Derek Maheux Program Manager
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Mobile: (508)649-3407
Dmaheux@clinellc.com

January 26, 2024

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

RE: Tower Share Application // Site: SALEM SOUTH CT (ATC: 10027)
153 East Haddam Road, Salem, CT 06420
N 41.46847707 // W -72. 27331212

Dear Ms. Bachman,

Cellco Partnership d/b/a Verizon Wireless is proposing a wireless telecommunications facility on an existing 190 ft Tower, located at 153 East Haddam Road, Salem, CT. The tower is owned by American Tower.

Verizon Wireless proposes to install a WIC (Walk -in Cabinet) and a generator on concrete pads inside a 12'x30' ground space within the existing compound and install nine (9) antenna, six (6) RRH, two (2) Hybrid Cables and one (1) OVP on the existing tower at the 164' centerline as described in the enclosed construction drawings.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50aa, of Verizon's intent to share a telecommunications facility pursuant to R.C.S.A. § 16-50j-73. In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Salem's Chief Elected Official and Land Use Officer.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-89. Enclosed to accommodate this filing are construction drawings dated January 22, 2024, by A.T Engineering Services, LLC, a structural analysis dated October 26, 2023, by American Tower Corp., and a structural mount analysis by Colliers Engineering and Design dated November 7, 2023, and Non-Ionizing Electromagnetic Radiation (NIER) Study dated January 23, 2024, by Tower Engineering Professionals.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications 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 operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

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

6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analysis and a structural mount analysis, pursuant to certain conditions defined therein. Design and engineering are fully illustrated within final construction drawings.

Connecticut General Statute 16-50aa indicates that the Council must approve the shared use of telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, Verizon Wireless respectfully indicates that the shared use of this facility satisfies these criteria:

A. Technical Feasibility. The existing tower has been deemed structurally capable of supporting Verizon Wireless proposed loading.
B. Legal Feasibility. As referenced abovs, C.G.S 16-50aa has been authorized to issue orders approving the shared us of an existing tower. Under the authority granted to the Council, an order of the Council approving the requested shared us would permit Verizon to obtain a building permit for the proposed installation.
C. Environmental Feasibility. The installation of Verizon equipment at the 164-foot level of the existing 190-foot tower would have an insignificant visual impact on the area around the tower. Verizon ground equipment would be installed within the existing facility compound. Verizon shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by the attached NIER report, the proposed antennas would not increase radio frequency emissions to a level at or about the Federal Communications Commission safety standard.
D. Economic Feasibility. Verizon will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist Verizon with this tower sharing application.
E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting Verizon proposed loading. Verizon is not aware of any public safety concerns relative to the proposed sharing of the existing tower. Verizon's intentions of providing new and improved wireless service through the shared use of this facility

is expected to enhance the safety and welfare of local residents and individuals traveling through Salem.

For the foregoing reasons, Verizon Wireless respectfully requests that the Council approve this request for the shared use of this tower at 153 East Haddam Road, Salem, CT 06420.

Sincerely,

Derek Maheux

_____

Derek Maheux, Program Manager
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Mobile: (508) 649 2307
Dmaheux@clinellc.com

Attachments:
Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Mount Analysis
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Available Original Tower Approval Records
Exhibit 7 – Letter of Authorization
Exhibit 8 – Notice Deliver Confirmations

cc: Ed Chmielewski – First Selectman – Chief Elected Official
Nicole Haggerty – Planer - as P&Z official
American Tower Corporation - as tower owner and ground owner

EXHIBIT 1

EXHIBIT 2

Town of Salem, CT

Property Listing Report

Map Block Lot	05-016-A02	Building #	1	PID	1798	Account	1997

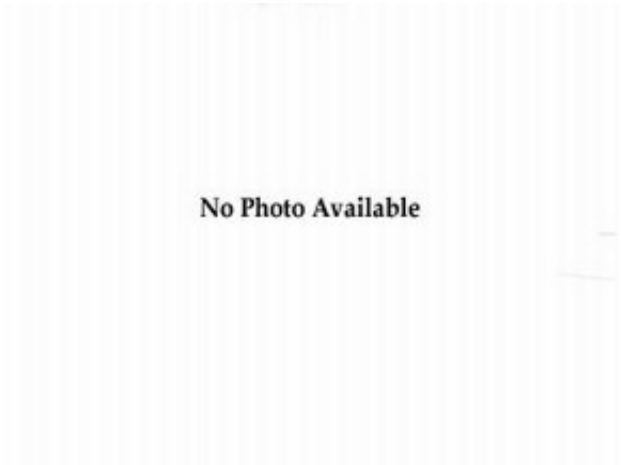
Property Information

Property Location	153 EAST HADDAM RD
Owner	AMERICAN TOWER CORP
Co-Owner	na
Mailing Address	P O BOX 723597 ATLANTA GA 31139
Land Use	4331 Cell Tower
Land Class	I
Zoning Code	HC
Census Tract	7151

Neighborhood	C100
Acreage	6.21
Utilities	UNKNOWN
Lot Setting/Desc	UNKNOWN UNKNOWN
Book / Page	0122/0251
Additional Info	

Photo

Sketch



Primary Construction Details

Year Built	0
Building Desc.	Cell Tower
Building Style	UNKNOWN
Building Grade	
Stories	
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	NA

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Rec Rm Area	NA
Rec Rm Quality	NA
Bsmt Gar	NA
Fireplaces	NA

(*Industrial / Commercial Details)

Building Use	Vacant
Building Condition	
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Report Created On 1/24/2024

Town of Salem, CT

Property Listing Report

Map Block Lot	05-016-A02	Building #	1	PID	1798	Account	1997

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	25500	17900
Land	343500	240500
Total	369000	258400

Outbuilding and Extra Features

Type	Description
Paving-Asphalt	9600 S.F.
W/Improv Good	500 S.F.

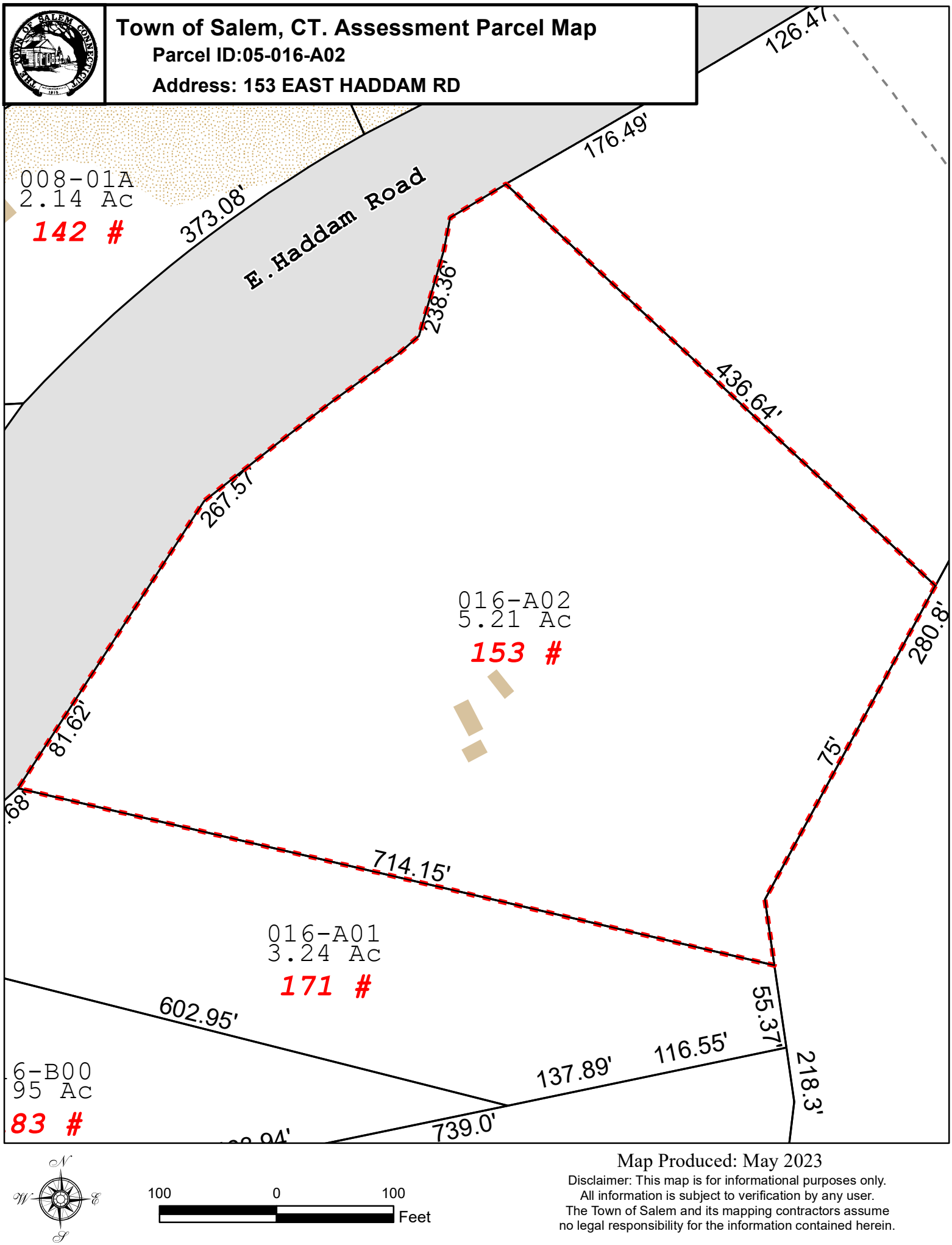
Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	0	0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
AMERICAN TOWER CORP	0122/0251	1999-11-01	180000

Report Created On 1/24/2024



Map Produced: May 2023

Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Salem and its mapping contractors assume
no legal responsibility for the information contained herein.

EXHIBIT 3

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	190 ft Self Support Tower
ATC Asset Name	:	SALEM CT
ATC Asset Number	:	10027
Engineering Number	:	14430730_C3_04
Proposed Carrier	:	VERIZON WIRELESS
Carrier Site Name	:	Salem South CT
Carrier Site Number	:	5000916780
Site Location	:	153 East Haddam Road Salem, CT 06420-3903 41.4685° N, 72.2733° W
County	:	New London
Date	:	October 26, 2023
Max Usage	:	66%
Analysis Result	:	Pass

Created By:

Aviskar Ghansam
Structural Engineer I

Aviskar Ghansam

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 190 ft Self Support tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower:	PiRod 204997-B, dated September 21, 1999
Foundation:	PiRod 204997-B, dated September 21, 1999
Geotechnical:	Tectonic Engineering Consultants P.C 2174.Salem, dated August 27, 1999

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	124 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Feature:	Flat
Spectral Response:	Ss = 0.21, S_1 = 0.06
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact **Engineering@americantower.com** Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

Structure Usages

Structural Component	Usage	Control	Location	Result
Leg	66.0%	Member X	Section 9	Pass
Diagonal	65.0%	Member X	Section 10	Pass
Horizontal	40.0%	Member X	Section 10	Pass
Bolt	44.9%	-	Section 5	Pass
Serviceability Usage	8.2%	Rotation	Elevation 175 ft	Pass
Foundation	49.1%	Down	Base	Pass
Foundation	45.0%	Shear	Base	Pass
Foundation	46.5%	Uplift	Base	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Uplift (k)	Shear (k)
Self Support Base (Global)	4,106.0	55.0	-	36.3
Self Support Base (Local)	-	255.4	215.9	24.2

Reactions shown are maximum overall and not limited by Load Case

Foundation usages were calculated by comparing the maximum reactions from this analysis to the reactions from the original design drawings, factored by 1.35 per ANSI/TIA-222-H, Section 15.6.2

VERIZON WIRELESS Final Loading

Elev (ft)	Qty	Equipment	Lines
164.0	1	Raycap RCMDC-6627-PF-48	(2) 1 5/8" Hybriflex (1) Waveguide
	3	Light Sector Frame	
	3	Samsung B2/B66A RRH ORAN (RF 4439d-25A)	
	3	Samsung MT6413-77A	
	3	Samsung RF4461d-13A	
	6	Commscope NHH-65B-R2B	

Install proposed lines on the tower face with the least amount of existing lines.

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines	Carrier
187.0	1	Raycap DC6-48-60-18-8C	(1) 0.33" (8.7mm) Fiber (1) 0.39" (10mm) Fiber Trunk (2) 0.65" (16.4mm) 8 AWG 2C (3) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax	AT&T MOBILITY
	1	Raycap DC9-48-60-24-8C-EV		
	3	Allgon 7770.00		
	3	Ericsson RRUS 4449 B5, B12		
	3	Ericsson RRUS 4478 B14 (15")		
	3	Ericsson RRUS 8843 B2, B66A		
	3	Light Sector Frame		
	6	CCI DMP65R-BU8D		
	6	LGP Allgon LGP21903		
	6	Powerwave Allgon LGP21401		
175.0	3	Ericsson RRUS 11 B2	(1) 1 5/8" (1.63"-41.3mm) Fiber (3) 1 5/8" Hybriflex	T-MOBILE
	3	Ericsson RRUS 11 B4		
	3	Ericsson Radio 4449 B71 B85A		
	3	Sector Frame		
	3	RFS APX16DWV-16DWVS-E-A20		
	3	RFS APXVAALL24 43-U-NA20		

(If table breaks across pages, please see previous page for data in merged cells)

Standard Conditions

All engineering services performed by A.T. Engineering Services LLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts, and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Services LLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Services LLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Services LLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

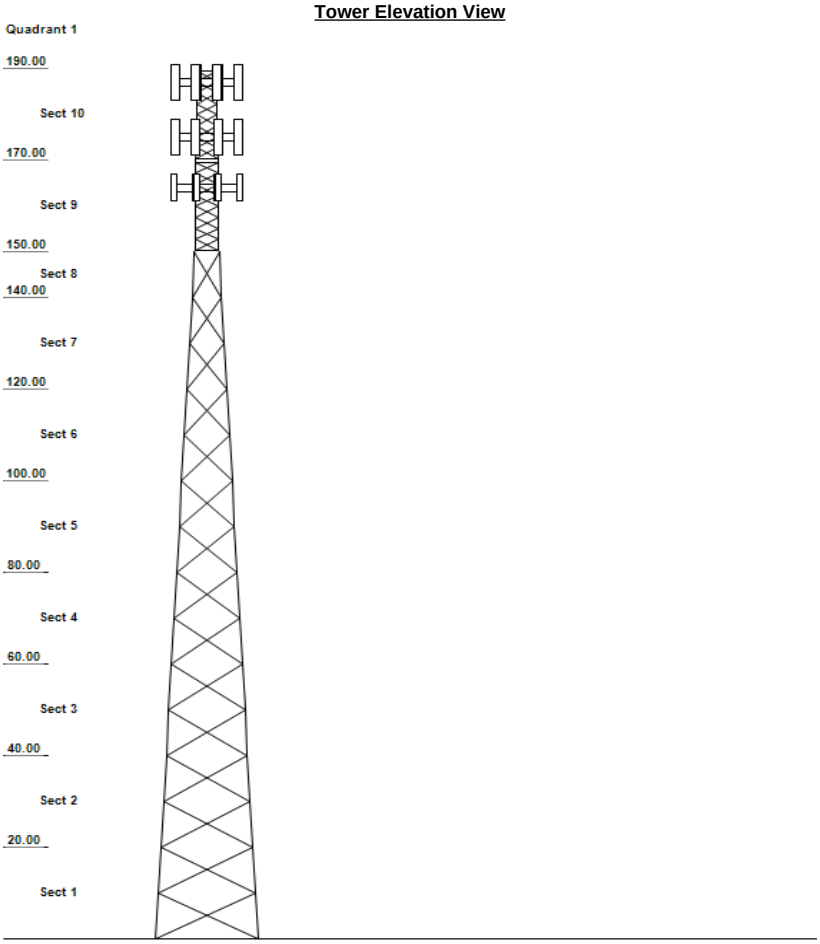
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

ASSET:	10027, SALEM CT	CODE:	ANSI/TIA-222-H
CUSTOMER:	VERIZON WIRELESS	PROJECT:	14430730

ANALYSIS PARAMETERS

Nominal Wind:	124 mph	**Ice Wind:**	50 mph w/ 1" ice	**Service Wind:**	60 mph
Risk Category:	II	**Exposure:**	B	**S_s:** 0.205	**S_1:** 0.055
Topo Category:	1	**Topo Factor:**	Method 1	**Topo Feature:**	
Structure Height:	190 ft	**Base Elevation:**	0 ft	**Shape:**	Triangle
Base Width:	20 ft	**Top Width:**	4 ft		

Tower Elevation View



TOWER SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1-2	12B 50 ksi 12"BD 2.25	SAE 36 ksi 3.5X3.5X0.3125	
3-4	12B 50 ksi 12"BD 2"	SAE 36 ksi 3X3X0.3125	
5	12B 50 ksi 12"BD 1.75	SAE 36 ksi 3X3X0.1875	
6-7	12B 50 ksi 12"BD 1.5"	SAE 36 ksi 3X3X0.1875	
8	12B 50 ksi 12"BD 1.25	SAE 36 ksi 2.5X2.5X0.1875	
9	SOL 50 ksi 2" SOLID	SOL 50 ksi 1" SOLID	SOL 50 ksi 1" SOLID
10	SOL 50 ksi 1 1/2" SOL	SOL 50 ksi 3/4" SOLID	SOL 50 ksi 3/4" SOLID

SECONDARY BRACING MEMBERS

DISCRETE APPURTENANCE

Elev (ft)	Description
187.0	(6) Powerwave Allgon LGP21401
187.0	(6) CCI DMP65R-BU8D
187.0	(6) LGP Allgon LGP21903
187.0	(3) Generic Flat Light Sector Fram
187.0	(3) Ericsson RRUS 4449 B5, B12
187.0	(3) Ericsson RRUS 8843 B2, B66A
187.0	(3) Ericsson RRUS 4478 B14 (15")
187.0	(3) Allgon 7770.00
187.0	(1) Raycap DC9-48-60-24-8C-EV
187.0	(1) Raycap DC6-48-60-18-8C
175.0	(3) RFS APXVAALL24 43-U-NA20
175.0	(3) RFS APX16DWV-16DWVS-E-A20
175.0	(3) Ericsson RRUS 11 B4
175.0	(3) Ericsson Radio 4449 B71 B85A
175.0	(3) Ericsson RRUS 11 B2
175.0	(3) Generic Round Sector Frame
164.0	(6) Commscope NHH-65B-R2B
164.0	(3) Samsung B2/B66A RRH ORAN (RF 4
164.0	(3) Generic Flat Light Sector Fram
164.0	(3) Samsung MT6413-77A
164.0	(3) Samsung RF4461d-13A
164.0	(1) Raycap RCMDC-6627-PF-48

LINEAR APPURTENANCE

Elev To (ft)	Description
187.0	(12) 1 5/8" Coax
187.0	(3) 0.78" (19.7mm) 8 AWG 6
187.0	(2) 0.65" (16.4mm) 8 AWG 2C
187.0	(1) Waveguide
187.0	(1) 0.39" (10mm) Fiber Trunk
187.0	(1) 0.33" (8.7mm) Fiber
175.0	(3) 1 5/8" Hybriflex
175.0	(1) Waveguide
175.0	(1) 1 5/8" (1.63"-41.3mm) Fiber
164.0	(2) 1 5/8" Hybriflex
164.0	(1) Waveguide

GLOBAL BASE REACTIONS

	DL+WL	DL+WL+IL
Moment (k-ft):	4105.97	1110.85
Axial (k):	54.99	96.35
Shear (k):	36.27	9.80

INDIVIDUAL BASE REACTIONS

Comp (k):	255.39
Uplift (k):	215.92
Shear (k):	24.24

ANALYSIS PARAMETERS

Location:	New London County, CT	**Height:**	190 ft
Type and Shape:	Self Support, Triangle	**Base Elevation:**	0.00 ft
Manufacturer:	Pirod	**Bottom Face Width:**	20.00 ft
Kd	0.85	**Top Face Width:**	4.00 ft
Ke:	0.99	**Anchor Bolt Detail Type:**	c

ICE & WIND PARAMETERS

Exposure Category:	B	**Design Wind Speed Without Ice:**	124 mph
Risk Category:	II	**Design Wind Speed with Ice:**	50 mph
Topographic Factor Procedure:	Method 1	**Operational Windspeed:**	60 mph
Topographic Category:	Flat	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	356 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	1.24
T_L (sec):	6	**P:**	1.3	**C_s:**	0.030
S_s:	0.205	**S_1:**	0.055	**C_s Max:**	0.030
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.219	**S_{d1}:**	0.088		

LOAD CASES

1.2D + 1.0W Normal	1.2D + 1.0W Normal - 124 mph Wind with No Ice
1.2D + 1.0W 60°	1.2D + 1.0W 60° - 124 mph Wind with No Ice
1.2D + 1.0W 90°	1.2D + 1.0W 90° - 124 mph Wind with No Ice
1.2D + 1.0W 120°	1.2D + 1.0W 120° - 124 mph Wind with No Ice
1.2D + 1.0W 180°	1.2D + 1.0W 180° - 124 mph Wind with No Ice
1.2D + 1.0W 210°	1.2D + 1.0W 210° - 124 mph Wind with No Ice
1.2D + 1.0W 240°	1.2D + 1.0W 240° - 124 mph Wind with No Ice
1.2D + 1.0W 300°	1.2D + 1.0W 300° - 124 mph Wind with No Ice
1.2D + 1.0W 330°	1.2D + 1.0W 330° - 124 mph Wind with No Ice
0.9D + 1.0W Normal	0.9D + 1.0W Normal - 124 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 60°	0.9D + 1.0W 60° - 124 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 90°	0.9D + 1.0W 90° - 124 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 120°	0.9D + 1.0W 120° - 124 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 180°	0.9D + 1.0W 180° - 124 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 210°	0.9D + 1.0W 210° - 124 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 240°	0.9D + 1.0W 240° - 124 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 300°	0.9D + 1.0W 300° - 124 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 330°	0.9D + 1.0W 330° - 124 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	1.2D + 1.0Di + 1.0Wi Normal - 50 mph Wind with 1" Radial Ice
1.2D + 1.0Di + 1.0Wi 60°	1.2D + 1.0Di + 1.0Wi 60° - 50 mph Wind with 1" Radial Ice
1.2D + 1.0Di + 1.0Wi 90°	1.2D + 1.0Di + 1.0Wi 90° - 50 mph Wind with 1" Radial Ice
1.2D + 1.0Di + 1.0Wi 120°	1.2D + 1.0Di + 1.0Wi 120° - 50 mph Wind with 1" Radial Ice
1.2D + 1.0Di + 1.0Wi 180°	1.2D + 1.0Di + 1.0Wi 180° - 50 mph Wind with 1" Radial Ice
1.2D + 1.0Di + 1.0Wi 210°	1.2D + 1.0Di + 1.0Wi 210° - 50 mph Wind with 1" Radial Ice
1.2D + 1.0Di + 1.0Wi 240°	1.2D + 1.0Di + 1.0Wi 240° - 50 mph Wind with 1" Radial Ice
1.2D + 1.0Di + 1.0Wi 300°	1.2D + 1.0Di + 1.0Wi 300° - 50 mph Wind with 1" Radial Ice

LOAD CASES	
1.2D + 1.0Di + 1.0Wi 330°	1.2D + 1.0Di + 1.0Wi 330° - 50 mph Wind with 1" Radial Ice
1.2D + 1.0Ev + 1.0Eh Normal	1.2D + 1.0Ev + 1.0Eh Normal - Seismic
1.2D + 1.0Ev + 1.0Eh 60°	1.2D + 1.0Ev + 1.0Eh 60° - Seismic
1.2D + 1.0Ev + 1.0Eh 90°	1.2D + 1.0Ev + 1.0Eh 90° - Seismic
1.2D + 1.0Ev + 1.0Eh 120°	1.2D + 1.0Ev + 1.0Eh 120° - Seismic
1.2D + 1.0Ev + 1.0Eh 180°	1.2D + 1.0Ev + 1.0Eh 180° - Seismic
1.2D + 1.0Ev + 1.0Eh 210°	1.2D + 1.0Ev + 1.0Eh 210° - Seismic
1.2D + 1.0Ev + 1.0Eh 240°	1.2D + 1.0Ev + 1.0Eh 240° - Seismic
1.2D + 1.0Ev + 1.0Eh 300°	1.2D + 1.0Ev + 1.0Eh 300° - Seismic
1.2D + 1.0Ev + 1.0Eh 330°	1.2D + 1.0Ev + 1.0Eh 330° - Seismic
0.9D - 1.0Ev + 1.0Eh Normal	0.9D - 1.0Ev + 1.0Eh Normal - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 60°	0.9D - 1.0Ev + 1.0Eh 60° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 90°	0.9D - 1.0Ev + 1.0Eh 90° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 120°	0.9D - 1.0Ev + 1.0Eh 120° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 180°	0.9D - 1.0Ev + 1.0Eh 180° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 210°	0.9D - 1.0Ev + 1.0Eh 210° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 240°	0.9D - 1.0Ev + 1.0Eh 240° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 300°	0.9D - 1.0Ev + 1.0Eh 300° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 330°	0.9D - 1.0Ev + 1.0Eh 330° - Seismic (Reduced DL)
1.0D + 1.0W Service Normal	1.0D + 1.0W Service Normal - 60 mph Wind with No Ice
1.0D + 1.0W Service 60°	1.0D + 1.0W Service 60° - 60 mph Wind with No Ice
1.0D + 1.0W Service 90°	1.0D + 1.0W Service 90° - 60 mph Wind with No Ice
1.0D + 1.0W Service 120°	1.0D + 1.0W Service 120° - 60 mph Wind with No Ice
1.0D + 1.0W Service 180°	1.0D + 1.0W Service 180° - 60 mph Wind with No Ice
1.0D + 1.0W Service 210°	1.0D + 1.0W Service 210° - 60 mph Wind with No Ice
1.0D + 1.0W Service 240°	1.0D + 1.0W Service 240° - 60 mph Wind with No Ice
1.0D + 1.0W Service 300°	1.0D + 1.0W Service 300° - 60 mph Wind with No Ice
1.0D + 1.0W Service 330°	1.0D + 1.0W Service 330° - 60 mph Wind with No Ice

TOWER LOADING – DISCRETE APPURTENANCE

Discrete Appurtenance Properties for LC: **1.2D + 1.0W**

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc. (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
187.0	LGP Allgon LGP21903	6	6	0.2	0.4	6.3	3.0	0.80	0.50	2.0	36.90	39.15	18	40
187.0	Powerwave Allgon LGP21401	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	176.35	39.15	88	102
187.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.00	39.03	65	259
187.0	Ericsson RRUS 4478 B14 (15")	3	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.00	39.03	66	214
187.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	39.03	78	256
187.0	Raycap DC6-48-60-18-8C	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.00	39.03	54	19
187.0	Raycap DC9-48-60-24-8C-EV	1	16	4.8	2.6	18.3	10.2	0.80	1.00	0.0	0.00	39.03	127	19
187.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	571.90	39.15	286	126
187.0	CCI DMP65R-BU8D	6	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	39.03	1793	689
187.0	Generic Flat Light Sector Fram	3	800	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	39.03	1002	2880
175.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	38.30	64	270
175.0	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	588.21	38.55	147	183
175.0	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	588.21	38.55	147	183
175.0	RFS APX16DWV-16DWVS-E-A20	3	41	6.6	4.7	13.3	3.1	0.80	0.60	0.0	0.00	38.30	309	147
175.0	Generic Round Sector Frame	3	700	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	38.30	791	2520
175.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	38.30	996	442
164.0	Samsung B2/B66A RRH ORAN (RF 4	3	75	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.00	37.60	72	269
164.0	Samsung RF4461d-13A	3	79	1.9	1.3	15.0	10.2	0.80	0.50	0.0	0.00	37.60	72	285
164.0	Samsung MT6413-77A	3	57	3.8	2.4	15.8	5.5	0.80	0.61	0.0	0.00	37.60	178	206
164.0	Raycap RCMDC-6627-PF-48	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.00	37.60	104	38
164.0	Commscope NHH-65B-R2B	6	44	8.1	6.0	11.9	7.1	0.80	0.69	0.0	0.00	37.60	855	315
164.0	Generic Flat Light Sector Fram	3	800	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	37.60	965	2880
	Totals	**72**	**10,283**	**482.3**									8,279	12,340

Discrete Appurtenance Properties for LC: **0.9D + 1.0W**

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc. (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
187.0	LGP Allgon LGP21903	6	6	0.2	0.4	6.3	3.0	0.80	0.50	2.0	36.90	39.15	18	30
187.0	Powerwave Allgon LGP21401	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	176.35	39.15	88	76
187.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.00	39.03	65	194
187.0	Ericsson RRUS 4478 B14 (15")	3	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.00	39.03	66	160
187.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	39.03	78	192
187.0	Raycap DC6-48-60-18-8C	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.00	39.03	54	14
187.0	Raycap DC9-48-60-24-8C-EV	1	16	4.8	2.6	18.3	10.2	0.80	1.00	0.0	0.00	39.03	127	14
187.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	571.90	39.15	286	94
187.0	CCI DMP65R-BU8D	6	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	39.03	1793	517
187.0	Generic Flat Light Sector Fram	3	800	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	39.03	1002	2160
175.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	38.30	64	202
175.0	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	588.21	38.55	147	137
175.0	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	588.21	38.55	147	137
175.0	RFS APX16DWV-16DWVS-E-A20	3	41	6.6	4.7	13.3	3.1	0.80	0.60	0.0	0.00	38.30	309	110
175.0	Generic Round Sector Frame	3	700	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	38.30	791	1890
175.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	38.30	996	332
164.0	Samsung B2/B66A RRH ORAN (RF 4	3	75	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.00	37.60	72	202
164.0	Samsung RF4461d-13A	3	79	1.9	1.3	15.0	10.2	0.80	0.50	0.0	0.00	37.60	72	214
164.0	Samsung MT6413-77A	3	57	3.8	2.4	15.8	5.5	0.80	0.61	0.0	0.00	37.60	178	155
164.0	Raycap RCMDC-6627-PF-48	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.00	37.60	104	29
164.0	Commscope NHH-65B-R2B	6	44	8.1	6.0	11.9	7.1	0.80	0.69	0.0	0.00	37.60	855	236
164.0	Generic Flat Light Sector Fram	3	800	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	37.60	965	2160
	Totals	**72**	**10,283**	**482.3**									8,279	9,255

Discrete Appurtenance Properties for LC: **1.2D + 1.0Di + 1.0Wi**

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc. (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
187.0	LGP Allgon LGP21903	6	11	0.5	0.4	6.3	3.0	0.80	0.50	2.0	12.00	6.37	6	74
187.0	Powerwave Allgon LGP21401	6	31	1.6	1.2	9.2	2.6	0.80	0.50	2.0	41.28	6.37	21	203
187.0	Ericsson RRUS 8843 B2, B66A	3	114	2.2	1.2	13.2	10.9	0.80	0.50	0.0	0.00	6.35	14	384
187.0	Ericsson RRUS 4478 B14 (15")	3	93	2.2	1.3	13.2	7.3	0.80	0.50	0.0	0.00	6.35	14	315
187.0	Ericsson RRUS 4449 B5, B12	3	115	2.6	1.5	13.2	9.4	0.80	0.50	0.0	0.00	6.35	17	387
187.0	Raycap DC6-48-60-18-8C	1	56	2.5	1.7	18.2	6.4	0.80	1.00	0.0	0.00	6.35	11	59
187.0	Raycap DC9-48-60-24-8C-EV	1	104	5.8	2.6	18.3	10.2	0.80	1.00	0.0	0.00	6.35	25	107
187.0	Allgon 7770.00	3	120	6.2	4.6	11.0	5.0	0.80	0.65	2.0	104.81	6.37	52	381
187.0	CCI DMP65R-BU8D	6	327	20.4	8.0	20.7	7.7	0.80	0.63	0.0	0.00	6.35	332	2076
187.0	Generic Flat Light Sector Fram	3	1558	28.2	0.0	0.0	0.0	0.75	0.75	0.0	0.00	6.35	256	5155
175.0	Ericsson Radio 4449 B71 B85A	3	116	2.2	1.3	13.2	10.5	0.80	0.50	0.0	0.00	6.23	14	393
175.0	Ericsson RRUS 11 B4	3	100	3.5	1.6	17.0	7.2	0.80	0.67	4.0	121.20	6.27	30	330
175.0	Ericsson RRUS 11 B2	3	100	3.5	1.6	17.0	7.2	0.80	0.67	4.0	121.20	6.27	30	330
175.0	RFS APX16DWV-16DWVS-E-A20	3	120	8.1	4.7	13.3	3.1	0.80	0.60	0.0	0.00	6.23	61	385
175.0	Generic Round Sector Frame	3	1364	25.7	0.0	0.0	0.0	0.75	0.75	0.0	0.00	6.23	229	4511
175.0	RFS APXVAALL24 43-U-NA20	3	388	22.8	8.0	24.0	8.5	0.80	0.63	0.0	0.00	6.23	182	1237
164.0	Samsung B2/B66A RRH ORAN (RF 4	3	118	2.5	1.3	15.0	10.0	0.80	0.50	0.0	0.00	6.11	15	398
164.0	Samsung RF4461d-13A	3	122	2.5	1.3	15.0	10.2	0.80	0.50	0.0	0.00	6.11	15	415
164.0	Samsung MT6413-77A	3	114	4.7	2.4	15.8	5.5	0.80	0.61	0.0	0.00	6.11	36	378

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc. (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
164.0	Raycap RCMDC-6627-PF-48	1	117	5.0	2.5	16.5	12.6	0.80	1.00	0.0	0.00	6.11	21	124
164.0	Commscope NHH-65B-R2B	6	161	10.0	6.0	11.9	7.1	0.80	0.69	0.0	0.00	6.11	171	1018
164.0	Generic Flat Light Sector Fram	3	1549	28.0	0.0	0.0	0.0	0.75	0.75	0.0	0.00	6.11	246	5128
	Totals	**72**	**21,732**	**642.3**									1802	23,789

Discrete Appurtenance Properties for LC: **1.0D + 1.0W Service**

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc. (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
187.0	LGP Allgon LGP21903	6	6	0.2	0.4	6.3	3.0	0.80	0.50	2.0	8.64	9.17	4	33
187.0	Powerwave Allgon LGP21401	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	41.29	9.17	21	85
187.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.00	9.14	15	216
187.0	Ericsson RRUS 4478 B14 (15")	3	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.00	9.14	15	178
187.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	9.14	18	213
187.0	Raycap DC6-48-60-18-8C	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.00	9.14	13	16
187.0	Raycap DC9-48-60-24-8C-EV	1	16	4.8	2.6	18.3	10.2	0.80	1.00	0.0	0.00	9.14	30	16
187.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	133.90	9.17	67	105
187.0	CCI DMP65R-BU8D	6	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	9.14	420	574
187.0	Generic Flat Light Sector Fram	3	800	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	9.14	235	2400
175.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	8.97	15	225
175.0	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	137.72	9.03	34	152
175.0	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	137.72	9.03	34	152
175.0	RFS APX16DWV-16DWVS-E-A20	3	41	6.6	4.7	13.3	3.1	0.80	0.60	0.0	0.00	8.97	72	122
175.0	Generic Round Sector Frame	3	700	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	8.97	185	2100
175.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	8.97	233	368
164.0	Samsung B2/B66A RRH ORAN (RF 4	3	75	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.00	8.80	17	224
164.0	Samsung RF4461d-13A	3	79	1.9	1.3	15.0	10.2	0.80	0.50	0.0	0.00	8.80	17	237
164.0	Samsung MT6413-77A	3	57	3.8	2.4	15.8	5.5	0.80	0.61	0.0	0.00	8.80	42	172
164.0	Raycap RCMDC-6627-PF-48	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.00	8.80	24	32
164.0	Commscope NHH-65B-R2B	6	44	8.1	6.0	11.9	7.1	0.80	0.69	0.0	0.00	8.80	200	262
164.0	Generic Flat Light Sector Fram	3	800	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	8.80	226	2400
	Totals	**72**	**10,283**	**482.3**									1,938	10,283

TOWER LOADING – LINEAR APPURTENANCE

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient. Factor	K_a Override
0.0	187.0	1 5/8" Coax	12	1.98	0.82	50	2	Block	0.00	N	1.00	1.00	0.00
0.0	187.0	0.65" (16.4mm) 8 AWG 2C	2	0.65	0.31	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	187.0	0.78" (19.7mm) 8 AWG 6	3	0.78	0.59	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	187.0	0.39" (10mm) Fiber Trunk	1	0.39	0.06	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	187.0	0.33" (8.7mm) Fiber	1	0.33	0.05	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	187.0	Waveguide	1	2.00	6.00	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	175.0	1 5/8" (1.63"-41.3mm) Fiber	1	1.63	1.61	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	175.0	1 5/8" Hybriflex	3	1.98	1.30	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	175.0	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	164.0	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	164.0	1 5/8" Hybriflex	2	1.98	1.30	100	1	Individual	0.00	N	1.00	1.00	0.00

SECTION FORCES

1.2D + 1.0W Normal — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	8.82	22.58	0.00	1543	0	697	870	1567
7	130	35.18	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	20.82	54.38	0.00	3667	0	1626	1686	3313
6	110	33.54	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	21.98	60.07	0.00	3733	0	1713	1608	3320
5	90	31.67	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	23.89	66.67	0.00	4263	0	1795	1518	3313
4	70	29.48	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	26.41	74.18	0.00	5681	0	1859	1413	3272
3	50	26.78	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	28.32	80.93	0.00	5824	0	1842	1283	3125
2	30	23.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.59	95.54	0.00	6935	0	1879	1109	2988
1	10	23.12	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	33.94	97.60	0.00	7116	0	1918	1108	3026
													Totals	**42,650**	**0**			**27,991**

1.2D + 1.0W 60° — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	7.90	20.23	0.00	1543	0	624	870	1494
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	18.46	48.22	0.00	3667	0	1442	1686	3128
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	19.37	52.95	0.00	3733	0	1510	1608	3117
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	21.01	58.64	0.00	4263	0	1579	1518	3097
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	23.23	65.27	0.00	5681	0	1635	1413	3048
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	24.83	70.95	0.00	5824	0	1615	1283	2898
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	29.13	82.84	0.00	6935	0	1629	1109	2738
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	29.07	83.59	0.00	7116	0	1643	1108	2751
													Totals	**42,650**	**0**			**26,339**

1.2D + 1.0W 90° — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.13	20.82	0.00	1543	0	642	870	1512
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.05	49.76	0.00	3667	0	1488	1686	3174
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.02	54.73	0.00	3733	0	1560	1608	3168
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	21.73	60.65	0.00	4263	0	1633	1518	3151
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	24.03	67.50	0.00	5681	0	1691	1413	3104
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	25.70	73.44	0.00	5824	0	1672	1283	2955
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	30.24	86.01	0.00	6935	0	1692	1109	2801
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	30.29	87.09	0.00	7116	0	1712	1108	2820
													Totals	**42,650**	**0**			**26,752**

1.2D + 1.0W 120° — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	8.82	22.58	0.00	1543	0	697	870	1567
7	130	35.18	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	20.82	54.38	0.00	3667	0	1626	1686	3313
6	110	33.54	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	21.98	60.07	0.00	3733	0	1713	1608	3320
5	90	31.67	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	23.89	66.67	0.00	4263	0	1795	1518	3313
4	70	29.48	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	26.41	74.18	0.00	5681	0	1859	1413	3272
3	50	26.78	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	28.32	80.93	0.00	5824	0	1842	1283	3125
2	30	23.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.59	95.54	0.00	6935	0	1879	1109	2988
1	10	23.12	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	33.94	97.60	0.00	7116	0	1918	1108	3026
													Totals	**42,650**	**0**			**27,991**

1.2D + 1.0W 180° — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	7.90	20.23	0.00	1543	0	624	870	1494
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	18.46	48.22	0.00	3667	0	1442	1686	3128
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	19.37	52.95	0.00	3733	0	1510	1608	3117
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	21.01	58.64	0.00	4263	0	1579	1518	3097
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	23.23	65.27	0.00	5681	0	1635	1413	3048
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	24.83	70.95	0.00	5824	0	1615	1283	2898
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	29.13	82.84	0.00	6935	0	1629	1109	2738

SECTION FORCES

1.2D + 1.0W 180° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	29.07	83.59	0.00	7116	0	1643	1108	2751
													Totals	**42,650**	**0**			**26,339**

1.2D + 1.0W 210° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.13	20.82	0.00	1543	0	642	870	1512
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.05	49.76	0.00	3667	0	1488	1686	3174
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.02	54.73	0.00	3733	0	1560	1608	3168
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	21.73	60.65	0.00	4263	0	1633	1518	3151
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	24.03	67.50	0.00	5681	0	1691	1413	3104
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	25.70	73.44	0.00	5824	0	1672	1283	2955
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	30.24	86.01	0.00	6935	0	1692	1109	2801
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	30.29	87.09	0.00	7116	0	1712	1108	2820
													Totals	**42,650**	**0**			**26,752**

1.2D + 1.0W 240° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	8.82	22.58	0.00	1543	0	697	870	1567
7	130	35.18	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	20.82	54.38	0.00	3667	0	1626	1686	3313
6	110	33.54	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	21.98	60.07	0.00	3733	0	1713	1608	3320
5	90	31.67	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	23.89	66.67	0.00	4263	0	1795	1518	3313
4	70	29.48	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	26.41	74.18	0.00	5681	0	1859	1413	3272
3	50	26.78	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	28.32	80.93	0.00	5824	0	1842	1283	3125
2	30	23.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.59	95.54	0.00	6935	0	1879	1109	2988
1	10	23.12	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	33.94	97.60	0.00	7116	0	1918	1108	3026
													Totals	**42,650**	**0**			**27,991**

1.2D + 1.0W 300° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	7.90	20.23	0.00	1543	0	624	870	1494
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	18.46	48.22	0.00	3667	0	1442	1686	3128
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	19.37	52.95	0.00	3733	0	1510	1608	3117
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	21.01	58.64	0.00	4263	0	1579	1518	3097
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	23.23	65.27	0.00	5681	0	1635	1413	3048
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	24.83	70.95	0.00	5824	0	1615	1283	2898
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	29.13	82.84	0.00	6935	0	1629	1109	2738
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	29.07	83.59	0.00	7116	0	1643	1108	2751
													Totals	**42,650**	**0**			**26,339**

1.2D + 1.0W 330° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1345	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	2542	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.13	20.82	0.00	1543	0	642	870	1512
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.05	49.76	0.00	3667	0	1488	1686	3174
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.02	54.73	0.00	3733	0	1560	1608	3168
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	21.73	60.65	0.00	4263	0	1633	1518	3151
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	24.03	67.50	0.00	5681	0	1691	1413	3104
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	25.70	73.44	0.00	5824	0	1672	1283	2955
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	30.24	86.01	0.00	6935	0	1692	1109	2801
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	30.29	87.09	0.00	7116	0	1712	1108	2820
													Totals	**42,650**	**0**			**26,752**

0.9D + 1.0W Normal Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630

SECTION FORCES

0.9D + 1.0W Normal — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
9	160	37.33	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	8.82	22.58	0.00	1157	0	697	870	1567
7	130	35.18	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	20.82	54.38	0.00	2750	0	1626	1686	3313
6	110	33.54	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	21.98	60.07	0.00	2800	0	1713	1608	3320
5	90	31.67	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	23.89	66.67	0.00	3197	0	1795	1518	3313
4	70	29.48	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	26.41	74.18	0.00	4261	0	1859	1413	3272
3	50	26.78	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	28.32	80.93	0.00	4368	0	1842	1283	3125
2	30	23.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.59	95.54	0.00	5201	0	1879	1109	2988
1	10	23.12	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	33.94	97.60	0.00	5337	0	1918	1108	3026
													Totals	**31,987**	**0**			**27,991**

0.9D + 1.0W 60° — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	7.90	20.23	0.00	1157	0	624	870	1494
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	18.46	48.22	0.00	2750	0	1442	1686	3128
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	19.37	52.95	0.00	2800	0	1510	1608	3117
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	21.01	58.64	0.00	3197	0	1579	1518	3097
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	23.23	65.27	0.00	4261	0	1635	1413	3048
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	24.83	70.95	0.00	4368	0	1615	1283	2898
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	29.13	82.84	0.00	5201	0	1629	1109	2738
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	29.07	83.59	0.00	5337	0	1643	1108	2751
													Totals	**31,987**	**0**			**26,339**

0.9D + 1.0W 90° — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.13	20.82	0.00	1157	0	642	870	1512
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.05	49.76	0.00	2750	0	1488	1686	3174
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.02	54.73	0.00	2800	0	1560	1608	3168
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	21.73	60.65	0.00	3197	0	1633	1518	3151
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	24.03	67.50	0.00	4261	0	1691	1413	3104
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	25.70	73.44	0.00	4368	0	1672	1283	2955
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	30.24	86.01	0.00	5201	0	1692	1109	2801
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	30.29	87.09	0.00	5337	0	1712	1108	2820
													Totals	**31,987**	**0**			**26,752**

0.9D + 1.0W 120° — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	8.82	22.58	0.00	1157	0	697	870	1567
7	130	35.18	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	20.82	54.38	0.00	2750	0	1626	1686	3313
6	110	33.54	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	21.98	60.07	0.00	2800	0	1713	1608	3320
5	90	31.67	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	23.89	66.67	0.00	3197	0	1795	1518	3313
4	70	29.48	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	26.41	74.18	0.00	4261	0	1859	1413	3272
3	50	26.78	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	28.32	80.93	0.00	4368	0	1842	1283	3125
2	30	23.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.59	95.54	0.00	5201	0	1879	1109	2988
1	10	23.12	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	33.94	97.60	0.00	5337	0	1918	1108	3026
													Totals	**31,987**	**0**			**27,991**

0.9D + 1.0W 180° — Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	7.90	20.23	0.00	1157	0	624	870	1494
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	18.46	48.22	0.00	2750	0	1442	1686	3128
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	19.37	52.95	0.00	2800	0	1510	1608	3117
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	21.01	58.64	0.00	3197	0	1579	1518	3097
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	23.23	65.27	0.00	4261	0	1635	1413	3048
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	24.83	70.95	0.00	4368	0	1615	1283	2898
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	29.13	82.84	0.00	5201	0	1629	1109	2738
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	29.07	83.59	0.00	5337	0	1643	1108	2751

SECTION FORCES

0.9D + 1.0W 180° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
													Totals	**31,987**	**0**			**26,339**

0.9D + 1.0W 210° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.13	20.82	0.00	1157	0	642	870	1512
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.05	49.76	0.00	2750	0	1488	1686	3174
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.02	54.73	0.00	2800	0	1560	1608	3168
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	21.73	60.65	0.00	3197	0	1633	1518	3151
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	24.03	67.50	0.00	4261	0	1691	1413	3104
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	25.70	73.44	0.00	4368	0	1672	1283	2955
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	30.24	86.01	0.00	5201	0	1692	1109	2801
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	30.29	87.09	0.00	5337	0	1712	1108	2820
													Totals	**31,987**	**0**			**26,752**

0.9D + 1.0W 240° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	8.82	22.58	0.00	1157	0	697	870	1567
7	130	35.18	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	20.82	54.38	0.00	2750	0	1626	1686	3313
6	110	33.54	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	21.98	60.07	0.00	2800	0	1713	1608	3320
5	90	31.67	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	23.89	66.67	0.00	3197	0	1795	1518	3313
4	70	29.48	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	26.41	74.18	0.00	4261	0	1859	1413	3272
3	50	26.78	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	28.32	80.93	0.00	4368	0	1842	1283	3125
2	30	23.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.59	95.54	0.00	5201	0	1879	1109	2988
1	10	23.12	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	33.94	97.60	0.00	5337	0	1918	1108	3026
													Totals	**31,987**	**0**			**27,991**

0.9D + 1.0W 300° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	7.90	20.23	0.00	1157	0	624	870	1494
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	18.46	48.22	0.00	2750	0	1442	1686	3128
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	19.37	52.95	0.00	2800	0	1510	1608	3117
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	21.01	58.64	0.00	3197	0	1579	1518	3097
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	23.23	65.27	0.00	4261	0	1635	1413	3048
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	24.83	70.95	0.00	4368	0	1615	1283	2898
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	29.13	82.84	0.00	5201	0	1629	1109	2738
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	29.07	83.59	0.00	5337	0	1643	1108	2751
													Totals	**31,987**	**0**			**26,339**

0.9D + 1.0W 330° Gust Response Factor (Gh): 0.85
124 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	38.61	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1009	0	559	1071	1630
9	160	37.33	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	1906	0	730	1706	2436
8	145	36.30	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.13	20.82	0.00	1157	0	642	870	1512
7	130	35.18	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.05	49.76	0.00	2750	0	1488	1686	3174
6	110	33.54	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.02	54.73	0.00	2800	0	1560	1608	3168
5	90	31.67	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	21.73	60.65	0.00	3197	0	1633	1518	3151
4	70	29.48	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	24.03	67.50	0.00	4261	0	1691	1413	3104
3	50	26.78	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	25.70	73.44	0.00	4368	0	1672	1283	2955
2	30	23.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	30.24	86.01	0.00	5201	0	1692	1109	2801
1	10	23.12	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	30.29	87.09	0.00	5337	0	1712	1108	2820
													Totals	**31,987**	**0**			**26,752**

1.2D + 1.0Di + 1.0Wi Normal Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	1.00	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	1.00	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819

SECTION FORCES

1.2D + 1.0Di + 1.0Wi Normal — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	145	5.90	4.586	16.097	8.28	0.340	2.20	1.00	1.00	1.2	14.44	31.70	8.28	3070	1527	159	290	449
7	130	5.72	11.787	34.229	17.00	0.302	2.29	1.00	1.00	1.1	32.31	74.02	17.00	6906	3239	360	575	935
6	110	5.45	13.022	34.884	17.66	0.249	2.44	1.00	1.00	1.1	33.42	81.56	17.66	7003	3269	378	566	944
5	90	5.15	14.383	37.175	18.34	0.221	2.53	1.00	1.00	1.1	35.89	90.68	18.34	7599	3336	397	540	937
4	70	4.79	15.857	41.028	18.99	0.207	2.57	1.00	1.00	1.1	39.48	101.55	18.99	9107	3426	414	502	915
3	50	4.35	17.472	41.529	19.49	0.188	2.64	1.00	1.00	1.0	41.24	108.80	19.49	9231	3407	403	454	857
2	30	3.76	22.326	43.280	19.64	0.185	2.65	1.00	1.00	1.0	47.08	124.66	19.64	10476	3542	399	384	783
1	10	3.76	24.365	42.270	18.63	0.169	2.70	1.00	1.00	0.9	48.45	130.98	18.63	10365	3249	419	369	787
													Totals	**72,560**	**29,910**			**8,003**

1.2D + 1.0Di + 1.0Wi 60° — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	0.80	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	0.80	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819
8	145	5.90	4.586	16.097	8.28	0.340	2.20	0.80	1.00	1.2	13.53	29.69	8.28	3070	1527	149	290	439
7	130	5.72	11.787	34.229	17.00	0.302	2.29	0.80	1.00	1.1	29.95	68.62	17.00	6906	3239	334	575	909
6	110	5.45	13.022	34.884	17.66	0.249	2.44	0.80	1.00	1.1	30.82	75.20	17.66	7003	3269	349	566	915
5	90	5.15	14.383	37.175	18.34	0.221	2.53	0.80	1.00	1.1	33.01	83.41	18.34	7599	3336	365	540	905
4	70	4.79	15.857	41.028	18.99	0.207	2.57	0.80	1.00	1.1	36.31	93.39	18.99	9107	3426	380	502	882
3	50	4.35	17.472	41.529	19.49	0.188	2.64	0.80	1.00	1.0	37.75	99.58	19.49	9231	3407	369	454	823
2	30	3.76	22.326	43.280	19.64	0.185	2.65	0.80	1.00	1.0	42.62	112.84	19.64	10476	3542	361	384	745
1	10	3.76	24.365	42.270	18.63	0.169	2.70	0.80	1.00	0.9	43.57	117.80	18.63	10365	3249	376	369	745
													Totals	**72,560**	**29,910**			**7,758**

1.2D + 1.0Di + 1.0Wi 90° — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	0.85	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	0.85	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819
8	145	5.90	4.586	16.097	8.28	0.340	2.20	0.85	1.00	1.2	13.76	30.19	8.28	3070	1527	151	290	441
7	130	5.72	11.787	34.229	17.00	0.302	2.29	0.85	1.00	1.1	30.54	69.97	17.00	6906	3239	340	575	916
6	110	5.45	13.022	34.884	17.66	0.249	2.44	0.85	1.00	1.1	31.47	76.79	17.66	7003	3269	356	566	922
5	90	5.15	14.383	37.175	18.34	0.221	2.53	0.85	1.00	1.1	33.73	85.23	18.34	7599	3336	373	540	913
4	70	4.79	15.857	41.028	18.99	0.207	2.57	0.85	1.00	1.1	37.10	95.43	18.99	9107	3426	389	502	890
3	50	4.35	17.472	41.529	19.49	0.188	2.64	0.85	1.00	1.0	38.62	101.88	19.49	9231	3407	377	454	832
2	30	3.76	22.326	43.280	19.64	0.185	2.65	0.85	1.00	1.0	43.73	115.79	19.64	10476	3542	370	384	754
1	10	3.76	24.365	42.270	18.63	0.169	2.70	0.85	1.00	0.9	44.79	121.10	18.63	10365	3249	387	369	756
													Totals	**72,560**	**29,910**			**7,819**

1.2D + 1.0Di + 1.0Wi 120° — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	1.00	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	1.00	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819
8	145	5.90	4.586	16.097	8.28	0.340	2.20	1.00	1.00	1.2	14.44	31.70	8.28	3070	1527	159	290	449
7	130	5.72	11.787	34.229	17.00	0.302	2.29	1.00	1.00	1.1	32.31	74.02	17.00	6906	3239	360	575	935
6	110	5.45	13.022	34.884	17.66	0.249	2.44	1.00	1.00	1.1	33.42	81.56	17.66	7003	3269	378	566	944
5	90	5.15	14.383	37.175	18.34	0.221	2.53	1.00	1.00	1.1	35.89	90.68	18.34	7599	3336	397	540	937
4	70	4.79	15.857	41.028	18.99	0.207	2.57	1.00	1.00	1.1	39.48	101.55	18.99	9107	3426	414	502	915
3	50	4.35	17.472	41.529	19.49	0.188	2.64	1.00	1.00	1.0	41.24	108.80	19.49	9231	3407	403	454	857
2	30	3.76	22.326	43.280	19.64	0.185	2.65	1.00	1.00	1.0	47.08	124.66	19.64	10476	3542	399	384	783
1	10	3.76	24.365	42.270	18.63	0.169	2.70	1.00	1.00	0.9	48.45	130.98	18.63	10365	3249	419	369	787
													Totals	**72,560**	**29,910**			**8,003**

1.2D + 1.0Di + 1.0Wi 180° — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	0.80	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	0.80	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819
8	145	5.90	4.586	16.097	8.28	0.340	2.20	0.80	1.00	1.2	13.53	29.69	8.28	3070	1527	149	290	439
7	130	5.72	11.787	34.229	17.00	0.302	2.29	0.80	1.00	1.1	29.95	68.62	17.00	6906	3239	334	575	909
6	110	5.45	13.022	34.884	17.66	0.249	2.44	0.80	1.00	1.1	30.82	75.20	17.66	7003	3269	349	566	915
5	90	5.15	14.383	37.175	18.34	0.221	2.53	0.80	1.00	1.1	33.01	83.41	18.34	7599	3336	365	540	905
4	70	4.79	15.857	41.028	18.99	0.207	2.57	0.80	1.00	1.1	36.31	93.39	18.99	9107	3426	380	502	882
3	50	4.35	17.472	41.529	19.49	0.188	2.64	0.80	1.00	1.0	37.75	99.58	19.49	9231	3407	369	454	823
2	30	3.76	22.326	43.280	19.64	0.185	2.65	0.80	1.00	1.0	42.62	112.84	19.64	10476	3542	361	384	745
1	10	3.76	24.365	42.270	18.63	0.169	2.70	0.80	1.00	0.9	43.57	117.80	18.63	10365	3249	376	369	745
													Totals	**72,560**	**29,910**			**7,758**

SECTION FORCES

1.2D + 1.0Di + 1.0Wi 210° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	0.85	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	0.85	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819
8	145	5.90	4.586	16.097	8.28	0.340	2.20	0.85	1.00	1.2	13.76	30.19	8.28	3070	1527	151	290	441
7	130	5.72	11.787	34.229	17.00	0.302	2.29	0.85	1.00	1.1	30.54	69.97	17.00	6906	3239	340	575	916
6	110	5.45	13.022	34.884	17.66	0.249	2.44	0.85	1.00	1.1	31.47	76.79	17.66	7003	3269	356	566	922
5	90	5.15	14.383	37.175	18.34	0.221	2.53	0.85	1.00	1.1	33.73	85.23	18.34	7599	3336	373	540	913
4	70	4.79	15.857	41.028	18.99	0.207	2.57	0.85	1.00	1.1	37.10	95.43	18.99	9107	3426	389	502	890
3	50	4.35	17.472	41.529	19.49	0.188	2.64	0.85	1.00	1.0	38.62	101.88	19.49	9231	3407	377	454	832
2	30	3.76	22.326	43.280	19.64	0.185	2.65	0.85	1.00	1.0	43.73	115.79	19.64	10476	3542	370	384	754
1	10	3.76	24.365	42.270	18.63	0.169	2.70	0.85	1.00	0.9	44.79	121.10	18.63	10365	3249	387	369	756
													Totals	**72,560**	**29,910**			**7,819**

1.2D + 1.0Di + 1.0Wi 240° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	1.00	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	1.00	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819
8	145	5.90	4.586	16.097	8.28	0.340	2.20	1.00	1.00	1.2	14.44	31.70	8.28	3070	1527	159	290	449
7	130	5.72	11.787	34.229	17.00	0.302	2.29	1.00	1.00	1.1	32.31	74.02	17.00	6906	3239	360	575	935
6	110	5.45	13.022	34.884	17.66	0.249	2.44	1.00	1.00	1.1	33.42	81.56	17.66	7003	3269	378	566	944
5	90	5.15	14.383	37.175	18.34	0.221	2.53	1.00	1.00	1.1	35.89	90.68	18.34	7599	3336	397	540	937
4	70	4.79	15.857	41.028	18.99	0.207	2.57	1.00	1.00	1.1	39.48	101.55	18.99	9107	3426	414	502	915
3	50	4.35	17.472	41.529	19.49	0.188	2.64	1.00	1.00	1.0	41.24	108.80	19.49	9231	3407	403	454	857
2	30	3.76	22.326	43.280	19.64	0.185	2.65	1.00	1.00	1.0	47.08	124.66	19.64	10476	3542	399	384	783
1	10	3.76	24.365	42.270	18.63	0.169	2.70	1.00	1.00	0.9	48.45	130.98	18.63	10365	3249	419	369	787
													Totals	**72,560**	**29,910**			**8,003**

1.2D + 1.0Di + 1.0Wi 300° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	0.80	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	0.80	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819
8	145	5.90	4.586	16.097	8.28	0.340	2.20	0.80	1.00	1.2	13.53	29.69	8.28	3070	1527	149	290	439
7	130	5.72	11.787	34.229	17.00	0.302	2.29	0.80	1.00	1.1	29.95	68.62	17.00	6906	3239	334	575	909
6	110	5.45	13.022	34.884	17.66	0.249	2.44	0.80	1.00	1.1	30.82	75.20	17.66	7003	3269	349	566	915
5	90	5.15	14.383	37.175	18.34	0.221	2.53	0.80	1.00	1.1	33.01	83.41	18.34	7599	3336	365	540	905
4	70	4.79	15.857	41.028	18.99	0.207	2.57	0.80	1.00	1.1	36.31	93.39	18.99	9107	3426	380	502	882
3	50	4.35	17.472	41.529	19.49	0.188	2.64	0.80	1.00	1.0	37.75	99.58	19.49	9231	3407	369	454	823
2	30	3.76	22.326	43.280	19.64	0.185	2.65	0.80	1.00	1.0	42.62	112.84	19.64	10476	3542	361	384	745
1	10	3.76	24.365	42.270	18.63	0.169	2.70	0.80	1.00	0.9	43.57	117.80	18.63	10365	3249	376	369	745
													Totals	**72,560**	**29,910**			**7,758**

1.2D + 1.0Di + 1.0Wi 330° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
50 mph Wind with 1" Radial Ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	6.28	0.000	35.287	25.01	0.386	2.09	0.85	1.00	1.2	22.33	46.73	25.01	3370	2025	249	327	576
9	160	6.07	0.000	40.600	26.29	0.397	2.07	0.85	1.00	1.2	25.94	53.69	26.29	5433	2891	277	542	819
8	145	5.90	4.586	16.097	8.28	0.340	2.20	0.85	1.00	1.2	13.76	30.19	8.28	3070	1527	151	290	441
7	130	5.72	11.787	34.229	17.00	0.302	2.29	0.85	1.00	1.1	30.54	69.97	17.00	6906	3239	340	575	916
6	110	5.45	13.022	34.884	17.66	0.249	2.44	0.85	1.00	1.1	31.47	76.79	17.66	7003	3269	356	566	922
5	90	5.15	14.383	37.175	18.34	0.221	2.53	0.85	1.00	1.1	33.73	85.23	18.34	7599	3336	373	540	913
4	70	4.79	15.857	41.028	18.99	0.207	2.57	0.85	1.00	1.1	37.10	95.43	18.99	9107	3426	389	502	890
3	50	4.35	17.472	41.529	19.49	0.188	2.64	0.85	1.00	1.0	38.62	101.88	19.49	9231	3407	377	454	832
2	30	3.76	22.326	43.280	19.64	0.185	2.65	0.85	1.00	1.0	43.73	115.79	19.64	10476	3542	370	384	754
1	10	3.76	24.365	42.270	18.63	0.169	2.70	0.85	1.00	0.9	44.79	121.10	18.63	10365	3249	387	369	756
													Totals	**72,560**	**29,910**			**7,819**

1.0D + 1.0W Service Normal Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	9.09	23.28	0.00	1286	0	168	204	372
7	130	8.24	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	21.67	56.60	0.00	3056	0	396	395	791
6	110	7.85	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	22.82	62.38	0.00	3111	0	416	376	793
5	90	7.42	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	25.06	69.94	0.00	3553	0	441	355	796
4	70	6.90	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	28.34	79.62	0.00	4735	0	467	331	798
3	50	6.27	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	29.94	85.55	0.00	4854	0	456	300	756

SECTION FORCES

1.0D + 1.0W Service Normal — Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
2	30	5.42	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	35.70	101.54	0.00	5779	0	468	260	727
1	10	5.41	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	37.73	108.48	0.00	5930	0	499	259	759
													Totals	**35,542**	**0**			**6,744**

1.0D + 1.0W Service 60° — Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	8.17	20.93	0.00	1286	0	151	204	355
7	130	8.24	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	19.31	50.44	0.00	3056	0	353	395	748
6	110	7.85	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	20.22	55.26	0.00	3111	0	369	376	745
5	90	7.42	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	22.18	61.91	0.00	3553	0	390	355	746
4	70	6.90	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	25.17	70.71	0.00	4735	0	415	331	746
3	50	6.27	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	26.44	75.57	0.00	4854	0	403	300	703
2	30	5.42	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	31.24	88.84	0.00	5779	0	409	260	669
1	10	5.41	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	32.86	94.47	0.00	5930	0	435	259	694
													Totals	**35,542**	**0**			**6,358**

1.0D + 1.0W Service 90° — Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.40	21.52	0.00	1286	0	155	204	359
7	130	8.24	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.90	51.98	0.00	3056	0	364	395	759
6	110	7.85	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.87	57.04	0.00	3111	0	381	376	757
5	90	7.42	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	22.90	63.92	0.00	3553	0	403	355	758
4	70	6.90	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	25.96	72.94	0.00	4735	0	428	331	759
3	50	6.27	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	27.32	78.06	0.00	4854	0	416	300	716
2	30	5.42	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	32.35	92.01	0.00	5779	0	424	260	683
1	10	5.41	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	34.07	97.97	0.00	5930	0	451	259	710
													Totals	**35,542**	**0**			**6,454**

1.0D + 1.0W Service 120° — Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	9.09	23.28	0.00	1286	0	168	204	372
7	130	8.24	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	21.67	56.60	0.00	3056	0	396	395	791
6	110	7.85	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	22.82	62.38	0.00	3111	0	416	376	793
5	90	7.42	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	25.06	69.94	0.00	3553	0	441	355	796
4	70	6.90	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	28.34	79.62	0.00	4735	0	467	331	798
3	50	6.27	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	29.94	85.55	0.00	4854	0	456	300	756
2	30	5.42	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	35.70	101.54	0.00	5779	0	468	260	727
1	10	5.41	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	37.73	108.48	0.00	5930	0	499	259	759
													Totals	**35,542**	**0**			**6,744**

1.0D + 1.0W Service 180° — Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	8.17	20.93	0.00	1286	0	151	204	355
7	130	8.24	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	19.31	50.44	0.00	3056	0	353	395	748
6	110	7.85	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	20.22	55.26	0.00	3111	0	369	376	745
5	90	7.42	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	22.18	61.91	0.00	3553	0	390	355	746
4	70	6.90	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	25.17	70.71	0.00	4735	0	415	331	746
3	50	6.27	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	26.44	75.57	0.00	4854	0	403	300	703
2	30	5.42	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	31.24	88.84	0.00	5779	0	409	260	669
1	10	5.41	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	32.86	94.47	0.00	5930	0	435	259	694
													Totals	**35,542**	**0**			**6,358**

1.0D + 1.0W Service 210° — Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)

SECTION FORCES

1.0D + 1.0W Service 210° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.40	21.52	0.00	1286	0	155	204	359
7	130	8.24	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.90	51.98	0.00	3056	0	364	395	759
6	110	7.85	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.87	57.04	0.00	3111	0	381	376	757
5	90	7.42	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	22.90	63.92	0.00	3553	0	403	355	758
4	70	6.90	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	25.96	72.94	0.00	4735	0	428	331	759
3	50	6.27	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	27.32	78.06	0.00	4854	0	416	300	716
2	30	5.42	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	32.35	92.01	0.00	5779	0	424	260	683
1	10	5.41	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	34.07	97.97	0.00	5930	0	451	259	710
													Totals	**35,542**	**0**			**6,454**

1.0D + 1.0W Service 240° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	1.00	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	1.00	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	1.00	1.00	0.0	9.09	23.28	0.00	1286	0	168	204	372
7	130	8.24	11.787	17.229	0.00	0.195	2.61	1.00	1.00	0.0	21.67	56.60	0.00	3056	0	396	395	791
6	110	7.85	13.022	17.229	0.00	0.160	2.73	1.00	1.00	0.0	22.82	62.38	0.00	3111	0	416	376	793
5	90	7.42	14.383	18.831	0.00	0.145	2.79	1.00	1.00	0.0	25.06	69.94	0.00	3553	0	441	355	796
4	70	6.90	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	28.34	79.62	0.00	4735	0	467	331	798
3	50	6.27	17.472	22.037	0.00	0.127	2.86	1.00	1.00	0.0	29.94	85.55	0.00	4854	0	456	300	756
2	30	5.42	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	35.70	101.54	0.00	5779	0	468	260	727
1	10	5.41	24.365	23.639	0.00	0.122	2.88	1.00	1.00	0.0	37.73	108.48	0.00	5930	0	499	259	759
													Totals	**35,542**	**0**			**6,744**

1.0D + 1.0W Service 300° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	0.80	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	0.80	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	0.80	1.00	0.0	8.17	20.93	0.00	1286	0	151	204	355
7	130	8.24	11.787	17.229	0.00	0.195	2.61	0.80	1.00	0.0	19.31	50.44	0.00	3056	0	353	395	748
6	110	7.85	13.022	17.229	0.00	0.160	2.73	0.80	1.00	0.0	20.22	55.26	0.00	3111	0	369	376	745
5	90	7.42	14.383	18.831	0.00	0.145	2.79	0.80	1.00	0.0	22.18	61.91	0.00	3553	0	390	355	746
4	70	6.90	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	25.17	70.71	0.00	4735	0	415	331	746
3	50	6.27	17.472	22.037	0.00	0.127	2.86	0.80	1.00	0.0	26.44	75.57	0.00	4854	0	403	300	703
2	30	5.42	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	31.24	88.84	0.00	5779	0	409	260	669
1	10	5.41	24.365	23.639	0.00	0.122	2.88	0.80	1.00	0.0	32.86	94.47	0.00	5930	0	435	259	694
													Totals	**35,542**	**0**			**6,358**

1.0D + 1.0W Service 330° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	180	9.04	0.000	10.276	0.00	0.117	2.89	0.85	1.00	0.0	5.89	17.04	0.00	1121	0	131	251	382
9	160	8.74	0.000	14.309	0.00	0.146	2.79	0.85	1.00	0.0	8.26	23.02	0.00	2118	0	171	399	570
8	145	8.50	4.586	7.813	0.00	0.210	2.56	0.85	1.00	0.0	8.40	21.52	0.00	1286	0	155	204	359
7	130	8.24	11.787	17.229	0.00	0.195	2.61	0.85	1.00	0.0	19.90	51.98	0.00	3056	0	364	395	759
6	110	7.85	13.022	17.229	0.00	0.160	2.73	0.85	1.00	0.0	20.87	57.04	0.00	3111	0	381	376	757
5	90	7.42	14.383	18.831	0.00	0.145	2.79	0.85	1.00	0.0	22.90	63.92	0.00	3553	0	403	355	758
4	70	6.90	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	25.96	72.94	0.00	4735	0	428	331	759
3	50	6.27	17.472	22.037	0.00	0.127	2.86	0.85	1.00	0.0	27.32	78.06	0.00	4854	0	416	300	716
2	30	5.42	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	32.35	92.01	0.00	5779	0	424	260	683
1	10	5.41	24.365	23.639	0.00	0.122	2.88	0.85	1.00	0.0	34.07	97.97	0.00	5930	0	451	259	710
													Totals	**35,542**	**0**			**6,454**

EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_S):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.22
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_S:	0.03
Lower Limit C_S:	0.03
Period based on Rayleigh Method (sec):	1.24
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.37
Total Unfactored Dead Load:	45.82 k
Seismic Base Shear (E):	1.79 k

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
10	180.00	1,121	1,376,188	0.052	93	960
9	160.00	2,118	2,213,329	0.084	150	1,814
8	145.00	1,286	1,174,152	0.044	79	1,101
7	130.00	3,056	2,402,528	0.091	163	2,617
6	110.00	3,111	1,945,809	0.074	132	2,664
5	90.00	3,553	1,687,914	0.064	114	3,042
4	70.00	4,735	1,594,326	0.060	108	4,054
3	50.00	4,854	1,030,862	0.039	70	4,156
2	30.00	5,779	609,693	0.023	41	4,948
1	10.00	5,930	138,925	0.005	9	5,078
LGP Allgon LGP21903	187.00	33	42,691	0.002	3	28
Powerwave Allgon LGP21401	187.00	85	109,445	0.004	7	72
Ericsson RRUS 8843 B2, B66A	187.00	216	279,433	0.011	19	185
Ericsson RRUS 4478 B14 (15")	187.00	178	230,532	0.009	16	153
Ericsson RRUS 4449 B5, B12	187.00	213	275,552	0.010	19	182
Raycap DC6-48-60-18-8C	187.00	16	20,699	0.001	1	14
Raycap DC9-48-60-24-8C-EV	187.00	16	20,699	0.001	1	14
Allgon 7770.00	187.00	105	135,835	0.005	9	90
CCI DMP65R-BU8D	187.00	574	742,826	0.028	50	492
Generic Flat Light Sector Frame	187.00	2,400	3,104,809	0.118	210	2,055
Ericsson Radio 4449 B71 B85A	175.00	225	265,799	0.010	18	193
Ericsson RRUS 11 B4	175.00	152	179,680	0.007	12	130
Ericsson RRUS 11 B2	175.00	152	179,680	0.007	12	130
RFS APX16DWV-16DWVS-E-A20	175.00	122	144,240	0.006	10	105
Generic Round Sector Frame	175.00	2,100	2,480,788	0.094	168	1,798
RFS APXVAALL24 43-U-NA20	175.00	368	435,201	0.016	29	315
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	164.00	224	242,211	0.009	16	192
Samsung RF4461d-13A	164.00	237	256,478	0.010	17	203
Samsung MT6413-77A	164.00	172	185,792	0.007	13	147
Raycap RCMDC-6627-PF-48	164.00	32	34,586	0.001	2	27
Commscope NHH-65B-R2B	164.00	262	283,390	0.011	19	225
Generic Flat Light Sector Frame	164.00	2,400	2,593,958	0.098	175	2,055
	Totals	**45,825**	**26,418,048**	**1.000**	**1,787**	**39,238**

1.2D + 1.0Ev + 1.0Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
10	180.00	1,121	1,376,188	0.052	93	1,394
9	160.00	2,118	2,213,329	0.084	150	2,635
8	145.00	1,286	1,174,152	0.044	79	1,599
7	130.00	3,056	2,402,528	0.091	163	3,801

6		110.00	3,111	1,945,809	0.074	132	3,870
5		90.00	3,553	1,687,914	0.064	114	4,419
4		70.00	4,735	1,594,326	0.060	108	5,889
3		50.00	4,854	1,030,862	0.039	70	6,037
2		30.00	5,779	609,693	0.023	41	7,187
1		10.00	5,930	138,925	0.005	9	7,375
LGP Allgon LGP21903		187.00	33	42,691	0.002	3	41
Powerwave Allgon LGP21401		187.00	85	109,445	0.004	7	105
Ericsson RRUS 8843 B2, B66A		187.00	216	279,433	0.011	19	269
Ericsson RRUS 4478 B14 (15")		187.00	178	230,532	0.009	16	222
Ericsson RRUS 4449 B5, B12		187.00	213	275,552	0.010	19	265
Raycap DC6-48-60-18-8C		187.00	16	20,699	0.001	1	20
Raycap DC9-48-60-24-8C-EV		187.00	16	20,699	0.001	1	20
Allgon 7770.00		187.00	105	135,835	0.005	9	131
CCI DMP65R-BU8D		187.00	574	742,826	0.028	50	714
Generic Flat Light Sector Frame		187.00	2,400	3,104,809	0.118	210	2,985
Ericsson Radio 4449 B71 B85A		175.00	225	265,799	0.010	18	280
Ericsson RRUS 11 B4		175.00	152	179,680	0.007	12	189
Ericsson RRUS 11 B2		175.00	152	179,680	0.007	12	189
RFS APX16DWV-16DWVS-E-A20		175.00	122	144,240	0.006	10	152
Generic Round Sector Frame		175.00	2,100	2,480,788	0.094	168	2,612
RFS APXVAALL24 43-U-NA20		175.00	368	435,201	0.016	29	458
Samsung B2/B66A RRH ORAN (RF 4439d-25A)		164.00	224	242,211	0.009	16	279
Samsung RF4461d-13A		164.00	237	256,478	0.010	17	295
Samsung MT6413-77A		164.00	172	185,792	0.007	13	214
Raycap RCMDC-6627-PF-48		164.00	32	34,586	0.001	2	40
Commscope NHH-65B-R2B		164.00	262	283,390	0.011	19	326
Generic Flat Light Sector Frame		164.00	2,400	2,593,958	0.098	175	2,985
	Totals		**45,825**	**26,418,048**	**1.000**	**1,787**	**56,994**

FORCE/STRESS SUMMARY

Section 1 – 0.0' to 20.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 2.25"	-249.85	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	512.40	0.00	0.00	0	0	48	User Input
D SAE - 3.5X3.5X0.3125	-5.70	1.2D + 1.0W N	21.917	50	50	50	190.58	36.00	16.47	55.22	43.50	1	1	34	Member Z

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 2.25"	212.19	0.9D + 1.0W 60°	50.0	65	536.80	0.00	0.00		0	0	39	User Input
D SAE - 3.5X3.5X0.3125	5.36	1.2D + 1.0W 90°	36.0	58	54.80	55.22	26.64	20.54	1	1	26	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	217.34	0.9D + 1.0W 180°	654.15	11	6	1.25" A687
Bot Compression	255.55	1.2D + 1.0W N	610.54	1	0	

Section 2 – 20.0' to 40.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 2.25"	-230.38	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	512.40	0.00	0.00	0	0	44	User Input
D SAE - 3.5X3.5X0.3125	-5.51	1.2D + 1.0W 90°	20.158	50	50	50	175.28	36.00	19.47	55.22	43.50	1	1	28	Member Z

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 2.25"	196.45	0.9D + 1.0W 60°	50.0	65	536.80	0.00	0.00		0	0	36	User Input
D SAE - 3.5X3.5X0.3125	5.28	1.2D + 1.0W 90°	36.0	58	54.80	55.22	26.64	20.54	1	1	25	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	200.26	0.9D + 1.0W 180°	523.32	38	6	1.25" A325

Section 3 – 40.0' to 60.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 2"	-208.11	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	399.90	0.00	0.00	0	0	52	User Input
D SAE - 3X3X0.3125	-5.25	1.2D + 1.0W 90°	18.448	50	50	50	187.93	36.00	14.43	55.22	43.50	1	1	36	Member Z

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 2"	179.38	0.9D + 1.0W 60°	50.0	65	424.10	0.00	0.00		0	0	42	User Input
D SAE - 3X3X0.3125	5.01	1.2D + 1.0W 90°	36.0	58	44.69	55.22	26.64	17.14	1	1	29	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	183.18	0.9D + 1.0W 180°	523.32	35	6	1.25" A325

Section 4 – 60.0' to 80.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 2"	-185.61	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	399.90	0.00	0.00	0	0	46	User Input
D SAE - 3X3X0.3125	-4.97	1.2D + 1.0W 90°	16.803	50	50	50	171.17	36.00	17.39	55.22	43.50	1	1	28	Member Z

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 2"	161.34	0.9D + 1.0W 60°	50.0	65	424.10	0.00	0.00		0	0	38	User Input
D SAE - 3X3X0.3125	4.76	1.2D + 1.0W 90°	36.0	58	44.69	55.22	26.64	17.14	1	1	27	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	165.57	0.9D + 1.0W 180°	523.32	32	6	1.25" A325

FORCE/STRESS SUMMARY

Section 5 – 80.0' to 100.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 1.75"	-162.12	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	300.70	0.00	0.00	0	0	53	User Input
D SAE - 3X3X0.1875	-4.67	1.2D + 1.0W 90°	15.243	50	50	50	153.45	36.00	13.25	35.34	20.88	1	1	35	Member Z

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 1.75"	140.39	1.2D + 1.0W 60°	50.0	65	324.70	0.00	0.00		0	0	43	User Input
D SAE - 3X3X0.1875	4.39	1.2D + 1.0W 90°	36.0	58	29.06	35.34	12.72	10.16	1	1	43	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	146.84	0.9D + 1.0W 180°	327.10	45	6	1 A325

FORCE/STRESS SUMMARY

Section 6 – 100.0' to 120.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 1.5"	-138.60	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	214.90	0.00	0.00	0	0	64	User Input
D SAE - 3X3X0.1875	-4.60	1.2D + 1.0W 90°	13.796	50	50	50	138.89	36.00	16.17	35.34	20.88	1	1	28	Member Z

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 1.5"	122.24	0.9D + 1.0W 60°	50.0	65	238.60	0.00	0.00		0	0	51	User Input
D SAE - 3X3X0.1875	4.34	1.2D + 1.0W 90°	36.0	58	29.06	35.34	12.72	10.16	1	1	42	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	127.46	0.9D + 1.0W 180°	327.10	39	6	1 A325

Section 7 – 120.0' to 140.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 1.5"	-112.90	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	214.90	0.00	0.00	0	0	52	User Input
D SAE - 3X3X0.1875	-4.65	1.2D + 1.0W 90°	12.503	50	50	50	125.87	36.00	19.69	35.34	20.88	1	1	23	Member Z

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 1.5"	98.40	1.2D + 1.0W 60°	50.0	65	238.60	0.00	0.00		0	0	41	User Input
D SAE - 3X3X0.1875	4.83	1.2D + 1.0W N	36.0	58	29.06	35.34	12.72	10.16	1	1	47	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	105.83	0.9D + 1.0W 180°	327.10	32	6	1 A325

Section 8 – 140.0' to 150.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 1.25"	-81.28	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	142.50	0.00	0.00	0	0	57	User Input
D SAE - 2.5X2.5X0.1875	-6.25	1.2D + 1.0W N	11.416	50	50	50	138.38	36.00	13.48	35.34	20.88	1	1	46	Member Z

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L 12B - 12"BD 1.25"	71.36	0.9D + 1.0W 60°	50.0	65	165.70	0.00	0.00		0	0	43	User Input
D SAE - 2.5X2.5X0.1875	5.49	0.9D + 1.0W 60°	36.0	58	22.93	35.34	12.72	9.14	1	1	60	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	80.82	0.9D + 1.0W 180°	327.10	25	6	1 A325

Section 9 – 150.0' to 170.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L SOL - 2" SOLID	-73.98	1.2D + 1.0W N	2.407	100	100	100	57.76	50.00	110.77	0.00	0.00	0	0	66	Member X
H SOL - 1" SOLID	-1.59	1.2D + 1.0W 60°	4.509	100	100	100	140.69	50.00	8.96	0.00	0.00	0	0	17	Member X
D SOL - 1" SOLID	-4.19	1.2D + 1.0W 90°	5.513	50	50	50	119.09	50.00	12.51	0.00	0.00	0	0	33	Member X

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L SOL - 2" SOLID	66.69	1.2D + 1.0W 180°	50.0	65	141.37	0.00	0.00		0	0	47	Member
H SOL - 1" SOLID	1.67	1.2D + 1.0W N	50.0	65	35.34	0.00	0.00	0.00	0	0	4	Member
D SOL - 1" SOLID	4.11	1.2D + 1.0W 90°	50.0	65	35.34	0.00	0.00	0.00	0	0	11	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

FORCE/STRESS SUMMARY

Top Tension	21.96	0.9D + 1.0W 180°	87.50	25	0	
Bot Tension	67.14	0.9D + 1.0W 180°	327.10	21	6	1 A325

Section 10 – 170.0' to 190.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L SOL - 1 1/2" SOLID	-25.17	1.2D + 1.0W N	2.407	100	100	100	77.01	50.00	51.54	0.00	0.00	0	0	48	Member X
H SOL - 3/4" SOLID	-1.15	1.2D + 1.0W 120°	4.491	100	100	100	186.81	50.00	2.86	0.00	0.00	0	0	40	Member X
D SOL - 3/4" SOLID	-3.09	1.2D + 1.0W 90°	5.068	50	50	50	145.96	50.00	4.68	0.00	0.00	0	0	65	Member X

Member Tension	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c Pn$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L SOL - 1 1/2" SOLID	22.03	0.9D + 1.0W 180°	50.0	65	79.52	0.00	0.00		0	0	27	Member
H SOL - 3/4" SOLID	1.12	1.2D + 1.0W 60°	50.0	65	19.88	0.00	0.00	0.00	0	0	5	Member
D SOL - 3/4" SOLID	3.10	1.2D + 1.0W 90°	50.0	65	19.88	0.00	0.00	0.00	0	0	15	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	164.81	0.2866	-0.0148	0.2681	0.2685
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	175.19	0.3373	-0.0416	0.3098	0.3126
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	187.22	0.3973	-0.0609	0.3023	0.3074
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	164.81	0.285	-0.0178	0.2670	0.2676
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	175.19	0.3353	-0.0419	0.2714	0.2746
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	187.22	0.3949	-0.0591	0.2726	0.278
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	164.81	0.2897	0.0266	0.2689	0.269
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	175.19	0.3405	0.0508	0.2717	0.2756
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	187.22	0.4005	0.0679	0.2757	0.2823
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	164.81	0.2864	0.0167	0.2676	0.2681
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	175.19	0.3371	0.0326	0.3084	0.3101
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	187.22	0.397	0.0436	0.3024	0.3038
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	164.81	0.2855	0.0038	0.2682	0.2682
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	175.19	0.3361	0.0210	0.3257	0.3257
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	187.22	0.3961	0.0332	0.3139	0.3157
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	164.81	0.2897	-0.0266	0.2689	0.269
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	175.19	0.3405	-0.0508	0.2717	0.2756
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	187.22	0.4005	-0.0679	0.2757	0.2823
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	164.81	0.286	-0.0254	0.2664	0.2667
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	175.19	0.3363	-0.0463	0.2498	0.251
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	187.22	0.3958	-0.0609	0.2575	0.2646
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	164.81	0.285	0.0178	0.2670	0.2676
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	175.19	0.3353	0.0419	0.2714	0.2746
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	187.22	0.3949	0.0591	0.2726	0.278
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	164.81	0.2904	0.0037	0.2705	0.2705
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	175.19	0.3415	0.0208	0.3280	0.3286
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	187.22	0.4021	0.0330	0.3172	0.3189
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	164.81	0.0871	-0.0024	0.0865	0.0865
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	175.19	0.1035	-0.0020	0.0935	0.0935
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	187.22	0.1228	-0.0015	0.0908	0.0908
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	164.81	0.0871	0.0021	0.0866	0.0866
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	175.19	0.1035	0.0017	0.0937	0.0937
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	187.22	0.1228	0.0013	0.0907	0.0907
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	164.81	0.0871	0.0021	0.0867	0.0867
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	175.19	0.1035	0.0017	0.0930	0.093
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	187.22	0.1228	0.0013	0.0908	0.0908
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	164.81	0.0871	-0.0024	0.0865	0.0865
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	175.19	0.1035	-0.0020	0.0935	0.0935
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	187.22	0.1228	-0.0015	0.0908	0.0908
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	164.81	0.0871	0.0021	0.0866	0.0866
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	175.19	0.1035	0.0017	0.0937	0.0937
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	187.22	0.1228	0.0013	0.0907	0.0907
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	164.81	0.0871	0.0021	0.0867	0.0867
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	175.19	0.1035	0.0017	0.0930	0.093
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	187.22	0.1228	0.0013	0.0908	0.0908
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	164.81	0.0871	-0.0024	0.0865	0.0865
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	175.19	0.1035	-0.0020	0.0935	0.0935
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	187.22	0.1228	-0.0015	0.0908	0.0908
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	164.81	0.0871	0.0021	0.0866	0.0866
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	175.19	0.1035	0.0017	0.0937	0.0937
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	187.22	0.1228	0.0013	0.0907	0.0907
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	164.81	0.0871	0.0021	0.0867	0.0867
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	175.19	0.1035	0.0017	0.0930	0.093
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	187.22	0.1228	0.0013	0.0908	0.0908
1.2D + 1.0Ev + 1.0Eh 330° Seismic	164.81	0.0875	-0.0024	0.0870	0.087
1.2D + 1.0Ev + 1.0Eh 330° Seismic	175.19	0.104	-0.0020	0.0941	0.0941
1.2D + 1.0Ev + 1.0Eh 330° Seismic	187.22	0.1234	-0.0016	0.0914	0.0914
1.2D + 1.0Ev + 1.0Eh 300° Seismic	164.81	0.0875	0.0021	0.0870	0.087
1.2D + 1.0Ev + 1.0Eh 300° Seismic	175.19	0.104	0.0017	0.0943	0.0943

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh 300° Seismic	187.22	0.1234	0.0013	0.0913	0.0913
1.2D + 1.0Ev + 1.0Eh 240° Seismic	164.81	0.0875	0.0021	0.0872	0.0872
1.2D + 1.0Ev + 1.0Eh 240° Seismic	175.19	0.104	0.0017	0.0936	0.0936
1.2D + 1.0Ev + 1.0Eh 240° Seismic	187.22	0.1234	0.0013	0.0915	0.0915
1.2D + 1.0Ev + 1.0Eh 210° Seismic	164.81	0.0875	-0.0024	0.0870	0.087
1.2D + 1.0Ev + 1.0Eh 210° Seismic	175.19	0.104	-0.0020	0.0941	0.0941
1.2D + 1.0Ev + 1.0Eh 210° Seismic	187.22	0.1234	-0.0016	0.0914	0.0914
1.2D + 1.0Ev + 1.0Eh 180° Seismic	164.81	0.0875	0.0021	0.0870	0.087
1.2D + 1.0Ev + 1.0Eh 180° Seismic	175.19	0.104	0.0017	0.0943	0.0943
1.2D + 1.0Ev + 1.0Eh 180° Seismic	187.22	0.1234	0.0013	0.0912	0.0913
1.2D + 1.0Ev + 1.0Eh 120° Seismic	164.81	0.0875	0.0021	0.0872	0.0872
1.2D + 1.0Ev + 1.0Eh 120° Seismic	175.19	0.104	0.0017	0.0936	0.0936
1.2D + 1.0Ev + 1.0Eh 120° Seismic	187.22	0.1234	0.0013	0.0915	0.0915
1.2D + 1.0Ev + 1.0Eh 90° Seismic	164.81	0.0875	-0.0024	0.0870	0.087
1.2D + 1.0Ev + 1.0Eh 90° Seismic	175.19	0.104	-0.0020	0.0941	0.0941
1.2D + 1.0Ev + 1.0Eh 90° Seismic	187.22	0.1234	-0.0015	0.0914	0.0914
1.2D + 1.0Ev + 1.0Eh 60° Seismic	164.81	0.0875	0.0021	0.0870	0.087
1.2D + 1.0Ev + 1.0Eh 60° Seismic	175.19	0.104	0.0017	0.0943	0.0943
1.2D + 1.0Ev + 1.0Eh 60° Seismic	187.22	0.1234	0.0013	0.0913	0.0913
1.2D + 1.0Ev + 1.0Eh Normal Seismic	164.81	0.0875	0.0021	0.0872	0.0872
1.2D + 1.0Ev + 1.0Eh Normal Seismic	175.19	0.104	0.0017	0.0936	0.0936
1.2D + 1.0Ev + 1.0Eh Normal Seismic	187.22	0.1234	0.0013	0.0915	0.0915
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1" Radial Ice	164.81	0.3282	-0.0120	0.3022	0.3024
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1" Radial Ice	175.19	0.3852	-0.0361	0.3431	0.345
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1" Radial Ice	187.22	0.4523	-0.0531	0.3338	0.3377
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1" Radial Ice	164.81	0.3271	0.0171	0.3014	0.3018
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1" Radial Ice	175.19	0.3838	-0.0377	0.3095	0.3118
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1" Radial Ice	187.22	0.4505	-0.0529	0.3079	0.3125
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1" Radial Ice	164.81	0.3295	0.0263	0.3014	0.3014
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1" Radial Ice	175.19	0.3863	0.0483	0.3075	0.3106
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1" Radial Ice	187.22	0.4533	0.0637	0.3099	0.315
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1" Radial Ice	164.81	0.3277	0.0163	0.3009	0.3014
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1" Radial Ice	175.19	0.3845	0.0308	0.3410	0.3424
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1" Radial Ice	187.22	0.4513	0.0406	0.3330	0.3338
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1" Radial Ice	164.81	0.3272	0.0008	0.3017	0.3017
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1" Radial Ice	175.19	0.384	0.0155	0.3569	0.3569
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1" Radial Ice	187.22	0.4509	0.0258	0.3427	0.3437
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1" Radial Ice	164.81	0.3295	-0.0263	0.3014	0.3014
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1" Radial Ice	175.19	0.3863	-0.0483	0.3075	0.3106
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1" Radial Ice	187.22	0.4533	-0.0637	0.3099	0.315
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1" Radial Ice	164.81	0.3273	-0.0248	0.3002	0.3005
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1" Radial Ice	175.19	0.3839	-0.0431	0.2901	0.2909
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1" Radial Ice	187.22	0.4505	-0.0556	0.2953	0.3001
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1" Radial Ice	164.81	0.3271	-0.0171	0.3014	0.3018
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1" Radial Ice	175.19	0.3838	0.0377	0.3095	0.3118
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1" Radial Ice	187.22	0.4505	0.0529	0.3079	0.3125
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1" Radial Ice	164.81	0.3305	0.0007	0.3036	0.3036
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1" Radial Ice	175.19	0.3878	0.0154	0.3582	0.3586
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1" Radial Ice	187.22	0.4554	0.0257	0.3468	0.3477
0.9D + 1.0W 330° 124 mph Wind with No Ice (Reduced DL)	164.81	1.2145	-0.1345	1.1384	1.1463
0.9D + 1.0W 330° 124 mph Wind with No Ice (Reduced DL)	175.19	1.43	-0.3439	1.3192	1.3633
0.9D + 1.0W 330° 124 mph Wind with No Ice (Reduced DL)	187.22	1.6847	-0.4983	1.2826	1.376
0.9D + 1.0W 300° 124 mph Wind with No Ice (Reduced DL)	164.81	1.2083	-0.1469	1.1343	1.1438
0.9D + 1.0W 300° 124 mph Wind with No Ice (Reduced DL)	175.19	1.4226	-0.3439	1.1549	1.205
0.9D + 1.0W 300° 124 mph Wind with No Ice (Reduced DL)	187.22	1.6755	-0.4895	1.1577	1.2545
0.9D + 1.0W 240° 124 mph Wind with No Ice (Reduced DL)	164.81	1.2275	0.1853	1.1427	1.1489
0.9D + 1.0W 240° 124 mph Wind with No Ice (Reduced DL)	175.19	1.4431	0.3834	1.1575	1.213
0.9D + 1.0W 240° 124 mph Wind with No Ice (Reduced DL)	187.22	1.698	0.5297	1.1740	1.2766
0.9D + 1.0W 210° 124 mph Wind with No Ice (Reduced DL)	164.81	1.2145	0.1430	1.1372	1.1455

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
0.9D + 1.0W 210° 124 mph Wind with No Ice (Reduced DL)	175.19	1.4299	0.3060	1.3139	1.3462
0.9D + 1.0W 210° 124 mph Wind with No Ice (Reduced DL)	187.22	1.6845	0.4267	1.2910	1.3411
0.9D + 1.0W 180° 124 mph Wind with No Ice (Reduced DL)	164.81	1.211	0.0214	1.1400	1.14
0.9D + 1.0W 180° 124 mph Wind with No Ice (Reduced DL)	175.19	1.4267	0.1003	1.3828	1.3863
0.9D + 1.0W 180° 124 mph Wind with No Ice (Reduced DL)	187.22	1.6815	0.1599	1.3373	1.3469
0.9D + 1.0W 120° 124 mph Wind with No Ice (Reduced DL)	164.81	1.2275	-0.1853	1.1427	1.1489
0.9D + 1.0W 120° 124 mph Wind with No Ice (Reduced DL)	175.19	1.4431	-0.3834	1.1575	1.213
0.9D + 1.0W 120° 124 mph Wind with No Ice (Reduced DL)	187.22	1.698	-0.5297	1.1740	1.2766
0.9D + 1.0W 90° 124 mph Wind with No Ice (Reduced DL)	164.81	1.2119	-0.1120	1.1312	1.1326
0.9D + 1.0W 90° 124 mph Wind with No Ice (Reduced DL)	175.19	1.4257	-0.2057	1.0577	1.0675
0.9D + 1.0W 90° 124 mph Wind with No Ice (Reduced DL)	187.22	1.6786	-0.2739	1.0935	1.1273
0.9D + 1.0W 60° 124 mph Wind with No Ice (Reduced DL)	164.81	1.2083	0.1469	1.1343	1.1438
0.9D + 1.0W 60° 124 mph Wind with No Ice (Reduced DL)	175.19	1.4226	0.3439	1.1549	1.205
0.9D + 1.0W 60° 124 mph Wind with No Ice (Reduced DL)	187.22	1.6755	0.4895	1.1577	1.2545
0.9D + 1.0W Normal 124 mph Wind with No Ice (Reduced DL)	164.81	1.23	0.0210	1.1489	1.1489
0.9D + 1.0W Normal 124 mph Wind with No Ice (Reduced DL)	175.19	1.447	0.1002	1.3916	1.3952
0.9D + 1.0W Normal 124 mph Wind with No Ice (Reduced DL)	187.22	1.7042	0.1585	1.3466	1.3559
1.2D + 1.0W 330° 124 mph Wind with No Ice	164.81	1.2189	-0.1348	1.1439	1.1519
1.2D + 1.0W 330° 124 mph Wind with No Ice	175.19	1.4354	-0.3448	1.3255	1.3696
1.2D + 1.0W 330° 124 mph Wind with No Ice	187.22	1.6914	-0.4996	1.2887	1.3821
1.2D + 1.0W 300° 124 mph Wind with No Ice	164.81	1.2127	-0.1473	1.1399	1.1493
1.2D + 1.0W 300° 124 mph Wind with No Ice	175.19	1.4281	-0.3449	1.1612	1.2113
1.2D + 1.0W 300° 124 mph Wind with No Ice	187.22	1.6821	-0.4909	1.1635	1.2606
1.2D + 1.0W 240° 124 mph Wind with No Ice	164.81	1.2318	0.1858	1.1481	1.1543
1.2D + 1.0W 240° 124 mph Wind with No Ice	175.19	1.4485	0.3846	1.1632	1.2192
1.2D + 1.0W 240° 124 mph Wind with No Ice	187.22	1.7046	0.5313	1.1800	1.2827
1.2D + 1.0W 210° 124 mph Wind with No Ice	164.81	1.2188	0.1435	1.1425	1.1509
1.2D + 1.0W 210° 124 mph Wind with No Ice	175.19	1.4353	0.3070	1.3198	1.3524
1.2D + 1.0W 210° 124 mph Wind with No Ice	187.22	1.6911	0.4282	1.2969	1.3473
1.2D + 1.0W 180° 124 mph Wind with No Ice	164.81	1.2154	0.0212	1.1455	1.1455
1.2D + 1.0W 180° 124 mph Wind with No Ice	175.19	1.4321	0.1002	1.3890	1.3921
1.2D + 1.0W 180° 124 mph Wind with No Ice	187.22	1.6881	0.1597	1.3431	1.3526
1.2D + 1.0W 120° 124 mph Wind with No Ice	164.81	1.2318	-0.1858	1.1481	1.1543
1.2D + 1.0W 120° 124 mph Wind with No Ice	175.19	1.4485	-0.3846	1.1632	1.2192
1.2D + 1.0W 120° 124 mph Wind with No Ice	187.22	1.7046	-0.5313	1.1800	1.2827
1.2D + 1.0W 90° 124 mph Wind with No Ice	164.81	1.2163	-0.1122	1.1366	1.138
1.2D + 1.0W 90° 124 mph Wind with No Ice	175.19	1.4311	-0.2060	1.0639	1.0734
1.2D + 1.0W 90° 124 mph Wind with No Ice	187.22	1.6852	-0.2741	1.0994	1.1331
1.2D + 1.0W 60° 124 mph Wind with No Ice	164.81	1.2127	0.1473	1.1399	1.1493
1.2D + 1.0W 60° 124 mph Wind with No Ice	175.19	1.4281	0.3449	1.1612	1.2113
1.2D + 1.0W 60° 124 mph Wind with No Ice	187.22	1.6821	0.4909	1.1635	1.2606
1.2D + 1.0W Normal 124 mph Wind with No Ice	164.81	1.2344	0.0208	1.1544	1.1544
1.2D + 1.0W Normal 124 mph Wind with No Ice	175.19	1.4525	0.1001	1.3978	1.4013
1.2D + 1.0W Normal 124 mph Wind with No Ice	187.22	1.7109	0.1584	1.3527	1.3619

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX* (kip)	FY* (kip)	FZ* (kip)
					*(-) Uplift and (+) Down		
	11.55	0.00	0	1	0.00	255.39	-24.24
1.2D + 1.0W Normal	11.55	0.00	120	1a	8.20	-100.20	-6.02
	11.55	0.00	240	1b	-8.20	-100.20	-6.02
	11.55	0.00	0	1	-0.94	133.40	-12.35
1.2D + 1.0W 60°	11.55	0.00	120	1a	-11.15	133.22	5.37
	11.55	0.00	240	1b	-17.89	-211.63	-10.33
	11.55	0.00	0	1	-1.15	18.34	-1.37
1.2D + 1.0W 90°	11.55	0.00	120	1a	-18.08	218.92	9.81
	11.55	0.00	240	1b	-15.80	-182.27	-8.44
	11.55	0.00	0	1	-1.12	-100.19	10.11
1.2D + 1.0W 120°	11.55	0.00	120	1a	-20.98	255.20	12.12
	11.55	0.00	240	1b	-9.30	-100.02	-4.09
	11.55	0.00	0	1	0.00	-211.80	20.66
1.2D + 1.0W 180°	11.55	0.00	120	1a	-10.23	133.40	6.98
	11.55	0.00	240	1b	10.23	133.40	6.98
	11.55	0.00	0	1	0.60	-182.47	17.91
1.2D + 1.0W 210°	11.55	0.00	120	1a	-0.62	18.43	1.67
	11.55	0.00	240	1b	17.54	219.02	10.76
	11.55	0.00	0	1	1.12	-100.19	10.11
1.2D + 1.0W 240°	11.55	0.00	120	1a	9.30	-100.02	-4.09
	11.55	0.00	240	1b	20.98	255.20	12.12
	11.55	0.00	0	1	0.94	133.40	-12.35
1.2D + 1.0W 300°	11.55	0.00	120	1a	17.89	-211.63	-10.33
	11.55	0.00	240	1b	11.15	133.22	5.37
	11.55	0.00	0	1	0.55	219.13	-20.57
1.2D + 1.0W 330°	11.55	0.00	120	1a	15.21	-182.37	-9.47
	11.55	0.00	240	1b	1.75	18.23	-0.30
	11.55	0.00	0	1	0.00	250.33	-23.88
0.9D + 1.0W Normal	11.55	0.00	120	1a	8.49	-104.54	-6.20
	11.55	0.00	240	1b	-8.49	-104.54	-6.20
	11.55	0.00	0	1	-0.95	128.59	-11.99
0.9D + 1.0W 60°	11.55	0.00	120	1a	-10.85	128.41	5.18
	11.55	0.00	240	1b	-18.18	-215.75	-10.50
	11.55	0.00	0	1	-1.16	13.76	-1.02
0.9D + 1.0W 90°	11.55	0.00	120	1a	-17.77	213.93	9.63
	11.55	0.00	240	1b	-16.09	-186.45	-8.61
	11.55	0.00	0	1	-1.13	-104.54	10.45
0.9D + 1.0W 120°	11.55	0.00	120	1a	-20.68	250.15	11.94
	11.55	0.00	240	1b	-9.60	-104.37	-4.25
	11.55	0.00	0	1	0.00	-215.92	20.99
0.9D + 1.0W 180°	11.55	0.00	120	1a	-9.92	128.58	6.81
	11.55	0.00	240	1b	9.92	128.58	6.81
	11.55	0.00	0	1	0.60	-186.64	18.24
0.9D + 1.0W 210°	11.55	0.00	120	1a	-0.31	13.85	1.51
	11.55	0.00	240	1b	17.23	214.03	10.59
	11.55	0.00	0	1	1.13	-104.54	10.45
0.9D + 1.0W 240°	11.55	0.00	120	1a	9.60	-104.37	-4.25
	11.55	0.00	240	1b	20.68	250.15	11.94
	11.55	0.00	0	1	0.95	128.59	-11.99
0.9D + 1.0W 300°	11.55	0.00	120	1a	18.18	-215.75	-10.50
	11.55	0.00	240	1b	10.85	128.41	5.18
	11.55	0.00	0	1	0.56	214.14	-20.21
0.9D + 1.0W 330°	11.55	0.00	120	1a	15.50	-186.55	-9.64
	11.55	0.00	240	1b	1.46	13.65	-0.48
	11.55	0.00	0	1	0.00	96.25	-3.48
1.2D + 1.0Di + 1.0Wi Normal	11.55	0.00	120	1a	4.90	0.05	-3.16
	11.55	0.00	240	1b	-4.90	0.05	-3.16
1.2D + 1.0Di + 1.0Wi 60°	11.55	0.00	0	1	-0.27	63.69	-0.31
	11.55	0.00	120	1a	-0.40	63.62	-0.08

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX* (kip)	FY* (kip)	FZ* (kip)
	11.55	0.00	240	1b	-7.61	-30.96	-4.40
	11.55	0.00	0	1	-0.32	32.14	2.72
1.2D + 1.0Di + 1.0Wi 90°	11.55	0.00	120	1a	-2.29	86.93	1.14
	11.55	0.00	240	1b	-7.02	-22.72	-3.87
	11.55	0.00	0	1	-0.29	0.08	5.83
1.2D + 1.0Di + 1.0Wi 120°	11.55	0.00	120	1a	-3.01	96.18	1.74
	11.55	0.00	240	1b	-5.19	0.09	-2.66
	11.55	0.00	0	1	0.00	-30.96	8.79
1.2D + 1.0Di + 1.0Wi 180°	11.55	0.00	120	1a	-0.13	63.66	0.38
	11.55	0.00	240	1b	0.13	63.66	0.38
	11.55	0.00	0	1	0.16	-22.73	8.01
1.2D + 1.0Di + 1.0Wi 210°	11.55	0.00	120	1a	2.52	32.13	-1.09
	11.55	0.00	240	1b	2.13	86.95	1.41
	11.55	0.00	0	1	0.29	0.08	5.83
1.2D + 1.0Di + 1.0Wi 240°	11.55	0.00	120	1a	5.19	0.09	-2.66
	11.55	0.00	240	1b	3.01	96.18	1.74
	11.55	0.00	0	1	0.27	63.69	-0.31
1.2D + 1.0Di + 1.0Wi 300°	11.55	0.00	120	1a	7.61	-30.96	-4.40
	11.55	0.00	240	1b	0.40	63.62	-0.08
	11.55	0.00	0	1	0.16	87.00	-2.56
1.2D + 1.0Di + 1.0Wi 330°	11.55	0.00	120	1a	6.86	-22.74	-4.14
	11.55	0.00	240	1b	-2.20	32.09	-1.63
	11.55	0.00	0	1	0.00	32.86	-2.62
1.2D + 1.0Ev + 1.0Eh Normal	11.55	0.00	120	1a	-0.72	10.84	0.44
	11.55	0.00	240	1b	0.72	10.84	0.44
	11.55	0.00	0	1	0.02	25.52	-2.03
1.2D + 1.0Ev + 1.0Eh 60°	11.55	0.00	120	1a	-1.75	25.52	1.03
	11.55	0.00	240	1b	0.22	3.50	0.13
	11.55	0.00	0	1	0.02	18.18	-1.44
1.2D + 1.0Ev + 1.0Eh 90°	11.55	0.00	120	1a	-2.13	30.89	1.24
	11.55	0.00	240	1b	0.36	5.47	0.19
	11.55	0.00	0	1	0.02	10.84	-0.84
1.2D + 1.0Ev + 1.0Eh 120°	11.55	0.00	120	1a	-2.27	32.86	1.31
	11.55	0.00	240	1b	0.74	10.84	0.40
	11.55	0.00	0	1	0.00	3.50	-0.25
1.2D + 1.0Ev + 1.0Eh 180°	11.55	0.00	120	1a	-1.77	25.52	1.00
	11.55	0.00	240	1b	1.77	25.52	1.00
	11.55	0.00	0	1	-0.01	5.47	-0.41
1.2D + 1.0Ev + 1.0Eh 210°	11.55	0.00	120	1a	-1.26	18.18	0.70
	11.55	0.00	240	1b	2.14	30.89	1.22
	11.55	0.00	0	1	-0.02	10.84	-0.84
1.2D + 1.0Ev + 1.0Eh 240°	11.55	0.00	120	1a	-0.74	10.84	0.40
	11.55	0.00	240	1b	2.27	32.86	1.31
	11.55	0.00	0	1	-0.02	25.52	-2.03
1.2D + 1.0Ev + 1.0Eh 300°	11.55	0.00	120	1a	-0.22	3.50	0.13
	11.55	0.00	240	1b	1.75	25.52	1.03
	11.55	0.00	0	1	-0.01	30.89	-2.46
1.2D + 1.0Ev + 1.0Eh 330°	11.55	0.00	120	1a	-0.35	5.47	0.21
	11.55	0.00	240	1b	1.23	18.18	0.74
	11.55	0.00	0	1	0.00	27.16	-2.17
0.9D - 1.0Ev + 1.0Eh Normal	11.55	0.00	120	1a	-0.33	5.19	0.22
	11.55	0.00	240	1b	0.33	5.19	0.22
	11.55	0.00	0	1	0.02	19.84	-1.58
0.9D - 1.0Ev + 1.0Eh 60°	11.55	0.00	120	1a	-1.36	19.84	0.81
	11.55	0.00	240	1b	-0.17	-2.13	-0.10
	11.55	0.00	0	1	0.02	12.52	-0.99
0.9D - 1.0Ev + 1.0Eh 90°	11.55	0.00	120	1a	-1.74	25.20	1.02
	11.55	0.00	240	1b	-0.03	-0.17	-0.03
0.9D - 1.0Ev + 1.0Eh 120°	11.55	0.00	0	1	0.02	5.19	-0.40

*(-) Uplift and (+) Down

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX* (kip)	FY* (kip)	FZ* (kip)
					*(-) Uplift and (+) Down		
	11.55	0.00	120	1a	-1.88	27.16	1.09
	11.55	0.00	240	1b	0.35	5.19	0.18
	11.55	0.00	0	1	0.00	-2.13	0.20
0.9D - 1.0Ev + 1.0Eh 180°	11.55	0.00	120	1a	-1.38	19.84	0.77
	11.55	0.00	240	1b	1.38	19.84	0.77
	11.55	0.00	0	1	-0.01	-0.17	0.04
0.9D - 1.0Ev + 1.0Eh 210°	11.55	0.00	120	1a	-0.87	12.52	0.47
	11.55	0.00	240	1b	1.75	25.20	1.00
	11.55	0.00	0	1	-0.02	5.19	-0.40
0.9D - 1.0Ev + 1.0Eh 240°	11.55	0.00	120	1a	-0.35	5.19	0.18
	11.55	0.00	240	1b	1.88	27.16	1.09
	11.55	0.00	0	1	-0.02	19.84	-1.58
0.9D - 1.0Ev + 1.0Eh 300°	11.55	0.00	120	1a	0.17	-2.13	-0.10
	11.55	0.00	240	1b	1.36	19.84	0.81
	11.55	0.00	0	1	-0.01	25.20	-2.02
0.9D - 1.0Ev + 1.0Eh 330°	11.55	0.00	120	1a	0.04	-0.17	-0.01
	11.55	0.00	240	1b	0.85	12.51	0.51
	11.55	0.00	0	1	0.00	71.39	-6.62
1.0D + 1.0W Service Normal	11.55	0.00	120	1a	1.23	-12.78	-1.03
	11.55	0.00	240	1b	-1.23	-12.78	-1.03
	11.55	0.00	0	1	-0.24	42.52	-3.78
1.0D + 1.0W Service 60°	11.55	0.00	120	1a	-3.39	42.48	1.68
	11.55	0.00	240	1b	-3.55	-39.17	-2.05
	11.55	0.00	0	1	-0.29	15.28	-1.15
1.0D + 1.0W Service 90°	11.55	0.00	120	1a	-5.05	62.76	2.75
	11.55	0.00	240	1b	-3.05	-32.22	-1.59
	11.55	0.00	0	1	-0.28	-12.77	1.58
1.0D + 1.0W Service 120°	11.55	0.00	120	1a	-5.73	71.34	3.31
	11.55	0.00	240	1b	-1.51	-12.74	-0.55
	11.55	0.00	0	1	0.00	-39.21	4.10
1.0D + 1.0W Service 180°	11.55	0.00	120	1a	-3.15	42.52	2.10
	11.55	0.00	240	1b	3.15	42.52	2.10
	11.55	0.00	0	1	0.15	-32.26	3.44
1.0D + 1.0W Service 210°	11.55	0.00	120	1a	-0.86	15.30	0.83
	11.55	0.00	240	1b	4.90	62.79	3.00
	11.55	0.00	0	1	0.28	-12.77	1.58
1.0D + 1.0W Service 240°	11.55	0.00	120	1a	1.51	-12.74	-0.55
	11.55	0.00	240	1b	5.73	71.34	3.31
	11.55	0.00	0	1	0.24	42.52	-3.78
1.0D + 1.0W Service 300°	11.55	0.00	120	1a	3.55	-39.17	-2.05
	11.55	0.00	240	1b	3.39	42.48	1.68
	11.55	0.00	0	1	0.15	62.82	-5.75
1.0D + 1.0W Service 330°	11.55	0.00	120	1a	2.91	-32.24	-1.85
	11.55	0.00	240	1b	1.14	15.25	0.33

MAXIMUM REACTIONS SUMMARY

Individual		Global (DL+WL+IL)		Global (DL+WL)	
Max Uplift:	215.92 (kip)	Moment Ice:	1110.85 (kip-ft)	Moment:	4105.97 (kip-ft)
Max Down:	255.39 (kip)	Total Down Ice:	96.35 (kip)	Total Down:	54.99 (kip)
Max Shear:	24.24 (kip)	Total Shear Ice:	9.8 (kip)	Total Shear:	36.27 (kip)

1.2D + 1.0W Normal

EXHIBIT 4

Colliers Engineering & Design, Architecture,
Landscape Architecture, Surveying, CT P.C.
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
peter.albano@collierseng.com

New/Replacement Antenna Mount Analysis Report and PMI Requirements

Mount Analysis-N

SMART Tool Project #: 10214033
Colliers Engineering & Design Project #: 23777311

November 7, 2023

Site Information	*Site ID:*	*5000916780-VZW / Salem South CT*
	Site Name:	*Salem South CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*153 East Haddam Rd* *Salem, Connecticut 06420* *New London County*
	Latitude:	*41.468477°*
	Longitude:	*-72.273312°*
Structure Information	*Tower Type:*	*190-Ft Self Support*
	Mount Type:	*12.50-Ft Sector Frame*

FUZE ID # 16990579

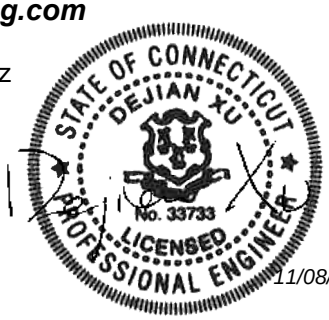
Analysis Results

Sector Frame: **28.7% Pass w/ Mount Replacement***
(3 Perfect Vision PV-SFR-GS12-25-AP1)

***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: Gilberto Martinez



11/08/2023

Executive Summary:

The objective of this report is to determine the capacity of the proposed antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. The proposed mount was assumed to be installed properly to the existing tower per the manufacturer's instructions. Colliers Engineering & Design cannot verify that the proposed mount will fit properly and is not liable for any fit-up issues during installation.

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
Radio Frequency Data Sheet (RFDS)	Verizon RFDS, Site ID: 617356228, dated September 5, 2023
Previous Structural Analysis	American Tower Corporation, Eng. #: 14430730_C3_04, dated October 26, 2023
Mount Specifications	Perfect Vision Guardian Sector Frame PV-SFR-GS12-25-AP1

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code	
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:	0.987
Seismic Parameters:	S_S:	0.205 g
	S_1:	0.055 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Live Load, Lv:	250 lbs.
	Maintenance Live Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

The following equipment has been considered for the analysis of the mount(s):

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
164.00	164.00	6	Commscope	NHH-65B-R2B	Added
		3	Samsung	MT6413-77A	
		1	Raycap	RxxDC-6627-PF-48	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	

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 mount(s).

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.

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.

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
Standoff Vertical Pipe	20.9 %	Pass
Standoff Horizontal	11.3 %	Pass
Standoff Diagonal	15.3 %	Pass
Face Horizontal	23.1 %	Pass
Tieback	3.0 %	Pass
Antenna Pipe	28.7 %	Pass
Corner Plate	17.1 %	Pass
Mount Connection	15.9 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**28.7%**

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	16.8	11.6	25.9	20.7
0.5	24.8	18.2	37.7	31.2
1	32.1	24.2	48.9	41.0

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(s).
- Ka factors included in (EPA)a calculations

Requirements:

The proposed antenna mount(s) are **SUFFICIENT** for the final loading configuration (attachment 2) upon completion of the mount replacement (attachment 3) and requirements below.

Contractor shall install the proposed Perfect Vision PV-SFR-GS12-25-AP1 in accordance with manufacturer specifications. Attach tiebacks to adjacent tower legs. Proposed tieback shall extend no more than 12" beyond the plane of the tower face. Contractor shall trim as required and protect cut end with two (2) coats of cold galvanization (Zinga or Zinc Kote).

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

Attachments:

1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Manufacturer Drawings
4. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – New Mount Passing MA

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 #: 5000916780 SMART Project #: 10214033 Fuze Project ID: 16990579

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 of mounts. 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.
    - Photos of each installed mount; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
    - Photos showing the installed mount elevation.

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:

Contractor shall install the proposed mount model # mounts in accordance with manufacturer specifications. Attach tiebacks to adjacent tower legs. Proposed tieback shall extend no more than 12" beyond the plane of the tower face. Contractor shall trim as required and protect cut end with two (2) coats of cold galvanization (Zinga or Zinc Kote).

Response:

Special Instruction Confirmation:

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

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

Comments:

New Mount Certification:

☐ The contractor certifies that the New Mount installed is as specified in the Passing Mount Analysis.
☐ The contractor notes that the New Mount installed is not as specified and engineering approval was received for the New Mount installed.

Certifying Individual:

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

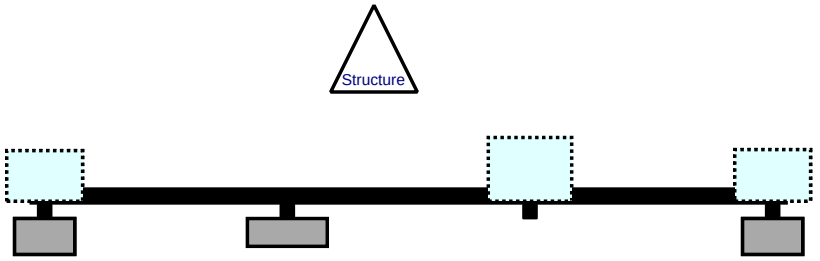
Structure: 5000916780-VZW - Salem South CT

Sector: **A** 11/7/2023

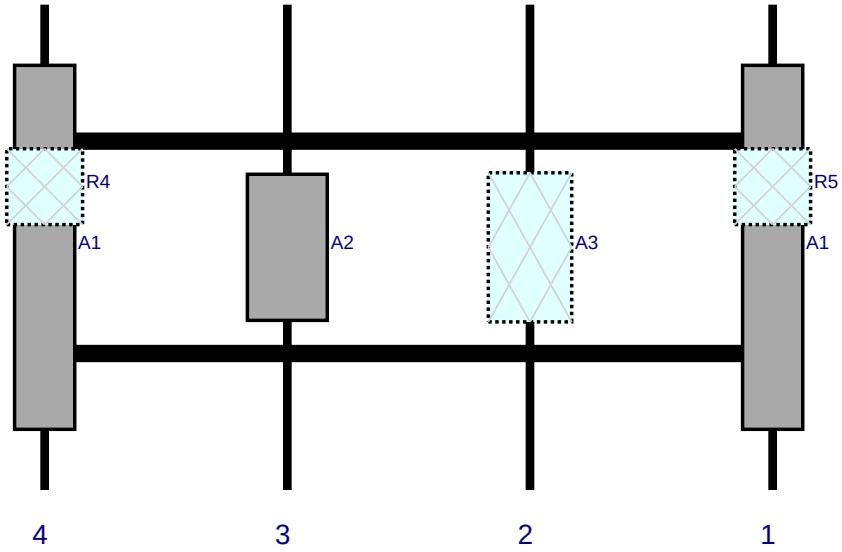
Structure Type: Self Support

Mount Elev: 164.00 Page: 1

Plan View

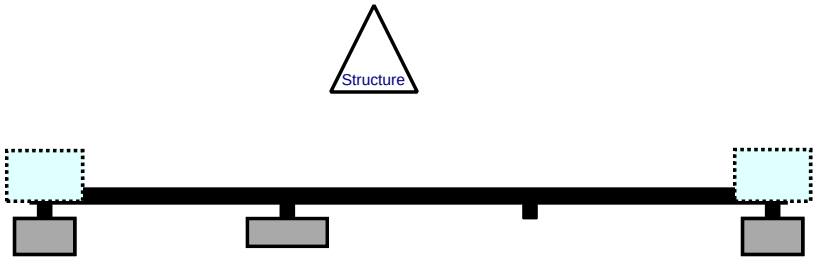


Front View - Looking at Structure

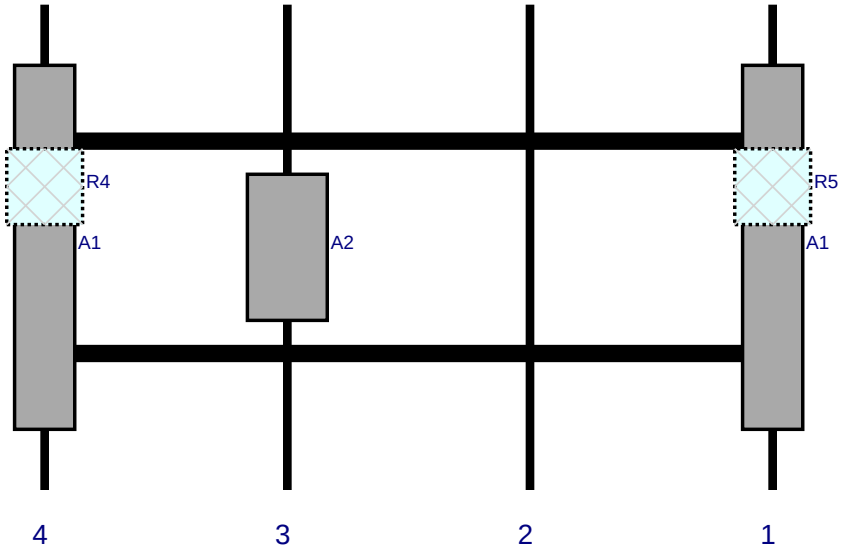


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	NHH-65B-R2B	72	11.9	147	1	a	Front	48	0	None	
R5	RF4461d-13A	15	15	147	1	a	Behind	36	0	None	
A3	RxxDC-6627-PF-48	29.5	16.5	99	2	a	Behind	48	0	None	
A2	MT6413-77A	28.9	15.8	51	3	a	Front	48	0	None	
A1	NHH-65B-R2B	72	11.9	3	4	a	Front	48	0	None	
R4	RF4439d-25A	15	15	3	4	a	Behind	36	0	None	

Plan View

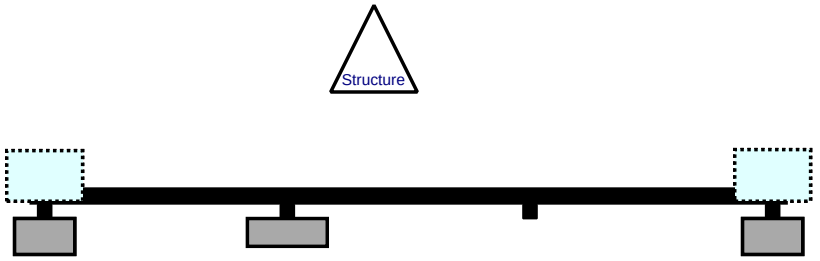


Front View - Looking at Structure

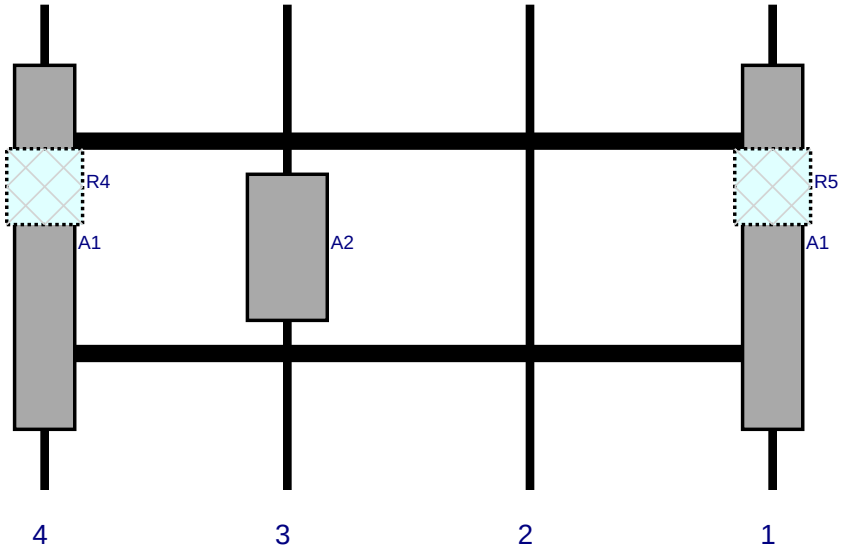


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	NHH-65B-R2B	72	11.9	147	1	a	Front	48	0	None	
R5	RF4461d-13A	15	15	147	1	a	Behind	36	0	None	
A2	MT6413-77A	28.9	15.8	51	3	a	Front	48	0	None	
A1	NHH-65B-R2B	72	11.9	3	4	a	Front	48	0	None	
R4	RF4439d-25A	15	15	3	4	a	Behind	36	0	None	

Plan View

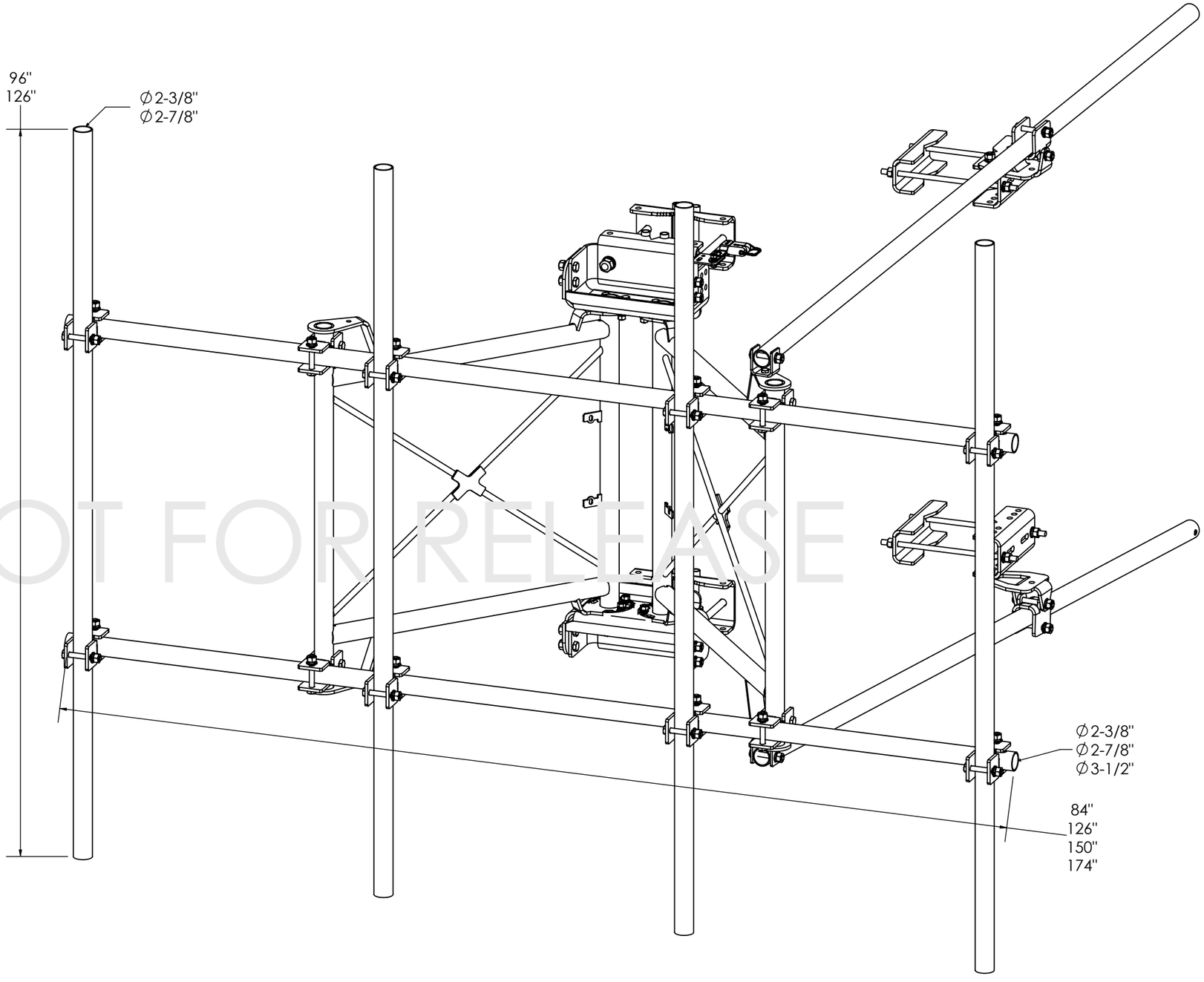


Front View - Looking at Structure



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
A1	NHH-65B-R2B	72	11.9	147	1	a	Front	48	0	None	
R5	RF4461d-13A	15	15	147	1	a	Behind	36	0	None	
A2	MT6413-77A	28.9	15.8	51	3	a	Front	48	0	None	
A1	NHH-65B-R2B	72	11.9	3	4	a	Front	48	0	None	
R4	RF4439d-25A	15	15	3	4	a	Behind	36	0	None	

GUARDIAN SECTOR FRAME



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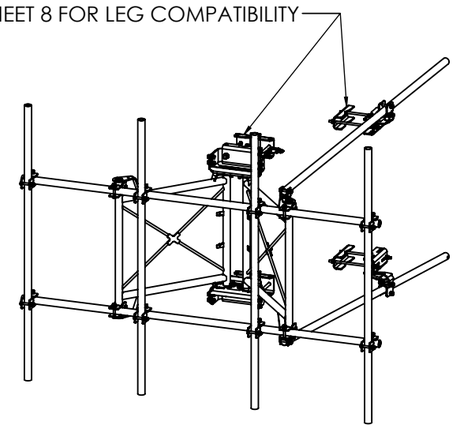
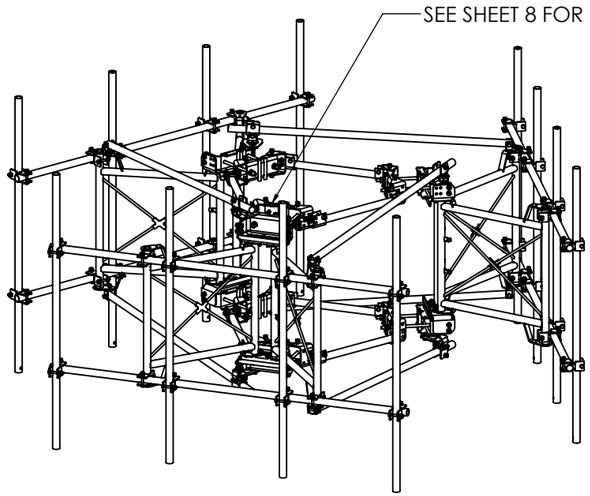
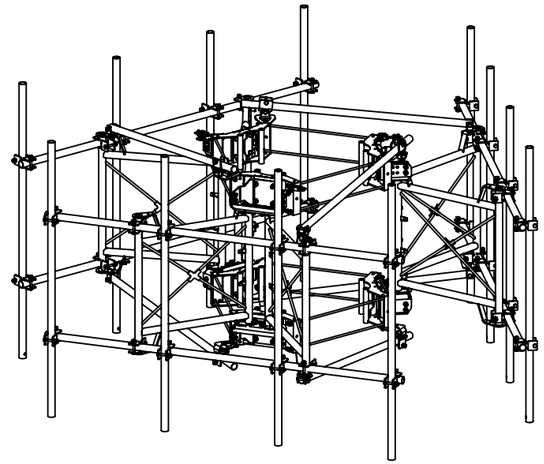
SHEET 1 OF 24	THIRD ANGLE PROJECTION	CATEGORY 01_Lattice Tower	4			PERFECTVISION®
		SERIES 01_V-Frames	3			
11/29/2022	SCALE 1:14	TYPE PV-SFR-GS_Guardian	2			
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE ±1/4°, BEND ±2° ALL OTHERS: ±1/16"		BY DJN	1	GROUND BAR	11/10/22	GUARDIAN SECTOR FRAME
		CHECKED SJS	0	INITIAL RELEASE	2/15/21	DOCUMENT NUMBER SFR-ENG-01-R1 / REV 1
		STATUS NOT FOR RELEASE	REV	DESCRIPTION	DATE	



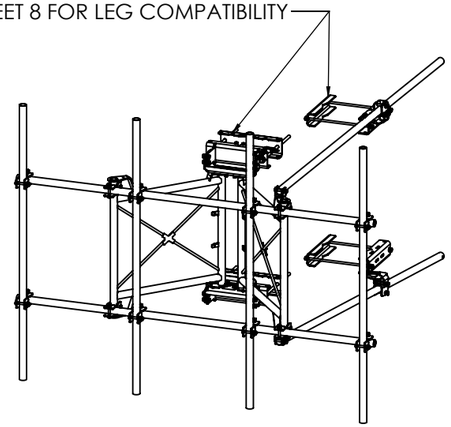
SINGLE SECTOR - STANDARD LEG BRACKET
SEE SHEET 21 FOR AVAILABLE CONFIGURATIONS
(PV-SFR-GS10-20-AP1 SHOWN)



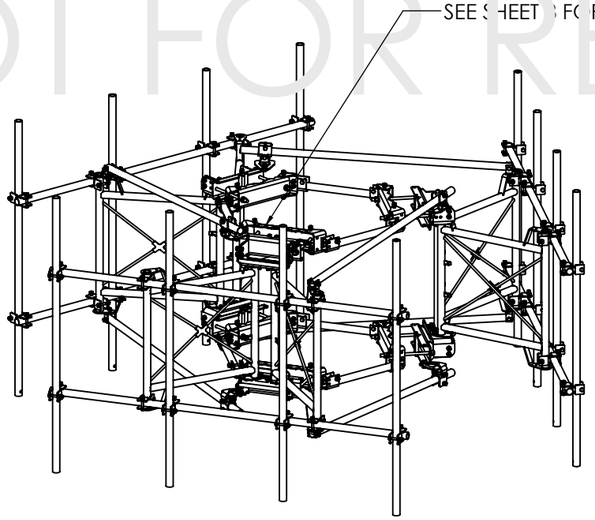
THREE SECTOR - STANDARD LEG BRACKET
SEE SHEET 13 FOR AVAILABLE CONFIGURATIONS
(PV-SFR-GS3X10-20-AP1 SHOWN)



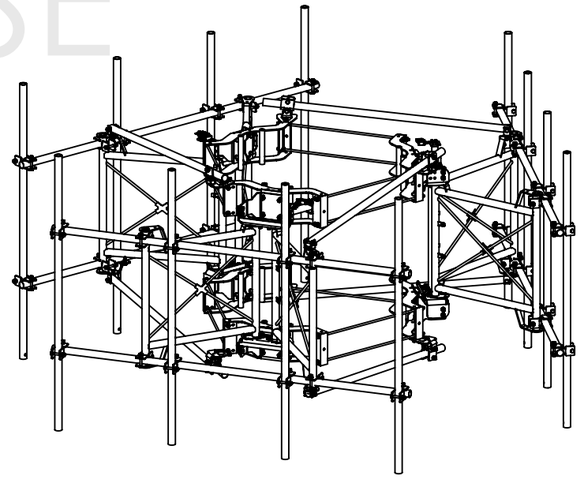
THREE SECTOR - MONOPOLE
SEE SHEET 17 FOR AVAILABLE CONFIGURATIONS
(PV-SFRGS-MP10M-20-AP1 SHOWN)



SINGLE SECTOR - LARGE LEG BRACKET
SEE SHEET 23 FOR AVAILABLE CONFIGURATIONS
(PV-SFR-GSL10-20-AP1 SHOWN)



THREE SECTOR - LARGE LEG BRACKET
SEE SHEET 15 FOR AVAILABLE CONFIGURATIONS
(PV-SFR-GSL3X10-20-AP1 SHOWN)



THREE SECTOR - LARGE MONOPOLE
SEE SHEET 19 FOR AVAILABLE CONFIGURATIONS
(PV-SFRGS-MP10L-20-AP1 SHOWN)

SHEET 2 OF 24	THIRD ANGLE PROJECTION	CATEGORY 01_Lattice Tower	4			PERFECTVISION®
		SERIES 01_V-Frames	3			
11/29/2022	SCALE 1:50	TYPE PV-SFR-GS_Guardian	2			
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE ±1/4°, BEND ±2° ALL OTHERS: ±1/16"		BY DJN	1	GROUND BAR	11/10/22	GUARDIAN SECTOR FRAME
		CHECKED SJS	0	INITIAL RELEASE	2/15/21	DOCUMENT NUMBER SFR-ENG-01-R1 / REV 1
		STATUS NOT FOR RELEASE	REV	DESCRIPTION	DATE	

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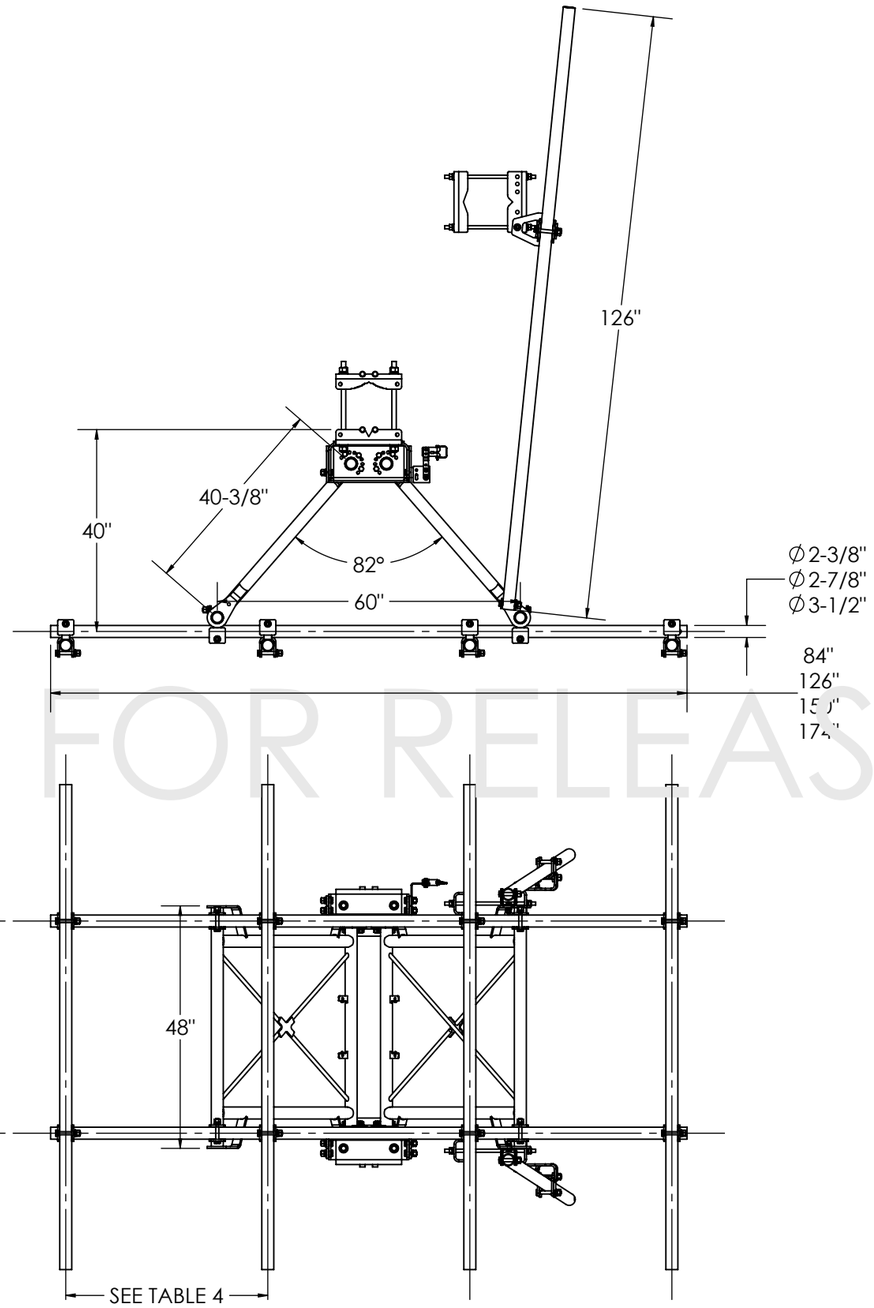
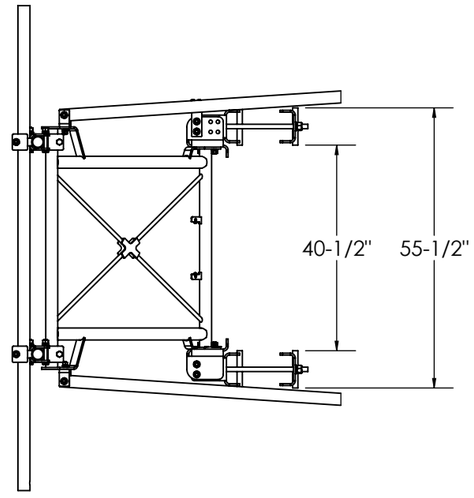
DIMENSIONAL OVERVIEW

Table 3: Antenna Pipe Options & EPA					
-AP Designation	Qty Pipes (per Sector)	Pipe Diameter [in]	Pipe Length [in]	(EPA)A (per pipe) [ft2]	(EPA)A 0.5" Ice (per pipe) [ft2]
-AP1	4	2-3/8	96	1.5	2.2
-AP2	4	2-3/8	126	2.0	2.9
-AP3	4	2-7/8	96	1.8	2.5
-AP4	4	2-7/8	126	2.4	3.3
-AP13	5	2-3/8	96	1.5	2.2
-AP14	5	2-3/8	126	2.0	2.9
-AP15	5	2-7/8	96	1.8	2.5
-AP16	5	2-7/8	126	2.4	3.3

Table 4: Antenna Pipe Spacing		
Face Width	4 Pipe Spacing (C-C)	5 Pipe Spacing (C-C)
7'	2'4"	-
10'6"	3'4"	-
12'6"	4'	3'
14'6"	4'8"	3'6"





SHEET 4 OF 24	THIRD ANGLE PROJECTION	CATEGORY 01_Lattice Tower	4			PERFECTVISION
		SERIES 01_V-Frames	3			
11/29/2022	SCALE 1:30	TYPE PV-SFR-GS_Guardian	2			
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE ±1/4°, BEND ±2° ALL OTHERS: ±1/16"		BY DJN	1	GROUND BAR	11/10/22	GUARDIAN SECTOR FRAME
		CHECKED SJS	0	INITIAL RELEASE	2/15/21	DOCUMENT NUMBER SFR-ENG-01-R1 / REV 1
		STATUS NOT FOR RELEASE	REV	DESCRIPTION	DATE	

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Table 15: Single Sector Standard Leg Configurations

Part Number	Description	Weight [lbs]	Included Parts																									
			PV-SFR-GS-B	PV-SFR-HK-SST8	PV-XP-DC-2020	PV-XP-DC-2025	PV-XP-DC-2030	PV-XP-DC-2525	PV-XP-DC-2530	PIPE-238X84	PIPE-238X96	PIPE-238X126	PIPE-238X150	PIPE-238X174	PIPE-278X84	PIPE-278X96	PIPE-278X126	PIPE-278X150	PIPE-278X174	PIPE-312X150	PIPE-312X174	PV-SA- PIPE-150	PV-SMU2080-01	PV-SCRB-SFA	PV-CMX-CG-BO
PV-SFR-GS7-20-B	7' FW, 2-3/8" Face Pipe, No Antenna Pipe	560	1	1	4	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-20-AP1	7' FW, 2-3/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	720	1	1	12	-	-	-	-	2	4	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-20-AP2	7' FW, 2-3/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	760	1	1	12	-	-	-	-	2	-	4	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-20-AP3	7' FW, 2-3/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	800	1	1	4	8	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-20-AP4	7' FW, 2-3/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	860	1	1	4	8	-	-	-	2	-	-	-	-	-	-	4	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-B	7' FW, 2-7/8" Face Pipe, No Antenna Pipe	590	1	1	-	4	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-AP1	7' FW, 2-7/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	760	1	1	-	12	-	-	-	-	4	-	-	-	2	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-AP2	7' FW, 2-7/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	800	1	1	-	12	-	-	-	-	-	4	-	-	2	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-AP3	7' FW, 2-7/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	840	1	1	-	4	-	8	-	-	-	-	-	-	2	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-AP4	7' FW, 2-7/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	900	1	1	-	4	-	8	-	-	-	-	-	-	2	-	4	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-B	10'6" FW, 2-3/8" Face Pipe, No Antenna Pipe	580	1	1	4	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-AP1	10'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	750	1	1	12	-	-	-	-	-	4	2	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-AP2	10'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	780	1	1	12	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-AP3	10'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	820	1	1	4	8	-	-	-	-	-	2	-	-	-	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-AP4	10'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	880	1	1	4	8	-	-	-	-	-	2	-	-	-	-	4	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-B	10'6" FW, 2-7/8" Face Pipe, No Antenna Pipe	630	1	1	-	4	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-AP1	10'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	800	1	1	-	12	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-AP2	10'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	840	1	1	-	12	-	-	-	-	-	4	-	-	-	-	2	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-AP3	10'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	880	1	1	-	4	-	8	-	-	-	-	-	-	-	4	2	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-AP4	10'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	940	1	1	-	4	-	8	-	-	-	-	-	-	-	-	6	-	-	-	-	2	2	2	2
PV-SFR-GS12-20-B	12'6" FW, 2-3/8" Face Pipe, No Antenna Pipe	600	1	1	4	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS12-20-AP1	12'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	760	1	1	12	-	-	-	-	4	-	2	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS12-20-AP2	12'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	800	1	1	12	-	-	-	-	-	4	2	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS12-20-AP3	12'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	840	1	1	-	8	-	-	-	-	-	2	-	-	4	-	-	-	-	-	-	2	-	2	2
PV-SFR-GS12-20-AP4	12'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	900	1	1	-	8	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-	2	2
PV-SFR-GS12-25-B	12'6" FW, 2-7/8" Face Pipe, No Antenna Pipe	650	1	1	-	4	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-	2	2
PV-SFR-GS12-25-AP1	12'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	830	1	1	-	12	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	2	-	2	2
PV-SFR-GS12-25-AP2	12'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	860	1	1	-	12	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	2	2	2	2
PV-SFR-GS12-25-AP3	12'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	900	1	1	-	4	-	8	-	-	-	-	-	-	4	-	2	-	-	-	-	2	2	2	2
PV-SFR-GS12-25-AP4	12'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	960	1	1	-	4	-	8	-	-	-	-	-	-	-	4	2	-	-	-	-	2	2	2	2
PV-SFR-GS12-30-B	12'6" FW, 3-1/2" Face Pipe, No Antenna Pipe	700	1	1	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS12-30-AP1	12'6" FW, 3-1/2" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	890	1	1	-	-	12	-	-	-	4	-	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS12-30-AP2	12'6" FW, 3-1/2" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	920	1	1	-	-	12	-	-	-	-	4	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS12-30-AP3	12'6" FW, 3-1/2" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	960	1	1	-	-	4	-	8	-	-	-	-	-	-	4	-	-	-	2	-	2	2	2	2
PV-SFR-GS12-30-AP4	12'6" FW, 3-1/2" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	1020	1	1	-	-	4	-	8	-	-	-	-	-	-	-	4	-	-	2	-	2	2	2	2
PV-SFR-GS14-20-B	14'6" FW, 2-3/8" Face Pipe, No Antenna Pipe	610	1	1	4	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP1	14'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	780	1	1	12	-	-	-	-	4	-	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP2	14'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	810	1	1	12	-	-	-	-	-	4	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP3	14'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	850	1	1	4	8	-	-	-	-	-	-	2	-	4	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP4	14'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	910	1	1	4	8	-	-	-	-	-	-	2	-	-	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP13	14'6" FW, 2-3/8" Face Pipe, (5) 2-3/8" x 96" Antenna Pipe	820	1	1	14	-	-	-	-	5	-	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP14	14'6" FW, 2-3/8" Face Pipe, (5) 2-3/8" x 126" Antenna Pipe	860	1	1	14	-	-	-	-	-	5	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP15	14'6" FW, 2-3/8" Face Pipe, (5) 2-7/8" x 96" Antenna Pipe	910	1	1	4	10	-	-	-	-	-	-	2	-	5	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP16	14'6" FW, 2-3/8" Face Pipe, (5) 2-7/8" x 126" Antenna Pipe	990	1	1	4	10	-	-	-	-	-	-	2	-	-	5	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-25-B	14'6" FW, 2-7/8" Face Pipe, No Antenna Pipe	680	1	1	-	4	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-25-AP1	14'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	850	1	1	-	12	-	-	-	4	-	-	-	-	-	-	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-25-AP2	14'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	890	1	1	-	12	-	-	-	-	4	-	-	-	-	-	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-25-AP3	14'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	930	1	1	-	4	-	8	-	-	-	-	-	-	4	-	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-25-AP4	14'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	990	1	1	-	4	-	8	-	-	-	-	-	-	-	4	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-25-AP13	14'6" FW, 2-7/8" Face Pipe, (5) 2-3/8" x 96" Antenna Pipe	890	1	1	-	14	-	-	-	5	-	-	-	-	-	-	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-25-AP14	14'6" FW, 2-7/8" Face Pipe, (5) 2-3/8" x 126" Antenna Pipe	940	1	1	-	14	-	-	-	-	5	-	-	-	-	-	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-25-AP15	14'6" FW, 2-7/8" Face Pipe, (5) 2-7/8" x 96" Antenna Pipe	990	1	1	-	4	-	10	-	-	-	-	-	-	-	5	-	-	2	-	-	2	2	2	2
PV-SFR-GS14-25-AP16	14'6" FW, 2-7/8" Face Pipe, (5) 2-7/8" x 126" Antenna Pipe	1060	1	1	-	4	-	10	-	-	-	-	-	-	-	-	5	-	2	-	-	2	2	2	2
PV-SFR-GS14-30-B	14'6" FW, 3-1/2" Face Pipe, No Antenna Pipe	730	1	1	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-30-AP1	14'6" FW, 3-1/2" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	920	1	1	-	-	12	-	-	-	4	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-30-AP2	14'6" FW, 3-1/2" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	950	1	1	-	-	12	-	-	-	-	4	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-30-AP3	14'6" FW, 3-1/2" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	990	1	1	-	-	4	-	8	-	-	-	-	-	-	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-30-AP4	14'6" FW, 3-1/2" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	1050	1	1	-	-	4	-	8	-	-	-	-	-	-	-	4	-	-	-	-	2	2	2	2
PV-SFR-GS14-30-AP13	14'6" FW, 3-1/2" Face Pipe, (5) 2-3/8" x 96" Antenna Pipe	960	1	1	-	-	14	-	-	-	5	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-30-AP14	14'6" FW, 3-1/2" Face Pipe, (5) 2-3/8" x 126" Antenna Pipe	1010	1	1	-	-	14	-	-	-	-	5	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-30-AP15	14'6" FW, 3-1/2" Face Pipe, (5) 2-7/8" x 96" Antenna Pipe	1060	1	1	-	-	4	-	10	-	-	-	-	-	-	5	-	-	-	-	-	2	2	2	2	2
PV-SFR-GS14-30-AP16	14'6" FW, 3-1/2" Face Pipe, (5) 2-7/8" x 126" Antenna Pipe	1130	1	1	-	-	4	-	10	-	-	-	-	-	-	-	5	-	-	-	-	2	2	2	2	2

SINGLE SECTOR

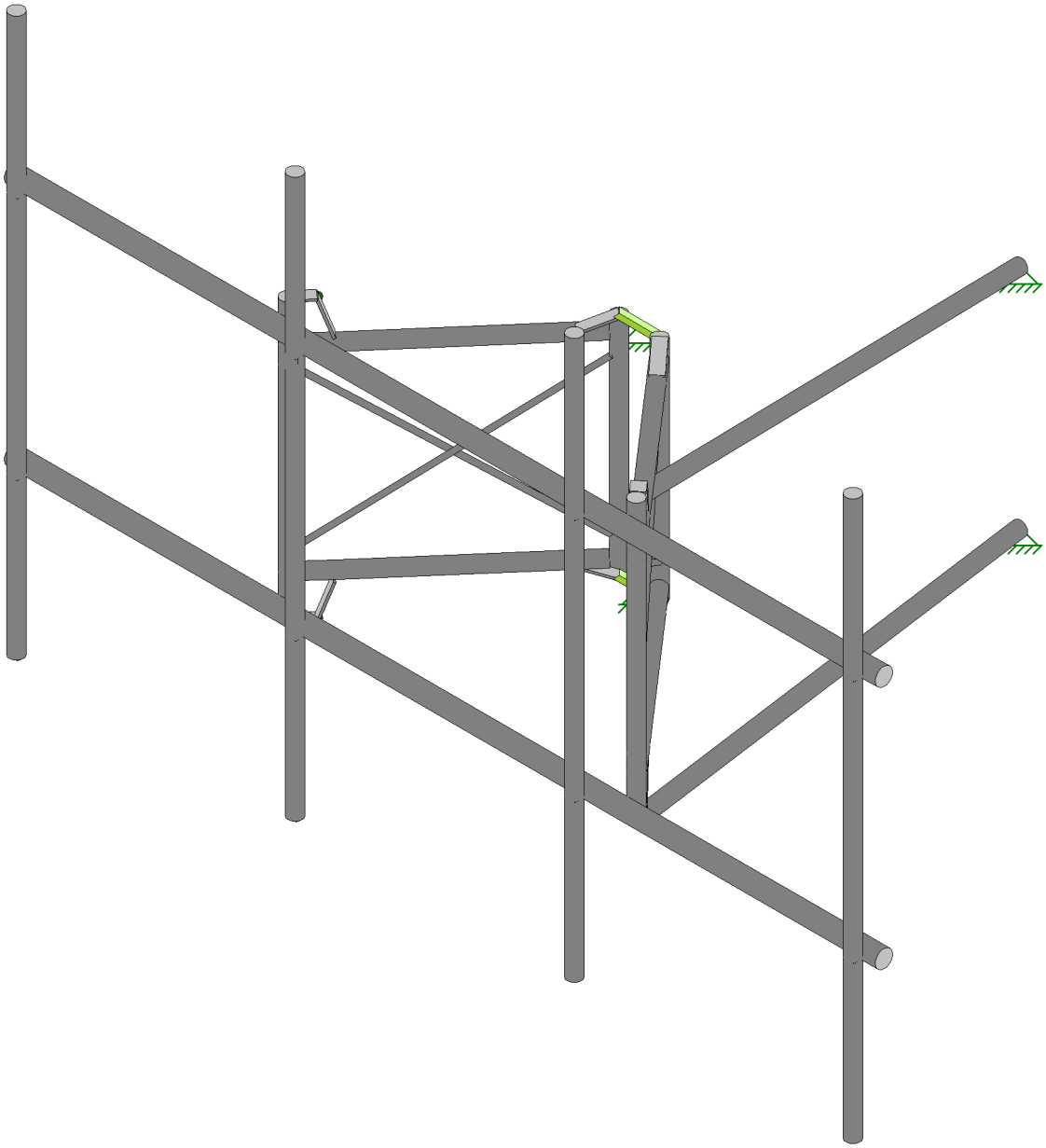
PERFECTVISION®

SHEET 21 OF 24

DOCUMENT NUMBER SFR-ENG-01-R1

REV 1

C:\PVMSteel\Catalog\SW Working Files\Engineering Details\



Envelope Only Solution

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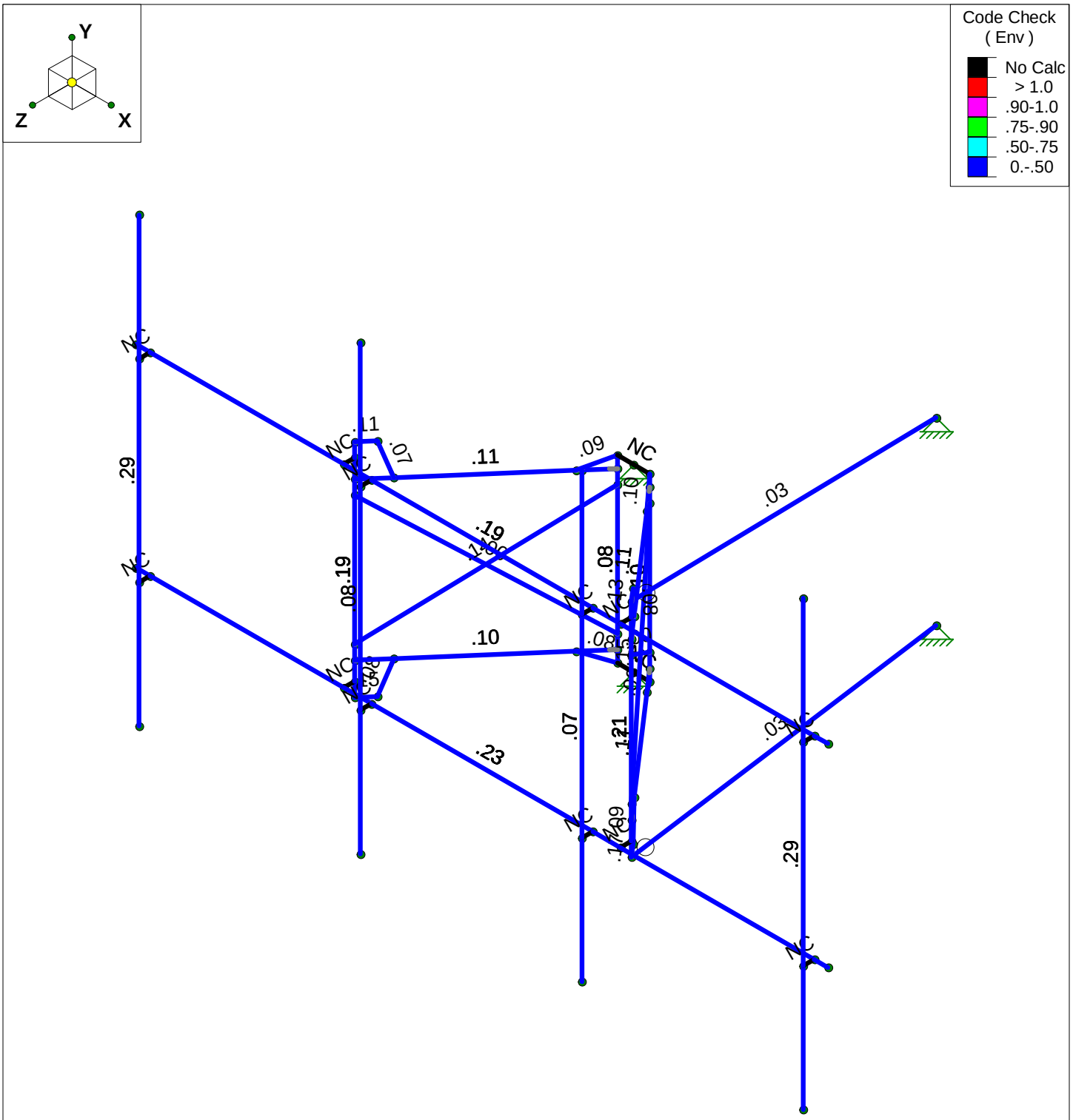

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Envelope Only Solution

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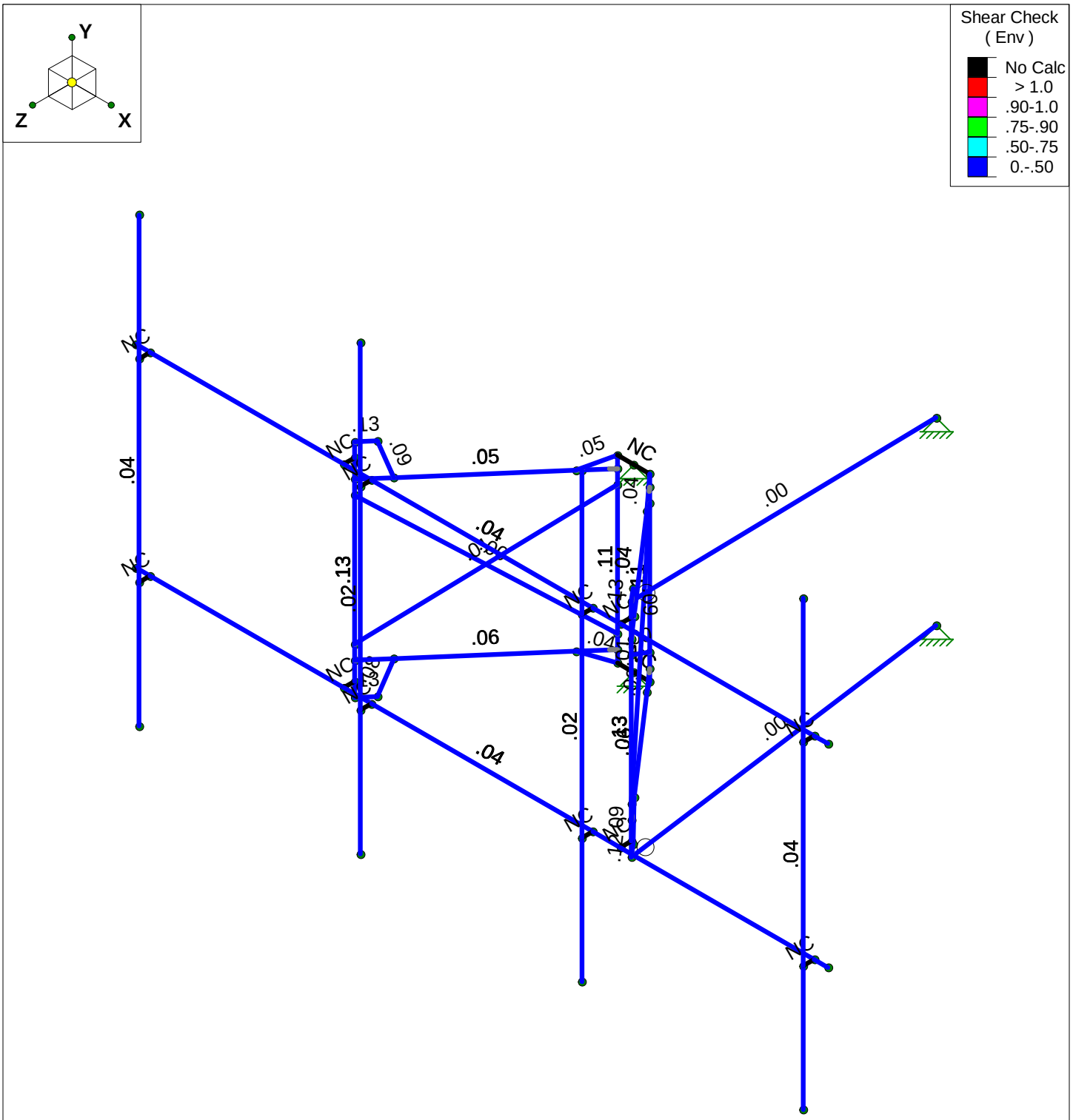

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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		Nov 7, 2023 at 2:11 PM
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Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Antenna D	None					30			
2	Antenna Di	None					30			
3	Antenna Wo (0 Deg)	None					30			
4	Antenna Wo (30 Deg)	None					30			
5	Antenna Wo (60 Deg)	None					30			
6	Antenna Wo (90 Deg)	None					30			
7	Antenna Wo (120 Deg)	None					30			
8	Antenna Wo (150 Deg)	None					30			
9	Antenna Wo (180 Deg)	None					30			
10	Antenna Wo (210 Deg)	None					30			
11	Antenna Wo (240 Deg)	None					30			
12	Antenna Wo (270 Deg)	None					30			
13	Antenna Wo (300 Deg)	None					30			
14	Antenna Wo (330 Deg)	None					30			
15	Antenna Wi (0 Deg)	None					30			
16	Antenna Wi (30 Deg)	None					30			
17	Antenna Wi (60 Deg)	None					30			
18	Antenna Wi (90 Deg)	None					30			
19	Antenna Wi (120 Deg)	None					30			
20	Antenna Wi (150 Deg)	None					30			
21	Antenna Wi (180 Deg)	None					30			
22	Antenna Wi (210 Deg)	None					30			
23	Antenna Wi (240 Deg)	None					30			
24	Antenna Wi (270 Deg)	None					30			
25	Antenna Wi (300 Deg)	None					30			
26	Antenna Wi (330 Deg)	None					30			
27	Antenna Wm (0 Deg)	None					30			
28	Antenna Wm (30 Deg)	None					30			
29	Antenna Wm (60 Deg)	None					30			
30	Antenna Wm (90 Deg)	None					30			
31	Antenna Wm (120 Deg)	None					30			
32	Antenna Wm (150 Deg)	None					30			
33	Antenna Wm (180 Deg)	None					30			
34	Antenna Wm (210 Deg)	None					30			
35	Antenna Wm (240 Deg)	None					30			
36	Antenna Wm (270 Deg)	None					30			
37	Antenna Wm (300 Deg)	None					30			
38	Antenna Wm (330 Deg)	None					30			
39	Structure D	None		-1						
40	Structure Di	None						32		
41	Structure Wo (0 Deg)	None						64		
42	Structure Wo (30 Deg)	None						64		
43	Structure Wo (60 Deg)	None						64		
44	Structure Wo (90 Deg)	None						64		
45	Structure Wo (120 Deg)	None						64		
46	Structure Wo (150 Deg)	None						64		
47	Structure Wo (180 Deg)	None						64		
48	Structure Wo (210 Deg)	None						64		
49	Structure Wo (240 Deg)	None						64		
50	Structure Wo (270 Deg)	None						64		
51	Structure Wo (300 Deg)	None						64		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
52	Structure Wo (330 Deg)	None						64		
53	Structure Wi (0 Deg)	None						64		
54	Structure Wi (30 Deg)	None						64		
55	Structure Wi (60 Deg)	None						64		
56	Structure Wi (90 Deg)	None						64		
57	Structure Wi (120 Deg)	None						64		
58	Structure Wi (150 Deg)	None						64		
59	Structure Wi (180 Deg)	None						64		
60	Structure Wi (210 Deg)	None						64		
61	Structure Wi (240 Deg)	None						64		
62	Structure Wi (270 Deg)	None						64		
63	Structure Wi (300 Deg)	None						64		
64	Structure Wi (330 Deg)	None						64		
65	Structure Wm (0 Deg)	None						64		
66	Structure Wm (30 Deg)	None						64		
67	Structure Wm (60 Deg)	None						64		
68	Structure Wm (90 Deg)	None						64		
69	Structure Wm (120 Deg)	None						64		
70	Structure Wm (150 Deg)	None						64		
71	Structure Wm (180 Deg)	None						64		
72	Structure Wm (210 Deg)	None						64		
73	Structure Wm (240 Deg)	None						64		
74	Structure Wm (270 Deg)	None						64		
75	Structure Wm (300 Deg)	None						64		
76	Structure Wm (330 Deg)	None						64		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					30			
82	Antenna Eh (0 Deg)	None					20			
83	Antenna Eh (90 Deg)	None					20			
84	Structure Ev	ELY		-.044						
85	Structure Eh (0 Deg)	ELZ			-.109					
86	Structure Eh (90 Deg)	ELX	.109							

Load Combinations

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
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 Deg)	Yes	Y		1	1.2	39	1.2	7	1	45	1														
6	1.2D+1.0Wo (150 Deg)	Yes	Y		1	1.2	39	1.2	8	1	46	1														
7	1.2D+1.0Wo (180 Deg)	Yes	Y		1	1.2	39	1.2	9	1	47	1														
8	1.2D+1.0Wo (210 Deg)	Yes	Y		1	1.2	39	1.2	10	1	48	1														
9	1.2D+1.0Wo (240 Deg)	Yes	Y		1	1.2	39	1.2	11	1	49	1														
10	1.2D+1.0Wo (270 Deg)	Yes	Y		1	1.2	39	1.2	12	1	50	1														
11	1.2D+1.0Wo (300 Deg)	Yes	Y		1	1.2	39	1.2	13	1	51	1														
12	1.2D+1.0Wo (330 Deg)	Yes	Y		1	1.2	39	1.2	14	1	52	1														

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0Di + 1.0Wi (30 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0Di + 1.0Wi (60 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0Di + 1.0Wi (90 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0Di + 1.0Wi (120 ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0Di + 1.0Wi (150 ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1.0Wi (180 ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1.0Wi (210 ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1.0Wi (240 ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1.0Wi (270 ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0Di + 1.0Wi (300 ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1.0Wi (330 ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 + 1.0Wm (0...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 + 1.0Wm (3...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 + 1.0Wm (6...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 + 1.0Wm (9...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 + 1.0Wm (1...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 + 1.0Wm (1...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0Wm (1...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0Wm (2...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0Wm (2...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0Wm (2...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0Wm (3...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0Wm (3...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0Wm (0...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0Wm (3...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0Wm (6...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0Wm (9...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0Wm (1...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0Wm (1...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0Wm (1...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0Wm (2...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0Wm (2...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0Wm (2...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0Wm (3...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0Wm (3...	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 + 1.0Eh (0 De...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		ELZ	1	E...					
53	1.2D + 1.0Ev + 1.0Eh (30 D...	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 + 1.0Eh (60 D...	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 + 1.0Eh (90 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	ELZ		E...	1				
56	1.2D + 1.0Ev + 1.0Eh (120 ...	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 + 1.0Eh (150 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.866	83	.5	ELZ	-.866	E...	.5				
58	1.2D + 1.0Ev + 1.0Eh (180 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		ELZ	-1	E...					
59	1.2D + 1.0Ev + 1.0Eh (210 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.866	83	-.5	ELZ	-.866	E...	-.5				
60	1.2D + 1.0Ev + 1.0Eh (240 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.866	ELZ	-.5	E...	-.866				
61	1.2D + 1.0Ev + 1.0Eh (270 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	ELZ		E...	-1				
62	1.2D + 1.0Ev + 1.0Eh (300 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.866	ELZ	.5	E...	-.866				
63	1.2D + 1.0Ev + 1.0Eh (330 ...	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 (0 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		ELZ	1	E...					

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac..	B...	Fac..	B...	Fac..	B...	Fac..	B...	Fac..	B...	Fac..	B...	Fac..	B...	Fac..	B...	Fac..	B...	Fac...
65	0.9D - 1.0Ev + 1.0Eh (30 D...	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 (60 D...	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 (90 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	ELZ		E...	1				
68	0.9D - 1.0Ev + 1.0Eh (120 ...	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 (150 ...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.866	83	.5	ELZ	-.866	E...	.5				
70	0.9D - 1.0Ev + 1.0Eh (180 ...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		ELZ	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh (210 ...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.866	83	-.5	ELZ	-.866	E...	-.5				
72	0.9D - 1.0Ev + 1.0Eh (240 ...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.866	ELZ	-.5	E...	-.866				
73	0.9D - 1.0Ev + 1.0Eh (270 ...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	ELZ		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh (300 ...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.866	ELZ	.5	E...	-.866				
75	0.9D - 1.0Ev + 1.0Eh (330 ...	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	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Standoff Vertical ...	PIPE_2.0X	Column	Pipe	A500 Gr.C RND	Typical	1.4	.827	.827	1.65
2	Standoff Horizon...	PIPE_2.0	Beam	Pipe	A500 Gr.C RND	Typical	1.02	.627	.627	1.25
3	Standoff Diagonal	SR 0.75	Beam	BAR	A36 Gr.36	Typical	.442	.016	.016	.031
4	Face Horizontal	PIPE_2.5	Beam	Pipe	A500 Gr.C RND	Typical	1.61	1.45	1.45	2.89
5	Antenna Pipe	PIPE_2.0	Column	Pipe	A500 Gr.C RND	Typical	1.02	.627	.627	1.25
6	Tieback	PIPE_2.0	Beam	Pipe	A500 Gr.C RND	Typical	1.02	.627	.627	1.25
7	Corner Plate	PL3/8X2	Beam	RECT	A36 Gr.36	Typical	1.125	.013	.844	.049

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1
9	A500 Gr.C RND	29000	11154	.3	.65	.527	46	1.4	58	1.3

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N1			Standoff Vertic...	Column	Pipe	A500 Gr.C...	Typical
2	M2	N4	N3			Standoff Vertic...	Column	Pipe	A500 Gr.C...	Typical
3	M3	N14	N13			Standoff Vertic...	Column	Pipe	A500 Gr.C...	Typical
4	M4	N16	N15			Standoff Vertic...	Column	Pipe	A500 Gr.C...	Typical
5	M5	N17	N5			Standoff Horiz...	Beam	Pipe	A500 Gr.C...	Typical
6	M6	N18	N6			Standoff Horiz...	Beam	Pipe	A500 Gr.C...	Typical
7	M7	N19	N7			Standoff Horiz...	Beam	Pipe	A500 Gr.C...	Typical
8	M8	N20	N8			Standoff Horiz...	Beam	Pipe	A500 Gr.C...	Typical
9	M9	N21	N10			Standoff Diago...	Beam	BAR	A36 Gr.36	Typical
10	M10	N22	N9			Standoff Diago...	Beam	BAR	A36 Gr.36	Typical
11	M11	N23	N12			Standoff Diago...	Beam	BAR	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
12	M12	N24	N11			Standoff Diago...	Beam	BAR	A36 Gr.36	Typical
13	M13	N33	N35			Face Horizontal	Beam	Pipe	A500 Gr.C...	Typical
14	M14	N34	N36			Face Horizontal	Beam	Pipe	A500 Gr.C...	Typical
15	M15	N25	N29			RIGID	None	None	RIGID	Typical
16	M16	N26	N30			RIGID	None	None	RIGID	Typical
17	M17	N28	N32			RIGID	None	None	RIGID	Typical
18	M18	N27	N31			RIGID	None	None	RIGID	Typical
19	M19	N15	N77			Tieback	Beam	Pipe	A500 Gr.C...	Typical
20	MP4A	N42	N43			Antenna Pipe	Column	Pipe	A500 Gr.C...	Typical
21	M21	N39	N38			RIGID	None	None	RIGID	Typical
22	M22	N41	N40			RIGID	None	None	RIGID	Typical
23	M23	N44	N45			RIGID	None	None	RIGID	Typical
24	MP3A	N47	N46			Antenna Pipe	Column	Pipe	A500 Gr.C...	Typical
25	M25	N48	N49			RIGID	None	None	RIGID	Typical
26	M26	N50	N51			RIGID	None	None	RIGID	Typical
27	MP2A	N53	N52			Antenna Pipe	Column	Pipe	A500 Gr.C...	Typical
28	M28	N54	N55			RIGID	None	None	RIGID	Typical
29	M29	N56	N57			RIGID	None	None	RIGID	Typical
30	MP1A	N59	N58			Antenna Pipe	Column	Pipe	A500 Gr.C...	Typical
31	M31	N60	N61			RIGID	None	None	RIGID	Typical
32	M32	N1	N3			RIGID	None	None	RIGID	Typical
33	M33	N2	N4			RIGID	None	None	RIGID	Typical
34	M34	N16	N79			Tieback	Beam	Pipe	A500 Gr.C...	Typical
35	M35	N13	N69		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
36	M36	N69	N65		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
37	M37	N14	N70		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
38	M38	N70	N66		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
39	M39	N15	N71		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
40	M40	N71	N67		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
41	M41	N16	N72		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
42	M42	N72	N68		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
43	M43	N1	N73		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
44	M44	N2	N74		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
45	M45	N3	N75		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical
46	M46	N4	N76		90	Corner Plate	Beam	RECT	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes	** NA **			None
2	M2						Yes	** NA **			None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M5			1.2	1.2		Yes	Default			None
6	M6			1.2	1.2		Yes	Default			None
7	M7			1.2	1.2		Yes	Default			None
8	M8			1.2	1.2		Yes	Default			None
9	M9			1.2	1.2	Tension ...	Yes				None
10	M10			1.2	1.2	Tension ...	Yes				None
11	M11			1.2	1.2	Tension ...	Yes				None
12	M12			1.2	1.2	Tension ...	Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
13	M13						Yes	Default			None
14	M14						Yes	Default			None
15	M15						Yes	** NA **			None
16	M16						Yes	** NA **			None
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19	BenPIN					Yes				None
20	MP4A						Yes	** NA **			None
21	M21						Yes	** NA **			None
22	M22						Yes	** NA **			None
23	M23						Yes	** NA **			None
24	MP3A						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	MP2A						Yes	** NA **			None
28	M28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	MP1A						Yes	** NA **			None
31	M31						Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None
34	M34	BenPIN					Yes				None
35	M35			1.2			Yes				None
36	M36				1.2		Yes				None
37	M37			1.2			Yes				None
38	M38				1.2		Yes				None
39	M39			1.2			Yes				None
40	M40				1.2		Yes				None
41	M41			1.2			Yes				None
42	M42				1.2		Yes				None
43	M43				1.2		Yes				None
44	M44				1.2		Yes				None
45	M45				1.2		Yes				None
46	M46				1.2		Yes				None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-21.85	2
2	MP1A	My	-.015	2
3	MP1A	Mz	0	2
4	MP1A	Y	-21.85	6
5	MP1A	My	-.015	6
6	MP1A	Mz	0	6
7	MP4A	Y	-21.85	2
8	MP4A	My	-.015	2
9	MP4A	Mz	0	2
10	MP4A	Y	-21.85	6
11	MP4A	My	-.015	6
12	MP4A	Mz	0	6
13	MP3A	Y	-28.65	3

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP3A	My	-.019	3
15	MP3A	Mz	0	3
16	MP3A	Y	-28.65	5
17	MP3A	My	-.019	5
18	MP3A	Mz	0	5
19	MP2A	Y	-16	3
20	MP2A	My	.011	3
21	MP2A	Mz	0	3
22	MP2A	Y	-16	5
23	MP2A	My	.011	5
24	MP2A	Mz	0	5
25	MP4A	Y	-74.7	3
26	MP4A	My	.05	3
27	MP4A	Mz	0	3
28	MP1A	Y	-79.1	3
29	MP1A	My	.053	3
30	MP1A	Mz	0	3

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-61.751	2
2	MP1A	My	-.041	2
3	MP1A	Mz	0	2
4	MP1A	Y	-61.751	6
5	MP1A	My	-.041	6
6	MP1A	Mz	0	6
7	MP4A	Y	-61.751	2
8	MP4A	My	-.041	2
9	MP4A	Mz	0	2
10	MP4A	Y	-61.751	6
11	MP4A	My	-.041	6
12	MP4A	Mz	0	6
13	MP3A	Y	-30.356	3
14	MP3A	My	-.02	3
15	MP3A	Mz	0	3
16	MP3A	Y	-30.356	5
17	MP3A	My	-.02	5
18	MP3A	Mz	0	5
19	MP2A	Y	-44.788	3
20	MP2A	My	.03	3
21	MP2A	Mz	0	3
22	MP2A	Y	-44.788	5
23	MP2A	My	.03	5
24	MP2A	Mz	0	5
25	MP4A	Y	-45.777	3
26	MP4A	My	.031	3
27	MP4A	Mz	0	3
28	MP1A	Y	-46.262	3
29	MP1A	My	.031	3
30	MP1A	Mz	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	2
2	MP1A	Z	-102.679	2
3	MP1A	Mx	0	2
4	MP1A	X	0	6
5	MP1A	Z	-102.679	6
6	MP1A	Mx	0	6
7	MP4A	X	0	2
8	MP4A	Z	-102.679	2
9	MP4A	Mx	0	2
10	MP4A	X	0	6
11	MP4A	Z	-102.679	6
12	MP4A	Mx	0	6
13	MP3A	X	0	3
14	MP3A	Z	-71.667	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	-71.667	5
18	MP3A	Mx	0	5
19	MP2A	X	0	3
20	MP2A	Z	-59.943	3
21	MP2A	Mx	0	3
22	MP2A	X	0	5
23	MP2A	Z	-59.943	5
24	MP2A	Mx	0	5
25	MP4A	X	0	3
26	MP4A	Z	-58.619	3
27	MP4A	Mx	0	3
28	MP1A	X	0	3
29	MP1A	Z	-70.721	3
30	MP1A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	44.012	2
2	MP1A	Z	-76.231	2
3	MP1A	Mx	-.029	2
4	MP1A	X	44.012	6
5	MP1A	Z	-76.231	6
6	MP1A	Mx	-.029	6
7	MP4A	X	44.012	2
8	MP4A	Z	-76.231	2
9	MP4A	Mx	-.029	2
10	MP4A	X	44.012	6
11	MP4A	Z	-76.231	6
12	MP4A	Mx	-.029	6
13	MP3A	X	30.325	3
14	MP3A	Z	-52.525	3
15	MP3A	Mx	-.02	3
16	MP3A	X	30.325	5
17	MP3A	Z	-52.525	5
18	MP3A	Mx	-.02	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP2A	X	28.175	3
20	MP2A	Z	-48.801	3
21	MP2A	Mx	.019	3
22	MP2A	X	28.175	5
23	MP2A	Z	-48.801	5
24	MP2A	Mx	.019	5
25	MP4A	X	26.899	3
26	MP4A	Z	-46.59	3
27	MP4A	Mx	.018	3
28	MP1A	X	32.548	3
29	MP1A	Z	-56.375	3
30	MP1A	Mx	.022	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	50.848	2
2	MP1A	Z	-29.357	2
3	MP1A	Mx	-.034	2
4	MP1A	X	50.848	6
5	MP1A	Z	-29.357	6
6	MP1A	Mx	-.034	6
7	MP4A	X	50.848	2
8	MP4A	Z	-29.357	2
9	MP4A	Mx	-.034	2
10	MP4A	X	50.848	6
11	MP4A	Z	-29.357	6
12	MP4A	Mx	-.034	6
13	MP3A	X	33.445	3
14	MP3A	Z	-19.309	3
15	MP3A	Mx	-.022	3
16	MP3A	X	33.445	5
17	MP3A	Z	-19.309	5
18	MP3A	Mx	-.022	5
19	MP2A	X	42.578	3
20	MP2A	Z	-24.582	3
21	MP2A	Mx	.028	3
22	MP2A	X	42.578	5
23	MP2A	Z	-24.582	5
24	MP2A	Mx	.028	5
25	MP4A	X	38.238	3
26	MP4A	Z	-22.077	3
27	MP4A	Mx	.025	3
28	MP1A	X	46.631	3
29	MP1A	Z	-26.922	3
30	MP1A	Mx	.031	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	44.059	2
2	MP1A	Z	0	2
3	MP1A	Mx	-.029	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	44.059	6
5	MP1A	Z	0	6
6	MP1A	Mx	-.029	6
7	MP4A	X	44.059	2
8	MP4A	Z	0	2
9	MP4A	Mx	-.029	2
10	MP4A	X	44.059	6
11	MP4A	Z	0	6
12	MP4A	Mx	-.029	6
13	MP3A	X	27.603	3
14	MP3A	Z	0	3
15	MP3A	Mx	-.018	3
16	MP3A	X	27.603	5
17	MP3A	Z	0	5
18	MP3A	Mx	-.018	5
19	MP2A	X	45.572	3
20	MP2A	Z	0	3
21	MP2A	Mx	.03	3
22	MP2A	X	45.572	5
23	MP2A	Z	0	5
24	MP2A	Mx	.03	5
25	MP4A	X	39.332	3
26	MP4A	Z	0	3
27	MP4A	Mx	.026	3
28	MP1A	X	48.219	3
29	MP1A	Z	0	3
30	MP1A	Mx	.032	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	50.848	2
2	MP1A	Z	29.357	2
3	MP1A	Mx	-.034	2
4	MP1A	X	50.848	6
5	MP1A	Z	29.357	6
6	MP1A	Mx	-.034	6
7	MP4A	X	50.848	2
8	MP4A	Z	29.357	2
9	MP4A	Mx	-.034	2
10	MP4A	X	50.848	6
11	MP4A	Z	29.357	6
12	MP4A	Mx	-.034	6
13	MP3A	X	33.445	3
14	MP3A	Z	19.309	3
15	MP3A	Mx	-.022	3
16	MP3A	X	33.445	5
17	MP3A	Z	19.309	5
18	MP3A	Mx	-.022	5
19	MP2A	X	42.578	3
20	MP2A	Z	24.582	3
21	MP2A	Mx	.028	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	42.578	5
23	MP2A	Z	24.582	5
24	MP2A	Mx	.028	5
25	MP4A	X	38.238	3
26	MP4A	Z	22.077	3
27	MP4A	Mx	.025	3
28	MP1A	X	46.631	3
29	MP1A	Z	26.922	3
30	MP1A	Mx	.031	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	44.012	2
2	MP1A	Z	76.231	2
3	MP1A	Mx	-.029	2
4	MP1A	X	44.012	6
5	MP1A	Z	76.231	6
6	MP1A	Mx	-.029	6
7	MP4A	X	44.012	2
8	MP4A	Z	76.231	2
9	MP4A	Mx	-.029	2
10	MP4A	X	44.012	6
11	MP4A	Z	76.231	6
12	MP4A	Mx	-.029	6
13	MP3A	X	30.325	3
14	MP3A	Z	52.525	3
15	MP3A	Mx	-.02	3
16	MP3A	X	30.325	5
17	MP3A	Z	52.525	5
18	MP3A	Mx	-.02	5
19	MP2A	X	28.175	3
20	MP2A	Z	48.801	3
21	MP2A	Mx	.019	3
22	MP2A	X	28.175	5
23	MP2A	Z	48.801	5
24	MP2A	Mx	.019	5
25	MP4A	X	26.899	3
26	MP4A	Z	46.59	3
27	MP4A	Mx	.018	3
28	MP1A	X	32.548	3
29	MP1A	Z	56.375	3
30	MP1A	Mx	.022	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	2
2	MP1A	Z	102.679	2
3	MP1A	Mx	0	2
4	MP1A	X	0	6
5	MP1A	Z	102.679	6
6	MP1A	Mx	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP4A	X	0	2
8	MP4A	Z	102.679	2
9	MP4A	Mx	0	2
10	MP4A	X	0	6
11	MP4A	Z	102.679	6
12	MP4A	Mx	0	6
13	MP3A	X	0	3
14	MP3A	Z	71.667	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	71.667	5
18	MP3A	Mx	0	5
19	MP2A	X	0	3
20	MP2A	Z	59.943	3
21	MP2A	Mx	0	3
22	MP2A	X	0	5
23	MP2A	Z	59.943	5
24	MP2A	Mx	0	5
25	MP4A	X	0	3
26	MP4A	Z	58.619	3
27	MP4A	Mx	0	3
28	MP1A	X	0	3
29	MP1A	Z	70.721	3
30	MP1A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-44.012	2
2	MP1A	Z	76.231	2
3	MP1A	Mx	.029	2
4	MP1A	X	-44.012	6
5	MP1A	Z	76.231	6
6	MP1A	Mx	.029	6
7	MP4A	X	-44.012	2
8	MP4A	Z	76.231	2
9	MP4A	Mx	.029	2
10	MP4A	X	-44.012	6
11	MP4A	Z	76.231	6
12	MP4A	Mx	.029	6
13	MP3A	X	-30.325	3
14	MP3A	Z	52.525	3
15	MP3A	Mx	.02	3
16	MP3A	X	-30.325	5
17	MP3A	Z	52.525	5
18	MP3A	Mx	.02	5
19	MP2A	X	-28.175	3
20	MP2A	Z	48.801	3
21	MP2A	Mx	-.019	3
22	MP2A	X	-28.175	5
23	MP2A	Z	48.801	5
24	MP2A	Mx	-.019	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP4A	X	-26.899	3
26	MP4A	Z	46.59	3
27	MP4A	Mx	-.018	3
28	MP1A	X	-32.548	3
29	MP1A	Z	56.375	3
30	MP1A	Mx	-.022	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-50.848	2
2	MP1A	Z	29.357	2
3	MP1A	Mx	.034	2
4	MP1A	X	-50.848	6
5	MP1A	Z	29.357	6
6	MP1A	Mx	.034	6
7	MP4A	X	-50.848	2
8	MP4A	Z	29.357	2
9	MP4A	Mx	.034	2
10	MP4A	X	-50.848	6
11	MP4A	Z	29.357	6
12	MP4A	Mx	.034	6
13	MP3A	X	-33.445	3
14	MP3A	Z	19.309	3
15	MP3A	Mx	.022	3
16	MP3A	X	-33.445	5
17	MP3A	Z	19.309	5
18	MP3A	Mx	.022	5
19	MP2A	X	-42.578	3
20	MP2A	Z	24.582	3
21	MP2A	Mx	-.028	3
22	MP2A	X	-42.578	5
23	MP2A	Z	24.582	5
24	MP2A	Mx	-.028	5
25	MP4A	X	-38.238	3
26	MP4A	Z	22.077	3
27	MP4A	Mx	-.025	3
28	MP1A	X	-46.631	3
29	MP1A	Z	26.922	3
30	MP1A	Mx	-.031	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-44.059	2
2	MP1A	Z	0	2
3	MP1A	Mx	.029	2
4	MP1A	X	-44.059	6
5	MP1A	Z	0	6
6	MP1A	Mx	.029	6
7	MP4A	X	-44.059	2
8	MP4A	Z	0	2
9	MP4A	Mx	.029	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
10	MP4A	X	-44.059	6
11	MP4A	Z	0	6
12	MP4A	Mx	.029	6
13	MP3A	X	-27.603	3
14	MP3A	Z	0	3
15	MP3A	Mx	.018	3
16	MP3A	X	-27.603	5
17	MP3A	Z	0	5
18	MP3A	Mx	.018	5
19	MP2A	X	-45.572	3
20	MP2A	Z	0	3
21	MP2A	Mx	-.03	3
22	MP2A	X	-45.572	5
23	MP2A	Z	0	5
24	MP2A	Mx	-.03	5
25	MP4A	X	-39.332	3
26	MP4A	Z	0	3
27	MP4A	Mx	-.026	3
28	MP1A	X	-48.219	3
29	MP1A	Z	0	3
30	MP1A	Mx	-.032	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-50.848	2
2	MP1A	Z	-29.357	2
3	MP1A	Mx	.034	2
4	MP1A	X	-50.848	6
5	MP1A	Z	-29.357	6
6	MP1A	Mx	.034	6
7	MP4A	X	-50.848	2
8	MP4A	Z	-29.357	2
9	MP4A	Mx	.034	2
10	MP4A	X	-50.848	6
11	MP4A	Z	-29.357	6
12	MP4A	Mx	.034	6
13	MP3A	X	-33.445	3
14	MP3A	Z	-19.309	3
15	MP3A	Mx	.022	3
16	MP3A	X	-33.445	5
17	MP3A	Z	-19.309	5
18	MP3A	Mx	.022	5
19	MP2A	X	-42.578	3
20	MP2A	Z	-24.582	3
21	MP2A	Mx	-.028	3
22	MP2A	X	-42.578	5
23	MP2A	Z	-24.582	5
24	MP2A	Mx	-.028	5
25	MP4A	X	-38.238	3
26	MP4A	Z	-22.077	3
27	MP4A	Mx	-.025	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP1A	X	-46.631	3
29	MP1A	Z	-26.922	3
30	MP1A	Mx	-.031	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-44.012	2
2	MP1A	Z	-76.231	2
3	MP1A	Mx	.029	2
4	MP1A	X	-44.012	6
5	MP1A	Z	-76.231	6
6	MP1A	Mx	.029	6
7	MP4A	X	-44.012	2
8	MP4A	Z	-76.231	2
9	MP4A	Mx	.029	2
10	MP4A	X	-44.012	6
11	MP4A	Z	-76.231	6
12	MP4A	Mx	.029	6
13	MP3A	X	-30.325	3
14	MP3A	Z	-52.525	3
15	MP3A	Mx	.02	3
16	MP3A	X	-30.325	5
17	MP3A	Z	-52.525	5
18	MP3A	Mx	.02	5
19	MP2A	X	-28.175	3
20	MP2A	Z	-48.801	3
21	MP2A	Mx	-.019	3
22	MP2A	X	-28.175	5
23	MP2A	Z	-48.801	5
24	MP2A	Mx	-.019	5
25	MP4A	X	-26.899	3
26	MP4A	Z	-46.59	3
27	MP4A	Mx	-.018	3
28	MP1A	X	-32.548	3
29	MP1A	Z	-56.375	3
30	MP1A	Mx	-.022	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	2
2	MP1A	Z	-27.45	2
3	MP1A	Mx	0	2
4	MP1A	X	0	6
5	MP1A	Z	-27.45	6
6	MP1A	Mx	0	6
7	MP4A	X	0	2
8	MP4A	Z	-27.45	2
9	MP4A	Mx	0	2
10	MP4A	X	0	6
11	MP4A	Z	-27.45	6
12	MP4A	Mx	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP3A	X	0	3
14	MP3A	Z	-13.35	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	-13.35	5
18	MP3A	Mx	0	5
19	MP2A	X	0	3
20	MP2A	Z	-14.167	3
21	MP2A	Mx	0	3
22	MP2A	X	0	5
23	MP2A	Z	-14.167	5
24	MP2A	Mx	0	5
25	MP4A	X	0	3
26	MP4A	Z	-13.8	3
27	MP4A	Mx	0	3
28	MP1A	X	0	3
29	MP1A	Z	-13.8	3
30	MP1A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	12.661	2
2	MP1A	Z	-21.93	2
3	MP1A	Mx	-.008	2
4	MP1A	X	12.661	6
5	MP1A	Z	-21.93	6
6	MP1A	Mx	-.008	6
7	MP4A	X	12.661	2
8	MP4A	Z	-21.93	2
9	MP4A	Mx	-.008	2
10	MP4A	X	12.661	6
11	MP4A	Z	-21.93	6
12	MP4A	Mx	-.008	6
13	MP3A	X	5.712	3
14	MP3A	Z	-9.893	3
15	MP3A	Mx	-.004	3
16	MP3A	X	5.712	5
17	MP3A	Z	-9.893	5
18	MP3A	Mx	-.004	5
19	MP2A	X	6.698	3
20	MP2A	Z	-11.602	3
21	MP2A	Mx	.004	3
22	MP2A	X	6.698	5
23	MP2A	Z	-11.602	5
24	MP2A	Mx	.004	5
25	MP4A	X	6.376	3
26	MP4A	Z	-11.043	3
27	MP4A	Mx	.004	3
28	MP1A	X	6.396	3
29	MP1A	Z	-11.079	3
30	MP1A	Mx	.004	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	18.246	2
2	MP1A	Z	-10.534	2
3	MP1A	Mx	-.012	2
4	MP1A	X	18.246	6
5	MP1A	Z	-10.534	6
6	MP1A	Mx	-.012	6
7	MP4A	X	18.246	2
8	MP4A	Z	-10.534	2
9	MP4A	Mx	-.012	2
10	MP4A	X	18.246	6
11	MP4A	Z	-10.534	6
12	MP4A	Mx	-.012	6
13	MP3A	X	6.558	3
14	MP3A	Z	-3.786	3
15	MP3A	Mx	-.004	3
16	MP3A	X	6.558	5
17	MP3A	Z	-3.786	5
18	MP3A	Mx	-.004	5
19	MP2A	X	10.266	3
20	MP2A	Z	-5.927	3
21	MP2A	Mx	.007	3
22	MP2A	X	10.266	5
23	MP2A	Z	-5.927	5
24	MP2A	Mx	.007	5
25	MP4A	X	9.227	3
26	MP4A	Z	-5.327	3
27	MP4A	Mx	.006	3
28	MP1A	X	9.336	3
29	MP1A	Z	-5.39	3
30	MP1A	Mx	.006	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	18.942	2
2	MP1A	Z	0	2
3	MP1A	Mx	-.013	2
4	MP1A	X	18.942	6
5	MP1A	Z	0	6
6	MP1A	Mx	-.013	6
7	MP4A	X	18.942	2
8	MP4A	Z	0	2
9	MP4A	Mx	-.013	2
10	MP4A	X	18.942	6
11	MP4A	Z	0	6
12	MP4A	Mx	-.013	6
13	MP3A	X	5.646	3
14	MP3A	Z	0	3
15	MP3A	Mx	-.004	3
16	MP3A	X	5.646	5
17	MP3A	Z	0	5
18	MP3A	Mx	-.004	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP2A	X	11.083	3
20	MP2A	Z	0	3
21	MP2A	Mx	.007	3
22	MP2A	X	11.083	5
23	MP2A	Z	0	5
24	MP2A	Mx	.007	5
25	MP4A	X	9.606	3
26	MP4A	Z	0	3
27	MP4A	Mx	.006	3
28	MP1A	X	9.773	3
29	MP1A	Z	0	3
30	MP1A	Mx	.007	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	18.246	2
2	MP1A	Z	10.534	2
3	MP1A	Mx	-.012	2
4	MP1A	X	18.246	6
5	MP1A	Z	10.534	6
6	MP1A	Mx	-.012	6
7	MP4A	X	18.246	2
8	MP4A	Z	10.534	2
9	MP4A	Mx	-.012	2
10	MP4A	X	18.246	6
11	MP4A	Z	10.534	6
12	MP4A	Mx	-.012	6
13	MP3A	X	6.558	3
14	MP3A	Z	3.786	3
15	MP3A	Mx	-.004	3
16	MP3A	X	6.558	5
17	MP3A	Z	3.786	5
18	MP3A	Mx	-.004	5
19	MP2A	X	10.266	3
20	MP2A	Z	5.927	3
21	MP2A	Mx	.007	3
22	MP2A	X	10.266	5
23	MP2A	Z	5.927	5
24	MP2A	Mx	.007	5
25	MP4A	X	9.227	3
26	MP4A	Z	5.327	3
27	MP4A	Mx	.006	3
28	MP1A	X	9.336	3
29	MP1A	Z	5.39	3
30	MP1A	Mx	.006	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	12.661	2
2	MP1A	Z	21.93	2
3	MP1A	Mx	-.008	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	12.661	6
5	MP1A	Z	21.93	6
6	MP1A	Mx	-.008	6
7	MP4A	X	12.661	2
8	MP4A	Z	21.93	2
9	MP4A	Mx	-.008	2
10	MP4A	X	12.661	6
11	MP4A	Z	21.93	6
12	MP4A	Mx	-.008	6
13	MP3A	X	5.712	3
14	MP3A	Z	9.893	3
15	MP3A	Mx	-.004	3
16	MP3A	X	5.712	5
17	MP3A	Z	9.893	5
18	MP3A	Mx	-.004	5
19	MP2A	X	6.698	3
20	MP2A	Z	11.602	3
21	MP2A	Mx	.004	3
22	MP2A	X	6.698	5
23	MP2A	Z	11.602	5
24	MP2A	Mx	.004	5
25	MP4A	X	6.376	3
26	MP4A	Z	11.043	3
27	MP4A	Mx	.004	3
28	MP1A	X	6.396	3
29	MP1A	Z	11.079	3
30	MP1A	Mx	.004	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	2
2	MP1A	Z	27.45	2
3	MP1A	Mx	0	2
4	MP1A	X	0	6
5	MP1A	Z	27.45	6
6	MP1A	Mx	0	6
7	MP4A	X	0	2
8	MP4A	Z	27.45	2
9	MP4A	Mx	0	2
10	MP4A	X	0	6
11	MP4A	Z	27.45	6
12	MP4A	Mx	0	6
13	MP3A	X	0	3
14	MP3A	Z	13.35	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	13.35	5
18	MP3A	Mx	0	5
19	MP2A	X	0	3
20	MP2A	Z	14.167	3
21	MP2A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	0	5
23	MP2A	Z	14.167	5
24	MP2A	Mx	0	5
25	MP4A	X	0	3
26	MP4A	Z	13.8	3
27	MP4A	Mx	0	3
28	MP1A	X	0	3
29	MP1A	Z	13.8	3
30	MP1A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-12.661	2
2	MP1A	Z	21.93	2
3	MP1A	Mx	.008	2
4	MP1A	X	-12.661	6
5	MP1A	Z	21.93	6
6	MP1A	Mx	.008	6
7	MP4A	X	-12.661	2
8	MP4A	Z	21.93	2
9	MP4A	Mx	.008	2
10	MP4A	X	-12.661	6
11	MP4A	Z	21.93	6
12	MP4A	Mx	.008	6
13	MP3A	X	-5.712	3
14	MP3A	Z	9.893	3
15	MP3A	Mx	.004	3
16	MP3A	X	-5.712	5
17	MP3A	Z	9.893	5
18	MP3A	Mx	.004	5
19	MP2A	X	-6.698	3
20	MP2A	Z	11.602	3
21	MP2A	Mx	-.004	3
22	MP2A	X	-6.698	5
23	MP2A	Z	11.602	5
24	MP2A	Mx	-.004	5
25	MP4A	X	-6.376	3
26	MP4A	Z	11.043	3
27	MP4A	Mx	-.004	3
28	MP1A	X	-6.396	3
29	MP1A	Z	11.079	3
30	MP1A	Mx	-.004	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-18.246	2
2	MP1A	Z	10.534	2
3	MP1A	Mx	.012	2
4	MP1A	X	-18.246	6
5	MP1A	Z	10.534	6
6	MP1A	Mx	.012	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP4A	X	-18.246	2
8	MP4A	Z	10.534	2
9	MP4A	Mx	.012	2
10	MP4A	X	-18.246	6
11	MP4A	Z	10.534	6
12	MP4A	Mx	.012	6
13	MP3A	X	-6.558	3
14	MP3A	Z	3.786	3
15	MP3A	Mx	.004	3
16	MP3A	X	-6.558	5
17	MP3A	Z	3.786	5
18	MP3A	Mx	.004	5
19	MP2A	X	-10.266	3
20	MP2A	Z	5.927	3
21	MP2A	Mx	-.007	3
22	MP2A	X	-10.266	5
23	MP2A	Z	5.927	5
24	MP2A	Mx	-.007	5
25	MP4A	X	-9.227	3
26	MP4A	Z	5.327	3
27	MP4A	Mx	-.006	3
28	MP1A	X	-9.336	3
29	MP1A	Z	5.39	3
30	MP1A	Mx	-.006	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-18.942	2
2	MP1A	Z	0	2
3	MP1A	Mx	.013	2
4	MP1A	X	-18.942	6
5	MP1A	Z	0	6
6	MP1A	Mx	.013	6
7	MP4A	X	-18.942	2
8	MP4A	Z	0	2
9	MP4A	Mx	.013	2
10	MP4A	X	-18.942	6
11	MP4A	Z	0	6
12	MP4A	Mx	.013	6
13	MP3A	X	-5.646	3
14	MP3A	Z	0	3
15	MP3A	Mx	.004	3
16	MP3A	X	-5.646	5
17	MP3A	Z	0	5
18	MP3A	Mx	.004	5
19	MP2A	X	-11.083	3
20	MP2A	Z	0	3
21	MP2A	Mx	-.007	3
22	MP2A	X	-11.083	5
23	MP2A	Z	0	5
24	MP2A	Mx	-.007	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP4A	X	-9.606	3
26	MP4A	Z	0	3
27	MP4A	Mx	-.006	3
28	MP1A	X	-9.773	3
29	MP1A	Z	0	3
30	MP1A	Mx	-.007	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-18.246	2
2	MP1A	Z	-10.534	2
3	MP1A	Mx	.012	2
4	MP1A	X	-18.246	6
5	MP1A	Z	-10.534	6
6	MP1A	Mx	.012	6
7	MP4A	X	-18.246	2
8	MP4A	Z	-10.534	2
9	MP4A	Mx	.012	2
10	MP4A	X	-18.246	6
11	MP4A	Z	-10.534	6
12	MP4A	Mx	.012	6
13	MP3A	X	-6.558	3
14	MP3A	Z	-3.786	3
15	MP3A	Mx	.004	3
16	MP3A	X	-6.558	5
17	MP3A	Z	-3.786	5
18	MP3A	Mx	.004	5
19	MP2A	X	-10.266	3
20	MP2A	Z	-5.927	3
21	MP2A	Mx	-.007	3
22	MP2A	X	-10.266	5
23	MP2A	Z	-5.927	5
24	MP2A	Mx	-.007	5
25	MP4A	X	-9.227	3
26	MP4A	Z	-5.327	3
27	MP4A	Mx	-.006	3
28	MP1A	X	-9.336	3
29	MP1A	Z	-5.39	3
30	MP1A	Mx	-.006	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-12.661	2
2	MP1A	Z	-21.93	2
3	MP1A	Mx	.008	2
4	MP1A	X	-12.661	6
5	MP1A	Z	-21.93	6
6	MP1A	Mx	.008	6
7	MP4A	X	-12.661	2
8	MP4A	Z	-21.93	2
9	MP4A	Mx	.008	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
10	MP4A	X	-12.661	6
11	MP4A	Z	-21.93	6
12	MP4A	Mx	.008	6
13	MP3A	X	-5.712	3
14	MP3A	Z	-9.893	3
15	MP3A	Mx	.004	3
16	MP3A	X	-5.712	5
17	MP3A	Z	-9.893	5
18	MP3A	Mx	.004	5
19	MP2A	X	-6.698	3
20	MP2A	Z	-11.602	3
21	MP2A	Mx	-.004	3
22	MP2A	X	-6.698	5
23	MP2A	Z	-11.602	5
24	MP2A	Mx	-.004	5
25	MP4A	X	-6.376	3
26	MP4A	Z	-11.043	3
27	MP4A	Mx	-.004	3
28	MP1A	X	-6.396	3
29	MP1A	Z	-11.079	3
30	MP1A	Mx	-.004	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	2
2	MP1A	Z	-6.01	2
3	MP1A	Mx	0	2
4	MP1A	X	0	6
5	MP1A	Z	-6.01	6
6	MP1A	Mx	0	6
7	MP4A	X	0	2
8	MP4A	Z	-6.01	2
9	MP4A	Mx	0	2
10	MP4A	X	0	6
11	MP4A	Z	-6.01	6
12	MP4A	Mx	0	6
13	MP3A	X	0	3
14	MP3A	Z	-4.195	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	-4.195	5
18	MP3A	Mx	0	5
19	MP2A	X	0	3
20	MP2A	Z	-3.509	3
21	MP2A	Mx	0	3
22	MP2A	X	0	5
23	MP2A	Z	-3.509	5
24	MP2A	Mx	0	5
25	MP4A	X	0	3
26	MP4A	Z	-3.431	3
27	MP4A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP1A	X	0	3
29	MP1A	Z	-4.14	3
30	MP1A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	2.576	2
2	MP1A	Z	-4.462	2
3	MP1A	Mx	-.002	2
4	MP1A	X	2.576	6
5	MP1A	Z	-4.462	6
6	MP1A	Mx	-.002	6
7	MP4A	X	2.576	2
8	MP4A	Z	-4.462	2
9	MP4A	Mx	-.002	2
10	MP4A	X	2.576	6
11	MP4A	Z	-4.462	6
12	MP4A	Mx	-.002	6
13	MP3A	X	1.775	3
14	MP3A	Z	-3.074	3
15	MP3A	Mx	-.001	3
16	MP3A	X	1.775	5
17	MP3A	Z	-3.074	5
18	MP3A	Mx	-.001	5
19	MP2A	X	1.649	3
20	MP2A	Z	-2.856	3
21	MP2A	Mx	.001	3
22	MP2A	X	1.649	5
23	MP2A	Z	-2.856	5
24	MP2A	Mx	.001	5
25	MP4A	X	1.574	3
26	MP4A	Z	-2.727	3
27	MP4A	Mx	.001	3
28	MP1A	X	1.905	3
29	MP1A	Z	-3.3	3
30	MP1A	Mx	.001	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	2.976	2
2	MP1A	Z	-1.718	2
3	MP1A	Mx	-.002	2
4	MP1A	X	2.976	6
5	MP1A	Z	-1.718	6
6	MP1A	Mx	-.002	6
7	MP4A	X	2.976	2
8	MP4A	Z	-1.718	2
9	MP4A	Mx	-.002	2
10	MP4A	X	2.976	6
11	MP4A	Z	-1.718	6
12	MP4A	Mx	-.002	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP3A	X	1.958	3
14	MP3A	Z	-1.13	3
15	MP3A	Mx	-.001	3
16	MP3A	X	1.958	5
17	MP3A	Z	-1.13	5
18	MP3A	Mx	-.001	5
19	MP2A	X	2.492	3
20	MP2A	Z	-1.439	3
21	MP2A	Mx	.002	3
22	MP2A	X	2.492	5
23	MP2A	Z	-1.439	5
24	MP2A	Mx	.002	5
25	MP4A	X	2.238	3
26	MP4A	Z	-1.292	3
27	MP4A	Mx	.001	3
28	MP1A	X	2.729	3
29	MP1A	Z	-1.576	3
30	MP1A	Mx	.002	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	2.579	2
2	MP1A	Z	0	2
3	MP1A	Mx	-.002	2
4	MP1A	X	2.579	6
5	MP1A	Z	0	6
6	MP1A	Mx	-.002	6
7	MP4A	X	2.579	2
8	MP4A	Z	0	2
9	MP4A	Mx	-.002	2
10	MP4A	X	2.579	6
11	MP4A	Z	0	6
12	MP4A	Mx	-.002	6
13	MP3A	X	1.616	3
14	MP3A	Z	0	3
15	MP3A	Mx	-.001	3
16	MP3A	X	1.616	5
17	MP3A	Z	0	5
18	MP3A	Mx	-.001	5
19	MP2A	X	2.667	3
20	MP2A	Z	0	3
21	MP2A	Mx	.002	3
22	MP2A	X	2.667	5
23	MP2A	Z	0	5
24	MP2A	Mx	.002	5
25	MP4A	X	2.302	3
26	MP4A	Z	0	3
27	MP4A	Mx	.002	3
28	MP1A	X	2.822	3
29	MP1A	Z	0	3
30	MP1A	Mx	.002	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	2.976	2
2	MP1A	Z	1.718	2
3	MP1A	Mx	-.002	2
4	MP1A	X	2.976	6
5	MP1A	Z	1.718	6
6	MP1A	Mx	-.002	6
7	MP4A	X	2.976	2
8	MP4A	Z	1.718	2
9	MP4A	Mx	-.002	2
10	MP4A	X	2.976	6
11	MP4A	Z	1.718	6
12	MP4A	Mx	-.002	6
13	MP3A	X	1.958	3
14	MP3A	Z	1.13	3
15	MP3A	Mx	-.001	3
16	MP3A	X	1.958	5
17	MP3A	Z	1.13	5
18	MP3A	Mx	-.001	5
19	MP2A	X	2.492	3
20	MP2A	Z	1.439	3
21	MP2A	Mx	.002	3
22	MP2A	X	2.492	5
23	MP2A	Z	1.439	5
24	MP2A	Mx	.002	5
25	MP4A	X	2.238	3
26	MP4A	Z	1.292	3
27	MP4A	Mx	.001	3
28	MP1A	X	2.729	3
29	MP1A	Z	1.576	3
30	MP1A	Mx	.002	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	2.576	2
2	MP1A	Z	4.462	2
3	MP1A	Mx	-.002	2
4	MP1A	X	2.576	6
5	MP1A	Z	4.462	6
6	MP1A	Mx	-.002	6
7	MP4A	X	2.576	2
8	MP4A	Z	4.462	2
9	MP4A	Mx	-.002	2
10	MP4A	X	2.576	6
11	MP4A	Z	4.462	6
12	MP4A	Mx	-.002	6
13	MP3A	X	1.775	3
14	MP3A	Z	3.074	3
15	MP3A	Mx	-.001	3
16	MP3A	X	1.775	5
17	MP3A	Z	3.074	5
18	MP3A	Mx	-.001	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP2A	X	1.649	3
20	MP2A	Z	2.856	3
21	MP2A	Mx	.001	3
22	MP2A	X	1.649	5
23	MP2A	Z	2.856	5
24	MP2A	Mx	.001	5
25	MP4A	X	1.574	3
26	MP4A	Z	2.727	3
27	MP4A	Mx	.001	3
28	MP1A	X	1.905	3
29	MP1A	Z	3.3	3
30	MP1A	Mx	.001	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	2
2	MP1A	Z	6.01	2
3	MP1A	Mx	0	2
4	MP1A	X	0	6
5	MP1A	Z	6.01	6
6	MP1A	Mx	0	6
7	MP4A	X	0	2
8	MP4A	Z	6.01	2
9	MP4A	Mx	0	2
10	MP4A	X	0	6
11	MP4A	Z	6.01	6
12	MP4A	Mx	0	6
13	MP3A	X	0	3
14	MP3A	Z	4.195	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	4.195	5
18	MP3A	Mx	0	5
19	MP2A	X	0	3
20	MP2A	Z	3.509	3
21	MP2A	Mx	0	3
22	MP2A	X	0	5
23	MP2A	Z	3.509	5
24	MP2A	Mx	0	5
25	MP4A	X	0	3
26	MP4A	Z	3.431	3
27	MP4A	Mx	0	3
28	MP1A	X	0	3
29	MP1A	Z	4.14	3
30	MP1A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-2.576	2
2	MP1A	Z	4.462	2
3	MP1A	Mx	.002	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	-2.576	6
5	MP1A	Z	4.462	6
6	MP1A	Mx	.002	6
7	MP4A	X	-2.576	2
8	MP4A	Z	4.462	2
9	MP4A	Mx	.002	2
10	MP4A	X	-2.576	6
11	MP4A	Z	4.462	6
12	MP4A	Mx	.002	6
13	MP3A	X	-1.775	3
14	MP3A	Z	3.074	3
15	MP3A	Mx	.001	3
16	MP3A	X	-1.775	5
17	MP3A	Z	3.074	5
18	MP3A	Mx	.001	5
19	MP2A	X	-1.649	3
20	MP2A	Z	2.856	3
21	MP2A	Mx	-.001	3
22	MP2A	X	-1.649	5
23	MP2A	Z	2.856	5
24	MP2A	Mx	-.001	5
25	MP4A	X	-1.574	3
26	MP4A	Z	2.727	3
27	MP4A	Mx	-.001	3
28	MP1A	X	-1.905	3
29	MP1A	Z	3.3	3
30	MP1A	Mx	-.001	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-2.976	2
2	MP1A	Z	1.718	2
3	MP1A	Mx	.002	2
4	MP1A	X	-2.976	6
5	MP1A	Z	1.718	6
6	MP1A	Mx	.002	6
7	MP4A	X	-2.976	2
8	MP4A	Z	1.718	2
9	MP4A	Mx	.002	2
10	MP4A	X	-2.976	6
11	MP4A	Z	1.718	6
12	MP4A	Mx	.002	6
13	MP3A	X	-1.958	3
14	MP3A	Z	1.13	3
15	MP3A	Mx	.001	3
16	MP3A	X	-1.958	5
17	MP3A	Z	1.13	5
18	MP3A	Mx	.001	5
19	MP2A	X	-2.492	3
20	MP2A	Z	1.439	3
21	MP2A	Mx	-.002	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	-2.492	5
23	MP2A	Z	1.439	5
24	MP2A	Mx	-.002	5
25	MP4A	X	-2.238	3
26	MP4A	Z	1.292	3
27	MP4A	Mx	-.001	3
28	MP1A	X	-2.729	3
29	MP1A	Z	1.576	3
30	MP1A	Mx	-.002	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-2.579	2
2	MP1A	Z	0	2
3	MP1A	Mx	.002	2
4	MP1A	X	-2.579	6
5	MP1A	Z	0	6
6	MP1A	Mx	.002	6
7	MP4A	X	-2.579	2
8	MP4A	Z	0	2
9	MP4A	Mx	.002	2
10	MP4A	X	-2.579	6
11	MP4A	Z	0	6
12	MP4A	Mx	.002	6
13	MP3A	X	-1.616	3
14	MP3A	Z	0	3
15	MP3A	Mx	.001	3
16	MP3A	X	-1.616	5
17	MP3A	Z	0	5
18	MP3A	Mx	.001	5
19	MP2A	X	-2.667	3
20	MP2A	Z	0	3
21	MP2A	Mx	-.002	3
22	MP2A	X	-2.667	5
23	MP2A	Z	0	5
24	MP2A	Mx	-.002	5
25	MP4A	X	-2.302	3
26	MP4A	Z	0	3
27	MP4A	Mx	-.002	3
28	MP1A	X	-2.822	3
29	MP1A	Z	0	3
30	MP1A	Mx	-.002	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-2.976	2
2	MP1A	Z	-1.718	2
3	MP1A	Mx	.002	2
4	MP1A	X	-2.976	6
5	MP1A	Z	-1.718	6
6	MP1A	Mx	.002	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP4A	X	-2.976	2
8	MP4A	Z	-1.718	2
9	MP4A	Mx	.002	2
10	MP4A	X	-2.976	6
11	MP4A	Z	-1.718	6
12	MP4A	Mx	.002	6
13	MP3A	X	-1.958	3
14	MP3A	Z	-1.13	3
15	MP3A	Mx	.001	3
16	MP3A	X	-1.958	5
17	MP3A	Z	-1.13	5
18	MP3A	Mx	.001	5
19	MP2A	X	-2.492	3
20	MP2A	Z	-1.439	3
21	MP2A	Mx	-.002	3
22	MP2A	X	-2.492	5
23	MP2A	Z	-1.439	5
24	MP2A	Mx	-.002	5
25	MP4A	X	-2.238	3
26	MP4A	Z	-1.292	3
27	MP4A	Mx	-.001	3
28	MP1A	X	-2.729	3
29	MP1A	Z	-1.576	3
30	MP1A	Mx	-.002	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-2.576	2
2	MP1A	Z	-4.462	2
3	MP1A	Mx	.002	2
4	MP1A	X	-2.576	6
5	MP1A	Z	-4.462	6
6	MP1A	Mx	.002	6
7	MP4A	X	-2.576	2
8	MP4A	Z	-4.462	2
9	MP4A	Mx	.002	2
10	MP4A	X	-2.576	6
11	MP4A	Z	-4.462	6
12	MP4A	Mx	.002	6
13	MP3A	X	-1.775	3
14	MP3A	Z	-3.074	3
15	MP3A	Mx	.001	3
16	MP3A	X	-1.775	5
17	MP3A	Z	-3.074	5
18	MP3A	Mx	.001	5
19	MP2A	X	-1.649	3
20	MP2A	Z	-2.856	3
21	MP2A	Mx	-.001	3
22	MP2A	X	-1.649	5
23	MP2A	Z	-2.856	5
24	MP2A	Mx	-.001	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP4A	X	-1.574	3
26	MP4A	Z	-2.727	3
27	MP4A	Mx	-.001	3
28	MP1A	X	-1.905	3
29	MP1A	Z	-3.3	3
30	MP1A	Mx	-.001	3

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M14	Y	-500	%98

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M14	Y	-500	%2

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M14	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M14	Y	-250	%50

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-.956	2
2	MP1A	My	-.000637	2
3	MP1A	Mz	0	2
4	MP1A	Y	-.956	6
5	MP1A	My	-.000637	6
6	MP1A	Mz	0	6
7	MP4A	Y	-.956	2
8	MP4A	My	-.000637	2
9	MP4A	Mz	0	2
10	MP4A	Y	-.956	6
11	MP4A	My	-.000637	6
12	MP4A	Mz	0	6
13	MP3A	Y	-1.253	3
14	MP3A	My	-.000835	3
15	MP3A	Mz	0	3
16	MP3A	Y	-1.253	5
17	MP3A	My	-.000835	5
18	MP3A	Mz	0	5
19	MP2A	Y	-.7	3
20	MP2A	My	.000466	3
21	MP2A	Mz	0	3
22	MP2A	Y	-.7	5
23	MP2A	My	.000466	5
24	MP2A	Mz	0	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP4A	Y	-3.267	3
26	MP4A	My	.002	3
27	MP4A	Mz	0	3
28	MP1A	Y	-3.459	3
29	MP1A	My	.002	3
30	MP1A	Mz	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-2.389	2
2	MP1A	Mx	0	2
3	MP1A	Z	-2.389	6
4	MP1A	Mx	0	6
5	MP4A	Z	-2.389	2
6	MP4A	Mx	0	2
7	MP4A	Z	-2.389	6
8	MP4A	Mx	0	6
9	MP3A	Z	-3.132	3
10	MP3A	Mx	0	3
11	MP3A	Z	-3.132	5
12	MP3A	Mx	0	5
13	MP2A	Z	-1.749	3
14	MP2A	Mx	0	3
15	MP2A	Z	-1.749	5
16	MP2A	Mx	0	5
17	MP4A	Z	-8.167	3
18	MP4A	Mx	0	3
19	MP1A	Z	-8.648	3
20	MP1A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	2.389	2
2	MP1A	Mx	-.002	2
3	MP1A	X	2.389	6
4	MP1A	Mx	-.002	6
5	MP4A	X	2.389	2
6	MP4A	Mx	-.002	2
7	MP4A	X	2.389	6
8	MP4A	Mx	-.002	6
9	MP3A	X	3.132	3
10	MP3A	Mx	-.002	3
11	MP3A	X	3.132	5
12	MP3A	Mx	-.002	5
13	MP2A	X	1.749	3
14	MP2A	Mx	.001	3
15	MP2A	X	1.749	5
16	MP2A	Mx	.001	5
17	MP4A	X	8.167	3
18	MP4A	Mx	.005	3
19	MP1A	X	8.648	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
20	MP1A	Mx	.006	3

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]	LC	MZ [k-ft]	LC
1	N63	max	1427.288	33	428.692	13	1761.775	24	0	75	0	75	0	75
2		min	-1404.9...	39	142.105	70	-312.491	6	0	1	0	1	0	1
3	N62	max	1407.725	45	1569.267	19	391.363	12	0	75	0	75	0	75
4		min	-1430.2...	27	527.396	65	-1780.011	18	0	1	0	1	0	1
5	N77	max	32.768	2	49.966	3	596.051	3	0	75	0	75	0	75
6		min	-38.986	8	-27.636	9	-671.06	9	0	1	0	1	0	1
7	N78	max	0	75	0	75	0	75	0	75	0	75	0	75
8		min	0	1	0	1	0	1	0	1	0	1	0	1
9	N79	max	35.736	6	47.266	9	622.99	3	0	75	0	75	0	75
10		min	-29.292	8	-24.816	3	-550.39	9	0	1	0	1	0	1
11	Totals:	max	1020.575	10	2028.225	18	1563.745	1						
12		min	-1020.5...	4	689.613	74	-1563.74	7						

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

	Member	Shape	Code ...	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M1	PIPE_2.0X	.082	2.81	42	.110	3.013		47	48742.36	57960	3.326	3.326	2...	H1-1b
2	M2	PIPE_2.0X	.103	3.25	29	.107	3.013		27	48742.36	57960	3.326	3.326	2...	H1-1b
3	M3	PIPE_2.0X	.190	.583	37	.126	3.417		1	44584....	57960	3.326	3.326	2...	H1-1b
4	M4	PIPE_2.0X	.209	.583	36	.130	3.417		1	44584....	57960	3.326	3.326	2...	H1-1b
5	M5	PIPE_2.0	.111	0	1	.048	.396		43	36063....	42228	2.46	2.46	2...	H1-1b
6	M6	PIPE_2.0	.104	0	37	.055	2.736		37	36063....	42228	2.46	2.46	2...	H1-1b
7	M7	PIPE_2.0	.111	0	1	.044	2.736		30	36063....	42228	2.46	2.46	2...	H1-1b
8	M8	PIPE_2.0	.113	0	26	.063	2.736		36	36063....	42228	2.46	2.46	2...	H1-1b
9	M9	SR_0.75	.000	0	75	.000	0		75	1606.638	14313....	.179	.179	1	H1-1a
10	M10	SR_0.75	.145	3.894	48	.009	0		6	1606.638	14313....	.179	.179	2...	H1-1b*
11	M11	SR_0.75	.000	0	75	.000	0		75	1606.638	14313....	.179	.179	1	H1-1a
12	M12	SR_0.75	.153	3.894	36	.007	0		8	1606.638	14313....	.179	.179	2...	H1-1b*
13	M13	PIPE_2.5	.190	8.854	36	.042	8.724		11	14558....	66654	4.727	4.727	2...	H1-1b
14	M14	PIPE_2.5	.231	8.854	30	.042	8.724		5	14558....	66654	4.727	4.727	2...	H1-1b
15	M19	PIPE_2.0	.030	3.017	4	.002	6.035		16	23787....	42228	2.46	2.46	1...	H1-1b
16	MP4A	PIPE_2.0	.287	5.75	41	.044	2.25		47	15369....	42228	2.46	2.46	4...	H1-1b
17	MP3A	PIPE_2.0	.077	2.25	44	.020	2.25		8	15369....	42228	2.46	2.46	4...	H1-1b
18	MP2A	PIPE_2.0	.069	2.25	29	.022	2.25		4	15369....	42228	2.46	2.46	4...	H1-1b
19	MP1A	PIPE_2.0	.286	5.75	33	.044	2.25		27	15369....	42228	2.46	2.46	4...	H1-1b
20	M34	PIPE_2.0	.030	3.017	4	.002	6.035		22	23787....	42228	2.46	2.46	1...	H1-1b
21	M35	PL3/8X2	.105	0	43	.133	0	y	1	35582....	36450	.284	2.279	1...	H1-1b
22	M36	PL3/8X2	.068	.519	43	.091	0	y	1	30537.23	36450	.284	2.279	1...	H1-1b
23	M37	PL3/8X2	.147	0	37	.125	0	y	7	35582....	36450	.284	2.279	1...	H1-1b
24	M38	PL3/8X2	.077	.519	37	.085	0	y	7	30537.23	36450	.284	2.279	1...	H1-1b

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

	Member	Shape	Code	Loc[ft]	LC	Shear	Loc[ft]	Dir	LC	phi*Pnc	phi*Pnt	phi*Mn	phi*Mn	Cb	Eqn
25	M39	PL3/8X2	.127	0	29	.134	0	y	1	35582....	36450	.284	2.279	1...	H1-1b
26	M40	PL3/8X2	.076	.519	30	.091	0	y	1	30537.23	36450	.284	2.279	1...	H1-1b
27	M41	PL3/8X2	.171	0	35	.124	0	y	7	35582....	36450	.284	2.279	1...	H1-1b
28	M42	PL3/8X2	.085	.519	36	.085	0	y	1	30537.23	36450	.284	2.279	1...	H1-1b
29	M43	PL3/8X2	.091	0	44	.050	.471	y	26	31521....	36450	.284	2.279	1...	H1-1b
30	M44	PL3/8X2	.083	0	38	.039	.471	y	38	31521....	36450	.284	2.279	1...	H1-1b
31	M45	PL3/8X2	.096	0	30	.036	.471	y	37	31521....	36450	.284	2.279	1...	H1-1b
32	M46	PL3/8X2	.088	0	36	.035	.471	y	25	31521....	36450	.284	2.279	1...	H1-1b

VzW SMART Tool© Vendor

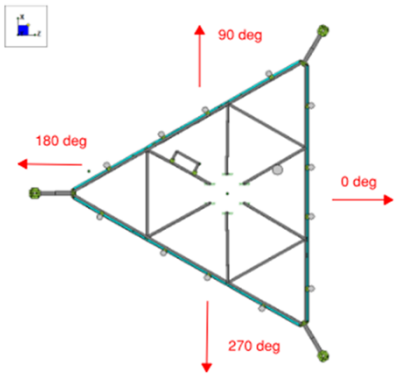
Client:	Verizon Wireless	Date:	11/7/2023
Site Name:	Salem South CT		
MDG #:	5000916780		
Fuze ID #:	16990579	Page:	1

Version 1.01

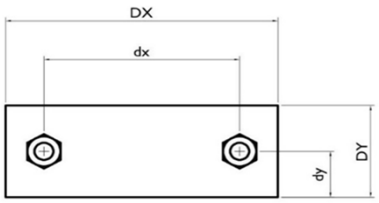
I. Mount-to-Tower Connection Check

Custom Orientation Required	Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N62	0
N63	0



Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel
Bolt Quantity per Reaction:	2 (Horizontal)
d_x (in) *(Delta X of typ. bolt config. sketch)* :	10
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	3
Bolt Type:	A307
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	0.8
Required Shear Strength / bolt (kips):	1.0
Tensile Capacity / bolt (kips):	10.4
Shear Capacity / bolt (kips):	6.2
Bolt Overall Utilization:	**15.9%**



Tower Connection Baseplate Checks	No

EXHIBIT 5

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Non-Ionizing Electromagnetic Radiation (NIER) Study

Site Number:
10027

Site Name:
Salem CT

Location:
Salem, Connecticut

Tenants:
T-Mobile, AT&T Mobility, & Verizon Wireless

Prepared For:

American Tower, Inc.
Woburn, Massachusetts

January 23rd, 2024

25617 P-419146

Prepared By:

Adam Carlson MS, CBRE, CPI
Program Manager RF Design & Service
Tower Engineering Professionals

Approved By:

TOWER ENGINEERING PROFESSIONALS

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Non-Ionizing Electromagnetic Radiation (NIER) Study

10027 Salem CT
Salem, Connecticut

INTRODUCTION

Tower Engineering Professionals RF Design & Services Division (TEP-RF) of Raleigh, North Carolina, has been retained by American Tower, Inc. (ATC), of Woburn, Massachusetts to evaluate the RF emissions compared to the Maximum Permissible Exposure (MPE) limit for facilities at this location. This evaluation uses compliance standards as outlined in Federal Communications Commission (FCC) document OET-65.

SITE AND FACILITY CONSIDERATIONS

Site 10027 Salem CT is located at 153 East Haddam Rd., in Salem, Connecticut at coordinates 41.631707, -72.729913. The support structure is a 191' self-support tower. An aerial view of the tower can be found in Appendix 1, Site Photos. The tenants are T-Mobile (T-Mobile), AT&T Mobility (AT&T), & Verizon Wireless (VZW). A table listing all antennae and effective radiated power (ERP) levels that were used in this study may be found in Appendix 2, Antenna Inventory.

POWER DENSITY CALCULATIONS

Power densities were calculated based on FCC MPE limits for both General Population/Uncontrolled and Occupational/Controlled environments.

For the purpose of this study, a radius of 130' from the base of the tower with a height of 6' above ground level was used, beyond 130' the MPE levels become *di minimus*. This study utilized FCC recognized and accepted software programs using the maximum ERP levels for the antenna models provided by ATC. Diagrams depicting the predicted spatial average power density level at any specific location may be found in Appendix 3, MPE Limit Study. A discussion regarding the FCC limits may be found in Appendix 4, Information Pertaining to MPE Studies. Study methodology describing Non-ionizing Radiation Prediction Models used in this study may be found in Appendix 5, MPE Standards Methodology.

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All data used in this study was collected from one or more of the following sources:

- ATC furnished data and does not include other unidentified communication facilities.
- Load List at 10027 Salem CT.RF NIER Study 1/04/24.
- FCC databases.
- Carrier standard configurations.
- Empirical data collected by TEP.

SITE MITIGATION & CONTROL

In order to comply with FCC, tenant, & ATC requirements, TEP recommends the placement of signage at the base of the tower and all compound access points to alert workers of potential exposure to RF fields while working on or near the antennae.

TEP recommends that all personnel working on this tower be trained in RF safety procedures and carry a personal RF monitor at all times.

COMPLIANCE DETERMINATION

This installation ***IS*** in compliance with current FCC MPE limits as described in FCC OET-65.

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APPENDIX 1 Site Photos

Aerial View of Site

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Appendix 2 Antenna Inventory

10027 Salem CT

Antenna Inventory

Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azmiuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
1	AT&T	CCI	DMP65R-BU8DA	700/800	015	36020.00	187.0
2	AT&T	CCI	DMP65R-BU6DA	700/800	145	36020.00	187.0
3	AT&T	CCI	DMP65R-BU6DA	700/800	264	36020.00	187.0
4	AT&T	CCI	DMP65R-BU8DA	700/800	015	36020.00	187.0
5	AT&T	CCI	DMP65R-BU6DA	700/800	145	36020.00	187.0
6	AT&T	CCI	DMP65R-BU6DA	700/800	264	36020.00	187.0
7	AT&T	Powerwave	7770	800/1900	015	26508.00	187.0
8	AT&T	Powerwave	7770	800/1900	145	26508.00	187.0
9	AT&T	Powerwave	7770	800/1900	264	26508.00	187.0
10	T-Mobile	JMA	APX16DWV	700/2100	060	25301.00	175.0
11	T-Mobile	JMA	APX16DWV	700/2100	180	25301.00	175.0
12	T-Mobile	JMA	APX16DWV	700/2100	300	25301.00	175.0
13	T-Mobile	JMA	APXVAALL24	600	060	11065.00	175.0
14	T-Mobile	JMA	APXVAALL24	600	180	11065.00	175.0
15	T-Mobile	JMA	APXVAALL24	600	300	11065.00	175.0
16	Verizon	Samsung	MT6407-77A	3700-3900	030	18286.00	164.0
17	Verizon	Samsung	MT6407-77A	3700-3900	150	18286.00	164.0
18	Verizon	Samsung	MT6407-77A	3700-3900	270	18286.00	164.0
19	Verizon	Commscope	NHH-65B-R2B	700/800/1700/1900/2100	100	38301.00	164.0
20	Verizon	Commscope	NHH-65B-R2B	700/800/1700/1900/2100	220	38301.00	164.0
21	Verizon	Commscope	NHH-65B-R2B	700/800/1700/1900/2100	330	38301.00	164.0
22	Verizon	Commscope	NHH-65B-R2B	700/800/1700/1900/2100	100	38301.00	118.0
23	Verizon	Commscope	NHH-65B-R2B	700/800/1700/1900/2100	220	38301.00	164.0
24	Verizon	Commscope	NHH-65B-R2B	700/800/1700/1900/2100	330	38301.00	164.0

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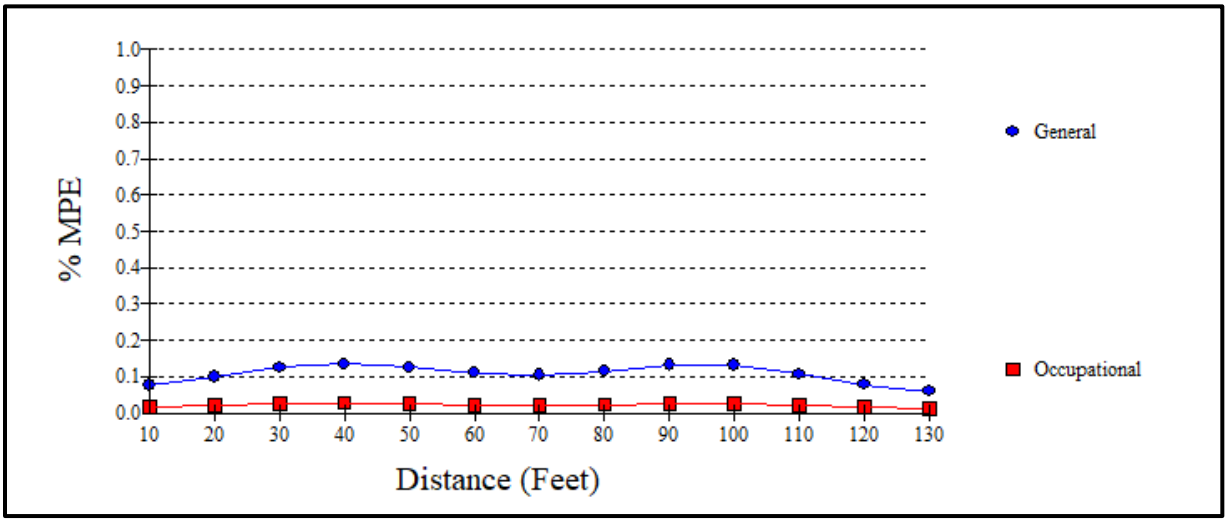
Appendix 3.1 MPE Limit Study



Maximum Power Density (@100'):	0.0008 mW/cm²
General Population MPE (@100'):	0.1316%
Occupational MPE (@100'):	0.0263%

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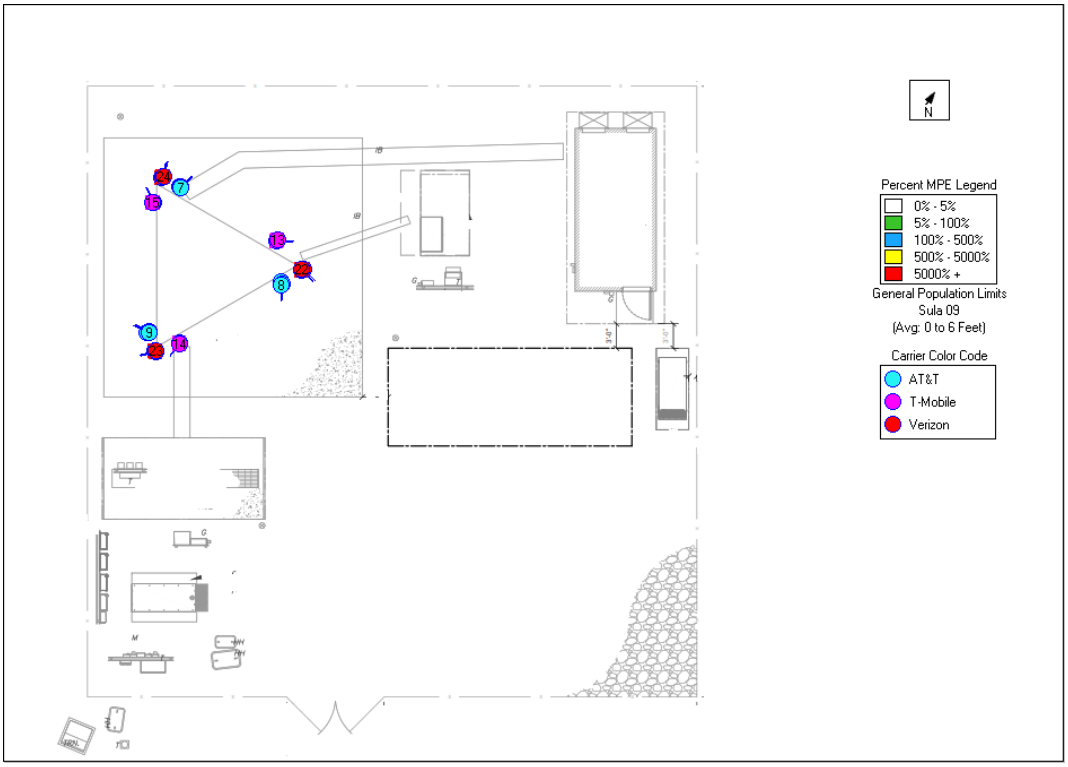
Appendix 3.2 MPE Limit Study



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Appendix 4 Information Pertaining to MPE Studies

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.

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MPE limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm^2), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). The far-field of a transmitting antenna is where the electric field vector (E), the magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area. Additional details can be found in FCC OET 65.

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Appendix 5 MPE Standards Methodology

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure, and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.

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The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)**
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	$900/F^2$	6
30 - 300	61.4	0.163	1.0	6
300 - 1500	--	--	f/300	6
1500 - 100,000	--	--	5	6

f = frequency

* = Plane-wave equivalent power density

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Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)**
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	$180/F^2$	30
30 -300	27.5	0.073	0.2	30
300 -1500	--	--	f/1500	30
1500 -100,000	--	--	1.0	30

f = frequency

* = Plane-wave equivalent power density

General population/uncontrolled exposures apply in situations in which the general public may be exposed or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.

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The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex, and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still has a curvature, but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65.

Cylindrical Model (Near Field Predictions)

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\pi RL$$

Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

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For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \pi RL$$

Where:

S = Power Density

θ_{BW} = Beam width of antenna in degrees (3 dB half-power point)

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.

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Spherical Model (Far Field Predictions)

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered, and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

EXHIBIT 6

Approved As Amended 8/17/99 DVP

file

SALEM PLANNING AND ZONING COMMISSION

~~June~~ July 27, 1999

UNAPPROVED

RECEIVED
JUL 28 2 43 PM '99
TOWN OF SALEM

Present: Balavender, G.
Baran, W., Alt.
Duncan, J.
Jensen, M.
Mullin, M., Alt.
Samokar, H. – Town Planner
Thill, T., Alt.

Absent: Burnett, D.
Mullin, D.
Stevens, L.
Vacancy

Guests: See attached.

CALL TO ORDER:

M. Jensen, chairman, called the meeting to order at 7:35 pm.

The chairman seated M. Mullin in the Vacancy, T. Thill for L. Stevens and W. Baran for D. Burnett.

PUBLIC HEARINGS:

None Scheduled.

ENFORCEMENT OFFICER'S REPORT: N/A

INLAND WETLANDS AND CONSERVATION COMMISSION REPORT: N/A

APPROVAL OF MINUTES OF PREVIOUS MEETINGS:

1. July 13, 1999 – Special Meeting Workshop (tabled 7/20/97)

M/S/C (Baran/Balavender) to approve the minutes of the July 13, 1999, Salem Planning and Zoning Commission Special Meeting Workshop as presented. Vote: For approval – Balavender, Baran, Duncan and Thill. For denial – no one. Abstaining – Jensen and Mullin, M.
MOTION CARRIED.

PETITIONERS:

There were no PETITIONERS.

OLD BUSINESS:

1. **Possible action on Public Hearing closed 7/20/99 – American Tower Corp. – Special Exception application for the construction of a telecommunications tower on East Haddam Road (Map #5; Lot #16A)**

H. Samokar, Town Planner, review:
Submitted and read memo of 7/27/99 (see attached).
Commission discussion:
Voting requirements; bonding; easements.

M/S/W (Baran/Thill) to approve the Special Exception application and site plan of American Tower Corp. for the construction of a telecommunications tower on East Haddam Road (Map #5; Lot #16A) subject to the following conditions:

1) The applicant must submit the cash removal bond ($25,000) before a zoning or building permit is issued.
2) The applicant must submit the signed access and drainage easements, to be approved by the Commission's attorney, prior to the issuance of the zoning or building permit.

MOTION WITHDRAWN.

Lengthy discussion regarding the two conditions stated in the withdrawn motion stated above:
Should they be completed before Commission approval or stated as conditions on the approval?
After discussion the following action was taken:

M/S/C (Balavender/Baran) to approve the Special Exception application and site plan of American Tower Corp. for the construction of a telecommunications tower on East Haddam Road (Map #5; lot #16A) subject to the following conditions:

1) The applicant must submit the removal bond ($25,000) before a zoning or building permit is issued.
2) The applicant must submit the signed access and drainage easements prior to the issuance of the zoning or building permit.

Vote: For approval – Balavender, Baran, Duncan and Thill. For denial – no one. Abstaining – Jensen and Mullin, M. due to the fact that neither was present at the public hearing or has reviewed the tapes.
MOTION CARRIED.

The Town Planner will investigate the following for discussion at the 8/17/99 PZC Regular Meeting:

- Recovery of PZC expenses for engineering and legal fees on applications.

Town of Salem

Building Department

Certificate of Occupancy

This is to certify that the structure at: 153 East Haddam Road (Existing Tower)

constructed as Antenna(s) & Equipment Building

under Building Permit No. B2004-078 conforms substantially to the requirements of the Building Code Ordinances and Zoning Regulations as adopted by the Town of Salem and the State of Connecticut and is hereby approved for use and occupancy under Use Group B of the 1996 BOCA Building Code of Connecticut.

Type Construction:

Owner: American Tower Corp.

116 Hungtington Avenue

Boston, MA 02116

Special Conditions: none

Building Official Signature

Date 8/10/04

EXHIBIT 7

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Delivery Time: 11:53 AM
Signed by: DONNA

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Ship To:	AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 018011053 US
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UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	14430730

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UPS <pkginfo@ups.com>
Wed 1/31/2024 11:21 AM
To:Barbara Kassabian <BKASSABIAN@CLINELLC.COM>

Hello, your package has been delivered.

Delivery Date: Wednesday, 01/31/2024
Delivery Time: 11:18 AM
Signed by: BROTHERS

CENTERLINE SITE ACQUISITION

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Ship To:	ED CHMIELEWSKI FIRST SELECTMAN 270 HARTFORD ROAD SALEM TOWN OFFICE BLDG. SALEM, CT 064203804 US
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UPS <pkginfo@ups.com>

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To:Barbara Kassabian <BKASSABIAN@CLINELLC.COM>

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Delivery Time: 11:18 AM
Signed by: BROTHERS

CENTERLINE SITE ACQUISITION

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EXHIBIT 8

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION FOR PERMITTING

ATC SITE#/NAME/PROJECT: 10027 / SALEM CT / 14430730
SITE ADDRESS: 153 E Haddam Rd, Salem, CT 06420
APN: SALE M:05 B:016 L:A02
LICENSEE: VERIZON WIRELESS d/b/a CELLCO PARTNERSHIP

I, Margaret Robinson, Vice President, UST Legal for American Tower*, owner of the tower facility located at the address identified above (the "Tower Facility"), do hereby authorize VERIZON WIRELESS d/b/a CELLCO PARTNERSHIP, its successors and assigns, and/or its agent, (collectively, the "Licensee") to act as American Tower's non-exclusive agent for the sole purpose of filing and consummating any land-use or building permit application(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation.

I understand that these applications may be approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee's installation and any such conditions of approval or modifications will be Licensee's sole responsibility.

Signature:

Print Name: Margaret Robinson
Vice President, UST Legal
American Tower*

NOTARY BLOCK

Commonwealth of MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal for American Tower*, personally known to me (or proved to me based on satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

WITNESS my hand and official seal, this 25th day of May 2023.

NOTARY SEAL

GERARD T. HEFFRON
Notary Public
Commonwealth of Massachusetts
My Commission Expires
August 9, 2024

Notary Public
My Commission Expires: August 9th, 2024

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.