Robinson+Cole

KENNETH C. BALDWIN

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Also admitted in Massachusetts and New York

February 26, 2024

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
6-9 Campus Drive, Madison, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains a wireless telecommunications facility at the above-referenced address (the "Property"). Cellco's facility consists of antennas and remote radio heads attached to a tower. Equipment associated with the facility is located on the ground adjacent to the tower. The tower was approved by the Town of Madison ("Town") in December of 1994. Cellco's shared use of the tower was approved by the Siting Council ("Council") in April of 2022 (TS-VER-076-220317). A copy the Town's approval and Council's tower share approval are included in Attachment 1.

Cellco's proposed modification involves the installation of six (6) interference mitigation filters ("Filters") on its existing antenna platform. The specification sheet for the Filter is included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Madison's Chief Elected Official and Land Use Officer. The Town of Madison is the owner of the Property.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. The Filters will be installed on Cellco's existing antenna platform.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The installation of the Filters will not result in a change to radio frequency (RF) emissions from the facility. Therefore, no new RF emissions information is included in this filing.

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

6. According to the attached Structural Analysis Report ("SA") and Antenna Mount Analysis Report ("MA"), the existing tower, tower foundation, antenna assembly can support Cellco's proposed modifications. A copy of the SA and MA are included in Attachment 3.

A copy of the parcel map and Property owner information is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 5.

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Peggy Lyons, First Selectwoman
Erin Mannix, Town Planner
Alex Tyurin, Verizon Wireless

ATTACHMENT 1

TOWN OF MADISON
8 MEETINGHOUSE LANE
MADISON, CT 06443

BUILDING PERMIT

AMOUNT PAID

DEPT. FILE COPY

VALIDATION

APPLICANT Town of Madison DATE Dec. 6 19 94 PERMIT NO. - 16396

ADDRESS 8 Campus Drive, Madison (NO.) (STREET) (CONTR'S LICENSE)

PERMIT TO construct radio tower (TYPE OF IMPROVEMENT) (___) NO. STORY (PROPOSED USE) NUMBER OF DWELLING UNITS

AT (LOCATION) 12 Campus Drive "Arts Barn site" (NO.) (STREET) ZONING DISTRICT RU2

BETWEEN (CROSS STREET) AND (CROSS STREET)

SUBDIVISION LOT 49 BLOCK 68 LOT SIZE

BUILDING IS TO BE FT. WIDE BY FT. LONG BY 120 FT. IN HEIGHT AND SHALL CONFORM IN CONSTRUCTION

TO TYPE USE GROUP BASEMENT WALLS OR FOUNDATION (TYPE)

REMARKS: IW Officer's Note: Base no farther than 60' from Arts Barn south side.

AREA OR VOLUME (CUBIC/SQUARE FEET) ESTIMATED COST $ 20,000.00 PERMIT FEE $ 126.00 (Waived)

OWNER Town of Madison

ADDRESS 8 Campus Drive, Madison

BUILDING DEPT. BY

(Affidavit on reverse side of application to be completed by authorized agent of owner)

FORM NO. BOCA - BP 1990

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

April 22, 2022

Kenneth C. Baldwin, Esq.
Robinson + Cole
280 Trumbull Street
Hartford, CT 06103-3597
kbaldwin@rc.com

RE: **TS-VER-076-220317** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 6-9 Campus Drive, Madison, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on April 21, 2022, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the following conditions:

1. Approval of any changes be delegated to Council staff;

2. Any deviation from the proposed installation as specified in the original tower share request and supporting materials with the Council shall render this decision invalid;

3. Any material changes to the proposed installation as specified in the original tower share request and supporting materials filed with the Council shall require an explicit request for modification to the Council pursuant to Connecticut General Statutes § 16-50aa, including all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65;

4. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;

5. Not less than 45 days after completion of the proposed installation, the Council shall be notified in writing that the installation has been completed;

6. Deployment of any 5G services must comply with FCC and FAA guidance relative to air navigation, as applicable;

7. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by Verizon shall be removed within 60 days of the date the antenna ceased to function;

8. The validity of this action shall expire one year from the date of this letter; and

9. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

This decision is under the exclusive jurisdiction of the Council and applies only to this request for tower sharing dated March 16, 2022, and additional information received on April 6, 2022. This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower. Any deviation from the approved tower sharing request is enforceable under the provisions of Connecticut General Statutes § 16-50u.

The proposed shared use is to be implemented as specified in your letter dated March 16, 2022, and additional information received on April 6, 2022, including the placement of all necessary equipment and shelters within the tower compound.

Please be advised that the validity of this action shall expire one year from the date of this letter.

Thank you for your attention and cooperation.

Sincerely,

Melanie Bachman
Executive Director

MAB/IN/laf

c: The Honorable Peggy Lyons, First Selectwoman, Town of Madison (lyonsp@madisonct.org)

ATTACHMENT 2

BSF0020F3V1-1

TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The BSF0020 is ideal for co-located 700, 850 and 900 networks. Utilising a 2.6MHz guardband the BSF0020 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the BSF0020 contains two identical bandstop filters, suitable for 2x2 MIMO configuration, offering excellent insertion loss, group delay and rejection.

FEATURES

- Passes full 700 and 850 bands
- Low insertion loss
- Rejection of 900MHz uplink
- DC/AISG pass
- Twin unit
- Dual twin mounting available

TECHNICAL SPECIFICATIONS

BAND NAME	700 PATH / 850 UPLINK PATH	850 DOWNLINK PATH
Passband	698 - 849MHz	869 - 891.5MHz
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum
Return loss	24dB typical, 18dB minimum	
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz
Rejection	53dB minimum @ 894.1 - 896.5MHz	

ELECTRICAL	
Impedance	50Ohms
Intermodulation products	-160dBc maximum in UL Band (assuming 20MHz Signal), with 2 x 43dBm carriers -153dBc maximum with 2 x 43dBm

DC / AISG	
Passband	0 - 13MHz
Insertion loss	0.3dB maximum
Return loss	15dB minimum
Input voltage range	± 33V
DC current rating	2A continuous, 4A peak
Compliance	3GPP TS 25.461

ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-20°C to +60°C | -4°F to +140°F
Ingress protection	IP67
Altitude	2600m | 8530ft
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 – Unit must be terminated with some lightning protection circuits.
MTBF	>1,000,000 hours
Compliance	ETSI EN 300 019 class 4.1H, RoHS, NEBS GR-487-CORE

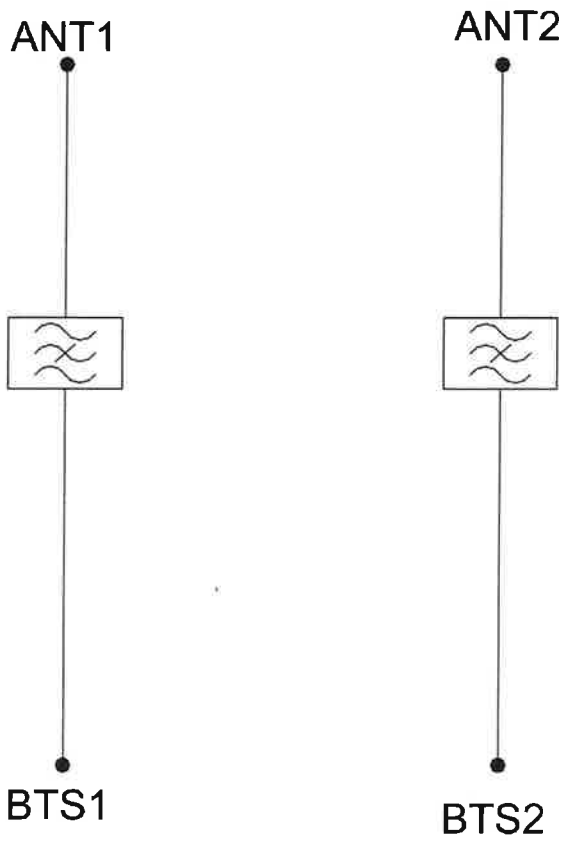
MECHANICAL	
Dimensions H x D x W	269 x 277 x 80mm | 10.60 x 10.90 x 3.15in (Excluding brackets and connectors)
Weight	8.0 kg | 17.6 lbs (no bracket)
Finish	Powder coated, light grey (RAL7035)
Connectors	RF: 4.3-10 (F) x 4
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.

Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

ORDERING INFORMATION

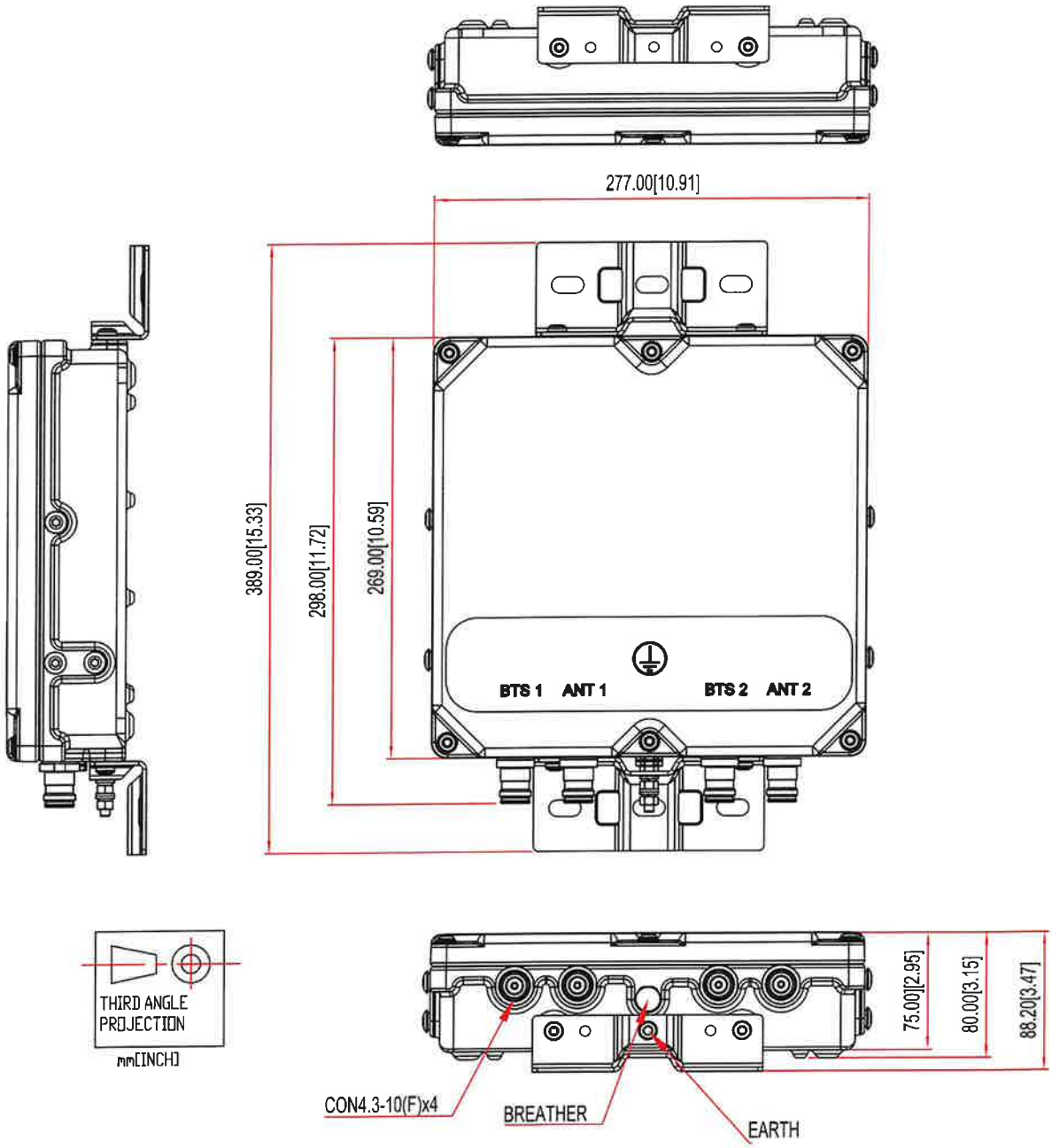
PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
BSF0020F3V1	TWIN, 2 in / 2 out	DC/AISG PASS NO BRACKET	4.3-10 (F)
BSF0020F3V1-1	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)
BSF0020F3V1-2	QUAD, 4 in / 4 out	DC/AISG PASS	4.3-10 (F)

ELECTRICAL BLOCK DIAGRAM



Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

MECHANICAL BLOCK DIAGRAM



Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

ATTACHMENT 3

Date: February 8, 2024

To: Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492

P. Marshall & Associates, LLC
1000 Holcomb Woods Pkwy, Suite 210
Roswell, GA 30076
(678) 280-2325

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-locate**	
	Carrier Site Number:	467391
	Carrier Site Name:	Madison 6 CT
Engineering Firm Designation:	**PM&A Project Number:**	23CLVZ-0001
Site Data:	**9 Campus Drive, Madison, New Haven County, CT 06443** **Latitude 41°17'47.5008" Longitude -72°34'20.7984"** **150 ft Self Support Tower**	

To whom it may concern,

PM&A is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above-mentioned tower.

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

Proposed Equipment Configuration **Sufficient Capacity – 73.1%**

This analysis utilizes an ultimate 3-second gust wind speed of 135 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

We appreciate the opportunity to work with Verizon Wireless and look forward to contributing to the success of this project. If we can be of further assistance, please do not hesitate to contact us at (678) 280-2325.

Respectfully Submitted by:

Derek Creaser, P.E.
Connecticut Professional Engineer
License Number: PEN.0028551

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 150 ft Self Support Tower designed by Valmont.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	III
Wind Speed:	135 mph
Exposure Category:	C
Topographic Factor at Base:	1.0
Ground Elevation:	30.7 ft
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.206
Seismic S_1:	0.054
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Loading

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
123.0	123.0	6	JMA Wireless	MX06FRO660-03	2	6x12 Hybrid
		3	SAMSUNG	XXDWMM-12.5-65 8TCBRS		
		3	SAMSUNG	MT6407-77A VZS01		
		6	KAELUS	KA-6030		
		3	SAMSUNG	B2/B66A RRH-BR049 (RFV01U-D1A)		
		3	SAMSUNG	B5/B13 RRH-BR04C (RFV01U-D2A)		
		3	SAMSUNG	CBRS RRH - RT4401-48A		
		1	Raycap	RHSDC-6627-PF-48		
		3	SitePro1	VFA12-HD		

Table 2 – Other Considered Equipment Loading

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
140.0	143.0	1	SINCLAIR	SC323-HF2LDF	2 2 3	7/8 1-5/8 1/2	1
	140.0	1	-	6' Side Arm			
138.0	140.0	1	SINCLAIR	SE-414			
	138.0	1	-	6' Side Arm			
135.0	138.0	1	RFI	BA40-41			
	135.0	1	-	6' Side Arm			
132.0	132.0	2	SINCLAIR	SE4192			
		1	-	Amplifier			
		1	-	12' V-Frame			
105.0	108.0	1	SINCLAIR	SC323-HF2LDF	2	7/8	1
	105.0	1	RFI	CSA40-67			
		2	-	6' Side Arm			
80.0	90.67	2	RFI	COL54-160	4	7/8	1
	86.17	2	SINCLAIR	SC381-HF3LDF			
	80.0	4	-	6' Side Arm			

70.0	70.0	1	SINCLAIR	SG101-SFXSNM	1	7/8	1
		1	-	6' Side Arm			

Notes:
1) Existing Loading

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Source
Tower Manufacturer Drawings	Valmont Eng. File #: 319430, dated 1/16/2017	Centerline
Previous Structural Analysis	Centek Engineering Inc. Project #: 20083.14 Rev. 1, dated 2/25/2022	Centerline
Previous Mount Analysis	Centek Engineering Inc. Project #: 20083.14, dated 5/28/2021	Centerline
Lease Exhibit	Centerline Site Name: Madison 6 CT, dated 2/6/2024	Centerline
Proposed Carrier Loading	Verizon Wireless RFDS Site #: 467391, dated 2/2/2021	Verizon

3.1) Analysis Method

tnxTower (version 8.2.1.0) a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) PM&A shall assume that all tower components are in sufficient condition to carry their full design capacity.
4) We have not based the adequacy of the tower on limitations for antenna twist, tilt, roll, or lateral translation.
5) We have not designed for construction load or tower climber live load.
6) Antenna mounts are not part of this analysis. Antenna mounts and mounting hardware should be verified by carrier to confirm that mounts are in compliance.
7) Existing tower loading, geometry and soils information have been modeled based on the configuration found in the Previous Structural Analysis by Centek Engineering Inc. Project #: 20083.14 Rev. 1, dated 2/25/2022 and the Manufacturer Drawings by Valmont Eng. File #: 319430, dated 1/16/2017 and are assumed to be accurate.
8) Final Carrier loading has been modeled based on the configuration specified in the Verizon Wireless RFDS Site #: 467391, dated 2/21/2021 and email correspondence with the client and is assumed to be accurate.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	ϕP_{allow} (K)	% Capacity	Pass Fail
T1	150 - 140	Leg	Pipe 2.5 Std (2.875"ODx0.203")	2	-1.11	57.19	1.9	Pass
T2	140 - 120	Leg	Pipe 4 Std (4.5"ODx0.237")	21	-19.53	116.32	16.8	Pass
T3	120 - 100	Leg	Pipe 5 Std (5.563"ODx0.258")	40	-59.08	169.37	34.9	Pass
T4	100 - 80	Leg	Pipe 5 Std (5.563"ODx0.258")	61	-91.77	169.37	54.2	Pass

T5	80 - 60	Leg	Pipe 5 Std (5.563"ODx0.258")	82	-123.80	169.37	73.1	Pass
T6	60 - 40	Leg	Pipe 6 Std (6.625"ODx0.28")	103	-152.89	228.83	66.8	Pass
T7	40 - 20	Leg	Valmont 194651 (58 ksi)	124	-176.91	250.28	70.7	Pass
T8	20 - 0	Leg	Valmont 195213 (58 ksi)	139	-202.57	349.87	57.9	Pass
T1	150 - 140	Diagonal	L2x2x1/8	11	-0.39	11.40	3.4 8.6 (b)	Pass
T2	140 - 120	Diagonal	L3x3x5/16	24	-6.23	48.89	12.7 46.6 (b)	Pass
T3	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	57	-6.46	21.41	30.1 70.4 (b)	Pass
T4	100 - 80	Diagonal	L2 1/2x2 1/2x3/16	66	-4.87	15.94	30.6 60.6 (b)	Pass
T5	80 - 60	Diagonal	L2 1/2x2 1/2x3/16	89	-5.47	11.89	46.0 60.3 (b)	Pass
T6	60 - 40	Diagonal	L3x3x3/16	110	-5.49	16.17	33.9 60.0 (b)	Pass
T7	40 - 20	Diagonal	L3x3x5/16	131	-7.01	17.66	39.7 40.7 (b)	Pass
T8	20 - 0	Diagonal	L3 1/2x3 1/2x5/16	146	-8.57	23.42	36.6 38.0 (b)	Pass
T1	150 - 140	Top Girt	L2x2x3/16	5	-0.02	10.95	0.3 0.6 (b)	Pass
							Summary	
						Leg (T5)	73.1	Pass
						Diagonal (T3)	70.4	Pass
						Top Girt (T1)	0.6	Pass
						Bolt Checks	70.4	Pass
						RATING =	**73.1**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	36.0	Pass
1	Base Foundation Structure	0	49.5	Pass
1	Base Foundation Soil Interaction	0	60.1	Pass

Structure Rating (max from all components) =	**73.1%**

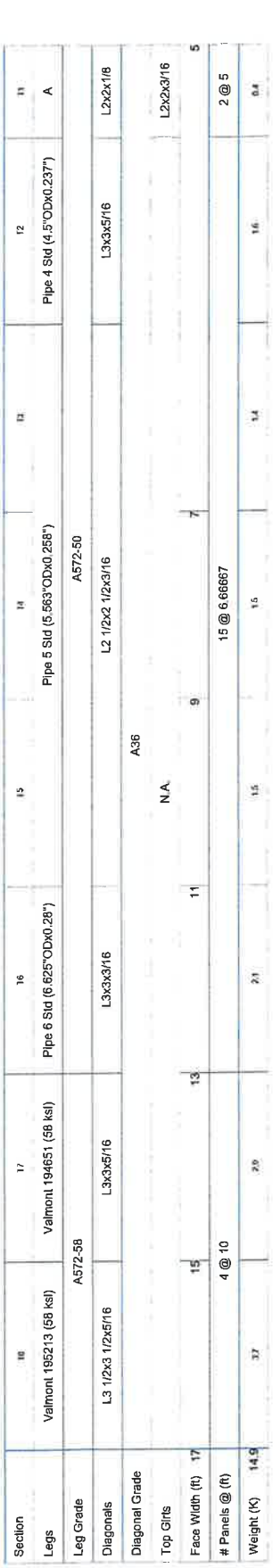
Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

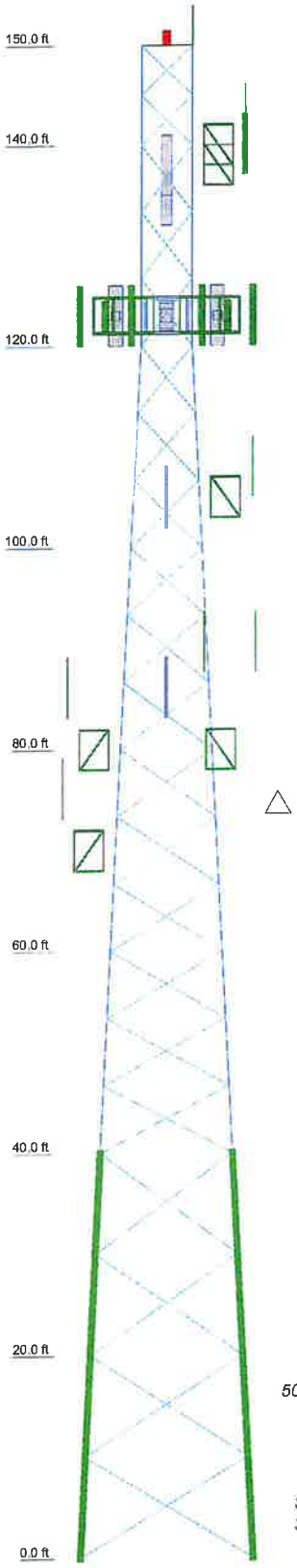
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Flash Beacon Lighting	150	B5/B13 RRH-BR04C (RFV01U-D2A)	123
Lighting Rod 5/8" x 5'	150	B5/B13 RRH BR04C (RFV01U-D2A)	123
6' Side Arm Mount	140	B5/B13 RRH-BR04C (RFV01U-D2A)	123
SC323-HF2LDF	140	CBRS RRH - RT4401-48A	123
6' Side Arm Mount	138	CBRS RRH - RT4401-48A	123
SE414 w/ Mount Pipe	138	CBRS RRH - RT4401-48A	123
6' Side Arm Mount	135	(2) KA-6030	123
BA40-41	135	(2) KA-6030	123
V-Frame	132	(2) KA-6030	123
SE4192 w/ Mount Pipe	132	RC2DC-3315-PF-48	123
SE4192 w/ Mount Pipe	132	VFA12-HD	123
AMPLIFIER	132	VFA12-HD	123
(2) MX06FRO660-03 w/ Mount Pipe	123	VFA12-HD	123
(2) MX06FRO660-03 w/ Mount Pipe	123	6' Side Arm Mount	105
(2) MX06FRO660-03 w/ Mount Pipe	123	SC323-HF2LDF	105
XXDWMM-12.5-65-8T-CBRS w/ Mount Pipe	123	6' Side Arm Mount	105
XXDWMM-12.5-65-8T-CBRS w/ Mount Pipe	123	CSA40-67-DIN	105
XXDWMM-12.5-65-8T-CBRS w/ Mount Pipe	123	6' Side Arm Mount	80
MT6407-77A w/ Pipe Mount	123	COL54-160	80
MT6407-77A w/ Pipe Mount	123	6' Side Arm Mount	80
MT6407-77A w/ Pipe Mount	123	COL54-160	80
B2/B66A RRH-BR049 (RFV01U-D1A)	123	6' Side Arm Mount	80
B2/B66A RRH-BR049 (RFV01U-D1A)	123	SC381-HF3LDF	80
B2/B66A RRH-BR049 (RFV01U-D1A)	123	6' Side Arm Mount	80
		SC381-HF3LDF	80
		6' Side Arm Mount	70
		SG101	70

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	Pipe 2.5 Std (2.875"ODx0.203")		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A572-58	58 ksi	75 ksi
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

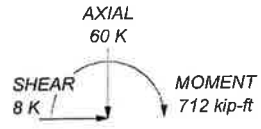
1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 135 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category III.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 73.1%

ALL REA
ARE FAC

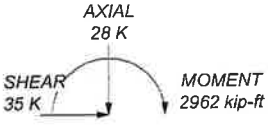
MAX. CORNER REACTIONS AT BASE:

DOWN: 210 K
SHEAR: 23 K

UPLIFT: -183 K
SHEAR: 20 K



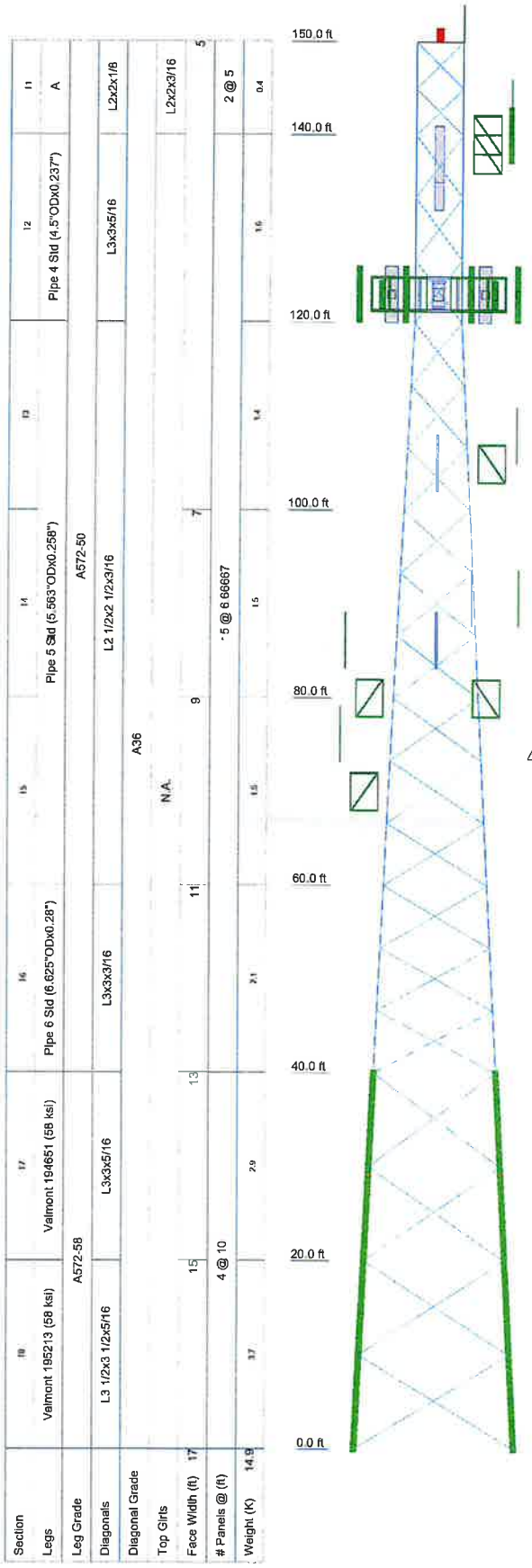
TORQUE 6 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 19 kip-ft
REACTIONS - 135 mph WIND

PM&A
1000 Holcomb Woods Pkwy, Suite 210
Roswell, GA 30076
Phone: (678) 280-2325
FAX: (678) 280-2329

Job: Madison 6 CT / 467391			
Project: 23CLVZ-0001			
Client: Verizon Wireless	Drawn by: jboegel		App'd:
Code: TIA-222-H	Date: 02/08/24		Scale: NTS
Path: C:\Users\jboegel\Desktop\New folder\MADISON 6 CT.en			Dwg No. E-1



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	Pipe 2.5 Std (2.875"ODx0.203")		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A572-58	58 ksi	75 ksi
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 135 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category III.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. Seismic calculations are in accordance with TIA-222-H.
9. Seismic loads do not control this analysis.
10. TOWER RATING: 73.1%

△

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 210 K
SHEAR: 23 K

UPLIFT: -183 K
SHEAR: 20 K

AXIAL 29 K
SHEAR 2 K *MOMENT 176 kip-ft*
TORQUE 0 kip-ft
SEISMIC

AXIAL 60 K
SHEAR 8 K *MOMENT 712 kip-ft*
TORQUE 6 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL 28 K
SHEAR 35 K *MOMENT 2962 kip-ft*
TORQUE 19 kip-ft
REACTIONS - 135 mph WIND

PM&A
1000 Holcomb Woods Pkwy, Suite 210
Roswell, GA 30076
Phone: (678) 280-2325
FAX: (678) 280-2329

Job: Madison 6 CT / 467391			
Project: 23CLVZ-0001			
Client: Verizon Wireless	Drawn by: jboegel		App'd:
Code: TIA-222-H	Date: 02/08/24		Scale: NTS
Path: C:\Users\jboegel\Desktop\New folder\MADISON 6 CT CD\Seismic 3.2\B Wind And Seismic Analysis.dr			Dwg No. E-1

tnxTower	Job	Page
PM&A 1000 Holcomb Woods Pkwy, Suite 210 Roswell, GA 30076 Phone: (678) 280-2325 FAX: (678) 280-2329	Madison 6 CT / 467391	1 of 25
	Project 23CLVZ-0001	Date 10:46:15 02/08/24
	Client Verizon Wireless	Designed by jboegel

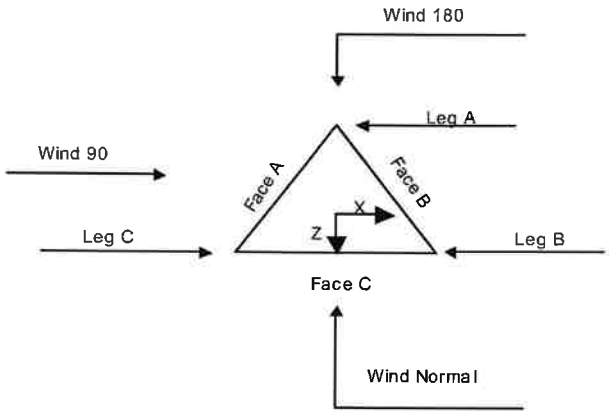
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 150.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 5.00 ft at the top and 17.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in New Haven County, Connecticut.
Tower base elevation above sea level: 30.70 ft.
Basic wind speed of 135 mph.
Risk Category III.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 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.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 1.0$, $K_{es}(t_i) = 1.0$.
Maximum demand-capacity ratio is: 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	150.00-140.00			5.00	1	10.00
T2	140.00-120.00			5.00	1	20.00
T3	120.00-100.00			5.00	1	20.00
T4	100.00-80.00			7.00	1	20.00
T5	80.00-60.00			9.00	1	20.00
T6	60.00-40.00			11.00	1	20.00
T7	40.00-20.00			13.00	1	20.00
T8	20.00-0.00			15.00	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
	ft	ft				in	in
T1	150.00-140.00	5.00	X Brace	No	No	0.0000	0.0000
T2	140.00-120.00	6.67	X Brace	No	No	0.0000	0.0000
T3	120.00-100.00	6.67	X Brace	No	No	0.0000	0.0000
T4	100.00-80.00	6.67	X Brace	No	No	0.0000	0.0000
T5	80.00-60.00	6.67	X Brace	No	No	0.0000	0.0000
T6	60.00-40.00	6.67	X Brace	No	No	0.0000	0.0000
T7	40.00-20.00	10.00	X Brace	No	No	0.0000	0.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T8	20.00-0.00	10.00	X Brace	No	No	0.0000	0.0000

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 150.00-140.00	Pipe	Pipe 2.5 Std (2.875"ODx0.203")	A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T2 140.00-120.00	Pipe	Pipe 4 Std (4.5"ODx0.237")	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T3 120.00-100.00	Pipe	Pipe 5 Std (5.563"ODx0.258")	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T4 100.00-80.00	Pipe	Pipe 5 Std (5.563"ODx0.258")	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T5 80.00-60.00	Pipe	Pipe 5 Std (5.563"ODx0.258")	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T6 60.00-40.00	Pipe	Pipe 6 Std (6.625"ODx0.28")	A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T7 40.00-20.00	Truss Leg	Valmont 194651 (58 ksi)	A572-58 (58 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T8 20.00-0.00	Truss Leg	Valmont 195213 (58 ksi)	A572-58 (58 ksi)	Equal Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 150.00-140.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 150.00-140.00	0.00	0.2500	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 140.00-120.00	0.00	0.2500	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 120.00-100.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 100.00-80.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T5 80.00-60.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 60.00-40.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 40.00-20.00	0.00	0.5000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 20.00-0.00	0.00	0.5000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Section Geometry (cont'd)

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Single Diags X	K Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1 150.00-140.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T2 140.00-120.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T3 120.00-100.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T4 100.00-80.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T5 80.00-60.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T6 60.00-40.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T7 40.00-20.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T8 20.00-0.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1

[1]*Note: 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.*

Tower Section Geometry (cont'd)

Tower Elevation ft	Truss-Leg K Factors: Truss-Legs Used As Leg Members — Leg Panels	X Brace Diagonals	Z Brace Diagonals	Truss-Legs Used As Inner Members — Leg Panels	X Brace Diagonals	Z Brace Diagonals
T7 40.00-20.00	1	0.5	0.85	1	0.5	0.85
T8 20.00-0.00	1	0.5	0.85	1	0.5	0.85

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	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
T1 150.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 20.00-0.00	0.0000	1	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 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
T1 150.00-140.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T2 140.00-120.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T3 120.00-100.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T4 100.00-80.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)

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
T5 80.00-60.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T6 60.00-40.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T7 40.00-20.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T8 20.00-0.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)

Tower Section Geometry *(cont'd)*

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 150.00-140.00	Flange	0.7500 A325N	4	0.7500 A325X	1	0.7500 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 140.00-120.00	Flange	0.7500 A325N	6	0.7500 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T3 120.00-100.00	Flange	0.7500 A325N	8	0.7500 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 100.00-80.00	Flange	0.7500 A325N	8	0.7500 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 80.00-60.00	Flange	0.7500 A325N	8	0.7500 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 60.00-40.00	Flange	1.0000 A325N	6	0.7500 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 40.00-20.00	Flange	1.0000 A325N	6	1.0000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 20.00-0.00	Flange	0.7500 A325N	0	1.0000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	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
Step Pegs (5/8" x 7" x 2.5' Step)	A	No	No	Ar (CaAa)	100.00 - 40.00	0.0000	0.5	1	1	0.6250	0.6250		0.47
Step Pegs (5/8" x 7" x 2.5' Step)	B	No	No	Ar (CaAa)	100.00 - 40.00	0.0000	0.5	1	1	0.6250	0.6250		0.47
Step Pegs (5/8" x 7" x 2.5' Step)	C	No	No	Ar (CaAa)	150.00 - 40.00	0.0000	0.5	1	1	0.6250	0.6250		0.47
Safety Line 3/8 ***	C	No	No	Ar (CaAa)	150.00 - 40.00	0.0000	0.5	1	1	0.3750	0.3750		0.22
Feedline Ladder (Af)	C	No	No	Af (CaAa)	140.00 - 0.00	0.0000	0.41	1	1	3.0000	3.0000		8.40
LDF4-50A(1/2")	C	No	No	Ar (CaAa)	138.00 - 0.00	0.0000	0.42	3	3	0.5000	0.6300		0.15
LDF7-50A(1 5/8")	C	No	No	Ar (CaAa)	138.00 - 0.00	0.0000	0.38	2	1	0.5000	1.9800		0.82
LDF5-50A(7/8")	C	No	No	Ar (CaAa)	135.00 - 105.00	0.0000	0.42	2	2	0.5000	1.0900		0.33
LDF5-50A(7/8")	C	No	No	Ar (CaAa)	105.00 - 80.00	0.0000	0.42	4	4	0.5000	1.0900		0.33
LDF5-50A(7/8")	C	No	No	Ar (CaAa)	80.00 - 70.00	0.0000	0.42	8	4	0.5000	1.0900		0.33
LDF5-50A(7/8") ***	C	No	No	Ar (CaAa)	70.00 - 0.00	0.0000	0.42	9	5	0.5000	1.0900		0.33
6x12 Hybrid ***	C	No	No	Ar (CaAa)	123.00 - 0.00	0.0000	0.47	2	1	0.5000	1.6250		1.07

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C_AA_A ft^2/ft	Weight plf
***								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	150.00-140.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	1.000	0.000	0.01
T2	140.00-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	26.775	0.000	0.24
T3	120.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	35.650	0.000	0.28
T4	100.00-80.00	A	0.000	0.000	1.250	0.000	0.01
		B	0.000	0.000	1.250	0.000	0.01
		C	0.000	0.000	38.920	0.000	0.29
T5	80.00-60.00	A	0.000	0.000	1.250	0.000	0.01
		B	0.000	0.000	1.250	0.000	0.01
		C	0.000	0.000	48.730	0.000	0.32
T6	60.00-40.00	A	0.000	0.000	1.250	0.000	0.01
		B	0.000	0.000	1.250	0.000	0.01
		C	0.000	0.000	49.820	0.000	0.33
T7	40.00-20.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	47.820	0.000	0.31
T8	20.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	47.820	0.000	0.31

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	150.00-140.00	A	1.333	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	6.334	0.000	0.07
T2	140.00-120.00	A	1.319	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	76.387	0.000	0.94
T3	120.00-100.00	A	1.297	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	101.364	0.000	1.21
T4	100.00-80.00	A	1.271	0.000	0.000	6.335	0.000	0.07
		B		0.000	0.000	6.335	0.000	0.07
		C		0.000	0.000	105.581	0.000	1.25
T5	80.00-60.00	A	1.240	0.000	0.000	6.209	0.000	0.07

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	6.209	0.000	0.07
		C		0.000	0.000	107.910	0.000	1.34
T6	60.00-40.00	A	1.199	0.000	0.000	6.045	0.000	0.06
		B		0.000	0.000	6.045	0.000	0.06
		C		0.000	0.000	108.023	0.000	1.31
T7	40.00-20.00	A	1.139	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	94.560	0.000	1.15
T8	20.00-0.00	A	1.021	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	90.850	0.000	1.05

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	150.00-140.00	-0.8314	0.5391	-3.1523	1.9344
T2	140.00-120.00	-5.2752	4.2347	-8.9171	6.5246
T3	120.00-100.00	-7.8156	6.1385	-12.1378	8.8357
T4	100.00-80.00	-9.5101	6.8665	-13.3303	9.2708
T5	80.00-60.00	-13.0202	8.6641	-15.7377	11.1125
T6	60.00-40.00	-13.7020	8.7424	-16.8029	11.6465
T7	40.00-20.00	-14.8092	9.1975	-15.9990	10.9454
T8	20.00-0.00	-14.8739	9.2235	-16.5156	11.2832

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	3	Step Pegs (5/8" x 7" x 2.5' Step)	140.00 - 150.00	0.6000	0.6000
T1	4	Safety Line 3/8	140.00 - 150.00	0.6000	0.6000
T2	3	Step Pegs (5/8" x 7" x 2.5' Step)	120.00 - 140.00	0.6000	0.5932
T2	4	Safety Line 3/8	120.00 - 140.00	0.6000	0.5932
T2	6	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.5932
T2	7	LDF4-50A(1/2")	120.00 - 138.00	0.6000	0.5932
T2	8	LDF7-50A(1 5/8")	120.00 - 138.00	0.6000	0.5932
T2	9	LDF5-50A(7/8")	120.00 - 135.00	0.6000	0.5932
T2	14	6x12 Hybrid	120.00 - 123.00	0.6000	0.5932
T3	3	Step Pegs (5/8" x 7" x 2.5' Step)	100.00 - 120.00	0.6000	0.6000
T3	4	Safety Line 3/8	100.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			120.00		
T3	6	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T3	7	LDF4-50A(1/2")	100.00 - 120.00	0.6000	0.6000
T3	8	LDF7-50A(1 5/8")	100.00 - 120.00	0.6000	0.6000
T3	9	LDF5-50A(7/8")	105.00 - 120.00	0.6000	0.6000
T3	10	LDF5-50A(7/8")	100.00 - 105.00	0.6000	0.6000
T3	14	6x12 Hybrid	100.00 - 120.00	0.6000	0.6000
T4	1	Step Pegs (5/8" x 7" x 2.5' Step)	80.00 - 100.00	0.6000	0.6000
T4	2	Step Pegs (5/8" x 7" x 2.5' Step)	80.00 - 100.00	0.6000	0.6000
T4	3	Step Pegs (5/8" x 7" x 2.5' Step)	80.00 - 100.00	0.6000	0.6000
T4	4	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T4	6	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T4	7	LDF4-50A(1/2")	80.00 - 100.00	0.6000	0.6000
T4	8	LDF7-50A(1 5/8")	80.00 - 100.00	0.6000	0.6000
T4	10	LDF5-50A(7/8")	80.00 - 100.00	0.6000	0.6000
T4	14	6x12 Hybrid	80.00 - 100.00	0.6000	0.6000
T5	1	Step Pegs (5/8" x 7" x 2.5' Step)	60.00 - 80.00	0.6000	0.6000
T5	2	Step Pegs (5/8" x 7" x 2.5' Step)	60.00 - 80.00	0.6000	0.6000
T5	3	Step Pegs (5/8" x 7" x 2.5' Step)	60.00 - 80.00	0.6000	0.6000
T5	4	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T5	6	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T5	7	LDF4-50A(1/2")	60.00 - 80.00	0.6000	0.6000
T5	8	LDF7-50A(1 5/8")	60.00 - 80.00	0.6000	0.6000
T5	11	LDF5-50A(7/8")	70.00 - 80.00	0.6000	0.6000
T5	12	LDF5-50A(7/8")	60.00 - 70.00	0.6000	0.6000
T5	14	6x12 Hybrid	60.00 - 80.00	0.6000	0.6000
T6	1	Step Pegs (5/8" x 7" x 2.5' Step)	40.00 - 60.00	0.6000	0.6000
T6	2	Step Pegs (5/8" x 7" x 2.5' Step)	40.00 - 60.00	0.6000	0.6000
T6	3	Step Pegs (5/8" x 7" x 2.5' Step)	40.00 - 60.00	0.6000	0.6000
T6	4	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T6	6	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T6	7	LDF4-50A(1/2")	40.00 - 60.00	0.6000	0.6000
T6	8	LDF7-50A(1 5/8")	40.00 - 60.00	0.6000	0.6000
T6	12	LDF5-50A(7/8")	40.00 - 60.00	0.6000	0.6000
T6	14	6x12 Hybrid	40.00 - 60.00	0.6000	0.6000
T7	6	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T7	7	LDF4-50A(1/2")	20.00 - 40.00	0.6000	0.6000
T7	8	LDF7-50A(1 5/8")	20.00 - 40.00	0.6000	0.6000
T7	12	LDF5-50A(7/8")	20.00 - 40.00	0.6000	0.6000
T7	14	6x12 Hybrid	20.00 - 40.00	0.6000	0.6000
T8	6	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T8	7	LDF4-50A(1/2")	0.00 - 20.00	0.6000	0.6000
T8	8	LDF7-50A(1 5/8")	0.00 - 20.00	0.6000	0.6000
T8	12	LDF5-50A(7/8")	0.00 - 20.00	0.6000	0.6000
T8	14	6x12 Hybrid	0.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Flash Beacon Lighting	A	None		0.0000	150.00	No Ice	2.70	2.70	0.05
						1/2" Ice	3.10	3.10	0.07
						1" Ice	3.50	3.50	0.09
Lighting Rod 5/8" x 5'	B	From Leg	0.00 0.00 2.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	0.31 0.83 1.32	0.31 0.83 1.32	0.03 0.03 0.04
***									
6' Side Arm Mount	B	From Leg	3.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice	6.00 8.50 11.00	6.00 8.50 11.00	0.14 0.21 0.28
SC323-HF2LDF	B	From Leg	6.00 0.00 3.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice	1.19 1.87 2.39	1.19 1.87 2.39	0.01 0.01 0.03
***									
6' Side Arm Mount	B	From Leg	3.00 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	6.00 8.50 11.00	6.00 8.50 11.00	0.14 0.21 0.28
SE414 w/ Mount Pipe	B	From Leg	6.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	2.12 2.52 2.91	5.56 6.28 6.96	0.03 0.07 0.11
***									
6' Side Arm Mount	A	From Leg	3.00 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice	6.00 8.50 11.00	6.00 8.50 11.00	0.14 0.21 0.28
BA40-41	A	From Leg	6.00 0.00 3.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice	4.50 7.70 10.90	4.50 7.70 10.90	0.03 0.05 0.06
***									
V-Frame	A	From Leg	3.00 0.00 0.00	0.0000	132.00	No Ice 1/2" Ice 1" Ice	9.22 10.00 10.78	12.97 13.50 14.03	0.30 0.40 0.50
SE4192 w/ Mount Pipe	A	From Leg	6.00 0.00 3.00	0.0000	132.00	No Ice 1/2" Ice 1" Ice	2.03 2.39 2.76	5.46 6.10 6.76	0.03 0.07 0.11
SE4192 w/ Mount Pipe	A	From Leg	6.00 0.00 3.00	0.0000	132.00	No Ice 1/2" Ice 1" Ice	2.03 2.39 2.76	5.46 6.10 6.76	0.03 0.07 0.11
AMPLIFIER	A	From Leg	6.00 0.00 3.00	0.0000	132.00	No Ice 1/2" Ice 1" Ice	1.23 1.37 1.51	0.36 0.45 0.55	0.01 0.02 0.03
***									
(2) MX06FRO660-03 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	123.00	No Ice 1/2" Ice 1" Ice	9.89 10.36 10.84	8.76 9.71 10.53	0.08 0.17 0.26
(2) MX06FRO660-03 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	123.00	No Ice 1/2" Ice 1" Ice	9.89 10.36 10.84	8.76 9.71 10.53	0.08 0.17 0.26
(2) MX06FRO660-03 w/ Mount Pipe	C	From Leg	4.00 0.00	0.0000	123.00	No Ice 1/2" Ice	9.89 10.36	8.76 9.71	0.08 0.17

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				1" Ice	10.84	10.53	0.26
XXDWMM-12.5-65-8T-CBR S w/ Mount Pipe	A	From Leg	4.00		0.0000	123.00	No Ice	3.12	2.65	0.05
			0.00				1/2" Ice	3.96	3.60	0.08
			0.00				1" Ice	4.69	4.40	0.12
XXDWMM-12.5-65-8T-CBR S w/ Mount Pipe	B	From Leg	4.00		0.0000	123.00	No Ice	3.12	2.65	0.05
			0.00				1/2" Ice	3.96	3.60	0.08
			0.00				1" Ice	4.69	4.40	0.12
XXDWMM-12.5-65-8T-CBR S w/ Mount Pipe	C	From Leg	4.00		0.0000	123.00	No Ice	3.12	2.65	0.05
			0.00				1/2" Ice	3.96	3.60	0.08
			0.00				1" Ice	4.69	4.40	0.12
MT6407-77A w/ Pipe Mount	A	From Leg	4.00		0.0000	123.00	No Ice	4.71	2.43	0.10
			0.00				1/2" Ice	5.01	2.84	0.14
			0.00				1" Ice	5.31	3.26	0.18
MT6407-77A w/ Pipe Mount	B	From Leg	4.00		0.0000	123.00	No Ice	4.71	2.43	0.10
			0.00				1/2" Ice	5.01	2.84	0.14
			0.00				1" Ice	5.31	3.26	0.18
MT6407-77A w/ Pipe Mount	C	From Leg	4.00		0.0000	123.00	No Ice	4.71	2.43	0.10
			0.00				1/2" Ice	5.01	2.84	0.14
			0.00				1" Ice	5.31	3.26	0.18
B2/B66A RRH-BR049 (RFV01U-D1A)	A	From Leg	4.00		0.0000	123.00	No Ice	1.88	1.25	0.08
			0.00				1/2" Ice	2.05	1.39	0.10
			0.00				1" Ice	2.22	1.54	0.12
B2/B66A RRH-BR049 (RFV01U-D1A)	B	From Leg	4.00		0.0000	123.00	No Ice	1.88	1.25	0.08
			0.00				1/2" Ice	2.05	1.39	0.10
			0.00				1" Ice	2.22	1.54	0.12
B2/B66A RRH-BR049 (RFV01U-D1A)	C	From Leg	4.00		0.0000	123.00	No Ice	1.88	1.25	0.08
			0.00				1/2" Ice	2.05	1.39	0.10
			0.00				1" Ice	2.22	1.54	0.12
B5/B13 RRH-BR04C (RFV01U-D2A)	A	From Leg	4.00		0.0000	123.00	No Ice	1.88	1.01	0.07
			0.00				1/2" Ice	2.05	1.14	0.09
			0.00				1" Ice	2.22	1.28	0.11
B5/B13 RRH-BR04C (RFV01U-D2A)	B	From Leg	4.00		0.0000	123.00	No Ice	1.88	1.01	0.07
			0.00				1/2" Ice	2.05	1.14	0.09
			0.00				1" Ice	2.22	1.28	0.11
B5/B13 RRH-BR04C (RFV01U-D2A)	C	From Leg	4.00		0.0000	123.00	No Ice	1.88	1.01	0.07
			0.00				1/2" Ice	2.05	1.14	0.09
			0.00				1" Ice	2.22	1.28	0.11
CBRS RRH - RT4401-48A	A	From Leg	4.00		0.0000	123.00	No Ice	1.54	0.75	0.05
			0.00				1/2" Ice	1.70	0.87	0.06
			0.00				1" Ice	1.86	1.00	0.08
CBRS RRH - RT4401-48A	B	From Leg	4.00		0.0000	123.00	No Ice	1.54	0.75	0.05
			0.00				1/2" Ice	1.70	0.87	0.06
			0.00				1" Ice	1.86	1.00	0.08
CBRS RRH - RT4401-48A	C	From Leg	4.00		0.0000	123.00	No Ice	1.54	0.75	0.05
			0.00				1/2" Ice	1.70	0.87	0.06
			0.00				1" Ice	1.86	1.00	0.08
(2) KA-6030	A	From Leg	4.00		0.0000	123.00	No Ice	0.96	0.29	0.02
			0.00				1/2" Ice	1.09	0.36	0.02
			0.00				1" Ice	1.22	0.45	0.03
(2) KA-6030	B	From Leg	4.00		0.0000	123.00	No Ice	0.96	0.29	0.02
			0.00				1/2" Ice	1.09	0.36	0.02
			0.00				1" Ice	1.22	0.45	0.03
(2) KA-6030	C	From Leg	4.00		0.0000	123.00	No Ice	0.96	0.29	0.02
			0.00				1/2" Ice	1.09	0.36	0.02
			0.00				1" Ice	1.22	0.45	0.03
RC2DC-3315-PF-48	A	From Leg	4.00		0.0000	123.00	No Ice	4.05	2.96	0.03
			0.00				1/2" Ice	4.31	3.19	0.07

tnxTower	Job: Madison 6 CT / 467391	Page: 13 of 25
PM&A 1000 Holcomb Woods Pkwy, Suite 210 Roswell, GA 30076 Phone: (678) 280-2325 FAX: (678) 280-2329	Project: 23CLVZ-0001	Date: 10:46:15 02/08/24
	Client: Verizon Wireless	Designed by: jboegel

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	4.57	3.43	0.11
VFA12-HD	A	From Leg	2.00	0.0000	123.00	No Ice	21.00	21.00	0.75
			0.00			1/2" Ice	25.00	25.00	0.90
			0.00			1" Ice	29.00	29.00	1.05
VFA12-HD	B	From Leg	2.00	0.0000	123.00	No Ice	21.00	21.00	0.75
			0.00			1/2" Ice	25.00	25.00	0.90
			0.00			1" Ice	29.00	29.00	1.05
VFA12-HD	C	From Leg	2.00	0.0000	123.00	No Ice	21.00	21.00	0.75
			0.00			1/2" Ice	25.00	25.00	0.90
			0.00			1" Ice	29.00	29.00	1.05
***									
6' Side Arm Mount	B	From Leg	3.00	0.0000	105.00	No Ice	6.00	6.00	0.14
			0.00			1/2" Ice	8.50	8.50	0.21
			0.00			1" Ice	11.00	11.00	0.28
SC323-HF2LDF	B	From Leg	6.00	0.0000	105.00	No Ice	1.19	1.19	0.01
			0.00			1/2" Ice	1.87	1.87	0.01
			3.00			1" Ice	2.39	2.39	0.03
6' Side Arm Mount	A	From Leg	3.00	0.0000	105.00	No Ice	6.00	6.00	0.14
			0.00			1/2" Ice	8.50	8.50	0.21
			0.00			1" Ice	11.00	11.00	0.28
CSA40-67-DIN	A	From Leg	6.00	0.0000	105.00	No Ice	10.60	10.60	0.07
			0.00			1/2" Ice	16.44	16.44	0.20
			0.00			1" Ice	22.37	22.37	0.37
***									
6' Side Arm Mount	B	From Leg	1.00	0.0000	80.00	No Ice	6.00	6.00	0.14
			0.00			1/2" Ice	8.50	8.50	0.21
			0.00			1" Ice	11.00	11.00	0.28
COL54-160	B	From Leg	2.00	0.0000	80.00	No Ice	6.46	6.46	0.05
			-5.00			1/2" Ice	8.63	8.63	0.09
			10.67			1" Ice	10.81	10.81	0.15
6' Side Arm Mount	B	From Leg	1.00	0.0000	80.00	No Ice	6.00	6.00	0.14
			0.00			1/2" Ice	8.50	8.50	0.21
			0.00			1" Ice	11.00	11.00	0.28
COL54-160	B	From Leg	2.00	0.0000	80.00	No Ice	6.46	6.46	0.05
			5.00			1/2" Ice	8.63	8.63	0.09
			10.67			1" Ice	10.81	10.81	0.15
6' Side Arm Mount	A	From Leg	3.00	0.0000	80.00	No Ice	6.00	6.00	0.14
			0.00			1/2" Ice	8.50	8.50	0.21
			0.00			1" Ice	11.00	11.00	0.28
SC381-HF3LDF	A	From Leg	6.00	0.0000	80.00	No Ice	3.90	3.90	0.04
			0.00			1/2" Ice	7.45	7.45	0.09
			6.17			1" Ice	8.19	8.19	0.14
6' Side Arm Mount	C	From Leg	3.00	0.0000	80.00	No Ice	6.00	6.00	0.14
			0.00			1/2" Ice	8.50	8.50	0.21
			0.00			1" Ice	11.00	11.00	0.28
SC381-HF3LDF	C	From Leg	6.00	0.0000	80.00	No Ice	3.90	3.90	0.04
			0.00			1/2" Ice	7.45	7.45	0.09
			6.17			1" Ice	8.19	8.19	0.14
***									
6' Side Arm Mount	C	From Leg	3.00	0.0000	70.00	No Ice	6.00	6.00	0.14
			0.00			1/2" Ice	8.50	8.50	0.21
			0.00			1" Ice	11.00	11.00	0.28
SG101	C	From Leg	6.00	0.0000	70.00	No Ice	5.00	5.00	0.04
			0.00			1/2" Ice	7.50	7.50	0.05
			6.17			1" Ice	10.00	10.00	0.07
***									

Truss-Leg Properties

Section Designation	Area	Area Ice	Self Weight	Ice Weight	Equiv. Diameter	Equiv. Diameter Ice	Leg Area
	in^2	in^2	K	K	in	in	in^2
Valmont 194651 (58 ksi)	2315.4843	5791.5187	0.56	0.56	8.0399	20.1094	5.3014
Valmont 195213 (58 ksi)	2444.4522	5779.2166	0.69	0.49	8.4877	20.0667	7.2158

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service

Comb. No.	Description
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	150 - 140	Leg	Max Tension	7	0.71	-0.01	0.02
			Max. Compression	10	-1.11	-0.08	-0.05
			Max. Mx	18	0.24	0.14	-0.13
			Max. My	2	0.23	-0.04	0.19
			Max. Vy	8	-0.08	0.00	0.00
			Max. Vx	2	0.09	0.00	0.00
		Diagonal	Max Tension	4	0.40	0.00	0.00
			Max. Compression	3	-0.39	0.00	0.00
			Max. Mx	31	-0.03	0.01	0.00
			Max. My	10	0.35	0.00	-0.00
			Max. Vy	31	0.01	0.01	0.00
			Max. Vx	10	0.00	0.00	0.00
		Top Girt	Max Tension	2	0.04	0.00	0.00
			Max. Compression	15	-0.03	0.00	0.00
			Max. Mx	26	0.01	-0.03	0.00
			Max. Vy	26	-0.02	0.00	0.00
T2	140 - 120	Leg	Max Tension	7	15.89	-0.70	0.62
			Max. Compression	2	-19.53	-0.03	1.61
			Max. Mx	20	11.49	-1.97	0.05
			Max. My	14	-10.23	-0.20	1.96
			Max. Vy	8	1.19	-1.53	-0.08
			Max. Vx	2	-1.19	-0.03	1.61
		Diagonal	Max Tension	23	5.88	0.00	0.00
			Max. Compression	10	-6.23	0.00	0.00
			Max. Mx	2	3.63	0.07	0.00
			Max. My	8	-2.87	-0.04	0.03
			Max. Vy	27	-0.03	0.06	0.00
			Max. Vx	8	-0.01	0.00	0.00
T3	120 - 100	Leg	Max Tension	7	51.54	-0.47	0.08
			Max. Compression	18	-59.08	0.46	-0.08
			Max. Mx	2	-33.39	1.61	0.03
			Max. My	12	-2.18	0.02	-1.05
			Max. Vy	14	-0.37	-0.68	0.04
			Max. Vx	20	-0.60	0.01	-0.52
		Diagonal	Max Tension	13	6.32	0.00	0.00
			Max. Compression	12	-6.46	0.00	0.00
			Max. Mx	18	3.37	0.04	-0.01
			Max. My	10	-6.28	-0.02	0.02
			Max. Vy	29	0.03	0.03	0.00
			Max. Vx	10	-0.01	0.00	0.00
T4	100 - 80	Leg	Max Tension	7	81.20	-0.47	-0.00
			Max. Compression	18	-91.77	0.48	-0.01

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	10	-81.01	0.49	-0.06
			Max. My	8	-4.24	-0.02	0.77
			Max. Vy	2	-0.08	0.49	0.04
			Max. Vx	12	-0.15	-0.01	-0.60
		Diagonal	Max Tension	12	5.44	0.00	0.00
			Max. Compression	12	-5.43	0.00	0.00
			Max. Mx	18	3.17	0.04	-0.01
			Max. My	10	2.80	0.04	0.01
			Max. Vy	37	0.03	0.04	0.00
			Max. Vx	10	-0.00	0.00	0.00
T5	80 - 60	Leg	Max Tension	7	109.15	-0.55	-0.00
			Max. Compression	18	-123.80	0.68	-0.00
			Max. Mx	18	-123.80	0.68	-0.00
			Max. My	12	-4.74	-0.01	-0.76
			Max. Vy	22	-0.52	-0.45	0.01
			Max. Vx	4	-0.67	-0.00	-0.33
		Diagonal	Max Tension	4	5.41	0.00	0.00
			Max. Compression	4	-5.47	0.00	0.00
			Max. Mx	35	1.10	0.05	0.01
			Max. My	27	0.90	0.05	0.01
			Max. Vy	37	0.04	0.05	0.01
			Max. Vx	27	-0.00	0.00	0.00
T6	60 - 40	Leg	Max Tension	7	134.61	-0.57	-0.01
			Max. Compression	18	-152.89	1.90	-0.02
			Max. Mx	18	-152.89	1.90	-0.02
			Max. My	24	-6.69	0.02	1.87
			Max. Vy	11	-0.27	1.89	-0.06
			Max. Vx	24	-0.38	0.02	1.87
		Diagonal	Max Tension	4	5.68	0.00	0.00
			Max. Compression	4	-5.74	0.00	0.00
			Max. Mx	35	0.90	0.08	-0.01
			Max. My	33	-0.91	0.06	-0.01
			Max. Vy	37	0.05	0.07	0.01
			Max. Vx	33	0.00	0.00	0.00
T7	40 - 20	Leg	Max Tension	7	154.94	-3.35	-0.01
			Max. Compression	18	-176.91	4.37	-0.01
			Max. Mx	18	-176.91	4.37	-0.01
			Max. My	24	-7.30	-0.20	5.31
			Max. Vy	29	0.52	-3.94	0.00
			Max. Vx	24	0.57	-0.20	5.31
		Diagonal	Max Tension	4	6.90	0.00	0.00
			Max. Compression	4	-7.01	0.00	0.00
			Max. Mx	18	5.30	0.14	-0.01
			Max. My	38	2.21	0.12	0.02
			Max. Vy	37	0.07	0.12	-0.02
			Max. Vx	38	-0.00	0.00	0.00
T8	20 - 0	Leg	Max Tension	7	176.13	-3.45	-0.01
			Max. Compression	18	-202.57	0.00	0.00
			Max. Mx	35	-60.42	5.29	0.01
			Max. My	24	-9.10	-0.26	6.57
			Max. Vy	29	-0.83	-3.94	0.00
			Max. Vx	24	0.84	-0.26	6.57
		Diagonal	Max Tension	15	7.72	0.00	0.00
			Max. Compression	2	-8.57	0.00	0.00
			Max. Mx	37	-0.78	0.20	0.02
			Max. My	24	6.26	0.16	0.03
			Max. Vy	37	0.09	0.20	0.02
			Max. Vx	38	-0.00	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	210.47	20.17	-11.78
	Max. H_x	18	210.47	20.17	-11.78
	Max. H_z	7	-182.57	-17.61	10.30
	Min. Vert	7	-182.57	-17.61	10.30
	Min. H_x	7	-182.57	-17.61	10.30
	Min. H_z	18	210.47	20.17	-11.78
Leg B	Max. Vert	10	208.36	-20.35	-11.24
	Max. H_x	23	-182.19	17.82	9.80
	Max. H_z	23	-182.19	17.82	9.80
	Min. Vert	23	-182.19	17.82	9.80
	Min. H_x	10	208.36	-20.35	-11.24
	Min. H_z	10	208.36	-20.35	-11.24
Leg A	Max. Vert	2	206.27	-0.61	23.17
	Max. H_x	19	-93.53	0.88	-10.56
	Max. H_z	2	206.27	-0.61	23.17
	Min. Vert	15	-180.06	0.59	-20.26
	Min. H_x	4	175.36	-0.88	19.50
	Min. H_z	15	-180.06	0.59	-20.26

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	23.22	0.00	0.00	3.85	7.01	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	27.87	0.00	-34.85	-2900.00	8.41	-17.64
0.9 Dead+1.0 Wind 0 deg - No Ice	20.90	0.00	-34.85	-2901.15	6.31	-17.64
1.2 Dead+1.0 Wind 30 deg - No Ice	27.87	16.76	-29.03	-2444.95	-1405.85	-12.91
0.9 Dead+1.0 Wind 30 deg - No Ice	20.90	16.76	-29.03	-2446.10	-1407.95	-12.91
1.2 Dead+1.0 Wind 60 deg - No Ice	27.87	28.40	-16.40	-1394.21	-2414.44	-3.59
0.9 Dead+1.0 Wind 60 deg - No Ice	20.90	28.40	-16.40	-1395.37	-2416.55	-3.59
1.2 Dead+1.0 Wind 90 deg - No Ice	27.87	32.77	0.00	4.62	-2790.49	3.91
0.9 Dead+1.0 Wind 90 deg - No Ice	20.90	32.77	0.00	3.47	-2792.59	3.91
1.2 Dead+1.0 Wind 120 deg - No Ice	27.87	30.21	17.44	1472.52	-2534.06	12.72
0.9 Dead+1.0 Wind 120 deg - No Ice	20.90	30.21	17.44	1471.37	-2536.16	12.72
1.2 Dead+1.0 Wind 150 deg - No Ice	27.87	16.70	28.93	2439.90	-1397.60	18.54
0.9 Dead+1.0 Wind 150 deg - No Ice	20.90	16.70	28.93	2438.75	-1399.70	18.54
1.2 Dead+1.0 Wind 180 deg - No Ice	27.87	0.00	32.63	2754.62	8.41	17.64
0.9 Dead+1.0 Wind 180 deg - No Ice	20.90	0.00	32.63	2753.47	6.31	17.64

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 210 deg - No Ice	27.87	-16.76	29.03	2454.19	1422.67	12.91
0.9 Dead+1.0 Wind 210 deg - No Ice	20.90	-16.76	29.03	2453.04	1420.57	12.91
1.2 Dead+1.0 Wind 240 deg - No Ice	27.87	-30.31	17.50	1480.77	2565.17	3.59
0.9 Dead+1.0 Wind 240 deg - No Ice	20.90	-30.31	17.50	1479.62	2563.07	3.59
1.2 Dead+1.0 Wind 270 deg - No Ice	27.87	-32.77	0.00	4.62	2807.31	-3.91
0.9 Dead+1.0 Wind 270 deg - No Ice	20.90	-32.77	0.00	3.47	2805.21	-3.91
1.2 Dead+1.0 Wind 300 deg - No Ice	27.87	-28.30	-16.34	-1385.96	2416.98	-12.72
0.9 Dead+1.0 Wind 300 deg - No Ice	20.90	-28.30	-16.34	-1387.12	2414.87	-12.72
1.2 Dead+1.0 Wind 330 deg - No Ice	27.87	-16.70	-28.93	-2430.66	1414.42	-18.54
0.9 Dead+1.0 Wind 330 deg - No Ice	20.90	-16.70	-28.93	-2431.81	1412.32	-18.54
1.2 Dead+1.0 Ice+1.0 Temp	59.97	0.00	0.00	15.52	30.07	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	59.97	0.00	-8.09	-660.12	30.07	-5.42
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	59.97	3.95	-6.83	-559.32	-301.81	-3.55
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	59.97	6.76	-3.90	-314.36	-541.30	-0.88
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	59.97	7.85	0.00	15.52	-633.04	1.85
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	59.97	6.97	4.02	353.02	-554.48	4.22
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	59.97	3.94	6.82	587.95	-300.42	5.65
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	59.97	0.00	7.83	673.15	30.07	5.42
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	59.97	-3.95	6.83	590.37	361.96	3.55
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	59.97	-6.98	4.03	354.42	617.05	0.88
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	59.97	-7.85	0.00	15.52	693.19	-1.85
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	59.97	-6.74	-3.89	-312.96	599.03	-4.22
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	59.97	-3.94	-6.82	-556.90	360.57	-5.65
Dead+Wind 0 deg - Service	23.22	0.00	-7.12	-589.13	7.01	-3.63
Dead+Wind 30 deg - Service	23.22	3.43	-5.94	-496.67	-281.97	-2.72
Dead+Wind 60 deg - Service	23.22	5.81	-3.36	-282.08	-488.24	-0.85
Dead+Wind 90 deg - Service	23.22	6.71	0.00	3.85	-565.09	0.69
Dead+Wind 120 deg - Service	23.22	6.17	3.56	303.43	-511.86	2.51
Dead+Wind 150 deg - Service	23.22	3.42	5.92	501.55	-280.34	3.75
Dead+Wind 180 deg - Service	23.22	0.00	6.68	566.30	7.01	3.63
Dead+Wind 210 deg - Service	23.22	-3.43	5.94	504.38	295.99	2.72
Dead+Wind 240 deg - Service	23.22	-6.19	3.57	305.06	528.71	0.85
Dead+Wind 270 deg - Service	23.22	-6.71	0.00	3.85	579.11	-0.69
Dead+Wind 300 deg - Service	23.22	-5.79	-3.34	-280.45	499.43	-2.51
Dead+Wind 330 deg - Service	23.22	-3.42	-5.92	-493.85	294.36	-3.75

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-23.22	0.00	-0.00	23.22	-0.00	0.000%
2	0.00	-27.87	-34.85	-0.00	27.87	34.85	0.000%
3	0.00	-20.90	-34.85	-0.00	20.90	34.85	0.000%
4	16.76	-27.87	-29.03	-16.76	27.87	29.03	0.000%
5	16.76	-20.90	-29.03	-16.76	20.90	29.03	0.000%
6	28.40	-27.87	-16.40	-28.40	27.87	16.40	0.000%
7	28.40	-20.90	-16.40	-28.40	20.90	16.40	0.000%
8	32.77	-27.87	0.00	-32.77	27.87	-0.00	0.000%
9	32.77	-20.90	0.00	-32.77	20.90	-0.00	0.000%
10	30.21	-27.87	17.44	-30.21	27.87	-17.44	0.000%
11	30.21	-20.90	17.44	-30.21	20.90	-17.44	0.000%
12	16.70	-27.87	28.93	-16.70	27.87	-28.93	0.000%
13	16.70	-20.90	28.93	-16.70	20.90	-28.93	0.000%
14	0.00	-27.87	32.63	-0.00	27.87	-32.63	0.000%
15	0.00	-20.90	32.63	-0.00	20.90	-32.63	0.000%
16	-16.76	-27.87	29.03	16.76	27.87	-29.03	0.000%
17	-16.76	-20.90	29.03	16.76	20.90	-29.03	0.000%
18	-30.31	-27.87	17.50	30.31	27.87	-17.50	0.000%
19	-30.31	-20.90	17.50	30.31	20.90	-17.50	0.000%
20	-32.77	-27.87	0.00	32.77	27.87	-0.00	0.000%
21	-32.77	-20.90	0.00	32.77	20.90	-0.00	0.000%
22	-28.30	-27.87	-16.34	28.30	27.87	16.34	0.000%
23	-28.30	-20.90	-16.34	28.30	20.90	16.34	0.000%
24	-16.70	-27.87	-28.93	16.70	27.87	28.93	0.000%
25	-16.70	-20.90	-28.93	16.70	20.90	28.93	0.000%
26	0.00	-59.97	0.00	-0.00	59.97	-0.00	0.000%
27	0.00	-59.97	-8.09	-0.00	59.97	8.09	0.000%
28	3.95	-59.97	-6.83	-3.95	59.97	6.83	0.000%
29	6.76	-59.97	-3.90	-6.76	59.97	3.90	0.000%
30	7.85	-59.97	0.00	-7.85	59.97	-0.00	0.000%
31	6.97	-59.97	4.02	-6.97	59.97	-4.02	0.000%
32	3.94	-59.97	6.82	-3.94	59.97	-6.82	0.000%
33	0.00	-59.97	7.83	-0.00	59.97	-7.83	0.000%
34	-3.95	-59.97	6.83	3.95	59.97	-6.83	0.000%
35	-6.98	-59.97	4.03	6.98	59.97	-4.03	0.000%
36	-7.85	-59.97	0.00	7.85	59.97	-0.00	0.000%
37	-6.74	-59.97	-3.89	6.74	59.97	3.89	0.000%
38	-3.94	-59.97	-6.82	3.94	59.97	6.82	0.000%
39	0.00	-23.22	-7.12	-0.00	23.22	7.12	0.000%
40	3.43	-23.22	-5.94	-3.43	23.22	5.94	0.000%
41	5.81	-23.22	-3.36	-5.81	23.22	3.36	0.000%
42	6.71	-23.22	0.00	-6.71	23.22	-0.00	0.000%
43	6.17	-23.22	3.56	-6.17	23.22	-3.56	0.000%
44	3.42	-23.22	5.92	-3.42	23.22	-5.92	0.000%
45	0.00	-23.22	6.68	-0.00	23.22	-6.68	0.000%
46	-3.43	-23.22	5.94	3.43	23.22	-5.94	0.000%
47	-6.19	-23.22	3.57	6.19	23.22	-3.57	0.000%
48	-6.71	-23.22	0.00	6.71	23.22	-0.00	0.000%
49	-5.79	-23.22	-3.34	5.79	23.22	3.34	0.000%
50	-3.42	-23.22	-5.92	3.42	23.22	5.92	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	150 - 140	3.271	47	0.1730	0.0277
T2	140 - 120	2.910	47	0.1726	0.0277
T3	120 - 100	2.195	47	0.1650	0.0223
T4	100 - 80	1.524	47	0.1443	0.0111
T5	80 - 60	0.962	47	0.1149	0.0064
T6	60 - 40	0.530	47	0.0811	0.0044
T7	40 - 20	0.228	47	0.0532	0.0026
T8	20 - 0	0.057	47	0.0226	0.0012

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	Flash Beacon Lighting	47	3.271	0.1730	0.0277	965793
140.00	6' Side Arm Mount	47	2.910	0.1726	0.0277	459048
138.00	6' Side Arm Mount	47	2.838	0.1723	0.0275	361475
135.00	6' Side Arm Mount	47	2.730	0.1716	0.0271	260839
132.00	V-Frame	47	2.622	0.1706	0.0265	195247
123.00	(2) MX06FRO660-03 w/ Mount Pipe	47	2.301	0.1668	0.0236	106768
105.00	6' Side Arm Mount	47	1.683	0.1506	0.0138	45121
80.00	6' Side Arm Mount	47	0.962	0.1149	0.0064	36871
70.00	6' Side Arm Mount	47	0.730	0.0977	0.0054	36674

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	150 - 140	16.165	19	0.8632	0.1380
T2	140 - 120	14.354	18	0.8610	0.1381
T3	120 - 100	10.780	18	0.8211	0.1109
T4	100 - 80	7.454	18	0.7126	0.0540
T5	80 - 60	4.691	18	0.5636	0.0285
T6	60 - 40	2.578	18	0.3956	0.0208
T7	40 - 20	1.108	18	0.2586	0.0124
T8	20 - 0	0.278	18	0.1099	0.0062

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	Flash Beacon Lighting	19	16.165	0.8632	0.1380	306199
140.00	6' Side Arm Mount	18	14.354	0.8610	0.1381	132030
138.00	6' Side Arm Mount	18	13.992	0.8597	0.1373	94654
135.00	6' Side Arm Mount	18	13.451	0.8567	0.1352	62299
132.00	V-Frame	18	12.911	0.8525	0.1322	45948

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
123.00	(2) MX06FRO660-03 w/ Mount Pipe	18	11.307	0.8314	0.1176	24968
105.00	6' Side Arm Mount	18	8.243	0.7447	0.0681	9176
80.00	6' Side Arm Mount	18	4.691	0.5636	0.0285	7316
70.00	6' Side Arm Mount	18	3.553	0.4776	0.0241	7369

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	150	Leg	A325N	0.7500	4	0.18	30.10	0.006 ✓	1	Bolt Tension
		Diagonal	A325X	0.7500	1	0.40	4.62	0.086 ✓	1	Member Block Shear
		Top Girt	A325X	0.7500	1	0.04	6.93	0.006 ✓	1	Member Block Shear
T2	140	Leg	A325N	0.7500	6	2.65	30.10	0.088 ✓	1	Bolt Tension
		Diagonal	A325X	0.7500	1	5.88	12.62	0.466 ✓	1	Gusset Bearing
T3	120	Leg	A325N	0.7500	8	6.44	30.10	0.214 ✓	1	Bolt Tension
		Diagonal	A325X	0.7500	1	6.32	8.97	0.704 ✓	1	Member Block Shear
T4	100	Leg	A325N	0.7500	8	10.15	30.10	0.337 ✓	1	Bolt Tension
		Diagonal	A325X	0.7500	1	5.44	8.97	0.606 ✓	1	Member Block Shear
T5	80	Leg	A325N	0.7500	8	13.64	30.10	0.453 ✓	1	Bolt Tension
		Diagonal	A325X	0.7500	1	5.41	8.97	0.603 ✓	1	Member Block Shear
T6	60	Leg	A325N	1.0000	6	22.43	54.52	0.412 ✓	1	Bolt Tension
		Diagonal	A325X	0.7500	1	5.68	9.46	0.600 ✓	1	Member Bearing
T7	40	Leg	A325N	1.0000	6	25.82	54.52	0.474 ✓	1	Bolt Tension
		Diagonal	A325X	1.0000	1	6.90	16.94	0.407 ✓	1	Member Block Shear
T8	20	Diagonal	A325X	1.0000	1	7.72	20.34	0.380 ✓	1	Member Block Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	Pipe 2.5 Std	10.00	5.00	63.3	1.7040	-1.11	57.19	0.019 1

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
		(2.875"ODx0.203")			K=1.00				✓
T2	140 - 120	Pipe 4 Std (4.5"ODx0.237")	20.00	6.67	53.0 K=1.00	3.1741	-19.53	116.32	0.168 [1] ✓
T3	120 - 100	Pipe 5 Std (5.563"ODx0.258")	20.03	6.68	42.7 K=1.00	4.2999	-59.08	169.37	0.349 [1] ✓
T4	100 - 80	Pipe 5 Std (5.563"ODx0.258")	20.03	6.68	42.7 K=1.00	4.2999	-91.77	169.37	0.542 [1] ✓
T5	80 - 60	Pipe 5 Std (5.563"ODx0.258")	20.03	6.68	42.7 K=1.00	4.2999	-123.80	169.37	0.731 [1] ✓
T6	60 - 40	Pipe 6 Std (6.625"ODx0.28")	20.03	6.68	35.7 K=1.00	5.5813	-152.89	228.83	0.668 [1] ✓
T7	40 - 20	Valmont 194651 (58 ksi)	20.03	10.02	34.4 K=1.00	5.3014	-176.91	250.28	0.707 [1] ✓
T8	20 - 0	Valmont 195213 (58 ksi)	20.03	10.02	29.5 K=1.00	7.2158	-202.57	349.87	0.579 [1] ✓

[1] P_u / ϕP_n controls

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T7	40 - 20	0.5	1.39	113.1	276.74	0.1963	0.57	3.83	0.151 ✓
T8	20 - 0	0.5	1.37	112.1	376.67	0.1963	0.84	3.88	0.217 ✓

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	L2x2x1/8	7.07	3.23	103.1 K=1.06	0.4844	-0.39	11.40	0.034 [1] ✓
T2	140 - 120	L3x3x5/16	8.33	3.72	86.8 K=1.15	1.7800	-6.23	48.89	0.127 [1] ✓
T3	120 - 100	L2 1/2x2 1/2x3/16	8.54	4.07	104.1 K=1.05	0.9020	-6.46	21.41	0.301 [1] ✓
T4	100 - 80	L2 1/2x2 1/2x3/16	10.94	5.25	127.3 K=1.00	0.9020	-4.87	15.94	0.306 [1] ✓
T5	80 - 60	L2 1/2x2 1/2x3/16	12.58	6.08	147.3 K=1.00	0.9020	-5.47	11.89	0.460 [1] ✓
T6	60 - 40	L3x3x3/16	14.32	6.90	138.9 K=1.00	1.0900	-5.49	16.17	0.339 [1] ✓
T7	40 - 20	L3x3x5/16	17.62	8.34	169.9 K=1.00	1.7800	-7.01	17.66	0.397 [1] ✓
T8	20 - 0	L3 1/2x3 1/2x5/16	19.30	9.19	159.8	2.0900	-8.57	23.42	0.366 [1]

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
					K=1.00				✓

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	150 - 140	L2x2x3/16	5.00	4.49	136.7 K=1.00	0.7150	-0.03	10.95	0.003 [1] ✓

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	150 - 140	Pipe 2.5 Std (2.875"ODx0.203")	10.00	5.00	63.3	1.7040	0.71	76.68	0.009 [1] ✓
T2	140 - 120	Pipe 4 Std (4.5"ODx0.237")	20.00	6.67	53.0	3.1741	15.89	142.83	0.111 [1] ✓
T3	120 - 100	Pipe 5 Std (5.563"ODx0.258")	20.03	6.68	42.7	4.2999	51.54	193.49	0.266 [1] ✓
T4	100 - 80	Pipe 5 Std (5.563"ODx0.258")	20.03	6.68	42.7	4.2999	81.20	193.49	0.420 [1] ✓
T5	80 - 60	Pipe 5 Std (5.563"ODx0.258")	20.03	6.68	42.7	4.2999	109.15	193.49	0.564 [1] ✓
T6	60 - 40	Pipe 6 Std (6.625"ODx0.28")	20.03	6.68	35.7	5.5813	134.61	251.16	0.536 [1] ✓
T7	40 - 20	Valmont 194651 (58 ksi)	20.03	10.02	34.4	5.3014	154.94	276.74	0.560 [1] ✓
T8	20 - 0	Valmont 195213 (58 ksi)	20.03	10.02	29.5	7.2158	176.13	376.67	0.468 [1] ✓

[1] P_u / ϕP_n controls

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in²	V_u K	ϕV_n K	Stress Ratio
T7	40 - 20	0.5	1.39	113.1	276.74	0.1963	0.57	3.83	0.151 ✔
T8	20 - 0	0.5	1.37	112.1	376.67	0.1963	0.84	3.88	0.217 ✔

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	L2x2x1/8	7.07	3.23	64.5	0.2812	0.40	12.23	0.033 [1] ✔
T2	140 - 120	L3x3x5/16	8.33	3.72	50.2	1.1299	5.88	49.15	0.120 [1] ✔
T3	120 - 100	L2 1/2x2 1/2x3/16	8.54	4.07	64.9	0.5535	6.32	24.08	0.263 [1] ✔
T4	100 - 80	L2 1/2x2 1/2x3/16	9.91	4.75	75.4	0.5535	5.44	24.08	0.226 [1] ✔
T5	80 - 60	L2 1/2x2 1/2x3/16	12.58	6.08	95.8	0.5535	5.41	24.08	0.225 [1] ✔
T6	60 - 40	L3x3x3/16	13.73	6.61	86.2	0.6945	5.68	30.21	0.188 [1] ✔
T7	40 - 20	L3x3x5/16	17.62	8.34	110.7	1.0713	6.90	46.60	0.148 [1] ✔
T8	20 - 0	L3 1/2x3 1/2x5/16	19.30	9.19	104.0	1.3038	7.72	56.72	0.136 [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 in²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	L2x2x3/16	5.00	4.49	92.6	0.4132	0.04	17.97	0.002 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	150 - 140	Leg	Pipe 2.5 Std (2.875"ODx0.203")	2	-1.11	57.19	1.9	Pass
T2	140 - 120	Leg	Pipe 4 Std (4.5"ODx0.237")	21	-19.53	116.32	16.8	Pass
T3	120 - 100	Leg	Pipe 5 Std (5.563"ODx0.258")	40	-59.08	169.37	34.9	Pass
T4	100 - 80	Leg	Pipe 5 Std (5.563"ODx0.258")	61	-91.77	169.37	54.2	Pass
T5	80 - 60	Leg	Pipe 5 Std (5.563"ODx0.258")	82	-123.80	169.37	73.1	Pass
T6	60 - 40	Leg	Pipe 6 Std (6.625"ODx0.28")	103	-152.89	228.83	66.8	Pass
T7	40 - 20	Leg	Valmont 194651 (58 ksi)	124	-176.91	250.28	70.7	Pass
T8	20 - 0	Leg	Valmont 195213 (58 ksi)	139	-202.57	349.87	57.9	Pass
T1	150 - 140	Diagonal	L2x2x1/8	11	-0.39	11.40	3.4 8.6 (b)	Pass
T2	140 - 120	Diagonal	L3x3x5/16	24	-6.23	48.89	12.7 46.6 (b)	Pass
T3	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	57	-6.46	21.41	30.1 70.4 (b)	Pass
T4	100 - 80	Diagonal	L2 1/2x2 1/2x3/16	66	-4.87	15.94	30.6 60.6 (b)	Pass
T5	80 - 60	Diagonal	L2 1/2x2 1/2x3/16	89	-5.47	11.89	46.0 60.3 (b)	Pass
T6	60 - 40	Diagonal	L3x3x3/16	110	-5.49	16.17	33.9 60.0 (b)	Pass
T7	40 - 20	Diagonal	L3x3x5/16	131	-7.01	17.66	39.7 40.7 (b)	Pass
T8	20 - 0	Diagonal	L3 1/2x3 1/2x5/16	146	-8.57	23.42	36.6 38.0 (b)	Pass
T1	150 - 140	Top Girt	L2x2x3/16	5	-0.02	10.95	0.3 0.6 (b)	Pass
							Summary	
						Leg (T5)	73.1	Pass
						Diagonal (T3)	70.4	Pass
						Top Girt (T1)	0.6	Pass
						Bolt Checks	70.4	Pass
						RATING =	**73.1**	**Pass**

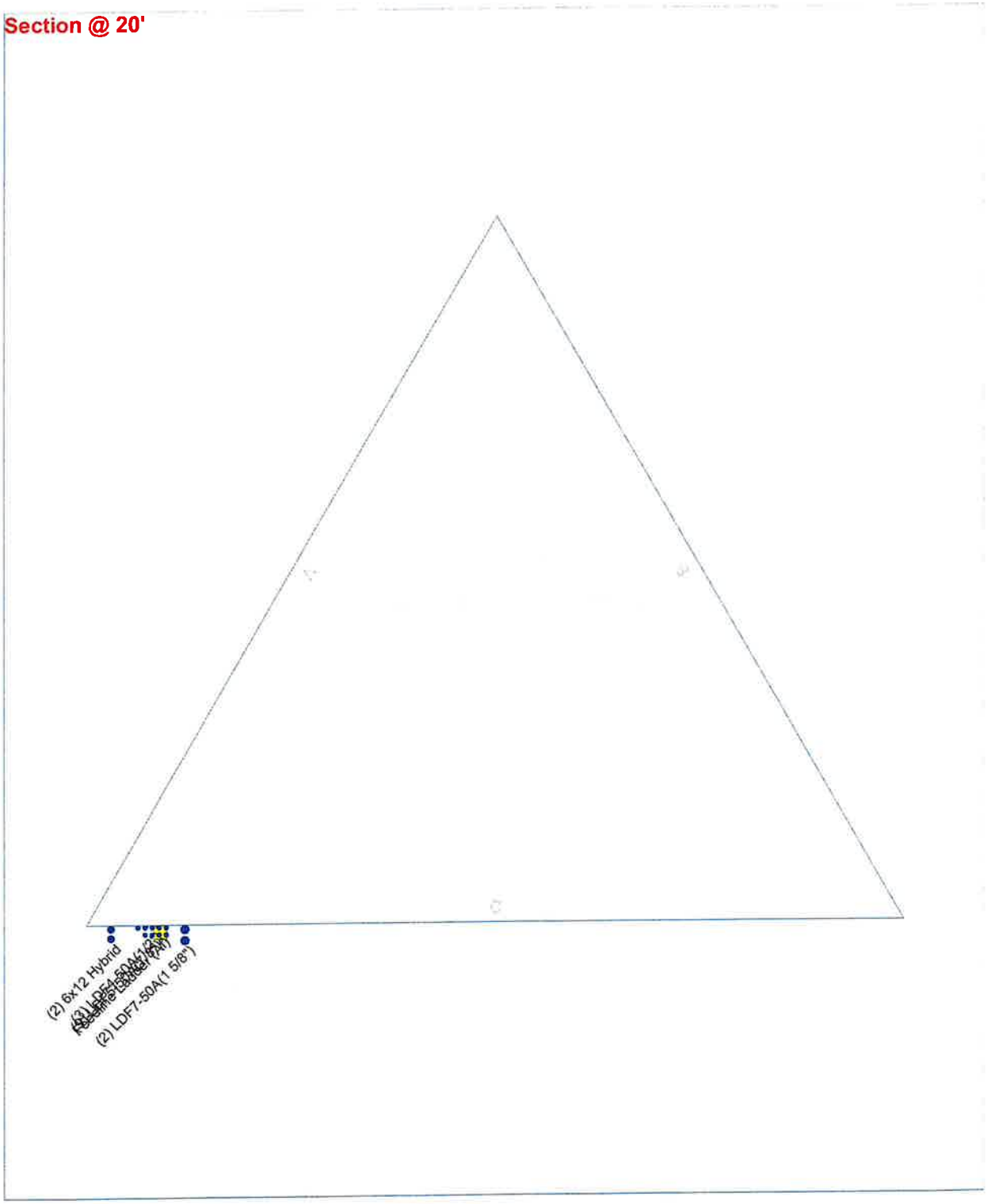
APPENDIX B

BASE LEVEL DRAWINGS

Feed Line Plan
20'

Round Flat App In Face App Out Face Truss-Leg

Section @ 20'



PM&A
1000 Holcomb Woods Pkwy, Suite 210
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Phone: (678) 280-2325
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Job: Madison 6 CT / 467391			
Project: 23CLVZ-0001			
Client: Verizon Wireless	Drawn by: jboegel	App'd:	
Code: TIA-222-H	Date: 02/08/24	Scale: NTS	
Path: C:\Users\jboegel\Desktop\New folder\MADISON 6 CT.en		Dwg No. E-7	

APPENDIX C

ADDITIONAL CALCULATIONS

P. Marshall and Associates, LLC
1000 Holcomb Woods Pkwy, Suite 210
Roswell, GA 30076
Tel: (678) 280-2325
Fax: (678) 280-2329

Job:	467391 / Madison 6 CT	Engineer:	JB
Project:	23CLVZ-0001	Date:	2/8/2024
Client:	Verizon Wireless	Sheet:	1 of 1

SST Anchor Rod Check (TIA-H)

Anchor Rod Information

Grout Considered?:	No	
Clear Distance, l_{ar}:	1.25	*in*
Quanity Per Leg:	6	
Diameter:	1.25	*in*
Rod Material:	F1554 Gr. 105	
Strength (Fu):	125	*ksi*
Yield (Fy):	105	*ksi*

Reactions

Compression, P_{uc}:	210.0	*kips*
Comp Shear, V_{uc}:	23.0	*kips*
Tension, P_{ut}:	183.0	*kips*
Tension Shear, V_{ut}:	20.0	*kips*

Capacity Results

Anchor Rod Results

Interaction Equations for lar ≤ 1(d)	(Puc/ϕcRnc) + [Vu/ϕcRnvc]^2 ≤ 1.0

$R_{nt} = FuA_n$=	121.13	*kips*	$R_{nvc} = 0.6FyA_n/2$=	30.52	*kips*	ϕ_t=	0.75
$R_{nc} = FyA_n$=	101.75	*kips*	$R_{nb} = F_{cr}A_n$=	101.29	*kips*	ϕ_v=	0.75
$R_{nv} = 0.5FuA_g$=	76.70	*kips*	$M_n = FyZ$=	23.98	*ksi*	ϕ_c=	1.0
						ϕ_f=	0.9

P_{uc}=	35.00	*kips*	V_{uc}=	3.83	*kips*	M_{uc}=	3.11	*ksi*
P_{ut}=	30.50	*kips*	V_{ut}=	3.33	*kips*	M_{ut}=	2.71	*ksi*

Anchor Rod Stress Ratio= 36.0% Good

P. Marshall and Associates, LLC
1000 Holcomb Woods Pkwy, Suite 210
Roswell, GA 30076
Tel: (678) 280-2325
Fax: (678) 280-2329

Job:	467391 / Madison 6 CT	Engineer:	JB
Project:	23CLVZ-0001	Date:	2/8/2024
Client:	Verizon Wireless	Sheet:	1 of 1

SST Unit Base Analysis Summary (TIA-H)

Analysis Reactions and Tower Information

Global Moment, M:	2962	*ft-kips*
Global Axial, P:	28	*kips*
Global Shear, V:	35	*kips*
Leg Compression, P_{comp}:	210	*kips*
Leg Comp. Shear, V_{u_comp}:	23	*kips*
Leg Uplift, P_{uplift}:	183	*kips*
Leg Uplift Shear, V_{u_uplift}:	20	*kips*
Tower Height, H:	150	*ft*
Base Face Width: BW:	17	*ft*
BP Dist. Above Fdn, bp_{dist}:	3	*in*

Soil Properties

Total Soil Unit Weight, γ:	100	*pcf*
Ultimate Gross Bearing, Qult:	8	*ksf*
Cohesion, Cu:	0	*ksf*
Friction Angle, ϕ:	30	*degrees*
SPT Blow Count, N_{blows}:	0	
Base Friction, μ:	0.45	
Neglected Depth, N:	0	*ft*
Foundation Bearing on Rock?:	No	
Groundwater Depth, D_{gw}:	N/A	*ft*

Pier Properties

Pier Shape:	Circular	
Pier Diameter, d_{pier}:	3.5	*ft*
Ext. Above Grade, E:	0.5	*ft*
Pier Rebar Size, R_{spier}:	7	
Pier Rebar Quantity, R_{qpier}:	16	
Pier Tie Size, T_{spier}:	4	
Pier Tie Quantity, T_{qpier}:	12	
Pier Clear Cover, cc_{pier}:	3	*in*

Pad Properties:

Depth, D:	6.5	*ft*
Pad Width, W:	25	*ft*
Pad Thickness, T:	1.5	*ft*
Pad Rebar Size (Bottom), R_{spad}:	6	
Pad Rebar Qnty (Bottom), R_{qpad}:	53	
Pad Clear Cover, cc_{pad}:	3	*in*

Material Properties

Rebar Strength, F_y:	60	*ksi*
Concrete Strength, f'c:	4.5	*ksi*
Dry Concrete Density, δ_c:	150	*pcf*

Foundation Analysis Results

Soil Capacity Results

	Capacity	Demand	Rating	
Lateral (Sliding) *(kips)* :	225.6	35.0	15.5%	**60.1%**
Bearing Pressure *(ksf)* :	6.0	1.9	31.2%	**Good**
Overturning *(kip*ft)* :	5,525.0	3,319.9	60.1%	

Structural Capacity Results

	Capacity	Demand	Rating	
Pier Flexure (Comp.) *(kip*ft)* :	964.3	126.5	13.1%	**48.3%**
Pier Flexure (Tension) *(kip*ft)* :	523.0	110.0	21.0%	**Good**
Pier Compression *(kip)* :	6,889.1	219.5	3.2%	
Pad Flexure *(kip*ft)* :	1,392.1	243.8	17.5%	
Pad Shear - 1-way *(kips)* :	418.8	87.0	20.8%	
Pad Shear - 2-way *(ksi)* :	0.2	0.1	48.3%	

Colliers Engineering & Design,
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Stamford, CT 06901
203.324.0800
peter.albano@collierseng.com

Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis

SMART Tool Project #: 10210422
Colliers Engineering & Design Project #: 23777243 (Rev. 1)

January 18, 2024

Site Information	*Site ID:*	*5000393423-VZW / MADISON 6 CT – NU Guyed Tower - B*
	Site Name:	*MADISON 6 CT - NU Guyed Tower - B*
	Carrier Name:	*Verizon Wireless*
	Address:	*9 Campus Drive* *Madison, Connecticut 06443* *New Haven County*
	Latitude:	*41.296528°*
	Longitude:	*-72.572444°*
Structure Information	*Tower Type:*	*140-Ft Self Support*
	Mount Type:	*12.54-Ft Sector Frame*

FUZE ID # 17068391

Analysis Results

Sector Frame: **50.3% Pass***

***Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

******Contractor PMI Requirements:***
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com

For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Prasanna Dhakal

Executive Summary:

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

Sources of Information:

Document Type	Remarks
Filter Add Guidance	*Provided by Verizon Wireless*
Mount Mapping Report	*Onsight Services, Site ID: 17068391, dated September 12, 2023*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	125 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	B
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.999
Seismic Parameters:	S_S:	0.206 g
	S_1:	0.054 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Load, Lv:	250 lbs.
	Maintenance Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

The following equipment has been considered for the analysis of the mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
123.00	123.00	3	Samsung	MT6407-77A	Retained
		3	Samsung	RFV01U-D2A	
		6	JMA Wireless	MX06FRO660-03	
		3	Samsung	RFV01U-D1A	
		3	Samsung	Unknown	
		1	Raycap	RVZDC-6627-PF-48*	
		6	KAelus	KA-6030	Added

* Equipment is flush mounted directly to the Self Support tower. It is not mounted on sector frame mounts and is not included in this mount analysis.

Any proposed antennas not currently installed should be mounted such that the centerline of the antennas does not exceed 6 inches vertically from the center of the antenna mounts.

The recent mount mapping reported existing OVP units. It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.

2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

   Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

   The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - Channel, Solid Round, Angle, Plate — ASTM A36 (Gr. 36)
   - HSS (Rectangular) — ASTM 500 (Gr. B-46)
   - Pipe — ASTM A53 (Gr. B-35)
   - Threaded Rod — F1554 (Gr. 36)
   - Bolts — ASTM A325

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design

Analysis Results:

Component	Utilization %	Pass/Fail
Face Horizontal	22.1 %	Pass
Standoff Plate	50.3 %	Pass
Standoff Horizontal	18.5 %	Pass
Standoff Diagonal	8.6 %	Pass
Antenna Pipe	21.0 %	Pass
Standoff Vertical	5.1 %	Pass
Tieback	2.9 %	Pass
Mount Connection	15.3 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**50.3%**

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Bottom Standoff	121.3	N35	549	1214	0.585	0.000	1026	1428	1.059	0.000
Top Standoff	124.7	N36	537	1700	0.567	0.000	1000	1596	1.013	0.000

Notes:
- Axial loads act along the axis of the tower leg
- Lateral reactions act perpendicular to the tower leg
- Moment loads introduce bending moment to the tower leg
- Torsion loads introduce twisting moment to the tower leg
- Batch solutions by individual load cases are included at the end of this document

Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	14.1	4.7	24.5	15.1
0.5	22.2	9.4	36.3	23.5
1	29.7	13.5	47.4	31.2

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 1 sector.
- Ka factors included in (EPA)a calculations

Requirements:

The existing mounts are **SUFFICIENT** for the final loading configuration shown in attachment 2 and do not require modifications. Additional requirements are noted below.

1. Contractor shall install the proposed filter units on new Site Pro 1 Dual Swivel Mount Kits (Part #: RRUDSM or EOR approved equivalent) in the locations shown in the placement diagrams.

If required, ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other. Separate review fees will apply.

Attachments:

1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Photos
4. Mount Mapping Report (for reference only)
5. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Passing Mount Analysis

Passing Mount Analysis requires a PMI due to a modification in loading.

Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com.

For additional questions and support, please reach out to pmisupport@colliersengineering.com

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MDG #: 5000393423 SMART Project #: 10210422 Fuze Project ID: 17068391

Purpose – to provide SMART Tool structural vendor the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the installation was completed in accordance with this Passing Mount Analysis.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

Base Requirements:

- If installation will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide "as built mount drawings" showing contractor's name, contact information, preparer's signature, and date. Any deviations from the drawings (Proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo should be time and date stamped
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: ***https://pmi.vzwsmart.com***

Photo Requirements:

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation.
  - Photos of the mount after installation; if the mounts are at different rad elevations, pictures must be provided for all elevations that equipment was installed.
- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to installation.
  - Photos showing the climbing facility and safety climb if present.
  - Photos showing each individual sector after installation. Each entire sector shall be in one photo to show the interconnection of members.

- These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.

Antenna & equipment placement and Geometry Confirmation:

- The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

☐ The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:

Issue:

1. Contractor shall install the proposed filter units on new Site Pro 1 Dual Swivel Mount Kits (Part #: RRUDSM or EOR approved equivalent) in the locations shown in the placement diagrams.

Response:

Special Instruction Confirmation:

☐ The contractor has read and acknowledges the above special instructions.

☐ All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.

OR

☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

Comments:

Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

Contractor to certify the condition of the safety climb and verify no damage when leaving the site:

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Certifying Individual:

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

Structure: 5000393423-VZW - MADISON 6 CT - NU Guyed Tower - B

Sector: A

Structure Type: Self Support

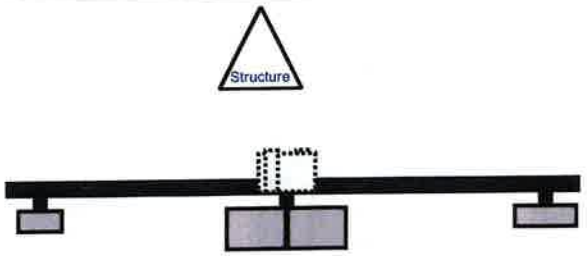
Mount Elev: 123.00

10210422

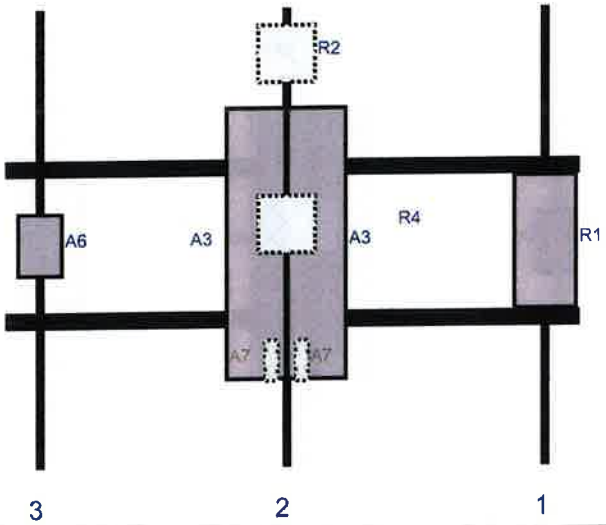
1/18/2024

Colliers Engineering & Design

Plan View

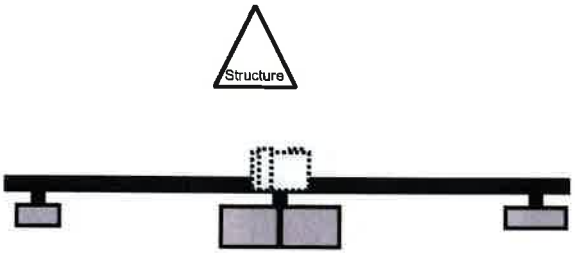


Front View - Looking at Structure

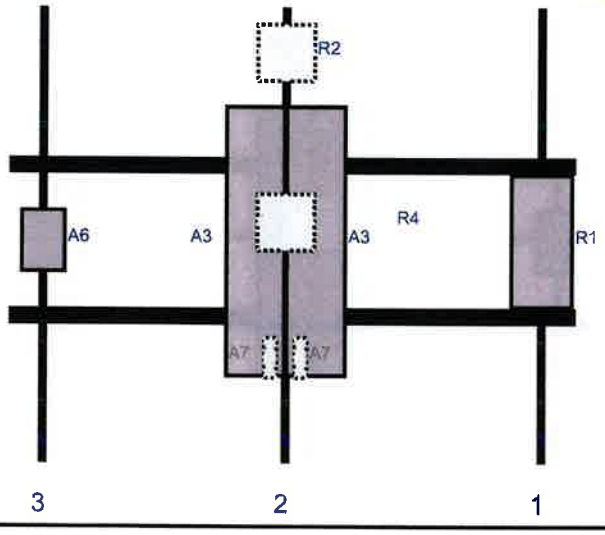


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R1	MT6407-77A	35.1	16.1	141.5	1	a	Front	62.04	0	Retained	09/12/2023
A3	MX06FRO660-03	71.3	15.4	73.5	2	a	Front	62.04	8	Retained	09/12/2023
A3	MX06FRO660-03	71.3	15.4	73.5	2	b	Front	62.04	-8	Retained	09/12/2023
R2	RFV01U-D2A	15	15	73.5	2	a	Behind	12	0	Retained	09/12/2023
R4	RFV01U-D1A	15	15	73.5	2	a	Behind	57	0	Retained	09/12/2023
A7	KA-6030	10.6	3.2	73.5	2	a	Behind	93	-4	Added	
A7	KA-6030	10.6	3.2	73.5	2	b	Behind	93	4	Added	
A6	Unknown	16.2	11.4	9	3	a	Front	62.04	0	Retained	09/12/2023

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R1	MT6407-77A	35.1	16.1	141.5	1	a	Front	62.04	0	Retained	09/12/2023
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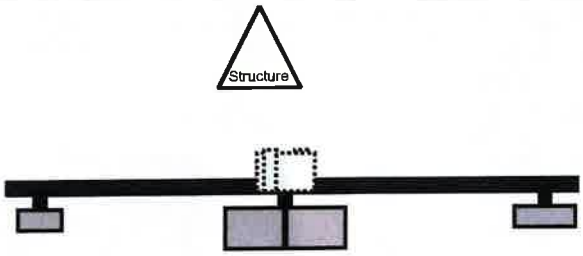
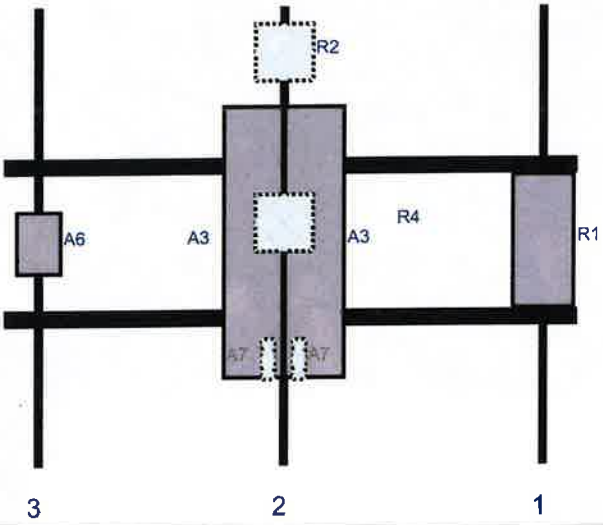
A3	MX06FRO660-03	71.3	15.4	73.5	2	b	Front	62.04	-8	Retained	09/12/2023
R2	RFV01U-D2A	15	15	73.5	2	a	Behind	12	0	Retained	09/12/2023
R4	RFV01U-D1A	15	15	73.5	2	a	Behind	57	0	Retained	09/12/2023
A7	KA-6030	10.6	3.2	73.5	2	a	Behind	93	-4	Added	
A7	KA-6030	10.6	3.2	73.5	2	b	Behind	93	4	Added	
A6	Unknown	16.2	11.4	9	3	a	Front	62.04	0	Retained	09/12/2023

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
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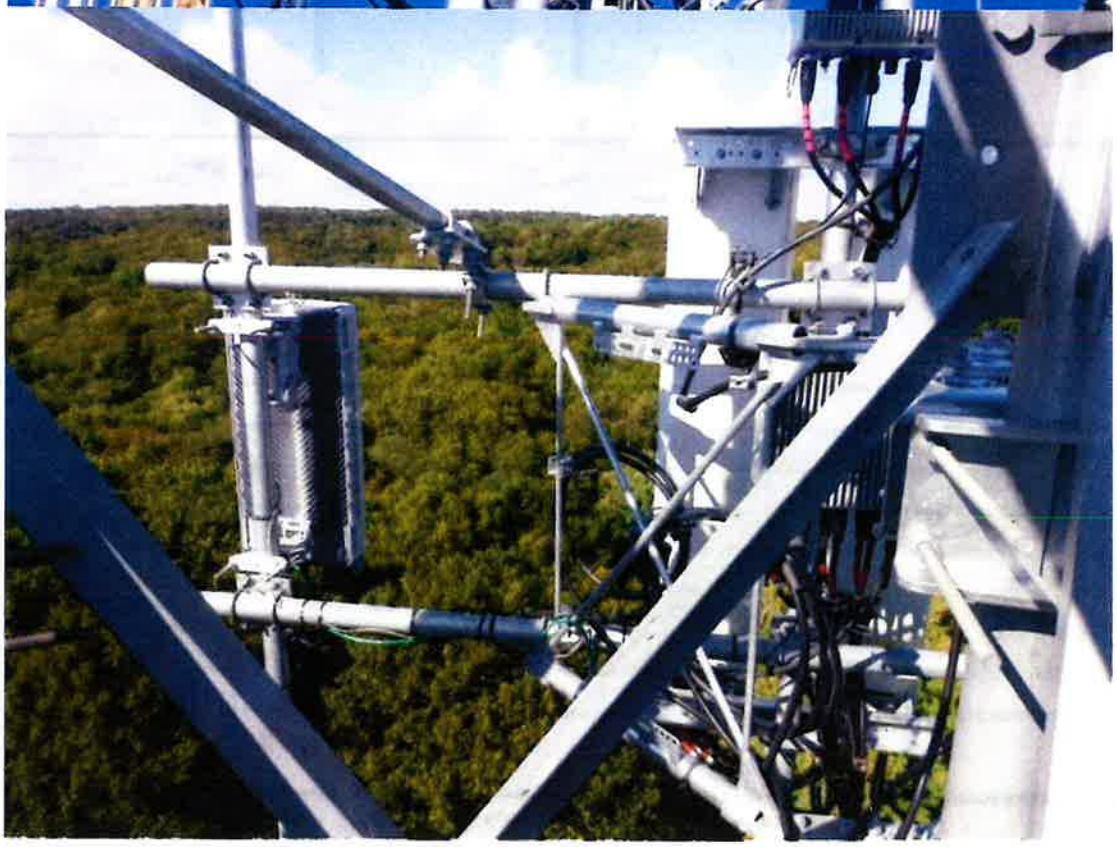
A3	MX06FRO660-03	71.3	15.4	73.5	2	a	Front	62.04	8	Retained	09/12/2023
A3	MX06FRO660-03	71.3	15.4	73.5	2	b	Front	62.04	-8	Retained	09/12/2023
R2	RFV01U-D2A	15	15	73.5	2	a	Behind	12	0	Retained	09/12/2023
R4	RFV01U-D1A	15	15	73.5	2	a	Behind	57	0	Retained	09/12/2023
A7	KA-6030	10.6	3.2	73.5	2	a	Behind	93	-4	Added	
A7	KA-6030	10.6	3.2	73.5	2	b	Behind	93	4	Added	
A6	Unknown	16.2	11.4	9	3	a	Front	62.04	0	Retained	09/12/2023



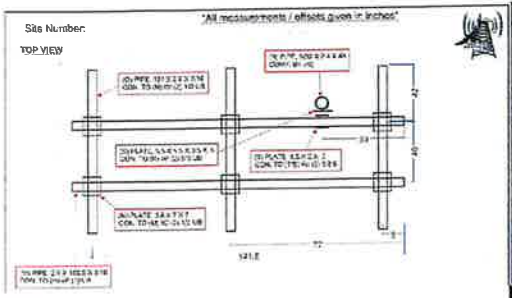
V4.1 Updated on 12-17-2021

Antenna Mount Mapping Form (PATENT PENDING)

FCC #

Colliers Engineering & Design

Tower Owner:	VERIZON	**Mapping Date:**	9/12/2023
Site Name:	MADISON 6 CT	**Tower Type:**	Self Support
Site Number or ID:	17068391	**Tower Height (Ft.):**	140
Mapping Contractor:	ONSIGHT SERVICES	**Mount Elevation (Ft.):**	125

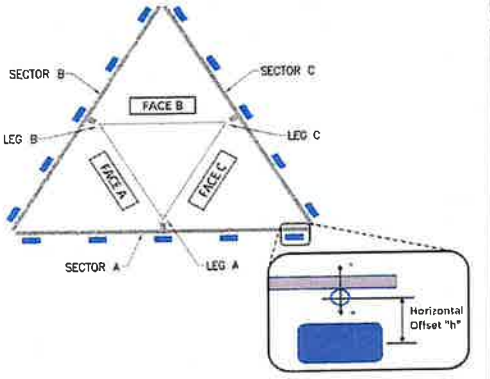


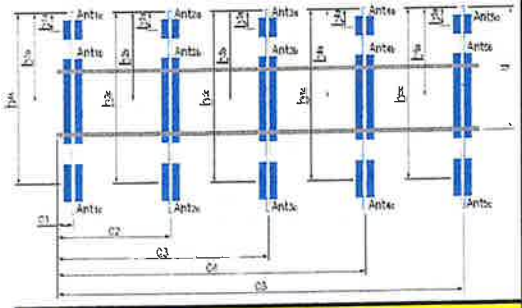
Mount Pipe Configuration and Geometries [Unit = Inches]

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "a_1"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "a_1"	Horizontal Offset "C1, C2, C3, etc."
A1	121 X 2.9 X 3/16	82.00	9.00	C1	121 X 2.9 X 3/16	82.00	9.00
A2	121 X 2.9 X 3/16	82.00	77.00	C2	121 X 2.9 X 3/16	82.00	77.00
A3	121 X 2.9 X 3/16	82.00	141.50	C3	121 X 2.9 X 3/16	82.00	141.50
A4				C4			
A5				C5			
A6				C6			
B1	121 X 2.9 X 3/16	82.00	9.00	D1			
B2	121 X 2.9 X 3/16	82.00	77.00	D2			
B3	121 X 2.9 X 3/16	82.00	141.50	D3			
B4				D4			
B5				D5			
B6				D6			

Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	
Please enter additional infomation or comments below.	
ROOF HEIGHT IS 34.5'	

Tower Face Width at Mount Elev. (ft.):	5	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	4.5



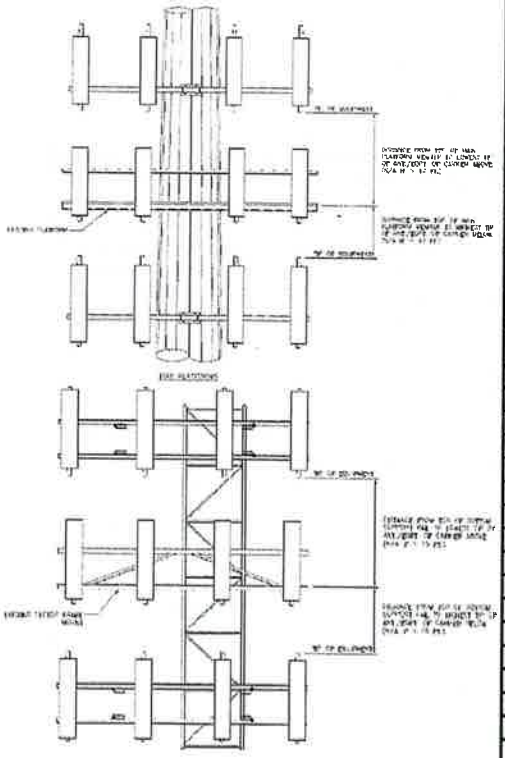


Antenna Layout (Looking Out From Tower)

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Mounting Locations [Units are inches and degrees] Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photos of antennas Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	SAMSUNG, MT6407-7	16.00	5.50	36.00		125	58.00	12.00	0.00	246-255
Ant_{1c}										
Ant_{2a}	SAMSUNG, RFV01U-D	15.00	8.00	15.00		128.5	16.00	-8.00		274-280
Ant_{2b}	(X2) JMA, MX06FRO6	15.00	11.00	72.00		125	56.00	12.00	0.00	260-273
Ant_{2c}	SAMSUNG, RFV01U-D	15.00	10.00	15.00		125	58.00	-9.00		284-293
Ant_{3a}										
Ant_{3b}	SAMSUNG	9.00	5.00	16.00		125	55.00	12.00	0.00	294-307
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	RAYCAP, RVZDC-6627-PF-48					125				244-245
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	0.00	Deg	Leg A:	0.00	Deg
Sector B:	120.00	Deg	Leg B:	120.00	Deg
Sector C:	240.00	Deg	Leg C:	240.00	Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information			
Location:	0.00	Deg	Sector A
Climbing Facility	Corrosion Type:		Good condition.
	Access:		Climbing path was unobstructed.
	Condition:		Good condition.



Sector B											
Ant_{1a}											
Ant_{1b}	SAMSUNG, MT6407-7	16.00	5.50	36.00		125	58.00	12.00	120.00	246-255
Ant_{1c}											
Ant_{2a}	SAMSUNG, RFV01U-D	15.00	8.00	15.00		128.5	16.00	-8.00		274-280
Ant_{2b}	(X2) JMA, MX06FRO6	15.00	11.00	72.00		125	56.00	12.00	120.00	260-273
Ant_{2c}	SAMSUNG, RFV01U-D	15.00	10.00	15.00		125	58.00	-9.00		284-293
Ant_{3a}										
Ant_{3b}	SAMSUNG	9.00	5.00	16.00		125	55.00	12.00	120.00	294-307
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector C											
Ant_{1a}											
Ant_{1b}	SAMSUNG, MT6407-7	16.00	5.50	36.00		125	58.00	12.00	240.00	246-255
Ant_{1c}											
Ant_{2a}	SAMSUNG, RFV01U-D	15.00	8.00	15.00		128.5	16.00	-8.00		274-280
Ant_{2b}	(X2) JMA, MX06FRO6	15.00	11.00	72.00		125	56.00	12.00	240.00	260-273
Ant_{2c}	SAMSUNG, RFV01U-D	15.00	10.00	15.00		125	58.00	-9.00		284-293
Ant_{3a}										
Ant_{3b}	SAMSUNG	9.00	5.00	16.00		125	55.00	12.00	240.00	294-307
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector D											
Ant_{1a}											
Ant_{1b}											
Ant_{1c}											
Ant_{2a}											
Ant_{2b}											
Ant_{2c}											
Ant_{3a}											
Ant_{3b}											
Ant_{3c}											
Ant_{4a}											
Ant_{4b}											
Ant_{4c}											
Ant_{5a}											
Ant_{5b}											
Ant_{5c}											
Ant on Standoff											
Ant on Standoff											
Ant on Tower											
Ant on Tower											

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1	TIGHTENED GUIDE.	49-50
2		
3		
4		
5		
6		
7		
8		

Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

V4.1 Updated on 12-17-2021

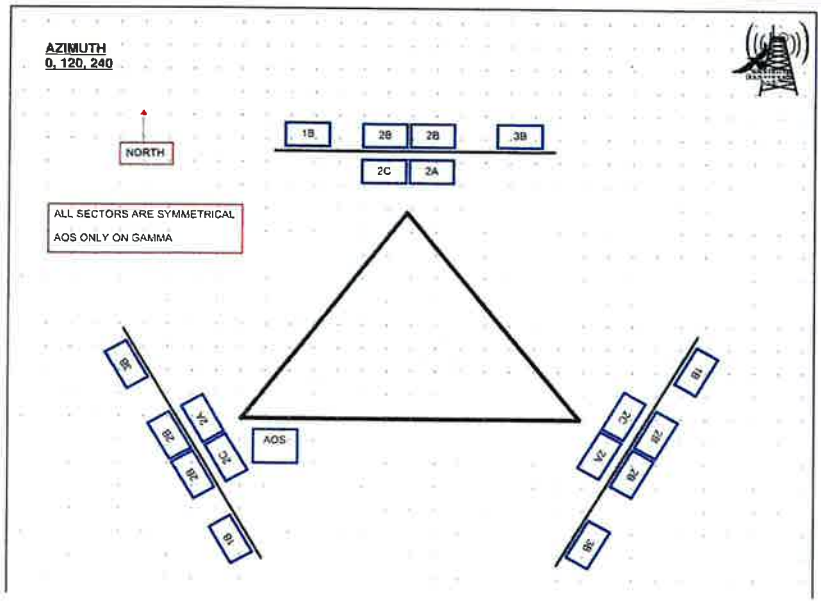
SMART Tool© Vendor

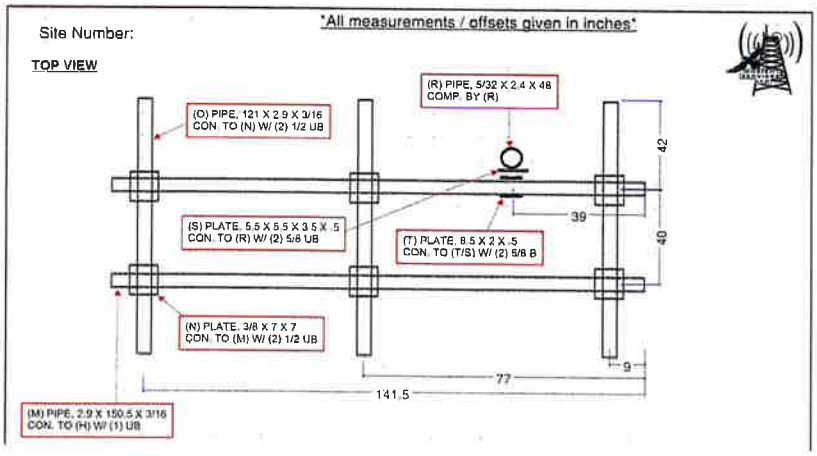
Antenna Mount Mapping Form (PATENT PENDING)

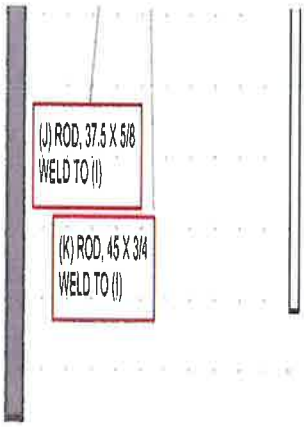
FCC #

Tower Owner:	VERIZON	Mapping Date:	9/12/2023
Site Name:	MADISON 6 CT	Tower Type:	Self Support
Site Number or ID:	17058391	Tower Height (Ft.):	140
Mapping Contractor:	ONSIGHT SERVICES	Mount Elevation (Ft.):	125

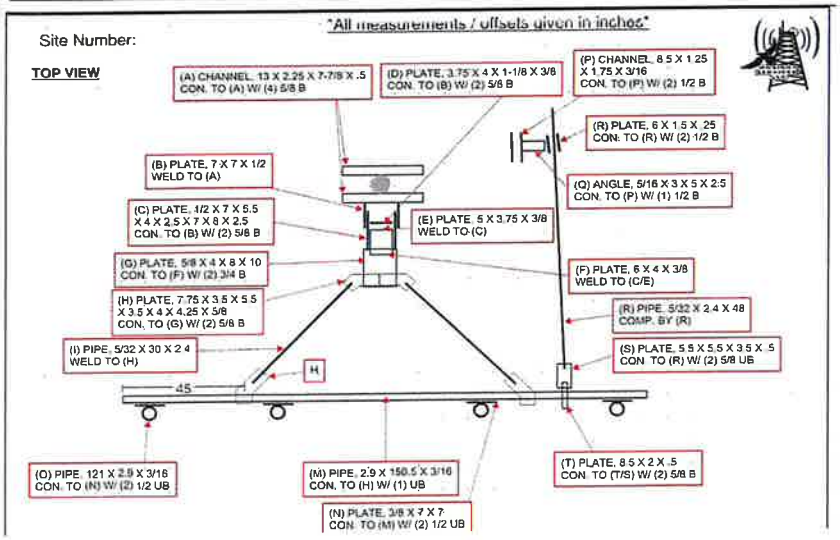
Please Insert Sketches of the Antenna Mount

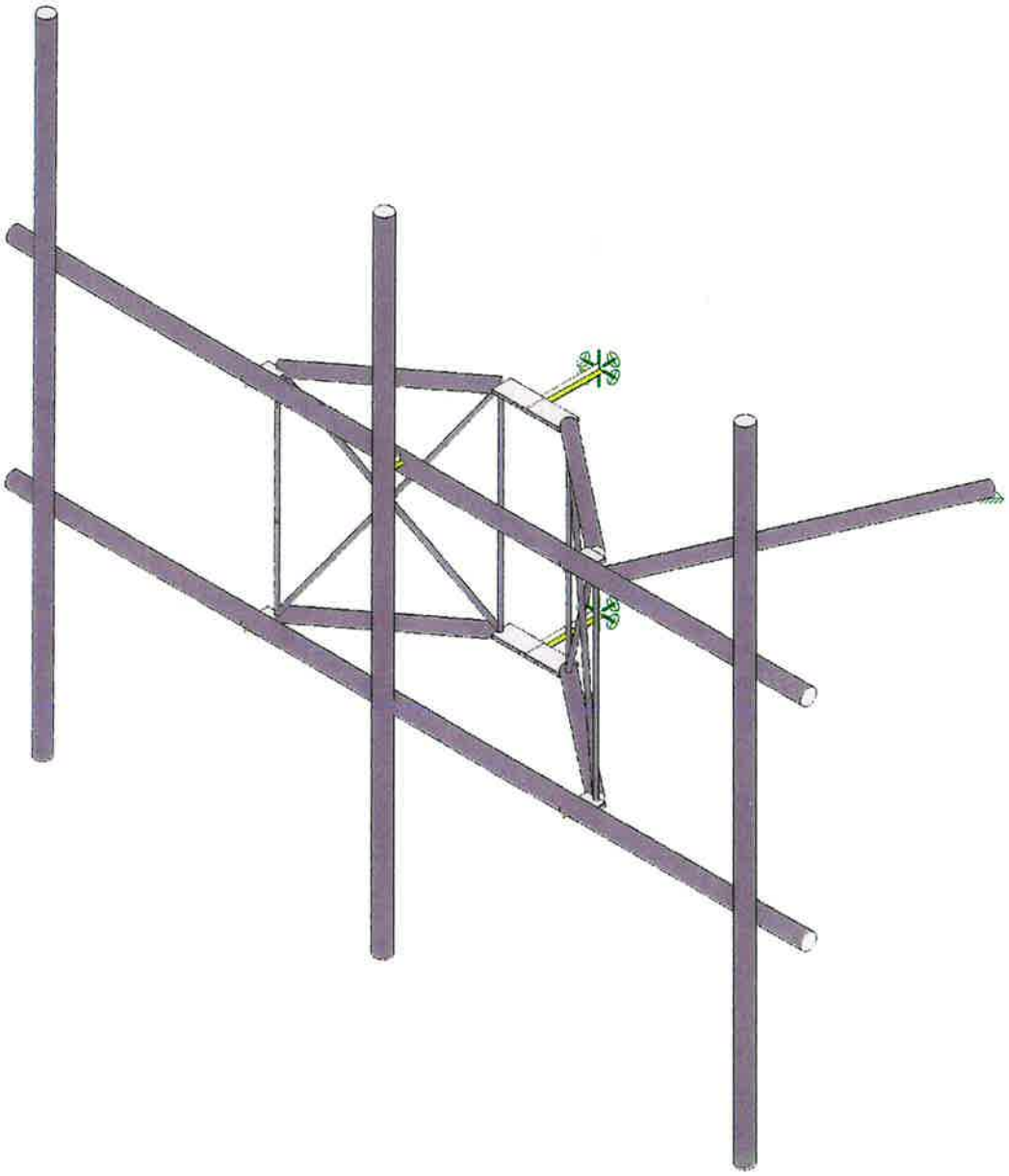






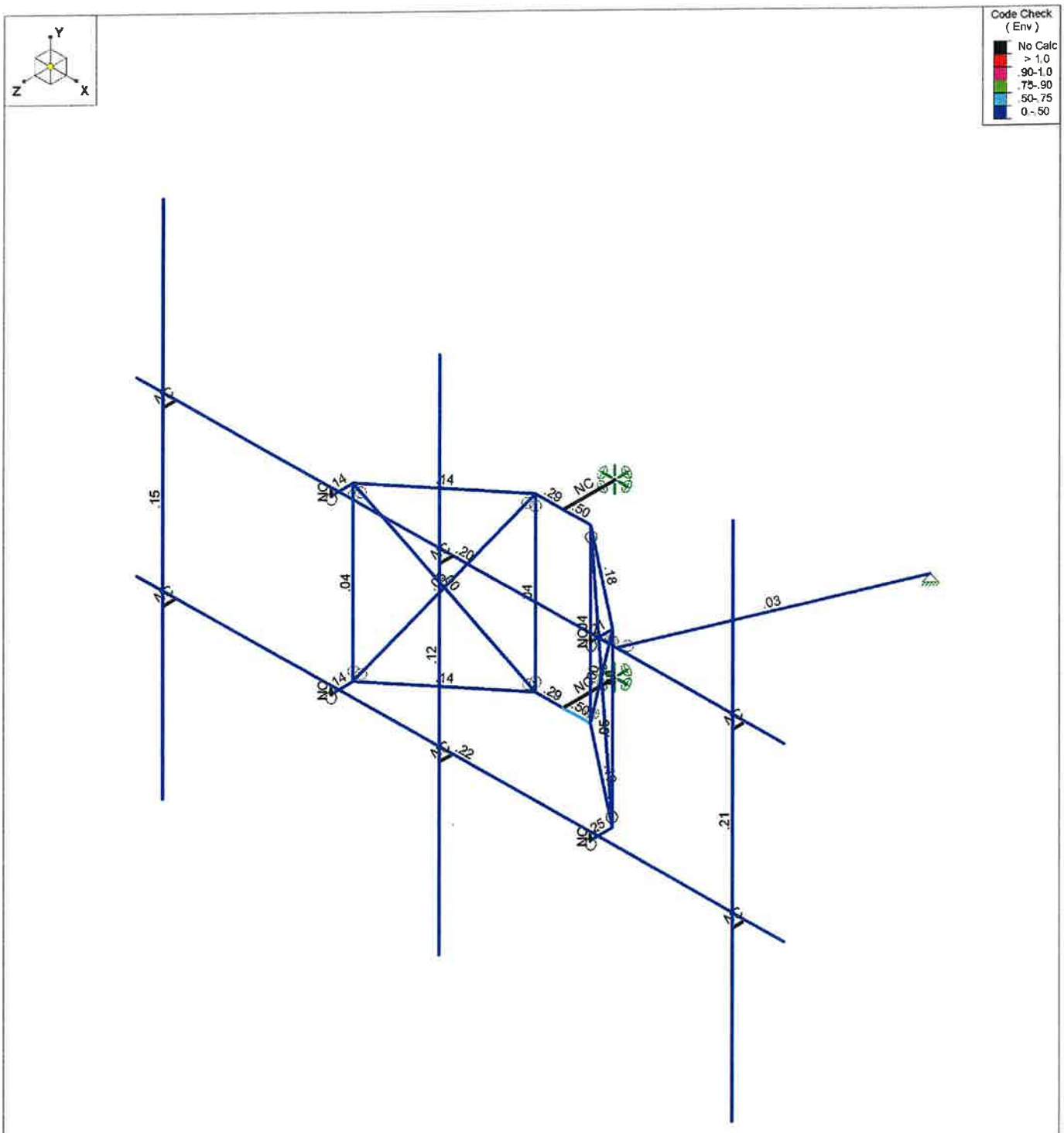
cont'd


"All measurements / offsets given in inches"
Site Number:
TOP VIEW
(A) CHANNEL, 13 X 2.25 X 7-7/8 X .5 CON. TO (A) W/ (4) 5/8 B
(D) PLATE, 3.75 X 4 X 1-1/8 X 3/8 CON. TO (B) W/ (2) 5/8 B
(P) CHANNEL, 8.5 X 1.25 X 1.75 X 3/16 CON. TO (P) W/ (2) 1/2 B
(R) PLATE, 6 X 1.5 X .25 CON. TO (R) W/ (2) 1/2 B
(B) PLATE, 7 X 7 X 1/2 WELD TO (A)
(Q) ANGLE, 5/16 X 3 X 5 X 2.5 CON. TO (P) W/ (1) 1/2 B
(C) PLATE, 1/2 X 7 X 5.5 X 4 X 2.5 X 7 X 8 X 2.5 CON. TO (B) W/ (2) 5/8 B
(E) PLATE, 5 X 3.75 X 3/8 WELD TO (C)
(G) PLATE, 5/8 X 4 X 8 X 10 CON. TO (F) W/ (2) 3/4 B
(F) PLATE, 6 X 4 X 3/8 WELD TO (C/E)
(H) PLATE, 7.75 X 3.5 X 5.5 X 3.5 X 4 X 4.25 X 5/8 CON. TO (G) W/ (2) 5/8 B
(R) PIPE, 5/32 X 2.4 X 48 COMP. BY (R)
(I) PIPE, 5/32 X 30 X 2.4 WELD TO (H)
(S) PLATE, 5.5 X 5.5 X 3.5 X .5 CON. TO (R) W/ (2) 5/8 UB
H
45
(O) PIPE, 121 X 2.9 X 3/16 CON. TO (N) W/ (2) 1/2 UB
(M) PIPE, 2.9 X 150.5 X 3/16 CON. TO (H) W/ (1) UB
(T) PLATE, 8.5 X 2 X .5 CON. TO (T/S) W/ (2) 5/8 B
(N) PLATE, 3/8 X 7 X 7 CON. TO (M) W/ (2) 1/2 UB



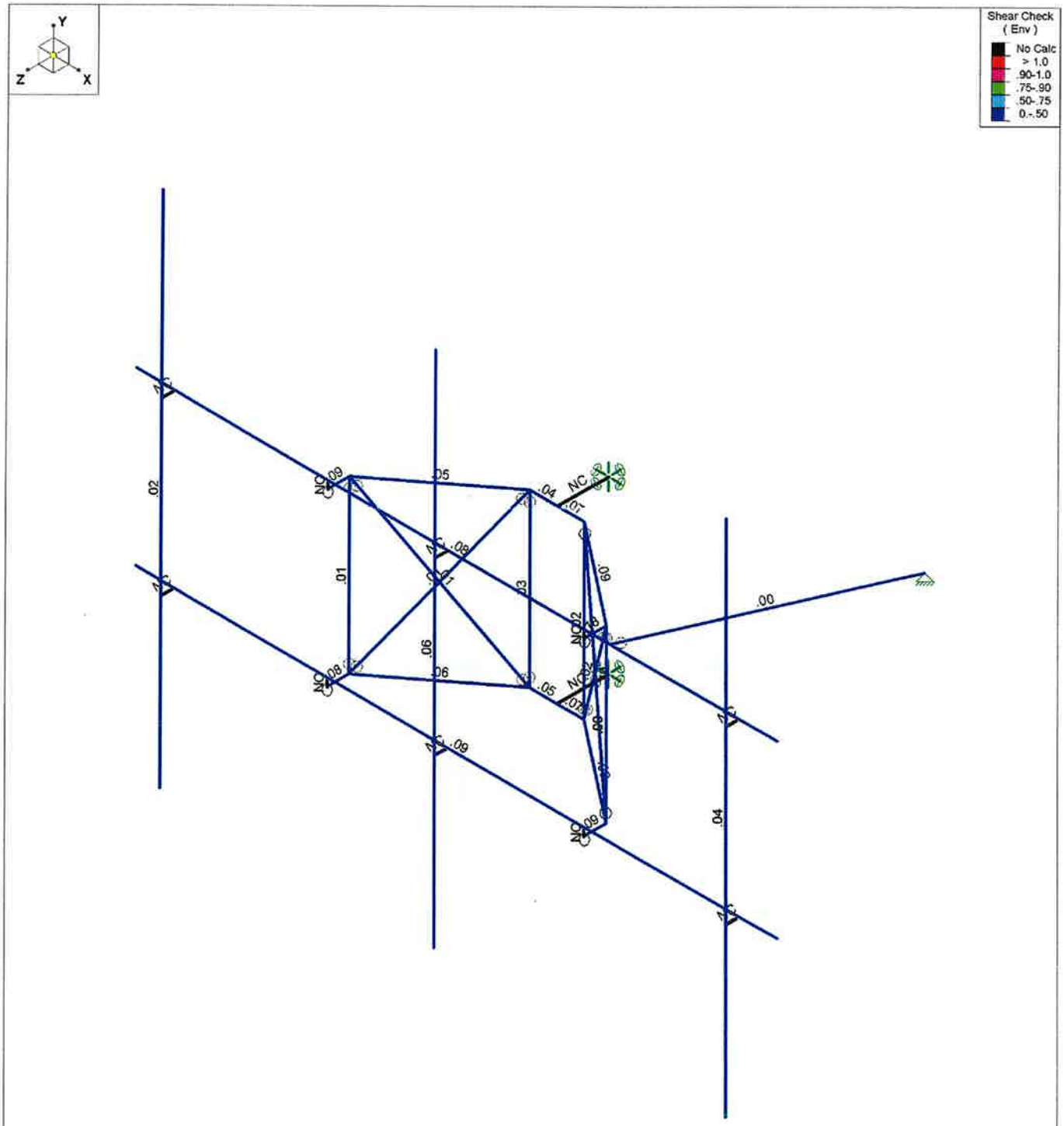
Envelope Only Solution

		SK - 1
		Sept 14, 2023 at 4:30 PM
		5000393423-VZW_MT_LOT_A_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

		SK - 2
		Sept 14, 2023 at 4:30 PM
		5000393423-VZW_MT_LOT_A_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

		SK - 3
		Sept 14, 2023 at 4:31 PM
		5000393423-VZW_MT_LOT_A_H.r3d

Basic Load Cases

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Member)	Surfa...
1	Antenna D	None					36			
2	Antenna Di	None					36			
3	Antenna Wo (0 Deg)	None					36			
4	Antenna Wo (30 Deg)	None					36			
5	Antenna Wo (60 Deg)	None					36			
6	Antenna Wo (90 Deg)	None					36			
7	Antenna Wo (120 Deg)	None					36			
8	Antenna Wo (150 Deg)	None					36			
9	Antenna Wo (180 Deg)	None					36			
10	Antenna Wo (210 Deg)	None					36			
11	Antenna Wo (240 Deg)	None					36			
12	Antenna Wo (270 Deg)	None					36			
13	Antenna Wo (300 Deg)	None					36			
14	Antenna Wo (330 Deg)	None					36			
15	Antenna Wi (0 Deg)	None					36			
16	Antenna Wi (30 Deg)	None					36			
17	Antenna Wi (60 Deg)	None					36			
18	Antenna Wi (90 Deg)	None					36			
19	Antenna Wi (120 Deg)	None					36			
20	Antenna Wi (150 Deg)	None					36			
21	Antenna Wi (180 Deg)	None					36			
22	Antenna Wi (210 Deg)	None					36			
23	Antenna Wi (240 Deg)	None					36			
24	Antenna Wi (270 Deg)	None					36			
25	Antenna Wi (300 Deg)	None					36			
26	Antenna Wi (330 Deg)	None					36			
27	Antenna Wm (0 Deg)	None					36			
28	Antenna Wm (30 Deg)	None					36			
29	Antenna Wm (60 Deg)	None					36			
30	Antenna Wm (90 Deg)	None					36			
31	Antenna Wm (120 Deg)	None					36			
32	Antenna Wm (150 Deg)	None					36			
33	Antenna Wm (180 Deg)	None					36			
34	Antenna Wm (210 Deg)	None					36			
35	Antenna Wm (240 Deg)	None					36			
36	Antenna Wm (270 Deg)	None					36			
37	Antenna Wm (300 Deg)	None					36			
38	Antenna Wm (330 Deg)	None					36			
39	Structure D	None		-1						
40	Structure Di	None						26		
41	Structure Wo (0 Deg)	None						52		
42	Structure Wo (30 Deg)	None						52		
43	Structure Wo (60 Deg)	None						52		
44	Structure Wo (90 Deg)	None						52		
45	Structure Wo (120 Deg)	None						52		
46	Structure Wo (150 Deg)	None						52		
47	Structure Wo (180 Deg)	None						52		
48	Structure Wo (210 Deg)	None						52		
49	Structure Wo (240 Deg)	None						52		
50	Structure Wo (270 Deg)	None						52		
51	Structure Wo (300 Deg)	None						52		
52	Structure Wo (330 Deg)	None						52		
53	Structure Wi (0 Deg)	None						52		
54	Structure Wi (30 Deg)	None						52		
55	Structure Wi (60 Deg)	None						52		
56	Structure Wi (90 Deg)	None						52		

Basic Load Cases (Continued)

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Member)	Surfa...
57	Structure Wi (120 Deg)	None						52		
58	Structure Wi (150 Deg)	None						52		
59	Structure Wi (180 Deg)	None						52		
60	Structure Wi (210 Deg)	None						52		
61	Structure Wi (240 Deg)	None						52		
62	Structure Wi (270 Deg)	None						52		
63	Structure Wi (300 Deg)	None						52		
64	Structure Wi (330 Deg)	None						52		
65	Structure Wm (0 Deg)	None						52		
66	Structure Wm (30 Deg)	None						52		
67	Structure Wm (60 Deg)	None						52		
68	Structure Wm (90 Deg)	None						52		
69	Structure Wm (120 Deg)	None						52		
70	Structure Wm (150 Deg)	None						52		
71	Structure Wm (180 Deg)	None						52		
72	Structure Wm (210 Deg)	None						52		
73	Structure Wm (240 Deg)	None						52		
74	Structure Wm (270 Deg)	None						52		
75	Structure Wm (300 Deg)	None						52		
76	Structure Wm (330 Deg)	None						52		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					36			
82	Antenna Eh (0 Deg)	None					24			
83	Antenna Eh (90 Deg)	None					24			
84	Structure Ev	ELY		-.0439						
85	Structure Eh (0 Deg)	ELZ			-.1099					
86	Structure Eh (90 Deg)	ELX	.1099							

Load Combinations

	Description	S...	PDel...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.2D+1.0Wo (0 Deg)	Yes	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0Wo (30 Deg)	Yes	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0Wo (60 Deg)	Yes	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0Wo (90 Deg)	Yes	Y		1	1.2	39	1.2	6	1	44	1												
5	1.2D+1.0Wo (120 De...	Yes	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0Wo (150 De...	Yes	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0Wo (180 De...	Yes	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0Wo (210 De...	Yes	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0Wo (240 De...	Yes	Y		1	1.2	39	1.2	11	1	49	1												
10	1.2D+1.0Wo (270 De...	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0Wo (300 De...	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0Wo (330 De...	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								

Load Combinations (Continued)

	Description	S...	PDel...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
23	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		ELZ	1	E...					
53	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	.5	ELZ	.866	E...	.5				
54	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	.866	ELZ	.5	E...	.866				
55	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	ELZ		E...	1				
56	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	.866	ELZ	-.5	E...	.866				
57	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	.5	ELZ	-.8...	E...	.5				
58	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		ELZ	-1	E...					
59	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	-.5	ELZ	-.8...	E...	-.5				
60	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.8...	ELZ	-.5	E...	-.8...				
61	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	ELZ		E...	-1				
62	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.8...	ELZ	.5	E...	-.8...				
63	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	-.5	ELZ	.866	E...	-.5				
64	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		ELZ	1	E...					
65	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	.5	ELZ	.866	E...	.5				
66	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	.866	ELZ	.5	E...	.866				
67	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	ELZ		E...	1				
68	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	.866	ELZ	-.5	E...	.866				
69	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	.5	ELZ	-.8...	E...	.5				
70	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		ELZ	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	-.5	ELZ	-.8...	E...	-.5				
72	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.8...	ELZ	-.5	E...	-.8...				
73	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	ELZ		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.8...	ELZ	.5	E...	-.8...				
75	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	-.5	ELZ	.866	E...	-.5				

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Desig...	A [in2]	Iyy [i...	Izz [i...	J [in4]
1	Antenna Pipe	PIPE 2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
2	Face Horizontal	PIPE 2.5	Beam	Pipe	Q235	Typical	1.61	1.45	1.45	2.89
3	Standoff Horizontal	PIPE 2.0	Beam	Pipe	Q235	Typical	1.02	.627	.627	1.25
4	Standoff Diagonal	SR 0.75	Beam	BAR	Q235	Typical	.4418	.0155	.0155	.0311
5	Tieback	PIPE 2.0	Beam	Pipe	Q235	Typical	1.02	.627	.627	1.25
6	Standoff Vertical	SR 0.625 HRA	Beam	BAR	Q235	Typical	.307	.007	.007	.015
7	Standoff Plate	PL5/8X3.5	Beam	BAR	Q235	Typical	2.1875	.0712	2.2331	.2528

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
5	A500 Gr. B 42	29000	11154	.3	.65	.49	42	1.4	58	1.3
6	A500 Gr. B 46	29000	11154	.3	.65	.49	46	1.4	58	1.3
7	Q235	29000	11154	.3	.65	.49	35	1.5	58	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
1	LV	N2	N1			Face Horizontal	Beam	Pipe	Q235	Typical
2	M2	N4	N3			Face Horizontal	Beam	Pipe	Q235	Typical
3	M3	N5	N13			RIGID	None	None	RIGID	Typical
4	M4	N6	N14			RIGID	None	None	RIGID	Typical
5	M9	N10	N18			RIGID	None	None	RIGID	Typical
6	LM1	N9	N17			RIGID	None	None	RIGID	Typical
7	M11	N12	N20			RIGID	None	None	RIGID	Typical
8	LM2	N11	N19			RIGID	None	None	RIGID	Typical
9	M13	N22	N26		90	Standoff Plate	Beam	BAR	Q235	Typical
10	M14	N21	N25		90	Standoff Plate	Beam	BAR	Q235	Typical
11	M15	N23	N27		90	Standoff Plate	Beam	BAR	Q235	Typical
12	M16	N24	N28		90	Standoff Plate	Beam	BAR	Q235	Typical
13	M17	N26	N32			Standoff Horizontal	Beam	Pipe	Q235	Typical
14	M18	N25	N31			Standoff Horizontal	Beam	Pipe	Q235	Typical
15	M19	N27	N33			Standoff Horizontal	Beam	Pipe	Q235	Typical
16	M20	N28	N34			Standoff Horizontal	Beam	Pipe	Q235	Typical
17	M21	N32	N30		90	Standoff Plate	Beam	BAR	Q235	Typical
18	M22	N34	N30		90	Standoff Plate	Beam	BAR	Q235	Typical
19	M23	N31	N29		90	Standoff Plate	Beam	BAR	Q235	Typical
20	M24	N33	N29		90	Standoff Plate	Beam	BAR	Q235	Typical
21	M25	N31	N26			Standoff Diagonal	Beam	BAR	Q235	Typical
22	M26	N32	N25			Standoff Diagonal	Beam	BAR	Q235	Typical
23	M27	N33	N28			Standoff Diagonal	Beam	BAR	Q235	Typical
24	M28	N27	N34			Standoff Diagonal	Beam	BAR	Q235	Typical
25	M29	N29	N35			RIGID	None	None	RIGID	Typical
26	M30	N30	N36			RIGID	None	None	RIGID	Typical
27	MP3A	N39	N43			Antenna Pipe	Beam	Pipe	A53 Gr. B	Typical
28	MP2A	N41	N45			Antenna Pipe	Beam	Pipe	A53 Gr. B	Typical
29	MP1A	N42	N46			Antenna Pipe	Beam	Pipe	A53 Gr. B	Typical
30	M44	N25	N26			Standoff Vertical	Beam	BAR	Q235	Typical
31	M45	N31	N32			Standoff Vertical	Beam	BAR	Q235	Typical
32	M46	N33	N34			Standoff Vertical	Beam	BAR	Q235	Typical
33	M47	N27	N28			Standoff Vertical	Beam	BAR	Q235	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
34	M47B	N22	N60			RIGID	None	None	RIGID	Typical
35	M48A	N21	N59			RIGID	None	None	RIGID	Typical
36	M49A	N24	N62			RIGID	None	None	RIGID	Typical
37	M50A	N23	N61			RIGID	None	None	RIGID	Typical
38	M51A	N30	N36			RIGID	None	None	RIGID	Typical
39	M52A	N29	N35			RIGID	None	None	RIGID	Typical
40	M44A	N60A	N62A			Tieback	Beam	Pipe	Q235	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opti...	Analysis ...	Inactive	Seismi...
1	LV						Yes				None
2	M2						Yes				None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M9						Yes	** NA **			None
6	LM1						Yes	** NA **			None
7	M11						Yes	** NA **			None
8	LM2						Yes	** NA **			None
9	M13						Yes	Default			None
10	M14						Yes	Default			None
11	M15						Yes				None
12	M16						Yes				None
13	M17						Yes	Default			None
14	M18						Yes				None
15	M19						Yes				None
16	M20						Yes	Default			None
17	M21						Yes	Default			None
18	M22						Yes				None
19	M23						Yes				None
20	M24						Yes				None
21	M25	BenPIN	BenPIN			Euler Bu...	Yes	Default			None
22	M26	BenPIN	BenPIN			Euler Bu...	Yes	Default			None
23	M27	BenPIN	BenPIN			Euler Bu...	Yes				None
24	M28	BenPIN	BenPIN			Euler Bu...	Yes				None
25	M29						Yes	** NA **		Inactive	None
26	M30						Yes	** NA **		Inactive	None
27	MP3A						Yes				None
28	MP2A						Yes				None
29	MP1A						Yes				None
30	M44	BenPIN	BenPIN				Yes				None
31	M45	BenPIN	BenPIN				Yes				None
32	M46	BenPIN	BenPIN				Yes				None
33	M47	BenPIN	BenPIN				Yes	Default			None
34	M47B		OOOXOO				Yes	** NA **			None
35	M48A		OOOXOO				Yes	** NA **			None
36	M49A		OOOXOO				Yes	** NA **			None
37	M50A		OOOXOO				Yes	** NA **			None
38	M51A						Yes	** NA **			None
39	M52A						Yes	** NA **			None
40	M44A	BenPIN					Yes	Default			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-43.55	4.17
2	MP1A	My	-.0218	4.17
3	MP1A	Mz	0	4.17
4	MP1A	Y	-43.55	6.17
5	MP1A	My	-.0218	6.17
6	MP1A	Mz	0	6.17
7	MP2A	Y	-70.3	1
8	MP2A	My	.0352	1
9	MP2A	Mz	0	1
10	MP2A	Y	-39	2.67
11	MP2A	My	-.0195	2.67
12	MP2A	Mz	.026	2.67
13	MP2A	Y	-39	7.67
14	MP2A	My	-.0195	7.67
15	MP2A	Mz	.026	7.67
16	MP2A	Y	-39	2.67
17	MP2A	My	-.0195	2.67
18	MP2A	Mz	-.026	2.67
19	MP2A	Y	-39	7.67
20	MP2A	My	-.0195	7.67
21	MP2A	Mz	-.026	7.67
22	MP2A	Y	-84.4	4.75
23	MP2A	My	.0422	4.75
24	MP2A	Mz	0	4.75
25	MP3A	Y	-11.55	4.67
26	MP3A	My	-.0058	4.67
27	MP3A	Mz	0	4.67
28	MP3A	Y	-11.55	5.67
29	MP3A	My	-.0058	5.67
30	MP3A	Mz	0	5.67
31	MP2A	Y	-17.6	7.75
32	MP2A	My	.0176	7.75
33	MP2A	Mz	-.0059	7.75
34	MP2A	Y	-17.6	7.75
35	MP2A	My	.0176	7.75
36	MP2A	Mz	.0059	7.75

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-35.2171	4.17
2	MP1A	My	-.0176	4.17
3	MP1A	Mz	0	4.17
4	MP1A	Y	-35.2171	6.17
5	MP1A	My	-.0176	6.17
6	MP1A	Mz	0	6.17
7	MP2A	Y	-39.9198	1
8	MP2A	My	.02	1
9	MP2A	Mz	0	1
10	MP2A	Y	-81.5727	2.67
11	MP2A	My	-.0408	2.67
12	MP2A	Mz	.0544	2.67
13	MP2A	Y	-81.5727	7.67
14	MP2A	My	-.0408	7.67
15	MP2A	Mz	.0544	7.67
16	MP2A	Y	-81.5727	2.67

Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
17	MP2A	My	-.0408	2.67
18	MP2A	Mz	-.0544	2.67
19	MP2A	Y	-81.5727	7.67
20	MP2A	My	-.0408	7.67
21	MP2A	Mz	-.0544	7.67
22	MP2A	Y	-44.393	4.75
23	MP2A	My	.0222	4.75
24	MP2A	Mz	0	4.75
25	MP3A	Y	-14.7583	4.67
26	MP3A	My	-.0074	4.67
27	MP3A	Mz	0	4.67
28	MP3A	Y	-14.7583	5.67
29	MP3A	My	-.0074	5.67
30	MP3A	Mz	0	5.67
31	MP2A	Y	6.6	7.75
32	MP2A	My	-.0066	7.75
33	MP2A	Mz	.0022	7.75
34	MP2A	Y	6.6	7.75
35	MP2A	My	-.0066	7.75
36	MP2A	Mz	-.0022	7.75

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	4.17
2	MP1A	Z	-68.287	4.17
3	MP1A	Mx	0	4.17
4	MP1A	X	0	6.17
5	MP1A	Z	-68.287	6.17
6	MP1A	Mx	0	6.17
7	MP2A	X	0	1
8	MP2A	Z	-54.002	1
9	MP2A	Mx	0	1
10	MP2A	X	0	2.67
11	MP2A	Z	-82.397	2.67
12	MP2A	Mx	-.0549	2.67
13	MP2A	X	0	7.67
14	MP2A	Z	-82.397	7.67
15	MP2A	Mx	-.0549	7.67
16	MP2A	X	0	2.67
17	MP2A	Z	-82.397	2.67
18	MP2A	Mx	.0549	2.67
19	MP2A	X	0	7.67
20	MP2A	Z	-82.397	7.67
21	MP2A	Mx	.0549	7.67
22	MP2A	X	0	4.75
23	MP2A	Z	-54.002	4.75
24	MP2A	Mx	0	4.75
25	MP3A	X	0	4.67
26	MP3A	Z	-26.827	4.67
27	MP3A	Mx	0	4.67
28	MP3A	X	0	5.67
29	MP3A	Z	-26.827	5.67
30	MP3A	Mx	0	5.67
31	MP2A	X	0	7.75
32	MP2A	Z	-33.447	7.75
33	MP2A	Mx	.0111	7.75

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
34	MP2A	X	0	7.75
35	MP2A	Z	-33.447	7.75
36	MP2A	Mx	-.0111	7.75

Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	28.547	4.17
2	MP1A	Z	-49.445	4.17
3	MP1A	Mx	-.0143	4.17
4	MP1A	X	28.547	6.17
5	MP1A	Z	-49.445	6.17
6	MP1A	Mx	-.0143	6.17
7	MP2A	X	23.953	1
8	MP2A	Z	-41.487	1
9	MP2A	Mx	.012	1
10	MP2A	X	38.607	2.67
11	MP2A	Z	-66.87	2.67
12	MP2A	Mx	-.0639	2.67
13	MP2A	X	38.607	7.67
14	MP2A	Z	-66.87	7.67
15	MP2A	Mx	-.0639	7.67
16	MP2A	X	38.607	2.67
17	MP2A	Z	-66.87	2.67
18	MP2A	Mx	.0253	2.67
19	MP2A	X	38.607	7.67
20	MP2A	Z	-66.87	7.67
21	MP2A	Mx	.0253	7.67
22	MP2A	X	24.78	4.75
23	MP2A	Z	-42.92	4.75
24	MP2A	Mx	.0124	4.75
25	MP3A	X	11.704	4.67
26	MP3A	Z	-20.271	4.67
27	MP3A	Mx	-.0059	4.67
28	MP3A	X	11.704	5.67
29	MP3A	Z	-20.271	5.67
30	MP3A	Mx	-.0059	5.67
31	MP2A	X	16.736	7.75
32	MP2A	Z	-28.987	7.75
33	MP2A	Mx	.0264	7.75
34	MP2A	X	16.736	7.75
35	MP2A	Z	-28.987	7.75
36	MP2A	Mx	.0071	7.75

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	30.059	4.17
2	MP1A	Z	-17.355	4.17
3	MP1A	Mx	-.015	4.17
4	MP1A	X	30.059	6.17
5	MP1A	Z	-17.355	6.17
6	MP1A	Mx	-.015	6.17
7	MP2A	X	30.927	1
8	MP2A	Z	-17.856	1
9	MP2A	Mx	.0155	1
10	MP2A	X	57.894	2.67
11	MP2A	Z	-33.425	2.67

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
12	MP2A	Mx	-.0512	2.67
13	MP2A	X	57.894	7.67
14	MP2A	Z	-33.425	7.67
15	MP2A	Mx	-.0512	7.67
16	MP2A	X	57.894	2.67
17	MP2A	Z	-33.425	2.67
18	MP2A	Mx	-.0067	2.67
19	MP2A	X	57.894	7.67
20	MP2A	Z	-33.425	7.67
21	MP2A	Mx	-.0067	7.67
22	MP2A	X	35.226	4.75
23	MP2A	Z	-20.338	4.75
24	MP2A	Mx	.0176	4.75
25	MP3A	X	14.348	4.67
26	MP3A	Z	-8.284	4.67
27	MP3A	Mx	-.0072	4.67
28	MP3A	X	14.348	5.67
29	MP3A	Z	-8.284	5.67
30	MP3A	Mx	-.0072	5.67
31	MP2A	X	29.03	7.75
32	MP2A	Z	-16.76	7.75
33	MP2A	Mx	.0346	7.75
34	MP2A	X	29.03	7.75
35	MP2A	Z	-16.76	7.75
36	MP2A	Mx	.0234	7.75

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	23.517	4.17
2	MP1A	Z	0	4.17
3	MP1A	Mx	-.0118	4.17
4	MP1A	X	23.517	6.17
5	MP1A	Z	0	6.17
6	MP1A	Mx	-.0118	6.17
7	MP2A	X	29.614	1
8	MP2A	Z	0	1
9	MP2A	Mx	.0148	1
10	MP2A	X	61.667	2.67
11	MP2A	Z	0	2.67
12	MP2A	Mx	-.0308	2.67
13	MP2A	X	61.667	7.67
14	MP2A	Z	0	7.67
15	MP2A	Mx	-.0308	7.67
16	MP2A	X	61.667	2.67
17	MP2A	Z	0	2.67
18	MP2A	Mx	-.0308	2.67
19	MP2A	X	61.667	7.67
20	MP2A	Z	0	7.67
21	MP2A	Mx	-.0308	7.67
22	MP2A	X	36.234	4.75
23	MP2A	Z	0	4.75
24	MP2A	Mx	.0181	4.75
25	MP3A	X	13.148	4.67
26	MP3A	Z	0	4.67
27	MP3A	Mx	-.0066	4.67
28	MP3A	X	13.148	5.67

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP3A	Z	0	5.67
30	MP3A	Mx	-.0066	5.67
31	MP2A	X	33.545	7.75
32	MP2A	Z	0	7.75
33	MP2A	Mx	.0335	7.75
34	MP2A	X	33.545	7.75
35	MP2A	Z	0	7.75
36	MP2A	Mx	.0335	7.75

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	30.059	4.17
2	MP1A	Z	17.355	4.17
3	MP1A	Mx	-.015	4.17
4	MP1A	X	30.059	6.17
5	MP1A	Z	17.355	6.17
6	MP1A	Mx	-.015	6.17
7	MP2A	X	30.927	1
8	MP2A	Z	17.856	1
9	MP2A	Mx	.0155	1
10	MP2A	X	57.894	2.67
11	MP2A	Z	33.425	2.67
12	MP2A	Mx	-.0067	2.67
13	MP2A	X	57.894	7.67
14	MP2A	Z	33.425	7.67
15	MP2A	Mx	-.0067	7.67
16	MP2A	X	57.894	2.67
17	MP2A	Z	33.425	2.67
18	MP2A	Mx	-.0512	2.67
19	MP2A	X	57.894	7.67
20	MP2A	Z	33.425	7.67
21	MP2A	Mx	-.0512	7.67
22	MP2A	X	35.226	4.75
23	MP2A	Z	20.338	4.75
24	MP2A	Mx	.0176	4.75
25	MP3A	X	14.348	4.67
26	MP3A	Z	8.284	4.67
27	MP3A	Mx	-.0072	4.67
28	MP3A	X	14.348	5.67
29	MP3A	Z	8.284	5.67
30	MP3A	Mx	-.0072	5.67
31	MP2A	X	29.03	7.75
32	MP2A	Z	16.76	7.75
33	MP2A	Mx	.0234	7.75
34	MP2A	X	29.03	7.75
35	MP2A	Z	16.76	7.75
36	MP2A	Mx	.0346	7.75

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	28.547	4.17
2	MP1A	Z	49.445	4.17
3	MP1A	Mx	-.0143	4.17
4	MP1A	X	28.547	6.17
5	MP1A	Z	49.445	6.17
6	MP1A	Mx	-.0143	6.17

Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP2A	X	23.953	1
8	MP2A	Z	41.487	1
9	MP2A	Mx	.012	1
10	MP2A	X	38.607	2.67
11	MP2A	Z	66.87	2.67
12	MP2A	Mx	.0253	2.67
13	MP2A	X	38.607	7.67
14	MP2A	Z	66.87	7.67
15	MP2A	Mx	.0253	7.67
16	MP2A	X	38.607	2.67
17	MP2A	Z	66.87	2.67
18	MP2A	Mx	-.0639	2.67
19	MP2A	X	38.607	7.67
20	MP2A	Z	66.87	7.67
21	MP2A	Mx	-.0639	7.67
22	MP2A	X	24.78	4.75
23	MP2A	Z	42.92	4.75
24	MP2A	Mx	.0124	4.75
25	MP3A	X	11.704	4.67
26	MP3A	Z	20.271	4.67
27	MP3A	Mx	-.0059	4.67
28	MP3A	X	11.704	5.67
29	MP3A	Z	20.271	5.67
30	MP3A	Mx	-.0059	5.67
31	MP2A	X	16.736	7.75
32	MP2A	Z	28.987	7.75
33	MP2A	Mx	.0071	7.75
34	MP2A	X	16.736	7.75
35	MP2A	Z	28.987	7.75
36	MP2A	Mx	.0264	7.75

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	4.17
2	MP1A	Z	68.287	4.17
3	MP1A	Mx	0	4.17
4	MP1A	X	0	6.17
5	MP1A	Z	68.287	6.17
6	MP1A	Mx	0	6.17
7	MP2A	X	0	1
8	MP2A	Z	54.002	1
9	MP2A	Mx	0	1
10	MP2A	X	0	2.67
11	MP2A	Z	82.397	2.67
12	MP2A	Mx	.0549	2.67
13	MP2A	X	0	7.67
14	MP2A	Z	82.397	7.67
15	MP2A	Mx	.0549	7.67
16	MP2A	X	0	2.67
17	MP2A	Z	82.397	2.67
18	MP2A	Mx	-.0549	2.67
19	MP2A	X	0	7.67
20	MP2A	Z	82.397	7.67
21	MP2A	Mx	-.0549	7.67
22	MP2A	X	0	4.75
23	MP2A	Z	54.002	4.75

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
24	MP2A	Mx	0	4.75
25	MP3A	X	0	4.67
26	MP3A	Z	26.827	4.67
27	MP3A	Mx	0	4.67
28	MP3A	X	0	5.67
29	MP3A	Z	26.827	5.67
30	MP3A	Mx	0	5.67
31	MP2A	X	0	7.75
32	MP2A	Z	33.447	7.75
33	MP2A	Mx	-.0111	7.75
34	MP2A	X	0	7.75
35	MP2A	Z	33.447	7.75
36	MP2A	Mx	.0111	7.75

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-28.547	4.17
2	MP1A	Z	49.445	4.17
3	MP1A	Mx	.0143	4.17
4	MP1A	X	-28.547	6.17
5	MP1A	Z	49.445	6.17
6	MP1A	Mx	.0143	6.17
7	MP2A	X	-23.953	1
8	MP2A	Z	41.487	1
9	MP2A	Mx	-.012	1
10	MP2A	X	-38.607	2.67
11	MP2A	Z	66.87	2.67
12	MP2A	Mx	.0639	2.67
13	MP2A	X	-38.607	7.67
14	MP2A	Z	66.87	7.67
15	MP2A	Mx	.0639	7.67
16	MP2A	X	-38.607	2.67
17	MP2A	Z	66.87	2.67
18	MP2A	Mx	-.0253	2.67
19	MP2A	X	-38.607	7.67
20	MP2A	Z	66.87	7.67
21	MP2A	Mx	-.0253	7.67
22	MP2A	X	-24.78	4.75
23	MP2A	Z	42.92	4.75
24	MP2A	Mx	-.0124	4.75
25	MP3A	X	-11.704	4.67
26	MP3A	Z	20.271	4.67
27	MP3A	Mx	.0059	4.67
28	MP3A	X	-11.704	5.67
29	MP3A	Z	20.271	5.67
30	MP3A	Mx	.0059	5.67
31	MP2A	X	-16.736	7.75
32	MP2A	Z	28.987	7.75
33	MP2A	Mx	-.0264	7.75
34	MP2A	X	-16.736	7.75
35	MP2A	Z	28.987	7.75
36	MP2A	Mx	-.0071	7.75

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-30.059	4.17

Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
2	MP1A	Z	17.355	4.17
3	MP1A	Mx	.015	4.17
4	MP1A	X	-30.059	6.17
5	MP1A	Z	17.355	6.17
6	MP1A	Mx	.015	6.17
7	MP2A	X	-30.927	1
8	MP2A	Z	17.856	1
9	MP2A	Mx	-.0155	1
10	MP2A	X	-57.894	2.67
11	MP2A	Z	33.425	2.67
12	MP2A	Mx	.0512	2.67
13	MP2A	X	-57.894	7.67
14	MP2A	Z	33.425	7.67
15	MP2A	Mx	.0512	7.67
16	MP2A	X	-57.894	2.67
17	MP2A	Z	33.425	2.67
18	MP2A	Mx	.0067	2.67
19	MP2A	X	-57.894	7.67
20	MP2A	Z	33.425	7.67
21	MP2A	Mx	.0067	7.67
22	MP2A	X	-35.226	4.75
23	MP2A	Z	20.338	4.75
24	MP2A	Mx	-.0176	4.75
25	MP3A	X	-14.348	4.67
26	MP3A	Z	8.284	4.67
27	MP3A	Mx	.0072	4.67
28	MP3A	X	-14.348	5.67
29	MP3A	Z	8.284	5.67
30	MP3A	Mx	.0072	5.67
31	MP2A	X	-29.03	7.75
32	MP2A	Z	16.76	7.75
33	MP2A	Mx	-.0346	7.75
34	MP2A	X	-29.03	7.75
35	MP2A	Z	16.76	7.75
36	MP2A	Mx	-.0234	7.75

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-23.517	4.17
2	MP1A	Z	0	4.17
3	MP1A	Mx	.0118	4.17
4	MP1A	X	-23.517	6.17
5	MP1A	Z	0	6.17
6	MP1A	Mx	.0118	6.17
7	MP2A	X	-29.614	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.0148	1
10	MP2A	X	-61.667	2.67
11	MP2A	Z	0	2.67
12	MP2A	Mx	.0308	2.67
13	MP2A	X	-61.667	7.67
14	MP2A	Z	0	7.67
15	MP2A	Mx	.0308	7.67
16	MP2A	X	-61.667	2.67
17	MP2A	Z	0	2.67
18	MP2A	Mx	.0308	2.67

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP2A	X	-61.667	7.67
20	MP2A	Z	0	7.67
21	MP2A	Mx	.0308	7.67
22	MP2A	X	-36.234	4.75
23	MP2A	Z	0	4.75
24	MP2A	Mx	-.0181	4.75
25	MP3A	X	-13.148	4.67
26	MP3A	Z	0	4.67
27	MP3A	Mx	.0066	4.67
28	MP3A	X	-13.148	5.67
29	MP3A	Z	0	5.67
30	MP3A	Mx	.0066	5.67
31	MP2A	X	-33.545	7.75
32	MP2A	Z	0	7.75
33	MP2A	Mx	-.0335	7.75
34	MP2A	X	-33.545	7.75
35	MP2A	Z	0	7.75
36	MP2A	Mx	-.0335	7.75

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-30.059	4.17
2	MP1A	Z	-17.355	4.17
3	MP1A	Mx	.015	4.17
4	MP1A	X	-30.059	6.17
5	MP1A	Z	-17.355	6.17
6	MP1A	Mx	.015	6.17
7	MP2A	X	-30.927	1
8	MP2A	Z	-17.856	1
9	MP2A	Mx	-.0155	1
10	MP2A	X	-57.894	2.67
11	MP2A	Z	-33.425	2.67
12	MP2A	Mx	.0067	2.67
13	MP2A	X	-57.894	7.67
14	MP2A	Z	-33.425	7.67
15	MP2A	Mx	.0067	7.67
16	MP2A	X	-57.894	2.67
17	MP2A	Z	-33.425	2.67
18	MP2A	Mx	.0512	2.67
19	MP2A	X	-57.894	7.67
20	MP2A	Z	-33.425	7.67
21	MP2A	Mx	.0512	7.67
22	MP2A	X	-35.226	4.75
23	MP2A	Z	-20.338	4.75
24	MP2A	Mx	-.0176	4.75
25	MP3A	X	-14.348	4.67
26	MP3A	Z	-8.284	4.67
27	MP3A	Mx	.0072	4.67
28	MP3A	X	-14.348	5.67
29	MP3A	Z	-8.284	5.67
30	MP3A	Mx	.0072	5.67
31	MP2A	X	-29.03	7.75
32	MP2A	Z	-16.76	7.75
33	MP2A	Mx	-.0234	7.75
34	MP2A	X	-29.03	7.75
35	MP2A	Z	-16.76	7.75

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP2A	Mx	-.0346	7.75

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-28.547	4.17
2	MP1A	Z	-49.445	4.17
3	MP1A	Mx	.0143	4.17
4	MP1A	X	-28.547	6.17
5	MP1A	Z	-49.445	6.17
6	MP1A	Mx	.0143	6.17
7	MP2A	X	-23.953	1
8	MP2A	Z	-41.487	1
9	MP2A	Mx	-.012	1
10	MP2A	X	-38.607	2.67
11	MP2A	Z	-66.87	2.67
12	MP2A	Mx	-.0253	2.67
13	MP2A	X	-38.607	7.67
14	MP2A	Z	-66.87	7.67
15	MP2A	Mx	-.0253	7.67
16	MP2A	X	-38.607	2.67
17	MP2A	Z	-66.87	2.67
18	MP2A	Mx	.0639	2.67
19	MP2A	X	-38.607	7.67
20	MP2A	Z	-66.87	7.67
21	MP2A	Mx	.0639	7.67
22	MP2A	X	-24.78	4.75
23	MP2A	Z	-42.92	4.75
24	MP2A	Mx	-.0124	4.75
25	MP3A	X	-11.704	4.67
26	MP3A	Z	-20.271	4.67
27	MP3A	Mx	.0059	4.67
28	MP3A	X	-11.704	5.67
29	MP3A	Z	-20.271	5.67
30	MP3A	Mx	.0059	5.67
31	MP2A	X	-16.736	7.75
32	MP2A	Z	-28.987	7.75
33	MP2A	Mx	-.0071	7.75
34	MP2A	X	-16.736	7.75
35	MP2A	Z	-28.987	7.75
36	MP2A	Mx	-.0264	7.75

Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	4.17
2	MP1A	Z	-15.266	4.17
3	MP1A	Mx	0	4.17
4	MP1A	X	0	6.17
5	MP1A	Z	-15.266	6.17
6	MP1A	Mx	0	6.17
7	MP2A	X	0	1
8	MP2A	Z	-12.859	1
9	MP2A	Mx	0	1
10	MP2A	X	0	2.67
11	MP2A	Z	-30.955	2.67
12	MP2A	Mx	-.0206	2.67
13	MP2A	X	0	7.67

Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP2A	Z	-30.955	7.67
15	MP2A	Mx	-.0206	7.67
16	MP2A	X	0	2.67
17	MP2A	Z	-30.955	2.67
18	MP2A	Mx	.0206	2.67
19	MP2A	X	0	7.67
20	MP2A	Z	-30.955	7.67
21	MP2A	Mx	.0206	7.67
22	MP2A	X	0	4.75
23	MP2A	Z	-12.859	4.75
24	MP2A	Mx	0	4.75
25	MP3A	X	0	4.67
26	MP3A	Z	-5.386	4.67
27	MP3A	Mx	0	4.67
28	MP3A	X	0	5.67
29	MP3A	Z	-5.386	5.67
30	MP3A	Mx	0	5.67
31	MP2A	X	0	7.75
32	MP2A	Z	-2.656	7.75
33	MP2A	Mx	.000885	7.75
34	MP2A	X	0	7.75
35	MP2A	Z	-2.656	7.75
36	MP2A	Mx	-.000885	7.75

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	6.537	4.17
2	MP1A	Z	-11.322	4.17
3	MP1A	Mx	-.0033	4.17
4	MP1A	X	6.537	6.17
5	MP1A	Z	-11.322	6.17
6	MP1A	Mx	-.0033	6.17
7	MP2A	X	5.754	1
8	MP2A	Z	-9.966	1
9	MP2A	Mx	.0029	1
10	MP2A	X	14.535	2.67
11	MP2A	Z	-25.175	2.67
12	MP2A	Mx	-.0241	2.67
13	MP2A	X	14.535	7.67
14	MP2A	Z	-25.175	7.67
15	MP2A	Mx	-.0241	7.67
16	MP2A	X	14.535	2.67
17	MP2A	Z	-25.175	2.67
18	MP2A	Mx	.0095	2.67
19	MP2A	X	14.535	7.67
20	MP2A	Z	-25.175	7.67
21	MP2A	Mx	.0095	7.67
22	MP2A	X	5.94	4.75
23	MP2A	Z	-10.288	4.75
24	MP2A	Mx	.003	4.75
25	MP3A	X	2.383	4.67
26	MP3A	Z	-4.127	4.67
27	MP3A	Mx	-.0012	4.67
28	MP3A	X	2.383	5.67
29	MP3A	Z	-4.127	5.67
30	MP3A	Mx	-.0012	5.67

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP2A	X	1.879	7.75
32	MP2A	Z	-3.255	7.75
33	MP2A	Mx	.003	7.75
34	MP2A	X	1.879	7.75
35	MP2A	Z	-3.255	7.75
36	MP2A	Mx	.000794	7.75

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	7.525	4.17
2	MP1A	Z	-4.345	4.17
3	MP1A	Mx	-.0038	4.17
4	MP1A	X	7.525	6.17
5	MP1A	Z	-4.345	6.17
6	MP1A	Mx	-.0038	6.17
7	MP2A	X	7.625	1
8	MP2A	Z	-4.402	1
9	MP2A	Mx	.0038	1
10	MP2A	X	21.909	2.67
11	MP2A	Z	-12.649	2.67
12	MP2A	Mx	-.0194	2.67
13	MP2A	X	21.909	7.67
14	MP2A	Z	-12.649	7.67
15	MP2A	Mx	-.0194	7.67
16	MP2A	X	21.909	2.67
17	MP2A	Z	-12.649	2.67
18	MP2A	Mx	-.0025	2.67
19	MP2A	X	21.909	7.67
20	MP2A	Z	-12.649	7.67
21	MP2A	Mx	-.0025	7.67
22	MP2A	X	8.592	4.75
23	MP2A	Z	-4.96	4.75
24	MP2A	Mx	.0043	4.75
25	MP3A	X	3.052	4.67
26	MP3A	Z	-1.762	4.67
27	MP3A	Mx	-.0015	4.67
28	MP3A	X	3.052	5.67
29	MP3A	Z	-1.762	5.67
30	MP3A	Mx	-.0015	5.67
31	MP2A	X	5.163	7.75
32	MP2A	Z	-2.981	7.75
33	MP2A	Mx	.0062	7.75
34	MP2A	X	5.163	7.75
35	MP2A	Z	-2.981	7.75
36	MP2A	Mx	.0042	7.75

Member Point Loads (BLC 18 : Antenna Wi (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	6.497	4.17
2	MP1A	Z	0	4.17
3	MP1A	Mx	-.0032	4.17
4	MP1A	X	6.497	6.17
5	MP1A	Z	0	6.17
6	MP1A	Mx	-.0032	6.17
7	MP2A	X	7.452	1
8	MP2A	Z	0	1

Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP2A	Mx	.0037	1
10	MP2A	X	23.413	2.67
11	MP2A	Z	0	2.67
12	MP2A	Mx	-.0117	2.67
13	MP2A	X	23.413	7.67
14	MP2A	Z	0	7.67
15	MP2A	Mx	-.0117	7.67
16	MP2A	X	23.413	2.67
17	MP2A	Z	0	2.67
18	MP2A	Mx	-.0117	2.67
19	MP2A	X	23.413	7.67
20	MP2A	Z	0	7.67
21	MP2A	Mx	-.0117	7.67
22	MP2A	X	8.941	4.75
23	MP2A	Z	0	4.75
24	MP2A	Mx	.0045	4.75
25	MP3A	X	2.904	4.67
26	MP3A	Z	0	4.67
27	MP3A	Mx	-.0015	4.67
28	MP3A	X	2.904	5.67
29	MP3A	Z	0	5.67
30	MP3A	Mx	-.0015	5.67
31	MP2A	X	7.064	7.75
32	MP2A	Z	0	7.75
33	MP2A	Mx	.0071	7.75
34	MP2A	X	7.064	7.75
35	MP2A	Z	0	7.75
36	MP2A	Mx	.0071	7.75

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	7.525	4.17
2	MP1A	Z	4.345	4.17
3	MP1A	Mx	-.0038	4.17
4	MP1A	X	7.525	6.17
5	MP1A	Z	4.345	6.17
6	MP1A	Mx	-.0038	6.17
7	MP2A	X	7.625	1
8	MP2A	Z	4.402	1
9	MP2A	Mx	.0038	1
10	MP2A	X	21.909	2.67
11	MP2A	Z	12.649	2.67
12	MP2A	Mx	-.0025	2.67
13	MP2A	X	21.909	7.67
14	MP2A	Z	12.649	7.67
15	MP2A	Mx	-.0025	7.67
16	MP2A	X	21.909	2.67
17	MP2A	Z	12.649	2.67
18	MP2A	Mx	-.0194	2.67
19	MP2A	X	21.909	7.67
20	MP2A	Z	12.649	7.67
21	MP2A	Mx	-.0194	7.67
22	MP2A	X	8.592	4.75
23	MP2A	Z	4.96	4.75
24	MP2A	Mx	.0043	4.75
25	MP3A	X	3.052	4.67

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
26	MP3A	Z	1.762	4.67
27	MP3A	Mx	-.0015	4.67
28	MP3A	X	3.052	5.67
29	MP3A	Z	1.762	5.67
30	MP3A	Mx	-.0015	5.67
31	MP2A	X	5.163	7.75
32	MP2A	Z	2.981	7.75
33	MP2A	Mx	.0042	7.75
34	MP2A	X	5.163	7.75
35	MP2A	Z	2.981	7.75
36	MP2A	Mx	.0062	7.75

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	6.537	4.17
2	MP1A	Z	11.322	4.17
3	MP1A	Mx	-.0033	4.17
4	MP1A	X	6.537	6.17
5	MP1A	Z	11.322	6.17
6	MP1A	Mx	-.0033	6.17
7	MP2A	X	5.754	1
8	MP2A	Z	9.966	1
9	MP2A	Mx	.0029	1
10	MP2A	X	14.535	2.67
11	MP2A	Z	25.175	2.67
12	MP2A	Mx	.0095	2.67
13	MP2A	X	14.535	7.67
14	MP2A	Z	25.175	7.67
15	MP2A	Mx	.0095	7.67
16	MP2A	X	14.535	2.67
17	MP2A	Z	25.175	2.67
18	MP2A	Mx	-.0241	2.67
19	MP2A	X	14.535	7.67
20	MP2A	Z	25.175	7.67
21	MP2A	Mx	-.0241	7.67
22	MP2A	X	5.94	4.75
23	MP2A	Z	10.288	4.75
24	MP2A	Mx	.003	4.75
25	MP3A	X	2.383	4.67
26	MP3A	Z	4.127	4.67
27	MP3A	Mx	-.0012	4.67
28	MP3A	X	2.383	5.67
29	MP3A	Z	4.127	5.67
30	MP3A	Mx	-.0012	5.67
31	MP2A	X	1.879	7.75
32	MP2A	Z	3.255	7.75
33	MP2A	Mx	.000794	7.75
34	MP2A	X	1.879	7.75
35	MP2A	Z	3.255	7.75
36	MP2A	Mx	.003	7.75

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	4.17
2	MP1A	Z	15.266	4.17
3	MP1A	Mx	0	4.17

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	0	6.17
5	MP1A	Z	15.266	6.17
6	MP1A	Mx	0	6.17
7	MP2A	X	0	1
8	MP2A	Z	12.859	1
9	MP2A	Mx	0	1
10	MP2A	X	0	2.67
11	MP2A	Z	30.955	2.67
12	MP2A	Mx	.0206	2.67
13	MP2A	X	0	7.67
14	MP2A	Z	30.955	7.67
15	MP2A	Mx	.0206	7.67
16	MP2A	X	0	2.67
17	MP2A	Z	30.955	2.67
18	MP2A	Mx	-.0206	2.67
19	MP2A	X	0	7.67
20	MP2A	Z	30.955	7.67
21	MP2A	Mx	-.0206	7.67
22	MP2A	X	0	4.75
23	MP2A	Z	12.859	4.75
24	MP2A	Mx	0	4.75
25	MP3A	X	0	4.67
26	MP3A	Z	5.386	4.67
27	MP3A	Mx	0	4.67
28	MP3A	X	0	5.67
29	MP3A	Z	5.386	5.67
30	MP3A	Mx	0	5.67
31	MP2A	X	0	7.75
32	MP2A	Z	2.656	7.75
33	MP2A	Mx	-.000885	7.75
34	MP2A	X	0	7.75
35	MP2A	Z	2.656	7.75
36	MP2A	Mx	.000885	7.75

Member Point Loads (BLC 22 : Antenna Wi (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-6.537	4.17
2	MP1A	Z	11.322	4.17
3	MP1A	Mx	.0033	4.17
4	MP1A	X	-6.537	6.17
5	MP1A	Z	11.322	6.17
6	MP1A	Mx	.0033	6.17
7	MP2A	X	-5.754	1
8	MP2A	Z	9.966	1
9	MP2A	Mx	-.0029	1
10	MP2A	X	-14.535	2.67
11	MP2A	Z	25.175	2.67
12	MP2A	Mx	.0241	2.67
13	MP2A	X	-14.535	7.67
14	MP2A	Z	25.175	7.67
15	MP2A	Mx	.0241	7.67
16	MP2A	X	-14.535	2.67
17	MP2A	Z	25.175	2.67
18	MP2A	Mx	-.0095	2.67
19	MP2A	X	-14.535	7.67
20	MP2A	Z	25.175	7.67

Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP2A	Mx	-.0095	7.67
22	MP2A	X	-5.94	4.75
23	MP2A	Z	10.288	4.75
24	MP2A	Mx	-.003	4.75
25	MP3A	X	-2.383	4.67
26	MP3A	Z	4.127	4.67
27	MP3A	Mx	.0012	4.67
28	MP3A	X	-2.383	5.67
29	MP3A	Z	4.127	5.67
30	MP3A	Mx	.0012	5.67
31	MP2A	X	-1.879	7.75
32	MP2A	Z	3.255	7.75
33	MP2A	Mx	-.003	7.75
34	MP2A	X	-1.879	7.75
35	MP2A	Z	3.255	7.75
36	MP2A	Mx	-.000794	7.75

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-7.525	4.17
2	MP1A	Z	4.345	4.17
3	MP1A	Mx	.0038	4.17
4	MP1A	X	-7.525	6.17
5	MP1A	Z	4.345	6.17
6	MP1A	Mx	.0038	6.17
7	MP2A	X	-7.625	1
8	MP2A	Z	4.402	1
9	MP2A	Mx	-.0038	1
10	MP2A	X	-21.909	2.67
11	MP2A	Z	12.649	2.67
12	MP2A	Mx	.0194	2.67
13	MP2A	X	-21.909	7.67
14	MP2A	Z	12.649	7.67
15	MP2A	Mx	.0194	7.67
16	MP2A	X	-21.909	2.67
17	MP2A	Z	12.649	2.67
18	MP2A	Mx	.0025	2.67
19	MP2A	X	-21.909	7.67
20	MP2A	Z	12.649	7.67
21	MP2A	Mx	.0025	7.67
22	MP2A	X	-8.592	4.75
23	MP2A	Z	4.96	4.75
24	MP2A	Mx	-.0043	4.75
25	MP3A	X	-3.052	4.67
26	MP3A	Z	1.762	4.67
27	MP3A	Mx	.0015	4.67
28	MP3A	X	-3.052	5.67
29	MP3A	Z	1.762	5.67
30	MP3A	Mx	.0015	5.67
31	MP2A	X	-5.163	7.75
32	MP2A	Z	2.981	7.75
33	MP2A	Mx	-.0062	7.75
34	MP2A	X	-5.163	7.75
35	MP2A	Z	2.981	7.75
36	MP2A	Mx	-.0042	7.75

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-6.497	4.17
2	MP1A	Z	0	4.17
3	MP1A	Mx	.0032	4.17
4	MP1A	X	-6.497	6.17
5	MP1A	Z	0	6.17
6	MP1A	Mx	.0032	6.17
7	MP2A	X	-7.452	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.0037	1
10	MP2A	X	-23.413	2.67
11	MP2A	Z	0	2.67
12	MP2A	Mx	.0117	2.67
13	MP2A	X	-23.413	7.67
14	MP2A	Z	0	7.67
15	MP2A	Mx	.0117	7.67
16	MP2A	X	-23.413	2.67
17	MP2A	Z	0	2.67
18	MP2A	Mx	.0117	2.67
19	MP2A	X	-23.413	7.67
20	MP2A	Z	0	7.67
21	MP2A	Mx	.0117	7.67
22	MP2A	X	-8.941	4.75
23	MP2A	Z	0	4.75
24	MP2A	Mx	-.0045	4.75
25	MP3A	X	-2.904	4.67
26	MP3A	Z	0	4.67
27	MP3A	Mx	.0015	4.67
28	MP3A	X	-2.904	5.67
29	MP3A	Z	0	5.67
30	MP3A	Mx	.0015	5.67
31	MP2A	X	-7.064	7.75
32	MP2A	Z	0	7.75
33	MP2A	Mx	-.0071	7.75
34	MP2A	X	-7.064	7.75
35	MP2A	Z	0	7.75
36	MP2A	Mx	-.0071	7.75

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-7.525	4.17
2	MP1A	Z	-4.345	4.17
3	MP1A	Mx	.0038	4.17
4	MP1A	X	-7.525	6.17
5	MP1A	Z	-4.345	6.17
6	MP1A	Mx	.0038	6.17
7	MP2A	X	-7.625	1
8	MP2A	Z	-4.402	1
9	MP2A	Mx	-.0038	1
10	MP2A	X	-21.909	2.67
11	MP2A	Z	-12.649	2.67
12	MP2A	Mx	.0025	2.67
13	MP2A	X	-21.909	7.67
14	MP2A	Z	-12.649	7.67
15	MP2A	Mx	.0025	7.67
16	MP2A	X	-21.909	2.67
17	MP2A	Z	-12.649	2.67

Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP2A	Mx	.0194	2.67
19	MP2A	X	-21.909	7.67
20	MP2A	Z	-12.649	7.67
21	MP2A	Mx	.0194	7.67
22	MP2A	X	-8.592	4.75
23	MP2A	Z	-4.96	4.75
24	MP2A	Mx	-.0043	4.75
25	MP3A	X	-3.052	4.67
26	MP3A	Z	-1.762	4.67
27	MP3A	Mx	.0015	4.67
28	MP3A	X	-3.052	5.67
29	MP3A	Z	-1.762	5.67
30	MP3A	Mx	.0015	5.67
31	MP2A	X	-5.163	7.75
32	MP2A	Z	-2.981	7.75
33	MP2A	Mx	-.0042	7.75
34	MP2A	X	-5.163	7.75
35	MP2A	Z	-2.981	7.75
36	MP2A	Mx	-.0062	7.75

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-6.537	4.17
2	MP1A	Z	-11.322	4.17
3	MP1A	Mx	.0033	4.17
4	MP1A	X	-6.537	6.17
5	MP1A	Z	-11.322	6.17
6	MP1A	Mx	.0033	6.17
7	MP2A	X	-5.754	1
8	MP2A	Z	-9.966	1
9	MP2A	Mx	-.0029	1
10	MP2A	X	-14.535	2.67
11	MP2A	Z	-25.175	2.67
12	MP2A	Mx	-.0095	2.67
13	MP2A	X	-14.535	7.67
14	MP2A	Z	-25.175	7.67
15	MP2A	Mx	-.0095	7.67
16	MP2A	X	-14.535	2.67
17	MP2A	Z	-25.175	2.67
18	MP2A	Mx	.0241	2.67
19	MP2A	X	-14.535	7.67
20	MP2A	Z	-25.175	7.67
21	MP2A	Mx	.0241	7.67
22	MP2A	X	-5.94	4.75
23	MP2A	Z	-10.288	4.75
24	MP2A	Mx	-.003	4.75
25	MP3A	X	-2.383	4.67
26	MP3A	Z	-4.127	4.67
27	MP3A	Mx	.0012	4.67
28	MP3A	X	-2.383	5.67
29	MP3A	Z	-4.127	5.67
30	MP3A	Mx	.0012	5.67
31	MP2A	X	-1.879	7.75
32	MP2A	Z	-3.255	7.75
33	MP2A	Mx	-.000794	7.75
34	MP2A	X	-1.879	7.75

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
35	MP2A	Z	-3.255	7.75
36	MP2A	Mx	-.003	7.75

Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	4.17
2	MP1A	Z	-4.062	4.17
3	MP1A	Mx	0	4.17
4	MP1A	X	0	6.17
5	MP1A	Z	-4.062	6.17
6	MP1A	Mx	0	6.17
7	MP2A	X	0	1
8	MP2A	Z	-3.213	1
9	MP2A	Mx	0	1
10	MP2A	X	0	2.67
11	MP2A	Z	-4.902	2.67
12	MP2A	Mx	-.0033	2.67
13	MP2A	X	0	7.67
14	MP2A	Z	-4.902	7.67
15	MP2A	Mx	-.0033	7.67
16	MP2A	X	0	2.67
17	MP2A	Z	-4.902	2.67
18	MP2A	Mx	.0033	2.67
19	MP2A	X	0	7.67
20	MP2A	Z	-4.902	7.67
21	MP2A	Mx	.0033	7.67
22	MP2A	X	0	4.75
23	MP2A	Z	-3.213	4.75
24	MP2A	Mx	0	4.75
25	MP3A	X	0	4.67
26	MP3A	Z	-1.596	4.67
27	MP3A	Mx	0	4.67
28	MP3A	X	0	5.67
29	MP3A	Z	-1.596	5.67
30	MP3A	Mx	0	5.67
31	MP2A	X	0	7.75
32	MP2A	Z	-1.99	7.75
33	MP2A	Mx	.000663	7.75
34	MP2A	X	0	7.75
35	MP2A	Z	-1.99	7.75
36	MP2A	Mx	-.000663	7.75

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	1.698	4.17
2	MP1A	Z	-2.941	4.17
3	MP1A	Mx	-.000849	4.17
4	MP1A	X	1.698	6.17
5	MP1A	Z	-2.941	6.17
6	MP1A	Mx	-.000849	6.17
7	MP2A	X	1.425	1
8	MP2A	Z	-2.468	1
9	MP2A	Mx	.000712	1
10	MP2A	X	2.297	2.67
11	MP2A	Z	-3.978	2.67
12	MP2A	Mx	-.0038	2.67

Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP2A	X	2.297	7.67
14	MP2A	Z	-3.978	7.67
15	MP2A	Mx	-.0038	7.67
16	MP2A	X	2.297	2.67
17	MP2A	Z	-3.978	2.67
18	MP2A	Mx	.0015	2.67
19	MP2A	X	2.297	7.67
20	MP2A	Z	-3.978	7.67
21	MP2A	Mx	.0015	7.67
22	MP2A	X	1.474	4.75
23	MP2A	Z	-2.553	4.75
24	MP2A	Mx	.000737	4.75
25	MP3A	X	.696	4.67
26	MP3A	Z	-1.206	4.67
27	MP3A	Mx	-.000348	4.67
28	MP3A	X	.696	5.67
29	MP3A	Z	-1.206	5.67
30	MP3A	Mx	-.000348	5.67
31	MP2A	X	.996	7.75
32	MP2A	Z	-1.724	7.75
33	MP2A	Mx	.0016	7.75
34	MP2A	X	.996	7.75
35	MP2A	Z	-1.724	7.75
36	MP2A	Mx	.000421	7.75

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	1.788	4.17
2	MP1A	Z	-1.032	4.17
3	MP1A	Mx	-.000894	4.17
4	MP1A	X	1.788	6.17
5	MP1A	Z	-1.032	6.17
6	MP1A	Mx	-.000894	6.17
7	MP2A	X	1.84	1
8	MP2A	Z	-1.062	1
9	MP2A	Mx	.00092	1
10	MP2A	X	3.444	2.67
11	MP2A	Z	-1.988	2.67
12	MP2A	Mx	-.003	2.67
13	MP2A	X	3.444	7.67
14	MP2A	Z	-1.988	7.67
15	MP2A	Mx	-.003	7.67
16	MP2A	X	3.444	2.67
17	MP2A	Z	-1.988	2.67
18	MP2A	Mx	-.000397	2.67
19	MP2A	X	3.444	7.67
20	MP2A	Z	-1.988	7.67
21	MP2A	Mx	-.000397	7.67
22	MP2A	X	2.096	4.75
23	MP2A	Z	-1.21	4.75
24	MP2A	Mx	.001	4.75
25	MP3A	X	.854	4.67
26	MP3A	Z	-.493	4.67
27	MP3A	Mx	-.000427	4.67
28	MP3A	X	.854	5.67
29	MP3A	Z	-.493	5.67

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
30	MP3A	Mx	-.000427	5.67
31	MP2A	X	1.727	7.75
32	MP2A	Z	-.997	7.75
33	MP2A	Mx	.0021	7.75
34	MP2A	X	1.727	7.75
35	MP2A	Z	-.997	7.75
36	MP2A	Mx	.0014	7.75

Member Point Loads (BLC 30 : Antenna Wm (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	1.399	4.17
2	MP1A	Z	0	4.17
3	MP1A	Mx	-.0007	4.17
4	MP1A	X	1.399	6.17
5	MP1A	Z	0	6.17
6	MP1A	Mx	-.0007	6.17
7	MP2A	X	1.762	1
8	MP2A	Z	0	1
9	MP2A	Mx	.000881	1
10	MP2A	X	3.668	2.67
11	MP2A	Z	0	2.67
12	MP2A	Mx	-.0018	2.67
13	MP2A	X	3.668	7.67
14	MP2A	Z	0	7.67
15	MP2A	Mx	-.0018	7.67
16	MP2A	X	3.668	2.67
17	MP2A	Z	0	2.67
18	MP2A	Mx	-.0018	2.67
19	MP2A	X	3.668	7.67
20	MP2A	Z	0	7.67
21	MP2A	Mx	-.0018	7.67
22	MP2A	X	2.155	4.75
23	MP2A	Z	0	4.75
24	MP2A	Mx	.0011	4.75
25	MP3A	X	.782	4.67
26	MP3A	Z	0	4.67
27	MP3A	Mx	-.000391	4.67
28	MP3A	X	.782	5.67
29	MP3A	Z	0	5.67
30	MP3A	Mx	-.000391	5.67
31	MP2A	X	1.996	7.75
32	MP2A	Z	0	7.75
33	MP2A	Mx	.002	7.75
34	MP2A	X	1.996	7.75
35	MP2A	Z	0	7.75
36	MP2A	Mx	.002	7.75

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	1.788	4.17
2	MP1A	Z	1.032	4.17
3	MP1A	Mx	-.000894	4.17
4	MP1A	X	1.788	6.17
5	MP1A	Z	1.032	6.17
6	MP1A	Mx	-.000894	6.17
7	MP2A	X	1.84	1

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP2A	Z	1.062	1
9	MP2A	Mx	.00092	1
10	MP2A	X	3.444	2.67
11	MP2A	Z	1.988	2.67
12	MP2A	Mx	-.000397	2.67
13	MP2A	X	3.444	7.67
14	MP2A	Z	1.988	7.67
15	MP2A	Mx	-.000397	7.67
16	MP2A	X	3.444	2.67
17	MP2A	Z	1.988	2.67
18	MP2A	Mx	-.003	2.67
19	MP2A	X	3.444	7.67
20	MP2A	Z	1.988	7.67
21	MP2A	Mx	-.003	7.67
22	MP2A	X	2.096	4.75
23	MP2A	Z	1.21	4.75
24	MP2A	Mx	.001	4.75
25	MP3A	X	.854	4.67
26	MP3A	Z	.493	4.67
27	MP3A	Mx	-.000427	4.67
28	MP3A	X	.854	5.67
29	MP3A	Z	.493	5.67
30	MP3A	Mx	-.000427	5.67
31	MP2A	X	1.727	7.75
32	MP2A	Z	.997	7.75
33	MP2A	Mx	.0014	7.75
34	MP2A	X	1.727	7.75
35	MP2A	Z	.997	7.75
36	MP2A	Mx	.0021	7.75

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	1.698	4.17
2	MP1A	Z	2.941	4.17
3	MP1A	Mx	-.000849	4.17
4	MP1A	X	1.698	6.17
5	MP1A	Z	2.941	6.17
6	MP1A	Mx	-.000849	6.17
7	MP2A	X	1.425	1
8	MP2A	Z	2.468	1
9	MP2A	Mx	.000712	1
10	MP2A	X	2.297	2.67
11	MP2A	Z	3.978	2.67
12	MP2A	Mx	.0015	2.67
13	MP2A	X	2.297	7.67
14	MP2A	Z	3.978	7.67
15	MP2A	Mx	.0015	7.67
16	MP2A	X	2.297	2.67
17	MP2A	Z	3.978	2.67
18	MP2A	Mx	-.0038	2.67
19	MP2A	X	2.297	7.67
20	MP2A	Z	3.978	7.67
21	MP2A	Mx	-.0038	7.67
22	MP2A	X	1.474	4.75
23	MP2A	Z	2.553	4.75
24	MP2A	Mx	.000737	4.75

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP3A	X	.696	4.67
26	MP3A	Z	1.206	4.67
27	MP3A	Mx	-.000348	4.67
28	MP3A	X	.696	5.67
29	MP3A	Z	1.206	5.67
30	MP3A	Mx	-.000348	5.67
31	MP2A	X	.996	7.75
32	MP2A	Z	1.724	7.75
33	MP2A	Mx	.000421	7.75
34	MP2A	X	.996	7.75
35	MP2A	Z	1.724	7.75
36	MP2A	Mx	.0016	7.75

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	4.17
2	MP1A	Z	4.062	4.17
3	MP1A	Mx	0	4.17
4	MP1A	X	0	6.17
5	MP1A	Z	4.062	6.17
6	MP1A	Mx	0	6.17
7	MP2A	X	0	1
8	MP2A	Z	3.213	1
9	MP2A	Mx	0	1
10	MP2A	X	0	2.67
11	MP2A	Z	4.902	2.67
12	MP2A	Mx	.0033	2.67
13	MP2A	X	0	7.67
14	MP2A	Z	4.902	7.67
15	MP2A	Mx	.0033	7.67
16	MP2A	X	0	2.67
17	MP2A	Z	4.902	2.67
18	MP2A	Mx	-.0033	2.67
19	MP2A	X	0	7.67
20	MP2A	Z	4.902	7.67
21	MP2A	Mx	-.0033	7.67
22	MP2A	X	0	4.75
23	MP2A	Z	3.213	4.75
24	MP2A	Mx	0	4.75
25	MP3A	X	0	4.67
26	MP3A	Z	1.596	4.67
27	MP3A	Mx	0	4.67
28	MP3A	X	0	5.67
29	MP3A	Z	1.596	5.67
30	MP3A	Mx	0	5.67
31	MP2A	X	0	7.75
32	MP2A	Z	1.99	7.75
33	MP2A	Mx	-.000663	7.75
34	MP2A	X	0	7.75
35	MP2A	Z	1.99	7.75
36	MP2A	Mx	.000663	7.75

Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-1.698	4.17
2	MP1A	Z	2.941	4.17

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
3	MP1A	Mx	.000849	4.17
4	MP1A	X	-1.698	6.17
5	MP1A	Z	2.941	6.17
6	MP1A	Mx	.000849	6.17
7	MP2A	X	-1.425	1
8	MP2A	Z	2.468	1
9	MP2A	Mx	-.000712	1
10	MP2A	X	-2.297	2.67
11	MP2A	Z	3.978	2.67
12	MP2A	Mx	.0038	2.67
13	MP2A	X	-2.297	7.67
14	MP2A	Z	3.978	7.67
15	MP2A	Mx	.0038	7.67
16	MP2A	X	-2.297	2.67
17	MP2A	Z	3.978	2.67
18	MP2A	Mx	-.0015	2.67
19	MP2A	X	-2.297	7.67
20	MP2A	Z	3.978	7.67
21	MP2A	Mx	-.0015	7.67
22	MP2A	X	-1.474	4.75
23	MP2A	Z	2.553	4.75
24	MP2A	Mx	-.000737	4.75
25	MP3A	X	-.696	4.67
26	MP3A	Z	1.206	4.67
27	MP3A	Mx	.000348	4.67
28	MP3A	X	-.696	5.67
29	MP3A	Z	1.206	5.67
30	MP3A	Mx	.000348	5.67
31	MP2A	X	-.996	7.75
32	MP2A	Z	1.724	7.75
33	MP2A	Mx	-.0016	7.75
34	MP2A	X	-.996	7.75
35	MP2A	Z	1.724	7.75
36	MP2A	Mx	-.000421	7.75

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-1.788	4.17
2	MP1A	Z	1.032	4.17
3	MP1A	Mx	.000894	4.17
4	MP1A	X	-1.788	6.17
5	MP1A	Z	1.032	6.17
6	MP1A	Mx	.000894	6.17
7	MP2A	X	-1.84	1
8	MP2A	Z	1.062	1
9	MP2A	Mx	-.00092	1
10	MP2A	X	-3.444	2.67
11	MP2A	Z	1.988	2.67
12	MP2A	Mx	.003	2.67
13	MP2A	X	-3.444	7.67
14	MP2A	Z	1.988	7.67
15	MP2A	Mx	.003	7.67
16	MP2A	X	-3.444	2.67
17	MP2A	Z	1.988	2.67
18	MP2A	Mx	.000397	2.67
19	MP2A	X	-3.444	7.67

Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
20	MP2A	Z	1.988	7.67
21	MP2A	Mx	.000397	7.67
22	MP2A	X	-2.096	4.75
23	MP2A	Z	1.21	4.75
24	MP2A	Mx	-.001	4.75
25	MP3A	X	-.854	4.67
26	MP3A	Z	.493	4.67
27	MP3A	Mx	.000427	4.67
28	MP3A	X	-.854	5.67
29	MP3A	Z	.493	5.67
30	MP3A	Mx	.000427	5.67
31	MP2A	X	-1.727	7.75
32	MP2A	Z	.997	7.75
33	MP2A	Mx	-.0021	7.75
34	MP2A	X	-1.727	7.75
35	MP2A	Z	.997	7.75
36	MP2A	Mx	-.0014	7.75

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-1.399	4.17
2	MP1A	Z	0	4.17
3	MP1A	Mx	.0007	4.17
4	MP1A	X	-1.399	6.17
5	MP1A	Z	0	6.17
6	MP1A	Mx	.0007	6.17
7	MP2A	X	-1.762	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.000881	1
10	MP2A	X	-3.668	2.67
11	MP2A	Z	0	2.67
12	MP2A	Mx	.0018	2.67
13	MP2A	X	-3.668	7.67
14	MP2A	Z	0	7.67
15	MP2A	Mx	.0018	7.67
16	MP2A	X	-3.668	2.67
17	MP2A	Z	0	2.67
18	MP2A	Mx	.0018	2.67
19	MP2A	X	-3.668	7.67
20	MP2A	Z	0	7.67
21	MP2A	Mx	.0018	7.67
22	MP2A	X	-2.155	4.75
23	MP2A	Z	0	4.75
24	MP2A	Mx	-.0011	4.75
25	MP3A	X	-.782	4.67
26	MP3A	Z	0	4.67
27	MP3A	Mx	.000391	4.67
28	MP3A	X	-.782	5.67
29	MP3A	Z	0	5.67
30	MP3A	Mx	.000391	5.67
31	MP2A	X	-1.996	7.75
32	MP2A	Z	0	7.75
33	MP2A	Mx	-.002	7.75
34	MP2A	X	-1.996	7.75
35	MP2A	Z	0	7.75
36	MP2A	Mx	-.002	7.75

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-1.788	4.17
2	MP1A	Z	-1.032	4.17
3	MP1A	Mx	.000894	4.17
4	MP1A	X	-1.788	6.17
5	MP1A	Z	-1.032	6.17
6	MP1A	Mx	.000894	6.17
7	MP2A	X	-1.84	1
8	MP2A	Z	-1.062	1
9	MP2A	Mx	-.00092	1
10	MP2A	X	-3.444	2.67
11	MP2A	Z	-1.988	2.67
12	MP2A	Mx	.000397	2.67
13	MP2A	X	-3.444	7.67
14	MP2A	Z	-1.988	7.67
15	MP2A	Mx	.000397	7.67
16	MP2A	X	-3.444	2.67
17	MP2A	Z	-1.988	2.67
18	MP2A	Mx	.003	2.67
19	MP2A	X	-3.444	7.67
20	MP2A	Z	-1.988	7.67
21	MP2A	Mx	.003	7.67
22	MP2A	X	-2.096	4.75
23	MP2A	Z	-1.21	4.75
24	MP2A	Mx	-.001	4.75
25	MP3A	X	-.854	4.67
26	MP3A	Z	-.493	4.67
27	MP3A	Mx	.000427	4.67
28	MP3A	X	-.854	5.67
29	MP3A	Z	-.493	5.67
30	MP3A	Mx	.000427	5.67
31	MP2A	X	-1.727	7.75
32	MP2A	Z	-.997	7.75
33	MP2A	Mx	-.0014	7.75
34	MP2A	X	-1.727	7.75
35	MP2A	Z	-.997	7.75
36	MP2A	Mx	-.0021	7.75

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-1.698	4.17
2	MP1A	Z	-2.941	4.17
3	MP1A	Mx	.000849	4.17
4	MP1A	X	-1.698	6.17
5	MP1A	Z	-2.941	6.17
6	MP1A	Mx	.000849	6.17
7	MP2A	X	-1.425	1
8	MP2A	Z	-2.468	1
9	MP2A	Mx	-.000712	1
10	MP2A	X	-2.297	2.67
11	MP2A	Z	-3.978	2.67
12	MP2A	Mx	-.0015	2.67
13	MP2A	X	-2.297	7.67
14	MP2A	Z	-3.978	7.67
15	MP2A	Mx	-.0015	7.67
16	MP2A	X	-2.297	2.67
17	MP2A	Z	-3.978	2.67

Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP2A	Mx	.0038	2.67
19	MP2A	X	-2.297	7.67
20	MP2A	Z	-3.978	7.67
21	MP2A	Mx	.0038	7.67
22	MP2A	X	-1.474	4.75
23	MP2A	Z	-2.553	4.75
24	MP2A	Mx	-.000737	4.75
25	MP3A	X	-.696	4.67
26	MP3A	Z	-1.206	4.67
27	MP3A	Mx	.000348	4.67
28	MP3A	X	-.696	5.67
29	MP3A	Z	-1.206	5.67
30	MP3A	Mx	.000348	5.67
31	MP2A	X	-.996	7.75
32	MP2A	Z	-1.724	7.75
33	MP2A	Mx	-.000421	7.75
34	MP2A	X	-.996	7.75
35	MP2A	Z	-1.724	7.75
36	MP2A	Mx	-.0016	7.75

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LM2	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LM1	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

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

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LV	Y	-250	0

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-1.9139	4.17
2	MP1A	My	-.000957	4.17
3	MP1A	Mz	0	4.17
4	MP1A	Y	-1.9139	6.17
5	MP1A	My	-.000957	6.17
6	MP1A	Mz	0	6.17
7	MP2A	Y	-3.0895	1
8	MP2A	My	.0015	1
9	MP2A	Mz	0	1
10	MP2A	Y	-1.7139	2.67
11	MP2A	My	-.000857	2.67
12	MP2A	Mz	.0011	2.67
13	MP2A	Y	-1.7139	7.67
14	MP2A	My	-.000857	7.67
15	MP2A	Mz	.0011	7.67
16	MP2A	Y	-1.7139	2.67

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
17	MP2A	My	-.000857	2.67
18	MP2A	Mz	-.0011	2.67
19	MP2A	Y	-1.7139	7.67
20	MP2A	My	-.000857	7.67
21	MP2A	Mz	-.0011	7.67
22	MP2A	Y	-3.7091	4.75
23	MP2A	My	.0019	4.75
24	MP2A	Mz	0	4.75
25	MP3A	Y	-.5076	4.67
26	MP3A	My	-.000254	4.67
27	MP3A	Mz	0	4.67
28	MP3A	Y	-.5076	5.67
29	MP3A	My	-.000254	5.67
30	MP3A	Mz	0	5.67
31	MP2A	Y	-.7735	7.75
32	MP2A	My	.000773	7.75
33	MP2A	Mz	-.000258	7.75
34	MP2A	Y	-.7735	7.75
35	MP2A	My	.000773	7.75
36	MP2A	Mz	.000258	7.75

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-4.7847	4.17
2	MP1A	Mx	0	4.17
3	MP1A	Z	-4.7847	6.17
4	MP1A	Mx	0	6.17
5	MP2A	Z	-7.7236	1
6	MP2A	Mx	0	1
7	MP2A	Z	-4.2848	2.67
8	MP2A	Mx	-.0029	2.67
9	MP2A	Z	-4.2848	7.67
10	MP2A	Mx	-.0029	7.67
11	MP2A	Z	-4.2848	2.67
12	MP2A	Mx	.0029	2.67
13	MP2A	Z	-4.2848	7.67
14	MP2A	Mx	.0029	7.67
15	MP2A	Z	-9.2727	4.75
16	MP2A	Mx	0	4.75
17	MP3A	Z	-1.269	4.67
18	MP3A	Mx	0	4.67
19	MP3A	Z	-1.269	5.67
20	MP3A	Mx	0	5.67
21	MP2A	Z	-1.9337	7.75
22	MP2A	Mx	.000645	7.75
23	MP2A	Z	-1.9337	7.75
24	MP2A	Mx	-.000645	7.75

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	4.7847	4.17
2	MP1A	Mx	-.0024	4.17
3	MP1A	X	4.7847	6.17
4	MP1A	Mx	-.0024	6.17
5	MP2A	X	7.7236	1
6	MP2A	Mx	.0039	1

Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP2A	X	4.2848	2.67
8	MP2A	Mx	-.0021	2.67
9	MP2A	X	4.2848	7.67
10	MP2A	Mx	-.0021	7.67
11	MP2A	X	4.2848	2.67
12	MP2A	Mx	-.0021	2.67
13	MP2A	X	4.2848	7.67
14	MP2A	Mx	-.0021	7.67
15	MP2A	X	9.2727	4.75
16	MP2A	Mx	.0046	4.75
17	MP3A	X	1.269	4.67
18	MP3A	Mx	-.000634	4.67
19	MP3A	X	1.269	5.67
20	MP3A	Mx	-.000634	5.67
21	MP2A	X	1.9337	7.75
22	MP2A	Mx	.0019	7.75
23	MP2A	X	1.9337	7.75
24	MP2A	Mx	.0019	7.75

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]		MZ [k-ft]	LC
1	N35	...	1190.079	34	1025.825	15	1420.437	13	-.383	72	0	75	.301	33
2		...	-511.745	50	374.496	72	47.937	7	-1.059	14	0	1	-.131	50
3	N36	...	511.939	50	1000.088	21	417.09	12	-.366	67	0	75	.302	33
4		...	-1183.879	29	365.915	66	-1674.423	6	-1.012	23	0	1	-.134	50
5	N62A	...	287.523	10	21.187	22	649.781	3	0	75	0	75	0	75
6		...	-287.103	4	6.867	67	-649.194	9	0	1	0	1	0	1
7	Totals:	...	878.155	10	2033.279	21	1364.74	1						
8		...	-878.155	4	750.714	67	-1364.74	7						

Joint Reactions (By Combination)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N35	103.099	539.643	1210.02	-.575	0	.011
2	1	N36	-66.583	503.069	66.901	-.53	0	.01
3	1	N62A	-36.515	9.625	87.82	0	0	0
4	1	Totals:	.001	1052.338	1364.74			
5	1	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
6	2	N35	-147.221	549.324	1112.909	-.584	0	-.037
7	2	N36	-244.995	493.436	-566.606	-.5	0	-.036
8	2	N62A	-223.488	9.577	520.13	0	0	0
9	2	Totals:	-615.703	1052.338	1066.433			
10	2	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
11	3	N35	-251.466	549.008	877.123	-.575	0	-.051
12	3	N36	-320.951	493.752	-1032.837	-.485	0	-.049
13	3	N62A	-283.314	9.578	649.781	0	0	0
14	3	Totals:	-855.732	1052.337	494.067			
15	3	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
16	4	N35	-259.865	543.892	662.082	-.562	0	-.05

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
17	4	N36	-331.187	498.88	-1294.384	-.48	0	-.048
18	4	N62A	-287.103	9.566	632.315	0	0	0
19	4	Totals:	-878.155	1052.338	.013			
20	4	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
21	5	N35	-252.358	538.344	447.263	-.547	0	-.048
22	5	N36	-342.789	504.444	-1561.286	-.477	0	-.045
23	5	N62A	-280.836	9.549	608.289	0	0	0
24	5	Totals:	-875.984	1052.338	-505.733			
25	5	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
26	6	N35	-152.793	528.778	193.755	-.527	0	-.023
27	6	N36	-295.151	514.02	-1674.423	-.482	0	-.021
28	6	N62A	-179.453	9.539	394.003	0	0	0
29	6	Totals:	-627.397	1052.338	-1086.665			
30	6	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
31	7	N35	94.188	514.738	47.937	-.505	0	.031
32	7	N36	-130.903	527.909	-1324.246	-.507	0	.032
33	7	N62A	36.713	9.691	-88.431	0	0	0
34	7	Totals:	0	1052.338	-1364.74			
35	7	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
36	8	N35	344.283	505.036	145.509	-.496	0	.079
37	8	N36	48.091	537.327	-692.199	-.537	0	.078
38	8	N62A	223.33	9.975	-519.742	0	0	0
39	8	Totals:	615.704	1052.338	-1066.432			
40	8	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
41	9	N35	448.476	505.309	381.657	-.504	0	.093
42	9	N36	123.827	536.955	-226.529	-.553	0	.091
43	9	N62A	283.429	10.074	-649.194	0	0	0
44	9	Totals:	855.732	1052.338	-494.066			
45	9	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
46	10	N35	456.926	510.404	596.713	-.518	0	.092
47	10	N36	133.707	531.883	35.348	-.557	0	.09
48	10	N62A	287.523	10.051	-632.073	0	0	0
49	10	Totals:	878.155	1052.338	-.012			
50	10	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
51	11	N35	449.503	515.934	811.467	-.532	0	.09
52	11	N36	144.836	526.381	302.88	-.56	0	.087
53	11	N62A	281.645	10.023	-608.613	0	0	0
54	11	Totals:	875.984	1052.338	505.734			
55	11	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
56	12	N35	350.107	525.538	1064.543	-.553	0	.066
57	12	N36	96.942	516.949	417.09	-.555	0	.063
58	12	N62A	180.348	9.851	-394.967	0	0	0
59	12	Totals:	627.397	1052.338	1086.666			
60	12	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
61	13	N35	148.294	1022.326	1420.437	-1.055	0	.03
62	13	N36	-140.188	989.94	-1018.813	-1.003	0	.03
63	13	N62A	-8.106	21.014	19.816	0	0	0
64	13	Totals:	0	2033.279	421.44			
65	13	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
66	14	N35	72.114	1025.526	1394.344	-1.059	0	.015
67	14	N36	-197.563	986.824	-1217.27	-.993	0	.015
68	14	N62A	-67.49	20.929	157.106	0	0	0
69	14	Totals:	-192.939	2033.279	334.18			
70	14	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
71	15	N35	35.068	1025.825	1326.226	-1.057	0	.009
72	15	N36	-223.365	986.553	-1373.395	-.988	0	.01
73	15	N62A	-90.898	20.901	208.366	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
74	15	Totals:	-279.196	2033.279	161.197			
75	15	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
76	16	N35	28.539	1024.398	1257.565	-1.053	0	.009
77	16	N36	-228.34	987.982	-1466.064	-.986	0	.009
78	16	N62A	-94.668	20.9	208.504	0	0	0
79	16	Totals:	-294.469	2033.279	.005			
80	16	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
81	17	N35	34.857	1022.63	1188.47	-1.048	0	.01
82	17	N36	-229.76	989.747	-1550.12	-.985	0	.011
83	17	N62A	-90.916	20.903	196.639	0	0	0
84	17	Totals:	-285.819	2033.279	-165.011			
85	17	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
86	18	N35	70.86	1019.745	1114.205	-1.042	0	.018
87	18	N36	-209.544	992.594	-1582.336	-.987	0	.019
88	18	N62A	-58.079	20.941	127.334	0	0	0
89	18	Totals:	-196.764	2033.279	-340.796			
90	18	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
91	19	N35	146.32	1015.51	1072.99	-1.036	0	.034
92	19	N36	-154.481	996.729	-1474.477	-.995	0	.034
93	19	N62A	8.16	21.04	-19.951	0	0	0
94	19	Totals:	0	2033.279	-421.439			
95	19	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
96	20	N35	222.479	1012.309	1099.127	-1.033	0	.049
97	20	N36	-97.049	999.825	-1276.167	-1.004	0	.049
98	20	N62A	67.51	21.146	-157.139	0	0	0
99	20	Totals:	192.94	2033.279	-334.179			
100	20	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
101	21	N35	259.518	1012.005	1167.284	-1.034	0	.055
102	21	N36	-71.269	1000.088	-1120.095	-1.009	0	.054
103	21	N62A	90.947	21.187	-208.385	0	0	0
104	21	Totals:	279.196	2033.279	-161.196			
105	21	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
106	22	N35	266.05	1013.429	1235.949	-1.038	0	.055
107	22	N36	-66.333	998.663	-1027.388	-1.011	0	.055
108	22	N62A	94.752	21.187	-208.565	0	0	0
109	22	Totals:	294.469	2033.279	-.004			
110	22	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
111	23	N35	259.741	1015.196	1305.034	-1.043	0	.054
112	23	N36	-64.959	996.905	-943.258	-1.012	0	.053
113	23	N62A	91.037	21.178	-196.763	0	0	0
114	23	Totals:	285.819	2033.279	165.012			
115	23	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
116	24	N35	223.754	1018.085	1379.253	-1.049	0	.046
117	24	N36	-85.193	994.073	-910.939	-1.01	0	.045
118	24	N62A	58.203	21.121	-127.517	0	0	0
119	24	Totals:	196.764	2033.279	340.797			
120	24	COG (ft):	X: -2.511	Y: 2.096	Z: 8.053			
121	25	N35	1169.148	899.786	1103.776	-.921	0	.296
122	25	N36	-1167.397	892.907	-1026.837	-.901	0	.297
123	25	N62A	-1.746	9.642	4.24	0	0	0
124	25	Totals:	.005	1802.335	81.178			
125	25	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
126	26	N35	1154.336	900.397	1097.891	-.921	0	.293
127	26	N36	-1178.089	892.349	-1064.437	-.899	0	.295
128	26	N62A	-12.871	9.589	29.974	0	0	0
129	26	Totals:	-36.624	1802.335	63.428			
130	26	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
131	27	N35	1148.166	900.389	1083.814	-.921	0	.293
132	27	N36	-1182.62	892.373	-1092.148	-.898	0	.294
133	27	N62A	-16.449	9.573	37.712	0	0	0
134	27	Totals:	-50.903	1802.335	29.378			
135	27	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
136	28	N35	1147.669	900.083	1071.012	-.92	0	.293
137	28	N36	-1183.213	892.677	-1107.722	-.898	0	.294
138	28	N62A	-16.69	9.575	36.699	0	0	0
139	28	Totals:	-52.234	1802.335	-.01			
140	28	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
141	29	N35	1148.11	899.75	1058.228	-.919	0	.293
142	29	N36	-1183.879	893.008	-1123.631	-.898	0	.294
143	29	N62A	-16.338	9.577	35.309	0	0	0
144	29	Totals:	-52.107	1802.335	-30.094			
145	29	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
146	30	N35	1153.988	899.161	1043.188	-.918	0	.294
147	30	N36	-1180.992	893.572	-1130.426	-.898	0	.296
148	30	N62A	-10.315	9.603	22.584	0	0	0
149	30	Totals:	-37.319	1802.335	-64.653			
150	30	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
151	31	N35	1168.601	898.283	1034.609	-.916	0	.297
152	31	N36	-1171.164	894.389	-1109.655	-.9	0	.299
153	31	N62A	2.568	9.663	-6.153	0	0	0
154	31	Totals:	.005	1802.335	-81.2			
155	31	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
156	32	N35	1183.412	897.672	1040.495	-.916	0	.3
157	32	N36	-1160.47	894.946	-1072.06	-.902	0	.301
158	32	N62A	13.691	9.717	-31.885	0	0	0
159	32	Totals:	36.633	1802.335	-63.45			
160	32	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
161	33	N35	1189.582	897.68	1054.574	-.916	0	.301
162	33	N36	-1155.94	894.922	-1044.352	-.902	0	.302
163	33	N62A	17.27	9.733	-39.622	0	0	0
164	33	Totals:	50.912	1802.335	-29.4			
165	33	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
166	34	N35	1190.079	897.986	1067.375	-.917	0	.301
167	34	N36	-1155.347	894.618	-1028.776	-.903	0	.302
168	34	N62A	17.512	9.731	-38.61	0	0	0
169	34	Totals:	52.243	1802.335	-.012			
170	34	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
171	35	N35	1189.639	898.318	1080.159	-.918	0	.301
172	35	N36	-1154.683	894.287	-1012.865	-.903	0	.302
173	35	N62A	17.162	9.729	-37.222	0	0	0
174	35	Totals:	52.117	1802.335	30.072			
175	35	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
176	36	N35	1183.761	898.908	1095.198	-.919	0	.299
177	36	N36	-1157.571	893.724	-1006.066	-.903	0	.301
178	36	N62A	11.139	9.703	-24.5	0	0	0
179	36	Totals:	37.329	1802.335	64.632			
180	36	COG (ft):	X: -.313	Y: 1.298	Z: 8.083			
181	37	N35	67.278	902.967	1101.721	-.925	0	.011
182	37	N36	-65.103	889.721	-1025.766	-.898	0	.011
183	37	N62A	-2.175	9.649	5.235	0	0	0
184	37	Totals:	0	1802.337	81.189			
185	37	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
186	38	N35	52.425	903.542	1095.931	-.926	0	.008
187	38	N36	-75.769	889.156	-1063.412	-.897	0	.008

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
188	38	N62A	-13.285	9.639	30.921	0	0	0
189	38	Totals:	-36.628	1802.337	63.439			
190	38	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
191	39	N35	46.238	903.522	1081.894	-.925	0	.007
192	39	N36	-80.294	889.179	-1091.131	-.896	0	.007
193	39	N62A	-16.851	9.636	38.627	0	0	0
194	39	Totals:	-50.907	1802.337	29.39			
195	39	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
196	40	N35	45.738	903.217	1069.102	-.924	0	.007
197	40	N36	-80.893	889.484	-1106.696	-.896	0	.007
198	40	N62A	-17.084	9.636	37.596	0	0	0
199	40	Totals:	-52.239	1802.337	.001			
200	40	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
201	41	N35	46.186	902.886	1056.325	-.924	0	.007
202	41	N36	-81.574	889.814	-1122.593	-.895	0	.007
203	41	N62A	-16.724	9.636	36.186	0	0	0
204	41	Totals:	-52.112	1802.337	-30.082			
205	41	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
206	42	N35	52.094	902.315	1041.253	-.922	0	.009
207	42	N36	-78.723	890.381	-1129.351	-.896	0	.009
208	42	N62A	-10.695	9.641	23.456	0	0	0
209	42	Totals:	-37.324	1802.337	-64.642			
210	42	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
211	43	N35	66.755	901.478	1032.581	-.921	0	.012
212	43	N36	-68.936	891.206	-1108.519	-.897	0	.012
213	43	N62A	2.181	9.653	-5.25	0	0	0
214	43	Totals:	0	1802.337	-81.188			
215	43	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
216	44	N35	81.606	900.904	1038.373	-.921	0	.015
217	44	N36	-58.268	891.77	-1070.878	-.899	0	.015
218	44	N62A	13.29	9.663	-30.932	0	0	0
219	44	Totals:	36.628	1802.337	-63.438			
220	44	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
221	45	N35	87.794	900.923	1052.41	-.921	0	.016
222	45	N36	-53.743	891.747	-1043.161	-.9	0	.015
223	45	N62A	16.857	9.667	-38.638	0	0	0
224	45	Totals:	50.907	1802.337	-29.388			
225	45	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
226	46	N35	88.293	901.228	1065.203	-.922	0	.016
227	46	N36	-53.146	891.442	-1027.595	-.9	0	.015
228	46	N62A	17.091	9.666	-37.608	0	0	0
229	46	Totals:	52.239	1802.337	0			
230	46	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
231	47	N35	87.846	901.559	1077.98	-.923	0	.016
232	47	N36	-52.466	891.112	-1011.696	-.9	0	.015
233	47	N62A	16.732	9.666	-36.2	0	0	0
234	47	Totals:	52.112	1802.337	30.084			
235	47	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
236	48	N35	81.939	902.13	1093.05	-.924	0	.014
237	48	N36	-55.319	890.546	-1004.934	-.9	0	.014
238	48	N62A	10.704	9.66	-23.473	0	0	0
239	48	Totals:	37.324	1802.337	64.643			
240	48	COG (ft):	X: -2.671	Y: 1.298	Z: 8.083			
241	49	N35	99.056	714.931	848.093	-.732	0	.021
242	49	N36	-99.062	702.755	-848.079	-.708	0	.02
243	49	N62A	.006	9.651	-.013	0	0	0
244	49	Totals:	0	1427.337	0			

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
245	49	COG (ft):	X: -2.541	Y: 1.601	Z: 8.083			
246	50	N35	-511.745	704.905	849.917	-.717	0	-.131
247	50	N36	511.939	712.78	-850.368	-.718	0	-.134
248	50	N62A	-.197	9.651	.459	0	0	0
249	50	Totals:	-.003	1427.336	.008			
250	50	COG (ft):	X: -4.183	Y: 1.601	Z: 8.083			
251	51	N35	115.111	614.976	733.877	-.63	0	.025
252	51	N36	-115.114	601.492	-733.869	-.605	0	.025
253	51	N62A	.003	11.259	-.008	0	0	0
254	51	Totals:	0	1227.727	0			
255	51	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
256	52	N35	102.711	547.051	686.737	-.561	0	.021
257	52	N36	-99.294	533.825	-599.224	-.539	0	.021
258	52	N62A	-3.417	10.001	8.836	0	0	0
259	52	Totals:	0	1090.877	96.348			
260	52	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
261	53	N35	86.265	547.811	683.838	-.562	0	.018
262	53	N36	-116.51	533.077	-641.869	-.537	0	.018
263	53	N62A	-17.929	9.988	41.47	0	0	0
264	53	Totals:	-48.174	1090.877	83.438			
265	53	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
266	54	N35	74.111	548.22	672.429	-.562	0	.016
267	54	N36	-129.913	532.676	-687.242	-.535	0	.016
268	54	N62A	-27.635	9.98	62.988	0	0	0
269	54	Totals:	-83.437	1090.877	48.175			
270	54	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
271	55	N35	69.502	548.169	655.564	-.562	0	.016
272	55	N36	-135.915	532.73	-723.192	-.534	0	.016
273	55	N62A	-29.935	9.978	67.629	0	0	0
274	55	Totals:	-96.348	1090.877	.002			
275	55	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
276	56	N35	73.677	547.67	637.763	-.561	0	.017
277	56	N36	-132.902	533.224	-740.078	-.534	0	.017
278	56	N62A	-24.213	9.983	54.143	0	0	0
279	56	Totals:	-83.437	1090.877	-48.172			
280	56	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
281	57	N35	85.514	546.858	623.796	-.559	0	.02
282	57	N36	-121.684	534.025	-733.384	-.535	0	.02
283	57	N62A	-12.004	9.993	26.151	0	0	0
284	57	Totals:	-48.174	1090.877	-83.436			
285	57	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
286	58	N35	101.843	545.95	617.406	-.558	0	.023
287	58	N36	-105.265	534.919	-704.903	-.537	0	.023
288	58	N62A	3.422	10.007	-8.85	0	0	0
289	58	Totals:	0	1090.877	-96.348			
290	58	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
291	59	N35	118.287	545.19	620.307	-.557	0	.026
292	59	N36	-88.047	535.666	-662.265	-.539	0	.026
293	59	N62A	17.934	10.021	-41.48	0	0	0
294	59	Totals:	48.174	1090.877	-83.438			
295	59	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
296	60	N35	130.441	544.781	631.719	-.557	0	.028
297	60	N36	-74.645	536.066	-616.897	-.541	0	.027
298	60	N62A	27.642	10.03	-62.997	0	0	0
299	60	Totals:	83.438	1090.877	-48.175			
300	60	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
301	61	N35	135.05	544.832	648.585	-.557	0	.028

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
302	61	N36	-68.648	536.012	-580.946	-.542	0	.028
303	61	N62A	29.946	10.032	-67.639	0	0	0
304	61	Totals:	96.348	1090.877	0			
305	61	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
306	62	N35	130.876	545.331	666.384	-.559	0	.027
307	62	N36	-71.663	535.52	-564.054	-.542	0	.026
308	62	N62A	24.224	10.026	-54.157	0	0	0
309	62	Totals:	83.438	1090.877	48.173			
310	62	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
311	63	N35	119.04	546.143	680.347	-.56	0	.024
312	63	N36	-82.879	534.719	-570.743	-.541	0	.024
313	63	N62A	12.013	10.015	-26.167	0	0	0
314	63	Totals:	48.174	1090.877	83.437			
315	63	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
316	64	N35	70.815	376.761	483.407	-.387	0	.014
317	64	N36	-67.397	367.071	-395.896	-.371	0	.014
318	64	N62A	-3.417	6.882	8.837	0	0	0
319	64	Totals:	0	750.714	96.348			
320	64	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
321	65	N35	54.358	377.521	480.506	-.388	0	.011
322	65	N36	-84.603	366.319	-438.534	-.369	0	.011
323	65	N62A	-17.929	6.874	41.466	0	0	0
324	65	Totals:	-48.174	750.714	83.438			
325	65	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
326	66	N35	42.195	377.931	469.094	-.388	0	.009
327	66	N36	-97.999	365.915	-483.899	-.367	0	.01
328	66	N62A	-27.634	6.869	62.981	0	0	0
329	66	Totals:	-83.437	750.714	48.175			
330	66	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
331	67	N35	37.583	377.88	452.225	-.387	0	.009
332	67	N36	-103.997	365.967	-519.845	-.366	0	.009
333	67	N62A	-29.934	6.867	67.621	0	0	0
334	67	Totals:	-96.348	750.714	.002			
335	67	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
336	68	N35	41.76	377.383	434.419	-.386	0	.01
337	68	N36	-100.985	366.461	-536.73	-.366	0	.011
338	68	N62A	-24.213	6.87	54.138	0	0	0
339	68	Totals:	-83.438	750.714	-48.173			
340	68	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
341	69	N35	53.604	376.573	420.451	-.385	0	.013
342	69	N36	-89.773	367.264	-530.039	-.367	0	.013
343	69	N62A	-12.005	6.877	26.151	0	0	0
344	69	Totals:	-48.174	750.714	-83.436			
345	69	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
346	70	N35	69.943	375.666	414.061	-.384	0	.016
347	70	N36	-73.363	368.161	-501.564	-.369	0	.016
348	70	N62A	3.42	6.887	-8.844	0	0	0
349	70	Totals:	0	750.714	-96.348			
350	70	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
351	71	N35	86.399	374.906	416.964	-.383	0	.019
352	71	N36	-56.155	368.912	-458.933	-.371	0	.019
353	71	N62A	17.931	6.896	-41.469	0	0	0
354	71	Totals:	48.174	750.714	-83.438			
355	71	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
356	72	N35	98.561	374.496	428.38	-.383	0	.021
357	72	N36	-42.762	369.315	-413.572	-.373	0	.021
358	72	N62A	27.638	6.903	-62.983	0	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
359	72	Totals:	83.438	750.714	-48.175			
360	72	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
361	73	N35	103.174	374.547	445.25	-.383	0	.021
362	73	N36	-36.768	369.263	-377.626	-.374	0	.021
363	73	N62A	29.942	6.904	-67.625	0	0	0
364	73	Totals:	96.348	750.714	0			
365	73	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
366	74	N35	98.998	375.044	463.053	-.384	0	.02
367	74	N36	-39.782	368.77	-360.735	-.374	0	.02
368	74	N62A	24.221	6.9	-54.145	0	0	0
369	74	Totals:	83.438	750.714	48.173			
370	74	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			
371	75	N35	87.155	375.854	477.018	-.386	0	.017
372	75	N36	-50.992	367.968	-367.421	-.373	0	.017
373	75	N62A	12.011	6.892	-26.16	0	0	0
374	75	Totals:	48.174	750.714	83.437			
375	75	COG (ft):	X: -2.436	Y: 2.119	Z: 8.083			

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

	Member	Shape	Code Check	Lo...	LC	Shear Check	Lo.....		LC	phi*Pnc...	phi*Pnt ...	phi*Mn y...	phi*Mn...	Cb	Eqn
1	LV	PIPE_2.5	.221	8....	35	.087	8....		35	14558....	50715	3.596	3.596	2.321	H1-...
2	M2	PIPE_2.5	.203	8....	32	.079	8....		32	14558....	50715	3.596	3.596	2.414	H1-...
3	M13	PL5/8X3.5	.136	.422	18	.091	0	y	6	66184.77	68906.25	.897	5.024	1.667	H1-...
4	M14	PL5/8X3.5	.137	0	50	.077	0	y	1	66184.77	68906.25	.897	5.024	1.667	H1-...
5	M15	PL5/8X3.5	.249	0	33	.092	0	y	1	66184.77	68906.25	.897	5.024	1.667	H1-...
6	M16	PL5/8X3.5	.214	0	35	.177	.422	y	5	66184.77	68906.25	.897	5.024	1.667	H1-...
7	M17	PIPE_2.0	.143	2....	36	.054	0		50	31128.25	32130	1.872	1.872	2.015	H1-...
8	M18	PIPE_2.0	.142	2....	32	.057	0		15	31128.25	32130	1.872	1.872	1.978	H1-...
9	M19	PIPE_2.0	.182	2....	36	.090	0		36	31128.25	32130	1.872	1.872	2.144	H1-...
10	M20	PIPE_2.0	.185	0	5	.086	0		31	31128.25	32130	1.872	1.872	2.185	H1-...
11	M21	PL5/8X3.5	.294	.531	50	.045	.531	y	6	67591.76	68906.25	.897	5.024	1.435	H1-...
12	M22	PL5/8X3.5	.500	.531	30	.066	.531	y	6	67591.76	68906.25	.897	5.024	1.386	H1-...
13	M23	PL5/8X3.5	.294	.531	50	.048	.531	y	2	67591.76	68906.25	.897	5.024	1.424	H1-...
14	M24	PL5/8X3.5	.503	.531	35	.068	.133	y	25	67591.76	68906.25	.897	5.024	1.375	H1-...
15	M25	SR 0.75	.000	0	75	.010	0		50	2863.854	13916.2...	.174	.174	1.136	H1-...
16	M26	SR 0.75	.052	0	50	.010	0		3	2863.854	13916.2...	.174	.174	1.136	H1-...
17	M27	SR 0.75	.000	0	75	.017	0		33	2863.854	13916.2...	.174	.174	1.136	H1-...
18	M28	SR 0.75	.086	4....	32	.017	0		35	2863.854	13916.2...	.174	.174	1.136	H1-...
19	MP3A	PIPE_2.5	.153	6....	50	.020	3....		50	22069.07	50715	3.596	3.596	4.686	H1-...
20	MP2A	PIPE_2.5	.123	6....	35	.061	4....		33	22069.07	50715	3.596	3.596	4.428	H1-...
21	MP1A	PIPE_2.5	.210	6....	29	.036	3....		30	22069.07	50715	3.596	3.596	4.542	H1-...
22	M44	SR_0.62...	.042	1....	11	.008	0		3	2017.074	9670.5	.094	.094	1.136	H1-...
23	M45	SR_0.62...	.041	1....	6	.028	0		33	2017.074	9670.5	.094	.094	1.136	H1-...
24	M46	SR_0.62...	.040	1....	6	.024	0		33	2017.074	9670.5	.094	.094	1.136	H1-...
25	M47	SR_0.62...	.051	1....	3	.004	0		9	2017.074	9670.5	.094	.094	1.136	H1-...
26	M44A	PIPE_2.0	.029	4....	3	.002	0		23	24836....	32130	1.872	1.872	1.136	H1-...

VzW SMART Tool© Vendor

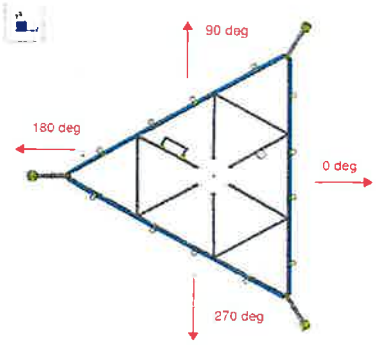
Client:	Verizon Wireless	Date:	1/18/2024
Site Name:	MADISON 6 CT - NU Guyed Tower - B		
MDG #:	5000393423		
Fuze ID #:	17068391	Page:	1

Version 2.00

I. Mount-to-Tower Connection Check

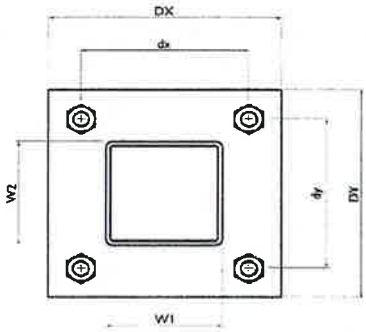
Custom Orientation Required	Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N36	0
N35	0



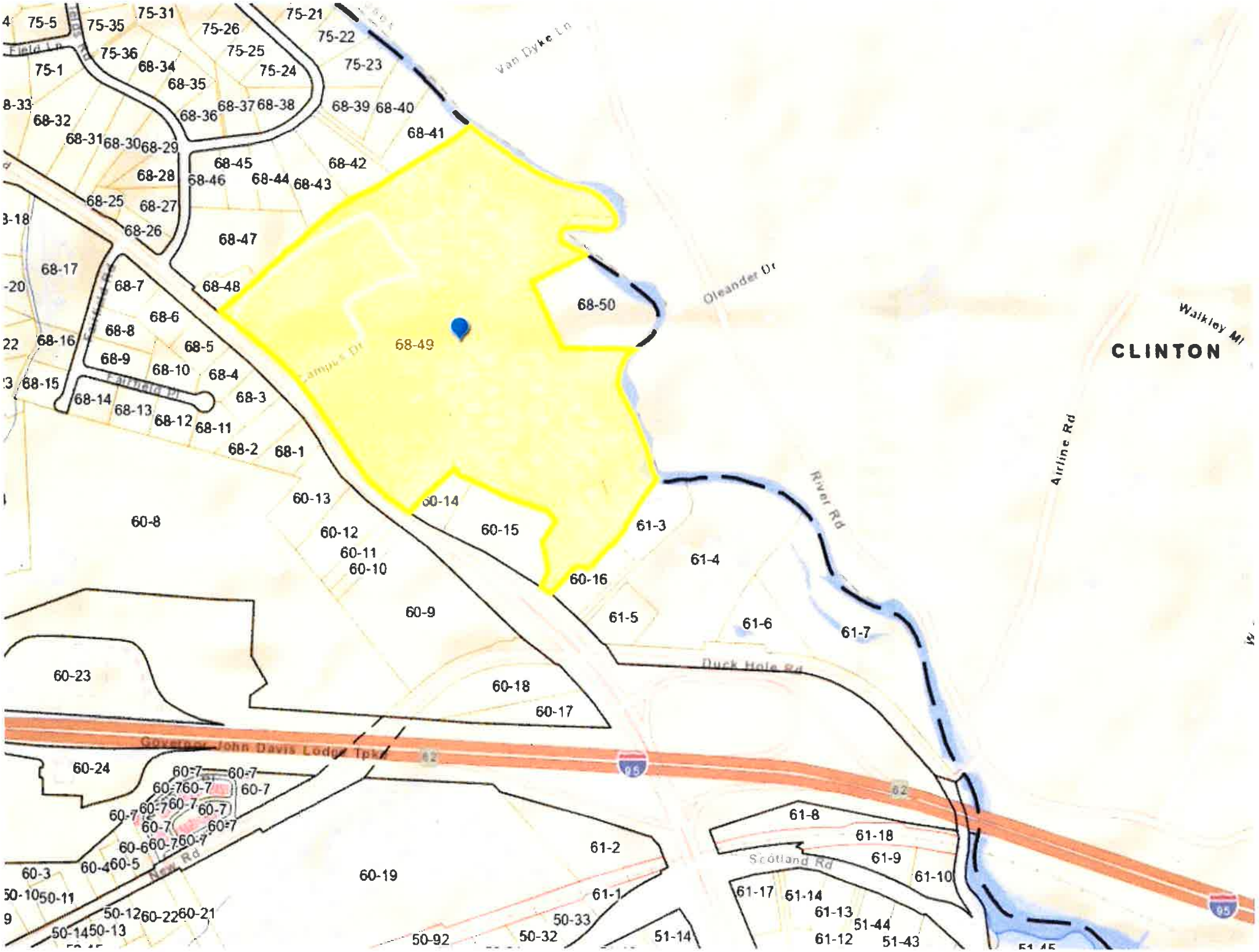
Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel

Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	10
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	5
Bolt Type:	A307
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	1.6
Required Shear Strength / bolt (kips):	0.3
Tensile Capacity / bolt (kips):	10.4
Shear Capacity / bolt (kips):	6.2
Bolt Overall Utilization:	15.3%



Tower Connection Baseplate Checks	No

ATTACHMENT 4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Van Dyke Ln
Oleander Dr
Walkley Mt
CLINTON
Airline Rd
River Rd
Duck Hole Rd
Scotland Rd
New Rd
Governor John Davis Lodge Tpke
95
62

6-9 CAMPUS DR

Location	6-9 CAMPUS DR	**MBLU**	68/ 49/ / /
Unique ID#	00423200	**Owner**	TOWN OF MADISON
Assessment	$7,483,600	**Appraisal**	$10,690,400
PID	4380	**Building Count**	5
Dev. Map	1820		

Current Value

Appraisal					
Valuation Year	**Building**	**Extra Features**	**Outbuildings**	**Land**	**Total**
2022	$9,015,100	$22,000	$229,200	$1,424,100	$10,690,400
Assessment					
Valuation Year	**Building**	**Extra Features**	**Outbuildings**	**Land**	**Total**
2022	$6,310,600	$15,400	$160,700	$996,900	$7,483,600

Owner of Record

Owner	TOWN OF MADISON	**Sale Price**	$0
Co-Owner	TOWN CAMPUS	**Book & Page**	0468/0044
Care Of		**Sale Date**	07/01/1991

Ownership History

Ownership History			
Owner	**Sale Price**	**Book & Page**	**Sale Date**
TOWN OF MADISON	$0	0468/0044	07/01/1991

Building Information

Building 1 : Section 1

Year Built: 1973
Living Area: 22,590

Building Attributes	
Field	**Description**
Style:	City/Town Hall
Model	Commercial
Grade	Good -

ATTACHMENT 5

Verizon/Madison 6

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	2	2	quadient CORRECTION IMI $003.34 02/26/2024 ZIP 06101 043M32206619 US POSTAGE
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Peggy Lyons, First Selectwoman Town of Madison 8 Campus Drive Madison, CT 06443		ANN STREET STATION FEB 26 2024 06103 USPS		
2.	Erin Mannix, Town Planner Town of Madison 8 Campus Drive Madison, CT 06443				
3.					
4.					
5.					
6.					