0.39
Dead+Wind 270 deg - Service	89.65	-9.38	-0.00	-1.09	1181.68	-0.47
Dead+Wind 300 deg -	89.65	-8.97	-5.14	-603.22	1054.13	-0.43

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Service						
Dead+Wind 330 deg - Service	89.65	-4.50	-7.73	-981.77	572.48	-0.29

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-89.65	0.00	0.00	89.65	0.00	0.000%
2	-0.00	-107.58	-37.88	0.00	107.58	37.88	0.000%
3	-0.00	-80.69	-37.88	0.00	80.69	37.88	0.000%
4	19.11	-107.58	-32.79	-19.11	107.58	32.79	0.000%
5	19.11	-80.69	-32.79	-19.11	80.69	32.79	0.000%
6	38.08	-107.58	-21.80	-38.08	107.58	21.80	0.000%
7	38.08	-80.69	-21.80	-38.08	80.69	21.80	0.000%
8	39.87	-107.58	0.01	-39.87	107.58	-0.01	0.000%
9	39.87	-80.69	0.01	-39.87	80.69	-0.01	0.000%
10	33.13	-107.58	18.96	-33.13	107.58	-18.96	0.000%
11	33.13	-80.69	18.96	-33.13	80.69	-18.96	0.000%
12	19.13	-107.58	32.86	-19.13	107.58	-32.86	0.000%
13	19.13	-80.69	32.86	-19.13	80.69	-32.86	0.000%
14	0.01	-107.58	43.67	-0.01	107.58	-43.67	0.000%
15	0.01	-80.69	43.67	-0.01	80.69	-43.67	0.000%
16	-19.09	-107.58	32.82	19.09	107.58	-32.82	0.000%
17	-19.09	-80.69	32.82	19.09	80.69	-32.82	0.000%
18	-33.07	-107.58	18.94	33.07	107.58	-18.94	0.000%
19	-33.07	-80.69	18.94	33.07	80.69	-18.94	0.000%
20	-39.83	-107.58	-0.00	39.83	107.58	0.00	0.000%
21	-39.83	-80.69	-0.00	39.83	80.69	0.00	0.000%
22	-38.08	-107.58	-21.82	38.08	107.58	21.82	0.000%
23	-38.08	-80.69	-21.82	38.08	80.69	21.82	0.000%
24	-19.12	-107.58	-32.84	19.12	107.58	32.84	0.000%
25	-19.12	-80.69	-32.84	19.12	80.69	32.84	0.000%
26	0.00	-161.02	0.00	0.00	161.02	0.00	0.000%
27	0.00	-161.02	-11.48	-0.00	161.02	11.48	0.000%
28	5.77	-161.02	-9.94	-5.77	161.02	9.94	0.000%
29	10.06	-161.02	-5.78	-10.06	161.02	5.78	0.000%
30	11.54	-161.02	-0.00	-11.54	161.02	0.00	0.000%
31	9.99	-161.02	5.74	-9.99	161.02	-5.74	0.000%
32	5.77	-161.02	9.95	-5.77	161.02	-9.95	0.000%
33	-0.00	-161.02	11.56	0.00	161.02	-11.56	0.000%
34	-5.76	-161.02	9.94	5.76	161.02	-9.94	0.000%
35	-9.98	-161.02	5.74	9.98	161.02	-5.74	0.000%
36	-11.53	-161.02	0.00	11.53	161.02	-0.00	0.000%
37	-10.06	-161.02	-5.78	10.06	161.02	5.78	0.000%
38	-5.76	-161.02	-9.94	5.76	161.02	9.94	0.000%
39	-0.00	-89.65	-8.92	0.00	89.65	8.92	0.000%
40	4.50	-89.65	-7.72	-4.50	89.65	7.72	0.000%
41	8.97	-89.65	-5.13	-8.97	89.65	5.13	0.000%
42	9.39	-89.65	0.00	-9.39	89.65	-0.00	0.000%
43	7.80	-89.65	4.46	-7.80	89.65	-4.46	0.000%
44	4.50	-89.65	7.74	-4.50	89.65	-7.74	0.000%
45	0.00	-89.65	10.28	-0.00	89.65	-10.28	0.000%
46	-4.49	-89.65	7.73	4.49	89.65	-7.73	0.000%
47	-7.79	-89.65	4.46	7.79	89.65	-4.46	0.000%
48	-9.38	-89.65	-0.00	9.38	89.65	0.00	0.000%
49	-8.97	-89.65	-5.14	8.97	89.65	5.14	0.000%
50	-4.50	-89.65	-7.73	4.50	89.65	7.73	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00011169
3	Yes	5	0.00000001	0.00004386
4	Yes	6	0.00000001	0.00006649
5	Yes	5	0.00000001	0.00086294
6	Yes	6	0.00000001	0.00006945
7	Yes	5	0.00000001	0.00089362
8	Yes	5	0.00000001	0.00017389
9	Yes	5	0.00000001	0.00008151
10	Yes	6	0.00000001	0.00006828
11	Yes	5	0.00000001	0.00088629
12	Yes	6	0.00000001	0.00006428
13	Yes	5	0.00000001	0.00083310
14	Yes	5	0.00000001	0.00011472
15	Yes	5	0.00000001	0.00004492
16	Yes	6	0.00000001	0.00006431
17	Yes	5	0.00000001	0.00083331
18	Yes	6	0.00000001	0.00006776
19	Yes	5	0.00000001	0.00087955
20	Yes	5	0.00000001	0.00017587
21	Yes	5	0.00000001	0.00008268
22	Yes	6	0.00000001	0.00006953
23	Yes	5	0.00000001	0.00089451
24	Yes	6	0.00000001	0.00006709
25	Yes	5	0.00000001	0.00087037
26	Yes	4	0.00000001	0.00000001
27	Yes	6	0.00000001	0.00019387
28	Yes	6	0.00000001	0.00020362
29	Yes	6	0.00000001	0.00020419
30	Yes	6	0.00000001	0.00019405
31	Yes	6	0.00000001	0.00020232
32	Yes	6	0.00000001	0.00020126
33	Yes	6	0.00000001	0.00019178
34	Yes	6	0.00000001	0.00020096
35	Yes	6	0.00000001	0.00020178
36	Yes	6	0.00000001	0.00019347
37	Yes	6	0.00000001	0.00020383
38	Yes	6	0.00000001	0.00020351
39	Yes	4	0.00000001	0.00052938
40	Yes	4	0.00000001	0.00099311
41	Yes	5	0.00000001	0.00003376
42	Yes	4	0.00000001	0.00057608
43	Yes	5	0.00000001	0.00003422
44	Yes	4	0.00000001	0.00095100
45	Yes	4	0.00000001	0.00054784
46	Yes	4	0.00000001	0.00095368
47	Yes	5	0.00000001	0.00003400
48	Yes	4	0.00000001	0.00057697
49	Yes	5	0.00000001	0.00003384
50	Yes	5	0.00000001	0.00003349

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	190 - 185	13.410	49	0.5702	0.0011
L2	185 - 180	12.814	49	0.5699	0.0011
L3	180 - 175	12.218	49	0.5680	0.0012
L4	175 - 170	11.625	49	0.5656	0.0011
L5	170 - 165	11.035	49	0.5618	0.0010

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L6	165 - 160	10.450	49	0.5558	0.0010
L7	160 - 155	9.872	49	0.5471	0.0009
L8	155 - 150	9.303	49	0.5392	0.0008
L9	150 - 145	8.744	49	0.5287	0.0008
L10	145 - 140	8.197	49	0.5152	0.0007
L11	140 - 135	7.666	49	0.4983	0.0006
L12	135 - 130	7.151	49	0.4847	0.0006
L13	130 - 125	6.651	49	0.4688	0.0005
L14	125 - 120	6.170	49	0.4504	0.0005
L15	120 - 115	5.709	49	0.4294	0.0004
L16	115 - 112.666	5.268	49	0.4130	0.0004
L17	112.666 - 112.416	5.068	49	0.4047	0.0004
L18	112.416 - 107.416	5.047	49	0.4040	0.0004
L19	107.416 - 103.333	4.631	49	0.3892	0.0003
L20	103.333 - 103.083	4.304	49	0.3759	0.0003
L21	103.083 - 100	4.284	49	0.3751	0.0003
L22	100 - 95	4.046	49	0.3643	0.0003
L23	95 - 90	3.671	49	0.3504	0.0003
L24	90 - 89.5	3.312	49	0.3353	0.0003
L25	89.5 - 89.25	3.277	49	0.3337	0.0003
L26	89.25 - 85.5	3.260	49	0.3330	0.0003
L27	85.5 - 85.25	3.002	49	0.3225	0.0002
L28	85.25 - 84	2.986	49	0.3218	0.0002
L29	84 - 83.75	2.902	49	0.3186	0.0002
L30	83.75 - 82.5	2.885	49	0.3178	0.0002
L31	82.5 - 82.25	2.802	49	0.3138	0.0002
L32	82.25 - 80	2.786	49	0.3129	0.0002
L33	80 - 75	2.640	49	0.3044	0.0002
L34	75 - 70	2.330	49	0.2886	0.0002
L35	70 - 65	2.037	49	0.2716	0.0002
L36	65 - 60	1.762	49	0.2535	0.0002
L37	60 - 58.5	1.506	49	0.2342	0.0002
L38	58.5 - 58.25	1.433	49	0.2292	0.0002
L39	58.25 - 53.25	1.421	49	0.2282	0.0002
L40	53.25 - 48.25	1.192	49	0.2089	0.0001
L41	48.25 - 48	0.984	49	0.1884	0.0001
L42	48 - 43	0.974	49	0.1876	0.0001
L43	43 - 40	0.787	49	0.1700	0.0001
L44	40 - 35	0.684	49	0.1589	0.0001
L45	35 - 32.08	0.527	49	0.1398	0.0001
L46	32.08 - 31.83	0.445	49	0.1281	0.0001
L47	31.83 - 28.75	0.439	49	0.1273	0.0001
L48	28.75 - 28.5	0.360	49	0.1169	0.0001
L49	28.5 - 23.5	0.354	49	0.1159	0.0001
L50	23.5 - 18.5	0.243	49	0.0954	0.0001
L51	18.5 - 13.5	0.153	49	0.0768	0.0000
L52	13.5 - 8.5	0.083	49	0.0573	0.0000
L53	8.5 - 3.5	0.033	49	0.0369	0.0000
L54	3.5 - 0	0.006	49	0.0155	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
188.00	Platform Mount [LP 403-1]	49	13.172	0.5702	0.0011	266276
187.00	SP2-5.8	49	13.052	0.5702	0.0011	266276
185.00	Side Arm Mount [SO 102-3]	49	12.814	0.5699	0.0012	266276
184.00	Side Arm Mount [SO 701-1]	49	12.695	0.5696	0.0012	220602
179.00	Platform Mount [LP 403-1]	49	12.100	0.5675	0.0012	121577
170.00	Platform Mount [LP 405-1]	49	11.035	0.5618	0.0011	57910

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
162.00	Platform Mount [LP 403-1]	49	10.102	0.5506	0.0009	34327
150.00	Platform Mount [LP 403-1]	49	8.744	0.5287	0.0008	23783
125.00	Side Arm Mount [SO 901-1]	49	6.170	0.4504	0.0005	14370
110.00	Side Arm Mount [SO 901-1]	49	4.844	0.3971	0.0004	18433
100.00	Side Arm Mount [SO 901-1]	49	4.046	0.3643	0.0003	18166
95.00	Side Arm Mount [SO 901-1]	49	3.671	0.3504	0.0003	19481
80.00	Side Arm Mount [SO 901-1]	49	2.640	0.3044	0.0002	16910
60.00	Jump Plate 120" x 6.5" x 1.25"	49	1.506	0.2342	0.0002	15378
40.00	(2) Jump Plate 120" x 6" x 1"	49	0.684	0.1589	0.0001	15336
20.00	(2) Jump Plate 120" x 6.5" x 1.25"	49	0.178	0.0823	0.0000	15057

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	190 - 185	57.275	22	2.4387	0.0047
L2	185 - 180	54.726	22	2.4372	0.0048
L3	180 - 175	52.181	22	2.4292	0.0049
L4	175 - 170	49.645	22	2.4194	0.0047
L5	170 - 165	47.122	22	2.4029	0.0044
L6	165 - 160	44.621	22	2.3773	0.0040
L7	160 - 155	42.153	22	2.3393	0.0037
L8	155 - 150	39.722	22	2.3051	0.0035
L9	150 - 145	37.332	22	2.2599	0.0032
L10	145 - 140	34.996	22	2.2017	0.0029
L11	140 - 135	32.728	22	2.1293	0.0026
L12	135 - 130	30.529	22	2.0710	0.0024
L13	130 - 125	28.396	22	2.0026	0.0022
L14	125 - 120	26.340	22	1.9238	0.0020
L15	120 - 115	24.372	22	1.8343	0.0018
L16	115 - 112.666	22.488	22	1.7641	0.0016
L17	112.666 - 112.416	21.634	22	1.7286	0.0016
L18	112.416 - 107.416	21.544	22	1.7256	0.0015
L19	107.416 - 103.333	19.770	22	1.6620	0.0014
L20	103.333 - 103.083	18.373	22	1.6054	0.0014
L21	103.083 - 100	18.289	22	1.6018	0.0014
L22	100 - 95	17.270	22	1.5559	0.0013
L23	95 - 90	15.671	22	1.4964	0.0012
L24	90 - 89.5	14.138	22	1.4317	0.0011
L25	89.5 - 89.25	13.989	22	1.4249	0.0011
L26	89.25 - 85.5	13.914	22	1.4220	0.0011
L27	85.5 - 85.25	12.815	22	1.3769	0.0011
L28	85.25 - 84	12.743	22	1.3742	0.0011
L29	84 - 83.75	12.385	22	1.3604	0.0010
L30	83.75 - 82.5	12.314	22	1.3571	0.0010
L31	82.5 - 82.25	11.961	22	1.3401	0.0010
L32	82.25 - 80	11.891	22	1.3361	0.0010
L33	80 - 75	11.270	22	1.2995	0.0010
L34	75 - 70	9.944	22	1.2320	0.0009
L35	70 - 65	8.692	22	1.1595	0.0008
L36	65 - 60	7.518	22	1.0821	0.0007
L37	60 - 58.5	6.428	22	0.9996	0.0007
L38	58.5 - 58.25	6.117	22	0.9783	0.0006
L39	58.25 - 53.25	6.066	22	0.9743	0.0006
L40	53.25 - 48.25	5.088	22	0.8917	0.0006
L41	48.25 - 48	4.200	22	0.8043	0.0005
L42	48 - 43	4.158	22	0.8007	0.0005
L43	43 - 40	3.359	22	0.7254	0.0004
L44	40 - 35	2.918	22	0.6783	0.0004

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L45	35 - 32.08	2.250	22	0.5965	0.0003
L46	32.08 - 31.83	1.900	22	0.5467	0.0003
L47	31.83 - 28.75	1.872	22	0.5432	0.0003
L48	28.75 - 28.5	1.535	22	0.4990	0.0003
L49	28.5 - 23.5	1.509	22	0.4948	0.0003
L50	23.5 - 18.5	1.037	22	0.4069	0.0002
L51	18.5 - 13.5	0.652	22	0.3275	0.0002
L52	13.5 - 8.5	0.352	22	0.2443	0.0001
L53	8.5 - 3.5	0.142	22	0.1572	0.0001
L54	3.5 - 0	0.024	22	0.0661	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
188.00	Platform Mount [LP 403-1]	22	56.255	2.4387	0.0048	62721
187.00	SP2-5.8	22	55.745	2.4385	0.0049	62721
185.00	Side Arm Mount [SO 102-3]	22	54.726	2.4372	0.0049	62721
184.00	Side Arm Mount [SO 701-1]	22	54.216	2.4360	0.0050	52175
179.00	Platform Mount [LP 403-1]	22	51.673	2.4274	0.0050	29302
170.00	Platform Mount [LP 405-1]	22	47.122	2.4029	0.0045	13834
162.00	Platform Mount [LP 403-1]	22	43.136	2.3547	0.0039	8130
150.00	Platform Mount [LP 403-1]	22	37.332	2.2599	0.0033	5584
125.00	Side Arm Mount [SO 901-1]	22	26.340	1.9238	0.0020	3364
110.00	Side Arm Mount [SO 901-1]	22	20.678	1.6958	0.0015	4313
100.00	Side Arm Mount [SO 901-1]	22	17.270	1.5559	0.0013	4249
95.00	Side Arm Mount [SO 901-1]	22	15.671	1.4964	0.0012	4557
80.00	Side Arm Mount [SO 901-1]	22	11.270	1.2995	0.0010	3955
60.00	Jump Plate 120" x 6.5" x 1.25"	22	6.428	0.9996	0.0007	3602
40.00	(2) Jump Plate 120" x 6" x 1"	22	2.918	0.6783	0.0004	3592
20.00	(2) Jump Plate 120" x 6.5" x 1.25"	22	0.759	0.3511	0.0002	3528

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	190 - 185 (1)	P30x0.375	5.00	0.00	0.0	34.901	-3.44	1311.06	0.003
L2	185 - 180 (2)	P30x0.375	5.00	0.00	0.0	34.901 1	-4.73	1311.06	0.004
L3	180 - 175 (3)	P36x0.375	5.00	0.00	0.0	41.969 1	-7.77	1490.10	0.005
L4	175 - 170 (4)	P36x0.375	5.00	0.00	0.0	41.969 7	-8.69	1490.10	0.006
L5	170 - 165 (5)	P36x0.375	5.00	0.00	0.0	41.969 7	-13.59	1490.10	0.009
L6	165 - 160 (6)	P36x0.375	5.00	0.00	0.0	41.969 7	-18.89	1490.10	0.013
L7	160 - 155 (7)	P42x0.375	5.00	0.00	0.0	49.038 7	-20.10	1668.87	0.012
L8	155 - 150 (8)	P42x0.375	5.00	0.00	0.0	49.038 3	-21.31	1668.87	0.013
L9	150 - 145 (9)	P42x0.375	5.00	0.00	0.0	49.038 3	-25.92	1668.87	0.016

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L10	145 - 140 (10)	P42x0.375	5.00	0.00	0.0	49.0383	-27.19	1668.87	0.016
L11	140 - 135 (11)	P48x0.375	5.00	0.00	0.0	56.1063	-28.60	1847.49	0.015
L12	135 - 130 (12)	P48x0.375	5.00	0.00	0.0	56.1069	-30.01	1847.49	0.016
L13	130 - 125 (13)	P48x0.375	5.00	0.00	0.0	56.1069	-31.43	1847.49	0.017
L14	125 - 120 (14)	P48x0.375	5.00	0.00	0.0	56.1069	-33.12	1847.49	0.018
L15	120 - 115 (15)	P54x0.375	5.00	0.00	0.0	63.1755	-34.69	2026.00	0.017
L16	115 - 112.666 (16)	P54x0.375	2.33	0.00	0.0	63.1755	-35.42	2026.00	0.017
L17	112.666 - 112.416 (17)	P54x0.4875	0.25	0.00	0.0	81.9558	-35.52	2797.17	0.013
L18	112.416 - 107.416 (18)	P54x0.4875	5.00	0.00	0.0	81.9558	-37.72	2797.17	0.013
L19	107.416 - 103.333 (19)	P54x0.4875	4.08	0.00	0.0	81.9558	-39.30	2797.17	0.014
L20	103.333 - 103.083 (20)	P54x0.4875	0.25	0.00	0.0	81.9558	-39.40	2797.17	0.014
L21	103.083 - 100 (21)	P54x0.4875	3.08	0.00	0.0	81.9558	-40.59	2797.17	0.015
L22	100 - 95 (22)	P60x0.475	5.00	0.00	0.0	88.8268	-42.80	2934.04	0.015
L23	95 - 90 (23)	P60x0.475	5.00	0.00	0.0	88.8266	-45.16	2934.04	0.015
L24	90 - 89.5 (24)	P60x0.475	0.50	0.00	0.0	88.8266	-45.37	2934.04	0.015
L25	89.5 - 89.25 (25)	P60x0.55625	0.25	0.00	0.0	103.876	-45.48	3570.37	0.013
L26	89.25 - 85.5 (26)	P60x0.55625	3.75	0.00	0.0	103.8790	-47.24	3570.37	0.013
L27	85.5 - 85.25 (27)	P60x0.6375	0.25	0.00	0.0	118.8890	-47.38	4245.55	0.011
L28	85.25 - 84 (28)	P60x0.6375	1.25	0.00	0.0	118.8890	-48.03	4245.55	0.011
L29	84 - 83.75 (29)	P60x0.525	0.25	0.00	0.0	98.0943	-48.15	3321.02	0.014
L30	83.75 - 82.5 (30)	P60x0.525	1.25	0.00	0.0	98.0943	-48.71	3321.02	0.015
L31	82.5 - 82.25 (31)	P60x0.45	0.25	0.00	0.0	84.1863	-48.81	2746.08	0.018
L32	82.25 - 80 (32)	P60x0.45	2.25	0.00	0.0	84.1868	-49.71	2746.08	0.018
L33	80 - 75 (33)	P60x0.575	5.00	0.00	0.0	107.348	-53.20	3722.74	0.014
L34	75 - 70 (34)	P60x0.575	5.00	0.00	0.0	107.3460	-55.68	3722.74	0.015
L35	70 - 65 (35)	P60x0.575	5.00	0.00	0.0	107.3460	-58.14	3722.74	0.016
L36	65 - 60 (36)	P60x0.575	5.00	0.00	0.0	107.3460	-60.63	3722.74	0.016
L37	60 - 58.5 (37)	P60x0.7	1.50	0.00	0.0	130.4060	-62.99	4791.24	0.013
L38	58.5 - 58.25 (38)	P60x0.625	0.25	0.00	0.0	116.5880	-63.12	4139.15	0.015
L39	58.25 - 53.25 (39)	P60x0.625	5.00	0.00	0.0	116.5830	-65.81	4139.15	0.016
L40	53.25 - 48.25 (40)	P60x0.625	5.00	0.00	0.0	116.5830	-68.51	4139.15	0.017
L41	48.25 - 48 (41)	P60x0.775	0.25	0.00	0.0	144.1970	-68.67	5450.65	0.013
L42	48 - 43 (42)	P60x0.775	5.00	0.00	0.0	144.1970	-71.85	5450.65	0.013
L43	43 - 40 (43)	P60x0.775	3.00	0.00	0.0	144.1970	-73.76	5450.65	0.014

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L44	40 - 35 (44)	P60x0.775	5.00	0.00	0.0	144.19	-79.07	5450.65	0.015
L45	35 - 32.08 (45)	P60x0.775	2.92	0.00	0.0	144.19 70	-80.93	5450.65	0.015
L46	32.08 - 31.83 (46)	P60x0.9625	0.25	0.00	0.0	178.51 70	-81.13	6747.93	0.012
L47	31.83 - 28.75 (47)	P60x0.9625	3.08	0.00	0.0	178.51 70	-83.49	6747.93	0.012
L48	28.75 - 28.5 (48)	P60x0.8125	0.25	0.00	0.0	151.07 90	-83.66	5710.78	0.015
L49	28.5 - 23.5 (49)	P60x0.8125	5.00	0.00	0.0	151.07 90	-87.01	5710.78	0.015
L50	23.5 - 18.5 (50)	P60x0.95	5.00	0.00	0.0	176.23 50	-93.77	6661.70	0.014
L51	18.5 - 13.5 (51)	P60x0.95	5.00	0.00	0.0	176.23 50	-97.60	6661.70	0.015
L52	13.5 - 8.5 (52)	P60x0.95	5.00	0.00	0.0	176.23 50	-101.38	6661.70	0.015
L53	8.5 - 3.5 (53)	P60x0.95	5.00	0.00	0.0	176.23 50	-105.03	6661.70	0.016
L54	3.5 - 0 (54)	P60x0.95	3.50	0.00	0.0	176.23 50	-107.58	6661.70	0.016

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	190 - 185 (1)	P30x0.375	10.91	947.86	0.012	0.00	947.86	0.000
L2	185 - 180 (2)	P30x0.375	31.52	947.86	0.033	0.00	947.86	0.000
L3	180 - 175 (3)	P36x0.375	61.67	1338.81	0.046	0.00	1338.81	0.000
L4	175 - 170 (4)	P36x0.375	93.75	1338.81	0.070	0.00	1338.81	0.000
L5	170 - 165 (5)	P36x0.375	147.76	1338.81	0.110	0.00	1338.81	0.000
L6	165 - 160 (6)	P36x0.375	215.85	1338.81	0.161	0.00	1338.81	0.000
L7	160 - 155 (7)	P42x0.375	296.93	1796.56	0.165	0.00	1796.56	0.000
L8	155 - 150 (8)	P42x0.375	380.22	1796.56	0.212	0.00	1796.56	0.000
L9	150 - 145 (9)	P42x0.375	489.64	1796.56	0.273	0.00	1796.56	0.000
L10	145 - 140 (10)	P42x0.375	601.66	1796.56	0.335	0.00	1796.56	0.000
L11	140 - 135 (11)	P48x0.375	716.36	2321.11	0.309	0.00	2321.11	0.000
L12	135 - 130 (12)	P48x0.375	833.83	2321.11	0.359	0.00	2321.11	0.000
L13	130 - 125 (13)	P48x0.375	953.97	2321.11	0.411	0.00	2321.11	0.000
L14	125 - 120 (14)	P48x0.375	1077.73	2321.11	0.464	0.00	2321.11	0.000
L15	120 - 115 (15)	P54x0.375	1203.97	2912.46	0.413	0.00	2912.46	0.000
L16	115 - 112.666 (16)	P54x0.375	1263.85	2912.46	0.434	0.00	2912.46	0.000
L17	112.666 - 112.416 (17)	P54x0.4875	1270.31	3864.47	0.329	0.00	3864.47	0.000
L18	112.416 - 107.416 (18)	P54x0.4875	1401.73	3864.47	0.363	0.00	3864.47	0.000
L19	107.416 - 103.333 (19)	P54x0.4875	1511.12	3864.47	0.391	0.00	3864.47	0.000
L20	103.333 - 103.083 (20)	P54x0.4875	1517.88	3864.47	0.393	0.00	3864.47	0.000
L21	103.083 - 100 (21)	P54x0.4875	1601.91	3864.47	0.415	0.00	3864.47	0.000
L22	100 - 95 (22)	P60x0.475	1740.48	4598.57	0.378	0.00	4598.57	0.000
L23	95 - 90 (23)	P60x0.475	1883.80	4598.57	0.410	0.00	4598.57	0.000
L24	90 - 89.5 (24)	P60x0.475	1898.22	4598.57	0.413	0.00	4598.57	0.000
L25	89.5 - 89.25 (25)	P60x0.55625	1905.43	5456.53	0.349	0.00	5456.53	0.000
L26	89.25 - 85.5 (26)	P60x0.55625	2015.22	5456.53	0.369	0.00	5456.53	0.000
L27	85.5 - 85.25 (27)	P60x0.6375	2022.65	6334.56	0.319	0.00	6334.56	0.000
L28	85.25 - 84	P60x0.6375	2059.97	6334.56	0.325	0.00	6334.56	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	(28)							
L29	84 - 83.75 (29)	P60x0.525	2067.47	5124.16	0.403	0.00	5124.16	0.000
L30	83.75 - 82.5 (30)	P60x0.525	2105.18	5124.16	0.411	0.00	5124.16	0.000
L31	82.5 - 82.25 (31)	P60x0.45	2112.76	4338.67	0.487	0.00	4338.67	0.000
L32	82.25 - 80 (32)	P60x0.45	2181.31	4338.67	0.503	0.00	4338.67	0.000
L33	80 - 75 (33)	P60x0.575	2338.56	5657.38	0.413	0.00	5657.38	0.000
L34	75 - 70 (34)	P60x0.575	2498.34	5657.38	0.442	0.00	5657.38	0.000
L35	70 - 65 (35)	P60x0.575	2664.01	5657.38	0.471	0.00	5657.38	0.000
L36	65 - 60 (36)	P60x0.575	2833.47	5657.38	0.501	0.00	5657.38	0.000
L37	60 - 58.5 (37)	P60x0.7	2885.48	7023.43	0.411	0.00	7023.43	0.000
L38	58.5 - 58.25 (38)	P60x0.625	2894.17	6198.18	0.467	0.00	6198.18	0.000
L39	58.25 - 53.25 (39)	P60x0.625	3068.97	6198.18	0.495	0.00	6198.18	0.000
L40	53.25 - 48.25 (40)	P60x0.625	3245.72	6198.18	0.524	0.00	6198.18	0.000
L41	48.25 - 48 (41)	P60x0.775	3254.60	7865.35	0.414	0.00	7865.35	0.000
L42	48 - 43 (42)	P60x0.775	3434.53	7865.35	0.437	0.00	7865.35	0.000
L43	43 - 40 (43)	P60x0.775	3544.41	7865.35	0.451	0.00	7865.35	0.000
L44	40 - 35 (44)	P60x0.775	3734.53	7865.35	0.475	0.00	7865.35	0.000
L45	35 - 32.08 (45)	P60x0.775	3847.30	7865.35	0.489	0.00	7865.35	0.000
L46	32.08 - 31.83 (46)	P60x0.9625	3857.02	10041.58	0.384	0.00	10041.58	0.000
L47	31.83 - 28.75 (47)	P60x0.9625	3977.52	10041.58	0.396	0.00	10041.58	0.000
L48	28.75 - 28.5 (48)	P60x0.8125	3987.36	8292.48	0.481	0.00	8292.48	0.000
L49	28.5 - 23.5 (49)	P60x0.8125	4186.09	8292.48	0.505	0.00	8292.48	0.000
L50	23.5 - 18.5 (50)	P60x0.95	4389.46	9893.33	0.444	0.00	9893.33	0.000
L51	18.5 - 13.5 (51)	P60x0.95	4598.95	9893.33	0.465	0.00	9893.33	0.000
L52	13.5 - 8.5 (52)	P60x0.95	4811.60	9893.33	0.486	0.00	9893.33	0.000
L53	8.5 - 3.5 (53)	P60x0.95	5027.42	9893.33	0.508	0.00	9893.33	0.000
L54	3.5 - 0 (54)	P60x0.95	5180.32	9893.33	0.524	0.00	9893.33	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	190 - 185 (1)	P30x0.375	2.80	395.78	0.007	0.22	994.73	0.000
L2	185 - 180 (2)	P30x0.375	3.99	395.78	0.010	0.01	994.73	0.000
L3	180 - 175 (3)	P36x0.375	6.20	454.19	0.014	0.17	1094.28	0.000
L4	175 - 170 (4)	P36x0.375	6.61	454.19	0.015	0.17	1094.28	0.000
L5	170 - 165 (5)	P36x0.375	11.00	454.19	0.024	0.17	1094.28	0.000
L6	165 - 160 (6)	P36x0.375	16.00	454.19	0.035	0.29	1094.28	0.000
L7	160 - 155 (7)	P42x0.375	16.46	421.13	0.039	0.29	1185.51	0.000
L8	155 - 150 (8)	P42x0.375	17.09	421.13	0.041	1.34	1185.51	0.001
L9	150 - 145 (9)	P42x0.375	22.15	421.13	0.053	1.79	1185.51	0.002
L10	145 - 140 (10)	P42x0.375	22.67	421.13	0.054	1.79	1185.51	0.002
L11	140 - 135 (11)	P48x0.375	23.23	394.81	0.059	1.79	1270.83	0.001
L12	135 - 130 (12)	P48x0.375	23.77	394.81	0.060	1.79	1270.83	0.001
L13	130 - 125 (13)	P48x0.375	24.30	394.81	0.062	1.79	1270.83	0.001
L14	125 - 120 (14)	P48x0.375	24.98	394.81	0.063	1.93	1270.83	0.002
L15	120 - 115 (15)	P54x0.375	25.53	406.96	0.063	1.93	1474.98	0.001
L16	115 - 112.666 (16)	P54x0.375	25.80	406.96	0.063	1.93	1474.98	0.001

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L17	112.666 - 112.416 (17)	P54x0.4875	25.83	732.85	0.035	1.93	2650.55	0.001
L18	112.416 - 107.416 (18)	P54x0.4875	26.56	732.85	0.036	1.61	2650.55	0.001
L19	107.416 - 103.333 (19)	P54x0.4875	27.04	732.85	0.037	1.61	2650.55	0.001
L20	103.333 - 103.083 (20)	P54x0.4875	27.08	732.85	0.037	1.61	2650.55	0.001
L21	103.083 - 100 (21)	P54x0.4875	27.44	732.85	0.037	1.61	2650.55	0.001
L22	100 - 95 (22)	P60x0.475	28.07	710.49	0.040	1.67	2858.41	0.001
L23	95 - 90 (23)	P60x0.475	28.81	710.49	0.041	1.84	2858.41	0.001
L24	90 - 89.5 (24)	P60x0.475	28.87	710.49	0.041	1.84	2858.41	0.001
L25	89.5 - 89.25 (25)	P60x0.55625	28.90	1012.19	0.029	1.84	4066.63	0.000
L26	89.25 - 85.5 (26)	P60x0.55625	29.68	1012.19	0.029	1.84	4066.63	0.000
L27	85.5 - 85.25 (27)	P60x0.6375	29.73	1348.20	0.022	1.84	5511.49	0.000
L28	85.25 - 84 (28)	P60x0.6375	30.00	1348.20	0.022	1.84	5511.49	0.000
L29	84 - 83.75 (29)	P60x0.525	30.04	889.19	0.034	1.84	3574.31	0.001
L30	83.75 - 82.5 (30)	P60x0.525	30.31	889.19	0.034	1.84	3574.31	0.001
L31	82.5 - 82.25 (31)	P60x0.45	30.35	629.38	0.048	1.84	2533.13	0.001
L32	82.25 - 80 (32)	P60x0.45	30.60	629.38	0.049	1.84	2533.13	0.001
L33	80 - 75 (33)	P60x0.575	31.71	1090.24	0.029	1.97	4378.80	0.000
L34	75 - 70 (34)	P60x0.575	32.23	1090.24	0.030	1.97	4378.80	0.000
L35	70 - 65 (35)	P60x0.575	33.68	1090.24	0.031	1.81	4378.80	0.000
L36	65 - 60 (36)	P60x0.575	34.10	1090.24	0.031	1.81	4378.80	0.000
L37	60 - 58.5 (37)	P60x0.7	34.74	1478.82	0.023	1.81	6788.03	0.000
L38	58.5 - 58.25 (38)	P60x0.625	34.75	1314.11	0.026	1.81	5273.53	0.000
L39	58.25 - 53.25 (39)	P60x0.625	35.16	1314.11	0.027	1.81	5273.53	0.000
L40	53.25 - 48.25 (40)	P60x0.625	35.54	1314.11	0.027	1.81	5273.53	0.000
L41	48.25 - 48 (41)	P60x0.775	35.57	1635.20	0.022	1.81	8514.42	0.000
L42	48 - 43 (42)	P60x0.775	36.39	1635.20	0.022	1.81	8514.42	0.000
L43	43 - 40 (43)	P60x0.775	36.86	1635.20	0.023	1.81	8514.42	0.000
L44	40 - 35 (44)	P60x0.775	38.40	1635.20	0.023	1.81	8514.42	0.000
L45	35 - 32.08 (45)	P60x0.775	38.85	1635.20	0.024	1.81	8514.42	0.000
L46	32.08 - 31.83 (46)	P60x0.9625	38.88	2024.38	0.019	1.81	10507.50	0.000
L47	31.83 - 28.75 (47)	P60x0.9625	39.36	2024.38	0.019	1.81	10507.50	0.000
L48	28.75 - 28.5 (48)	P60x0.8125	39.39	1713.23	0.023	1.81	8915.08	0.000
L49	28.5 - 23.5 (49)	P60x0.8125	40.10	1713.23	0.023	1.81	8915.08	0.000
L50	23.5 - 18.5 (50)	P60x0.95	41.57	1998.51	0.021	1.81	10375.42	0.000
L51	18.5 - 13.5 (51)	P60x0.95	42.23	1998.51	0.021	1.81	10375.42	0.000
L52	13.5 - 8.5 (52)	P60x0.95	42.87	1998.51	0.021	1.81	10375.42	0.000
L53	8.5 - 3.5 (53)	P60x0.95	43.49	1998.51	0.022	1.81	10375.42	0.000
L54	3.5 - 0 (54)	P60x0.95	43.91	1998.51	0.022	1.81	10375.42	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	190 - 185 (1)	0.003	0.012	0.000	0.007	0.000	0.014	1.050	4.8.2
L2	185 - 180 (2)	0.004	0.033	0.000	0.010	0.000	0.037	1.050	4.8.2
L3	180 - 175 (3)	0.005	0.046	0.000	0.014	0.000	0.051	1.050	4.8.2
L4	175 - 170 (4)	0.006	0.070	0.000	0.015	0.000	0.076	1.050	4.8.2
L5	170 - 165 (5)	0.009	0.110	0.000	0.024	0.000	0.120	1.050	4.8.2
L6	165 - 160 (6)	0.013	0.161	0.000	0.035	0.000	0.175	1.050	4.8.2
L7	160 - 155 (7)	0.012	0.165	0.000	0.039	0.000	0.179	1.050	4.8.2
L8	155 - 150 (8)	0.013	0.212	0.000	0.041	0.001	0.226	1.050	4.8.2
L9	150 - 145 (9)	0.016	0.273	0.000	0.053	0.002	0.291	1.050	4.8.2
L10	145 - 140 (10)	0.016	0.335	0.000	0.054	0.002	0.354	1.050	4.8.2
L11	140 - 135 (11)	0.015	0.309	0.000	0.059	0.001	0.328	1.050	4.8.2
L12	135 - 130 (12)	0.016	0.359	0.000	0.060	0.001	0.379	1.050	4.8.2
L13	130 - 125 (13)	0.017	0.411	0.000	0.062	0.001	0.432	1.050	4.8.2
L14	125 - 120 (14)	0.018	0.464	0.000	0.063	0.002	0.486	1.050	4.8.2
L15	120 - 115 (15)	0.017	0.413	0.000	0.063	0.001	0.435	1.050	4.8.2
L16	115 - 112.666 (16)	0.017	0.434	0.000	0.063	0.001	0.456	1.050	4.8.2
L17	112.666 - 112.416 (17)	0.013	0.329	0.000	0.035	0.001	0.343	1.050	4.8.2
L18	112.416 - 107.416 (18)	0.013	0.363	0.000	0.036	0.001	0.378	1.050	4.8.2
L19	107.416 - 103.333 (19)	0.014	0.391	0.000	0.037	0.001	0.406	1.050	4.8.2
L20	103.333 - 103.083 (20)	0.014	0.393	0.000	0.037	0.001	0.408	1.050	4.8.2
L21	103.083 - 100 (21)	0.015	0.415	0.000	0.037	0.001	0.430	1.050	4.8.2
L22	100 - 95 (22)	0.015	0.378	0.000	0.040	0.001	0.395	1.050	4.8.2
L23	95 - 90 (23)	0.015	0.410	0.000	0.041	0.001	0.427	1.050	4.8.2
L24	90 - 89.5 (24)	0.015	0.413	0.000	0.041	0.001	0.430	1.050	4.8.2
L25	89.5 - 89.25 (25)	0.013	0.349	0.000	0.029	0.000	0.363	1.050	4.8.2
L26	89.25 - 85.5 (26)	0.013	0.369	0.000	0.029	0.000	0.383	1.050	4.8.2
L27	85.5 - 85.25 (27)	0.011	0.319	0.000	0.022	0.000	0.331	1.050	4.8.2
L28	85.25 - 84 (28)	0.011	0.325	0.000	0.022	0.000	0.337	1.050	4.8.2
L29	84 - 83.75 (29)	0.014	0.403	0.000	0.034	0.001	0.419	1.050	4.8.2
L30	83.75 - 82.5 (30)	0.015	0.411	0.000	0.034	0.001	0.427	1.050	4.8.2
L31	82.5 - 82.25 (31)	0.018	0.487	0.000	0.048	0.001	0.507	1.050	4.8.2
L32	82.25 - 80 (32)	0.018	0.503	0.000	0.049	0.001	0.523	1.050	4.8.2
L33	80 - 75 (33)	0.014	0.413	0.000	0.029	0.000	0.429	1.050	4.8.2
L34	75 - 70 (34)	0.015	0.442	0.000	0.030	0.000	0.457	1.050	4.8.2
L35	70 - 65 (35)	0.016	0.471	0.000	0.031	0.000	0.487	1.050	4.8.2
L36	65 - 60 (36)	0.016	0.501	0.000	0.031	0.000	0.518	1.050	4.8.2
L37	60 - 58.5 (37)	0.013	0.411	0.000	0.023	0.000	0.425	1.050	4.8.2
L38	58.5 - 58.25 (38)	0.015	0.467	0.000	0.026	0.000	0.483	1.050	4.8.2
L39	58.25 - 53.25 (39)	0.016	0.495	0.000	0.027	0.000	0.512	1.050	4.8.2
L40	53.25 - 48.25 (40)	0.017	0.524	0.000	0.027	0.000	0.541	1.050	4.8.2
L41	48.25 - 48 (41)	0.013	0.414	0.000	0.022	0.000	0.427	1.050	4.8.2
L42	48 - 43 (42)	0.013	0.437	0.000	0.022	0.000	0.450	1.050	4.8.2
L43	43 - 40 (43)	0.014	0.451	0.000	0.023	0.000	0.465	1.050	4.8.2
L44	40 - 35 (44)	0.015	0.475	0.000	0.023	0.000	0.490	1.050	4.8.2
L45	35 - 32.08 (45)	0.015	0.489	0.000	0.024	0.000	0.505	1.050	4.8.2
L46	32.08 - 31.83 (46)	0.012	0.384	0.000	0.019	0.000	0.397	1.050	4.8.2

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L47	31.83 - 28.75 (47)	0.012	0.396	0.000	0.019	0.000	0.409	1.050	4.8.2
L48	28.75 - 28.5 (48)	0.015	0.481	0.000	0.023	0.000	0.496	1.050	4.8.2
L49	28.5 - 23.5 (49)	0.015	0.505	0.000	0.023	0.000	0.521	1.050	4.8.2
L50	23.5 - 18.5 (50)	0.014	0.444	0.000	0.021	0.000	0.458	1.050	4.8.2
L51	18.5 - 13.5 (51)	0.015	0.465	0.000	0.021	0.000	0.480	1.050	4.8.2
L52	13.5 - 8.5 (52)	0.015	0.486	0.000	0.021	0.000	0.502	1.050	4.8.2
L53	8.5 - 3.5 (53)	0.016	0.508	0.000	0.022	0.000	0.524	1.050	4.8.2
L54	3.5 - 0 (54)	0.016	0.524	0.000	0.022	0.000	0.540	1.050	4.8.2

Section Capacity Table

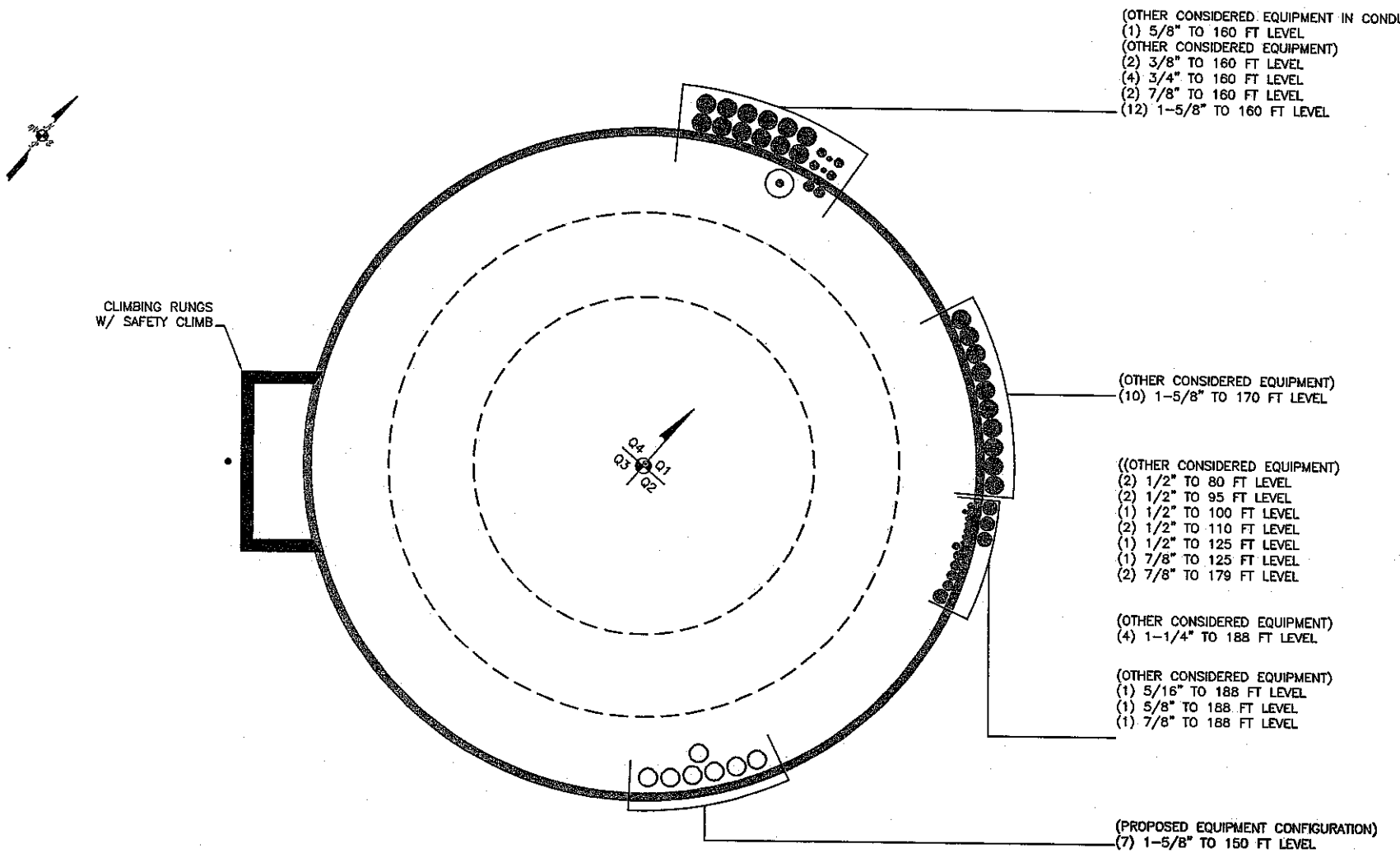
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	190 - 185	Pole	P30x0.375	1	-3.44	1376.61	1.4	Pass
L2	185 - 180	Pole	P30x0.375	2	-4.73	1376.61	3.5	Pass
L3	180 - 175	Pole	P36x0.375	3	-7.77	1564.60	4.9	Pass
L4	175 - 170	Pole	P36x0.375	4	-8.69	1564.60	7.2	Pass
L5	170 - 165	Pole	P36x0.375	5	-13.59	1564.60	11.4	Pass
L6	165 - 160	Pole	P36x0.375	6	-18.89	1564.60	16.7	Pass
L7	160 - 155	Pole	P42x0.375	7	-20.10	1752.31	17.0	Pass
L8	155 - 150	Pole	P42x0.375	8	-21.31	1752.31	21.5	Pass
L9	150 - 145	Pole	P42x0.375	9	-25.92	1752.31	27.7	Pass
L10	145 - 140	Pole	P42x0.375	10	-27.19	1752.31	33.7	Pass
L11	140 - 135	Pole	P48x0.375	11	-28.60	1939.86	31.2	Pass
L12	135 - 130	Pole	P48x0.375	12	-30.01	1939.86	36.1	Pass
L13	130 - 125	Pole	P48x0.375	13	-31.43	1939.86	41.1	Pass
L14	125 - 120	Pole	P48x0.375	14	-33.12	1939.86	46.3	Pass
L15	120 - 115	Pole	P54x0.375	15	-34.69	2127.30	41.4	Pass
L16	115 - 112.666	Pole	P54x0.375	16	-35.42	2127.30	43.4	Pass
L17	112.666 - 112.416	Pole	P54x0.4875	17	-35.52	2937.03	32.6	Pass
L18	112.416 - 107.416	Pole	P54x0.4875	18	-37.72	2937.03	36.0	Pass
L19	107.416 - 103.333	Pole	P54x0.4875	19	-39.30	2937.03	38.7	Pass
L20	103.333 - 103.083	Pole	P54x0.4875	20	-39.40	2937.03	38.9	Pass
L21	103.083 - 100	Pole	P54x0.4875	21	-40.59	2937.03	41.0	Pass
L22	100 - 95	Pole	P60x0.475	22	-42.80	3080.74	37.6	Pass
L23	95 - 90	Pole	P60x0.475	23	-45.16	3080.74	40.6	Pass
L24	90 - 89.5	Pole	P60x0.475	24	-45.37	3080.74	40.9	Pass
L25	89.5 - 89.25	Pole	P60x0.55625	25	-45.48	3748.89	34.6	Pass
L26	89.25 - 85.5	Pole	P60x0.55625	26	-47.24	3748.89	36.5	Pass
L27	85.5 - 85.25	Pole	P60x0.6375	27	-47.38	4457.83	31.5	Pass
L28	85.25 - 84	Pole	P60x0.6375	28	-48.03	4457.83	32.1	Pass
L29	84 - 83.75	Pole	P60x0.525	29	-48.15	3487.07	39.9	Pass
L30	83.75 - 82.5	Pole	P60x0.525	30	-48.71	3487.07	40.6	Pass
L31	82.5 - 82.25	Pole	P60x0.45	31	-48.81	2883.38	48.3	Pass
L32	82.25 - 80	Pole	P60x0.45	32	-49.71	2883.38	49.8	Pass
L33	80 - 75	Pole	P60x0.575	33	-53.20	3908.88	40.8	Pass
L34	75 - 70	Pole	P60x0.575	34	-55.68	3908.88	43.6	Pass
L35	70 - 65	Pole	P60x0.575	35	-58.14	3908.88	46.4	Pass
L36	65 - 60	Pole	P60x0.575	36	-60.63	3908.88	49.3	Pass
L37	60 - 58.5	Pole	P60x0.7	37	-62.99	5030.80	40.4	Pass
L38	58.5 - 58.25	Pole	P60x0.625	38	-63.12	4346.11	46.0	Pass
L39	58.25 - 53.25	Pole	P60x0.625	39	-65.81	4346.11	48.7	Pass
L40	53.25 - 48.25	Pole	P60x0.625	40	-68.51	4346.11	51.5	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L41	48.25 - 48	Pole	P60x0.775	41	-68.67	5723.18	40.7	Pass
L42	48 - 43	Pole	P60x0.775	42	-71.85	5723.18	42.9	Pass
L43	43 - 40	Pole	P60x0.775	43	-73.76	5723.18	44.3	Pass
L44	40 - 35	Pole	P60x0.775	44	-79.07	5723.18	46.7	Pass
L45	35 - 32.08	Pole	P60x0.775	45	-80.93	5723.18	48.1	Pass
L46	32.08 - 31.83	Pole	P60x0.9625	46	-81.13	7085.33	37.8	Pass
L47	31.83 - 28.75	Pole	P60x0.9625	47	-83.49	7085.33	38.9	Pass
L48	28.75 - 28.5	Pole	P60x0.8125	48	-83.66	5996.32	47.2	Pass
L49	28.5 - 23.5	Pole	P60x0.8125	49	-87.01	5996.32	49.6	Pass
L50	23.5 - 18.5	Pole	P60x0.95	50	-93.77	6994.78	43.6	Pass
L51	18.5 - 13.5	Pole	P60x0.95	51	-97.60	6994.78	45.7	Pass
L52	13.5 - 8.5	Pole	P60x0.95	52	-101.38	6994.78	47.8	Pass
L53	8.5 - 3.5	Pole	P60x0.95	53	-105.03	6994.78	49.9	Pass
L54	3.5 - 0	Pole	P60x0.95	54	-107.58	6994.78	51.5	Pass
							Summary	
						Pole (L40)	51.5	Pass
						RATING =	**51.5**	**Pass**

Note: Above stress ratio for reinforced sections are approximate. More exact calculation are presented in Appendix C.

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 829046 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 829046

Work Order: 1765202

CROWN CASTLE

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	190	10		0	30	30	0.375		A53-B-42
2	180	20		0	36.00	36	0.375		A53-B-42
3	160	20		0	42.00	42	0.375		A53-B-42
4	140	20		0	48.00	48	0.375		A53-B-42
5	120	20		0	54.00	54	0.375		A53-B-42
6	100	20		0	60.00	60	0.375		A53-B-42
7	80	20		0	60.00	60	0.5		A53-B-42
8	60	20		0	60.00	60	0.625		A53-B-42
9	40	20		0	60.00	60	0.625		A53-B-42
10	20	20		0	60.00	60	0.75		A53-B-42

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	32.08	plate	MS-850 (1.1875")	3	0	120	240															
2	28.75	48.25	plate	MS-650 (1.1875")	3	24	144	264															
3	58.5	85.5	plate	MS-450 (1.1875")	3	0	120	240															
4	84	103.333	plate	MS-600 (1.1875")	3	21	141	261															
5	103.333	112.666	plate	MS-600 (1.1875")	3				0	120	240												
6	82.5	89.5	plate	MS-450 (1.1875")	3							90	210	330									
7																							
8																							
9																							
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_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	8.5	1.25	10.625	0.625	45.000	45.000	17.250	9.063	1.1875	A572-65
2	6.5	1.25	8.125	0.625	33.000	33.000	19.250	6.563	1.1875	A572-65
3	4.5	1	4.5	0.5	18.000	18.000	20.625	3.250	1.1875	A572-65
4	6	1	6	0.5	24.000	24.000	16.375	4.750	1.1875	A572-65
5	6	1	6	0.5	24.000	24.000	16.375	4.750	1.1875	A572-65
6	4.5	1	4.5	0.5	18.000	18.000	20.625	3.250	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	190 - 185	5		0	30.000	30.000	0.375	A53-B-42	1.000
2	185 - 180	5	0	0	30.000	30.000	0.375	A53-B-42	1.000
3	180 - 175	5		0	36.000	36.000	0.375	A53-B-42	1.000
4	175 - 170	5		0	36.000	36.000	0.375	A53-B-42	1.000
5	170 - 165	5		0	36.000	36.000	0.375	A53-B-42	1.000
6	165 - 160	5	0	0	36.000	36.000	0.375	A53-B-42	1.000
7	160 - 155	5		0	42.000	42.000	0.375	A53-B-42	1.000
8	155 - 150	5		0	42.000	42.000	0.375	A53-B-42	1.000
9	150 - 145	5		0	42.000	42.000	0.375	A53-B-42	1.000
10	145 - 140	5	0	0	42.000	42.000	0.375	A53-B-42	1.000
11	140 - 135	5		0	48.000	48.000	0.375	A53-B-42	1.000
12	135 - 130	5		0	48.000	48.000	0.375	A53-B-42	1.000
13	130 - 125	5		0	48.000	48.000	0.375	A53-B-42	1.000
14	125 - 120	5	0	0	48.000	48.000	0.375	A53-B-42	1.000
15	120 - 115	5		0	54.000	54.000	0.375	A53-B-42	1.000
16	115 - 112.666	2.334		0	54.000	54.000	0.375	A53-B-42	1.000
17	112.666 - 112.416	0.25		0	54.000	54.000	0.4875	A53-B-42	0.990
18	112.416 - 107.416	5		0	54.000	54.000	0.4875	A53-B-42	0.990
19	107.416 - 103.333	4.083		0	54.000	54.000	0.4875	A53-B-42	0.990
20	103.333 - 103.083	0.25		0	54.000	54.000	0.4875	A53-B-42	0.990
21	103.083 - 100	3.083	0	0	54.000	54.000	0.4875	A53-B-42	0.990
22	100 - 95	5		0	60.000	60.000	0.475	A53-B-42	0.993
23	95 - 90	5		0	60.000	60.000	0.475	A53-B-42	0.993
24	90 - 89.5	0.5		0	60.000	60.000	0.475	A53-B-42	0.993
25	89.5 - 89.25	0.25		0	60.000	60.000	0.55625	A53-B-42	0.979
26	89.25 - 85.5	3.75		0	60.000	60.000	0.55625	A53-B-42	0.979
27	85.5 - 85.25	0.25		0	60.000	60.000	0.6375	A53-B-42	0.969
28	85.25 - 84	1.25		0	60.000	60.000	0.6375	A53-B-42	0.969
29	84 - 83.75	0.25		0	60.000	60.000	0.525	A53-B-42	0.991
30	83.75 - 82.5	1.25		0	60.000	60.000	0.525	A53-B-42	0.991
31	82.5 - 82.25	0.25		0	60.000	60.000	0.45	A53-B-42	0.995
32	82.25 - 80	2.25	0	0	60.000	60.000	0.45	A53-B-42	0.995
33	80 - 75	5		0	60.000	60.000	0.575	A53-B-42	0.996
34	75 - 70	5		0	60.000	60.000	0.575	A53-B-42	0.996
35	70 - 65	5		0	60.000	60.000	0.575	A53-B-42	0.996
36	65 - 60	5	0	0	60.000	60.000	0.575	A53-B-42	0.996
37	60 - 58.5	1.5		0	60.000	60.000	0.7	A53-B-42	0.998
38	58.5 - 58.25	0.25		0	60.000	60.000	0.625	A53-B-42	1.000
39	58.25 - 53.25	5		0	60.000	60.000	0.625	A53-B-42	1.000
40	53.25 - 48.25	5		0	60.000	60.000	0.625	A53-B-42	1.000
41	48.25 - 48	0.25		0	60.000	60.000	0.775	A53-B-42	0.978
42	48 - 43	5		0	60.000	60.000	0.775	A53-B-42	0.978
43	43 - 40	3	0	0	60.000	60.000	0.775	A53-B-42	0.978
44	40 - 35	5		0	60.000	60.000	0.775	A53-B-42	0.978
45	35 - 32.08	2.92		0	60.000	60.000	0.775	A53-B-42	0.978
46	32.08 - 31.83	0.25		0	60.000	60.000	0.9625	A53-B-42	0.968
47	31.83 - 28.75	3.08		0	60.000	60.000	0.9625	A53-B-42	0.968
48	28.75 - 28.5	0.25		0	60.000	60.000	0.8125	A53-B-42	0.983
49	28.5 - 23.5	5	0	0	60.000	60.000	0.8125	A53-B-42	0.983
50	23.5 - 18.5	5		0	60.000	60.000	0.95	A53-B-42	0.973
51	18.5 - 13.5	5		0	60.000	60.000	0.95	A53-B-42	0.973
52	13.5 - 8.5	5		0	60.000	60.000	0.95	A53-B-42	0.973
53	8.5 - 3.5	5		0	60.000	60.000	0.95	A53-B-42	0.973
54	3.5 - 0	3.5		0	60.000	60.000	0.95	A53-B-42	0.973

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	190 - 185	3.44	10.91	2.80
2	185 - 180	4.73	31.52	3.99
3	180 - 175	7.77	61.67	6.20
4	175 - 170	8.69	93.75	6.61
5	170 - 165	13.59	147.76	11.00
6	165 - 160	18.89	215.85	16.00
7	160 - 155	20.10	296.93	16.46
8	155 - 150	21.32	380.32	16.92
9	150 - 145	25.92	489.64	22.15
10	145 - 140	27.19	601.66	22.67
11	140 - 135	28.60	716.36	23.23
12	135 - 130	30.01	833.82	23.77
13	130 - 125	31.43	953.97	24.30
14	125 - 120	33.12	1077.73	24.98
15	120 - 115	34.69	1203.96	25.53
16	115 - 112.666	35.42	1263.85	25.80
17	112.666 - 112.416	35.52	1270.30	25.83
18	112.416 - 107.416	37.72	1401.73	26.56
19	107.416 - 103.333	39.30	1511.12	27.04
20	103.333 - 103.083	39.40	1517.88	27.08
21	103.083 - 100	40.59	1601.91	27.44
22	100 - 95	42.80	1740.48	28.07
23	95 - 90	45.16	1883.80	28.81
24	90 - 89.5	45.37	1898.21	28.87
25	89.5 - 89.25	45.48	1905.43	28.90
26	89.25 - 85.5	47.24	2015.23	29.68
27	85.5 - 85.25	47.38	2022.65	29.73
28	85.25 - 84	48.03	2059.97	30.00
29	84 - 83.75	48.15	2067.47	30.04
30	83.75 - 82.5	48.71	2105.18	30.31
31	82.5 - 82.25	48.81	2112.76	30.35
32	82.25 - 80	49.71	2181.31	30.60
33	80 - 75	53.20	2338.56	31.71
34	75 - 70	55.68	2498.34	32.23
35	70 - 65	58.14	2664.01	33.68
36	65 - 60	60.63	2833.48	34.10
37	60 - 58.5	62.99	2885.48	34.74
38	58.5 - 58.25	63.12	2894.17	34.75
39	58.25 - 53.25	65.81	3068.96	35.16
40	53.25 - 48.25	68.51	3245.71	35.54
41	48.25 - 48	68.67	3254.60	35.57
42	48 - 43	71.85	3434.54	36.39
43	43 - 40	73.76	3544.41	36.86
44	40 - 35	79.07	3734.52	38.40
45	35 - 32.08	80.93	3847.30	38.85
46	32.08 - 31.83	81.13	3857.02	38.88
47	31.83 - 28.75	83.49	3977.52	39.36
48	28.75 - 28.5	83.66	3987.36	39.39
49	28.5 - 23.5	87.01	4186.09	40.10
50	23.5 - 18.5	93.77	4389.46	41.57
51	18.5 - 13.5	97.60	4598.95	42.23
52	13.5 - 8.5	101.38	4811.60	42.87
53	8.5 - 3.5	105.03	5027.42	43.49
54	3.5 - 0	107.57	5180.31	43.91

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
190 - 185	Pole	TP30x30x0.375	Pole	1.3%	Pass
185 - 180	Pole	TP30x30x0.375	Pole	3.5%	Pass
180 - 175	Pole	TP36x36x0.375	Pole	4.9%	Pass
175 - 170	Pole	TP36x36x0.375	Pole	7.2%	Pass
170 - 165	Pole	TP36x36x0.375	Pole	11.4%	Pass
165 - 160	Pole	TP36x36x0.375	Pole	16.6%	Pass
160 - 155	Pole	TP42x42x0.375	Pole	16.9%	Pass
155 - 150	Pole	TP42x42x0.375	Pole	21.4%	Pass
150 - 145	Pole	TP42x42x0.375	Pole	27.5%	Pass
145 - 140	Pole	TP42x42x0.375	Pole	33.5%	Pass
140 - 135	Pole	TP48x48x0.375	Pole	30.9%	Pass
135 - 130	Pole	TP48x48x0.375	Pole	35.8%	Pass
130 - 125	Pole	TP48x48x0.375	Pole	40.8%	Pass
125 - 120	Pole	TP48x48x0.375	Pole	46.0%	Pass
120 - 115	Pole	TP54x54x0.375	Pole	41.1%	Pass
115 - 112.67	Pole	TP54x54x0.375	Pole	43.1%	Pass
112.67 - 112.42	Pole + Reinf.	TP54x54x0.4875	Pole	33.1%	Pass
112.42 - 107.42	Pole + Reinf.	TP54x54x0.4875	Pole	36.5%	Pass
107.42 - 103.33	Pole + Reinf.	TP54x54x0.4875	Pole	39.3%	Pass
103.33 - 103.08	Pole + Reinf.	TP54x54x0.4875	Pole	39.5%	Pass
103.08 - 100	Pole + Reinf.	TP54x54x0.4875	Pole	41.6%	Pass
100 - 95	Pole + Reinf.	TP60x60x0.475	Pole	37.9%	Pass
95 - 90	Pole + Reinf.	TP60x60x0.475	Pole	41.0%	Pass
90 - 89.5	Pole + Reinf.	TP60x60x0.475	Pole	41.3%	Pass
89.5 - 89.25	Pole + Reinf.	TP60x60x0.5563	Pole	35.8%	Pass
89.25 - 85.5	Pole + Reinf.	TP60x60x0.5563	Pole	37.8%	Pass
85.5 - 85.25	Pole + Reinf.	TP60x60x0.6375	Pole	33.3%	Pass
85.25 - 84	Pole + Reinf.	TP60x60x0.6375	Pole	34.0%	Pass
84 - 83.75	Pole + Reinf.	TP60x60x0.525	Pole	40.7%	Pass
83.75 - 82.5	Pole + Reinf.	TP60x60x0.525	Pole	41.4%	Pass
82.5 - 82.25	Pole + Reinf.	TP60x60x0.45	Pole	48.6%	Pass
82.25 - 80	Pole + Reinf.	TP60x60x0.45	Pole	50.2%	Pass
80 - 75	Pole + Reinf.	TP60x60x0.575	Reinf. 3 Compression	41.3%	Pass
75 - 70	Pole + Reinf.	TP60x60x0.575	Reinf. 3 Compression	44.1%	Pass
70 - 65	Pole + Reinf.	TP60x60x0.575	Reinf. 3 Compression	47.0%	Pass
65 - 60	Pole + Reinf.	TP60x60x0.575	Reinf. 3 Compression	49.9%	Pass
60 - 58.5	Pole + Reinf.	TP60x60x0.7	Reinf. 3 Compression	42.0%	Pass
58.5 - 58.25	Pole	TP60x60x0.625	Pole	45.9%	Pass
58.25 - 53.25	Pole	TP60x60x0.625	Pole	48.7%	Pass
53.25 - 48.25	Pole	TP60x60x0.625	Pole	51.5%	Pass
48.25 - 48	Pole + Reinf.	TP60x60x0.775	Pole	42.1%	Pass
48 - 43	Pole + Reinf.	TP60x60x0.775	Pole	44.4%	Pass
43 - 40	Pole + Reinf.	TP60x60x0.775	Pole	45.9%	Pass
40 - 35	Pole + Reinf.	TP60x60x0.775	Pole	48.3%	Pass
35 - 32.08	Pole + Reinf.	TP60x60x0.775	Pole	49.8%	Pass
32.08 - 31.83	Pole + Reinf.	TP60x60x0.9625	Pole	40.2%	Pass
31.83 - 28.75	Pole + Reinf.	TP60x60x0.9625	Pole	41.5%	Pass
28.75 - 28.5	Pole + Reinf.	TP60x60x0.8125	Pole	48.8%	Pass
28.5 - 23.5	Pole + Reinf.	TP60x60x0.8125	Pole	51.2%	Pass
23.5 - 18.5	Pole + Reinf.	TP60x60x0.95	Pole	45.6%	Pass
18.5 - 13.5	Pole + Reinf.	TP60x60x0.95	Pole	47.7%	Pass
13.5 - 8.5	Pole + Reinf.	TP60x60x0.95	Pole	49.9%	Pass
8.5 - 3.5	Pole + Reinf.	TP60x60x0.95	Pole	52.2%	Pass
3.5 - 0	Pole + Reinf.	TP60x60x0.95	Pole	53.7%	Pass
				Summary	
			Pole	53.7%	Pass
			Reinforcement	49.9%	Pass
			Overall	53.7%	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
190 - 185	3829	n/a	3829	34.90	n/a	34.90	1.3%						
185 - 180	3829	n/a	3829	34.90	n/a	34.90	3.5%						
180 - 175	6659	n/a	6659	41.97	n/a	41.97	4.9%						
175 - 170	6659	n/a	6659	41.97	n/a	41.97	7.2%						
170 - 165	6659	n/a	6659	41.97	n/a	41.97	11.4%						
165 - 160	6659	n/a	6659	41.97	n/a	41.97	16.6%						
160 - 155	10622	n/a	10622	49.04	n/a	49.04	16.9%						
155 - 150	10622	n/a	10622	49.04	n/a	49.04	21.4%						
150 - 145	10622	n/a	10622	49.04	n/a	49.04	27.5%						
145 - 140	10622	n/a	10622	49.04	n/a	49.04	33.5%						
140 - 135	15908	n/a	15908	56.11	n/a	56.11	30.9%						
135 - 130	15908	n/a	15908	56.11	n/a	56.11	35.8%						
130 - 125	15908	n/a	15908	56.11	n/a	56.11	40.8%						
125 - 120	15908	n/a	15908	56.11	n/a	56.11	46.0%						
120 - 115	22710	n/a	22710	63.18	n/a	63.18	41.1%						
115 - 112.67	22710	n/a	22710	63.18	n/a	63.18	43.1%						
112.67 - 112.42	22710	6834	29544	63.18	18.00	81.18	33.1%					29.6%	
112.42 - 107.42	22710	6834	29544	63.18	18.00	81.18	36.5%					32.7%	
107.42 - 103.33	22710	6834	29544	63.18	18.00	81.18	39.3%					35.2%	
103.33 - 103.08	22710	6834	29544	63.18	18.00	81.18	39.5%				35.3%		
103.08 - 100	22710	6834	29544	63.18	18.00	81.18	41.6%				37.2%		
100 - 95	31217	8400	39617	70.24	18.00	88.24	37.9%				33.6%		
95 - 90	31217	8400	39617	70.24	18.00	88.24	41.0%				36.3%		
90 - 89.5	31217	8400	39617	70.24	18.00	88.24	41.3%				36.6%		
89.5 - 89.25	31217	14691	45908	70.24	31.50	101.74	35.8%				31.7%		34.9%
89.25 - 85.5	31217	14691	45908	70.24	31.50	101.74	37.8%				33.5%		36.9%
85.5 - 85.25	31217	20982	52199	70.24	45.00	115.24	33.3%			32.6%	29.5%		32.6%
85.25 - 84	31217	20982	52199	70.24	45.00	115.24	34.0%			33.2%	30.1%		33.2%
84 - 83.75	31217	12582	43799	70.24	27.00	97.24	40.7%			39.8%			39.8%
83.75 - 82.5	31217	12582	43799	70.24	27.00	97.24	41.4%			40.5%			40.5%
82.5 - 82.25	31217	6291	37508	70.24	13.50	83.74	48.6%			47.5%			
82.25 - 80	31217	6291	37508	70.24	13.50	83.74	50.2%			49.0%			
80 - 75	41363	6291	47654	93.46	13.50	106.96	41.2%			41.3%			
75 - 70	41363	6291	47654	93.46	13.50	106.96	43.9%			44.1%			
70 - 65	41363	6291	47654	93.46	13.50	106.96	46.8%			47.0%			
65 - 60	41363	6291	47654	93.46	13.50	106.96	49.8%			49.9%			
60 - 58.5	51381	6291	57672	116.58	13.50	130.08	40.8%			42.0%			
58.5 - 58.25	51381	n/a	51381	116.58	n/a	116.58	45.9%						
58.25 - 53.25	51381	n/a	51381	116.58	n/a	116.58	48.7%						
53.25 - 48.25	51381	n/a	51381	116.58	n/a	116.58	51.5%						
48.25 - 48	51381	11475	62856	116.58	24.38	140.96	42.1%		38.6%				
48 - 43	51381	11475	62856	116.58	24.38	140.96	44.4%		40.8%				
43 - 40	51381	11475	62856	116.58	24.38	140.96	45.9%		42.1%				
40 - 35	51381	11475	62856	116.58	24.38	140.96	48.3%		44.3%				
35 - 32.08	51381	11475	62856	116.58	24.38	140.96	49.8%		45.7%				
32.08 - 31.83	51381	26521	77901	116.58	56.25	172.83	40.2%	36.4%	36.9%				
31.83 - 28.75	51381	26521	77901	116.58	56.25	172.83	41.5%	36.3%	38.0%				
28.75 - 28.5	51381	15046	66426	116.58	31.88	148.46	48.8%	42.7%					
28.5 - 23.5	51381	15046	66426	116.58	31.88	148.46	51.2%	44.8%					
23.5 - 18.5	61271	15046	76317	139.60	31.88	171.48	45.6%	40.9%					
18.5 - 13.5	61271	15046	76317	139.60	31.88	171.48	47.7%	42.8%					
13.5 - 8.5	61271	15046	76317	139.60	31.88	171.48	49.9%	44.8%					
8.5 - 3.5	61271	15046	76317	139.60	31.88	171.48	52.2%	46.8%					
3.5 - 0	61271	15046	76317	139.60	31.88	171.48	53.7%	49.9%					

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

Monopole Flange Plate Connection

Elevation = 180 ft.

BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

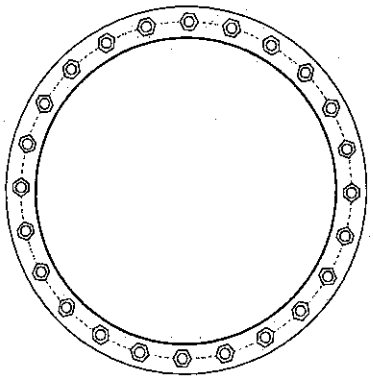
TIA-222 Revision	H

Applied Loads	
Moment (kip-ft)	31.52
Axial Force (kips)	4.73
Shear Force (kips)	3.99

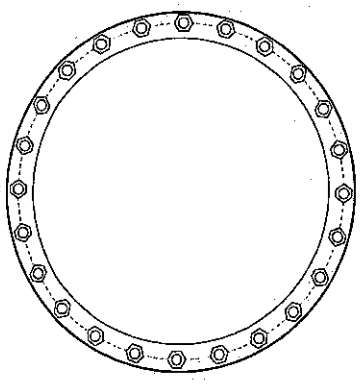
**TIA-222-H Section 15.5 Applied*

CROWN CASTLE

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(24) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 33" BC

Top Plate Data

36" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

30" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

30" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

36" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	1.71	
Allowable (kips)	54.54	
Stress Rating:	3.0%	Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Pirod OK
Tension Side Stress Rating:	Pirod OK

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Pirod OK
Tension Side Stress Rating:	Pirod OK

Monopole Flange Plate Connection

Elevation = 160 ft.

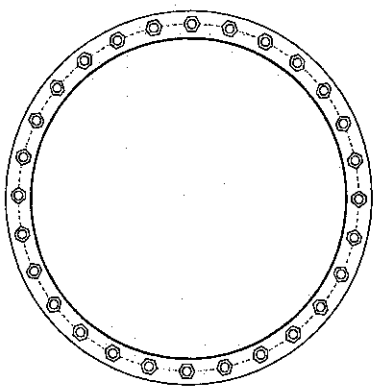
BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

TIA-222 Revision	H

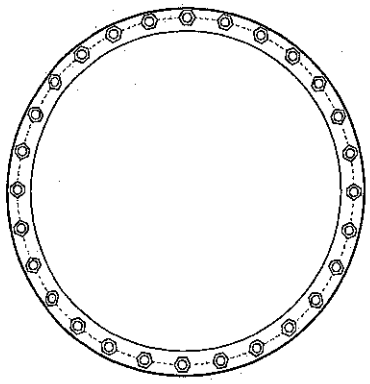
Applied Loads	
Moment (kip-ft)	215.85
Axial Force (kips)	18.89
Shear Force (kips)	16.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(28) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 39" BC

Top Plate Data

42" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

36" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

36" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	8.81	
Allowable (kips)	54.53	
Stress Rating:	**15.4%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Monopole Flange Plate Connection

Elevation = 140 ft.

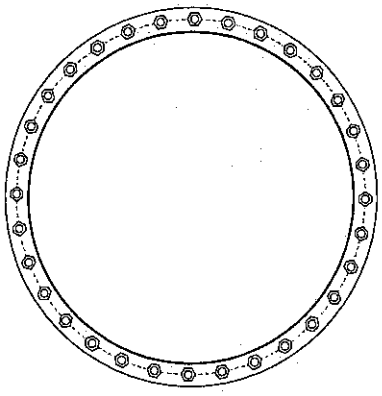
BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0
TIA-222 Revision	H

Applied Loads	
Moment (kip-ft)	601.66
Axial Force (kips)	27.19
Shear Force (kips)	22.67

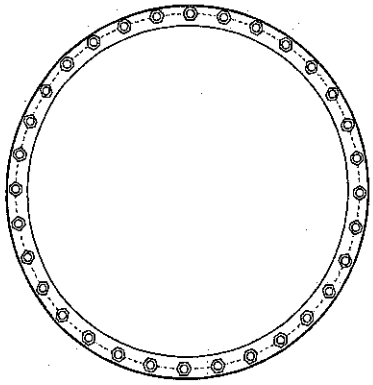
**TIA-222-H Section 15.5 Applied*

CROWN CASTLE

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(32) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 45" BC

Top Plate Data

48" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

42" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	19.20	
Allowable (kips)	54.53	
Stress Rating:	**33.5%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Monopole Flange Plate Connection

Elevation = 120 ft.

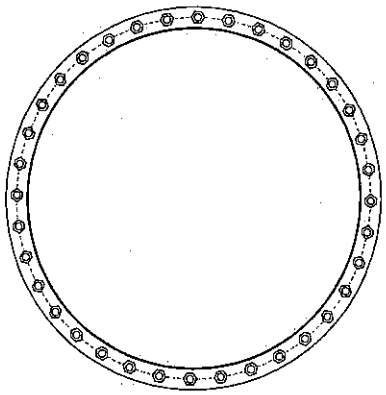
BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

TIA-222 Revision	H

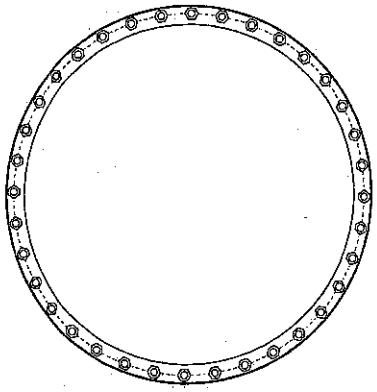
Applied Loads	
Moment (kip-ft)	1077.73
Axial Force (kips)	33.12
Shear Force (kips)	24.98

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(36) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 51" BC

Top Plate Data

54" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

48" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

54" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	27.25	
Allowable (kips)	54.53	
Stress Rating:	47.6%	Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Pirod OK
Tension Side Stress Rating:	Pirod OK

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Pirod OK
Tension Side Stress Rating:	Pirod OK

Monopole Flange Plate Connection

Elevation = 100 ft.

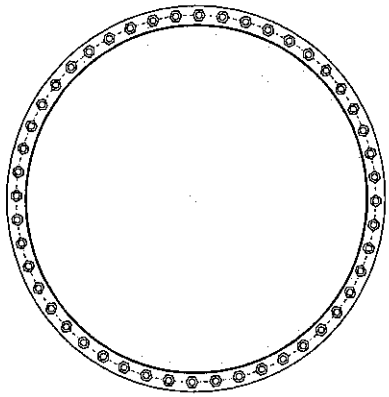
BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

TIA-222 Revision	H

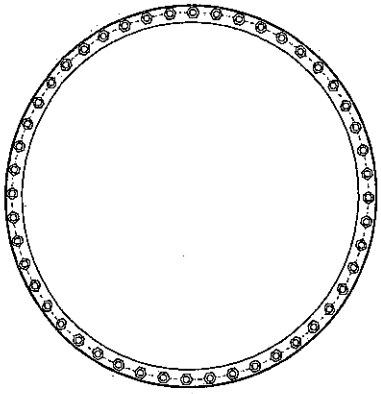
Applied Loads	
Moment (kip-ft)	1601.91
Axial Force (kips)	40.59
Shear Force (kips)	27.44

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(48) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 57" BC

Top Plate Data

60" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

54" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

54" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

60" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	27.25	
Allowable (kips)	54.53	
Stress Rating:	**47.6%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

1. PARAMETERS

Flange Elevation: 80'- 0"

1.1 tnxTower Reactions

Apply TIA-222-H Section 15.5? No

Moment: $M := 2181.31kip \cdot ft$

Axial Load: $P := 49.71kip$

Shear Load: $V := 30.60kip$

1.2 Shaft Properties at the Flange

Upper Shaft Diameter: $D_{shaft1} := 60in$

Upper Shaft Thickness: $t_1 := 0.375in$

Lower Shaft Diameter: $D_{shaft2} := 60in$

Lower Shaft Thickness: $t_2 := 0.5in$

Shaft Grade: $Fy_{shaft} := 42$ $Fu_{shaft} := 63ksi$

1.3 Existing Bridge Stiffener Properties

(Verify existing bolted connection for reduced moment.)

Number of Existing Bridge Stiffeners: $N_{exist} := 3$

Existing Bridge Stiffener Grade: $Fy_{Ex} := 65ksi$ $Fu_{Ex} := 80ksi$

Diameter to the centroid of Existing Bridge Stiffeners: $BC_{exist} := 61in$

Thickness of Existing Bridge Stiffeners: $t_{exist} := 1in$

Width of Existing Bridge Stiffeners: $w_{exist} := 4.5in$

Gross Area of One Existing Bridge Stiffener: $A_{g\_exist} := w_{exist} \cdot t_{exist} = 4.5 \cdot in^2$

Moment of Inertia of Existing Bridge Stiffeners: $I_{exist} := \frac{N_{exist} \cdot BC_{exist}^2 \cdot A_{g\_exist}}{8} = 6279.19 \cdot in^4$

Radius of Gyration about x-axis: $r_{x2} := \frac{t_{exist}}{\sqrt{12}} = 0.29 \cdot in$

1.4 Flange Bolt Properties

Number of Flange Bolts: $N_{bolts} := 64$

Diameter of Flange Bolts: 1-1/4"

Bolt Circle of Flange Bolts: $BC_{bolts} := 50in$

Gross Area of One Flange Bolt: $A_{g\_bolts} := \frac{\pi}{4} \cdot D_{bolts}^{2} = 1.23 \cdot in^2$

Moment of Inertia of Flange Bolts: $I_{bolts} := \frac{N_{bolts} \cdot BC_{bolts}^{2} \cdot A_{g\_bolts}}{8} = 24543.69 \cdot in^4$

1.5 Division of Forces

Total Gross Area: $A_{g\_total} := N_{exist} \cdot A_{g\_exist} + N_{bolts} \cdot A_{g\_bolts} = 92.04 \cdot in^2$

Total Moment of Inertia: $I_{total} := I_{exist} + I_{bolts} = 30822.88 \cdot in^4$

1.6 Reactions to Existing Bridge Stiffeners

Moment Reaction to Existing Bridge Stiffeners: $M_{exist} := M \cdot \left(\frac{I_{exist}}{I_{total}} \right) = 444.37 \cdot kip \cdot ft$

Axial Reaction to Existing Bridge Stiffeners: $P_{exist} := 0kip$

Shear Reaction to Existing Bridge Stiffeners: $V_{exist} := 0kip$

1.7 Reactions to Flange Bolts

(It is assumed that all shear and axial loads are taken by the flange bolts)

Moment Reaction to Flange Bolts: $M_{bolts} := M \cdot \left(\frac{I_{bolts}}{I_{total}} \right) = 1736.94 \cdot kip \cdot ft$

Axial Reaction to Flange Bolts: $P_{bolts} := P = 49.71 \cdot kip$

Shear Reaction to Flange Bolts: $V_{bolts} := V = 30.6 \cdot kip$

Check Flange Connection in CCIplate with these Reactions

2. Existing Bridge Stiffener Checks

2.1 Maximum Axial Forces in Single Existing Bridge Stiffener

Outer Radius of Bolt Circle:

$$C := \frac{BC_{exist}}{2} = 30.5 \cdot in$$

Critical Compression Bending Stress:

$$P_{comp} := \frac{M_{exist} \cdot C}{I_{exist}} \cdot A_{g\_exist} + \frac{P_{exist}}{N_{exist}} = 116.56 \cdot kip$$

Critical Tension Bending Stress:

$$P_{tens} := \frac{M_{exist} \cdot C}{I_{exist}} \cdot A_{g\_exist} - \frac{P_{exist}}{N_{exist}} = 116.56 \cdot kip$$

2.2 Available Compression Strength

[AISC 15th Edition E3-1]

Resistance Factor:

$$\phi_c := 0.9$$

Unbraced Length:

$$L_u := 20.625in$$

Effective Length Factor:

$$K := 1.0$$

Effective Length of Member:

$$L_c := K \cdot L_u = 20.63 \cdot in$$

[AISC 15th Edition E3-2]

Strength of Bridge Stiffener:

$$Fy_{Ex} = 65 \cdot ksi \qquad Fu_{Ex} = 80 \cdot ksi$$

Elastic Buckling Stress:
[AISC 15th Ed., Eq. E3-4]

$$F_e := \frac{\pi^2 \cdot 29000ksi}{\left(\frac{L_c}{r_{x2}}\right)^2} = 56.07 \cdot ksi$$

Determination of Crticial Stress:
[AISC 15th Ed., Eqs. E3-2 and E3-3]

$$F_{cr} := \begin{cases} \left(0.658^{\frac{Fy_{Ex}}{F_e}} \cdot Fy_{Ex}\right) & \text{if } 4.71 \cdot \sqrt{\frac{E}{Fy_{Ex}}} \geq \frac{L_c}{r_{x2}} \\ \left(0.877 \cdot F_e\right) & \text{otherwise} \end{cases}$$

$$F_{cr} = 40.01 \cdot ksi$$

Allowable Compressive Strength:
[AISC 15th Ed., Eqs. J4-6 and E3-1]

$$\phi P_n := \begin{cases} \left(\phi_c \cdot Fy_{Ex} \cdot A_{g\_exist}\right) & \text{if } \frac{L_c}{r_{x2}} \leq 25 \\ \left(\phi_c \cdot F_{cr} \cdot A_{g\_exist}\right) & \text{otherwise} \end{cases}$$

$\phi P_n = 162.05 \cdot kip$

Check Compressive Strength:

$$Check_{comp} := \begin{cases} \text{"OK"} & \text{if } Capacity_{comp} \le 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{comp} = \text{"OK"}$

$Capacity_{comp} = 68.5\ \%$

2.3 Available Tension Strength

Gross Section Yield [AISC 15th Edition Ch. D2]

Available Tension Yield Strength: $\phi P_{ty} := 0.9 \cdot Fy_{Ex} \cdot A_{g\_exist} = 263.25 \cdot kip$

Net Section Fracture

Bolt Hole Diameter: $BH := 1.1875in$

Thickness: $T := t_{exist} = 1 \cdot in$

Net Area: $A_{net} := A_{g\_exist} - \left(BH + \frac{1}{16}in\right) \cdot T = 3.25 \cdot in^2$

Net Area Limitation: $A_e := A_{net} = 3.25 \cdot in^2$

Available Fractile Strength: $\phi P_{tr} := 0.75 \cdot Fu_{Ex} \cdot A_e = 195 \cdot kip$

Tension Check

Controlling Mode of Failure:

$$Check_{mode} := \begin{cases} \text{"Fracture Controls"} & \text{if } \frac{P_{tens}}{\phi P_{tr}} > \frac{P_{tens}}{\phi P_{ty}} \\ \text{"Yield Controls"} & \text{otherwise} \end{cases}$$

$Check_{mode} = \text{"Fracture Controls"}$

$$\phi P_{nt} := \begin{cases} \phi P_{tr} & \text{if } Check_{mode} = \text{"Fracture Controls"} \\ \phi P_{ty} & \text{otherwise} \end{cases}$$

Controlling Tension Mode Check:

$$Check_{tension} := \begin{cases} \text{"OK"} & \text{if } Capacity_{tension} \le 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{tension} = \text{"OK"}$

$Capacity_{tension} = 56.93\ \%$

SUMMARY

tnxTower Reactions: $M = 2181.31 \cdot kip \cdot ft$ $P = 49.71 \cdot kip$ $V = 30.6 \cdot kip$

Flange Bolts:

Diameter of Flange Bolts: $D_{bolts} = 1\frac{1}{4} \cdot in$

Bolt Circle of Flange Bolts: $BC_{bolts} = 50 \cdot in$

Loads to Flange Bolts: $M_{bolts} = 1736.94 \, ft \cdot kip$ $P = 49.71 \, kip$ $V = 30.6 \, kip$

See CCIPlate for Flange Bolt and Plate Capacities

Existing Jump Plates:

Moment to Proposed Bridge Stiffeners: $M_{exist} = 444.37 \, ft \cdot kip$

Number of Existing Bridge Stiffeners: $N_{exist} = 3$

Thickness: $t_{exist} = 1 \cdot in$

Width: $w_{exist} = 4.5 \cdot in$

Controlling Capacity of Existing Bridge Stiffeners: $Capacity_{exist} = 68.5 \, \%$

Monopole Flange Plate Connection

Elevation = 80 ft.

BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

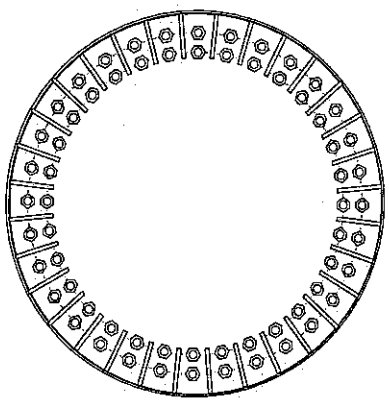
TIA-222 Revision	H

Applied Loads	
Moment (kip-ft)	1736.94
Axial Force (kips)	49.71
Shear Force (kips)	30.60

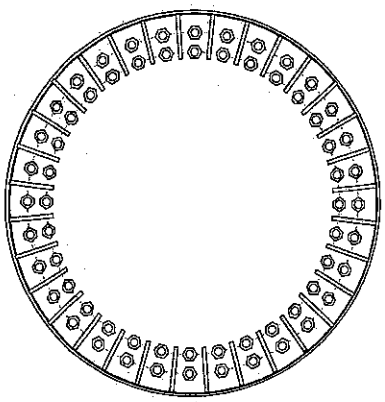
**TIA-222-H Section 15.5 Applied*

CROWN CASTLE

Top Plate - Internal



Bottom Plate - Internal



Connection Properties

Bolt Data

GROUP 1: (32) 1-1/4" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 47" BC
GROUP 2: (32) 1-1/4" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 53" BC

Top Plate Data

60" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Top Pole Data

60" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

60" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Bottom Pole Data

60" x 0.5" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	27.51	
Allowable (kips)	76.31	
Stress Rating:	**34.3%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Top Stiffener Capacity

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Top Pole Capacity

Punching Shear:	**Pirod OK**

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Bottom Stiffener Capacity

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Bottom Pole Capacity

Punching Shear:	**Pirod OK**

1. PARAMETERS

Flange Elevation: 60'- 0"

1.1 tnxTower Reactions

Apply TIA-222-H Section 15.5? No

Moment: $M := 2833.48kip \cdot ft$

Axial Load: $P := 60.63kip$

Shear Load: $V := 34.10kip$

1.2 Shaft Properties at the Flange

Upper Shaft Diameter: $D_{shaft1} := 60in$

Upper Shaft Thickness: $t_1 := 0.5in$

Lower Shaft Diameter: $D_{shaft2} := 60in$

Lower Shaft Thickness: $t_2 := 0.625in$

Shaft Grade: $Fy_{shaft} := 42$ $Fu_{shaft} := 63ksi$

1.3 Existing Bridge Stiffener Properties

(Verify existing bolted connection for reduced moment.)

Number of Existing Bridge Stiffeners: $N_{exist} := 3$

Existing Bridge Stiffener Grade: $Fy_{Ex} := 65ksi$ $Fu_{Ex} := 80ksi$

Diameter to the centroid of Existing Bridge Stiffeners: $BC_{exist} := 61.25in$

Thickness of Existing Bridge Stiffeners: $t_{exist} := 1.25in$

Width of Existing Bridge Stiffeners: $w_{exist} := 6.5in$

Gross Area of One Existing Bridge Stiffener: $A_{g\_exist} := w_{exist} \cdot t_{exist} = 8.13 \cdot in^2$

Moment of Inertia of Existing Bridge Stiffeners: $I_{exist} := \frac{N_{exist} \cdot BC_{exist}^2 \cdot A_{g\_exist}}{8} = 11430.54 \cdot in^4$

Radius of Gyration about x-axis: $r_{x2} := \frac{t_{exist}}{\sqrt{12}} = 0.36 \cdot in$

1.4 Flange Bolt Properties

Number of Flange Bolts: $N_{bolts} := 64$

Diameter of Flange Bolts: 1-1/4"

Bolt Circle of Flange Bolts: $BC_{bolts} := 50in$

Gross Area of One Flange Bolt: $A_{g\_bolts} := \frac{\pi}{4} \cdot D_{bolts}^{2} = 1.23 \cdot in^2$

Moment of Inertia of Flange Bolts: $I_{bolts} := \frac{N_{bolts} \cdot BC_{bolts}^{2} \cdot A_{g\_bolts}}{8} = 24543.69 \cdot in^4$

1.5 Division of Forces

Total Gross Area: $A_{g\_total} := N_{exist} \cdot A_{g\_exist} + N_{bolts} \cdot A_{g\_bolts} = 102.91 \cdot in^2$

Total Moment of Inertia: $I_{total} := I_{exist} + I_{bolts} = 35974.23 \cdot in^4$

1.6 Reactions to Existing Bridge Stiffeners

Moment Reaction to Existing Bridge Stiffeners: $M_{exist} := M \cdot \left(\frac{I_{exist}}{I_{total}} \right) = 900.32 \cdot kip \cdot ft$

Axial Reaction to Existing Bridge Stiffeners: $P_{exist} := 0kip$

Shear Reaction to Existing Bridge Stiffeners: $V_{exist} := 0kip$

1.7 Reactions to Flange Bolts

(It is assumed that all shear and axial loads are taken by the flange bolts)

Moment Reaction to Flange Bolts: $M_{bolts} := M \cdot \left(\frac{I_{bolts}}{I_{total}} \right) = 1933.16 \cdot kip \cdot ft$

Axial Reaction to Flange Bolts: $P_{bolts} := P = 60.63 \cdot kip$

Shear Reaction to Flange Bolts: $V_{bolts} := V = 34.1 \cdot kip$

Check Flange Connection in CCIplate with these Reactions

2. Existing Bridge Stiffener Checks

2.1 Maximum Axial Forces in Single Existing Bridge Stiffener

Outer Radius of Bolt Circle:

$$C := \frac{BC_{exist}}{2} = 30.63 \cdot in$$

Critical Compression Bending Stress:

$$P_{comp} := \frac{M_{exist} \cdot C}{I_{exist}} \cdot A_{g\_exist} + \frac{P_{exist}}{N_{exist}} = 235.18 \cdot kip$$

Critical Tension Bending Stress:

$$P_{tens} := \frac{M_{exist} \cdot C}{I_{exist}} \cdot A_{g\_exist} - \frac{P_{exist}}{N_{exist}} = 235.18 \cdot kip$$

2.2 Available Compression Strength

[AISC 15th Edition E3-1]

Resistance Factor:

$$\phi_c := 0.9$$

Unbraced Length:

$$L_u := 19.2in$$

Effective Length Factor:

$$K := 1.0$$

Effective Length of Member:

$$L_c := K \cdot L_u = 19.2 \cdot in$$

[AISC 15th Edition E3-2]

Strength of Bridge Stiffener:

$$Fy_{Ex} = 65 \cdot ksi \qquad Fu_{Ex} = 80 \cdot ksi$$

Elastic Buckling Stress:
[AISC 15th Ed., Eq. E3-4]

$$F_e := \frac{\pi^2 \cdot 29000ksi}{\left(\frac{L_c}{r_{x2}}\right)^2} = 101.1 \cdot ksi$$

Determination of Critical Stress:
[AISC 15th Ed., Eqs. E3-2 and E3-3]

$$F_{cr} := \begin{cases} \left(0.658^{\frac{Fy_{Ex}}{F_e}} \cdot Fy_{Ex}\right) & \text{if } 4.71 \cdot \sqrt{\frac{E}{Fy_{Ex}}} \geq \frac{L_c}{r_{x2}} \\ \left(0.877 \cdot F_e\right) & \text{otherwise} \end{cases}$$

$$F_{cr} = 49.66 \cdot ksi$$

Allowable Compressive Strength:
[AISC 15th Ed., Eqs. J4-6 and E3-1]

$$\phi P_n := \begin{cases} \left(\phi_c \cdot Fy_{Ex} \cdot A_{g\_exist}\right) & \text{if } \frac{L_c}{r_{x2}} \leq 25 \\ \left(\phi_c \cdot F_{cr} \cdot A_{g\_exist}\right) & \text{otherwise} \end{cases}$$

$\phi P_n = 363.17 \cdot kip$

Check Compressive Strength: $Check_{comp} := \begin{cases} "OK" & \text{if } Capacity_{comp} \le 100\% \\ "N/G" & \text{otherwise} \end{cases}$

$Check_{comp} = "OK"$

$Capacity_{comp} = 61.68\%$

2.3 Available Tension Strength

[AISC 15th Edition Ch. D2]

Gross Section Yield

Available Tension Yield Strength: $\phi P_{ty} := 0.9 \cdot Fy_{Ex} \cdot A_{g\_exist} = 475.31 \cdot kip$

Net Section Fracture

Bolt Hole Diameter: $BH := 1.1875in$

Thickness: $T := t_{exist} = 1.25 \cdot in$

Net Area: $A_{net} := A_{g\_exist} - \left(BH + \frac{1}{16}in\right) \cdot T = 6.56 \cdot in^2$

Net Area Limitation: $A_e := A_{net} = 6.56 \cdot in^2$

Available Fractile Strength: $\phi P_{tr} := 0.75 \cdot Fu_{Ex} \cdot A_e = 393.75 \cdot kip$

Tension Check

Controlling Mode of Failure: $Check_{mode} := \begin{cases} "Fracture\ Controls" & \text{if } \frac{P_{tens}}{\phi P_{tr}} > \frac{P_{tens}}{\phi P_{ty}} \\ "Yield\ Controls" & \text{otherwise} \end{cases}$

$Check_{mode} = "Fracture\ Controls"$

$\phi P_{nt} := \begin{cases} \phi P_{tr} & \text{if } Check_{mode} = "Fracture\ Controls" \\ \phi P_{ty} & \text{otherwise} \end{cases}$

Controlling Tension Mode Check: $Check_{tension} := \begin{cases} "OK" & \text{if } Capacity_{tension} \le 100\% \\ "N/G" & \text{otherwise} \end{cases}$

$Check_{tension} = "OK"$

$Capacity_{tension} = 56.89\%$

SUMMARY

tnxTower Reactions: $M = 2833.48 \cdot kip \cdot ft$ $P = 60.63 \cdot kip$ $V = 34.1 \cdot kip$

Flange Bolts:

Diameter of Flange Bolts: $D_{bolts} = 1\frac{1}{4} \cdot in$

Bolt Circle of Flange Bolts: $BC_{bolts} = 50 \cdot in$

Loads to Flange Bolts: $M_{bolts} = 1933.16\ ft \cdot kip$ $P = 60.63 \cdot kip$ $V = 34.1 \cdot kip$

See CCIPlate for Flange Bolt and Plate Capacities

Existing Jump Plates:

Moment to Proposed Bridge Stiffeners: $M_{exist} = 900.32\ ft \cdot kip$

Number of Existing Bridge Stiffeners: $N_{exist} = 3$

Thickness: $t_{exist} = 1.25 \cdot in$

Width: $w_{exist} = 6.5 \cdot in$

Controlling Capacity of Existing Bridge Stiffeners: $Capacity_{exist} = 61.7\ \%$

Monopole Flange Plate Connection

BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

TIA-222 Revision	H

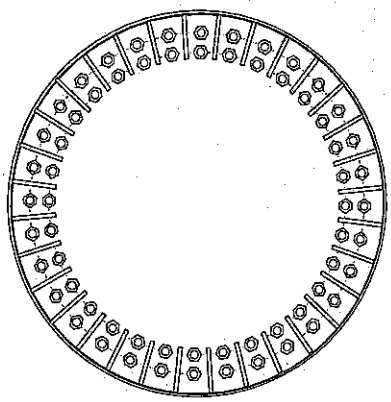
Elevation = 60 ft.

Applied Loads	
Moment (kip-ft)	1933.16
Axial Force (kips)	60.63
Shear Force (kips)	34.10

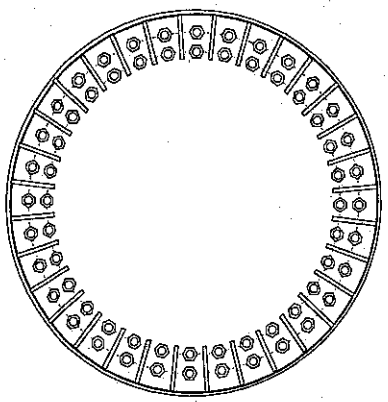
**TIA-222-H Section 15.5 Applied*

CROWN CASTLE

Top Plate - Internal



Bottom Plate - Internal



Connection Properties

Bolt Data

GROUP 1: (32) 1-1/4" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 47" BC
GROUP 2: (32) 1-1/4" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 53" BC

Top Plate Data

60" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Top Pole Data

60" x 0.5" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

60" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Bottom Pole Data

60" x 0.625" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	30.62	
Allowable (kips)	76.31	
Stress Rating:	**38.2%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Top Stiffener Capacity

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Top Pole Capacity

Punching Shear:	**Pirod OK**

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Bottom Stiffener Capacity

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Bottom Pole Capacity

Punching Shear:	**Pirod OK**

1. PARAMETERS

Flange Elevation: 40'- 0"

1.1 tnxTower Reactions

Apply TIA-222-H Section 15.5? No / Yes

Moment: $M := 3544.41kip \cdot ft$

Axial Load: $P := 73.76kip$

Shear Load: $V := 36.86kip$

1.2 Shaft Properties at the Flange

Upper Shaft Diameter: $D_{shaft1} := 60in$

Upper Shaft Thickness: $t_1 := 0.625in$

Lower Shaft Diameter: $D_{shaft2} := 60in$

Lower Shaft Thickness: $t_2 := 0.625in$

Shaft Grade: $Fy_{shaft} := 42$ $Fu_{shaft} := 63ksi$

1.3 Existing Bridge Stiffener Properties

(Verify existing bolted connection for reduced moment.)

Number of Existing Bridge Stiffeners: $N_{exist} := 6$

Existing Bridge Stiffener Grade: $Fy_{Ex} := 65ksi$ $Fu_{Ex} := 80ksi$

Diameter to the centroid of Existing Bridge Stiffeners: $BC_{exist} := 61in$

Thickness of Existing Bridge Stiffeners: $t_{exist} := 1in$

Width of Existing Bridge Stiffeners: $w_{exist} := 6in$

Gross Area of One Existing Bridge Stiffener: $A_{g\_exist} := w_{exist} \cdot t_{exist} = 6 \cdot in^2$

Moment of Inertia of Existing Bridge Stiffeners: $I_{exist} := \frac{N_{exist} \cdot BC_{exist}^2 \cdot A_{g\_exist}}{8} = 16744.5 \cdot in^4$

Radius of Gyration about x-axis: $r_{x2} := \frac{t_{exist}}{\sqrt{12}} = 0.29 \cdot in$

1.4 Flange Bolt Properties

Number of Flange Bolts: $N_{bolts} := 64$

Diameter of Flange Bolts:

Bolt Circle of Flange Bolts: $BC_{bolts} := 50in$

Gross Area of One Flange Bolt: $A_{g\_bolts} := \frac{\pi}{4} \cdot D_{bolts}^{2} = 1.23 \cdot in^{2}$

Moment of Inertia of Flange Bolts: $I_{bolts} := \frac{N_{bolts} \cdot BC_{bolts}^{2} \cdot A_{g\_bolts}}{8} = 24543.69 \cdot in^{4}$

1.5 Division of Forces

Total Gross Area: $A_{g\_total} := N_{exist} \cdot A_{g\_exist} + N_{bolts} \cdot A_{g\_bolts} = 114.54 \cdot in^{2}$

Total Moment of Inertia: $I_{total} := I_{exist} + I_{bolts} = 41288.19 \cdot in^{4}$

1.6 Reactions to Existing Bridge Stiffeners

Moment Reaction to Existing Bridge Stiffeners: $M_{exist} := M \cdot \left(\frac{I_{exist}}{I_{total}} \right) = 1437.44 \cdot kip \cdot ft$

Axial Reaction to Existing Bridge Stiffeners: $P_{exist} := 0kip$

Shear Reaction to Existing Bridge Stiffeners: $V_{exist} := 0kip$

1.7 Reactions to Flange Bolts

(It is assumed that all shear and axial loads are taken by the flange bolts)

Moment Reaction to Flange Bolts: $M_{bolts} := M \cdot \left(\frac{I_{bolts}}{I_{total}} \right) = 2106.97 \cdot kip \cdot ft$

Axial Reaction to Flange Bolts: $P_{bolts} := P = 73.76 \cdot kip$

Shear Reaction to Flange Bolts: $V_{bolts} := V = 36.86 \cdot kip$

Check Flange Connection in CCIplate with these Reactions

2. Existing Bridge Stiffener Checks

2.1 Maximum Axial Forces in Single Existing Bridge Stiffener

Outer Radius of Bolt Circle:

$$C := \frac{BC_{exist}}{2} = 30.5 \cdot in$$

Critical Compression Bending Stress:

$$P_{comp} := \frac{M_{exist} \cdot C}{I_{exist}} \cdot A_{g\_exist} + \frac{P_{exist}}{N_{exist}} = 188.52 \cdot kip$$

Critical Tension Bending Stress:

$$P_{tens} := \frac{M_{exist} \cdot C}{I_{exist}} \cdot A_{g\_exist} - \frac{P_{exist}}{N_{exist}} = 188.52 \cdot kip$$

2.2 Available Compression Strength

[AISC 15th Edition E3-1]

Resistance Factor:

$$\phi_c := 0.9$$

Unbraced Length:

$$L_u := 16.375in$$

Effective Length Factor:

$$K := 1.0$$

Effective Length of Member:

$$L_c := K \cdot L_u = 16.38 \cdot in$$

[AISC 15th Edition E3-2]

Strength of Bridge Stiffener:

$$Fy_{Ex} = 65 \cdot ksi \qquad Fu_{Ex} = 80 \cdot ksi$$

Elastic Buckling Stress:
[AISC 15th Ed., Eq. E3-4]

$$F_e := \frac{\pi^2 \cdot 29000ksi}{\left(\frac{L_c}{r_{x2}}\right)^2} = 88.95 \cdot ksi$$

Determination of Crticial Stress:
[AISC 15th Ed., Eqs. E3-2 and E3-3]

$$F_{cr} := \begin{cases} \left(0.658^{\frac{Fy_{Ex}}{F_e}} \cdot Fy_{Ex}\right) & \text{if } 4.71 \cdot \sqrt{\frac{E}{Fy_{Ex}}} \geq \frac{L_c}{r_{x2}} \\ \left(0.877 \cdot F_e\right) & \text{otherwise} \end{cases}$$

$$F_{cr} = 47.87 \cdot ksi$$

Allowable Compressive Strength:
[AISC 15th Ed., Eqs. J4-6 and E3-1]

$$\phi P_n := \begin{cases} \left(\phi_c \cdot Fy_{Ex} \cdot A_{g\_exist}\right) & \text{if } \frac{L_c}{r_{x2}} \leq 25 \\ \left(\phi_c \cdot F_{cr} \cdot A_{g\_exist}\right) & \text{otherwise} \end{cases}$$

$\phi P_n = 258.51 \cdot kip$

Check Compressive Strength: $Check_{comp} := \begin{cases} "OK" & \text{if } Capacity_{comp} \le 100\% \\ "N/G" & \text{otherwise} \end{cases}$

$Check_{comp} = "OK"$

$Capacity_{comp} = 69.45\ \%$

2.3 Available Tension Strength

[AISC 15th Edition Ch. D2]

Gross Section Yield

Available Tension Yield Strength: $\phi P_{ty} := 0.9 \cdot Fy_{Ex} \cdot A_{g\_exist} = 351 \cdot kip$

Net Section Fracture

Bolt Hole Diameter: $BH := 1.1875in$

Thickness: $T := t_{exist} = 1 \cdot in$

Net Area: $A_{net} := A_{g\_exist} - \left(BH + \frac{1}{16}in\right) \cdot T = 4.75 \cdot in^2$

Net Area Limitation: $A_e := A_{net} = 4.75 \cdot in^2$

Available Fractile Strength: $\phi P_{tr} := 0.75 \cdot Fu_{Ex} \cdot A_e = 285 \cdot kip$

Tension Check

Controlling Mode of Failure: $Check_{mode} := \begin{cases} "Fracture\ Controls" & \text{if } \frac{P_{tens}}{\phi P_{tr}} > \frac{P_{tens}}{\phi P_{ty}} \\ "Yield\ Controls" & \text{otherwise} \end{cases}$

$Check_{mode} = "Fracture\ Controls"$

$\phi P_{nt} := \begin{cases} \phi P_{tr} & \text{if } Check_{mode} = "Fracture\ Controls" \\ \phi P_{ty} & \text{otherwise} \end{cases}$

Controlling Tension Mode Check: $Check_{tension} := \begin{cases} "OK" & \text{if } Capacity_{tension} \le 100\% \\ "N/G" & \text{otherwise} \end{cases}$

$Check_{tension} = "OK"$

$Capacity_{tension} = 63.\ \%$

SUMMARY

tnxTower Reactions: $M = 3544.41 \cdot kip \cdot ft$ $P = 73.76 \cdot kip$ $V = 36.86 \cdot kip$

Flange Bolts:

Diameter of Flange Bolts: $D_{bolts} = 1\frac{1}{4} \cdot in$

Bolt Circle of Flange Bolts: $BC_{bolts} = 50 \cdot in$

Loads to Flange Bolts: $M_{bolts} = 2106.97 \cdot ft \cdot kip$ $P = 73.76 \cdot kip$ $V = 36.86 \cdot kip$

See CCIPlate for Flange Bolt and Plate Capacities

Existing Jump Plates:

Moment to Proposed Bridge Stiffeners: $M_{exist} = 1437.44 \text{ ft} \cdot kip$

Number of Existing Bridge Stiffeners: $N_{exist} = 6$

Thickness: $t_{exist} = 1 \cdot in$

Width: $w_{exist} = 6 \cdot in$

Controlling Capacity of Existing Bridge Stiffeners: $Capacity_{exist} = 69.5\ \%$

Monopole Flange Plate Connection

BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

TIA-222 Revision	H

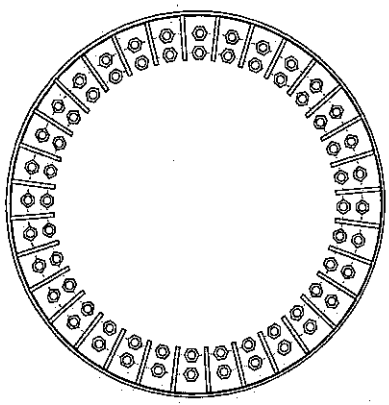
Elevation = 40 ft.

Applied Loads	
Moment (kip-ft)	2106.97
Axial Force (kips)	73.76
Shear Force (kips)	36.86

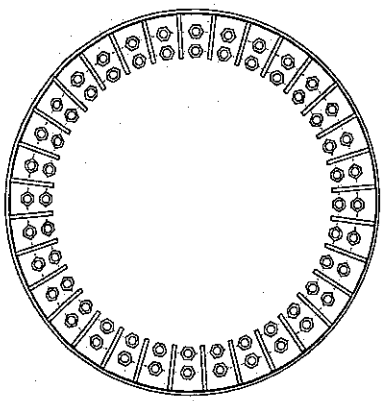
**TIA-222-H Section 15.5 Applied*

CROWN CASTLE

Top Plate - Internal



Bottom Plate - Internal



Connection Properties

Bolt Data

GROUP 1: (32) 1-1/4" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 47" BC
GROUP 2: (32) 1-1/4" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 53" BC

Top Plate Data

60" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Top Pole Data

60" x 0.625" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

60" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Bottom Pole Data

60" x 0.625" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	33.37	
Allowable (kips)	76.31	
Stress Rating:	**41.7%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Top Stiffener Capacity

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Top Pole Capacity

Punching Shear:	**Pirod OK**

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Bottom Stiffener Capacity

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Bottom Pole Capacity

Punching Shear:	**Pirod OK**

1. PARAMETERS

Flange Elevation: 20'- 0"

1.1 tnxTower Reactions

Moment: $M := 4389.46kip \cdot ft$

Axial Load: $P := 93.77kip$

Shear Load: $V := 41.57kip$

Apply TIA-222-H Section 15.5? No

1.2 Shaft Properties at the Flange

Upper Shaft Diameter: $D_{shaft1} := 60in$

Upper Shaft Thickness: $t_1 := 0.625in$

Lower Shaft Diameter: $D_{shaft2} := 60in$

Lower Shaft Thickness: $t_2 := 0.75in$

Shaft Grade: $Fy_{shaft} := 42$ $Fu_{shaft} := 63ksi$

1.3 Existing Bridge Stiffener Properties

(Verify existing bolted connection for reduced moment.)

Number of Existing Bridge Stiffeners: $N_{exist} := 6$

Existing Bridge Stiffener Grade: $Fy_{Ex} := 65ksi$ $Fu_{Ex} := 80ksi$

Diameter to the centroid of Existing Bridge Stiffeners: $BC_{exist} := 61.25in$

Thickness of Existing Bridge Stiffeners: $t_{exist} := 1.25in$

Width of Existing Bridge Stiffeners: $w_{exist} := 6.5in$

Gross Area of One Existing Bridge Stiffener: $A_{g\_exist} := w_{exist} \cdot t_{exist} = 8.13 \cdot in^2$

Moment of Inertia of Existing Bridge Stiffeners: $I_{exist} := \frac{N_{exist} \cdot BC_{exist}^{2} \cdot A_{g\_exist}}{8} = 22861.08 \cdot in^4$

Radius of Gyration about x-axis: $r_{x2} := \frac{t_{exist}}{\sqrt{12}} = 0.36 \cdot in$

1.4 Flange Bolt Properties

Number of Flange Bolts: $N_{bolts} := 64$

Diameter of Flange Bolts:

Bolt Circle of Flange Bolts: $BC_{bolts} := 50in$

Gross Area of One Flange Bolt: $A_{g\_bolts} := \frac{\pi}{4} \cdot D_{bolts}^{2} = 1.23 \cdot in^2$

Moment of Inertia of Flange Bolts: $I_{bolts} := \frac{N_{bolts} \cdot BC_{bolts}^{2} \cdot A_{g\_bolts}}{8} = 24543.69 \cdot in^4$

1.5 Division of Forces

Total Gross Area: $A_{g\_total} := N_{exist} \cdot A_{g\_exist} + N_{bolts} \cdot A_{g\_bolts} = 127.29 \cdot in^2$

Total Moment of Inertia: $I_{total} := I_{exist} + I_{bolts} = 47404.78 \cdot in^4$

1.6 Reactions to Existing Bridge Stiffeners

Moment Reaction to Existing Bridge Stiffeners: $M_{exist} := M \cdot \left(\frac{I_{exist}}{I_{total}} \right) = 2116.83 \cdot kip \cdot ft$

Axial Reaction to Existing Bridge Stiffeners: $P_{exist} := 0kip$

Shear Reaction to Existing Bridge Stiffeners: $V_{exist} := 0kip$

1.7 Reactions to Flange Bolts

(It is assumed that all shear and axial loads are taken by the flange bolts)

Moment Reaction to Flange Bolts: $M_{bolts} := M \cdot \left(\frac{I_{bolts}}{I_{total}} \right) = 2272.63 \cdot kip \cdot ft$

Axial Reaction to Flange Bolts: $P_{bolts} := P = 93.77 \cdot kip$

Shear Reaction to Flange Bolts: $V_{bolts} := V = 41.57 \cdot kip$

Check Flange Connection in CCIplate with these Reactions

2. Existing Bridge Stiffener Checks

2.1 Maximum Axial Forces in Single Existing Bridge Stiffener

Outer Radius of Bolt Circle:

$$C := \frac{BC_{exist}}{2} = 30.63 \cdot in$$

Critical Compression Bending Stress:

$$P_{comp} := \frac{M_{exist} \cdot C}{I_{exist}} \cdot A_{g\_exist} + \frac{P_{exist}}{N_{exist}} = 276.48 \cdot kip$$

Critical Tension Bending Stress:

$$P_{tens} := \frac{M_{exist} \cdot C}{I_{exist}} \cdot A_{g\_exist} - \frac{P_{exist}}{N_{exist}} = 276.48 \cdot kip$$

2.2 Available Compression Strength

[AISC 15th Edition E3-1]

Resistance Factor:

$$\phi_c := 0.9$$

Unbraced Length:

$$L_u = 19.25in$$

Effective Length Factor:

$$K := 1.0$$

Effective Length of Member:

$$L_c := K \cdot L_u = 19.25 \cdot in$$

[AISC 15th Edition E3-2]

Strength of Bridge Stiffener:

$$Fy_{Ex} = 65 \cdot ksi \qquad Fu_{Ex} = 80 \cdot ksi$$

Elastic Buckling Stress:
[AISC 15th Ed., Eq. E3-4]

$$F_e := \frac{\pi^2 \cdot 29000ksi}{\left(\frac{L_c}{r_{x2}}\right)^2} = 100.57 \cdot ksi$$

Determination of Crticial Stress:
[AISC 15th Ed., Eqs. E3-2 and E3-3]

$$F_{cr} := \begin{cases} \left(0.658^{\frac{Fy_{Ex}}{F_e}} \cdot Fy_{Ex}\right) & \text{if } 4.71 \cdot \sqrt{\frac{E}{Fy_{Ex}}} \geq \frac{L_c}{r_{x2}} \\ \left(0.877 \cdot F_e\right) & \text{otherwise} \end{cases}$$

$$F_{cr} = 49.59 \cdot ksi$$

Allowable Compressive Strength:
[AISC 15th Ed., Eqs. J4-6 and E3-1]

$$\phi P_n := \begin{cases} \left(\phi_c \cdot Fy_{Ex} \cdot A_{g\_exist}\right) & \text{if } \frac{L_c}{r_{x2}} \leq 25 \\ \left(\phi_c \cdot F_{cr} \cdot A_{g\_exist}\right) & \text{otherwise} \end{cases}$$

$\phi P_n = 362.66 \cdot kip$

Check Compressive Strength:

$$Check_{comp} := \begin{cases} \text{"OK"} & \text{if } Capacity_{comp} \le 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{comp} = \text{"OK"}$

$Capacity_{comp} = 72.61\%$

2.3 Available Tension Strength

Gross Section Yield

[AISC 15th Edition Ch. D2]

Available Tension Yield Strength:

$$\phi P_{ty} := 0.9 \cdot Fy_{Ex} \cdot A_{g\_exist} = 475.31 \cdot kip$$

Net Section Fracture

Bolt Hole Diameter:

$BH := 1.1875in$

Thickness:

$$T := t_{exist} = 1.25 \cdot in$$

Net Area:

$$A_{net} := A_{g\_exist} - \left(BH + \frac{1}{16}in\right) \cdot T = 6.56 \cdot in^2$$

Net Area Limitation:

$$A_e := A_{net} = 6.56 \cdot in^2$$

Available Fractile Strength:

$$\phi P_{tr} := 0.75 \cdot Fu_{Ex} \cdot A_e = 393.75 \cdot kip$$

Tension Check

Controlling Mode of Failure:

$$Check_{mode} := \begin{cases} \text{"Fracture Controls"} & \text{if } \frac{P_{tens}}{\phi P_{tr}} > \frac{P_{tens}}{\phi P_{ty}} \\ \text{"Yield Controls"} & \text{otherwise} \end{cases}$$

$Check_{mode} = \text{"Fracture Controls"}$

$$\phi P_{nt} := \begin{cases} \phi P_{tr} & \text{if } Check_{mode} = \text{"Fracture Controls"} \\ \phi P_{ty} & \text{otherwise} \end{cases}$$

Controlling Tension Mode Check:

$$Check_{tension} := \begin{cases} \text{"OK"} & \text{if } Capacity_{tension} \le 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{tension} = \text{"OK"}$

$Capacity_{tension} = 66.87\%$

SUMMARY

tnxTower Reactions: $M = 4389.46 \cdot kip \cdot ft$ $P = 93.77 \cdot kip$ $V = 41.57 \cdot kip$

Flange Bolts:

Diameter of Flange Bolts: $D_{bolts} = 1\frac{1}{4} \cdot in$

Bolt Circle of Flange Bolts: $BC_{bolts} = 50 \cdot in$

Loads to Flange Bolts: $M_{bolts} = 2272.63 \cdot ft \cdot kip$ $P = 93.77 \cdot kip$ $V = 41.57 \cdot kip$

See CCIPlate for Flange Bolt and Plate Capacities

Existing Jump Plates:

Moment to Proposed Bridge Stiffeners: $M_{exist} = 2116.83 \text{ ft} \cdot kip$

Number of Existing Bridge Stiffeners: $N_{exist} = 6$

Thickness: $t_{exist} = 1.25 \cdot in$

Width: $w_{exist} = 6.5 \cdot in$

Controlling Capacity of Existing Bridge Stiffeners: $Capacity_{exist} = 72.6\ \%$

Monopole Flange Plate Connection

BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

TIA-222 Revision	H

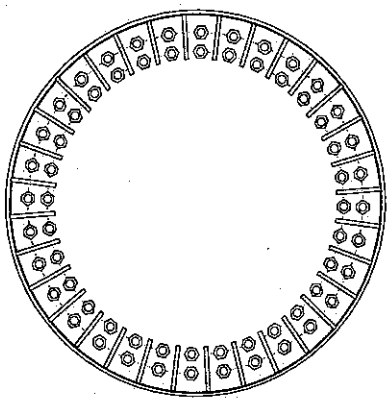
Elevation = 20 ft.

Applied Loads	
Moment (kip-ft)	2272.63
Axial Force (kips)	93.77
Shear Force (kips)	41.57

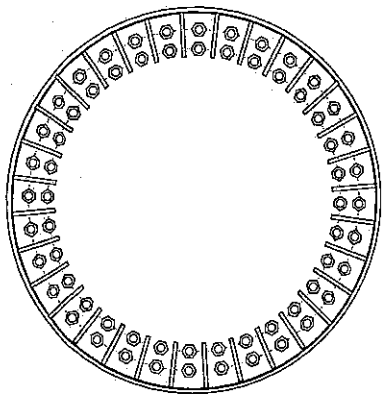
**TIA-222-H Section 15.5 Applied*

CROWN CASTLE

Top Plate - Internal



Bottom Plate - Internal



Connection Properties

Bolt Data

GROUP 1: (32) 1-1/4" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 47" BC
GROUP 2: (32) 1-1/4" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 53" BC

Top Plate Data

60" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Top Pole Data

60" x 0.625" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

60" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Bottom Pole Data

60" x 0.75" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	36.00	
Allowable (kips)	76.31	
Stress Rating:	**44.9%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Top Stiffener Capacity

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Top Pole Capacity

Punching Shear:	**Pirod OK**

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Bottom Stiffener Capacity

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Bottom Pole Capacity

Punching Shear:	**Pirod OK**

Monopole Base Plate Connection

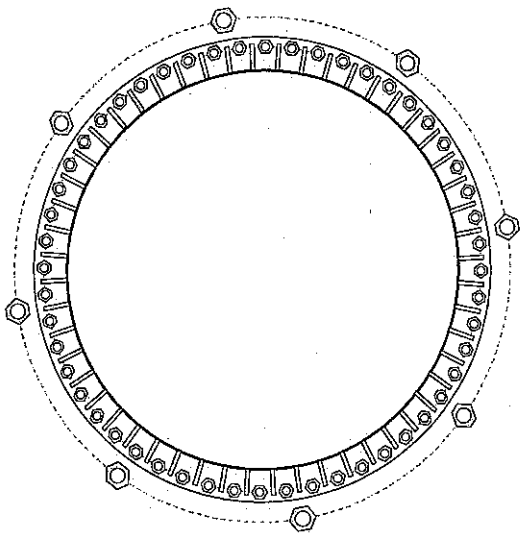
CROWN CASTLE

Site Info	
BU #	829046
Site Name	eston/ Rt-57/ Norfield
Order #	499102 Rev.0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.375

Applied Loads	
Moment (kip-ft)	5180.31
Axial Force (kips)	107.57
Shear Force (kips)	43.91

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (52) 1-1/4" ø bolts (A687 N; Fy=105 ksi, Fu=125 ksi) on 67" BC
GROUP 2: (8) 2-1/4" ø bolts (F1554-105 N; Fy=105 ksi, Fu=125 ksi) on 76" BC

Base Plate Data

70" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

(52) 8"H x 4"W x 0.625"T, Notch: 0.5"
plate: Fy= 36 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.375" fillet
vert. weld: 0.375" fillet

Pole Data

60" x 0.75" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

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

GROUP 1:

Pu_c = 44.95	ϕPn_c = 101.75	**Stress Rating**
Vu = 0.84	ϕVn = 30.52	**45.5%**
Mu = 0.75	ϕMn = 21.58	**Pass**

GROUP 2:

Pu_c = 163.15	ϕPn_c = 341.25	**Stress Rating**
Vu = 0	ϕVn = 102.38	**45.5%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**

Stiffener Summary

Horizontal Weld:	**Pirod OK**
Vertical Weld:	**Pirod OK**
Plate Flexure+Shear:	**Pirod OK**
Plate Tension+Shear:	**Pirod OK**
Plate Compression:	**Pirod OK**

Pole Summary

Punching Shear:	**Pirod OK**

BU: 829046
WO: 1765202
Existing AR Brackets

Done By: AM
Checked By: AC
Date: 07/22/2019

CROWN CASTLE

Additional Anchor Rod Calculations:

Base Reactions from tnxTower:

$Moment := 5180.31 \cdot kip \cdot ft$

$Axial := 107.57 \cdot kip$

$Shear := 43.91 \cdot kip$

Apply TIA-222-H Section 15.5? No

Original Anchor Rod Group:

$N_{existing} := 52$

$BC_{existing} := 67 \cdot in$

$D_{existing} := 1.25 \cdot in$

$A_{existing} := 0.969 in^2$

$Fu_{exisitng} := 125ksi$

$Fy_{existing} := 105ksi$

Other Anchor Rod Group:

$N_{gen1} := 0$

$BC_{gen1} := 0 \cdot in$

$D_{gen1} := 0 \cdot in$

$A_{gen1} := 0 \cdot in^2$

$Fu_{gen1} := 0ksi$

$Fy_{gen1} := 0ksi$

Existing Anchor Rod Group:

$N_{new} := 4$

$BC_{new} := 76 \cdot in$

$D_{new} := 2.25 \cdot in$

$A_{new} := 3.25 \cdot in^2$

$Fu_{rod} := 125ksi$

$Fy_{rod} := 105ksi$

--See attached CCIplate output for additional anchor rod group capacity and structural rating values--

Anchor Rod Bracket Calculations

Analyze the anchor rod bracket and all components to resist the full demand loading of the additional anchors.

Bracket Demand Load:
From CCI Plate

$Pu := 163.15 \cdot kip$

Tube Design (Square HSS)

Member Size: HSS 4" x 4" x 1/2"

Member Properties
(AISC 15th Ed., Table 1-12):

Outside Diameter: $OD_{HSS} := 4 \cdot in$

Area: $A_{HSS} := 6.02 \cdot in^2$ $\quad A_{e\_HSS} := 0.75 \cdot A_{HSS} = 4.51 \cdot in^2$

Thickness: $t_{HSS} := 0.465 \cdot in$

Yield Strength: $F_{y\_HSS} := 46 \cdot ksi$ $\quad F_{u\_HSS} := 62 \cdot ksi$

Length: $L_{HSS} := 24 \cdot in$

Moment of Inertia: $I_{HSS} := 11.9 \cdot in^4$

Radius of Gyration: $r_{HSS} := 1.41 \cdot in$

Inside Dimension: $ID_{HSS} := OD_{HSS} - 2 \cdot t_{HSS} = 3.07 \cdot in$

Bearing Check
(AISC 15th Ed., Equation J7-1):

$\phi_b := 0.75$

$Pu\_c = \phi_b \cdot R_n = \phi_b \cdot 1.8 \cdot F_{y\_HSS} \cdot A_{pb}$

$$A_{pb} := \frac{Pu}{\phi_b \cdot 1.8 \cdot F_{y\_HSS}} = 2.63 \cdot in^2$$

$$Check_{bear} := \begin{cases} \text{"OK"} & \text{if } A_{HSS} \geq A_{pb} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{bear} = \text{"OK"}$

Compression Check
(AISC 15th Ed., Eqs. E3-1 to E3-4):

$\phi_c := 0.9$

$K := 1$

$\phi P_{u\_comp} = \phi_c \cdot F_{cr} \cdot A_g$

$L_c := K \cdot L_{HSS} = 24 \cdot in$

$$F_e := \frac{\pi^2 \cdot 29000ksi}{\left(\frac{L_c}{r_{HSS}}\right)^2} = 987.9 \cdot ksi$$

$$\frac{L_c}{r_{HSS}} = 17.02 \quad < \quad 4.71 \cdot \sqrt{\frac{29000 \cdot ksi}{F_{y\_HSS}}} = 118.26$$

$$\therefore \quad F_{cr} := 0.658^{\frac{F_{y\_HSS}}{F_e}} \cdot F_{y\_HSS} = 45.11 \cdot ksi$$

(AISC 15th Ed., Equation J4-6):

$$\phi P_{u\_comp} := \begin{cases} \phi_c \cdot F_{y\_HSS} \cdot A_{HSS} & \text{if } \frac{L_c}{r_{HSS}} \le 25 \\ \phi_c \cdot F_{cr} \cdot A_{HSS} & \text{otherwise} \end{cases}$$

$\phi P_{u\_comp} = 249.23 \cdot kip$

$$Check_{comp} := \begin{cases} \text{"OK"} & \text{if } Rating_{comp} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{comp} = \text{"OK"}$

Gusset Plate Design

Gusset Plate width: $w_{plate} := 6.25in$

Gusset Plate thickness: $t_{plate} := 1.25in$

$L_{plate1} := 30in$

$L_{plate2} := 24in$

Gusset Plate Strength: $Fy_{plate} := 50ksi$

$Fu_{plate} := 65ksi$

Pole thickness: $t_{pole} := 0.75in$

Shear Check
(AISC 15th Ed., Eqs. J4-3 and J4-4):

$A_g := t_{plate} \cdot L_{plate2} = 30 \cdot in^2$

$A_{nv} := A_g = 30 \cdot in^2$

Shear Yielding

$\phi_v := 1$

$\phi V_{plate} := \phi_v \cdot 0.6 \cdot A_g \cdot Fy_{plate} = 900 \cdot kip$

$$Check_{shear} := \begin{cases} \text{"OK"} & \text{if } Rating_{shear} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{shear} = \text{"OK"}$

Shear Rupture

$\phi_v := 0.75$

$\phi V_{plate} := \phi_v \cdot 0.6 \cdot A_{nv} \cdot Fu_{plate} = 877.5 \cdot kip$

$$Check_{shear} := \begin{cases} \text{"OK"} & \text{if } Rating_{shear} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{shear} = \text{"OK"}$

Gusset Plate to Pole and Base Plate Weld Design (Horizontal and Vertical Weld):
(AISC 15th Ed., Part 8)

Gusset plate thickness: $t_{plate} = 1.25 \cdot in$

Pole Grade: $Fy_{pole} := 42ksi$ $Fu_{pole} := 63ksi$

Base Plate Grade: $Fy_{base} := 36ksi$ $Fu_{base} := 58ksi$

Gussett Plate Grade: $Fy_{plate} = 50 \cdot ksi$ $Fu_{plate} = 65 \cdot ksi$

Height of vertical weld from base plate: $H := L_{plate1} = 30 \cdot in$

$Notch_{horiz} := 0.75 \cdot in$

$Notch_{vert} := 0.75 \cdot in$

Gap between Base Plate and HSS: $Gap := 0in$

Vertical fillet weld size to pole: (in sixteenths of an inch) $D_{vpole} := 5$

$weldsize_{pole} := \frac{D_{vpole}}{16} = \frac{5}{16}$

Weld Material Grade: $F_{EXX} := 80ksi$

Check := "OK" if Rating < 100%
"INSUFFICIENT", otherwise

Check = "OK"

Gusset Plate to HSS Weld Design
(AISC 15th Ed., Table 8-4)

Electrode Strength: $F_{EXX} = 80ksi$

Weld Size (in sixteenths of an inch): $D_1 := 10$ $\quad weldsize_1 := \frac{D_1}{16} = \frac{5}{8}$

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 2.41 \cdot in$$

Load not in plane with weld group: $k := 0$

$$a := \frac{ecc_2}{L_{plate2}} = 0.1$$

$C_1 = 1.03$

$Coeff_1 := 3.67$

$\phi_w := 0.75$

$$D_{min1} := ceil\left(\frac{Pu \cdot in}{\phi_w \cdot Coeff_1\, C_1 \cdot L_{plate2} \cdot kip}\right) = 3$$

$$minweldsize := \frac{D_{min1}}{16} = \frac{3}{16}$$

$$Check_{weld} := \begin{cases} "OK" & \text{if } D_1 \geq D_{min1} \wedge D_1 \geq Min_{weldsize} \\ "N/G" & \text{otherwise} \end{cases}$$

$Check_{weld} = "OK"$

$$\phi Rn_{weld1} := \phi_w \cdot Coeff_1\, ksi \cdot in \cdot C_1 \cdot D_1 \cdot L_{plate2} = 680.42 \cdot kip$$

$$Check_{weld1} := \begin{cases} "OK" & \text{if } Rating_{weld1} < 100\% \\ "N/G" & \text{otherwise} \end{cases}$$

$Check_{weld1} = "OK"$

Gusset Plate to Pole Punching Shear Check (max per unit length): (AISC 15th Ed., Section J4.2)

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$\phi_{sy} := 1.0$

$\phi_{sr} := 0.75$

$ecc_1 := w_{plate} + OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 8.66 \cdot in$

$M_1 := Pu \cdot ecc_1 = 1412.88 \cdot kip \cdot in$

$S_1 := \frac{t_{plate} \cdot L_{plate1}^2}{6} = 187.5 \cdot in^3$

$f_v := \frac{M_1}{S_1} \cdot t_{plate} \cdot 1in = 9.42 \cdot kip$

AISC 15th Ed., Equation J4-3:

$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot Fy_{pole} \cdot 2 \cdot t_{pole} \cdot 1in = 37.8 \cdot kip$

AISC 15th Ed., Equation J4-4:

$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot Fu_{pole} \cdot 2 \cdot t_{pole} \cdot 1in = 42.52 \cdot kip$

$\phi F_v := \min(\phi F_{sy}, \phi F_{sr}) = 37.8 \cdot kip$

$$Check_{PS1} := \begin{cases} \text{"OK"} & \text{if } Rating_{PS1} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{PS1} = \text{"OK"}$

Gusset Plate to HSS Punching Shear Check (max per unit length): (AISC 15th Ed., Section J4.2)

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 2.41 \cdot in$

$M_2 := Pu \cdot ecc_2 = 393.19 \cdot kip \cdot in$

$S_2 := \frac{t_{plate} \cdot L_{plate2}^2}{6} = 120 \cdot in^3$

$f_v := \frac{M_2}{S_2} \cdot t_{plate} \cdot 1in = 4.1 \cdot kip$

AISC 15th Ed., Equation J4-3:

$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot F_{y\_HSS} \cdot 2 \cdot t_{HSS} \cdot 1in = 25.67 \cdot kip$

AISC 15th Ed., Equation J4-4:

$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot F_{u\_HSS} \cdot 2 \cdot t_{HSS} \cdot 1in = 25.95 \cdot kip$

$\phi F_v := \min(\phi F_{sy}, \phi F_{sr}) = 25.67 \cdot kip$

$$Check_{PS2} := \begin{cases} \text{"OK"} & \text{if } Rating_{PS2} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{PS2} = \text{"OK"}$

Embedment Depth Calculations

Projected Embedment Depth: $L_{em} := 6 \cdot ft$

Yield Strength of Rebar: $f_y := 60ksi$

Concrete Strength: $f'_c := 5000psi$

Transverse Reinforcement Index: $k_{tr} := 0$ Can be taken as 0 for design per ACI 318-14

Epoxy Factor: $\psi_e := 1$

Rebar Size Factor: $\psi_s := 1$

Casting Position Factor: $\psi_t := 1$

Concrete Weight Factor: $\lambda := 1 \cdot \sqrt{psi}$

Pier Diameter: $D_{pier} := 7.5ft$

Cover: $c_c := 3in$

Rebar Size: $d_s := 9$

Tie Size: $Tie := 4$

Number of Vertical Rebar: $n := 47$

$$d_b := vlookup(d_s, Rebar, 2) \cdot in = 1.13 \cdot in$$

The embedment depth shall be analyzed based on the design tension capacity of the anchor rods.

Design Load:

$$\phi P_{nt} := 0.75 \cdot Fu_{rod} \cdot A_{new} = 304.69 \cdot kip$$

Development Length (ACI 318-14 Chapter 25):

$$BC_{rebar} := D_{pier} - 2 \cdot c_c - \frac{Tie \cdot in}{4} - d_b = 81.87 \cdot in$$

$$S_{rebar} := \frac{\pi \cdot BC_{rebar}}{n} = 5.473 \cdot in$$

$$c_b := \min\left(c_c + \frac{Tie}{8}in + \frac{d_b}{2}, S_{rebar} \cdot 0.5\right) = 2.74 \cdot in$$

ACI 318-14, Equation 25.4.2.3a:

$$l_d := \left[\frac{3}{40} \cdot \frac{f_y}{\lambda \cdot \sqrt{f'_c}} \cdot \frac{\psi_t \cdot \psi_e \cdot \psi_s}{\min\left[\left(\frac{c_b + k_{tr}}{d_b}\right), 2.5\right]}\right] \cdot d_b = 29.59 \cdot in$$

Calculate Max Distance Between Rebar and New Anchor Rods:

$$A := \frac{1}{2} \cdot S_{rebar} = 2.736 \cdot in$$

$$B := \frac{BC_{rebar}}{2} - \frac{BC_{new}}{2} = 2.936 \cdot in$$

$$G := \sqrt{A^2 + B^2} = 4.013 \cdot in$$

$$l'_d := l_d + \frac{G}{1.5} + 3in = 2.94\,ft$$

Epoxy Development Length:

Bond Strength:

Epoxy := Hilti Hit Re 500

$$\phi_{bond} := 0.65$$

$$S_b := \begin{cases} S_{bh} & \text{if Epoxy} = 0 \\ S_{bA} & \text{otherwise} \end{cases}$$

$$S_b = 1073\,psi$$

$$L_{be} := \frac{\phi P_{nt}}{\pi \cdot D_{new} \cdot S_b \cdot \phi_{bond}} = 61.8 \cdot in$$

Required Embedment Length:

Length of Breaker Tape: $L_{BT} := 0 \cdot in$

$$L_{min} := \max\left(L_{be} + L_{BT}, l'_d + 0.25 \cdot L_{be}\right) = 5.15\,ft$$

$$Check := \begin{cases} \text{"OK"} & \text{if } L_{min} \le L_{em} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check = "OK"

Anchor Rod Pullout Test:

$$\phi_p := 0.75$$

Is this a CA **DSA** site?

○ Yes
◉ No

$$Pullout := \begin{cases} \dfrac{\phi_p \cdot Fu_{rod} \cdot A_{new}}{1.6} & \text{if } CA = 0 \\ \left(0.8 \cdot Fy_{rod} \cdot A_{new}\right) & \text{otherwise} \end{cases} = 190 \cdot kip$$

BU: 829046
WO: 1765202
Existing AR Brackets

Done By: AM
Checked By: AC
Date: 07/22/2019

CROWN CASTLE

Additional Anchor Rod Calculations:

Base Reactions from tnxTower:

Moment := 5180.31·kip·ft

Axial := 107.57·kip

Shear := 43.91·kip

Apply TIA-222-H Section 15.5? No / Yes

Original Anchor Rod Group:

$N_{existing} := 52$

$BC_{existing} := 67 \cdot in$

$D_{existing} := 1.25 \cdot in$

$A_{existing} := 0.969 in^2$

$Fu_{exisitng} := 125 ksi$

$Fy_{existing} := 105 ksi$

Other Anchor Rod Group:

$N_{gen1} := 0$

$BC_{gen1} := 0 \cdot in$

$D_{gen1} := 0 \cdot in$

$A_{gen1} := 0 \cdot in^2$

$Fu_{gen1} := 0 ksi$

$Fy_{gen1} := 0 ksi$

Existing Anchor Rod Group:

$N_{new} := 4$

$BC_{new} := 76 \cdot in$

$D_{new} := 2.25 \cdot in$

$A_{new} := 3.25 \cdot in^2$

$Fu_{rod} := 125 ksi$

$Fy_{rod} := 105 ksi$

--See attached CCIplate output for additional anchor rod group capacity and structural rating values--

Anchor Rod Bracket Calculations

Analyze the anchor rod bracket and all components to resist the full demand loading of the additional anchors.

Bracket Demand Load:
From CCI Plate

$Pu := 163.15 \cdot kip$

Tube Design (Square HSS)

Member Size: HSS 4" x 4" x 1/2"

Member Properties
(AISC 15th Ed., Table 1-12):

Outside Diameter: $OD_{HSS} := 4 \cdot in$

Area: $A_{HSS} := 6.02 \cdot in^2$ $A_{e\_HSS} := 0.75 \cdot A_{HSS} = 4.51 \cdot in^2$

Thickness: $t_{HSS} := 0.465 \cdot in$

Yield Strength: $F_{y\_HSS} := 46 \cdot ksi$ $F_{u\_HSS} := 62 \cdot ksi$

Length: $L_{HSS} := 24 \cdot in$

Moment of Inertia: $I_{HSS} := 11.9 \cdot in^4$

Radius of Gyration: $r_{HSS} := 1.41 \cdot in$

Inside Dimension: $ID_{HSS} := OD_{HSS} - 2 \cdot t_{HSS} = 3.07 \cdot in$

Bearing Check
(AISC 15th Ed., Equation J7-1):

$\phi_b := 0.75$

$Pu\_c = \phi_b \cdot R_n = \phi_b \cdot 1.8 \cdot F_{y\_HSS} \cdot A_{pb}$

$$A_{pb} := \frac{Pu}{\phi_b \cdot 1.8 \cdot F_{y\_HSS}} = 2.63 \cdot in^2$$

$$Check_{bear} := \begin{cases} \text{"OK"} & \text{if } A_{HSS} \geq A_{pb} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{bear} = \text{"OK"}$

Compression Check (AISC 15th Ed., Eqs. E3-1 to E3-4):

$\phi_c := 0.9$

$K := 1$

$\phi P_{u\_comp} = \phi_c \cdot F_{cr} \cdot A_g$

$L_c := K \cdot L_{HSS} = 24 \cdot in$

$$F_e := \frac{\pi^2 \cdot 29000ksi}{\left(\frac{L_c}{r_{HSS}}\right)^2} = 987.9 \cdot ksi$$

$$\frac{L_c}{r_{HSS}} = 17.02 \quad < \quad 4.71 \cdot \sqrt{\frac{29000 \cdot ksi}{F_{y\_HSS}}} = 118.26$$

$$\therefore \quad F_{cr} := 0.658^{\frac{F_{y\_HSS}}{F_e}} \cdot F_{y\_HSS} = 45.11 \cdot ksi$$

(AISC 15th Ed., Equation J4-6):

$$\phi P_{u\_comp} := \begin{cases} \phi_c \cdot F_{y\_HSS} \cdot A_{HSS} & \text{if } \frac{L_c}{r_{HSS}} \le 25 \\ \phi_c \cdot F_{cr} \cdot A_{HSS} & \text{otherwise} \end{cases}$$

$\phi P_{u\_comp} = 249.23 \cdot kip$

$$Check_{comp} := \begin{cases} \text{"OK"} & \text{if } Rating_{comp} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{comp} = \text{"OK"}$

Gusset Plate Design

Gusset Plate width: $w_{plate} := 6.25 \cdot in$

Gusset Plate thickness: $t_{plate} := 1.25in$

$L_{plate1} := 75in$

$L_{plate2} := 24in$

Gusset Plate Strength: $Fy_{plate} := 50ksi$

$Fu_{plate} := 65ksi$

Pole thickness: $t_{pole} := 0.75in$

Shear Check
(AISC 15th Ed., Eqs. J4-3 and J4-4):

$A_g := t_{plate} \cdot L_{plate2} = 30 \cdot in^2$

$A_{nv} := A_g = 30 \cdot in^2$

Shear Yielding

$\phi_v := 1$

$\phi V_{plate} := \phi_v \cdot 0.6 \cdot A_g \cdot Fy_{plate} = 900 \cdot kip$

$$Check_{shear} := \begin{cases} \text{"OK"} & \text{if } Rating_{shear} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{shear} = \text{"OK"}$

Shear Rupture

$\phi_v := 0.75$

$\phi V_{plate} := \phi_v \cdot 0.6 \cdot A_{nv} \cdot Fu_{plate} = 877.5 \cdot kip$

$$Check_{shear} := \begin{cases} \text{"OK"} & \text{if } Rating_{shear} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{shear} = \text{"OK"}$

Gusset Plate to Pole and Base Plate Weld Design (Horizontal and Vertical Weld):
(AISC 15th Ed., Part 8)

Gusset plate thickness: $t_{plate} = 1.25 \cdot in$

Pole Grade: $Fy_{pole} := 42ksi$ $Fu_{pole} := 63ksi$

Base Plate Grade: $Fy_{base} := 36ksi$ $Fu_{base} := 58ksi$

Gussett Plate Grade: $Fy_{plate} = 50 \cdot ksi$ $Fu_{plate} = 65 \cdot ksi$

Height of vertical weld from base plate: $H := L_{plate1} = 75 \cdot in$

$Notch_{horiz} := 0.75 \cdot in$

$Notch_{vert} := 0.75 \cdot in$

Gap between Base Plate and HSS: $Gap := 0in$

Vertical fillet weld size to pole: (in sixteenths of an inch) $D_{vpole} := 5$

$weldsize_{pole} := \frac{D_{vpole}}{16} = \frac{5}{16}$

Weld Material Grade: $F_{EXX} := 80ksi$

$$\text{Check} := \begin{cases} \text{"OK"} & \text{if Rating} < 100\% \\ \text{"INSUFFICIENT"} & \text{otherwise} \end{cases}$$

Check = "OK"

Gusset Plate to HSS Weld Design
(AISC 15th Ed., Table 8-4)

Electrode Strength: $F_{EXX} := 80ksi$

Weld Size (in sixteenths of an inch): $D_1 := 10$ $\quad weldsize_1 := \frac{D_1}{16} = \frac{5}{8}$

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 2.41 \cdot in$$

Load not in plane with weld group: $k := 0$

$$a := \frac{ecc_2}{L_{plate2}} = 0.1$$

$C_1 = 1.03$

$Coeff_1 = 3.67$

$\phi_w := 0.75$

$$D_{min1} := ceil\left(\frac{Pu \cdot in}{\phi_w \cdot Coeff_1\, C_1 \cdot L_{plate2} \cdot kip}\right) = 3$$

$$minweldsize := \frac{D_{min1}}{16} = \frac{3}{16}$$

$$Check_{weld} := \begin{cases} \text{"OK"} & \text{if } D_1 \geq D_{min1} \wedge D_1 \geq Min_{weldsize} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{weld} = \text{"OK"}$

$$\phi Rn_{weld1} := \phi_w \cdot Coeff_1\, ksi \cdot in \cdot C_1 \cdot D_1 \cdot L_{plate2} = 680.42 \cdot kip$$

$$Check_{weld1} := \begin{cases} \text{"OK"} & \text{if } Rating_{weld1} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{weld1} = \text{"OK"}$

Gusset Plate to Pole Punching Shear Check (max per unit length): (AISC 15th Ed., Section J4.2)

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$\phi_{sy} := 1.0$

$\phi_{sr} := 0.75$

$ecc_1 := w_{plate} + OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 8.66 \cdot in$

$M_1 := Pu \cdot ecc_1 = 1412.88 \cdot kip \cdot in$

$S_1 := \frac{t_{plate} \cdot L_{plate1}^2}{6} = 1171.88 \cdot in^3$

$f_v := \frac{M_1}{S_1} \cdot t_{plate} \cdot 1in = 1.51 \cdot kip$

AISC 15th Ed., Equation J4-3:

$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot Fy_{pole} \cdot 2 \cdot t_{pole} \cdot 1in = 37.8 \cdot kip$

AISC 15th Ed., Equation J4-4:

$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot Fu_{pole} \cdot 2 \cdot t_{pole} \cdot 1in = 42.52 \cdot kip$

$\phi F_v := \min(\phi F_{sy}, \phi F_{sr}) = 37.8 \cdot kip$

$$Check_{PS1} := \begin{cases} \text{"OK"} & \text{if } Rating_{PS1} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{PS1} = \text{"OK"}$

Gusset Plate to HSS Punching Shear Check (max per unit length): (AISC 15th Ed., Section J4.2)

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 2.41 \cdot in$

$M_2 := Pu \cdot ecc_2 = 393.19 \cdot kip \cdot in$

$S_2 := \frac{t_{plate} \cdot L_{plate2}^2}{6} = 120 \cdot in^3$

$f_v := \frac{M_2}{S_2} \cdot t_{plate} \cdot 1in = 4.1 \cdot kip$

AISC 15th Ed., Equation J4-3:

$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot F_{y\_HSS} \cdot 2 \cdot t_{HSS} \cdot 1in = 25.67 \cdot kip$

AISC 15th Ed., Equation J4-4:

$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot F_{u\_HSS} \cdot 2 \cdot t_{HSS} \cdot 1in = 25.95 \cdot kip$

$\phi F_v := \min(\phi F_{sy}, \phi F_{sr}) = 25.67 \cdot kip$

$$Check_{PS2} := \begin{cases} \text{"OK"} & \text{if } Rating_{PS2} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{PS2} = \text{"OK"}$

Embedment Depth Calculations

Projected Embedment Depth: $L_{em} := 6 \cdot ft$

Yield Strength of Rebar: $f_y := 60ksi$

Concrete Strength: $f'_c := 5000psi$

Transverse Reinforcement Index: $k_{tr} := 0$ Can be taken as 0 for design per ACI 318-14

Epoxy Factor: $\psi_e := 1$

Rebar Size Factor: $\psi_s := 1$

Casting Position Factor: $\psi_t := 1$

Concrete Weight Factor: $\lambda := 1 \cdot \sqrt{psi}$

Pier Diameter: $D_{pier} := 7.5ft$

Cover: $c_c := 3in$

Rebar Size: $d_s := 9$

Tie Size: $Tie := 4$

Number of Vertical Rebar: $n := 47$

$d_b := vlookup(d_s, Rebar, 2) \cdot in = 1.13 \cdot in$

The embedment depth shall be analyzed based on the design tension capacity of the anchor rods.

Design Load:

$$\phi P_{nt} := 0.75 \cdot Fu_{rod} \cdot A_{new} = 304.69 \cdot kip$$

Development Length (ACI 318-14 Chapter 25):

$$BC_{rebar} := D_{pier} - 2 \cdot c_c - \frac{Tie \cdot in}{4} - d_b = 81.87 \cdot in$$

$$S_{rebar} := \frac{\pi \cdot BC_{rebar}}{n} = 5.473 \cdot in$$

$$c_b := \min\left(c_c + \frac{Tie}{8}in + \frac{d_b}{2}, S_{rebar} \cdot 0.5\right) = 2.74 \cdot in$$

ACI 318-14, Equation 25.4.2.3a:

$$l_d := \left[\frac{3}{40} \cdot \frac{f_y}{\lambda \cdot \sqrt{f'_c}} \cdot \frac{\psi_t \cdot \psi_e \cdot \psi_s}{\min\left[\left(\frac{c_b + k_{tr}}{d_b}\right), 2.5\right]}\right] \cdot d_b = 29.59 \cdot in$$

Calculate Max Distance Between Rebar and New Anchor Rods:

$$A := \frac{1}{2}\cdot S_{rebar} = 2.736\cdot in$$

$$B := \frac{BC_{rebar}}{2} - \frac{BC_{new}}{2} = 2.936\cdot in$$

$$G := \sqrt{A^2 + B^2} = 4.013\cdot in$$

$$l'_d := l_d + \frac{G}{1.5} + 3in = 2.94\,ft$$

Epoxy Development Length:

Bond Strength:

Epoxy := HIT-HY 200

$\phi_{bond} := 0.65$

$$S_b := \begin{cases} S_{bh} & \text{if Epoxy} = 0 \\ S_{bA} & \text{otherwise} \end{cases}$$

$S_b = 1073\,psi$

$$L_{be} := \frac{\phi P_{nt}}{\pi\cdot D_{new}\cdot S_b\cdot \phi_{bond}} = 61.8\cdot in$$

Required Embedment Length:

Length of Breaker Tape: $L_{BT} := 0\cdot in$

$L_{min} := \max\left(L_{be} + L_{BT}, l'_d + 0.25\cdot L_{be}\right) = 5.15\,ft$

$$Check := \begin{cases} \text{"OK"} & \text{if } L_{min} \le L_{em} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check = "OK"

Anchor Rod Pullout Test:

$\phi_p := 0.75$

Is this a CA **DSA** site? ○ Yes ◉ No

$$Pullout := \begin{cases} \dfrac{\phi_p \cdot Fu_{rod} \cdot A_{new}}{1.6} & \text{if } CA = 0 \\ \left(0.8 \cdot Fy_{rod} \cdot A_{new}\right) & \text{otherwise} \end{cases} = 190 \cdot kip$$

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Building a world of difference.
6800 W. 115th St., Suite 2292
Overland Park, KS 66211
Phone: (913) 458-6909

Client:	Crown Castle	Design:	AM
Project:	400087 (829046.1765202)	Date:	7/22/2019
Site:	Weston/ Rt-57/ Norfield R	Verify:	AUC
Title:	Foundation Design Reaction Comparison	Date:	7/22/2019
		Code:	TIA-222-H

Template Version 1.7

FOUNDATION ANALYSIS:

Original Tower Design Reactions:

Pad & Pier:

Shear:	52.8	Kip
Overturning Moment:	7052.7	Kip-ft

Note: Design reactions are multiplied by 1.35 for comparison as allowed by TIA-222-H Section 15.6.2.

TnxTower Reactions:

Drilled Caisson:

Shear:	44.0	Kip
Overturning Moment:	5180.0	Kip-ft

Stress Ratio:

Drilled Caisson:

Shear:	79.4%
Overturning Moment:	69.9%

Note: Ratings per TIA-222-H Section 15.5.

Conclusion:

When the calculated reactions are compared to the original design reactions, the existing foundation is considered to have been designed and constructed with adequate capacity to support the existing and proposed loads.

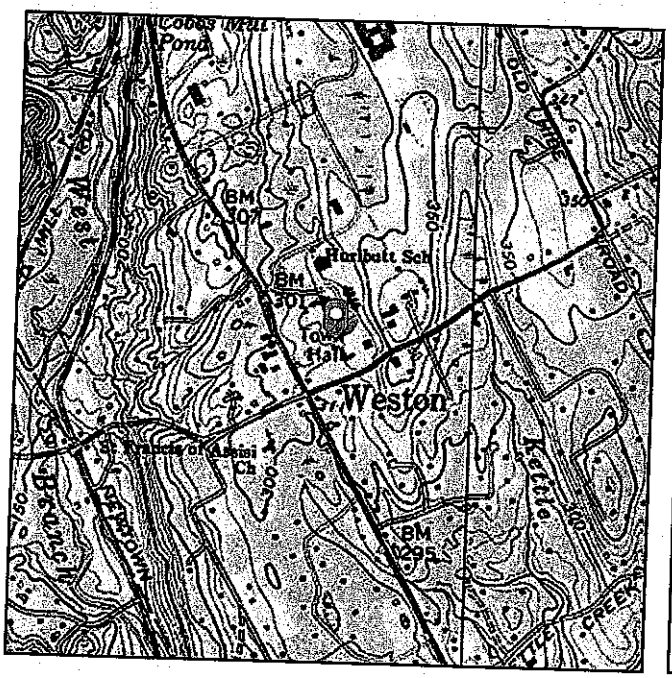
Controlling Foundation Stress Ratio: 79.4%

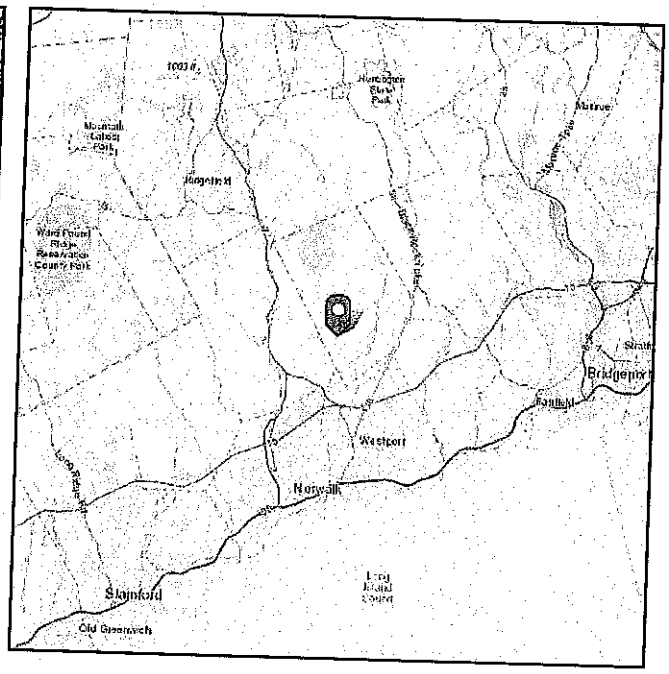
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 321.79 ft (NAVD 88)
Latitude: 41.202333
Longitude: -73.379611





Wind

Results:

Wind Speed:	119 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	91 Vmph
100-year MRI	98 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Thu Jul 18 2019

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

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

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

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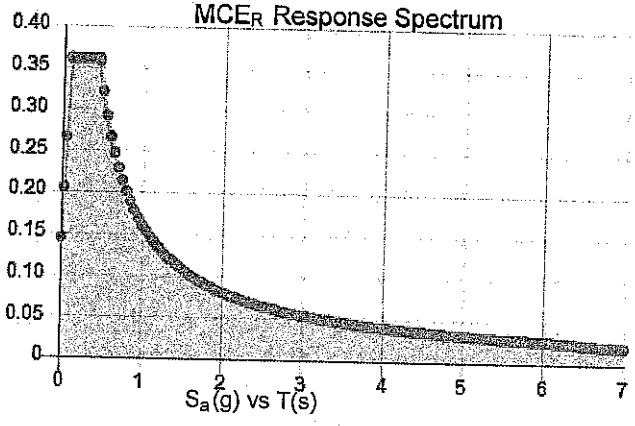
Seismic

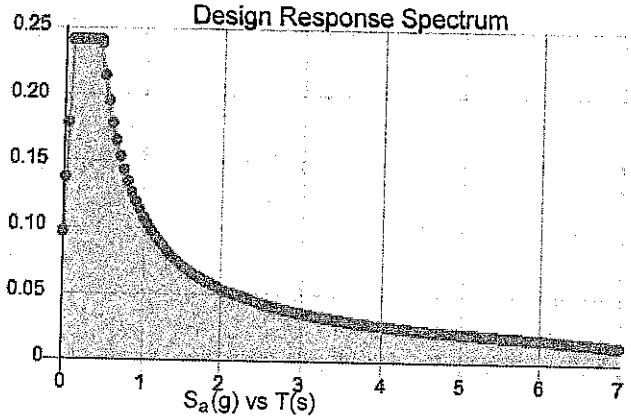
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.226	S_{DS} :	0.241
S_1 :	0.067	S_{D1} :	0.107
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.126
S_{MS} :	0.361	PGA_M :	0.195
S_{M1} :	0.16	F_{PGA} :	1.548
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Jul 18 2019

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

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Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Jul 18 2019

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

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

APPROVED

verizon

WESTON CT

CROWN CASTLE BU #:829046
56 NORFIELD RD. (TOWN HALL)
WESTON, CT 06883

VICINITY MAP

NOT TO SCALE

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE LESSEE/LICENSEE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CONSULTANT TEAM

APPLICANT:	VERIZON WIRELESS 20 ALEXANDER DRIVE WALLINGFORD, CT 06492 CONTACT: JAMES O'DONNELL
APPLICANT'S CONTACT:	JAMES O'DONNELL (413) 575-2626
ARCHITECT:	JACOBS ENGINEERING GROUP, INC. 120 SAINT JAMES AVENUE 5TH FLOOR BOSTON, MA 02116
STRUCTURAL ENGINEER:	JACOBS ENGINEERING GROUP, INC. 120 SAINT JAMES AVENUE 5TH FLOOR BOSTON, MA 02116
ELECTRICAL ENGINEER:	JACOBS ENGINEERING GROUP, INC. 120 SAINT JAMES AVENUE 5TH FLOOR BOSTON, MA 02116

PROJECT SUMMARY

VERIZON SITE NAME:	WESTON CT
CROWN CASTLE SITE NAME:	WESTON/RT-57/NORFIELD R
TOWER OWNER:	CROWN CASTLE LLC 67 SHARP STREET HINGHAM, MA 02043
COORDINATES:	N 41° 12' 8.40" W -73° 22' 46.60"
APPLICANT:	VERIZON WIRELESS 20 ALEXANDER DRIVE WALLINGFORD, CT 06492

PROJECT DIRECTORY

SITE ADDRESS:	56 NORFIELD RD. (TOWN HALL) WESTON, CT 06883

PROJECT DESCRIPTION

INSTALL (6) ANTENNAS, INSTALL (6) RADIOS, INSTALL (1) OVP BOX, INSTALL (1) HYBRID CABLE, INSTALL (3) MOUNTS, REMOVE (6) ANTENNAS, REMOVE (6) RADIOS, REMOVE (1) OVP BOX AND REMOVE (1) HYBRID CABLE.

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

A.D.A. COMPLIANCE:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

SHEET INDEX

811

UNDERGROUND SERVICE ALERT

THE LAW REQUIRES
TWO WORKING DAYS NOTICE PRIOR
TO ANY EARTH MOVING ACTIVITIES.
DIAL 811

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NEW YORK, 12065

JACOBS
Jacobs Engineering Group, Inc.
120 ST JAMES AVENUE
5TH FLOOR
BOSTON, MA 02116
TEL (617) 242-9222
FAX (617) 242-9824

STATE OF CONNECTICUT
DANIEL J. CORNING
34055
LICENSED
PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A & E _____

PROJECT NO: ERCC0004

DRAWN BY: EBG

CHECKED BY: CAT

SUBMITTALS

0	08/28/19	FOR PERMITTING

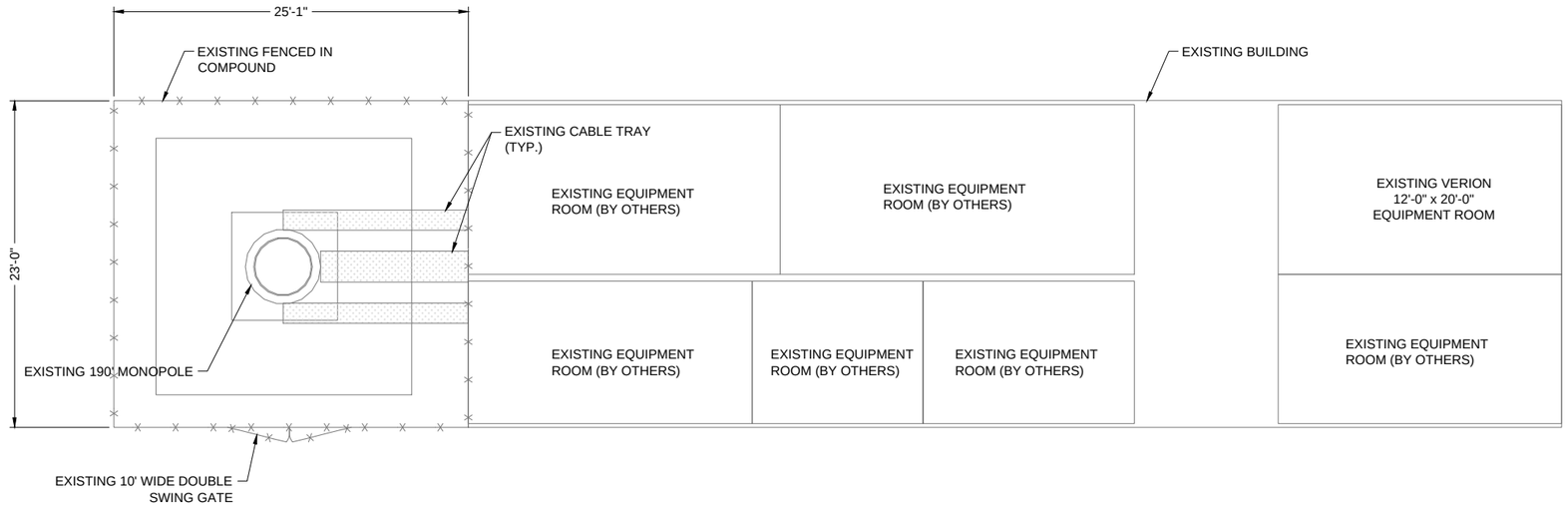
SITE NAME:
WESTON CT
CROWN CASTLE BU#:
829046

56 NORFIELD RD. (TOWN HALL)
WESTON, CT 06883

TITLE SHEET

T-1

CONSTRUCTION



GENERAL NOTES:

1. SOME EXISTING AND PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
2. NORTH SHOWN AS APPROXIMATE.
3. EXISTING ANTENNAS SHOWN AS APPROXIMATE. ELEVATION BASED ON EXISTING INFORMATION AND VISUAL INSPECTION AND HAVE NOT BEEN VERIFIED THROUGH AN ANTENNA MAPPING.
4. PLANS BASED ON DRAWINGS FROM CROWN CASTLE AS-BUILT.
5. ANTENNAS TO BE INSTALLED PER TOWER MANUFACTURER RECOMMENDATIONS AND TOWER STRUCTURAL ANALYSIS SPECIFICATIONS.
6. REUSED EXISTING ANTENNA MOUNTS AND COAX. INSPECT FOR DAMAGE OR DECAY AND REPLACE AS NEEDED PER STRUCTURAL ANALYSIS.
7. CONTRACTOR TO VERIFY FINAL ANTENNA DESIGN AND NOTIFY CARRIER AND ENGINEER WITH ANY DISCREPANCIES PRIOR TO THE INSTALLATION.
8. INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
9. ALL EQUIPMENT SHALL BE GROUNDED PER VERIZON WIRELESS STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
10. EQUIPMENT MOUNTING DETAIL IS PROVIDED AS SCHEMATIC IN NATURE WITH SUGGESTED PART NUMBERS, ACTUAL PARTS, MOUNTING METHOD, LOCATION AND ORIENTATION MUST BE IN ACCORDANCE WITH THE STRUCTURAL ANALYSIS OR CONFIRMED WITH THE STRUCTURAL ENGINEER THAT COMPLETED THE REPORT IF NOT PROVIDED.
11. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE STRUCTURAL ANALYSIS (BY OTHERS)
12. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR PRIOR TO ALL FABRICATION. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO ENGINEER.
13. CONSTRUCTION SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THESE DRAWINGS DO NOT INCLUDE NECESSARY SAFETY COMPONENTS.
14. BRACE STRUCTURES SUCH AS LATERAL BRACING, ANCHOR BOLTS, ETC. SHALL BE INSTALLED UNTIL ALL STRUCTURAL ELEMENTS REACH TO REQUIRED STABILITY.
15. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OF NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING.
16. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTATIVE AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
17. REPAIR ANY DAMAGE DURING CONSTRUCTION TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE CONSTRUCTION MANAGER.
18. CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
19. REUSE EXISTING ANTENNA MOUNTS AND COAX. INSPECT FOR DAMAGE OR DECAY AND REPLACE AS NEEDED PER STRUCTURAL ANALYSIS.
20. CONTRACTOR TO VERIFY FINAL ANTENNA DESIGN AND NOTIFY CARRIER AND ENGINEER WITH ANY DISCREPANCIES PRIOR TO THE INSTALLATION.

1 **SITE PLAN**

SCALE: 3/16" = 1'-0"

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NEW YORK, 12065

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LICENSED
PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A & E _____

PROJECT NO: ERCC0004

DRAWN BY: EBG

CHECKED BY: CAT

SUBMITTALS

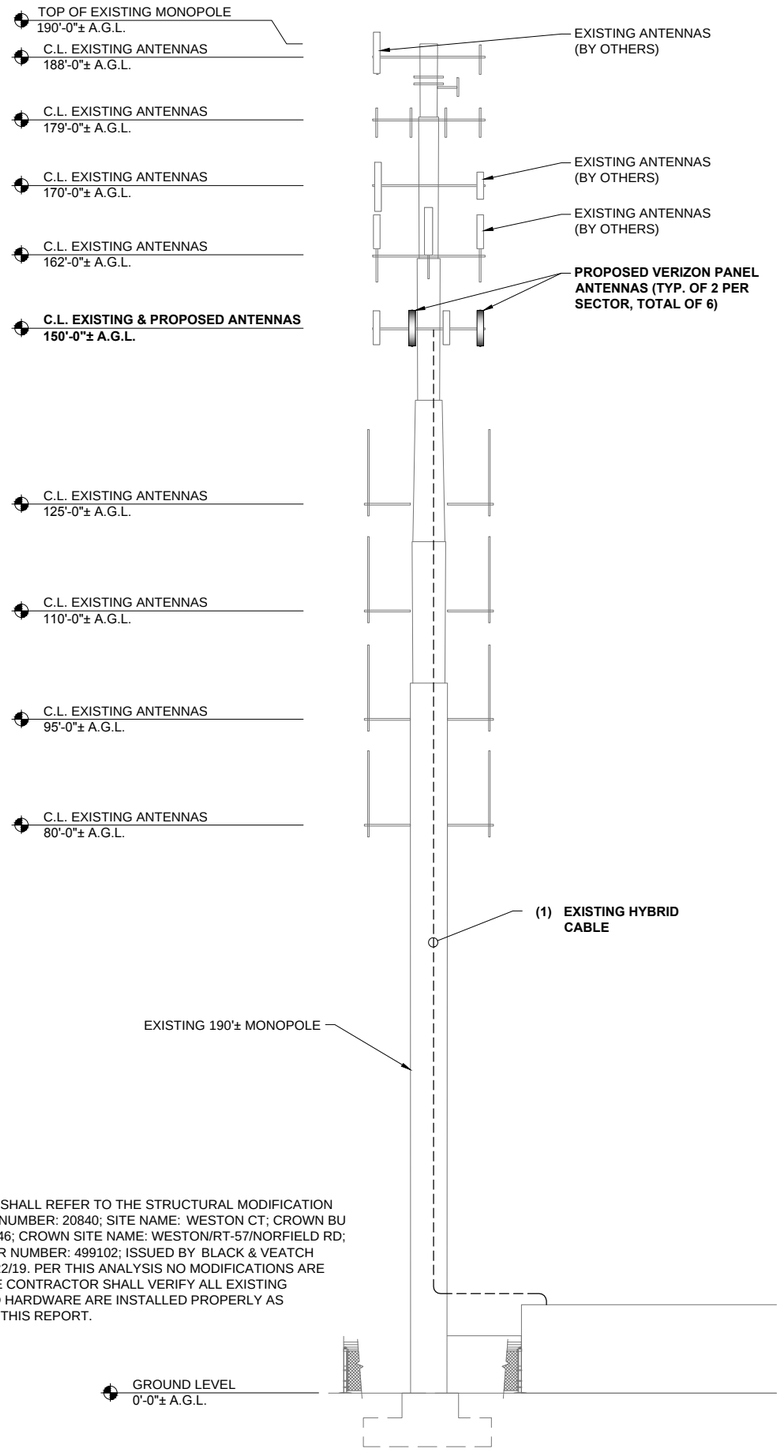
0	08/28/19	FOR PERMITTING

SITE NAME:
WESTON CT
CROWN CASTLE BU#:
829046

56 NORFIELD RD. (TOWN HALL)
WESTON, CT 06883

SITE PLAN

A-1
CONSTRUCTION

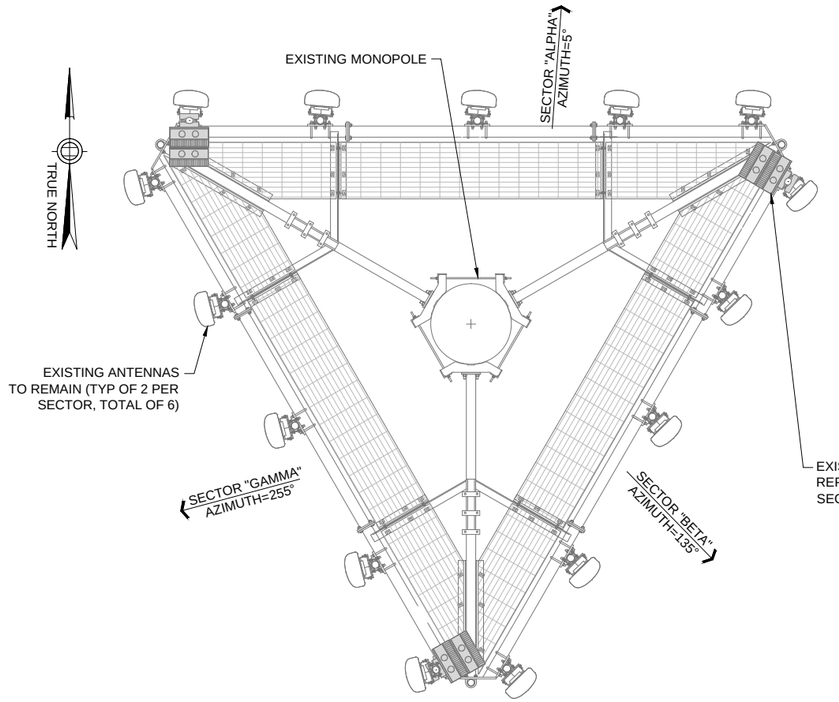


NOTES:

1. CONTRACTOR SHALL REFER TO THE STRUCTURAL MODIFICATION REPORT; SITE NUMBER: 20840; SITE NAME: WESTON CT; CROWN BU NUMBER: 829046; CROWN SITE NAME: WESTON/RT-57/NORFIELD RD; CROWN ORDER NUMBER: 499102; ISSUED BY BLACK & VEATCH DATED ON 07/22/19. PER THIS ANALYSIS NO MODIFICATIONS ARE REQUIRED.THE CONTRACTOR SHALL VERIFY ALL EXISTING MEMBERS AND HARDWARE ARE INSTALLED PROPERLY AS DESCRIBED IN THIS REPORT.

1 SITE ELEVATION

SCALE:3/32" = 1'-0"

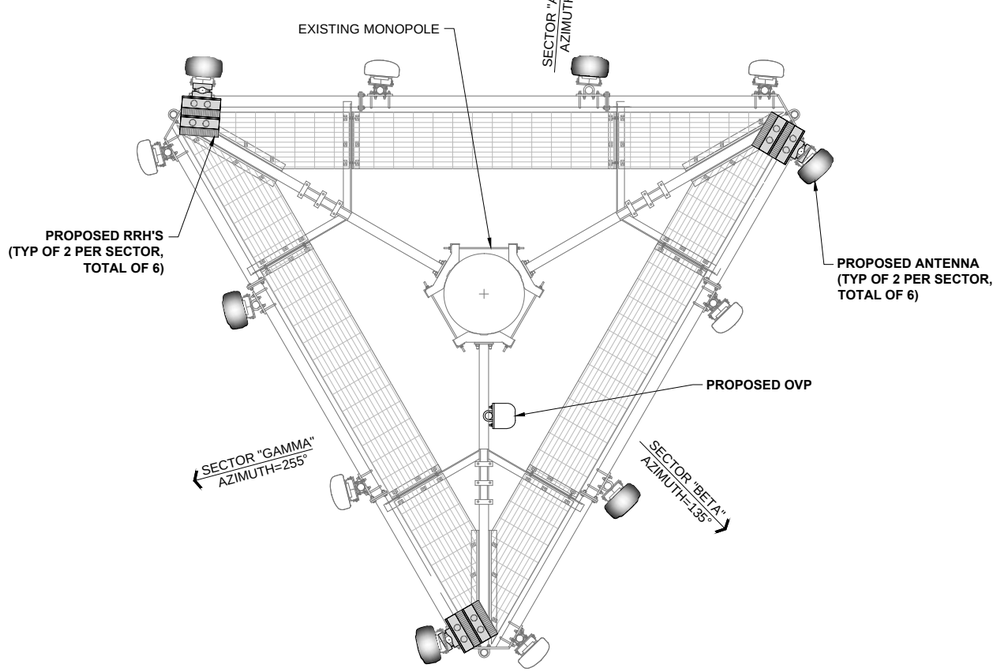


NOTES:

1. CONTRACTOR SHALL REFER TO THE MOUNT MODIFICATION REPORT; SITE NUMBER: 20840; SITE NAME: WESTON CT; CROWN BU NUMBER: 829046; CROWN SITE NAME: WESTON/RT-57/NORFIELD RD; CROWN ORDER NUMBER: 499102; ISSUED BY ENGINEERED TOWER SOLUTIONS PLLC, DATED ON 07/15/19 . THE CONTRACTOR SHALL VERIFY ALL EXISTING MEMBERS AND HARDWARE ARE INSTALLED PROPERLY AS DESCRIBED IN THIS REPORT.
2. CONTRACTOR TO VERIFY FINAL RF CONFIGURATION AND NOTIFY CARRIER AND ENGINEER W/ ANY DISCREPANCIES PRIOR TO THE INSTALLATION.
3. CONTRACTOR SHALL NOT EXCEED MOUNTING MORE THAN (2) RRHS PER ANTENNA MOUNTING PIPE - RELOCATE TO AN ADJACENT ANTENNA MOUNTING PIPE AS NEEDED.

2 EXISTING ANTENNA LAYOUT

SCALE:3/32"=1'-0"



3 PROPOSED ANTENNA LAYOUT

SCALE:3/32"=1'-0"

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NEW YORK, 12065

JACOBS
Jacobs Engineering Group, Inc.
120 ST JAMES AVENUE
5TH FLOOR
BOSTON, MA 02116
TEL (617) 242-9222
FAX (617) 242-9824

STATE OF CONNECTICUT
DANIEL J. CORNING
34055
LICENSED PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A & E _____

PROJECT NO: ERCC0004

DRAWN BY: EBG

CHECKED BY: CAT

SUBMITTALS

0	08/28/19	FOR PERMITTING

SITE NAME:
WESTON CT
CROWN CASTLE BU#:
829046

56 NORFIELD RD. (TOWN HALL)
WESTON, CT 06883

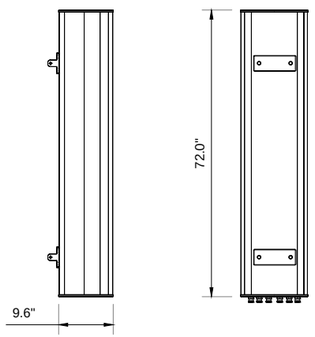
SITE ELEVATION AND ANTENNA LAYOUT

A-2
CONSTRUCTION

GENERAL NOTES:

1. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR PRIOR TO ALL FABRICATION. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO ENGINEER.
2. CONSTRUCTION SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THESE DRAWINGS DO NOT INCLUDE NECESSARY SAFETY COMPONENTS.
3. BRACE STRUCTURES SUCH AS LATERAL BRACING, ANCHOR BOLTS, ETC. SHALL BE INSTALLED UNTIL ALL STRUCTURAL ELEMENTS REACH TO REQUIRED STABILITY.
4. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OF NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING.
5. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTATIVE AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
6. REPAIR ANY DAMAGE DURING CONSTRUCTION TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE CONSTRUCTION MANAGER.
7. CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
8. REUSE EXISTING ANTENNA MOUNTS AND COAX. INSPECT FOR DAMAGE OR DECAY AND REPLACE AS NEEDED PER STRUCTURAL ANALYSIS.
9. CONTRACTOR TO VERIFY FINAL ANTENNA DESIGN AND NOTIFY CARRIER AND ENGINEER WITH ANY DISCREPANCIES PRIOR TO THE INSTALLATION.

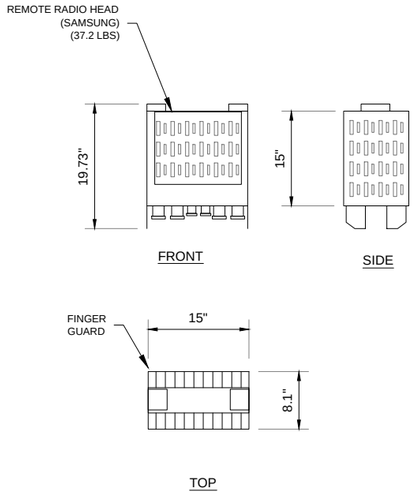
1 GENERAL NOTES — SCALE: NTS



SIDE FRONT BOTTOM

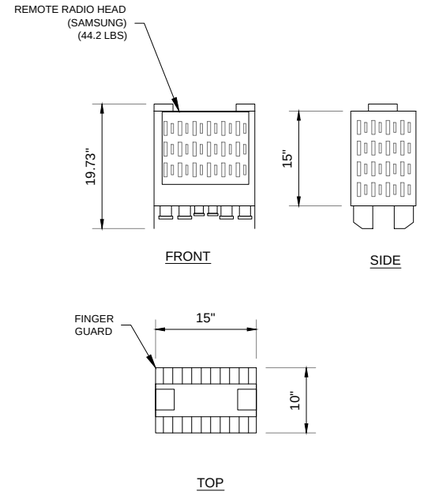
QUINTEL QS665-5D ANTENNA
DIMENSIONS: 72.0"x12.0"x9.6"
WEIGHT: 88.0 LBS.

4 QUNTEL QS6656-5D ANTENNA — SCALE: NTS



2 SAMSUNG 700/850 RRH - RFV01U-D2A — SCALE: NTS

5 DETAIL NOT USED — SCALE: NTS



3 SAMSUNG 1900/2100 RRH - RFV01U-D1A — SCALE: NTS

6 DETAIL NOT USED — SCALE: NTS

verizon
20 ALEXANDER DRIVE
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LICENSED
PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A & E _____

PROJECT NO: ERCC0004

DRAWN BY: EBG

CHECKED BY: CAT

SUBMITTALS

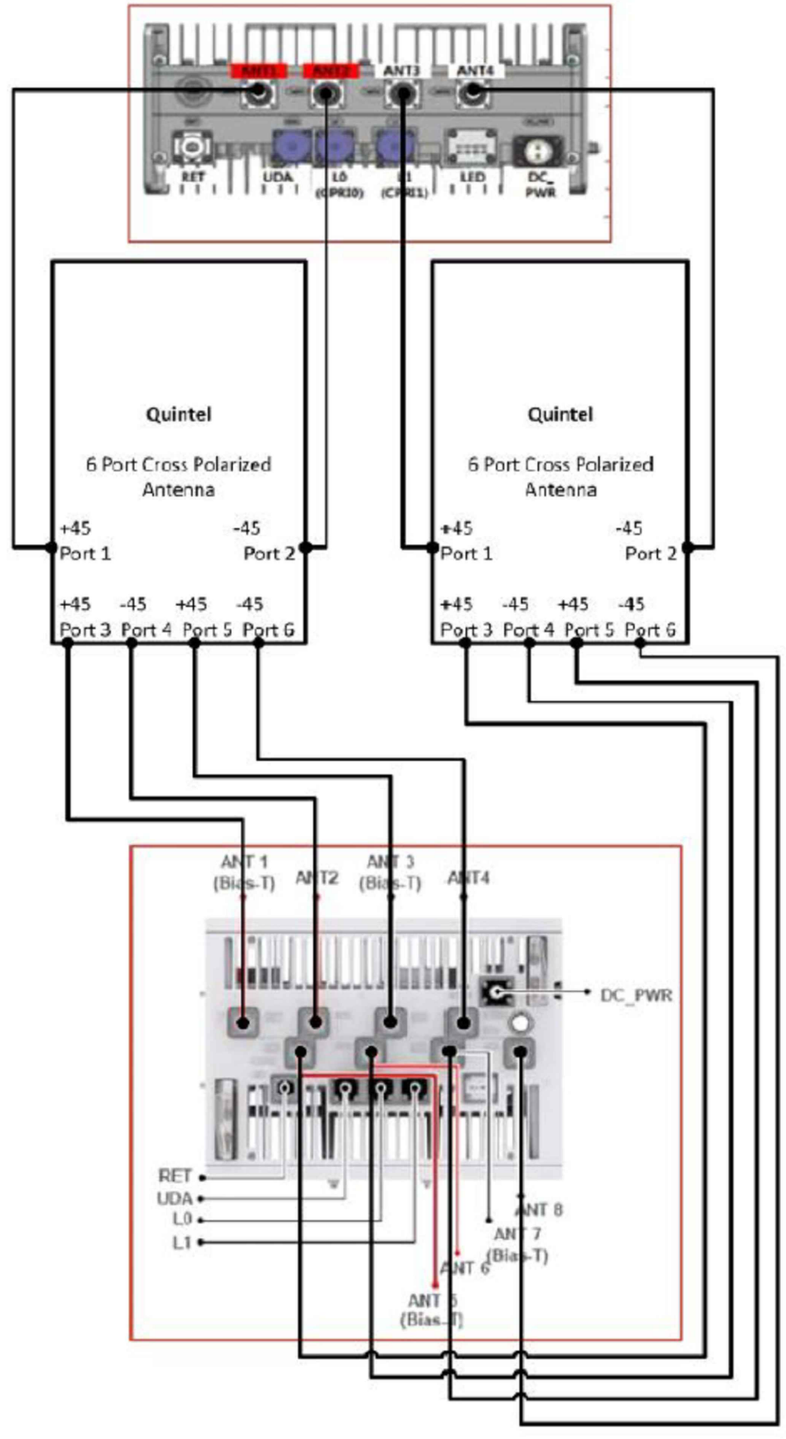
0	08/28/19	FOR PERMITTING

SITE NAME:
WESTON CT
CROWN CASTLE BU#:
829046

56 NORFIELD RD. (TOWN HALL)
WESTON, CT 06883

EQUIPMENT DETAILS

A-3
CONSTRUCTION



1 **SCHEMATIC PLUMBING DIAGRAM**

SCALE: NTS

verizon

20 ALEXANDER DRIVE
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LEASING _____

R.F. _____

ZONING _____

CONSTRUCTION _____

A & E _____

PROJECT NO: ERCC0004

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SITE NAME:
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56 NORFIELD RD. (TOWN HALL)
WESTON, CT 06883

PLUMBING DIA

A-4

CONSTRUCTION