



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: siting.council@ct.gov

Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

February 1, 2022

Thomas J. Regan, Esq.
Brown Rudnick LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103
tregan@brownrudnick.com

RE: **SUBPETITION NO. 1133-CING-20211124** - New Cingular Wireless PCS, LLC
(AT&T) eligible facility request for modifications to an existing telecommunications
facility located at 623 Pine Street, Bridgeport, Connecticut.

Dear Attorney Regan:

The Connecticut Siting Council (Council) is in receipt of the Revised Structural Analysis, dated January 28, 2022, regarding compliance with Condition No. 2 of the Council's January 21, 2022, approval of the above-referenced Eligible Facility Request.

The Council acknowledges that the condition has been satisfied. This acknowledgment applies only to the condition satisfied by the January 28, 2022, correspondence. Any significant changes to the above-referenced project require advance Council notification and approval.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MB/IN/lm

brownrudnick

THOMAS J. REGAN
direct dial: 860.509.6522
fax: 860.509.6622
tregan@brownrudnick.com

January 28, 2022

**VIA E-MAIL (SITING.COUNCIL@CT.GOV) &
(MELANIE.BACHMAN@CT.GOV)
& HAND DELIVERY**

Connecticut Siting Council
Attn: Melanie Bachman, Esq., Executive Director
Ten Franklin Square
New Britain, CT 06051

Re: SUBPETITION NO. 1133-CING-20211124 – AT&T’s Revised Structural

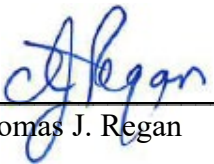
Dear Executive Director Bachman:

We are writing on behalf of New Cingular Wireless PCS, LLC (“AT&T”) in response to your approval letter of the above referenced sub-petition, dated January 21, 2022 (the “Sub-Petition Approval”).

Attached please is an original and 15 copies of the revised Structural Analysis for the facility with proposed reinforcement sufficient to reduce the capacity to less than 100% for the proposed equipment loading. The Structural Analysis was certified by a Professional Engineer licensed in the State of Connecticut. This revised Structural Analysis should be sufficient to meet condition Number 2 of the Sub-Petition Approval.

Please let us know if you have any additional questions and comments. Thank you again for your assistance on this Sub-Petition.

Sincerely,



Thomas J. Regan

Encl.

cc: Joseph P. Ganim, Mayor, City of Bridgeport via e-mail (mayor@bridgeportct.gov)

64367939 v1-WorkSiteUS-024519/1633

POST-MOD STRUCTURAL ANALYSIS REPORT

For



SAI Group
12 Industrial Way
Salem, NH 03079

Bridgeport Reinforced
AT&T Site Number CT1382
KM No. 170518.03

250' Self-Support Tower
623 Pine Street
Bridgeport, CT 06605

Prepared By:



KM CONSULTING ENGINEERS, INC.

262 Upper Ferry Road Ewing, NJ 08628
Ph: (609) 538-0400 www.kmengr.com

January 27, 2022

Prepared to ANSI/TIA-222-G-4 December 2014
Structural Standard for Antenna Supporting
Structures and Antennas

**Dewberry
Bridgeport (CT1382)**

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 Load Case No. 1: Existing tower superstructure with existing inventory and proposed AT&T installation and proposed bolt replacement.	

1.0 EXECUTIVE SUMMARY

Structure

Owner: Radio Communications Tower

Location: 623 Pine Street
Bridgeport, CT 06605

Manufacturer: Rohn
Eng. File No. 3767AE dated 3/25/99

Equipment

Existing tower inventory plus the proposed installation are detailed in Section 2.0 "Tower Inventory."

Synopsis

Load Case No. 1: The existing tower superstructure with the existing inventory and proposed AT&T installation and proposed bolt replacement.

The existing tower superstructure and base foundation with proposed reinforcement by KM Consulting Engineers, in CD's dated 1/21/22, have sufficient capacity for the proposed installation and therefore meet the current ANSI/TIA-222-G design standards. The tower superstructure is rated at 99.8% and the foundation is rated at 76.4%.

2.0 TOWER INVENTORY

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Yagi w/Radome	257	B2/B86A 8843 RRH (ATI)	138
9' Whip	257	B2/B86A 8843 RRH (ATI)	138
9' Whip	257	Radio 4415 B30 (ATI)	138
Beacon	256	Radio 4415 B30 (ATI)	138
Top Platform	256	Radio 4415 B30 (ATI)	138
18' Inverted Whip	256	RRUS-E2 RRH (ATI)	138
Yagi w/Radome	256	RRUS-E2 RRH (ATI)	138
18' Whip	256	RRUS-E2 RRH (ATI)	138
21' Whip	256	DC9-48-80-24-8C-EV Squid (ATI)	138
10' Whip	232	DC9-48-80-24-8C-EV Squid (ATI)	138
10' Whip	232	DC9-48-80-24-8C-EV Squid (ATI)	138
6' Side Arm	232	HPCPE-80BW (Sprint)	131
6' Side Arm	232	VHLP1-23-2WH (Sprint)	131
AIR 6449 B41 (T-Mobile)	181	VHLP2.5-11-4WH (Sprint)	131
AIR 6449 B41 (T-Mobile)	181	(2) 800 MHz RRH (Sprint)	119
AIR 6449 B41 (T-Mobile)	181	(2) 800 MHz RRH (Sprint)	119
AIR 3246 B66 (T-Mobile)	180	(2) 800 MHz RRH (Sprint)	119
AIR 3246 B66 (T-Mobile)	180	1900 MHz RRH (Sprint)	119
Radio 4449 B71/B85 (T-Mobile)	180	Junction Box (Sprint)	119
Radio 4449 B71/B85 (T-Mobile)	180	1900 MHz RRH (Sprint)	119
Radio 4449 B71/B85 (T-Mobile)	180	1900 MHz RRH (Sprint)	119
Radio 2212 B25 (T-Mobile)	180	VFA6-RRU (Sprint)	119
Radio 2212 B25 (T-Mobile)	180	VFA6-RRU (Sprint)	119
Radio 2212 B25 (T-Mobile)	180	VFA6-RRU (Sprint)	119
Twin style 1B TMA (T-Mobile)	180	NNVV-65B-R4 (Sprint)	119
Twin style 1B TMA (T-Mobile)	180	NNVV-65B-R4 (Sprint)	119
Twin style 1B TMA (T-Mobile)	180	NNVV-65B-R4 (Sprint)	119
SBX1926Q-43 TMA (T-Mobile)	180	2.5G MAA-AAHC(64T64R) (Sprint)	119
SBX1926Q-43 TMA (T-Mobile)	180	2.5G MAA-AAHC(64T64R) (Sprint)	119
SBX1926Q-43 TMA (T-Mobile)	180	2.5G MAA-AAHC(64T64R) (Sprint)	119
AIR 3246 B66 (T-Mobile)	180	Yagi	112
16' T-Frame Mount (T-Mobile)	180	(2) JAHH-65B-R3B on mount (Verizon)	110
16' T-Frame Mount (T-Mobile)	180	(2) JAHH-65B-R3B on mount (Verizon)	110
16' T-Frame Mount (T-Mobile)	180	(2) JAHH-65B-R3B on mount (Verizon)	110
APXVAARR24_43-U-NA20 (T-Mobile)	179	12' V-Frame Mount (Verizon)	110
APXVAARR24_43-U-NA20 (T-Mobile)	179	(2) APL-866513-42T9 (Verizon)	110
APXVAARR24_43-U-NA20 (T-Mobile)	179	12' V-Frame Mount (Verizon)	110
C10857278C V-Frame Mount (ATI)	138	12' V-Frame Mount (Verizon)	110
C10857278C V-Frame Mount (ATI)	138	(2) APL-866513-42T6 (Verizon)	110
C10857278C V-Frame Mount (ATI)	138	(2) APL-866513-42T9 (Verizon)	110
DMP65R-BU8DA-K (ATI)	138	GPS antenna (Verizon)	110
DMP65R-BU8DA-K (ATI)	138	Raycap 6-OVP (Verizon)	110
DMP65R-BU8DA-K (ATI)	138	C-band 64T64R MMU (Verizon)	110
TPA65R-BU8DA-K (ATI)	138	C-band 64T64R MMU (Verizon)	110
TPA65R-BU8DA-K (ATI)	138	C-band 64T64R MMU (Verizon)	110
TPA65R-BU8DA-K (ATI)	138	6' pipe mount (Verizon)	110
HPA65R-BU8A (ATI)	138	6' pipe mount (Verizon)	110
HPA65R-BU8A (ATI)	138	6' pipe mount (Verizon)	110
HPA65R-BU8A (ATI)	138	9' pipe mount (Verizon)	110
AIR 6449 N77 (ATI)	138	9' pipe mount (Verizon)	110
AIR 6449 N77 (ATI)	138	9' pipe mount (Verizon)	110
AIR 6449 N77 (ATI)	138	B2/B86A Dual RRH (Verizon)	110
B14 4478 RRH (ATI)	138	B2/B86A Dual RRH (Verizon)	110
B14 4478 RRH (ATI)	138	B2/B86A Dual RRH (Verizon)	110
B14 4478 RRH (ATI)	138	B5/B13 Dual RRH (Verizon)	110
Radio 4449 B5/B12 (ATI)	138	B5/B13 Dual RRH (Verizon)	110
Radio 4449 B5/B12 (ATI)	138	B5/B13 Dual RRH (Verizon)	110
Radio 4449 B5/B12 (ATI)	138	CBC78T-DS-43-2X (Verizon)	110
B2/B86A 8843 RRH (ATI)	138	CBC78T-DS-43-2X (Verizon)	110

Proposed AT&T Installation:

- * (3) CCI DMP65R-BU8DA-K panel antennas @ 138' AGL
- * (3) CCI TPA65R-BU8DA-K panel antennas @ 138' AGL
- * (3) CCI HPA65R-BU8A panel antennas @ 138' AGL
- * (3) Ericsson AIR6449 N77 panel antennas @ 138' AGL
- * (3) B14 4478 RRH's @ 138' AGL
- * (3) 4449 B5/B12 RRH's @ 138' AGL
- * (3) B2/B66A 8843 RRH's @ 138' AGL
- * (3) 4415 B30 RRH's @ 138' AGL
- * (3) RRUS-E2 RRH's @ 138' AGL
- * (3) DC9-48-60-24-8C-EV squids @ 138' AGL
- * (3) C10857278C 14' V-Frame mounts @ 138' AGL
- * (9) DC Lines (Model PWRT-606-S) up to 138' AGL
- * (3) Fiber Lines (Model RFFT-48SM-001) up to 138' AGL

3.0 COMMENTARY

Our scope of work is to determine if the existing structure is capable of withstanding the additional stresses/forces imposed by the installation of the proposed AT&T equipment noted in the tower inventory. The tower is a 250' tall Rohn self-support tower with a triangular platform located at the top.

Tower member sizes, layout and foundation information was taken from previous structural analysis by KM Consulting Engineers, Inc. (KMCE) dated 6/11/21. Existing antenna inventory and coax cable layout was obtained as per tower mapping by Hightower Solutions dated 6/2/21. Proposed AT&T equipment was obtained from an LEs by SAI Group dated 5/11/21 and correspondence with the client. Proposed Sprint equipment obtained from a structural analysis report by Destek Engineering, LLC dated 8/20/18 and CD's by Com-Ex Consultants, LLC dated 5/9/18 is included in the analysis. Proposed tower modifications are detailed in CD's by KMCE, dated 1/21/22, and are included in the analysis.

The following report will provide analytical calculations and commentary regarding the capacity of the proposed tower and subsequent recommendations.

4.0 ANALYSIS PROCEDURE

KM Consulting Engineers, Inc. carried out their structural analysis by correlating field inspection and tower member data into proprietary software designed specifically for communication tower analysis.

These programs run in conjunction with the guidelines set down in the ANSI/TIA-222-G Standard entitled "Structural Standard for Antenna Supporting Structures and Antennas."

The existing tower is analyzed by placing wind forces on the structure in 30° positional increments around the tower (i.e. wind pressure directly onto the tower corners, faces and parallel to the faces). This enables the user to "create" a three-dimensional representation, yielding results for worst case scenarios. In effect, the production of these results allows the user to study the structural integrity of the tower when influenced by wind forces from any direction.

The proceeding report includes analysis for the tower with the addition of antennas in the scenarios stated. For clarity, the analysis shall include worst case loadings and a typical elevation view with maximum foundation loads tabulated.

Should the client require to be furnished with a full copy of our analysis, we will gladly do so.

Codes and Standards

ACI - American Concrete Institute - Building Code Requirements for Structural Concrete (ACI 318-14), 2014

AISC - American Institute of Steel Construction - Manual of Steel Construction, 14th edition, 2011

TIA - Telecommunications Industry Association – ANSI/TIA-222-G-4 Structural Standard for Antenna Supporting Structures and Antennas, 2014

CSBC - Connecticut State Building Code 2018

5.0 TOWER ANALYSIS RESULTS

The tower was analyzed for the inventory detailed in Section 2.0 “Tower Inventory”.

The basic wind speed of 97 MPH with no radial ice in accordance with ANSI/TIA-222-G is taken from Appendix N in the 2018 Connecticut State Building Code for the nominal design wind speed for the municipality of Bridgeport, CT. The basic wind speed of 50 MPH concurrent with ¾” design ice thickness is taken from the ANSI/TIA-222-G listing applicable for Fairfield County, CT. Additional criteria include Structure Class II, Exposure Category C, and Topographic Category 1.

Load Case No. 1: The proposed AT&T installation of (3) CCI DMP65R-BU8DA-K panel antennas, (3) CCI TPA65R-BU8DA-K panel antennas, (3) CCI HPA65R-BU8A panel antennas, (3) Ericsson AIR6449 N77 panel antennas, (3) B14 4478 RRH's @ 138' AGL, (3) 4449 B5/B12 RRH's, (3) B2/B66A 8843 RRH's @ 138' AGL, (3) 4415 B30 RRH's, (3) RRUS-E2 RRH's, (3) DC9-48-60-24-8C-EV squids, (3) C10857278C 14' V-Frame mounts, (9) DC Lines (Model PWRT-606-S), and (3) Fiber Lines (Model RFFT-48SM-001), and with the proposed bolt replacement for the tower.

The existing tower superstructure and base foundation with proposed modifications by KM Consulting Engineers, in CD's dated 1/21/22, have sufficient capacity for the proposed installation and therefore meet the current ANSI/TIA-222-G design standards. The tower superstructure is rated at 99.8% and the foundation is rated at 76.4%.

Table 1. Base Foundation Rating

Force	Actual (kip-ft)	Capacity (kip-ft)	% Capacity
Overturning Moment	13,374	17,504	76.4%

6.0 RECOMMENDATIONS

Further to our calculations, we conclude that the existing tower superstructure and base foundation with proposed reinforcement by KM Consulting Engineers, in CD's dated 1/21/22, have adequate capacity and therefore meet the current ANSI/TIA-222-G design standards. The tower is acceptable to support the proposed AT&T installation with the proposed modifications.

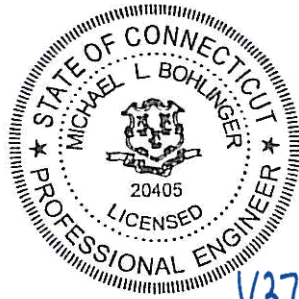
Please do not hesitate to contact our office with any questions or concerns regarding this report.

Sincerely,
KM CONSULTING ENGINEERS, INC.

Reviewed and Approved by:



Domenic Aversa, PE
Project Manager

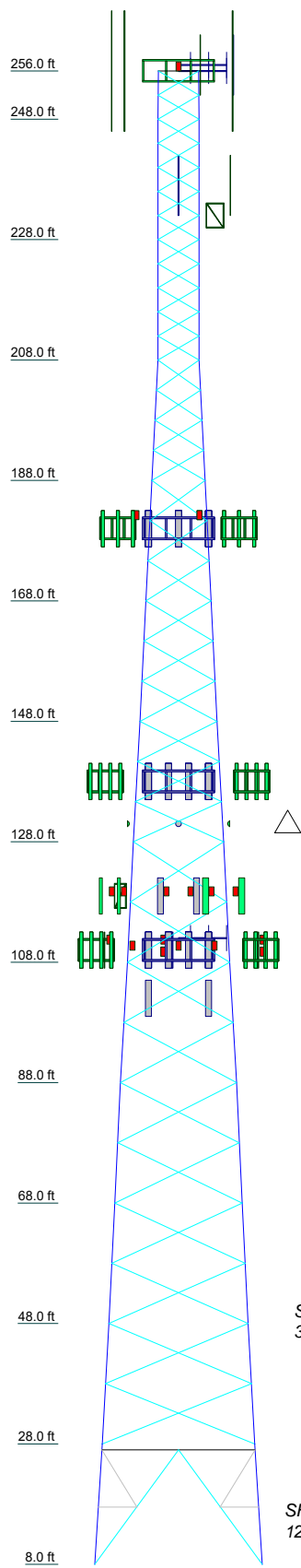


Michael L. Bohlinger, PE
Principal
CT License No. 20405

7.0 APPENDIX

LOAD CASE 1

Section	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs			P10x.5		ROHN 8 EH	ROHN 8 EHS	A572-50	ROHN 6 EH	ROHN 4 EH	ROHN 3 EH	ROHN 4 EH	ROHN 3 EH	A
Leg Grade					L4x4x0.31	L4x4x3/8	A572-50	L3x3x1/4	L2 1/2x2 1/2x1/4	L2x2x1/4	L2x2x1/4		B
Diagonals													
Diagonal Grade													
Top Girts													D
Red. Horizontals													
Red. Diagonals													
Red. Hips													
Inner Bracing													
Face Width (ft)	27.8333	23.229	21.25	19.25	17.0833	14.988	12.916	10.916	8.916	6.833	6.833	6.9	6.604
# Panels @ (ft)	1 @ 19	7 @ 19	6 @ 19	5 @ 19	4 @ 19	3 @ 19	2 @ 19	1 @ 19	1 @ 19	1 @ 19	1 @ 19	1 @ 19	1 @ 19
Weight (lb)	50089.0	65018.8	6887.4	6622.3	4629.8	4195.6	3093.2	2923.5	2690.2	1965.2	1660.8	1379.5	479.2



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 3 STD	C	ROHN 3 STD w/L4x4x1/4
B	L1 3/4x1 3/4x3/16	D	L3x3x1/4

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

TOWER DESIGN NOTES

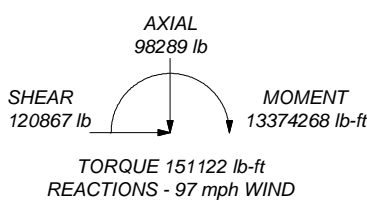
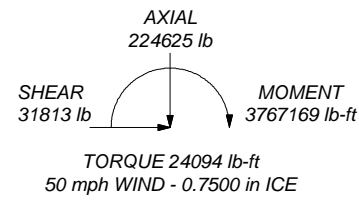
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 99.8%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:

DOWN: 587611 lb
SHEAR: 72354 lb

UPLIFT: -505286 lb
SHEAR: 65268 lb



KM Consulting Engineers
262 Upper Ferry Road
Ewing, NJ 08525
Phone: (609) 538-0400
FAX:

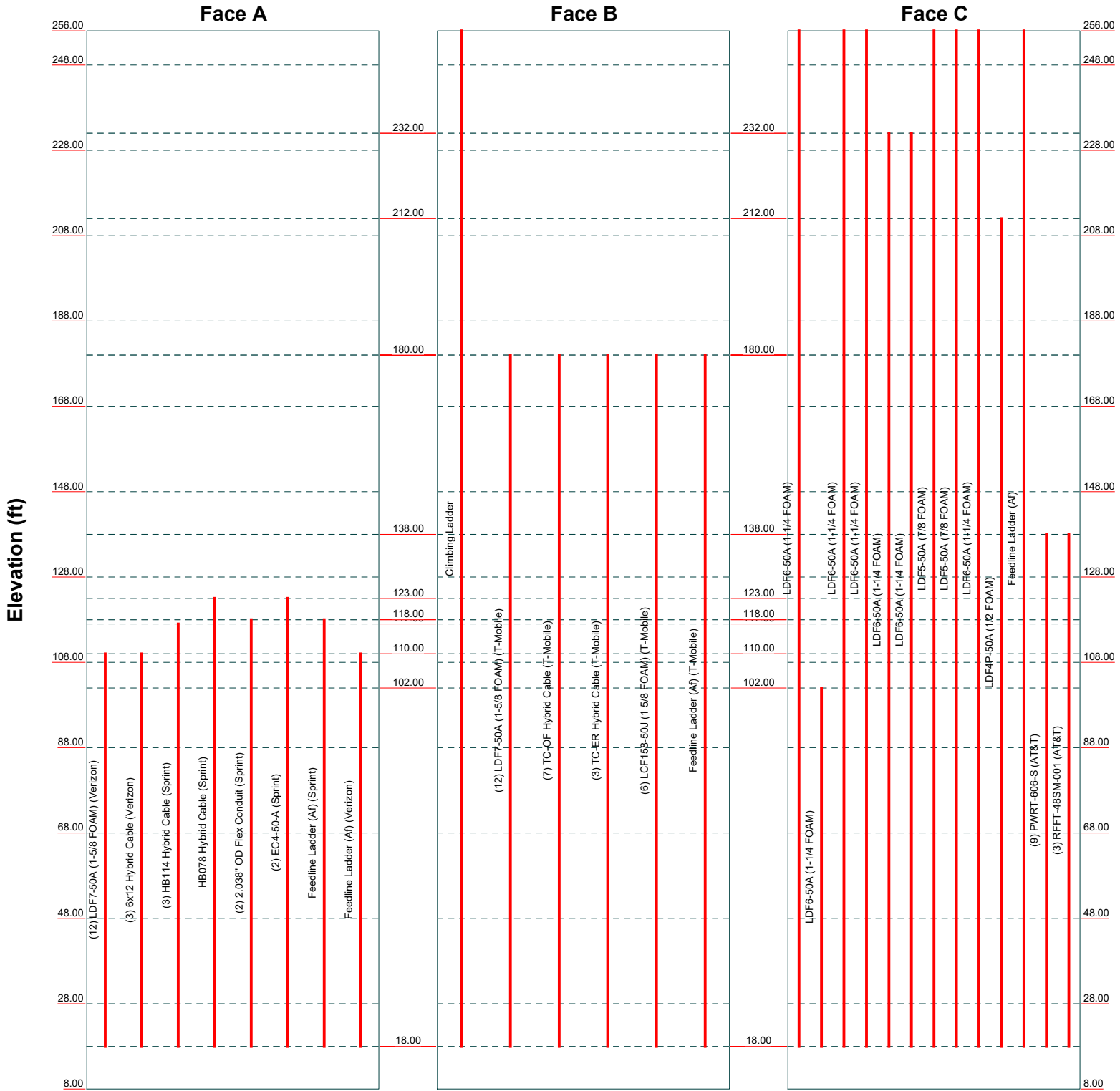
Job: **Bridgeport (CT1382)**
Project: **KM Project #181110.02**
Client: SAI Group
Code: TIA-222-G
Path: C:\Users\Domenic\Dropbox\Work\SAI Group\Bridgeport CT1382\Engineer\Bridgport LC1.et

Drawn by: Domenic Aversa	App'd:
Date: 01/21/22	Scale: NTS
Dwg No. E-1	

Feed Line Distribution Chart

8' - 256'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



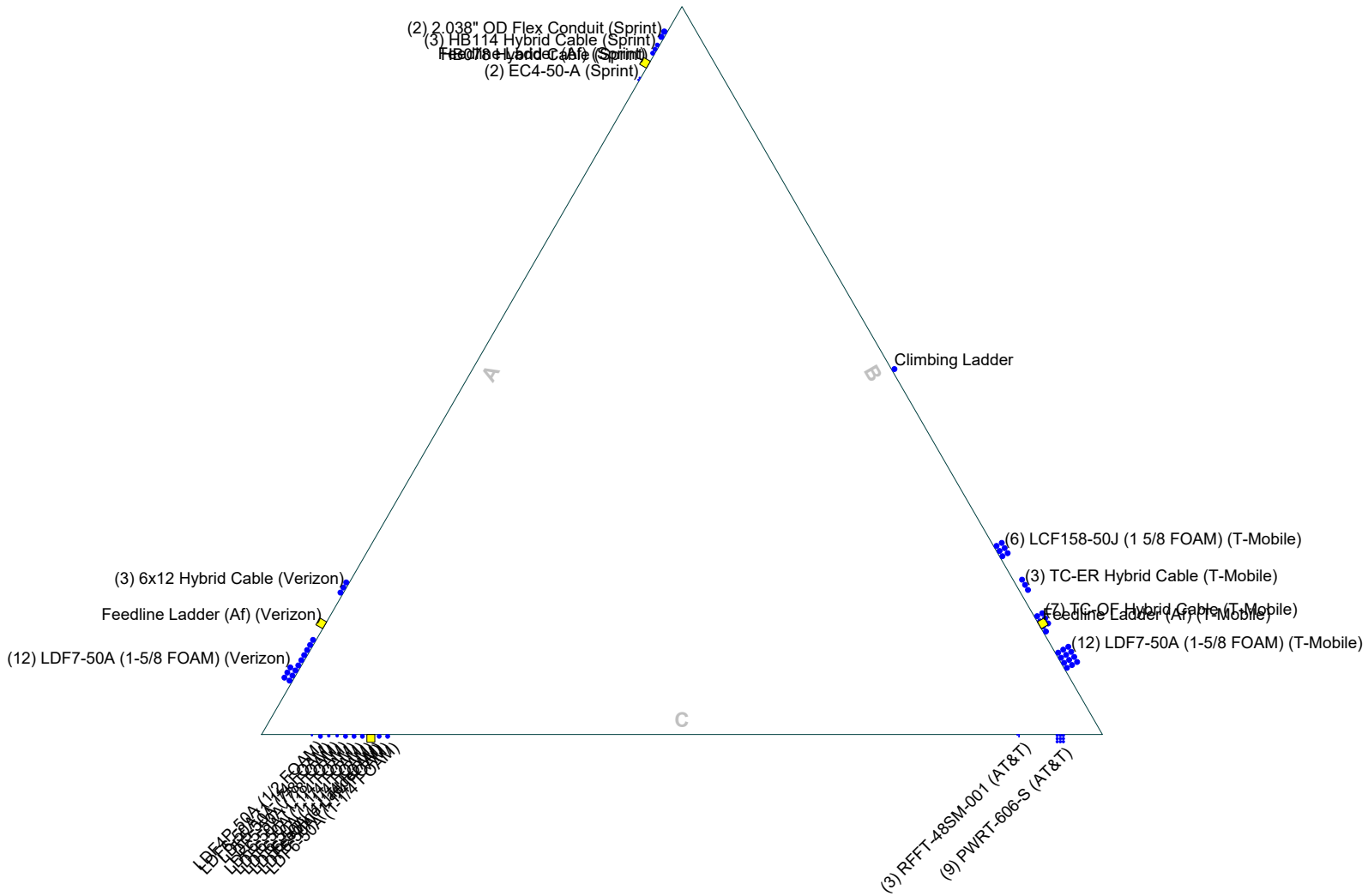
KM Consulting Engineers


262 Upper Ferry Road
 Ewing, NJ 08525
 Phone: (609) 538-0400
 FAX:

Job: Bridgeport (CT1382)		
Project: KM Project #181110.02		
Client: SAI Group	Drawn by: Domenic Aversa	App'd:
Code: TIA-222-G	Date: 01/21/22	Scale: NTS
Path: C:\Users\Domenic\Dropbox\Work\SAI Group\Bridgeport CT1382\Engineer\Bldgeport LC1.e		Dwg No. E-7

Feed Line Plan

— Round
 — Flat
 — App In Face
 — App Out Face

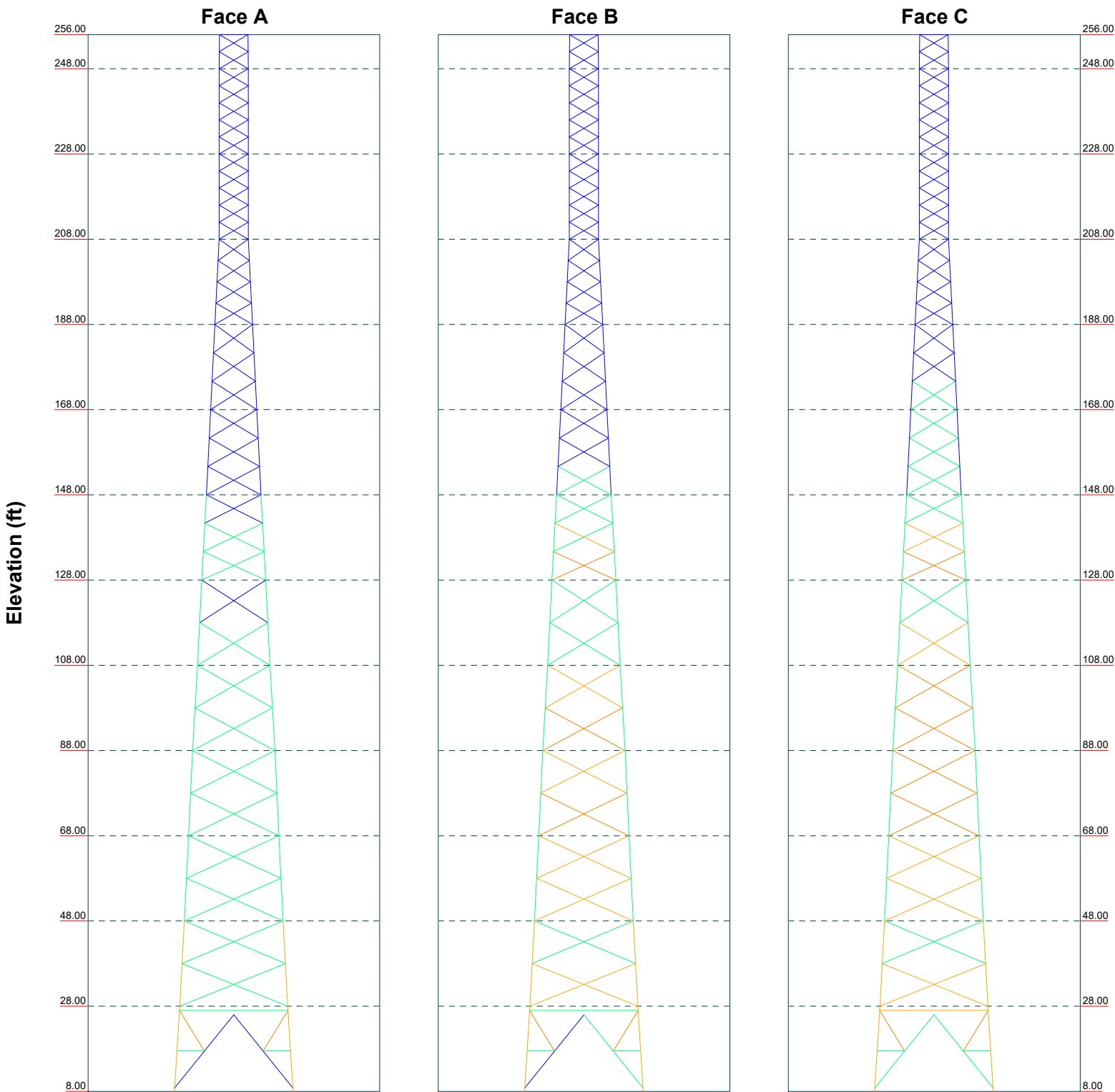


 Consulting Engineers	KM Consulting Engineers		Job: Bridgeport (CT1382)		
	262 Upper Ferry Road		Project: KM Project #181110.02		
	Ewing, NJ 08525		Client: SAI Group	Drawn by: Domenic Aversa	App'd:
	Phone: (609) 538-0400		Code: TIA-222-G	Date: 01/21/22	Scale: NTS
	FAX:		Path: C:\Users\Domenic\Dropbox\Work\SAI Group\Bridgeport CT1382\Engineering\Bridgeport LC1.en		Dwg No. E-7

Stress Distribution Chart

8' - 256'

■ > 100%
 ■ 90%-100%
 ■ 75%-90%
 ■ 50%-75%
 ■ < 50% Overstress



KM Consulting Engineers
 262 Upper Ferry Road
 Ewing, NJ 08525
 Phone: (609) 538-0400
 FAX:

Job: Bridgeport (CT1382)		
Project: KM Project #181110.02		
Client: SAI Group	Drawn by: Domenic Aversa	App'd:
Code: TIA-222-G	Date: 01/21/22	Scale: NTS
Path: C:\Users\Domenic\Dropbox\Work\SAI Group\Bridgeport CT1382\Engineering\Bridgeport LC1.et		Dwg No. E-8

tnxTower KM Consulting Engineers 262 Upper Ferry Road Ewing, NJ 08525 Phone: (609) 538-0400 FAX:	Job Bridgeport (CT1382)	Page 1 of 54
	Project KM Project #181110.02	Date 13:55:34 01/21/22
	Client SAI Group	Designed by Domenic Aversa

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 256.00 ft above the ground line.

The base of the tower is set at an elevation of 8.00 ft above the ground line.

The face width of the tower is 6.60 ft at the top and 27.83 ft at the base.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Basic wind speed of 97 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

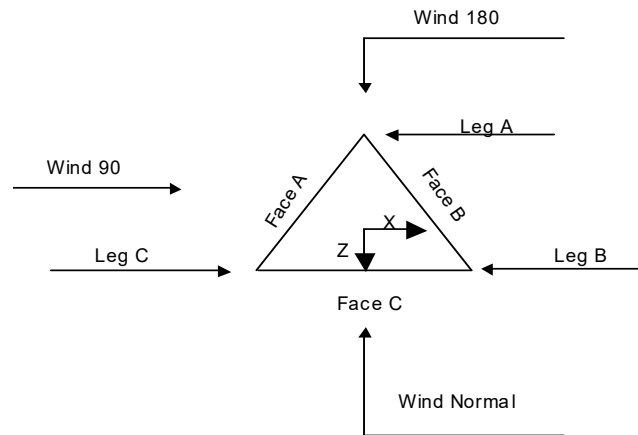
Stress ratio used in tower member design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

tnxTower KM Consulting Engineers 262 Upper Ferry Road Ewing, NJ 08525 Phone: (609) 538-0400 FAX:	Job Bridgeport (CT1382)	Page 2 of 54
	Project KM Project #181110.02	Date 13:55:34 01/21/22
	Client SAI Group	Designed by Domenic Aversa



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	256.00-248.00			6.60	1	8.00
T2	248.00-228.00			6.90	1	20.00
T3	228.00-208.00			6.90	1	20.00
T4	208.00-188.00			6.83	1	20.00
T5	188.00-168.00			8.92	1	20.00
T6	168.00-148.00			10.92	1	20.00
T7	148.00-128.00			12.92	1	20.00
T8	128.00-108.00			14.99	1	20.00
T9	108.00-88.00			17.08	1	20.00
T10	88.00-68.00			19.25	1	20.00
T11	68.00-48.00			21.25	1	20.00
T12	48.00-28.00			23.23	1	20.00
T13	28.00-8.00			25.33	1	20.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	256.00-248.00	4.00	X Brace	No	No	0.0000	0.0000
T2	248.00-228.00	4.00	X Brace	No	No	0.0000	0.0000

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Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T3	228.00-208.00	4.00	X Brace	No	No	0.0000	0.0000
T4	208.00-188.00	5.00	X Brace	No	No	0.0000	0.0000
T5	188.00-168.00	6.67	X Brace	No	No	0.0000	0.0000
T6	168.00-148.00	6.67	X Brace	No	No	0.0000	0.0000
T7	148.00-128.00	6.67	X Brace	No	No	0.0000	0.0000
T8	128.00-108.00	10.00	X Brace	No	No	0.0000	0.0000
T9	108.00-88.00	10.00	X Brace	No	No	0.0000	0.0000
T10	88.00-68.00	10.00	X Brace	No	No	0.0000	0.0000
T11	68.00-48.00	10.00	X Brace	No	No	0.0000	0.0000
T12	48.00-28.00	10.00	X Brace	No	No	0.0000	0.0000
T13	28.00-8.00	19.00	K1 Down	No	Yes	12.0000	0.0000

Tower Section Geometry (cont'd)

Tower Elevation	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
ft						
T1 256.00-248.00	Pipe	ROHN 3 STD	A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A572-50 (50 ksi)
T2 248.00-228.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A572-50 (50 ksi)
T3 228.00-208.00	Pipe	ROHN 4 EH	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A572-50 (50 ksi)
T4 208.00-188.00	Pipe	ROHN 5 EH	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A572-50 (50 ksi)
T5 188.00-168.00	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x1/4	A572-50 (50 ksi)
T6 168.00-148.00	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Single Angle	L3x3x1/4	A572-50 (50 ksi)
T7 148.00-128.00	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Single Angle	L3x3x1/4	A572-50 (50 ksi)
T8 128.00-108.00	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Single Angle	L4x4x3/8	A572-50 (50 ksi)
T9 108.00-88.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Single Angle	L4x4x0.31	A572-50 (50 ksi)
T10 88.00-68.00	Pipe	P10x.5	A572-50 (50 ksi)	Single Angle	L5x5x3/8	A572-50 (50 ksi)
T11 68.00-48.00	Pipe	P10x.5	A572-50 (50 ksi)	Single Angle	L5x5x3/8	A572-50 (50 ksi)
T12 48.00-28.00	Pipe	P10x.5	A572-50 (50 ksi)	Single Angle	L5x5x3/8	A572-50 (50 ksi)
T13 28.00-8.00	Pipe	P10x.5	A572-50 (50 ksi)	Arbitrary Shape	ROHN 3 STD w/L4x4x1/4	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
ft						
T13 28.00-8.00	Pipe	ROHN 3 STD	A36 (36 ksi)	Solid Round		A36 (36 ksi)

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Tower Section Geometry (cont'd)

Tower Elevation	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
ft							
T13 28.00-8.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
ft						
T13 28.00-8.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Redundant Bracing Grade	Redundant Type	Redundant Size	K Factor	
ft					
T13 28.00-8.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 1.5 STD	0.75
		Vertical	Solid Round	3/8	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal (1)	Pipe	ROHN 1.5 STD	1

Tower Section Geometry (cont'd)

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
T1 256.00-248.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T2 248.00-228.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T3 228.00-208.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T4 208.00-188.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T5 188.00-168.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000

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Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
T6 168.00-148.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T7 148.00-128.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T8 128.00-108.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T9 108.00-88.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T10 88.00-68.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T11 68.00-48.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T12 48.00-28.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000
T13 28.00-8.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	6.0000	36.0000

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors ¹							
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace	
											X Y
T1 256.00-248.00	No	No	1	1	1	1	1	1	1	1	1
T2 248.00-228.00	No	No	1	1	1	1	1	1	1	1	1
T3 228.00-208.00	No	No	1	1	1	1	1	1	1	1	1
T4 208.00-188.00	No	No	1	1	1	1	1	1	1	1	1
T5 188.00-168.00	No	No	1	1	1	1	1	1	1	1	1
T6 168.00-148.00	No	No	1	1	1	1	1	1	1	1	1
T7 148.00-128.00	No	No	1	1	1	1	1	1	1	1	1
T8 128.00-108.00	No	No	1	1	1	1	1	1	1	1	1
T9 108.00-88.00	No	No	1	1	1	1	1	1	1	1	1
T10 88.00-68.00	No	No	1	1	1	1	1	1	1	1	1
T11 68.00-48.00	No	No	1	1	1	1	1	1	1	1	1
T12 48.00-28.00	No	No	1	1	1	1	1	1	1	1	1
T13 28.00-8.00	No	No	0.5	1	1	1	0.5	1	1	1	1

¹Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

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Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T9 108.00-88.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 88.00-68.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 68.00-48.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 48.00-28.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 28.00-8.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Connection Offsets							
	Diagonal				K-Bracing			
	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.
in	in	in	in	in	in	in	in	
T1 256.00-248.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T2 248.00-228.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T3 228.00-208.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T4 208.00-188.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T5 188.00-168.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 168.00-148.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T7 148.00-128.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T8 128.00-108.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T9 108.00-88.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T10 88.00-68.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T11 68.00-48.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T12 48.00-28.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T13 28.00-8.00	0.0000	0.0000	0.0000	0.0000	12.0000	0.0000	9.0000	0.0000

Tower Section Geometry (cont'd)

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Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 256.00-248.00	Flange	0.7500 A325N	4	0.6250 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T2 248.00-228.00	Flange	0.8750 A325N	4	0.6250 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T3 228.00-208.00	Flange	1.0000 A325N	4	0.6250 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T4 208.00-188.00	Flange	1.0000 A325N	6	0.6250 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T5 188.00-168.00	Flange	1.0000 A325N	6	0.7500 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T6 168.00-148.00	Flange	1.0000 A325N	6	0.7500 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T7 148.00-128.00	Flange	1.0000 A325N	8	0.7500 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T8 128.00-108.00	Flange	1.0000 A325N	8	0.7500 A325X	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T9 108.00-88.00	Flange	1.0000 A325N	12	0.8750 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T10 88.00-68.00	Flange	1.0000 A325N	12	0.8750 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T11 68.00-48.00	Flange	1.0000 A325N	12	1.0000 A325N	1	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T12 48.00-28.00	Flange	1.0000 A325N	12	0.8750 A325X	2	0.0000 A325N	3	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	4	0.6250 A325N	0
T13 28.00-8.00	Flange	1.0000 A325N	16	0.6250 A325N	6	0.7500 A325N	4	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Climbing Ladder	B	No	No	Ar (CaAa)	256.00 - 18.00	0.0000	0	1	1	0.2500	2.0000		7.90
LDF7-50A (1-5/8 FOAM) (Verizon)	A	No	No	Ar (CaAa)	110.00 - 18.00	0.0000	-0.4	12	9	0.2500	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (T-Mobile)	B	No	No	Ar (CaAa)	180.00 - 18.00	0.0000	0.4	12	4	0.2500	1.9800		0.82
TC-OF Hybrid Cable (T-Mobile)	B	No	No	Ar (CaAa)	180.00 - 18.00	0.0000	0.35	7	4	0.2500	1.9900		1.90
TC-ER Hybrid Cable (T-Mobile)	B	No	No	Ar (CaAa)	180.00 - 18.00	2.0000	0.3	3	3	0.2500	1.9900		1.90
6x12 Hybrid Cable (Verizon)	A	No	No	Ar (CaAa)	110.00 - 18.00	0.0000	-0.3	3	3	0.2500	1.9800		1.90
LCF158-50J (1 5/8 FOAM) (T-Mobile)	B	No	No	Ar (CaAa)	180.00 - 18.00	0.0000	0.25	6	3	0.2500	2.0100		0.92
HB114 Hybrid	A	No	No	Ar (CaAa)	117.00 -	0.0000	0.44	3	3	0.2500	1.5400		1.51

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Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Cable (Sprint)					18.00								
HB078 Hybrid Cable (Sprint)	A	No	No	Ar (CaAa)	123.00 - 18.00	0.0000	0.42	1	1	0.2500	1.1300		0.93
2.038" OD Flex Conduit (Sprint)	A	No	No	Ar (CaAa)	118.00 - 18.00	0.0000	0.46	2	2	0.2500	2.0400		1.00
EC4-50-A (Sprint)	A	No	No	Ar (CaAa)	123.00 - 18.00	0.0000	0.4	2	2	0.2500	0.6300		0.15
Feedline Ladder (Af) (Sprint)	A	No	No	Af (CaAa)	118.00 - 18.00	0.0000	0.42	1	1	3.0000	3.0000		8.40
Feedline Ladder (Af) (Verizon)	A	No	No	Af (CaAa)	110.00 - 18.00	0.0000	-0.35	1	1	3.0000	3.0000		8.40
Feedline Ladder (Af) (T-Mobile)	B	No	No	Af (CaAa)	180.00 - 18.00	0.0000	0.35	1	1	3.0000	3.0000		8.40
LDF6-50A (1-1/4 FOAM)	C	No	No	Ar (CaAa)	256.00 - 18.00	0.0000	0.35	1	1	1.5500	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	No	No	Ar (CaAa)	102.00 - 18.00	0.0000	0.36	1	1	1.5500	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	No	No	Ar (CaAa)	256.00 - 18.00	0.0000	0.37	1	1	1.5500	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	No	No	Ar (CaAa)	256.00 - 18.00	0.0000	0.38	1	1	1.5500	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	No	No	Ar (CaAa)	232.00 - 18.00	0.0000	0.39	1	1	1.5500	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	No	No	Ar (CaAa)	232.00 - 18.00	0.0000	0.4	1	1	1.5500	1.5500		0.66
LDF5-50A (7/8 FOAM)	C	No	No	Ar (CaAa)	256.00 - 18.00	0.0000	0.41	1	1	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	No	No	Ar (CaAa)	256.00 - 18.00	0.0000	0.42	1	1	1.0900	1.0900		0.33
LDF6-50A (1-1/4 FOAM)	C	No	No	Ar (CaAa)	256.00 - 18.00	0.0000	0.43	1	1	1.5500	1.5500		0.66
LDF4P-50A (1/2 FOAM)	C	No	No	Ar (CaAa)	212.00 - 18.00	0.0000	0.44	1	1	0.6300	0.6300		0.15
Feedline Ladder (Af)	C	No	No	Af (CaAa)	256.00 - 18.00	0.0000	0.37	1	1	3.0000	3.0000		8.40
PWRT-606-S (AT&T)	C	No	No	Ar (CaAa)	138.00 - 18.00	0.0000	-0.45	9	3	0.2500	0.9200		0.89
RFFT-48SM-01 (AT&T)	C	No	No	Ar (CaAa)	138.00 - 18.00	0.0000	-0.4	3	2	0.2500	0.4000		0.20

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
T1	256.00-248.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	1.600	0.000	63.20
		C	0.000	0.000	10.704	0.000	93.60
T2	248.00-228.00	A	0.000	0.000	0.000	0.000	0.00

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Tower Section	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight lb
T3	228.00-208.00	B	0.000	0.000	4.000	0.000	158.00
		C	0.000	0.000	28.000	0.000	239.28
		A	0.000	0.000	0.000	0.000	0.00
T4	208.00-188.00	B	0.000	0.000	4.000	0.000	158.00
		C	0.000	0.000	33.212	0.000	261.00
		A	0.000	0.000	0.000	0.000	0.00
T5	188.00-168.00	B	0.000	0.000	4.000	0.000	158.00
		C	0.000	0.000	34.220	0.000	263.40
		A	0.000	0.000	0.000	0.000	0.00
T6	168.00-148.00	B	0.000	0.000	76.864	0.000	671.12
		C	0.000	0.000	34.220	0.000	263.40
		A	0.000	0.000	0.000	0.000	0.00
T7	148.00-128.00	B	0.000	0.000	125.440	0.000	1013.20
		C	0.000	0.000	34.220	0.000	263.40
		A	0.000	0.000	0.000	0.000	0.00
T8	128.00-108.00	B	0.000	0.000	125.440	0.000	1013.20
		C	0.000	0.000	43.700	0.000	349.50
		A	0.000	0.000	23.763	0.000	211.10
T9	108.00-88.00	B	0.000	0.000	125.440	0.000	1013.20
		C	0.000	0.000	55.350	0.000	444.84
		A	0.000	0.000	101.580	0.000	802.00
T10	88.00-68.00	B	0.000	0.000	125.440	0.000	1013.20
		C	0.000	0.000	56.280	0.000	448.80
		A	0.000	0.000	101.580	0.000	802.00
T11	68.00-48.00	B	0.000	0.000	125.440	0.000	1013.20
		C	0.000	0.000	56.280	0.000	448.80
		A	0.000	0.000	101.580	0.000	802.00
T12	48.00-28.00	B	0.000	0.000	125.440	0.000	1013.20
		C	0.000	0.000	56.280	0.000	448.80
		A	0.000	0.000	101.580	0.000	802.00
T13	28.00-8.00	B	0.000	0.000	125.440	0.000	1013.20
		C	0.000	0.000	56.280	0.000	448.80
		A	0.000	0.000	50.790	0.000	401.00
		B	0.000	0.000	62.720	0.000	506.60
		C	0.000	0.000	28.140	0.000	224.40

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} In Face ft ²	C_{AA} Out Face ft ²	Weight lb
T1	256.00-248.00	A	1.838	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	4.541	0.000	132.16
		C		0.000	0.000	31.291	0.000	550.71
T2	248.00-228.00	A	1.828	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	11.311	0.000	328.94
		C		0.000	0.000	82.099	0.000	1432.51
T3	228.00-208.00	A	1.812	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	11.247	0.000	326.74
		C		0.000	0.000	99.882	0.000	1698.15
T4	208.00-188.00	A	1.794	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	11.177	0.000	324.36
		C		0.000	0.000	105.994	0.000	1764.66
T5	188.00-168.00	A	1.775	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	103.135	0.000	2071.38
		C		0.000	0.000	105.234	0.000	1740.35
T6	168.00-148.00	A	1.754	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	163.738	0.000	3209.37

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
T7	148.00-128.00	C		0.000	0.000	104.392	0.000	1713.65
		A	1.731	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	162.896	0.000	3177.66
		C		0.000	0.000	123.306	0.000	1967.73
T8	128.00-108.00	A	1.704	0.000	0.000	60.664	0.000	870.39
		B		0.000	0.000	161.935	0.000	3141.71
		C		0.000	0.000	141.708	0.000	2210.20
T9	108.00-88.00	A	1.672	0.000	0.000	194.654	0.000	3041.56
		B		0.000	0.000	160.815	0.000	3100.07
		C		0.000	0.000	146.863	0.000	2264.04
T10	88.00-68.00	A	1.635	0.000	0.000	192.921	0.000	2982.24
		B		0.000	0.000	159.467	0.000	3050.34
		C		0.000	0.000	147.606	0.000	2246.52
T11	68.00-48.00	A	1.587	0.000	0.000	190.732	0.000	2908.08
		B		0.000	0.000	157.763	0.000	2988.07
		C		0.000	0.000	144.831	0.000	2170.72
T12	48.00-28.00	A	1.521	0.000	0.000	187.719	0.000	2807.49
		B		0.000	0.000	155.418	0.000	2903.45
		C		0.000	0.000	141.010	0.000	2068.75
T13	28.00-8.00	A	1.412	0.000	0.000	91.351	0.000	1321.86
		B		0.000	0.000	75.756	0.000	1382.64
		C		0.000	0.000	67.321	0.000	952.48

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
T1	256.00-248.00	-7.3803	6.4435	-9.7400	7.9512
T2	248.00-228.00	-8.3037	7.1707	-10.9107	8.8575
T3	228.00-208.00	-9.3331	7.9015	-12.3350	9.8693
T4	208.00-188.00	-10.8524	9.0410	-14.6141	11.4901
T5	188.00-168.00	13.9863	13.3706	1.7752	14.3492
T6	168.00-148.00	23.6081	15.7726	9.9581	16.4901
T7	148.00-128.00	28.1197	19.1185	13.7095	19.9618
T8	128.00-108.00	27.4367	15.5325	13.1426	11.5449
T9	108.00-88.00	8.5860	15.8453	-2.9598	9.3079
T10	88.00-68.00	8.5424	16.4599	-3.4147	10.0889
T11	68.00-48.00	9.1255	17.7289	-3.6334	10.8859
T12	48.00-28.00	9.6927	18.9711	-3.8181	11.6681
T13	28.00-8.00	9.1308	17.6482	-3.2112	10.1096

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T1	1	Climbing Ladder	248.00 - 256.00	0.8000	0.7000
T1	15	LDF6-50A (1-1/4 FOAM)	248.00 - 256.00	0.8200	0.7000
T1	17	LDF6-50A (1-1/4 FOAM)	248.00 -	0.8000	0.7000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			256.00		
T1	18	LDF6-50A (1-1/4 FOAM)	248.00 - 256.00	0.8000	0.7000
T1	21	LDF5-50A (7/8 FOAM)	248.00 - 256.00	0.8000	0.7000
T1	22	LDF5-50A (7/8 FOAM)	248.00 - 256.00	0.8000	0.7000
T1	23	LDF6-50A (1-1/4 FOAM)	248.00 - 256.00	0.8000	0.7000
T1	25	Feedline Ladder (Af)	248.00 - 256.00	0.8000	0.7000
T2	1	Climbing Ladder	228.00 - 248.00	0.8000	0.7000
T2	15	LDF6-50A (1-1/4 FOAM)	228.00 - 248.00	0.8200	0.7000
T2	17	LDF6-50A (1-1/4 FOAM)	228.00 - 248.00	0.8000	0.7000
T2	18	LDF6-50A (1-1/4 FOAM)	228.00 - 248.00	0.8000	0.7000
T2	19	LDF6-50A (1-1/4 FOAM)	228.00 - 232.00	0.8000	0.7000
T2	20	LDF6-50A (1-1/4 FOAM)	228.00 - 232.00	0.8000	0.7000
T2	21	LDF5-50A (7/8 FOAM)	228.00 - 248.00	0.8000	0.7000
T2	22	LDF5-50A (7/8 FOAM)	228.00 - 248.00	0.8000	0.7000
T2	23	LDF6-50A (1-1/4 FOAM)	228.00 - 248.00	0.8000	0.7000
T2	25	Feedline Ladder (Af)	228.00 - 248.00	0.8000	0.7000
T3	1	Climbing Ladder	208.00 - 228.00	0.8000	0.7000
T3	15	LDF6-50A (1-1/4 FOAM)	208.00 - 228.00	0.8200	0.7000
T3	17	LDF6-50A (1-1/4 FOAM)	208.00 - 228.00	0.8000	0.7000
T3	18	LDF6-50A (1-1/4 FOAM)	208.00 - 228.00	0.8000	0.7000
T3	19	LDF6-50A (1-1/4 FOAM)	208.00 - 228.00	0.8000	0.7000
T3	20	LDF6-50A (1-1/4 FOAM)	208.00 - 228.00	0.8000	0.7000
T3	21	LDF5-50A (7/8 FOAM)	208.00 - 228.00	0.8000	0.7000
T3	22	LDF5-50A (7/8 FOAM)	208.00 - 228.00	0.8000	0.7000
T3	23	LDF6-50A (1-1/4 FOAM)	208.00 - 228.00	0.8000	0.7000
T3	24	LDF4P-50A (1/2 FOAM)	208.00 - 212.00	0.8000	0.7000
T3	25	Feedline Ladder (Af)	208.00 - 228.00	0.8000	0.7000
T4	1	Climbing Ladder	188.00 - 208.00	0.8000	0.7000
T4	15	LDF6-50A (1-1/4 FOAM)	188.00 - 208.00	0.8200	0.7000
T4	17	LDF6-50A (1-1/4 FOAM)	188.00 - 208.00	0.8000	0.7000
T4	18	LDF6-50A (1-1/4 FOAM)	188.00 - 208.00	0.8000	0.7000
T4	19	LDF6-50A (1-1/4 FOAM)	188.00 -	0.8000	0.7000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			208.00		
T4	20	LDF6-50A (1-1/4 FOAM)	188.00 - 208.00	0.8000	0.7000
T4	21	LDF5-50A (7/8 FOAM)	188.00 - 208.00	0.8000	0.7000
T4	22	LDF5-50A (7/8 FOAM)	188.00 - 208.00	0.8000	0.7000
T4	23	LDF6-50A (1-1/4 FOAM)	188.00 - 208.00	0.8000	0.7000
T4	24	LDF4P-50A (1/2 FOAM)	188.00 - 208.00	0.8000	0.7000
T4	25	Feedline Ladder (Af)	188.00 - 208.00	0.8000	0.7000
T5	1	Climbing Ladder	168.00 - 188.00	0.8000	0.7000
T5	3	LDF7-50A (1-5/8 FOAM)	168.00 - 180.00	0.8400	0.7500
T5	4	TC-OF Hybrid Cable	168.00 - 180.00	0.8400	0.7500
T5	5	TC-ER Hybrid Cable	168.00 - 180.00	0.8400	0.7500
T5	7	LCF158-50J (1 5/8 FOAM)	168.00 - 180.00	0.8400	0.7000
T5	14	Feedline Ladder (Af)	168.00 - 180.00	0.8500	0.7500
T5	15	LDF6-50A (1-1/4 FOAM)	168.00 - 188.00	0.8200	0.7000
T5	17	LDF6-50A (1-1/4 FOAM)	168.00 - 188.00	0.8000	0.7000
T5	18	LDF6-50A (1-1/4 FOAM)	168.00 - 188.00	0.8000	0.7000
T5	19	LDF6-50A (1-1/4 FOAM)	168.00 - 188.00	0.8000	0.7000
T5	20	LDF6-50A (1-1/4 FOAM)	168.00 - 188.00	0.8000	0.7000
T5	21	LDF5-50A (7/8 FOAM)	168.00 - 188.00	0.8000	0.7000
T5	22	LDF5-50A (7/8 FOAM)	168.00 - 188.00	0.8000	0.7000
T5	23	LDF6-50A (1-1/4 FOAM)	168.00 - 188.00	0.8000	0.7000
T5	24	LDF4P-50A (1/2 FOAM)	168.00 - 188.00	0.8000	0.7000
T5	25	Feedline Ladder (Af)	168.00 - 188.00	0.8000	0.7000
T6	1	Climbing Ladder	148.00 - 168.00	0.8000	0.7000
T6	3	LDF7-50A (1-5/8 FOAM)	148.00 - 168.00	0.8400	0.7500
T6	4	TC-OF Hybrid Cable	148.00 - 168.00	0.8400	0.7500
T6	5	TC-ER Hybrid Cable	148.00 - 168.00	0.8400	0.7500
T6	7	LCF158-50J (1 5/8 FOAM)	148.00 - 168.00	0.8400	0.7000
T6	14	Feedline Ladder (Af)	148.00 - 168.00	0.8500	0.7500
T6	15	LDF6-50A (1-1/4 FOAM)	148.00 - 168.00	0.8200	0.7000
T6	17	LDF6-50A (1-1/4 FOAM)	148.00 - 168.00	0.8000	0.7000
T6	18	LDF6-50A (1-1/4 FOAM)	148.00 - 168.00	0.8000	0.7000

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
			168.00		
T6	19	LDF6-50A (1-1/4 FOAM)	148.00 -	0.8000	0.7000
			168.00		
T6	20	LDF6-50A (1-1/4 FOAM)	148.00 -	0.8000	0.7000
			168.00		
T6	21	LDF5-50A (7/8 FOAM)	148.00 -	0.8000	0.7000
			168.00		
T6	22	LDF5-50A (7/8 FOAM)	148.00 -	0.8000	0.7000
			168.00		
T6	23	LDF6-50A (1-1/4 FOAM)	148.00 -	0.8000	0.7000
			168.00		
T6	24	LDF4P-50A (1/2 FOAM)	148.00 -	0.8000	0.7000
			168.00		
T6	25	Feedline Ladder (Af)	148.00 -	0.8000	0.7000
			168.00		
T7	1	Climbing Ladder	128.00 -	0.8000	0.7000
			148.00		
T7	3	LDF7-50A (1-5/8 FOAM)	128.00 -	0.8400	0.7500
			148.00		
T7	4	TC-OF Hybrid Cable	128.00 -	0.8400	0.7500
			148.00		
T7	5	TC-ER Hybrid Cable	128.00 -	0.8400	0.7500
			148.00		
T7	7	LCF158-50J (1 5/8 FOAM)	128.00 -	0.8400	0.7000
			148.00		
T7	14	Feedline Ladder (Af)	128.00 -	0.8500	0.7500
			148.00		
T7	15	LDF6-50A (1-1/4 FOAM)	128.00 -	0.8200	0.7000
			148.00		
T7	17	LDF6-50A (1-1/4 FOAM)	128.00 -	0.8000	0.7000
			148.00		
T7	18	LDF6-50A (1-1/4 FOAM)	128.00 -	0.8000	0.7000
			148.00		
T7	19	LDF6-50A (1-1/4 FOAM)	128.00 -	0.8000	0.7000
			148.00		
T7	20	LDF6-50A (1-1/4 FOAM)	128.00 -	0.8000	0.7000
			148.00		
T7	21	LDF5-50A (7/8 FOAM)	128.00 -	0.8000	0.7000
			148.00		
T7	22	LDF5-50A (7/8 FOAM)	128.00 -	0.8000	0.7000
			148.00		
T7	23	LDF6-50A (1-1/4 FOAM)	128.00 -	0.8000	0.7000
			148.00		
T7	24	LDF4P-50A (1/2 FOAM)	128.00 -	0.8000	0.7000
			148.00		
T7	25	Feedline Ladder (Af)	128.00 -	0.8000	0.7000
			148.00		
T7	26	PWRT-606-S	128.00 -	0.8400	0.7000
			138.00		
T7	27	RFFT-48SM-001	128.00 -	0.8400	0.7000
			138.00		
T8	1	Climbing Ladder	108.00 -	0.8000	0.7000
			128.00		
T8	2	LDF7-50A (1-5/8 FOAM)	108.00 -	0.8500	0.7800
			110.00		
T8	3	LDF7-50A (1-5/8 FOAM)	108.00 -	0.8400	0.7500
			128.00		
T8	4	TC-OF Hybrid Cable	108.00 -	0.8400	0.7500
			128.00		
T8	5	TC-ER Hybrid Cable	108.00 -	0.8400	0.7500
			128.00		
T8	6	6x12 Hybrid Cable	108.00 -	0.8400	0.7500

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			110.00		
T8	7	LCF158-50J (1 5/8 FOAM)	108.00 - 128.00	0.8400	0.7000
T8	8	HB114 Hybrid Cable	108.00 - 117.00	0.8400	0.7800
T8	9	HB078 Hybrid Cable	108.00 - 123.00	0.8400	0.7800
T8	10	2.038" OD Flex Conduit	108.00 - 118.00	0.8400	0.7800
T8	11	EC4-50-A	108.00 - 123.00	0.8500	0.7800
T8	12	Feedline Ladder (Af)	108.00 - 118.00	0.8500	0.7800
T8	13	Feedline Ladder (Af)	108.00 - 110.00	0.8500	0.7800
T8	14	Feedline Ladder (Af)	108.00 - 128.00	0.8500	0.7500
T8	15	LDF6-50A (1-1/4 FOAM)	108.00 - 128.00	0.8200	0.7000
T8	17	LDF6-50A (1-1/4 FOAM)	108.00 - 128.00	0.8000	0.7000
T8	18	LDF6-50A (1-1/4 FOAM)	108.00 - 128.00	0.8000	0.7000
T8	19	LDF6-50A (1-1/4 FOAM)	108.00 - 128.00	0.8000	0.7000
T8	20	LDF6-50A (1-1/4 FOAM)	108.00 - 128.00	0.8000	0.7000
T8	21	LDF5-50A (7/8 FOAM)	108.00 - 128.00	0.8000	0.7000
T8	22	LDF5-50A (7/8 FOAM)	108.00 - 128.00	0.8000	0.7000
T8	23	LDF6-50A (1-1/4 FOAM)	108.00 - 128.00	0.8000	0.7000
T8	24	LDF4P-50A (1/2 FOAM)	108.00 - 128.00	0.8000	0.7000
T8	25	Feedline Ladder (Af)	108.00 - 128.00	0.8000	0.7000
T8	26	PWRT-606-S	108.00 - 128.00	0.8400	0.7000
T8	27	RFFT-48SM-001	108.00 - 128.00	0.8400	0.7000
T9	1	Climbing Ladder	88.00 - 108.00	0.8000	0.7000
T9	2	LDF7-50A (1-5/8 FOAM)	88.00 - 108.00	0.8500	0.7800
T9	3	LDF7-50A (1-5/8 FOAM)	88.00 - 108.00	0.8400	0.7500
T9	4	TC-OF Hybrid Cable	88.00 - 108.00	0.8400	0.7500
T9	5	TC-ER Hybrid Cable	88.00 - 108.00	0.8400	0.7500
T9	6	6x12 Hybrid Cable	88.00 - 108.00	0.8400	0.7500
T9	7	LCF158-50J (1 5/8 FOAM)	88.00 - 108.00	0.8400	0.7000
T9	8	HB114 Hybrid Cable	88.00 - 108.00	0.8400	0.7800
T9	9	HB078 Hybrid Cable	88.00 - 108.00	0.8400	0.7800
T9	10	2.038" OD Flex Conduit	88.00 - 108.00	0.8400	0.7800
T9	11	EC4-50-A	88.00 - 108.00	0.8500	0.7800
T9	12	Feedline Ladder (Af)	88.00 - 108.00	0.8500	0.7800
T9	13	Feedline Ladder (Af)	88.00 - 108.00	0.8500	0.7800
T9	14	Feedline Ladder (Af)	88.00 - 108.00	0.8500	0.7500
T9	15	LDF6-50A (1-1/4 FOAM)	88.00 - 108.00	0.8200	0.7000
T9	16	LDF6-50A (1-1/4 FOAM)	88.00 - 102.00	0.8500	0.7800
T9	17	LDF6-50A (1-1/4 FOAM)	88.00 - 108.00	0.8000	0.7000
T9	18	LDF6-50A (1-1/4 FOAM)	88.00 - 108.00	0.8000	0.7000
T9	19	LDF6-50A (1-1/4 FOAM)	88.00 - 108.00	0.8000	0.7000
T9	20	LDF6-50A (1-1/4 FOAM)	88.00 - 108.00	0.8000	0.7000
T9	21	LDF5-50A (7/8 FOAM)	88.00 - 108.00	0.8000	0.7000

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	Client SAI Group	Designed by Domenic Aversa

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T9	22	LDF5-50A (7/8 FOAM)	88.00 - 108.00	0.8000	0.7000
T9	23	LDF6-50A (1-1/4 FOAM)	88.00 - 108.00	0.8000	0.7000
T9	24	LDF4P-50A (1/2 FOAM)	88.00 - 108.00	0.8000	0.7000
T9	25	Feedline Ladder (Af)	88.00 - 108.00	0.8000	0.7000
T9	26	PWRT-606-S	88.00 - 108.00	0.8400	0.7000
T9	27	RFFT-48SM-001	88.00 - 108.00	0.8400	0.7000
T10	1	Climbing Ladder	68.00 - 88.00	0.8000	0.7000
T10	2	LDF7-50A (1-5/8 FOAM)	68.00 - 88.00	0.8500	0.7800
T10	3	LDF7-50A (1-5/8 FOAM)	68.00 - 88.00	0.8400	0.7500
T10	4	TC-OF Hybrid Cable	68.00 - 88.00	0.8400	0.7500
T10	5	TC-ER Hybrid Cable	68.00 - 88.00	0.8400	0.7500
T10	6	6x12 Hybrid Cable	68.00 - 88.00	0.8400	0.7500
T10	7	LCF158-50J (1 5/8 FOAM)	68.00 - 88.00	0.8400	0.7000
T10	8	HB114 Hybrid Cable	68.00 - 88.00	0.8400	0.7800
T10	9	HB078 Hybrid Cable	68.00 - 88.00	0.8400	0.7800
T10	10	2.038" OD Flex Conduit	68.00 - 88.00	0.8400	0.7800
T10	11	EC4-50-A	68.00 - 88.00	0.8500	0.7800
T10	12	Feedline Ladder (Af)	68.00 - 88.00	0.8500	0.7800
T10	13	Feedline Ladder (Af)	68.00 - 88.00	0.8500	0.7800
T10	14	Feedline Ladder (Af)	68.00 - 88.00	0.8500	0.7500
T10	15	LDF6-50A (1-1/4 FOAM)	68.00 - 88.00	0.8200	0.7000
T10	16	LDF6-50A (1-1/4 FOAM)	68.00 - 88.00	0.8500	0.7800
T10	17	LDF6-50A (1-1/4 FOAM)	68.00 - 88.00	0.8000	0.7000
T10	18	LDF6-50A (1-1/4 FOAM)	68.00 - 88.00	0.8000	0.7000
T10	19	LDF6-50A (1-1/4 FOAM)	68.00 - 88.00	0.8000	0.7000
T10	20	LDF6-50A (1-1/4 FOAM)	68.00 - 88.00	0.8000	0.7000
T10	21	LDF5-50A (7/8 FOAM)	68.00 - 88.00	0.8000	0.7000
T10	22	LDF5-50A (7/8 FOAM)	68.00 - 88.00	0.8000	0.7000
T10	23	LDF6-50A (1-1/4 FOAM)	68.00 - 88.00	0.8000	0.7000
T10	24	LDF4P-50A (1/2 FOAM)	68.00 - 88.00	0.8000	0.7000
T10	25	Feedline Ladder (Af)	68.00 - 88.00	0.8000	0.7000
T10	26	PWRT-606-S	68.00 - 88.00	0.8400	0.7000
T10	27	RFFT-48SM-001	68.00 - 88.00	0.8400	0.7000
T11	1	Climbing Ladder	48.00 - 68.00	0.8000	0.7000
T11	2	LDF7-50A (1-5/8 FOAM)	48.00 - 68.00	0.8500	0.7800
T11	3	LDF7-50A (1-5/8 FOAM)	48.00 - 68.00	0.8400	0.7500
T11	4	TC-OF Hybrid Cable	48.00 - 68.00	0.8400	0.7500
T11	5	TC-ER Hybrid Cable	48.00 - 68.00	0.8400	0.7500
T11	6	6x12 Hybrid Cable	48.00 - 68.00	0.8400	0.7500
T11	7	LCF158-50J (1 5/8 FOAM)	48.00 - 68.00	0.8400	0.7000
T11	8	HB114 Hybrid Cable	48.00 - 68.00	0.8400	0.7800
T11	9	HB078 Hybrid Cable	48.00 - 68.00	0.8400	0.7800
T11	10	2.038" OD Flex Conduit	48.00 - 68.00	0.8400	0.7800
T11	11	EC4-50-A	48.00 - 68.00	0.8500	0.7800
T11	12	Feedline Ladder (Af)	48.00 - 68.00	0.8500	0.7800
T11	13	Feedline Ladder (Af)	48.00 - 68.00	0.8500	0.7800
T11	14	Feedline Ladder (Af)	48.00 - 68.00	0.8500	0.7500
T11	15	LDF6-50A (1-1/4 FOAM)	48.00 - 68.00	0.8200	0.7000
T11	16	LDF6-50A (1-1/4 FOAM)	48.00 - 68.00	0.8500	0.7800
T11	17	LDF6-50A (1-1/4 FOAM)	48.00 - 68.00	0.8000	0.7000
T11	18	LDF6-50A (1-1/4 FOAM)	48.00 - 68.00	0.8000	0.7000
T11	19	LDF6-50A (1-1/4 FOAM)	48.00 - 68.00	0.8000	0.7000
T11	20	LDF6-50A (1-1/4 FOAM)	48.00 - 68.00	0.8000	0.7000
T11	21	LDF5-50A (7/8 FOAM)	48.00 - 68.00	0.8000	0.7000
T11	22	LDF5-50A (7/8 FOAM)	48.00 - 68.00	0.8000	0.7000
T11	23	LDF6-50A (1-1/4 FOAM)	48.00 - 68.00	0.8000	0.7000
T11	24	LDF4P-50A (1/2 FOAM)	48.00 - 68.00	0.8000	0.7000
T11	25	Feedline Ladder (Af)	48.00 - 68.00	0.8000	0.7000
T11	26	PWRT-606-S	48.00 - 68.00	0.8400	0.7000
T11	27	RFFT-48SM-001	48.00 - 68.00	0.8400	0.7000
T12	1	Climbing Ladder	28.00 - 48.00	0.8000	0.7000
T12	2	LDF7-50A (1-5/8 FOAM)	28.00 - 48.00	0.8500	0.7800

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T12	3	LDF7-50A (1-5/8 FOAM)	28.00 - 48.00	0.8400	0.7500
T12	4	TC-OF Hybrid Cable	28.00 - 48.00	0.8400	0.7500
T12	5	TC-ER Hybrid Cable	28.00 - 48.00	0.8400	0.7500
T12	6	6x12 Hybrid Cable	28.00 - 48.00	0.8400	0.7500
T12	7	LCF158-50J (1 5/8 FOAM)	28.00 - 48.00	0.8400	0.7000
T12	8	HB114 Hybrid Cable	28.00 - 48.00	0.8400	0.7800
T12	9	HB078 Hybrid Cable	28.00 - 48.00	0.8400	0.7800
T12	10	2.038" OD Flex Conduit	28.00 - 48.00	0.8400	0.7800
T12	11	EC4-50-A	28.00 - 48.00	0.8500	0.7800
T12	12	Feedline Ladder (Af)	28.00 - 48.00	0.8500	0.7800
T12	13	Feedline Ladder (Af)	28.00 - 48.00	0.8500	0.7800
T12	14	Feedline Ladder (Af)	28.00 - 48.00	0.8500	0.7500
T12	15	LDF6-50A (1-1/4 FOAM)	28.00 - 48.00	0.8200	0.7000
T12	16	LDF6-50A (1-1/4 FOAM)	28.00 - 48.00	0.8500	0.7800
T12	17	LDF6-50A (1-1/4 FOAM)	28.00 - 48.00	0.8000	0.7000
T12	18	LDF6-50A (1-1/4 FOAM)	28.00 - 48.00	0.8000	0.7000
T12	19	LDF6-50A (1-1/4 FOAM)	28.00 - 48.00	0.8000	0.7000
T12	20	LDF6-50A (1-1/4 FOAM)	28.00 - 48.00	0.8000	0.7000
T12	21	LDF5-50A (7/8 FOAM)	28.00 - 48.00	0.8000	0.7000
T12	22	LDF5-50A (7/8 FOAM)	28.00 - 48.00	0.8000	0.7000
T12	23	LDF6-50A (1-1/4 FOAM)	28.00 - 48.00	0.8000	0.7000
T12	24	LDF4P-50A (1/2 FOAM)	28.00 - 48.00	0.8000	0.7000
T12	25	Feedline Ladder (Af)	28.00 - 48.00	0.8000	0.7000
T12	26	PWRT-606-S	28.00 - 48.00	0.8400	0.7000
T12	27	RFFT-48SM-001	28.00 - 48.00	0.8400	0.7000
T13	1	Climbing Ladder	18.00 - 28.00	0.8000	0.7000
T13	2	LDF7-50A (1-5/8 FOAM)	18.00 - 28.00	0.8500	0.7800
T13	3	LDF7-50A (1-5/8 FOAM)	18.00 - 28.00	0.8400	0.7500
T13	4	TC-OF Hybrid Cable	18.00 - 28.00	0.8400	0.7500
T13	5	TC-ER Hybrid Cable	18.00 - 28.00	0.8400	0.7500
T13	6	6x12 Hybrid Cable	18.00 - 28.00	0.8400	0.7500
T13	7	LCF158-50J (1 5/8 FOAM)	18.00 - 28.00	0.8400	0.7000
T13	8	HB114 Hybrid Cable	18.00 - 28.00	0.8400	0.7800
T13	9	HB078 Hybrid Cable	18.00 - 28.00	0.8400	0.7800
T13	10	2.038" OD Flex Conduit	18.00 - 28.00	0.8400	0.7800
T13	11	EC4-50-A	18.00 - 28.00	0.8500	0.7800
T13	12	Feedline Ladder (Af)	18.00 - 28.00	0.8500	0.7800
T13	13	Feedline Ladder (Af)	18.00 - 28.00	0.8500	0.7800
T13	14	Feedline Ladder (Af)	18.00 - 28.00	0.8500	0.7500
T13	15	LDF6-50A (1-1/4 FOAM)	18.00 - 28.00	0.8200	0.7000
T13	16	LDF6-50A (1-1/4 FOAM)	18.00 - 28.00	0.8500	0.7800
T13	17	LDF6-50A (1-1/4 FOAM)	18.00 - 28.00	0.8000	0.7000
T13	18	LDF6-50A (1-1/4 FOAM)	18.00 - 28.00	0.8000	0.7000
T13	19	LDF6-50A (1-1/4 FOAM)	18.00 - 28.00	0.8000	0.7000
T13	20	LDF6-50A (1-1/4 FOAM)	18.00 - 28.00	0.8000	0.7000
T13	21	LDF5-50A (7/8 FOAM)	18.00 - 28.00	0.8000	0.7000
T13	22	LDF5-50A (7/8 FOAM)	18.00 - 28.00	0.8000	0.7000
T13	23	LDF6-50A (1-1/4 FOAM)	18.00 - 28.00	0.8000	0.7000
T13	24	LDF4P-50A (1/2 FOAM)	18.00 - 28.00	0.8000	0.7000
T13	25	Feedline Ladder (Af)	18.00 - 28.00	0.8000	0.7000
T13	26	PWRT-606-S	18.00 - 28.00	0.8400	0.7000
T13	27	RFFT-48SM-001	18.00 - 28.00	0.8400	0.7000

Discrete Tower Loads

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight	
			Horz	Lateral						Vert
(2) APL-866513-42T9 (Verizon)	C	From Leg	5.50	0.00	5.0000	110.00	No Ice	5.01	5.40	41.25
			0.00	0.00			1/2" Ice	5.69	6.49	88.20
			0.00	0.00			1" Ice	6.26	7.30	145.47
(2) APL-866513-42T6 (Verizon)	A	From Leg	5.50	0.00	5.0000	110.00	No Ice	5.01	5.40	41.25
			0.00	0.00			1/2" Ice	5.69	6.49	88.20
			0.00	0.00			1" Ice	6.26	7.30	145.47
(2) APL-866513-42T9 (Verizon)	B	From Leg	5.50	0.00	5.0000	110.00	No Ice	5.01	5.40	41.25
			0.00	0.00			1/2" Ice	5.69	6.49	88.20
			0.00	0.00			1" Ice	6.26	7.30	145.47
12' V-Frame Mount (Verizon)	A	From Leg	0.00	0.00	0.0000	110.00	No Ice	16.00	16.00	500.00
			0.00	0.00			1/2" Ice	25.00	25.00	650.00
			0.00	0.00			1" Ice	34.00	34.00	800.00
12' V-Frame Mount (Verizon)	B	From Leg	0.00	0.00	0.0000	110.00	No Ice	16.00	16.00	500.00
			0.00	0.00			1/2" Ice	25.00	25.00	650.00
			0.00	0.00			1" Ice	34.00	34.00	800.00
12' V-Frame Mount (Verizon)	C	From Leg	0.00	0.00	0.0000	110.00	No Ice	16.00	16.00	500.00
			0.00	0.00			1/2" Ice	25.00	25.00	650.00
			0.00	0.00			1" Ice	34.00	34.00	800.00
16' T-Frame Mount (T-Mobile)	A	From Leg	0.00	0.00	0.0000	180.00	No Ice	14.10	14.10	350.00
			0.00	0.00			1/2" Ice	18.80	18.80	473.00
			0.00	0.00			1" Ice	23.50	23.50	596.00
16' T-Frame Mount (T-Mobile)	B	From Leg	0.00	0.00	0.0000	180.00	No Ice	14.10	14.10	350.00
			0.00	0.00			1/2" Ice	18.80	18.80	473.00
			0.00	0.00			1" Ice	23.50	23.50	596.00
16' T-Frame Mount (T-Mobile)	C	From Leg	0.00	0.00	0.0000	180.00	No Ice	14.10	14.10	350.00
			0.00	0.00			1/2" Ice	18.80	18.80	473.00
			0.00	0.00			1" Ice	23.50	23.50	596.00
Beacon	C	From Centroid-Le g	0.00	0.00	0.0000	256.00	No Ice	0.00	0.00	0.00
			0.00	0.00			1/2" Ice	0.00	0.00	0.00
			0.00	0.00			1" Ice	0.00	0.00	0.00
Top Platform	A	None	0.00	0.00	0.0000	256.00	No Ice	43.98	61.58	324.00
							1/2" Ice	61.58	0.00	453.00
							1" Ice	79.18	0.00	582.00
GPS antenna (Verizon)	A	From Leg	0.00	0.00	0.0000	110.00	No Ice	0.15	0.15	10.00
			0.00	0.00			1/2" Ice	0.20	0.20	15.00
			0.00	0.00			1" Ice	0.25	0.25	20.00
AIR 3246 B66 (T-Mobile)	A	From Leg	1.50	3.00	0.0000	180.00	No Ice	8.00	5.12	200.00
			0.00	0.00			1/2" Ice	8.70	5.80	265.00
			0.00	0.00			1" Ice	9.40	6.48	330.00
AIR 3246 B66 (T-Mobile)	B	From Leg	1.50	3.00	0.0000	180.00	No Ice	8.00	5.12	200.00
			0.00	0.00			1/2" Ice	8.70	5.80	265.00
			0.00	0.00			1" Ice	9.40	6.48	330.00
AIR 3246 B66 (T-Mobile)	C	From Leg	1.50	3.00	0.0000	180.00	No Ice	8.00	5.12	200.00
			0.00	0.00			1/2" Ice	8.70	5.80	265.00
			0.00	0.00			1" Ice	9.40	6.48	330.00
APXVAARR24_43-U-NA20 (T-Mobile)	A	From Leg	1.50	7.50	0.0000	179.00	No Ice	20.80	9.10	154.00
			0.00	0.00			1/2" Ice	21.90	10.30	290.00
			0.00	0.00			1" Ice	23.00	11.50	426.00
APXVAARR24_43-U-NA20 (T-Mobile)	B	From Leg	1.50	7.50	0.0000	179.00	No Ice	20.80	9.10	154.00
			0.00	0.00			1/2" Ice	21.90	10.30	290.00
			0.00	0.00			1" Ice	23.00	11.50	426.00
APXVAARR24_43-U-NA20 (T-Mobile)	C	From Leg	1.50	7.50	0.0000	179.00	No Ice	20.80	9.10	154.00
			0.00	0.00			1/2" Ice	21.90	10.30	290.00
			0.00	0.00			1" Ice	23.00	11.50	426.00
(2) JAHH-65B-R3B on mount (Verizon)	A	From Leg	5.50	-2.50	5.0000	110.00	No Ice	18.80	13.50	225.00
			0.00	0.00			1/2" Ice	12.30	10.30	360.00
							1" Ice	13.40	12.00	510.00

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	Client	SAI Group	Designed by	Domenic Aversa

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight
			Horz	Lateral					
(2) JAHH-65B-R3B on mount (Verizon)	B	From Leg	5.50	5.0000	110.00	No Ice	18.80	13.50	225.00
			-2.50			1/2" Ice	12.30	10.30	360.00
			0.00			1" Ice	13.40	12.00	510.00
(2) JAHH-65B-R3B on mount (Verizon)	C	From Leg	5.50	5.0000	110.00	No Ice	18.80	13.50	225.00
			-2.50			1/2" Ice	12.30	10.30	360.00
			0.00			1" Ice	13.40	12.00	510.00
VFA6-RRU (Sprint)	A	From Leg	2.00	0.0000	119.00	No Ice	8.20	8.20	400.00
			0.00			1/2" Ice	9.90	9.90	500.00
			0.00			1" Ice	11.60	11.60	600.00
VFA6-RRU (Sprint)	C	From Face	2.00	0.0000	119.00	No Ice	8.20	8.20	400.00
			-7.50			1/2" Ice	9.90	9.90	500.00
			0.00			1" Ice	11.60	11.60	600.00
VFA6-RRU (Sprint)	C	From Leg	2.00	0.0000	119.00	No Ice	8.20	8.20	400.00
			0.00			1/2" Ice	9.90	9.90	500.00
			0.00			1" Ice	11.60	11.60	600.00
NNVV-65B-R4 (Sprint)	A	From Leg	4.00	0.0000	119.00	No Ice	12.40	7.50	120.00
			3.00			1/2" Ice	13.10	8.80	230.00
			0.00			1" Ice	13.80	10.10	340.00
NNVV-65B-R4 (Sprint)	C	From Face	4.00	0.0000	119.00	No Ice	12.40	7.50	120.00
			-4.50			1/2" Ice	13.10	8.80	230.00
			0.00			1" Ice	13.80	10.10	340.00
NNVV-65B-R4 (Sprint)	C	From Leg	4.00	0.0000	119.00	No Ice	12.40	7.50	120.00
			3.00			1/2" Ice	13.10	8.80	230.00
			0.00			1" Ice	13.80	10.10	340.00
2.5G MAA-AAHC(64T64R) (Sprint)	A	From Leg	4.00	0.0000	119.00	No Ice	5.10	3.70	145.00
			-3.00			1/2" Ice	5.80	4.60	200.00
			0.00			1" Ice	6.50	5.50	255.00
2.5G MAA-AAHC(64T64R) (Sprint)	C	From Face	4.00	0.0000	119.00	No Ice	5.10	3.70	145.00
			-10.50			1/2" Ice	5.80	4.60	200.00
			0.00			1" Ice	6.50	5.50	255.00
2.5G MAA-AAHC(64T64R) (Sprint)	C	From Leg	4.00	0.0000	119.00	No Ice	5.10	3.70	145.00
			-3.00			1/2" Ice	5.80	4.60	200.00
			0.00			1" Ice	6.50	5.50	255.00
(2) 800 MHz RRH (Sprint)	A	From Leg	2.50	0.0000	119.00	No Ice	1.40	2.20	65.00
			2.00			1/2" Ice	1.50	2.30	100.00
			0.00			1" Ice	1.60	2.40	135.00
(2) 800 MHz RRH (Sprint)	C	From Face	2.50	0.0000	119.00	No Ice	1.40	2.20	65.00
			-5.50			1/2" Ice	1.50	2.30	100.00
			0.00			1" Ice	1.60	2.40	135.00
(2) 800 MHz RRH (Sprint)	C	From Leg	2.50	0.0000	119.00	No Ice	1.40	2.20	65.00
			2.00			1/2" Ice	1.50	2.30	100.00
			0.00			1" Ice	1.60	2.40	135.00
1900 MHz RRH (Sprint)	A	From Leg	2.50	0.0000	119.00	No Ice	2.70	2.70	90.00
			-2.00			1/2" Ice	3.00	3.00	120.00
			0.00			1" Ice	3.30	3.30	150.00
1900 MHz RRH (Sprint)	C	From Face	2.50	0.0000	119.00	No Ice	2.70	2.70	90.00
			-9.50			1/2" Ice	3.00	3.00	120.00
			0.00			1" Ice	3.30	3.30	150.00
1900 MHz RRH (Sprint)	C	From Leg	2.50	0.0000	119.00	No Ice	2.70	2.70	90.00
			-2.00			1/2" Ice	3.00	3.00	120.00
			0.00			1" Ice	3.30	3.30	150.00
AIR 6449 B41 (T-Mobile)	A	From Leg	0.50	0.0000	181.00	No Ice	5.68	2.49	86.00
			-7.50			1/2" Ice	6.14	2.87	150.90
			0.00			1" Ice	6.60	3.25	215.80
AIR 6449 B41 (T-Mobile)	B	From Leg	0.50	0.0000	181.00	No Ice	5.68	2.49	86.00
			-7.50			1/2" Ice	6.14	2.87	150.90
			0.00			1" Ice	6.60	3.25	215.80

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	Client	SAI Group	Designed by	Domenic Aversa

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight
			Horz	Lateral					
AIR 6449 B41 (T-Mobile)	C	From Leg	0.50	0.0000	181.00	No Ice	5.68	2.49	86.00
			-7.50			1/2" Ice	6.14	2.87	150.90
			0.00			1" Ice	6.60	3.25	215.80
Radio 4449 B71/B85 (T-Mobile)	A	From Leg	0.50	0.0000	180.00	No Ice	1.65	1.70	89.00
			3.50			1/2" Ice	1.90	2.00	110.00
			1.50			1" Ice	2.15	2.30	131.00
Radio 4449 B71/B85 (T-Mobile)	B	From Leg	0.50	0.0000	180.00	No Ice	1.65	1.70	89.00
			3.50			1/2" Ice	1.90	2.00	110.00
			1.50			1" Ice	2.15	2.30	131.00
Radio 4449 B71/B85 (T-Mobile)	C	From Leg	0.50	0.0000	180.00	No Ice	1.65	1.70	89.00
			3.50			1/2" Ice	1.90	2.00	110.00
			1.50			1" Ice	2.15	2.30	131.00
Radio 2212 B25 (T-Mobile)	A	From Leg	0.50	0.0000	180.00	No Ice	2.10	1.70	100.00
			3.50			1/2" Ice	2.20	1.80	120.00
			-1.50			1" Ice	2.40	1.90	140.00
Radio 2212 B25 (T-Mobile)	B	From Leg	0.50	0.0000	180.00	No Ice	2.10	1.70	100.00
			3.50			1/2" Ice	2.20	1.80	120.00
			-1.50			1" Ice	2.40	1.90	140.00
Radio 2212 B25 (T-Mobile)	C	From Leg	0.50	0.0000	180.00	No Ice	2.10	1.70	100.00
			3.50			1/2" Ice	2.20	1.80	120.00
			-1.50			1" Ice	2.40	1.90	140.00
Twin style 1B TMA (T-Mobile)	A	From Leg	0.50	0.0000	180.00	No Ice	0.60	0.28	16.00
			-3.50			1/2" Ice	0.80	0.40	24.00
			0.00			1" Ice	1.00	0.52	32.00
Twin style 1B TMA (T-Mobile)	B	From Leg	0.50	0.0000	180.00	No Ice	0.60	0.28	16.00
			-3.50			1/2" Ice	0.80	0.40	24.00
			0.00			1" Ice	1.00	0.52	32.00
Twin style 1B TMA (T-Mobile)	C	From Leg	0.50	0.0000	180.00	No Ice	0.60	0.28	16.00
			-3.50			1/2" Ice	0.80	0.40	24.00
			0.00			1" Ice	1.00	0.52	32.00
SBX1926Q-43 TMA (T-Mobile)	A	From Leg	0.75	-90.0000	180.00	No Ice	0.28	0.17	7.00
			-0.25			1/2" Ice	0.31	0.20	10.00
			0.00			1" Ice	0.34	0.23	13.00
SBX1926Q-43 TMA (T-Mobile)	B	From Leg	0.75	-90.0000	180.00	No Ice	0.28	0.17	7.00
			-0.25			1/2" Ice	0.31	0.20	10.00
			0.00			1" Ice	0.34	0.23	13.00
SBX1926Q-43 TMA (T-Mobile)	C	From Leg	0.75	-90.0000	180.00	No Ice	0.28	0.17	7.00
			-0.25			1/2" Ice	0.31	0.20	10.00
			0.00			1" Ice	0.34	0.23	13.00
C-band 64T64R MMU (Verizon)	A	From Leg	5.50	5.0000	110.00	No Ice	5.40	3.40	135.00
			4.00			1/2" Ice	6.00	4.30	180.00
			0.00			1" Ice	6.60	5.20	225.00
C-band 64T64R MMU (Verizon)	B	From Leg	5.50	5.0000	110.00	No Ice	5.40	3.40	135.00
			4.00			1/2" Ice	6.00	4.30	180.00
			0.00			1" Ice	6.60	5.20	225.00
C-band 64T64R MMU (Verizon)	C	From Leg	5.50	5.0000	110.00	No Ice	5.40	3.40	135.00
			4.00			1/2" Ice	6.00	4.30	180.00
			0.00			1" Ice	6.60	5.20	225.00
6' pipe mount (Verizon)	A	From Leg	5.00	0.0000	110.00	No Ice	1.50	1.50	40.00
			-1.00			1/2" Ice	2.10	2.10	55.00
			0.00			1" Ice	2.70	2.70	70.00
6' pipe mount (Verizon)	B	From Leg	5.00	0.0000	110.00	No Ice	1.50	1.50	40.00
			-1.00			1/2" Ice	2.10	2.10	55.00
			0.00			1" Ice	2.70	2.70	70.00
6' pipe mount (Verizon)	C	From Leg	5.00	0.0000	110.00	No Ice	1.50	1.50	40.00
			-1.00			1/2" Ice	2.10	2.10	55.00
			0.00			1" Ice	2.70	2.70	70.00

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	Client	SAI Group	Designed by	Domenic Aversa

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAAA Front ft ²	CAAA Side ft ²	Weight lb	
9' pipe mount (Verizon)	A	From Leg	5.00	0.0000	110.00	No Ice	2.20	2.20	50.00
			0.00			1/2" Ice	3.10	3.10	75.00
			0.00			1" Ice	4.00	4.00	100.00
9' pipe mount (Verizon)	B	From Leg	5.00	0.0000	110.00	No Ice	2.20	2.20	50.00
			0.00			1/2" Ice	3.10	3.10	75.00
			0.00			1" Ice	4.00	4.00	100.00
9' pipe mount (Verizon)	C	From Leg	5.00	0.0000	110.00	No Ice	2.20	2.20	50.00
			0.00			1/2" Ice	3.10	3.10	75.00
			0.00			1" Ice	4.00	4.00	100.00
B2/B66A Dual RRH (Verizon)	A	From Leg	5.00	0.0000	110.00	No Ice	1.90	1.30	100.00
			-2.50			1/2" Ice	2.10	1.40	125.00
			-1.00			1" Ice	2.20	1.60	150.00
B2/B66A Dual RRH (Verizon)	B	From Leg	5.00	0.0000	110.00	No Ice	1.90	1.30	100.00
			-2.50			1/2" Ice	2.10	1.40	125.00
			-1.00			1" Ice	2.20	1.60	150.00
B2/B66A Dual RRH (Verizon)	A	From Leg	5.00	0.0000	110.00	No Ice	1.90	1.30	100.00
			-2.50			1/2" Ice	2.10	1.40	125.00
			-1.00			1" Ice	2.20	1.60	150.00
B5/B13 Dual RRH (Verizon)	A	From Leg	5.00	0.0000	110.00	No Ice	1.90	1.10	85.00
			-2.50			1/2" Ice	2.10	1.20	105.00
			1.00			1" Ice	2.20	1.30	125.00
B5/B13 Dual RRH (Verizon)	B	From Leg	5.00	0.0000	110.00	No Ice	1.90	1.10	85.00
			-2.50			1/2" Ice	2.10	1.20	105.00
			1.00			1" Ice	2.20	1.30	125.00
B5/B13 Dual RRH (Verizon)	C	From Leg	5.00	0.0000	110.00	No Ice	1.90	1.10	85.00
			-2.50			1/2" Ice	2.10	1.20	105.00
			1.00			1" Ice	2.20	1.30	125.00
CBC78T-DS-43-2X (Verizon)	A	From Leg	5.00	0.0000	110.00	No Ice	0.57	0.52	25.00
			-2.50			1/2" Ice	0.64	0.59	35.00
			2.50			1" Ice	0.71	0.66	45.00
CBC78T-DS-43-2X (Verizon)	B	From Leg	5.00	0.0000	110.00	No Ice	0.57	0.52	25.00
			-2.50			1/2" Ice	0.64	0.59	35.00
			2.50			1" Ice	0.71	0.66	45.00
CBC78T-DS-43-2X (Verizon)	C	From Leg	5.00	0.0000	110.00	No Ice	0.57	0.52	25.00
			-2.50			1/2" Ice	0.64	0.59	35.00
			2.50			1" Ice	0.71	0.66	45.00
(2) TV 65 antenna	A	From Leg	5.00	0.0000	102.00	No Ice	2.57	1.73	25.00
			0.00			1/2" Ice	2.91	2.04	45.80
			0.00			1" Ice	3.25	2.35	66.60
Sidearm Mount	A	From Leg	2.50	0.0000	102.00	No Ice	2.78	2.78	51.20
			0.00			1/2" Ice	3.97	3.97	76.40
			0.00			1" Ice	5.16	5.16	101.60
Raycap 6-OVP (Verizon)	A	From Face	0.50	0.0000	110.00	No Ice	3.79	2.51	32.00
			-6.00			1/2" Ice	4.17	2.85	64.10
			0.00			1" Ice	4.55	3.19	96.20
Raycap 6-OVP (Verizon)	B	From Face	0.50	0.0000	110.00	No Ice	3.79	2.51	32.00
			-6.00			1/2" Ice	4.17	2.85	64.10
			0.00			1" Ice	4.55	3.19	96.20
Raycap 6-OVP (Verizon)	C	From Face	0.50	0.0000	110.00	No Ice	3.79	2.51	32.00
			-6.00			1/2" Ice	4.17	2.85	64.10
			0.00			1" Ice	4.55	3.19	96.20
Yagi	A	From Leg	0.00	0.0000	112.00	No Ice	0.22	0.22	5.00
			0.00			1/2" Ice	0.86	0.86	9.10
			0.00			1" Ice	1.50	1.50	13.20
10' Whip	A	From Leg	6.00	0.0000	232.00	No Ice	2.50	2.50	20.00
			0.00			1/2" Ice	3.36	3.36	44.10
			5.00			1" Ice	4.22	4.22	68.20

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	Client	SAI Group	Designed by	Domenic Aversa

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight	
			Horz	Lateral						Vert
10' Whip	B	From Leg	6.00		0.0000	232.00	No Ice	2.50	2.50	20.00
			0.00				1/2" Ice	3.36	3.36	44.10
			5.00				1" Ice	4.22	4.22	68.20
6' Side Arm	A	From Leg	3.00		0.0000	232.00	No Ice	5.20	2.60	150.00
			0.00				1/2" Ice	5.90	3.00	200.00
			0.00				1" Ice	6.60	3.40	250.00
6' Side Arm	B	From Leg	3.00		0.0000	232.00	No Ice	5.20	2.60	150.00
			0.00				1/2" Ice	5.90	3.00	200.00
			0.00				1" Ice	6.60	3.40	250.00
18' Inverted Whip	C	From Face	6.00		0.0000	256.00	No Ice	4.32	4.32	45.00
			-9.00				1/2" Ice	5.85	5.85	92.90
			0.00				1" Ice	7.38	7.38	140.80
Yagi w/Radome	A	From Leg	6.00		0.0000	256.00	No Ice	1.80	4.20	50.00
			0.00				1/2" Ice	2.06	4.59	111.90
			0.00				1" Ice	2.32	4.98	173.80
Yagi w/Radome	A	From Leg	6.00	90.0000	257.00	257.00	No Ice	1.80	4.20	50.00
			0.00				1/2" Ice	2.06	4.59	111.90
			0.00				1" Ice	2.32	4.98	173.80
18' Whip	C	From Face	6.00		0.0000	256.00	No Ice	4.32	4.32	45.00
			9.00				1/2" Ice	5.85	5.85	92.90
			0.00				1" Ice	7.38	7.38	140.80
21' Whip	C	From Leg	3.00		0.0000	256.00	No Ice	5.04	5.04	55.00
			10.50				1/2" Ice	6.82	6.82	99.30
			0.00				1" Ice	8.60	8.60	143.60
9' Whip	B	From Leg	3.00		0.0000	257.00	No Ice	2.16	2.16	15.00
			4.50				1/2" Ice	2.94	2.94	33.90
			0.00				1" Ice	3.72	3.72	52.80
9' Whip	B	From Face	6.00		0.0000	257.00	No Ice	2.16	2.16	15.00
			4.50				1/2" Ice	2.94	2.94	33.90
			0.00				1" Ice	3.72	3.72	52.80
Junction Box (Sprint)	A	From Face	0.00		0.0000	119.00	No Ice	2.85	1.01	15.00
			0.00				1/2" Ice	3.17	1.23	60.80
			0.00				1" Ice	3.49	1.45	106.60
Junction Box (Sprint)	A	From Face	0.00		0.0000	17.00	No Ice	2.85	1.01	15.00
			0.00				1/2" Ice	3.17	1.23	60.80
			0.00				1" Ice	3.49	1.45	106.60
C10857278C V-Frame Mount (AT&T)	A	From Leg	1.50		0.0000	138.00	No Ice	15.00	15.00	788.00
			0.00				1/2" Ice	20.60	20.60	933.00
			0.00				1" Ice	26.20	26.20	1078.00
C10857278C V-Frame Mount (AT&T)	B	From Leg	1.50		0.0000	138.00	No Ice	15.00	15.00	788.00
			0.00				1/2" Ice	20.60	20.60	933.00
			0.00				1" Ice	26.20	26.20	1078.00
C10857278C V-Frame Mount (AT&T)	C	From Leg	1.50		0.0000	138.00	No Ice	15.00	15.00	788.00
			0.00				1/2" Ice	20.60	20.60	933.00
			0.00				1" Ice	26.20	26.20	1078.00
DMP65R-BU8DA-K (AT&T)	A	From Leg	3.00		0.0000	138.00	No Ice	17.36	8.12	96.00
			-6.00				1/2" Ice	18.42	9.27	193.30
			0.00				1" Ice	19.48	10.42	290.60
DMP65R-BU8DA-K (AT&T)	B	From Leg	3.00		0.0000	138.00	No Ice	17.36	8.12	96.00
			-6.00				1/2" Ice	18.42	9.27	193.30
			0.00				1" Ice	19.48	10.42	290.60
DMP65R-BU8DA-K (AT&T)	C	From Leg	3.00		0.0000	138.00	No Ice	17.36	8.12	96.00
			-6.00				1/2" Ice	18.42	9.27	193.30
			0.00				1" Ice	19.48	10.42	290.60
TPA65R-BU8DA-K (AT&T)	A	From Leg	3.00		0.0000	138.00	No Ice	17.36	8.12	87.00
			2.00				1/2" Ice	18.42	9.27	184.30
			0.00				1" Ice	19.48	10.42	281.60

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	Client	SAI Group	Designed by	Domenic Aversa

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight
			Horz	Lateral					
TPA65R-BU8DA-K (AT&T)	B	From Leg	3.00	0.0000	138.00	No Ice	17.36	8.12	87.00
			2.00			1/2" Ice	18.42	9.27	184.30
			0.00			1" Ice	19.48	10.42	281.60
TPA65R-BU8DA-K (AT&T)	C	From Leg	3.00	0.0000	138.00	No Ice	17.36	8.12	87.00
			2.00			1/2" Ice	18.42	9.27	184.30
			0.00			1" Ice	19.48	10.42	281.60
HPA65R-BU8A (AT&T)	A	From Leg	3.00	0.0000	138.00	No Ice	11.23	8.04	54.00
			-2.00			1/2" Ice	12.32	9.20	122.20
			0.00			1" Ice	13.41	10.36	190.40
HPA65R-BU8A (AT&T)	B	From Leg	3.00	0.0000	138.00	No Ice	11.23	8.04	54.00
			-2.00			1/2" Ice	12.32	9.20	122.20
			0.00			1" Ice	13.41	10.36	190.40
HPA65R-BU8A (AT&T)	C	From Leg	3.00	0.0000	138.00	No Ice	11.23	8.04	54.00
			-2.00			1/2" Ice	12.32	9.20	122.20
			0.00			1" Ice	13.41	10.36	190.40
AIR 6449 N77 (AT&T)	A	From Leg	3.00	0.0000	138.00	No Ice	4.03	2.72	96.00
			-6.00			1/2" Ice	4.42	3.08	130.20
			0.00			1" Ice	4.81	3.44	164.40
AIR 6449 N77 (AT&T)	B	From Leg	3.00	0.0000	138.00	No Ice	4.03	2.72	96.00
			-6.00			1/2" Ice	4.42	3.08	130.20
			0.00			1" Ice	4.81	3.44	164.40
AIR 6449 N77 (AT&T)	C	From Leg	3.00	0.0000	138.00	No Ice	4.03	2.72	96.00
			-6.00			1/2" Ice	4.42	3.08	130.20
			0.00			1" Ice	4.81	3.44	164.40
B14 4478 RRH (AT&T)	A	From Leg	1.50	0.0000	138.00	No Ice	2.02	1.25	60.00
			2.00			1/2" Ice	2.29	1.48	78.10
			0.00			1" Ice	2.56	1.71	96.20
B14 4478 RRH (AT&T)	B	From Leg	1.50	0.0000	138.00	No Ice	2.02	1.25	60.00
			2.00			1/2" Ice	2.29	1.48	78.10
			0.00			1" Ice	2.56	1.71	96.20
B14 4478 RRH (AT&T)	C	From Leg	1.50	0.0000	138.00	No Ice	2.02	1.25	60.00
			2.00			1/2" Ice	2.29	1.48	78.10
			0.00			1" Ice	2.56	1.71	96.20
Radio 4449 B5/B12 (AT&T)	A	From Leg	1.50	0.0000	138.00	No Ice	1.97	1.40	71.00
			1.00			1/2" Ice	2.24	1.64	89.90
			0.00			1" Ice	2.51	1.88	108.80
Radio 4449 B5/B12 (AT&T)	B	From Leg	1.50	0.0000	138.00	No Ice	1.97	1.40	71.00
			1.00			1/2" Ice	2.24	1.64	89.90
			0.00			1" Ice	2.51	1.88	108.80
Radio 4449 B5/B12 (AT&T)	C	From Leg	1.50	0.0000	138.00	No Ice	1.97	1.40	71.00
			1.00			1/2" Ice	2.24	1.64	89.90
			0.00			1" Ice	2.51	1.88	108.80
B2/B66A 8843 RRH (AT&T)	A	From Leg	1.50	0.0000	138.00	No Ice	1.64	1.35	72.00
			-1.00			1/2" Ice	1.88	1.58	90.00
			0.00			1" Ice	2.12	1.81	108.00
B2/B66A 8843 RRH (AT&T)	B	From Leg	1.50	0.0000	138.00	No Ice	1.64	1.35	72.00
			-1.00			1/2" Ice	1.88	1.58	90.00
			0.00			1" Ice	2.12	1.81	108.00
B2/B66A 8843 RRH (AT&T)	C	From Leg	1.50	0.0000	138.00	No Ice	1.64	1.35	72.00
			-1.00			1/2" Ice	1.88	1.58	90.00
			0.00			1" Ice	2.12	1.81	108.00
Radio 4415 B30 (AT&T)	A	From Leg	1.50	0.0000	138.00	No Ice	1.84	0.82	48.00
			-2.00			1/2" Ice	2.10	1.02	62.40
			0.00			1" Ice	2.36	1.22	76.80
Radio 4415 B30 (AT&T)	B	From Leg	1.50	0.0000	138.00	No Ice	1.84	0.82	48.00
			-2.00			1/2" Ice	2.10	1.02	62.40
			0.00			1" Ice	2.36	1.22	76.80

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	Client	SAI Group		Designed by	Domenic Aversa

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral Vert					
			ft	ft	°	ft	ft ²	ft ²	lb
Radio 4415 B30 (AT&T)	C	From Leg	1.50	0.0000	138.00	No Ice	1.84	0.82	48.00
			-2.00			1/2" Ice	2.10	1.02	62.40
			0.00			1" Ice	2.36	1.22	76.80
RRUS-E2 RRH (AT&T)	A	From Leg	1.50	0.0000	138.00	No Ice	3.15	1.29	53.00
			-3.00			1/2" Ice	3.48	1.53	76.80
			0.00			1" Ice	3.81	1.77	100.60
RRUS-E2 RRH (AT&T)	B	From Leg	1.50	0.0000	138.00	No Ice	3.15	1.29	53.00
			-3.00			1/2" Ice	3.48	1.53	76.80
			0.00			1" Ice	3.81	1.77	100.60
RRUS-E2 RRH (AT&T)	C	From Leg	1.50	0.0000	138.00	No Ice	3.15	1.29	53.00
			-3.00			1/2" Ice	3.48	1.53	76.80
			0.00			1" Ice	3.81	1.77	100.60
DC9-48-60-24-8C-EV Squid (AT&T)	A	From Leg	1.50	0.0000	138.00	No Ice	4.79	2.73	16.00
			3.00			1/2" Ice	5.21	3.09	53.90
			0.00			1" Ice	5.63	3.45	91.80
DC9-48-60-24-8C-EV Squid (AT&T)	B	From Leg	1.50	0.0000	138.00	No Ice	4.79	2.73	16.00
			3.00			1/2" Ice	5.21	3.09	53.90
			0.00			1" Ice	5.63	3.45	91.80
DC9-48-60-24-8C-EV Squid (AT&T)	C	From Leg	1.50	0.0000	138.00	No Ice	4.79	2.73	16.00
			3.00			1/2" Ice	5.21	3.09	53.90
			0.00			1" Ice	5.63	3.45	91.80

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight
				Horz	Lateral Vert						
			ft	ft	°	°	ft	ft	ft ²	lb	
HPCPE-80BW (Sprint)	A	Paraboloid w/o Radome	From Leg	1.00	0.0000	131.00	1.10	No Ice	1.07	35.00	
				0.00				1/2" Ice	1.23	65.00	
				0.00				1" Ice	1.39	95.00	
VHLP1-23-2WH (Sprint)	B	Paraboloid w/o Radome	From Leg	1.00	0.0000	131.00	1.00	No Ice	0.78	25.00	
				0.00				1/2" Ice	1.07	40.00	
				0.00				1" Ice	1.36	55.00	
VHLP2.5-11-4WH (Sprint)	C	Paraboloid w/o Radome	From Leg	1.00	0.0000	131.00	1.00	No Ice	4.91	49.00	
				0.00				1/2" Ice	5.59	77.00	
				0.00				1" Ice	6.27	105.00	

Tower Pressures - No Ice

$$G_H = 0.850$$

Section Elevation	z	K _Z	q _z	A _G	F _a	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face	C _{AA} Out Face
ft	ft		psf	ft ²	e	ft ²	ft ²	ft ²	%	ft ²	ft ²

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Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
T1 256.00-248.00	252.00	1.537	31	56.350	A	5.958	4.668	4.668	43.93	0.000	0.000
					B	5.958	4.668		43.93	1.600	0.000
					C	5.958	4.668		43.93	10.704	0.000
T2 248.00-228.00	238.00	1.519	31	143.833	A	12.731	11.667	11.667	47.82	0.000	0.000
					B	12.731	11.667		47.82	4.000	0.000
					C	12.731	11.667		47.82	28.000	0.000
T3 228.00-208.00	218.00	1.491	31	144.830	A	12.521	15.000	15.000	54.50	0.000	0.000
					B	12.521	15.000		54.50	4.000	0.000
					C	12.521	15.000		54.50	33.212	0.000
T4 208.00-188.00	198.00	1.461	30	166.774	A	11.712	18.577	18.577	61.33	0.000	0.000
					B	11.712	18.577		61.33	4.000	0.000
					C	11.712	18.577		61.33	34.220	0.000
T5 188.00-168.00	178.00	1.429	29	209.375	A	14.110	22.120	22.120	61.05	0.000	0.000
					B	14.110	22.120		61.05	76.864	0.000
					C	14.110	22.120		61.05	34.220	0.000
T6 168.00-148.00	158.00	1.394	29	249.375	A	19.538	22.120	22.120	53.10	0.000	0.000
					B	19.538	22.120		53.10	125.440	0.000
					C	19.538	22.120		53.10	34.220	0.000
T7 148.00-128.00	138.00	1.354	28	290.106	A	22.282	22.123	22.123	49.82	0.000	0.000
					B	22.282	22.123		49.82	125.440	0.000
					C	22.282	22.123		49.82	43.700	0.000
T8 128.00-108.00	118.00	1.31	27	335.118	A	24.074	28.802	28.802	54.47	23.763	0.000
					B	24.074	28.802		54.47	125.440	0.000
					C	24.074	28.802		54.47	53.180	0.000
T9 108.00-88.00	98.00	1.26	26	377.729	A	26.561	28.806	28.806	52.03	101.580	0.000
					B	26.561	28.806		52.03	125.440	0.000
					C	26.561	28.806		52.03	55.350	0.000
T10 88.00-68.00	78.00	1.201	25	422.939	A	35.980	35.893	35.893	49.94	101.580	0.000
					B	35.980	35.893		49.94	125.440	0.000
					C	35.980	35.893		49.94	56.280	0.000
T11 68.00-48.00	58.00	1.128	23	462.729	A	39.008	35.892	35.892	47.92	101.580	0.000
					B	39.008	35.892		47.92	125.440	0.000
					C	39.008	35.892		47.92	56.280	0.000
T12 48.00-28.00	38.00	1.032	21	503.561	A	42.155	35.899	35.899	45.99	101.580	0.000
					B	42.155	35.899		45.99	125.440	0.000
					C	42.155	35.899		45.99	56.280	0.000
T13 28.00-8.00	18.00	0.882	18	549.615	A	14.782	48.213	35.927	57.03	50.790	0.000
					B	14.782	48.213		57.03	62.720	0.000
					C	14.782	48.213		57.03	28.140	0.000

Tower Pressure - With Ice

$G_H = 0.850$

Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
T1 256.00-248.00	252.00	1.537	8	1.8381	58.801	A	5.958	20.706	9.571	35.89	0.000	0.000
						B	5.958	20.706		35.89	4.541	0.000
						C	5.958	20.706		35.89	31.291	0.000
T2 248.00-228.00	238.00	1.519	8	1.8277	149.926	A	12.731	47.119	23.851	39.85	0.000	0.000
						B	12.731	47.119		39.85	11.311	0.000
						C	12.731	47.119		39.85	82.099	0.000
T3 228.00-208.00	218.00	1.491	8	1.8117	150.869	A	12.521	49.762	27.078	43.48	0.000	0.000
						B	12.521	49.762		43.48	11.247	0.000

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Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
T4 208.00-188.00	198.00	1.461	8	1.7943	172.763	C	12.521	49.762	30.561	43.48	99.882	0.000
						A	11.712	51.576		48.29	0.000	0.000
						B	11.712	51.576		48.29	11.177	0.000
T5 188.00-168.00	178.00	1.429	8	1.7753	215.301	C	11.712	51.576	33.975	48.29	105.994	0.000
						A	14.110	54.016		49.87	0.000	0.000
						B	14.110	54.016		49.87	103.135	0.000
T6 168.00-148.00	158.00	1.394	8	1.7543	255.230	C	14.110	54.016	33.835	49.87	105.234	0.000
						A	19.538	56.685		44.39	0.000	0.000
						B	19.538	56.685		44.39	163.738	0.000
T7 148.00-128.00	138.00	1.354	7	1.7307	295.883	C	19.538	56.685	33.682	44.39	104.392	0.000
						A	22.282	59.391		41.24	0.000	0.000
						B	22.282	59.391		41.24	162.896	0.000
T8 128.00-108.00	118.00	1.31	7	1.7038	340.805	C	22.282	59.391	40.182	41.24	123.306	0.000
						A	24.074	60.691		47.40	60.664	0.000
						B	24.074	60.691		47.40	161.935	0.000
T9 108.00-88.00	98.00	1.26	7	1.6725	383.312	C	24.074	60.691	39.978	47.40	141.708	0.000
						A	26.561	62.189		45.05	194.654	0.000
						B	26.561	62.189		45.05	160.815	0.000
T10 88.00-68.00	78.00	1.201	7	1.6347	428.395	C	26.561	62.189	46.809	45.05	146.863	0.000
						A	35.980	70.337		44.03	192.921	0.000
						B	35.980	70.337		44.03	159.467	0.000
T11 68.00-48.00	58.00	1.128	6	1.5870	468.025	C	35.980	70.337	46.489	44.03	147.606	0.000
						A	39.008	71.251		42.16	190.732	0.000
						B	39.008	71.251		42.16	157.763	0.000
T12 48.00-28.00	38.00	1.032	6	1.5213	508.639	C	39.008	71.251	46.060	42.16	144.831	0.000
						A	42.155	71.713		40.45	187.719	0.000
						B	42.155	71.713		40.45	155.418	0.000
T13 28.00-8.00	18.00	0.882	5	1.4118	554.330	C	42.155	71.713	45.363	40.45	141.010	0.000
						A	21.739	71.041		48.89	91.351	0.000
						B	21.739	71.041		48.89	75.756	0.000
						C	21.739	71.041		48.89	67.321	0.000

Tower Pressure - Service

$G_H = 0.850$

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
T1 256.00-248.00	252.00	1.537	12	56.350	A	5.958	4.668	4.668	43.93	0.000	0.000
					B	5.958	4.668		43.93	1.600	0.000
					C	5.958	4.668		43.93	10.704	0.000
T2 248.00-228.00	238.00	1.519	12	143.833	A	12.731	11.667	11.667	47.82	0.000	0.000
					B	12.731	11.667		47.82	4.000	0.000
					C	12.731	11.667		47.82	28.000	0.000
T3 228.00-208.00	218.00	1.491	12	144.830	A	12.521	15.000	15.000	54.50	0.000	0.000
					B	12.521	15.000		54.50	4.000	0.000
					C	12.521	15.000		54.50	33.212	0.000
T4 208.00-188.00	198.00	1.461	11	166.774	A	11.712	18.577	18.577	61.33	0.000	0.000
					B	11.712	18.577		61.33	4.000	0.000
					C	11.712	18.577		61.33	34.220	0.000
T5 188.00-168.00	178.00	1.429	11	209.375	A	14.110	22.120	22.120	61.05	0.000	0.000
					B	14.110	22.120		61.05	76.864	0.000
					C	14.110	22.120		61.05	34.220	0.000

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Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F _a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
T6 168.00-148.00	158.00	1.394	11	249.375	A	19.538	22.120	22.120	53.10	0.000	0.000
					B	19.538	22.120		53.10	125.440	0.000
					C	19.538	22.120		53.10	34.220	0.000
T7 148.00-128.00	138.00	1.354	11	290.106	A	22.282	22.123	22.123	49.82	0.000	0.000
					B	22.282	22.123		49.82	125.440	0.000
					C	22.282	22.123		49.82	43.700	0.000
T8 128.00-108.00	118.00	1.31	10	335.118	A	24.074	28.802	28.802	54.47	23.763	0.000
					B	24.074	28.802		54.47	125.440	0.000
					C	24.074	28.802		54.47	53.180	0.000
T9 108.00-88.00	98.00	1.26	10	377.729	A	26.561	28.806	28.806	52.03	101.580	0.000
					B	26.561	28.806		52.03	125.440	0.000
					C	26.561	28.806		52.03	55.350	0.000
T10 88.00-68.00	78.00	1.201	9	422.939	A	35.980	35.893	35.893	49.94	101.580	0.000
					B	35.980	35.893		49.94	125.440	0.000
					C	35.980	35.893		49.94	56.280	0.000
T11 68.00-48.00	58.00	1.128	9	462.729	A	39.008	35.892	35.892	47.92	101.580	0.000
					B	39.008	35.892		47.92	125.440	0.000
					C	39.008	35.892		47.92	56.280	0.000
T12 48.00-28.00	38.00	1.032	8	503.561	A	42.155	35.899	35.899	45.99	101.580	0.000
					B	42.155	35.899		45.99	125.440	0.000
					C	42.155	35.899		45.99	56.280	0.000
T13 28.00-8.00	18.00	0.882	7	549.615	A	14.782	48.213	35.927	57.03	50.790	0.000
					B	14.782	48.213		57.03	62.720	0.000
					C	14.782	48.213		57.03	28.140	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F _a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 256.00-248.00	156.80	478.15	A	0.189	2.635	31	1	1	8.571	868.24	108.53	C
			B	0.189	2.635		1	1	8.571			
			C	0.189	2.635		1	1	8.571			
T2 248.00-228.00	397.28	1379.45	A	0.17	2.701	31	1	1	19.231	2051.42	102.57	C
			B	0.17	2.701		1	1	19.231			
			C	0.17	2.701		1	1	19.231			
T3 228.00-208.00	419.00	1660.78	A	0.19	2.63	31	1	1	20.341	2162.37	108.12	C
			B	0.19	2.63		1	1	20.341			
			C	0.19	2.63		1	1	20.341			
T4 208.00-188.00	421.40	1965.16	A	0.182	2.659	30	1	1	20.562	2169.46	108.47	C
			B	0.182	2.659		1	1	20.562			
			C	0.182	2.659		1	1	20.562			
T5 188.00-168.00	934.52	2590.18	A	0.173	2.689	29	1	1	23.639	3865.94	193.30	C
			B	0.173	2.689		1	1	23.639			
			C	0.173	2.689		1	1	23.639			
T6 168.00-148.00	1276.60	2923.52	A	0.167	2.71	29	1	1	29.072	5129.91	256.50	C
			B	0.167	2.71		1	1	29.072			
			C	0.167	2.71		1	1	29.072			
T7 148.00-128.00	1362.70	3083.25	A	0.153	2.76	28	1	1	31.750	5382.36	269.12	C
			B	0.153	2.76		1	1	31.750			
			C	0.153	2.76		1	1	31.750			
T8 128.00-108.00	1659.90	4195.56	A	0.158	2.743	27	1	1	36.249	6116.56	305.83	C
			B	0.158	2.743		1	1	36.249			
			C	0.158	2.743		1	1	36.249			
T9 108.00-88.00	2260.04	4629.82	A	0.147	2.784	26	1	1	38.572	7543.17	377.16	C
			B	0.147	2.784		1	1	38.572			

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Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T10 88.00-68.00	2264.00	6622.30	C	0.147	2.784	25	1	1	38.572	7860.38	393.02	C
			A	0.17	2.699		1	1	51.382			
			B	0.17	2.699		1	1	51.382			
T11 68.00-48.00	2264.00	6887.43	C	0.17	2.699	23	1	1	51.382	7568.13	378.41	C
			A	0.162	2.728		1	1	54.255			
			B	0.162	2.728		1	1	54.255			
T12 48.00-28.00	2264.00	7164.56	C	0.162	2.728	21	1	1	54.255	7097.27	354.86	C
			A	0.155	2.753		1	1	57.278			
			B	0.155	2.753		1	1	57.278			
T13 28.00-8.00	1132.00	6508.82	C	0.155	2.753	18	1	1	57.278	3434.36	171.72	C
			A	0.115	2.906		1	1	36.151			
			B	0.115	2.906		1	1	36.151			
Sum Weight:	16812.24	50089.00	C	0.115	2.906		1	1	36.151			
								OTM	6203974.5 8 lb-ft	61249.56		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 256.00-248.00	156.80	478.15	A	0.189	2.635	31	0.8	1	7.379	784.23	98.03	C
			B	0.189	2.635		0.8	1	7.379			
			C	0.189	2.635		0.8	1	7.379			
T2 248.00-228.00	397.28	1379.45	A	0.17	2.701	31	0.8	1	16.685	1869.64	93.48	C
			B	0.17	2.701		0.8	1	16.685			
			C	0.17	2.701		0.8	1	16.685			
T3 228.00-208.00	419.00	1660.78	A	0.19	2.63	31	0.8	1	17.836	1991.47	99.57	C
			B	0.19	2.63		0.8	1	17.836			
			C	0.19	2.63		0.8	1	17.836			
T4 208.00-188.00	421.40	1965.16	A	0.182	2.659	30	0.8	1	18.220	2011.09	100.55	C
			B	0.182	2.659		0.8	1	18.220			
			C	0.182	2.659		0.8	1	18.220			
T5 188.00-168.00	934.52	2590.18	A	0.173	2.689	29	0.8	1	20.817	3677.26	183.86	C
			B	0.173	2.689		0.8	1	20.817			
			C	0.173	2.689		0.8	1	20.817			
T6 168.00-148.00	1276.60	2923.52	A	0.167	2.71	29	0.8	1	25.165	4873.12	243.66	C
			B	0.167	2.71		0.8	1	25.165			
			C	0.167	2.71		0.8	1	25.165			
T7 148.00-128.00	1362.70	3083.25	A	0.153	2.76	28	0.8	1	27.294	5092.42	254.62	C
			B	0.153	2.76		0.8	1	27.294			
			C	0.153	2.76		0.8	1	27.294			
T8 128.00-108.00	1659.90	4195.56	A	0.158	2.743	27	0.8	1	31.434	5815.35	290.77	C
			B	0.158	2.743		0.8	1	31.434			
			C	0.158	2.743		0.8	1	31.434			
T9 108.00-88.00	2260.04	4629.82	A	0.147	2.784	26	0.8	1	33.260	7218.80	360.94	C
			B	0.147	2.784		0.8	1	33.260			
			C	0.147	2.784		0.8	1	33.260			
T10 88.00-68.00	2264.00	6622.30	A	0.17	2.699	25	0.8	1	44.186	7454.33	372.72	C
			B	0.17	2.699		0.8	1	44.186			
			C	0.17	2.699		0.8	1	44.186			
T11 68.00-48.00	2264.00	6887.43	A	0.162	2.728	23	0.8	1	46.454	7150.12	357.51	C
			B	0.162	2.728		0.8	1	46.454			

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	Client	SAI Group	Designed by	Domenic Aversa

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T12 48.00-28.00	2264.00	7164.56	C	0.162	2.728	21	0.8	1	46.454	6680.24	334.01	C
			A	0.155	2.753		0.8	1	48.847			
			B	0.155	2.753		0.8	1	48.847			
T13 28.00-8.00	1132.00	6508.82	C	0.155	2.753	18	0.8	1	48.847	3302.47	165.12	C
			A	0.115	2.906		0.8	1	33.194			
			B	0.115	2.906		0.8	1	33.194			
Sum Weight:	16812.24	50089.00	C	0.115	2.906		0.8	1	33.194	5841921.3	57920.52	5 lb-ft

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 256.00-248.00	156.80	478.15	A	0.189	2.635	31	0.85	1	7.677	805.23	100.65	C
			B	0.189	2.635		0.85	1	7.677			
			C	0.189	2.635		0.85	1	7.677			
T2 248.00-228.00	397.28	1379.45	A	0.17	2.701	31	0.85	1	17.322	1915.08	95.75	C
			B	0.17	2.701		0.85	1	17.322			
			C	0.17	2.701		0.85	1	17.322			
T3 228.00-208.00	419.00	1660.78	A	0.19	2.63	31	0.85	1	18.462	2034.19	101.71	C
			B	0.19	2.63		0.85	1	18.462			
			C	0.19	2.63		0.85	1	18.462			
T4 208.00-188.00	421.40	1965.16	A	0.182	2.659	30	0.85	1	18.806	2050.68	102.53	C
			B	0.182	2.659		0.85	1	18.806			
			C	0.182	2.659		0.85	1	18.806			
T5 188.00-168.00	934.52	2590.18	A	0.173	2.689	29	0.85	1	21.522	3724.43	186.22	C
			B	0.173	2.689		0.85	1	21.522			
			C	0.173	2.689		0.85	1	21.522			
T6 168.00-148.00	1276.60	2923.52	A	0.167	2.71	29	0.85	1	26.141	4937.32	246.87	C
			B	0.167	2.71		0.85	1	26.141			
			C	0.167	2.71		0.85	1	26.141			
T7 148.00-128.00	1362.70	3083.25	A	0.153	2.76	28	0.85	1	28.408	5164.91	258.25	C
			B	0.153	2.76		0.85	1	28.408			
			C	0.153	2.76		0.85	1	28.408			
T8 128.00-108.00	1659.90	4195.56	A	0.158	2.743	27	0.85	1	32.638	5890.65	294.53	C
			B	0.158	2.743		0.85	1	32.638			
			C	0.158	2.743		0.85	1	32.638			
T9 108.00-88.00	2260.04	4629.82	A	0.147	2.784	26	0.85	1	34.588	7299.89	364.99	C
			B	0.147	2.784		0.85	1	34.588			
			C	0.147	2.784		0.85	1	34.588			
T10 88.00-68.00	2264.00	6622.30	A	0.17	2.699	25	0.85	1	45.985	7555.84	377.79	C
			B	0.17	2.699		0.85	1	45.985			
			C	0.17	2.699		0.85	1	45.985			
T11 68.00-48.00	2264.00	6887.43	A	0.162	2.728	23	0.85	1	48.404	7254.62	362.73	C
			B	0.162	2.728		0.85	1	48.404			
			C	0.162	2.728		0.85	1	48.404			
T12 48.00-28.00	2264.00	7164.56	A	0.155	2.753	21	0.85	1	50.955	6784.49	339.22	C
			B	0.155	2.753		0.85	1	50.955			
			C	0.155	2.753		0.85	1	50.955			
T13 28.00-8.00	1132.00	6508.82	A	0.115	2.906	18	0.85	1	33.933	3335.44	166.77	C
			B	0.115	2.906		0.85	1	33.933			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
Sum Weight:	16812.24	50089.00	C	0.115	2.906		0.85	1 OTM	33.933 5932434.6 6 lb-ft	58752.78		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
T1 256.00-248.00	682.87	1948.66	A B C	0.453 0.453 0.453	1.968 1.968 1.968	8	1 1 1	1 1 1	19.645 19.645 19.645	453.15	56.64	C
T2 248.00-228.00	1761.45	4580.82	A B C	0.399 0.399 0.399	2.066 2.066 2.066	8	1 1 1	1 1 1	42.693 42.693 42.693	1078.74	53.94	C
T3 228.00-208.00	2024.88	4947.47	A B C	0.413 0.413 0.413	2.039 2.039 2.039	8	1 1 1	1 1 1	44.463 44.463 44.463	1161.62	58.08	C
T4 208.00-188.00	2089.02	5204.89	A B C	0.366 0.366 0.366	2.135 2.135 2.135	8	1 1 1	1 1 1	43.809 43.809 43.809	1186.13	59.31	C
T5 188.00-168.00	3811.73	6163.86	A B C	0.316 0.316 0.316	2.253 2.253 2.253	8	1 1 1	1 1 1	46.746 46.746 46.746	1683.83	84.19	C
T6 168.00-148.00	4923.01	7162.77	A B C	0.299 0.299 0.299	2.3 2.3 2.3	8	1 1 1	1 1 1	53.463 53.463 53.463	2040.66	102.03	C
T7 148.00-128.00	5145.39	7661.55	A B C	0.276 0.276 0.276	2.362 2.362 2.362	7	1 1 1	1 1 1	57.431 57.431 57.431	2141.86	107.09	C
T8 128.00-108.00	6222.31	8963.61	A B C	0.249 0.249 0.249	2.441 2.441 2.441	7	1 1 1	1 1 1	59.560 59.560 59.560	2491.61	124.58	C
T9 108.00-88.00	8405.67	9622.24	A B C	0.232 0.232 0.232	2.494 2.494 2.494	7	1 1 1	1 1 1	62.674 62.674 62.674	3083.72	154.19	C
T10 88.00-68.00	8279.10	12821.72	A B C	0.248 0.248 0.248	2.443 2.443 2.443	7	1 1 1	1 1 1	77.096 77.096 77.096	3108.10	155.41	C
T11 68.00-48.00	8066.87	13237.66	A B C	0.236 0.236 0.236	2.481 2.481 2.481	6	1 1 1	1 1 1	80.448 80.448 80.448	2953.44	147.67	C
T12 48.00-28.00	7779.69	13568.45	A B C	0.224 0.224 0.224	2.518 2.518 2.518	6	1 1 1	1 1 1	83.682 83.682 83.682	2722.63	136.13	C
T13 28.00-8.00	3656.99	11182.77	A B C	0.167 0.167 0.167	2.709 2.709 2.709	5	1 1 1	1 1 1	62.199 62.199 62.199	1397.62	69.88	C
Sum Weight:	62848.97	107066.49						1 OTM	2711281.7 9 lb-ft	25503.11		

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Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
T1 256.00-248.00	682.87	1948.66	A	0.453	1.968	8	0.8	1	18.453	436.48	54.56	C
			B	0.453	1.968		0.8	1	18.453			
			C	0.453	1.968		0.8	1	18.453			
T2 248.00-228.00	1761.45	4580.82	A	0.399	2.066	8	0.8	1	40.147	1041.80	52.09	C
			B	0.399	2.066		0.8	1	40.147			
			C	0.399	2.066		0.8	1	40.147			
T3 228.00-208.00	2024.88	4947.47	A	0.413	2.039	8	0.8	1	41.959	1126.41	56.32	C
			B	0.413	2.039		0.8	1	41.959			
			C	0.413	2.039		0.8	1	41.959			
T4 208.00-188.00	2089.02	5204.89	A	0.366	2.135	8	0.8	1	41.467	1152.34	57.62	C
			B	0.366	2.135		0.8	1	41.467			
			C	0.366	2.135		0.8	1	41.467			
T5 188.00-168.00	3811.73	6163.86	A	0.316	2.253	8	0.8	1	43.924	1641.81	82.09	C
			B	0.316	2.253		0.8	1	43.924			
			C	0.316	2.253		0.8	1	43.924			
T6 168.00-148.00	4923.01	7162.77	A	0.299	2.3	8	0.8	1	49.556	1982.76	99.14	C
			B	0.299	2.3		0.8	1	49.556			
			C	0.299	2.3		0.8	1	49.556			
T7 148.00-128.00	5145.39	7661.55	A	0.276	2.362	7	0.8	1	52.975	2075.94	103.80	C
			B	0.276	2.362		0.8	1	52.975			
			C	0.276	2.362		0.8	1	52.975			
T8 128.00-108.00	6222.31	8963.61	A	0.249	2.441	7	0.8	1	54.745	2420.38	121.02	C
			B	0.249	2.441		0.8	1	54.745			
			C	0.249	2.441		0.8	1	54.745			
T9 108.00-88.00	8405.67	9622.24	A	0.232	2.494	7	0.8	1	57.362	3006.52	150.33	C
			B	0.232	2.494		0.8	1	57.362			
			C	0.232	2.494		0.8	1	57.362			
T10 88.00-68.00	8279.10	12821.72	A	0.248	2.443	7	0.8	1	69.900	3010.47	150.52	C
			B	0.248	2.443		0.8	1	69.900			
			C	0.248	2.443		0.8	1	69.900			
T11 68.00-48.00	8066.87	13237.66	A	0.236	2.481	6	0.8	1	72.647	2852.42	142.62	C
			B	0.236	2.481		0.8	1	72.647			
			C	0.236	2.481		0.8	1	72.647			
T12 48.00-28.00	7779.69	13568.45	A	0.224	2.518	6	0.8	1	75.251	2621.27	131.06	C
			B	0.224	2.518		0.8	1	75.251			
			C	0.224	2.518		0.8	1	75.251			
T13 28.00-8.00	3656.99	11182.77	A	0.167	2.709	5	0.8	1	57.851	1349.58	67.48	C
			B	0.167	2.709		0.8	1	57.851			
			C	0.167	2.709		0.8	1	57.851			
Sum Weight:	62848.97	107066.49						OTM	2630316.0 0 lb-ft	24718.19		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
T1	682.87	1948.66	A	0.453	1.968	8	0.85	1	18.751	440.65	55.08	C

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Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
256.00-248.00			B	0.453	1.968		0.85	1	18.751			
			C	0.453	1.968		0.85	1	18.751			
T2	1761.45	4580.82	A	0.399	2.066	8	0.85	1	40.784	1051.03	52.55	C
248.00-228.00			B	0.399	2.066		0.85	1	40.784			
			C	0.399	2.066		0.85	1	40.784			
T3	2024.88	4947.47	A	0.413	2.039	8	0.85	1	42.585	1135.21	56.76	C
228.00-208.00			B	0.413	2.039		0.85	1	42.585			
			C	0.413	2.039		0.85	1	42.585			
T4	2089.02	5204.89	A	0.366	2.135	8	0.85	1	42.052	1160.79	58.04	C
208.00-188.00			B	0.366	2.135		0.85	1	42.052			
			C	0.366	2.135		0.85	1	42.052			
T5	3811.73	6163.86	A	0.316	2.253	8	0.85	1	44.630	1652.31	82.62	C
188.00-168.00			B	0.316	2.253		0.85	1	44.630			
			C	0.316	2.253		0.85	1	44.630			
T6	4923.01	7162.77	A	0.299	2.3	8	0.85	1	50.533	1997.24	99.86	C
168.00-148.00			B	0.299	2.3		0.85	1	50.533			
			C	0.299	2.3		0.85	1	50.533			
T7	5145.39	7661.55	A	0.276	2.362	7	0.85	1	54.089	2092.42	104.62	C
148.00-128.00			B	0.276	2.362		0.85	1	54.089			
			C	0.276	2.362		0.85	1	54.089			
T8	6222.31	8963.61	A	0.249	2.441	7	0.85	1	55.949	2438.19	121.91	C
128.00-108.00			B	0.249	2.441		0.85	1	55.949			
			C	0.249	2.441		0.85	1	55.949			
T9	8405.67	9622.24	A	0.232	2.494	7	0.85	1	58.690	3025.82	151.29	C
108.00-88.00			B	0.232	2.494		0.85	1	58.690			
			C	0.232	2.494		0.85	1	58.690			
T10	8279.10	12821.72	A	0.248	2.443	7	0.85	1	71.699	3034.87	151.74	C
88.00-68.00			B	0.248	2.443		0.85	1	71.699			
			C	0.248	2.443		0.85	1	71.699			
T11	8066.87	13237.66	A	0.236	2.481	6	0.85	1	74.597	2877.68	143.88	C
68.00-48.00			B	0.236	2.481		0.85	1	74.597			
			C	0.236	2.481		0.85	1	74.597			
T12	7779.69	13568.45	A	0.224	2.518	6	0.85	1	77.358	2646.61	132.33	C
48.00-28.00			B	0.224	2.518		0.85	1	77.358			
			C	0.224	2.518		0.85	1	77.358			
T13	3656.99	11182.77	A	0.167	2.709	5	0.85	1	58.938	1361.59	68.08	C
28.00-8.00			B	0.167	2.709		0.85	1	58.938			
			C	0.167	2.709		0.85	1	58.938			
Sum Weight:	62848.97	107066.49						OTM	2650557.4 5 lb-ft	24914.42		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1	156.80	478.15	A	0.189	2.635	12	1	1	8.631	333.81	41.73	C
256.00-248.00			B	0.189	2.635		1	1	8.631			
			C	0.189	2.635		1	1	8.631			
T2	397.28	1379.45	A	0.17	2.701	12	1	1	19.379	788.92	39.45	C
248.00-228.00			B	0.17	2.701		1	1	19.379			
			C	0.17	2.701		1	1	19.379			
T3	419.00	1660.78	A	0.19	2.63	12	1	1	21.113	847.52	42.38	C

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
228.00-208.00			B	0.19	2.63		1	1	21.113			
			C	0.19	2.63		1	1	21.113			
T4	421.40	1965.16	A	0.182	2.659	11	1	1	22.200	872.43	43.62	C
208.00-188.00			B	0.182	2.659		1	1	22.200			
			C	0.182	2.659		1	1	22.200			
T5	934.52	2590.18	A	0.173	2.689	11	1	1	25.992	1539.36	76.97	C
188.00-168.00			B	0.173	2.689		1	1	25.992			
			C	0.173	2.689		1	1	25.992			
T6	1276.60	2923.52	A	0.167	2.71	11	1	1	31.438	2022.25	101.11	C
168.00-148.00			B	0.167	2.71		1	1	31.438			
			C	0.167	2.71		1	1	31.438			
T7	1362.70	3083.25	A	0.153	2.76	11	1	1	34.176	2119.74	105.99	C
148.00-128.00			B	0.153	2.76		1	1	34.176			
			C	0.153	2.76		1	1	34.176			
T8	1659.90	4195.56	A	0.158	2.743	10	1	1	38.168	2386.19	119.31	C
128.00-108.00			B	0.158	2.743		1	1	38.168			
			C	0.158	2.743		1	1	38.168			
T9	2260.04	4629.82	A	0.147	2.784	10	1	1	40.680	2935.36	146.77	C
108.00-88.00			B	0.147	2.784		1	1	40.680			
			C	0.147	2.784		1	1	40.680			
T10	2264.00	6622.30	A	0.17	2.699	9	1	1	52.186	3024.84	151.24	C
88.00-68.00			B	0.17	2.699		1	1	52.186			
			C	0.17	2.699		1	1	52.186			
T11	2264.00	6887.43	A	0.162	2.728	9	1	1	55.370	2918.52	145.93	C
68.00-48.00			B	0.162	2.728		1	1	55.370			
			C	0.162	2.728		1	1	55.370			
T12	2264.00	7164.56	A	0.155	2.753	8	1	1	58.824	2744.76	137.24	C
48.00-28.00			B	0.155	2.753		1	1	58.824			
			C	0.155	2.753		1	1	58.824			
T13	1132.00	6508.82	A	0.115	2.906	7	1	1	38.629	1356.33	67.82	C
28.00-8.00			B	0.115	2.906		1	1	38.629			
			C	0.115	2.906		1	1	38.629			
Sum Weight:	16812.24	50089.00						OTM	2427473.7 8 lb-ft	23890.04		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
T1	156.80	478.15	A	0.189	2.635	12	0.8	1	7.439	301.67	37.71	C
256.00-248.00			B	0.189	2.635		0.8	1	7.439			
			C	0.189	2.635		0.8	1	7.439			
T2	397.28	1379.45	A	0.17	2.701	12	0.8	1	16.833	719.37	35.97	C
248.00-228.00			B	0.17	2.701		0.8	1	16.833			
			C	0.17	2.701		0.8	1	16.833			
T3	419.00	1660.78	A	0.19	2.63	12	0.8	1	18.609	782.13	39.11	C
228.00-208.00			B	0.19	2.63		0.8	1	18.609			
			C	0.19	2.63		0.8	1	18.609			
T4	421.40	1965.16	A	0.182	2.659	11	0.8	1	19.858	811.84	40.59	C
208.00-188.00			B	0.182	2.659		0.8	1	19.858			
			C	0.182	2.659		0.8	1	19.858			
T5	934.52	2590.18	A	0.173	2.689	11	0.8	1	23.170	1467.17	73.36	C

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Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
188.00-168.00			B	0.173	2.689		0.8	1	23.170			
			C	0.173	2.689		0.8	1	23.170			
T6 168.00-148.00	1276.60	2923.52	A	0.167	2.71	11	0.8	1	27.530	1924.00	96.20	C
			B	0.167	2.71		0.8	1	27.530			
			C	0.167	2.71		0.8	1	27.530			
T7 148.00-128.00	1362.70	3083.25	A	0.153	2.76	11	0.8	1	29.720	2008.81	100.44	C
			B	0.153	2.76		0.8	1	29.720			
			C	0.153	2.76		0.8	1	29.720			
T8 128.00-108.00	1659.90	4195.56	A	0.158	2.743	10	0.8	1	33.353	2270.95	113.55	C
			B	0.158	2.743		0.8	1	33.353			
			C	0.158	2.743		0.8	1	33.353			
T9 108.00-88.00	2260.04	4629.82	A	0.147	2.784	10	0.8	1	35.368	2811.25	140.56	C
			B	0.147	2.784		0.8	1	35.368			
			C	0.147	2.784		0.8	1	35.368			
T10 88.00-68.00	2264.00	6622.30	A	0.17	2.699	9	0.8	1	44.990	2869.48	143.47	C
			B	0.17	2.699		0.8	1	44.990			
			C	0.17	2.699		0.8	1	44.990			
T11 68.00-48.00	2264.00	6887.43	A	0.162	2.728	9	0.8	1	47.569	2758.58	137.93	C
			B	0.162	2.728		0.8	1	47.569			
			C	0.162	2.728		0.8	1	47.569			
T12 48.00-28.00	2264.00	7164.56	A	0.155	2.753	8	0.8	1	50.393	2585.20	129.26	C
			B	0.155	2.753		0.8	1	50.393			
			C	0.155	2.753		0.8	1	50.393			
T13 28.00-8.00	1132.00	6508.82	A	0.115	2.906	7	0.8	1	35.672	1305.87	65.29	C
			B	0.115	2.906		0.8	1	35.672			
			C	0.115	2.906		0.8	1	35.672			
Sum Weight:	16812.24	50089.00						OTM	2288947.7 3 lb-ft	22616.31		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 256.00-248.00	156.80	478.15	A	0.189	2.635	12	0.85	1	7.737	309.71	38.71	C
			B	0.189	2.635		0.85	1	7.737			
			C	0.189	2.635		0.85	1	7.737			
T2 248.00-228.00	397.28	1379.45	A	0.17	2.701	12	0.85	1	17.469	736.76	36.84	C
			B	0.17	2.701		0.85	1	17.469			
			C	0.17	2.701		0.85	1	17.469			
T3 228.00-208.00	419.00	1660.78	A	0.19	2.63	12	0.85	1	19.235	798.48	39.92	C
			B	0.19	2.63		0.85	1	19.235			
			C	0.19	2.63		0.85	1	19.235			
T4 208.00-188.00	421.40	1965.16	A	0.182	2.659	11	0.85	1	20.444	826.99	41.35	C
			B	0.182	2.659		0.85	1	20.444			
			C	0.182	2.659		0.85	1	20.444			
T5 188.00-168.00	934.52	2590.18	A	0.173	2.689	11	0.85	1	23.876	1485.21	74.26	C
			B	0.173	2.689		0.85	1	23.876			
			C	0.173	2.689		0.85	1	23.876			
T6 168.00-148.00	1276.60	2923.52	A	0.167	2.71	11	0.85	1	28.507	1948.57	97.43	C
			B	0.167	2.71		0.85	1	28.507			
			C	0.167	2.71		0.85	1	28.507			
T7 148.00-128.00	1362.70	3083.25	A	0.153	2.76	11	0.85	1	30.834	2036.54	101.83	C

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
148.00-128.00			B	0.153	2.76		0.85	1	30.834			
			C	0.153	2.76		0.85	1	30.834			
T8	1659.90	4195.56	A	0.158	2.743	10	0.85	1	34.557	2299.76	114.99	C
128.00-108.00			B	0.158	2.743		0.85	1	34.557			
			C	0.158	2.743		0.85	1	34.557			
T9	2260.04	4629.82	A	0.147	2.784	10	0.85	1	36.696	2842.28	142.11	C
108.00-88.00			B	0.147	2.784		0.85	1	36.696			
			C	0.147	2.784		0.85	1	36.696			
T10	2264.00	6622.30	A	0.17	2.699	9	0.85	1	46.789	2908.32	145.42	C
88.00-68.00			B	0.17	2.699		0.85	1	46.789			
			C	0.17	2.699		0.85	1	46.789			
T11	2264.00	6887.43	A	0.162	2.728	9	0.85	1	49.519	2798.56	139.93	C
68.00-48.00			B	0.162	2.728		0.85	1	49.519			
			C	0.162	2.728		0.85	1	49.519			
T12	2264.00	7164.56	A	0.155	2.753	8	0.85	1	52.501	2625.09	131.25	C
48.00-28.00			B	0.155	2.753		0.85	1	52.501			
			C	0.155	2.753		0.85	1	52.501			
T13	1132.00	6508.82	A	0.115	2.906	7	0.85	1	36.412	1318.48	65.92	C
28.00-8.00			B	0.115	2.906		0.85	1	36.412			
			C	0.115	2.906		0.85	1	36.412			
Sum Weight:	16812.24	50089.00						OTM	2323579.2 4 lb-ft	22934.74		

Force Totals

Load Case	Vertical Forces	Sum of Forces X	Sum of Forces Z	Sum of Overturning Moments, M _x	Sum of Overturning Moments, M _z	Sum of Torques
	lb	lb	lb	lb-ft	lb-ft	lb-ft
Leg Weight	25877.78					
Bracing Weight	24211.22					
Total Member Self-Weight	50089.00			20206.42	-29039.78	
Total Weight	81902.94			20206.42	-29039.78	
Wind 0 deg - No Ice		98.41	-75508.91	-8321136.80	-39406.71	59555.58
Wind 30 deg - No Ice		36478.89	-63185.59	-6962072.07	-4057899.70	88925.53
Wind 60 deg - No Ice		62373.73	-36087.71	-3967659.27	-6919657.60	94216.12
Wind 90 deg - No Ice		72843.88	-64.14	14055.33	-8075759.86	74265.29
Wind 120 deg - No Ice		65307.56	37676.78	4182829.10	-7241191.23	34676.37
Wind 150 deg - No Ice		36383.67	63189.19	7004664.70	-4049197.79	-14273.91
Wind 180 deg - No Ice		11.25	72137.90	7994333.42	-32161.45	-59337.49
Wind 210 deg - No Ice		-36366.40	63202.40	7004552.48	3985984.04	-88554.58
Wind 240 deg - No Ice		-65219.05	37739.32	4187511.05	7170487.18	-94231.96
Wind 270 deg - No Ice		-72799.06	-36.75	13948.40	8012166.92	-74664.57
Wind 300 deg - No Ice		-62331.90	-36076.55	-3969296.69	6858170.78	-34878.63
Wind 330 deg - No Ice		-36412.68	-63168.82	-6961746.33	3994686.15	14302.23
Member Ice	56977.50					
Total Weight Ice	208244.07			102756.62	-17355.96	
Wind 0 deg - Ice		26.61	-31808.95	-3566408.65	-19968.74	-1332.29
Wind 30 deg - Ice		15611.83	-27014.12	-3019034.32	-1820561.20	10790.39
Wind 60 deg - Ice		26843.80	-15503.74	-1689753.25	-3120440.24	19926.64
Wind 90 deg - Ice		31192.85	-18.02	101200.94	-3621121.25	23723.04
Wind 120 deg - Ice		27551.52	15880.35	1934943.95	-3194658.61	21256.98
Wind 150 deg - Ice		15587.55	27024.36	3226468.18	-1818719.24	13067.91
Wind 180 deg - Ice		12.03	31006.10	3688751.09	-19495.82	1409.13

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Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M _x lb-ft	Sum of Overturning Moments, M _z lb-ft	Sum of Torques lb-ft
Wind 210 deg - Ice		-15567.50	27020.95	3225388.69	1780397.06	-10645.88
Wind 240 deg - Ice		-27512.27	15888.42	1934792.36	3154458.57	-19924.70
Wind 270 deg - Ice		-31177.06	-24.49	99083.36	3584466.71	-23863.73
Wind 300 deg - Ice		-26837.12	-15513.77	-1692131.43	3085567.74	-21335.77
Wind 330 deg - Ice		-15602.47	-27016.27	-3019959.50	1785841.58	-13071.74
Total Weight	81902.94			20206.42	-29039.78	
Wind 0 deg - Service		37.65	-29345.85	-3249215.07	-2667.71	22786.70
Wind 30 deg - Service		14184.87	-24569.80	-2722018.09	-1567071.04	34024.01
Wind 60 deg - Service		24259.18	-14035.20	-1556642.50	-2681691.22	36048.25
Wind 90 deg - Service		28326.17	-24.54	-6311.04	-3131232.24	28414.82
Wind 120 deg - Service		25381.70	14643.20	1615591.58	-2804713.97	13267.61
Wind 150 deg - Service		14148.44	24571.18	2714936.99	-1563741.58	-5461.38
Wind 180 deg - Service		4.31	28056.06	3100798.47	104.42	-22703.26
Wind 210 deg - Service		-14141.84	24576.24	2714894.05	1564374.79	-33882.08
Wind 240 deg - Service		-25347.83	14667.13	1617382.95	2802481.30	-36054.31
Wind 270 deg - Service		-28309.02	-14.06	-6351.95	3131720.36	-28567.59
Wind 300 deg - Service		-24243.17	-14030.94	-1557269.00	2682985.17	-13344.99
Wind 330 deg - Service		-14159.54	-24563.39	-2721893.46	1567704.32	5472.21

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 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

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Comb. No.	Description
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.	Axial	Major Axis	Minor Axis
				Load Comb.	lb	Moment lb-ft	Moment lb-ft
T1	256 - 248	Leg	Max Tension	23	4072.71	-20.22	17.55
			Max. Compression	2	-4841.52	53.55	17.67
			Max. Mx	2	-4841.52	53.55	17.67
			Max. My	2	1681.61	-25.18	57.25
			Max. Vy	14	-1260.91	-0.00	0.00
			Max. Vx	12	-1360.02	0.00	-0.00
		Diagonal	Max Tension	16	1896.48	0.00	0.00
			Max. Compression	4	-1892.30	0.00	0.00
			Max. Mx	36	198.09	21.16	1.72
			Max. My	31	-10.55	20.27	-1.90
			Max. Vy	37	26.41	21.10	1.58
			Max. Vx	31	0.76	0.00	0.00
		Top Girt	Max Tension	11	665.48	0.00	0.00
			Max. Compression	22	-682.51	0.00	0.00
			Max. Mx	26	-44.83	-106.49	0.00
			Max. My	31	-151.23	0.00	1.14
Max. Vy	26		64.50	0.00	0.00		
Max. Vx	31		-0.69	0.00	0.00		
T2	248 - 228	Leg	Max Tension	23	24271.84	66.14	10.25
			Max. Compression	2	-27436.86	-7.62	86.69
			Max. Mx	8	-1291.84	-109.93	-0.88
			Max. My	2	11893.86	17.29	121.04
			Max. Vy	10	-280.17	-24.17	-33.37
			Max. Vx	2	308.91	15.65	40.44
		Diagonal	Max Tension	16	3359.44	0.00	0.00
			Max. Compression	4	-3367.58	0.00	0.00
			Max. Mx	35	917.97	28.51	-0.29
			Max. My	12	-1707.31	8.51	-2.34
			Max. Vy	35	-31.76	28.51	-0.29
			Max. Vx	12	-0.61	0.00	0.00
T3	228 - 208	Leg	Max Tension	23	56777.24	64.73	8.03
			Max. Compression	2	-63068.78	-745.20	44.99
			Max. Mx	2	-63068.78	-745.20	44.99
			Max. My	20	-2004.50	23.62	475.74
			Max. Vy	2	221.06	-745.20	44.99
			Max. Vx	24	161.33	25.09	-466.26

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft		
T4	208 - 188	Diagonal	Max Tension	16	4779.95	0.00	0.00		
			Max. Compression	2	-4961.95	0.00	0.00		
			Max. Mx	35	1142.07	32.29	0.35		
			Max. My	24	-3953.23	-5.10	6.07		
			Max. Vy	35	-32.34	32.29	0.35		
			Max. Vx	24	1.54	0.00	0.00		
		Leg	Max Tension	23	78026.14	-423.98	7.88		
			Max. Compression	2	-87468.64	375.14	30.15		
			Max. Mx	2	-70026.67	745.20	-44.88		
			Max. My	24	-3108.77	-11.96	758.59		
			Max. Vy	2	160.51	745.20	-44.88		
			Max. Vx	24	-206.17	-31.38	740.46		
		T5	188 - 168	Diagonal	Max Tension	10	3364.32	0.00	0.00
					Max. Compression	10	-3422.43	0.00	0.00
Max. Mx	37				451.82	42.33	6.44		
Max. My	32				-877.61	38.57	-7.36		
Max. Vy	33				39.39	42.32	-6.28		
Max. Vx	32				2.55	0.00	0.00		
Leg	Max Tension			15	101141.78	-881.89	46.90		
	Max. Compression			10	-116557.22	737.23	-38.28		
	Max. Mx			3	-101827.70	1186.12	-72.41		
	Max. My			16	-5697.77	-44.66	1132.83		
	Max. Vy			22	-1262.86	-1184.55	7.33		
	Max. Vx			16	1211.39	-15.86	852.39		
T6	168 - 148			Diagonal	Max Tension	20	6807.30	0.00	0.00
					Max. Compression	20	-6874.70	0.00	0.00
		Max. Mx	33		1267.30	75.63	-10.68		
		Max. My	31		-376.83	72.36	-12.20		
		Max. Vy	33		56.49	75.63	-10.68		
		Max. Vx	31		3.48	0.00	0.00		
		Leg	Max Tension	15	134506.03	-736.68	103.38		
			Max. Compression	10	-154768.91	452.61	-1.85		
			Max. Mx	3	-138887.03	771.67	-98.06		
			Max. My	16	-7023.86	-17.02	771.41		
			Max. Vy	22	-142.31	-742.92	4.02		
			Max. Vx	16	243.97	-17.02	771.41		
		T7	148 - 128	Diagonal	Max Tension	20	8646.62	0.00	0.00
					Max. Compression	20	-8748.04	0.00	0.00
Max. Mx	33				1542.93	116.30	-14.87		
Max. My	31				-458.14	110.91	-17.52		
Max. Vy	33				76.46	116.30	-14.87		
Max. Vx	31				4.43	0.00	0.00		
Leg	Max Tension			15	171766.17	-1497.47	39.45		
	Max. Compression			10	-200320.79	1903.25	-138.66		
	Max. Mx			22	155335.98	2040.19	4.22		
	Max. My			4	-11703.47	56.32	-2301.84		
	Max. Vy			22	-1170.25	-1712.64	4.22		
	Max. Vx			16	1346.00	-62.02	1792.78		
T8	128 - 108			Diagonal	Max Tension	20	12413.37	0.00	0.00
					Max. Compression	20	-12558.83	0.00	0.00
		Max. Mx	33		2340.93	146.53	18.22		
		Max. My	6		-11307.58	31.96	-28.21		
		Max. Vy	33		87.19	146.53	18.22		
		Max. Vx	37		-4.97	0.00	0.00		
		Leg	Max Tension	15	213656.11	-2231.02	303.80		
			Max. Compression	10	-251163.78	2724.31	58.13		
			Max. Mx	11	-246580.07	2726.83	57.06		
			Max. My	16	-14543.32	-153.50	3322.38		
			Max. Vy	14	1610.72	-2660.64	163.34		
			Max. Vx	16	-1562.75	4.88	1892.10		
		Diagonal	Max Tension	20	16848.27	0.00	0.00		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft	
T9	108 - 88	Leg	Max. Compression	20	-17118.48	0.00	0.00	
			Max. Mx	31	2842.83	323.02	-41.60	
			Max. My	6	-13167.33	44.04	-54.38	
			Max. Vy	33	146.38	309.32	-41.09	
			Max. Vx	30	8.68	0.00	0.00	
			Max Tension	15	267604.90	-1027.67	39.30	
			Max. Compression	10	-313169.79	3006.46	-164.71	
		Diagonal	Max. Mx	2	-311428.14	3012.64	-300.41	
			Max. My	16	-20463.26	31.18	3216.94	
			Max. Vy	3	362.34	2717.47	-167.14	
			Max. Vx	18	-436.31	-1453.10	2953.53	
			Max Tension	20	19740.04	0.00	0.00	
			Max. Compression	20	-20062.85	0.00	0.00	
			Max. Mx	33	3780.14	336.35	-44.60	
T10	88 - 68	Leg	Max. My	6	-17142.43	71.32	-55.53	
			Max. Vy	33	149.77	336.35	-44.60	
			Max. Vx	35	8.77	0.00	0.00	
			Max Tension	15	325707.29	-2669.53	40.86	
			Max. Compression	10	-379524.01	2933.97	-66.15	
			Max. Mx	2	-343434.37	3012.64	-300.43	
			Max. My	16	-21452.94	31.17	3216.99	
		Diagonal	Max. Vy	3	218.79	3004.76	-301.37	
			Max. Vx	18	379.05	-1453.11	2953.57	
			Max Tension	20	23182.73	0.00	0.00	
			Max. Compression	20	-23478.05	0.00	0.00	
			Max. Mx	31	4487.24	525.57	-62.31	
			Max. My	6	-20716.82	144.35	-76.01	
			Max. Vy	33	215.07	523.33	-61.90	
T11	68 - 48	Leg	Max. Vx	35	11.36	0.00	0.00	
			Max Tension	15	385783.73	-2822.97	95.79	
			Max. Compression	10	-448492.20	2879.42	-41.60	
			Max. Mx	10	-413358.53	2933.98	-66.15	
			Max. My	16	-26161.41	-205.87	3812.50	
			Max. Vy	22	-229.96	-2855.70	90.54	
			Max. Vx	16	536.08	-205.88	3812.50	
		Diagonal	Max Tension	20	25595.10	0.00	0.00	
			Max. Compression	20	-26136.61	0.00	0.00	
			Max. Mx	31	4810.45	606.52	-72.64	
			Max. My	6	-21998.07	161.25	-79.64	
			Max. Vy	33	230.58	602.84	-71.63	
			Max. Vx	30	-11.74	0.00	0.00	
			Max Tension	15	445029.23	-6738.82	157.73	
T12	48 - 28	Leg	Max. Compression	10	-517250.15	-18628.41	1.24	
			Max. Mx	2	-515215.28	-18704.63	438.23	
			Max. My	4	-29028.66	-185.67	-5654.94	
			Max. Vy	2	2748.28	7253.64	-123.41	
			Max. Vx	5	-749.21	-178.44	-5648.54	
			Max Tension	20	28204.20	0.00	0.00	
			Max. Compression	8	-28545.04	0.00	0.00	
		Diagonal	Max. Mx	31	6393.32	692.56	83.41	
			Max. My	6	-22897.59	214.77	-103.30	
			Max. Vy	32	244.79	687.59	-88.94	
			Max. Vx	36	13.01	0.00	0.00	
			Max Tension	15	463034.60	14846.37	-409.06	
			Max. Compression	10	-537937.60	11317.36	-1287.94	
			Max. Mx	2	-534005.54	-27296.86	1770.77	
T13	28 - 8	Leg	Max. My	4	-31660.63	-1388.11	-16658.80	
			Max. Vy	2	-30089.80	11453.71	-1805.60	
			Max. Vx	4	14279.24	-421.96	-14992.02	
			Max Tension	21	40491.68	-430.23	-158.59	
			Max. Compression	20	-40735.44	0.00	0.00	
			Diagonal	Max. Mx	2	-534005.54	-27296.86	1770.77
				Max. My	4	-31660.63	-1388.11	-16658.80
		Max. Vy		2	-30089.80	11453.71	-1805.60	
		Max. Vx		4	14279.24	-421.96	-14992.02	
		Max Tension		21	40491.68	-430.23	-158.59	
		Max. Compression		20	-40735.44	0.00	0.00	

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Mx	6	26538.24	-655.81	-62.40
			Max. My	20	-40588.77	227.41	-318.08
			Max. Vy	33	-126.04	-312.96	53.36
			Max. Vx	20	-32.37	0.00	0.00
		Top Girt	Max Tension	9	23535.23	21937.67	861.30
			Max. Compression	20	-24788.57	-22409.64	-854.52
			Max. Mx	20	-24788.57	-22409.64	-854.52
			Max. My	18	-24360.47	-20929.29	-1183.64
			Max. Vy	20	1818.42	-22409.64	-854.52
			Max. Vx	18	93.92	-20929.29	-1183.64
		Redund Horz 1 Bracing	Max Tension	4	3183.27	0.00	0.00
			Max. Compression	7	-3748.14	0.00	0.00
			Max. Mx	38	969.80	45.45	0.00
			Max. My	16	-2465.96	0.00	-0.00
			Max. Vy	36	28.57	0.00	0.00
			Max. Vx	16	0.00	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	7	3400.38	0.00	0.00
			Max. Compression	13	-2489.32	0.00	0.00
			Max. Mx	31	-656.26	72.19	0.00
			Max. My	8	-2385.82	0.00	-0.06
			Max. Vy	31	-25.97	0.00	0.00
			Max. Vx	8	0.02	0.00	0.00
		Redund Hip 1 Bracing	Max Tension	9	6.41	0.00	0.00
			Max. Compression	8	-134.62	0.00	0.00
			Max. Mx	26	-13.27	45.45	0.00
			Max. My	18	-11.56	0.00	0.00
			Max. Vy	26	28.57	0.00	0.00
			Max. Vx	18	-0.00	0.00	0.00
		Redund Hip Diagonal 1 Bracing	Max Tension	8	156.09	0.00	0.00
			Max. Compression	18	-97.17	0.00	0.00
			Max. Mx	33	52.18	189.38	0.00
			Max. My	18	30.89	0.00	0.07
			Max. Vy	33	-51.09	0.00	0.00
			Max. Vx	18	0.02	0.00	0.00
		Inner Bracing	Max Tension	3	17.99	0.00	0.00
			Max. Compression	4	-31.74	0.00	0.00
			Max. Mx	26	-21.11	355.88	0.00
			Max. My	2	-1.85	0.00	23.19
			Max. Vy	26	111.83	0.00	0.00
			Max. Vx	2	-7.29	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	584516.83	64082.07	-33503.11
	Max. H _x	18	584516.83	64082.07	-33503.11
	Max. H _z	5	-439187.83	-48090.66	30348.40
	Min. Vert	7	-504258.82	-58026.75	29826.02
	Min. H _x	7	-504258.82	-58026.75	29826.02
	Min. H _z	18	584516.83	64082.07	-33503.11
Leg B	Max. Vert	10	587611.05	-63224.20	-35181.93

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Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg A	Max. H _x	23	-502216.97	56967.36	31490.21
	Max. H _z	25	-436965.90	46292.66	33295.86
	Min. Vert	23	-502216.97	56967.36	31490.21
	Min. H _x	10	587611.05	-63224.20	-35181.93
	Min. H _z	10	587611.05	-63224.20	-35181.93
	Max. Vert	2	585815.45	1968.04	72428.04
	Max. H _x	21	24199.83	7657.97	2184.82
	Max. H _z	2	585815.45	1968.04	72428.04
	Min. Vert	15	-505285.59	-2031.27	-65236.59
	Min. H _x	11	-252393.30	-8092.59	-32967.40
	Min. H _z	15	-505285.59	-2031.27	-65236.59

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	81903.01	0.93	0.83	20220.29	-29055.20	2.27
1.2 Dead+1.6 Wind 0 deg - No Ice	98288.81	268.46	-120866.75	-13330968.49	-53705.27	96738.91
0.9 Dead+1.6 Wind 0 deg - No Ice	73715.84	71.88	-120815.27	-13323919.83	-41792.19	94742.79
1.2 Dead+1.6 Wind 30 deg - No Ice	98282.76	58396.70	-101082.53	-11153175.35	-6485670.88	142627.38
0.9 Dead+1.6 Wind 30 deg - No Ice	73711.89	58399.56	-101081.04	-11149012.77	-6471042.88	142608.60
1.2 Dead+1.6 Wind 60 deg - No Ice	98282.88	99820.96	-57705.01	-6358800.64	-11066542.43	151121.98
0.9 Dead+1.6 Wind 60 deg - No Ice	73711.96	99822.60	-57701.87	-6359009.21	-11047693.56	151113.74
1.2 Dead+1.6 Wind 90 deg - No Ice	98283.36	116551.75	-76.11	15223.11	-12916940.48	119133.70
0.9 Dead+1.6 Wind 90 deg - No Ice	73712.64	116550.32	-72.25	9186.47	-12896344.16	119154.32
1.2 Dead+1.6 Wind 120 deg - No Ice	98286.55	104515.28	60256.16	6688360.08	-11581748.42	54978.00
0.9 Dead+1.6 Wind 120 deg - No Ice	73716.06	104513.01	60250.87	6676067.62	-11562355.41	54935.13
1.2 Dead+1.6 Wind 150 deg - No Ice	98286.42	58213.95	101111.32	11205925.36	-6470814.46	-23359.30
0.9 Dead+1.6 Wind 150 deg - No Ice	73716.21	58212.85	101107.18	11189511.40	-6456130.28	-23313.51
1.2 Dead+1.6 Wind 180 deg - No Ice	98287.82	-33.75	115410.21	12789757.64	-39367.65	-95385.98
0.9 Dead+1.6 Wind 180 deg - No Ice	73717.48	-33.39	115405.28	12771882.09	-30608.49	-95274.97
1.2 Dead+1.6 Wind 210 deg - No Ice	98283.38	-58159.41	101134.28	11206032.63	6391745.30	-141878.78
0.9 Dead+1.6 Wind 210 deg - No Ice	73712.48	-58158.01	101134.39	11189687.82	6394612.53	-141847.24
1.2 Dead+1.6 Wind 240 deg - No Ice	98283.42	-104328.13	60416.59	6697108.38	11490604.14	-151059.30
0.9 Dead+1.6 Wind 240 deg - No Ice	73712.59	-104326.88	60418.73	6684919.20	11488795.88	-151042.74
1.2 Dead+1.6 Wind 270 deg - No Ice	98283.38	-116479.54	-35.53	15021.87	12838110.52	-119673.49
0.9 Dead+1.6 Wind 270 deg - No Ice	73712.54	-116479.37	-34.20	8943.00	12835090.10	-119663.41

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Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
No Ice						
1.2 Dead+1.6 Wind 300 deg - No Ice	98287.80	-99715.24	-57724.46	-6362323.11	10990273.70	-56139.45
0.9 Dead+1.6 Wind 300 deg - No Ice	73717.47	-99711.61	-57720.64	-6362509.72	10988892.47	-56118.70
1.2 Dead+1.6 Wind 330 deg - No Ice	98287.52	-58274.66	-101042.44	-11152716.45	6406688.67	22574.40
0.9 Dead+1.6 Wind 330 deg - No Ice	73717.16	-58274.69	-101036.01	-11148477.26	6409557.34	22508.62
1.2 Dead+1.0 Ice+1.0 Temp	224625.38	0.73	3.55	107389.41	-23222.91	4.95
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	224624.70	27.64	-31813.13	-3585584.74	-26006.10	-1310.22
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	224624.69	15612.63	-27018.49	-3034599.10	-1838556.49	10918.93
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	224624.69	26845.11	-15507.61	-1696484.53	-3147081.84	20123.63
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	224625.41	31214.76	-29.85	106230.25	-3651421.80	24026.01
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	224624.68	27555.59	15881.02	1952319.43	-3221802.64	21423.83
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	224624.69	15590.87	27026.90	3252442.67	-1836748.75	13139.12
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	224625.30	14.64	31029.34	3718130.46	-25591.27	1328.92
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	224624.71	-15570.62	27022.49	3251322.46	1786327.33	-10792.83
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	224624.70	-27517.44	15887.74	1952118.44	3169519.59	-20147.75
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	224624.69	-31181.26	-26.72	104223.76	3602412.04	-24094.28
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	224624.71	-26838.96	-15516.80	-1698889.02	3100195.13	-21517.11
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	224624.71	-15602.27	-27019.88	-3035532.36	1791813.41	-13161.29
Dead+Wind 0 deg - Service	81903.09	36.63	-29344.80	-3225045.68	-33117.49	22821.48
Dead+Wind 30 deg - Service	81903.10	14182.16	-24571.13	-2697732.11	-1597387.94	34074.66
Dead+Wind 60 deg - Service	81903.15	24256.71	-14037.05	-1532276.35	-2711956.86	36078.82
Dead+Wind 90 deg - Service	81903.09	28323.94	-26.23	17900.35	-3161516.78	28431.79
Dead+Wind 120 deg - Service	81903.09	25380.97	14642.41	1639845.47	-2835183.12	13261.07
Dead+Wind 150 deg - Service	81903.08	14148.11	24570.47	2739062.76	-1594121.04	-5490.25
Dead+Wind 180 deg - Service	81903.14	3.48	28055.17	3124824.19	-30380.61	-22749.38
Dead+Wind 210 deg - Service	81903.18	-14143.88	24573.67	2738992.03	1533907.32	-33942.69
Dead+Wind 240 deg - Service	81903.09	-25348.82	14663.56	1641607.32	2772085.03	-36106.68
Dead+Wind 270 deg - Service	81903.08	-28308.25	-15.55	17871.73	3101147.64	-28600.64
Dead+Wind 300 deg - Service	81903.14	-24242.20	-14030.60	-1532921.37	2652374.21	-13353.09
Dead+Wind 330 deg - Service	81903.17	-14158.30	-24561.42	-2697550.75	1537185.07	5491.61

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-81902.93	-0.00	-0.93	81903.01	-0.83	0.002%
2	157.46	-98283.53	-120814.26	-268.46	98288.81	120866.75	0.079%
3	157.46	-73712.64	-120814.26	-71.88	73715.84	120815.27	0.061%
4	58366.22	-98283.53	-101096.95	-58396.70	98282.76	101082.53	0.022%
5	58366.22	-73712.65	-101096.95	-58399.56	73711.89	101081.04	0.027%
6	99797.96	-98283.53	-57740.33	-99820.96	98282.88	57705.01	0.028%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
7	99797.96	-73712.65	-57740.33	-99822.60	73711.96	57701.87	0.033%
8	116550.21	-98283.53	-102.62	-116551.75	98283.36	76.11	0.017%
9	116550.21	-73712.65	-102.62	-116550.32	73712.64	72.25	0.022%
10	104492.09	-98283.52	60282.85	-104515.28	98286.55	-60256.16	0.023%
11	104492.09	-73712.64	60282.85	-104513.01	73716.06	-60250.87	0.027%
12	58213.88	-98283.52	101102.70	-58213.95	98286.42	-101111.32	0.006%
13	58213.88	-73712.64	101102.70	-58212.85	73716.21	-101107.18	0.004%
14	18.00	-98283.52	115420.65	33.75	98287.82	-115410.21	0.035%
15	18.00	-73712.64	115420.65	33.39	73717.48	-115405.28	0.039%
16	-58186.24	-98283.52	101123.84	58159.41	98283.38	-101134.28	0.019%
17	-58186.24	-73712.64	101123.84	58158.01	73712.48	-101134.39	0.022%
18	-104350.48	-98283.52	60382.91	104328.13	98283.42	-60416.59	0.026%
19	-104350.48	-73712.64	60382.91	104326.88	73712.59	-60418.73	0.030%
20	-116478.49	-98283.52	-58.80	116479.54	98283.38	35.53	0.015%
21	-116478.49	-73712.64	-58.80	116479.37	73712.54	34.20	0.018%
22	-99731.04	-98283.52	-57722.48	99715.24	98287.80	57724.46	0.011%
23	-99731.04	-73712.64	-57722.48	99711.61	73717.47	57720.64	0.015%
24	-58260.29	-98283.52	-101070.11	58274.66	98287.52	101042.44	0.021%
25	-58260.29	-73712.64	-101070.11	58274.69	73717.16	101036.01	0.027%
26	0.00	-224624.66	0.00	-0.73	224625.38	-3.55	0.002%
27	26.61	-224624.66	-31808.95	-27.64	224624.70	31813.13	0.002%
28	15611.83	-224624.66	-27014.12	-15612.63	224624.69	27018.49	0.002%
29	26843.80	-224624.66	-15503.74	-26845.11	224624.69	15507.61	0.002%
30	31192.85	-224624.66	-18.02	-31214.76	224625.41	29.85	0.011%
31	27551.52	-224624.66	15880.35	-27555.59	224624.68	-15881.02	0.002%
32	15587.55	-224624.66	27024.36	-15590.87	224624.69	-27026.90	0.002%
33	12.03	-224624.66	31006.10	-14.64	224625.30	-31029.34	0.010%
34	-15567.50	-224624.66	27020.95	15570.62	224624.71	-27022.49	0.002%
35	-27512.27	-224624.66	15888.42	27517.44	224624.70	-15887.74	0.002%
36	-31177.06	-224624.66	-24.49	31181.26	224624.69	26.72	0.002%
37	-26837.12	-224624.66	-15513.77	26838.96	224624.71	15516.80	0.002%
38	-15602.47	-224624.66	-27016.27	15602.27	224624.71	27019.88	0.002%
39	37.65	-81902.94	-29345.85	-36.63	81903.09	29344.80	0.002%
40	14184.88	-81902.94	-24569.80	-14182.16	81903.10	24571.13	0.003%
41	24259.18	-81902.94	-14035.20	-24256.71	81903.15	14037.05	0.004%
42	28326.17	-81902.94	-24.54	-28323.94	81903.09	26.23	0.003%
43	25381.70	-81902.94	14643.20	-25380.97	81903.09	-14642.41	0.001%
44	14148.44	-81902.93	24571.18	-14148.11	81903.08	-24570.47	0.001%
45	4.30	-81902.93	28056.06	-3.48	81903.14	-28055.17	0.001%
46	-14141.84	-81902.93	24576.24	14143.88	81903.18	-24573.67	0.004%
47	-25347.83	-81902.93	14667.13	25348.82	81903.09	-14663.56	0.004%
48	-28309.02	-81902.93	-14.06	28308.25	81903.08	15.55	0.002%
49	-24243.17	-81902.93	-14030.94	24242.20	81903.14	14030.60	0.001%
50	-14159.54	-81902.93	-24563.39	14158.30	81903.17	24561.42	0.003%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.00039733
2	Yes	5	0.00006490	0.00080744
3	Yes	6	0.0000001	0.00090449
4	Yes	7	0.0000001	0.00022438
5	Yes	7	0.0000001	0.00023837
6	Yes	7	0.0000001	0.00028073
7	Yes	7	0.0000001	0.00030040

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8	Yes	7	0.00000001	0.00017444
9	Yes	7	0.00000001	0.00021795
10	Yes	6	0.00000001	0.00052309
11	Yes	6	0.00000001	0.00054516
12	Yes	6	0.00000001	0.00056166
13	Yes	6	0.00000001	0.00051702
14	Yes	6	0.00000001	0.00088137
15	Yes	6	0.00000001	0.00084886
16	Yes	7	0.00000001	0.00027398
17	Yes	7	0.00000001	0.00026793
18	Yes	7	0.00000001	0.00031432
19	Yes	7	0.00000001	0.00031892
20	Yes	7	0.00000001	0.00019341
21	Yes	7	0.00000001	0.00019958
22	Yes	6	0.00000001	0.00051627
23	Yes	6	0.00000001	0.00052010
24	Yes	6	0.00000001	0.00045917
25	Yes	6	0.00000001	0.00053318
26	Yes	4	0.00000001	0.00044592
27	Yes	6	0.00000001	0.00026370
28	Yes	6	0.00000001	0.00027118
29	Yes	6	0.00000001	0.00025201
30	Yes	5	0.00000001	0.00095240
31	Yes	6	0.00000001	0.00024341
32	Yes	6	0.00000001	0.00024390
33	Yes	5	0.00000001	0.00083126
34	Yes	6	0.00000001	0.00022837
35	Yes	6	0.00000001	0.00034284
36	Yes	6	0.00000001	0.00033392
37	Yes	6	0.00000001	0.00026217
38	Yes	6	0.00000001	0.00024052
39	Yes	6	0.00000001	0.00011741
40	Yes	6	0.00000001	0.00021607
41	Yes	6	0.00000001	0.00026195
42	Yes	6	0.00000001	0.00020518
43	Yes	6	0.00000001	0.00010019
44	Yes	6	0.00000001	0.00008904
45	Yes	6	0.00000001	0.00013203
46	Yes	6	0.00000001	0.00025740
47	Yes	6	0.00000001	0.00025517
48	Yes	6	0.00000001	0.00013277
49	Yes	6	0.00000001	0.00012082
50	Yes	6	0.00000001	0.00017885

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	256 - 248	6.805	43	0.2458	0.0404
T2	248 - 228	6.388	43	0.2449	0.0403
T3	228 - 208	5.369	43	0.2324	0.0389
T4	208 - 188	4.422	43	0.2074	0.0387
T5	188 - 168	3.591	43	0.1821	0.0381
T6	168 - 148	2.849	43	0.1630	0.0360
T7	148 - 128	2.187	43	0.1414	0.0314
T8	128 - 108	1.609	43	0.1175	0.0242
T9	108 - 88	1.144	43	0.0940	0.0202
T10	88 - 68	0.755	43	0.0746	0.0153
T11	68 - 48	0.449	43	0.0576	0.0119

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T12	48 - 28	0.213	43	0.0392	0.0084
T13	28 - 8	0.053	39	0.0196	0.0047

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
257.00	Yagi w/Radome	43	6.805	0.2458	0.0404	268911
256.00	Beacon	43	6.805	0.2458	0.0404	268911
232.00	10' Whip	43	5.569	0.2361	0.0393	81599
181.00	AIR 6449 B41	43	3.323	0.1751	0.0376	61063
180.00	16' T-Frame Mount	43	3.285	0.1741	0.0375	60776
179.00	APXVAARR24_43-U-NA20	43	3.247	0.1732	0.0374	60491
138.00	C10857278C V-Frame Mount	43	1.885	0.1296	0.0277	46062
131.00	HPCPE-80BW	43	1.689	0.1211	0.0252	37761
119.00	VFA6-RRU	43	1.388	0.1066	0.0222	47535
112.00	Yagi	43	1.230	0.0985	0.0210	66101
110.00	(2) APL-866513-42T9	43	1.187	0.0962	0.0206	73250
102.00	(2) TV 65 antenna	43	1.020	0.0877	0.0188	71016
17.00	Junction Box	39	0.015	0.0088	0.0022	71662

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	256 - 248	27.799	10	1.0102	0.1692
T2	248 - 228	26.088	10	1.0058	0.1686
T3	228 - 208	21.907	10	0.9525	0.1627
T4	208 - 188	18.025	10	0.8479	0.1621
T5	188 - 168	14.635	10	0.7425	0.1596
T6	168 - 148	11.612	10	0.6636	0.1505
T7	148 - 128	8.918	10	0.5750	0.1314
T8	128 - 108	6.567	10	0.4779	0.1014
T9	108 - 88	4.673	10	0.3826	0.0846
T10	88 - 68	3.088	10	0.3038	0.0640
T11	68 - 48	1.839	10	0.2346	0.0498
T12	48 - 28	0.873	10	0.1596	0.0351
T13	28 - 8	0.216	3	0.0800	0.0197

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
257.00	Yagi w/Radome	10	27.799	1.0102	0.1692	68243
256.00	Beacon	10	27.799	1.0102	0.1692	68243
232.00	10' Whip	10	22.727	0.9683	0.1643	19735

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Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
181.00	AIR 6449 B41	10	13.540	0.7133	0.1573	14734
180.00	16' T-Frame Mount	10	13.386	0.7094	0.1568	14674
179.00	APXVAARR24_43-U-NA20	10	13.234	0.7056	0.1564	14614
138.00	C10857278C V-Frame Mount	10	7.689	0.5269	0.1159	11337
131.00	HPCPE-80BW	10	6.890	0.4926	0.1053	9290
119.00	VFA6-RRU	10	5.665	0.4337	0.0930	11731
112.00	Yagi	10	5.023	0.4006	0.0878	16391
110.00	(2) APL-866513-42T9	10	4.847	0.3915	0.0863	18196
102.00	(2) TV 65 antenna	10	4.167	0.3571	0.0787	17581
17.00	Junction Box	3	0.061	0.0360	0.0093	17607

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load Allowable	Allowable Ratio	Criteria
T1	256	Leg	A325N	0.7500	4	307.32	29820.60	0.010	✓	1 Bolt Tension
		Diagonal	A325N	0.6250	1	1896.48	8775.00	0.216	✓	1 Member Bearing
T2	248	Leg	A325N	0.8750	4	1814.60	40589.10	0.045	✓	1 Bolt Tension
		Diagonal	A325N	0.6250	1	3359.45	11700.00	0.287	✓	1 Member Bearing
T3	228	Leg	A325N	1.0000	4	7491.26	53014.40	0.141	✓	1 Bolt Tension
		Diagonal	A325N	0.6250	1	4779.95	11700.00	0.409	✓	1 Member Bearing
T4	208	Leg	A325N	1.0000	6	10519.30	53014.40	0.198	✓	1 Bolt Tension
		Diagonal	A325N	0.6250	1	3364.32	11700.00	0.288	✓	1 Member Bearing
T5	188	Leg	A325N	1.0000	6	13897.90	53014.40	0.262	✓	1 Bolt Tension
		Diagonal	A325N	0.7500	1	6807.30	14137.50	0.482	✓	1 Member Bearing
T6	168	Leg	A325N	1.0000	6	18656.20	53014.40	0.352	✓	1 Bolt Tension
		Diagonal	A325N	0.7500	1	8646.62	14137.50	0.612	✓	1 Member Bearing
T7	148	Leg	A325N	1.0000	8	18247.40	53014.40	0.344	✓	1 Bolt Tension
		Diagonal	A325N	0.7500	1	12413.40	14137.50	0.878	✓	1 Member Bearing
T8	128	Leg	A325N	1.0000	8	23807.60	53014.40	0.449	✓	1 Bolt Tension
		Diagonal	A325X	0.7500	1	16848.30	21206.30	0.794	✓	1 Member Bearing
T9	108	Leg	A325N	1.0000	12	19966.00	53014.40	0.377	✓	1 Bolt Tension
		Diagonal	A325N	0.8750	1	19740.00	20553.00	0.960	✓	1 Member Bearing
T10	88	Leg	A325N	1.0000	12	24689.80	53014.40	0.466	✓	1 Bolt Tension
		Diagonal	A325N	0.8750	1	23478.00	24353.50	0.964	✓	1 Bolt Shear
T11	68	Leg	A325N	1.0000	12	29650.20	53014.40	0.559	✓	1 Bolt Tension
		Diagonal	A325N	1.0000	1	25595.10	28518.80	0.897	✓	1 Member Bearing
T12	48	Leg	A325N	1.0000	12	34655.20	53014.40	0.654	✓	1 Bolt Tension
		Diagonal	A325X	0.8750	2	14272.50	29765.40	0.480	✓	1 Bolt Shear
T13	28	Leg	A325N	1.0000	16	28939.70	53014.40	0.546	✓	1 Bolt Tension
		Diagonal	A325N	0.6250	6	6789.24	12425.20	0.546	✓	1 Bolt Shear

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load Allowable	Allowable Ratio	Criteria
		Top Girt	A325N	0.7500	4	6197.14	17892.40	0.346 ✓	1	Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	256 - 248	ROHN 3 STD	8.00	4.00	41.3 K=1.00	2.2285	-4841.52	88543.60	0.055 ¹ ✓
T2	248 - 228	ROHN 3 EH	20.00	4.00	42.2 K=1.00	3.0159	-27436.90	119117.00	0.230 ¹ ✓
T3	228 - 208	ROHN 4 EH	20.00	4.00	32.5 K=1.00	4.4074	-63068.80	183589.00	0.344 ¹ ✓
T4	208 - 188	ROHN 5 EH	20.04	5.01	32.7 K=1.00	6.1120	-87468.60	254372.00	0.344 ¹ ✓
T5	188 - 168	ROHN 6 EH	20.03	6.68	36.5 K=1.00	8.4049	-116557.00	343100.00	0.340 ¹ ✓
T6	168 - 148	ROHN 6 EH	20.03	6.68	36.5 K=1.00	8.4049	-154769.00	343100.00	0.451 ¹ ✓
T7	148 - 128	ROHN 6 EH	20.04	6.68	36.5 K=1.00	8.4049	-200321.00	343092.00	0.584 ¹ ✓
T8	128 - 108	ROHN 8 EHS	20.04	10.02	41.2 K=1.00	9.7193	-251164.00	386381.00	0.650 ¹ ✓
T9	108 - 88	ROHN 8 EH	20.04	10.02	41.8 K=1.00	12.7627	-313170.00	505517.00	0.620 ¹ ✓
T10	88 - 68	P10x.5	20.03	10.02	33.1 K=1.00	16.1007	-379524.00	668659.00	0.568 ¹ ✓
T11	68 - 48	P10x.5	20.03	10.02	33.1 K=1.00	16.1007	-448492.00	668663.00	0.671 ¹ ✓
T12	48 - 28	P10x.5	20.04	10.02	33.1 K=1.00	16.1007	-517250.00	668640.00	0.774 ¹ ✓
T13	28 - 8	P10x.5	20.05	9.52	15.8 K=0.50	16.1007	-537938.00	711505.00	0.756 ¹ ✓

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	256 - 248	L1 3/4x1 3/4x3/16	7.91	3.83	133.8 K=1.00	0.6211	-1892.30	7836.45	0.241 ¹ ✓
T2	248 - 228	L2x2x1/4	7.98	3.82	117.2 K=1.00	0.9380	-3367.58	15423.50	0.218 ¹ ✓
T3	228 - 208	L2x2x1/4	7.92	3.75	115.0 K=1.00	0.9380	-4961.95	16011.80	0.310 ¹ ✓
T4	208 - 188	L2x2x1/4	10.00	4.88	149.8 K=1.00	0.9380	-3318.47	9442.17	0.351 ¹ ✓
T5	188 - 168	L2 1/2x2 1/2x1/4	12.51	6.13	149.7 K=1.00	1.1900	-6874.71	11996.10	0.573 ¹ ✓
T6	168 - 148	L3x3x1/4	14.24	7.00	141.8 K=1.00	1.4400	-8748.04	16173.10	0.541 ¹ ✓
T7	148 - 128	L3x3x1/4	16.09	7.93	160.8 K=1.00	1.4400	-12558.80	12584.10	0.998 ¹ ✓
T8	128 - 108	L4x4x3/8	19.35	9.56	145.6 K=1.00	2.8600	-17118.50	30486.60	0.562 ¹ ✓
T9	108 - 88	L4x4x0.31	21.22	10.51	159.4 K=1.00	2.3839	-20062.90	21205.70	0.946 ¹ ✓
T10	88 - 68	L5x5x3/8	23.04	11.30	136.9 K=1.00	3.6100	-23478.00	43484.70	0.540 ¹ ✓
T11	68 - 48	L5x5x3/8	24.84	12.20	147.9 K=1.00	3.6100	-26136.60	37294.00	0.701 ¹ ✓
T12	48 - 28	L5x5x3/8	26.75	13.17	159.7 K=1.00	3.6100	-28545.00	31978.80	0.893 ¹ ✓
T13	28 - 8	ROHN 3 STD w/L4x4x1/4	22.17	11.09	103.3 K=1.00	4.1660	-40735.40	85927.60	0.474 ¹ ✓

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	256 - 248	L3x3x1/4	6.60	6.31	128.0 K=1.00	1.4400	-682.52	19705.80	0.035 ¹ ✓
T13	28 - 8	ROHN 3 STD	25.46	12.28	126.7 K=1.00	2.2285	-24788.60	31030.70	0.799 ¹ ✓

¹ P_u / φP_n controls

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 1.5 STD	6.36	5.92	114.0	0.7995	-9335.51	13888.30	0.672 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	KL/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
					K=1.00				✓

¹ P_u / φP_n controls

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KL/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 1.5 STD	11.12	10.26	148.3 K=0.75	0.7995	-8155.92	8212.23	0.993 ¹
✓									

¹ P_u / φP_n controls

Redundant Hip (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KL/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 1.5 STD	6.36	6.36	122.7 K=1.00	0.7995	-134.62	12002.20	0.011 ¹
✓									

¹ P_u / φP_n controls

Redundant Hip Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KL/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 1.5 STD	14.83	14.83	285.7 K=1.00	0.7995	-97.17	2211.89	0.044 ¹
					KL/R > 250 (C) - 269				✓

¹ P_u / φP_n controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KL/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 3 STD	12.73	12.73	131.3	2.2285	-31.74	29213.70	0.001 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
K=1.00									
✓									

¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	256 - 248	ROHN 3 STD	8.00	4.00	41.3	2.2285	4072.71	100281.00	0.041 ¹
T2	248 - 228	ROHN 3 EH	20.00	4.00	42.2	3.0159	24298.20	135717.00	0.179 ¹
T3	228 - 208	ROHN 4 EH	20.00	4.00	32.5	4.4074	56777.20	198335.00	0.286 ¹
T4	208 - 188	ROHN 5 EH	20.04	5.01	32.7	6.1120	78026.10	275039.00	0.284 ¹
T5	188 - 168	ROHN 6 EH	20.03	6.68	36.5	8.4049	101142.00	378222.00	0.267 ¹
T6	168 - 148	ROHN 6 EH	20.03	6.68	36.5	8.4049	134506.00	378222.00	0.356 ¹
T7	148 - 128	ROHN 6 EH	20.04	6.68	36.5	8.4049	171766.00	378222.00	0.454 ¹
T8	128 - 108	ROHN 8 EHS	20.04	10.02	41.2	9.7193	213656.00	437369.00	0.489 ¹
T9	108 - 88	ROHN 8 EH	20.04	10.02	41.8	12.7627	267605.00	574322.00	0.466 ¹
T10	88 - 68	P10x.5	20.03	10.02	33.1	16.1007	325707.00	724530.00	0.450 ¹
T11	68 - 48	P10x.5	20.03	10.02	33.1	16.1007	385784.00	724530.00	0.532 ¹
T12	48 - 28	P10x.5	20.04	10.02	33.1	16.1007	445029.00	724530.00	0.614 ¹
T13	28 - 8	P10x.5	20.05	9.52	31.5	16.1007	463035.00	724530.00	0.639 ¹

¹ P_u / φP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	256 - 248	L1 3/4x1 3/4x3/16	7.91	3.83	85.6	0.3604	1896.48	17567.10	0.108 ¹
T2	248 - 228	L2x2x1/4	7.98	3.82	75.3	0.5629	3359.45	27440.20	0.122 ¹
T3	228 - 208	L2x2x1/4	7.92	3.75	73.9	0.5629	4779.95	27440.20	0.174 ¹
T4	208 - 188	L2x2x1/4	10.00	4.88	96.2	0.5629	3364.32	27440.20	0.123 ¹
T5	188 - 168	L2 1/2x2 1/2x1/4	12.51	6.13	95.6	0.7284	6807.30	35511.30	0.192 ¹
T6	168 - 148	L3x3x1/4	14.24	7.00	90.3	0.9159	8646.62	44652.00	0.194 ¹
T7	148 - 128	L3x3x1/4	16.09	7.93	102.3	0.9159	12413.40	44652.00	0.278 ¹
T8	128 - 108	L4x4x3/8	19.35	9.56	93.3	1.8989	16848.30	92571.70	0.182 ¹
T9	108 - 88	L4x4x0.31	21.22	10.51	101.4	1.5554	19740.00	75827.00	0.260 ¹
T10	88 - 68	L5x5x3/8	23.04	11.30	86.9	2.4262	23182.70	118280.00	0.196 ¹
T11	68 - 48	L5x5x3/8	24.84	12.20	93.8	2.3911	25595.10	116566.00	0.220 ¹
T12	48 - 28	L5x5x3/8	26.75	13.17	101.3	2.4262	28204.20	118280.00	0.238 ¹
T13	28 - 8	ROHN 3 STD w/L4x4x1/4	22.17	11.09	103.3	4.1660	40491.70	187470.00	0.216 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	256 - 248	L3x3x1/4	6.60	6.31	81.4	1.4400	665.48	46656.00	0.014 ¹
T13	28 - 8	ROHN 3 STD	25.46	12.28	126.7	2.2285	23535.20	72202.40	0.326 ¹

¹ P_u / φP_n controls

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 1.5 STD	6.36	5.92	114.0	0.7995	9335.51	35975.60	0.259 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
									✓

¹ P_u / φP_n controls

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 1.5 STD	11.12	10.26	197.7	0.7995	8155.92	35975.60	0.227 ¹
									✓

¹ P_u / φP_n controls

Redundant Hip (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 1.5 STD	6.36	6.36	122.7	0.7995	6.41	35975.60	0.000 ¹
									✓

¹ P_u / φP_n controls

Redundant Hip Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 1.5 STD	14.83	14.83	285.7	0.7995	156.09	35975.60	0.004 ¹
									✓

¹ P_u / φP_n controls

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	28 - 8	ROHN 3 STD	12.73	12.73	131.3	2.2285	17.99	100281.00	0.000 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
									✓

¹ P_u / φP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	φP _{allow} lb	% Capacity	Pass Fail
T1	256 - 248	Leg	ROHN 3 STD	3	-4841.52	88543.60	5.5	Pass
		Diagonal	L1 3/4x1 3/4x3/16	11	-1892.30	7836.45	24.1	Pass
		Top Girt	L3x3x1/4	6	-682.52	19705.80	3.5	Pass
T2	248 - 228	Leg	ROHN 3 EH	21	-27436.90	119117.00	23.0	Pass
		Diagonal	L2x2x1/4	26	-3367.58	15423.50	21.8	Pass
T3	228 - 208	Leg	ROHN 4 EH	54	-63068.80	183589.00	34.4	Pass
		Diagonal	L2x2x1/4	59	-4961.95	16011.80	31.0	Pass
T4	208 - 188	Leg	ROHN 5 EH	87	-87468.60	254372.00	34.4	Pass
		Diagonal	L2x2x1/4	89	-3318.47	9442.17	35.1	Pass
T5	188 - 168	Leg	ROHN 6 EH	113	-116557.00	343100.00	34.0	Pass
		Diagonal	L2 1/2x2 1/2x1/4	115	-6874.71	11996.10	57.3	Pass
T6	168 - 148	Leg	ROHN 6 EH	134	-154769.00	343100.00	45.1	Pass
		Diagonal	L3x3x1/4	136	-8748.04	16173.10	54.1	Pass
T7	148 - 128	Leg	ROHN 6 EH	155	-200321.00	343092.00	58.4	Pass
		Diagonal	L3x3x1/4	157	-12558.80	12584.10	99.8	Pass
T8	128 - 108	Leg	ROHN 8 EHS	176	-251164.00	386381.00	65.0	Pass
		Diagonal	L4x4x3/8	178	-17118.50	30486.60	56.2	Pass
T9	108 - 88	Leg	ROHN 8 EH	191	-313170.00	505517.00	62.0	Pass
		Diagonal	L4x4x0.31	193	-20062.90	21205.70	94.6	Pass
T10	88 - 68	Leg	P10x.5	206	-379524.00	668659.00	56.8	Pass
		Diagonal	L5x5x3/8	208	-23478.00	43484.70	54.0	Pass
T11	68 - 48	Leg	P10x.5	221	-448492.00	668663.00	67.1	Pass
		Diagonal	L5x5x3/8	223	-26136.60	37294.00	70.1	Pass
T12	48 - 28	Leg	P10x.5	236	-517250.00	668640.00	77.4	Pass
		Diagonal	L5x5x3/8	239	-28545.00	31978.80	89.3	Pass
T13	28 - 8	Leg	P10x.5	251	-537938.00	711505.00	75.6	Pass
		Diagonal	ROHN 3 STD w/L4x4x1/4	256	-40735.40	85927.60	47.4	Pass
		Top Girt	ROHN 3 STD	253	-24788.60	31030.70	79.9	Pass
		Redund Horz 1 Bracing	ROHN 1.5 STD	260	-9335.51	13888.30	67.2	Pass
		Redund Diag 1 Bracing	ROHN 1.5 STD	261	-8155.92	8212.23	99.3	Pass
		Redund Hip 1 Bracing	ROHN 1.5 STD	278	-134.62	12002.20	1.1	Pass
		Redund Hip Diagonal 1 Bracing	ROHN 1.5 STD	269	-97.17	2211.89	4.4	Pass
		Inner Bracing	ROHN 3 STD	280	-31.74	29213.70	28.2	Pass
						Summary Leg (T12)	77.4	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						Diagonal (T7)	99.8	Pass
						Top Girt (T13)	79.9	Pass
						Redund Horz 1 Bracing (T13)	67.2	Pass
						Redund Diag 1 Bracing (T13)	99.3	Pass
						Redund Hip 1 Bracing (T13)	1.1	Pass
						Redund Hip Diagonal 1 Bracing (T13)	4.4	Pass
						Inner Bracing (T13)	28.2	Pass
						Bolt Checks	96.4	Pass
						RATING =	99.8	Pass