June 29, 2022

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

Re: Tower Share Application – Dish Site 13726721
Dish Wireless Telecommunications Facility @ 1334 Route 85, Montville, CT 06371

Dear Ms. Bachman,

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing 1030 foot tall monopole tower at 1334 Route 85, Montville, CT 06371 (Latitude: 41.41777222 Longitude: -72.1981) and within an existing equipment shelter. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by the City of New London.

Dish proposes to install a PPC cabinet, an indoor equipment rack, power conduit, telco conduit, a telco fiber box, a GPS unit and if necessary, a Ciena box within an existing equipment shelter, and install three (3) new panel antennas, three (3) antenna mounts, six (6) RRUs, and cables on the existing tower at one hundred eighty (180) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower will remain at 1030 feet and no changes will be made to the compound dimensions.

Note there are two (2) towers on the subject property; Dish proposes collocation on the northern, 1030 foot tall tower, identified as Tower One on the survey submitted as page 2 of the enclosed drawings.

In case number TS-DISH-086-190524, dated July 18, 2019, the CSC approved the Gamma Purchasing LLC's (Dish) request for an order to approve a tower sharing at the telecommunications facility located at 1334 Route 85, Montville, Connecticut. Dish has not constructed anything on the site; and in accordance with condition of approval number 6, the approval expired after a year.

The tower was approved by the Town of Montville on June 25, 1985, with the approval of Zoning Permit number 85-152 (enclosed).

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish's intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner; the City of New London as Property Owner; the Honorable Ronald K. McDaniel, as Mayor of Montville, and Liz Burdick, the Montville Planning Director.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

1. The proposed modifications will NOT result in an increase in the height of the existing structure.
2. The proposed modifications will NOT require an 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 modified facility will NOT increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Please see the RF emissions calculation for DISH's modified facility enclosed herewith.
5. The proposed modifications will NOT cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis enclosed herewith.

Connecticut General Statute 16-50aa indicates that the Council must approve the shared use of a 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, Dish respectfully indicates that the shared use of this facility satisfies these criteria:

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting Dish's proposed loading (see attached Structural Analysis).

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish to obtain a building permit for the proposed installation. Further, a Letter of Authorization is attached, authorizing Dish to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish equipment at the 79-foot level of the existing 130-foot tower would have an insignificant visual impact on the area around the tower. Dish ground equipment would be installed within the existing facility compound. DISH 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 EME study, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. Dish 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 Dish with this tower sharing application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting the proposed loading. Dish is not aware of any public safety concerns relative to the proposed sharing of the existing tower. Dish'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 the area.

For the foregoing reasons, Dish respectfully requests that the Council approve this request for the shared use of this tower located at 1334 Route 85, Montville, CT 06371.

If you have any questions, please feel free to contact me.

Sincerely,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures:
Exhibit 1 – Letter of Authorization from tower owner
Exhibit 2 – Montville Zoning Permit 85-152
Exhibit 3 – Property Card and GIS
Exhibit 4 – Construction Drawings
Exhibit 5 – Structural Analysis Report
Exhibit 6 – Antenna Mount Analysis Report
Exhibit 7 – EME Study Report
Exhibit 8 – (4) Notice Confirmations

cc: American Tower Corporation - Tower Operator/Owner
City of New London - Property Owner
The Honorable Ronald K. McDaniel - Mayor of Montville
Liz Burdick - Montville Planning Director

APPLICATION FOR A ZONING PERMIT, TOWN OF MONTVILLE, CONNECTICUT

To be filled out by Applicant - 1 original and ~~four~~ five carbon copies

PLEASE USE TYPEWRITER

Date June 25, 1985.

The undersigned hereby applies to the Zoning and Planning Commission for a ~~xxxxxxxxx~~ Special Permit to allow the construction of a 1200 foot in height UHF television transmission tower and a one story building to house and store electronic equipment.

Location of Property Southwest Side Route 85 (Hartford-New London Tpk) Montville, Connecticut

Name of Subdivision Not Applicable Lot No. Not Applicable

Assessor's ~~xxxx~~ map No. 2, Assessor's Parcel No. 3

Name of (Owner) ~~xxxxxx~~ City of New London, Address c/o C. Francis Driscoll, City Manager, Municipal Building, New London, Connecticut 06320

Size of Building in ft.: Front overall 45, Depth overall 20, Area 900 sq. ft.

No. of stories 1 Height in ft. 15, No. of rooms N/A, No. of bedrooms N/A

No. of bathrooms N/A, Zoning District RA-120, Area of Lot 80 AC +~~xxxxx~~t., Lot frontage 3,000 ft.

Lot Width 1200ft., Front Yard Depth 589+ ft. Rear Yard Depth 407+ ft., Side Yard Depth 750+ ft.

Purpose of building and/or use is Transmission Tower for transmission of television programming on UHF Channel 26 together with accessory building to house electronic equipment necessary for the operation of a television transmission facility.

Water Supply to consist of None Sanitary facility to consist of None

, Date of Sanitation Officer approval Not Applicable

Remarks C & S Broadcasting Corporation will lease the subject premises from the City of New London on the basis of a long term lease.

I hereby agree to conform to all requirements of the Laws of the State of Connecticut and the Ordinances and Regulations of the Town of Montville, and to notify the Zoning and Planning Commission of any alteration in the plans for which this permit is being asked. I furthermore agree that the agree that the above described facility is to be located at the proper distance from all street lines as required by the Zoning Regulations or any other applicable local and state ordinances and regulations and it is understood that the facility upon completion will be used in compliance with the Zoning Regulations of the Town of Montville.

I hereby apply for a Certificate of Use and Compliance and special permit for a 1200 foot in height television transmission tower together with an accessory building described in the above application for a permit. It is my understanding that the facility can not be occupied until a Certificate of Use and Compliance has been issued by the Zoning and Planning Commission.

to house and store electronic equipment incidental to the tower.

Signed ~~xxxxxxx~~ (Agent)

Harry B. Heller, Agent for the City of New London and C & S Broadcasting Corporation

Tel. No. 848-1248

Approved by Zoning Agent Michael J. Murphy Date 8/23/85

Zoning Permit No. 85-152 issued.

Disapproved by Date

Reason

3C/10/70

APPLICATION FOR SPECIAL PERMIT

CITY OF NEW LONDON

CONSTRUCTION OF TELEVISION TRANSMISSION TOWER AND ACCESSORY BUILDING

C & S BROADCASTING CORPORATION

UHF CHANNEL 26

ADJOINING LANDOWNERS TO AREA OF PROPOSED SPECIAL PERMIT

NORTH - Other Lands of The City of New London, C/O Mr. Francis C. Driscoll, City Manager, Municipal Building, New London, Connecticut 06320.

EAST - VeraLee Granadas, 221 Butlertown Road, Waterford, Connecticut 06385

Robert I. Welsh and Barbara L. Welsh, 52 Shore Drive, Waterford, Connecticut 06385

SOUTH - MANUEL MISARSKI and SOPHIE MISARSKI, 340 Butlertown Road, Waterford, Connecticut 06385

Robert I. Welsh and Barbara L. Welsh, 52 Shore Drive, Waterford, Connecticut 06385

Robert I. Welsh, Jr. and Barbara L. Welsh, 52 Shore Drive, Waterford, Connecticut 06385

WEST - Richard E. Busha, Jr., Margaret E. Busha and Joann Busha, 1362 Route 85, Oakdale, Connecticut 06370

Paul Kolonicki and Blanche Kolonicki, 1368 Route 85, Oakdale, Connecticut 06370

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION

ATC SITE#/NAME/PROJECT: 302532 / HARTFORD - NYC / 13726721
SITE ADDRESS: 1334 Route 85, Montville CT 06371
APN:
LICENSEE: DISH WIRELESS L.L.C.DBA DISH WIRELESS L.L.C.

I, Margaret Robinson, Vice President, UST Legal for American Tower*, owner/operator of the tower facility located at the address identified above (the "Tower Facility"), do hereby authorize **DISH WIRELESS L.L.C.DBA DISH WIRELESS L.L.C. Centerline Communications** their successors and assigns, and/or their agent, (collectively, the "Licensee") to act as American Tower's non-exclusive agent for the sole purpose of filing and consummating any land-use, building, or electrical permit application(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation on the Tower Facility.

American Tower understands that this application may be denied, modified or 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, Senior Counsel for American Tower*, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

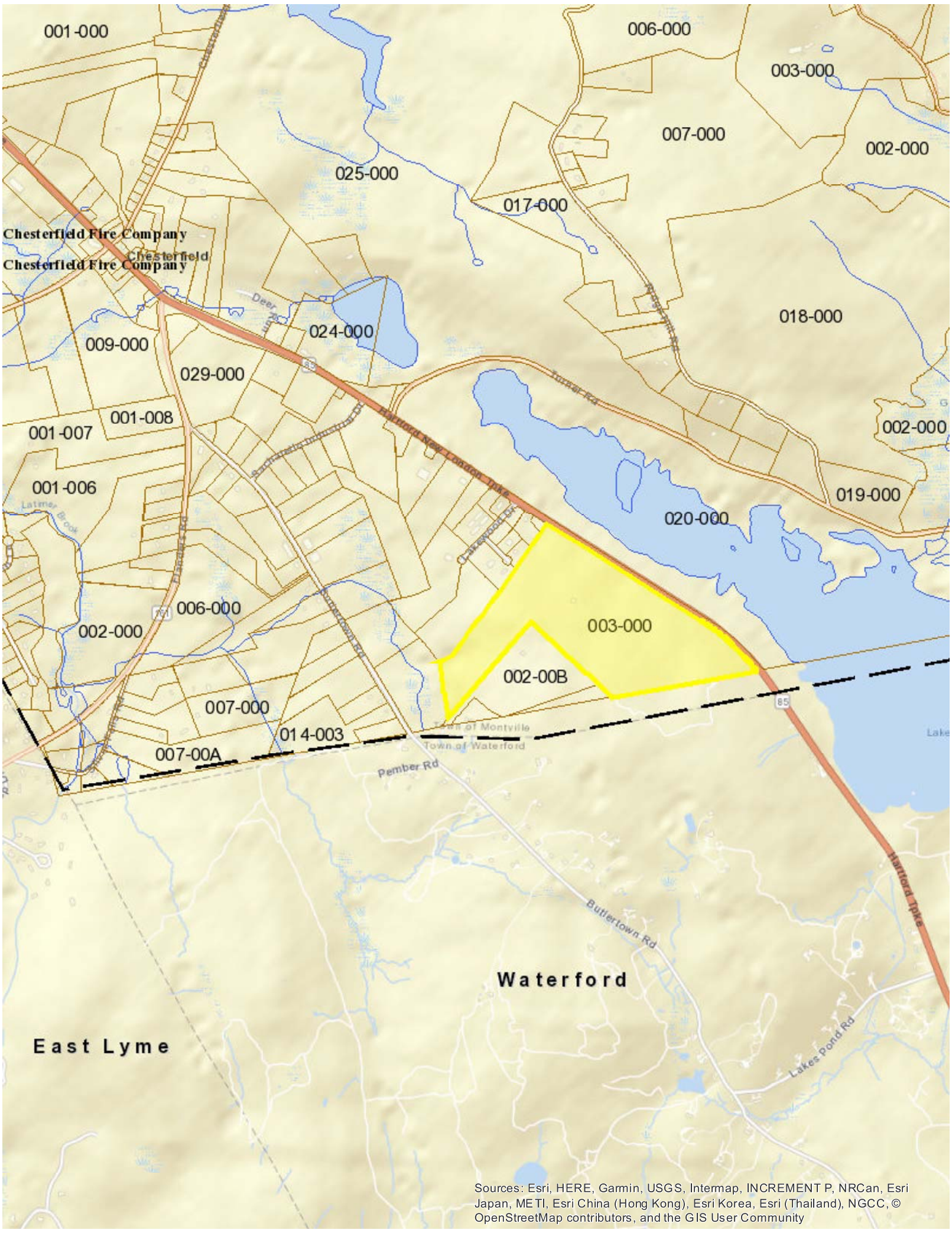
WITNESS my hand and official seal, this 21st day of June 2022

NOTARY SEAL

MELISSA ANN METZLER
Notary Public
Commonwealth of Massachusetts
My Commission Expires March 14, 2025

Notary Public
My Commission Expires: March 14, 2025

* American Tower is defined as American Tower Corporation and any of its affiliates or subsidiaries.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014-003
007-00A
Pember Rd
Town of Montville
Town of Waterford
Buttertown Rd
Hartford Turnpike
Lakes Pond Rd
Waterford
East Lyme
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2016.

Information on the Property Records for the Municipality of Montville was last updated on 3/6/2019.

Property Summary Information

Parcel Data And Values | Sales

Parcel Information

Location:	1334 ROUTE 85	Property Use:	Vacant Land	Primary Use:	Residential
Unique ID:	Z0477310	Map Block Lot:	002/003/000	Acres:	78.70
490 Acres:	75.03	Zone:	R80	Volume / Page:	0001/0001
Developers Map / Lot:		Census:	695202		

Value Information

	Appraised Value	Assessed Value
Land	111,070	77,750
Buildings	0	0
Detached Outbuildings	0	0
Total	111,070	77,750

Owner's Information

Owner's Data
NEW LONDON CITY OF WATER DEPT 120 BROAD ST NEW LONDON, CT 06320

Back To Search (JavaScript:window.history.back(1);)

Print View (PrintPage.aspx?towncode=086&uniqueid=Z0477310)

Information Published With Permission From The Assessor

EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

Dish Wireless Existing Facility

Site ID: BOBOS00022A

BOBOS00022A
1337 Route 85
Montville, Connecticut 06370

April 19, 2022

EBI Project Number: 6222002453

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**4.66%**

April 19, 2022

Dish Wireless

Emissions Analysis for Site: BOBOS00022A - BOBOS00022A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **1337 Route 85** in **Montville, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population 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 population 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.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless Wireless antenna facility located at 1337 Route 85 in Montville, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Dish Wireless is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 4 n71 channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 4 n70 channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) 4 n66 channels (AWS Band - 2190 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

5) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative

estimate as gain reductions for these particular antennas are typically much higher in this direction.

6) The antennas used in this modeling are the Commscope FFVV-65B-R2 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the Commscope FFVV-65B-R2 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the Commscope FFVV-65B-R2 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antenna mounting height centerline of the proposed antennas is 180 feet above ground level (AGL).

8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

9) All calculations were done with respect to uncontrolled / general population threshold limits.

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Commscope FFVV-65B-R2	Make / Model:	Commscope FFVV-65B-R2	Make / Model:	Commscope FFVV-65B-R2
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.55 dBd / 22.05 dBd / 22.05 dBd	Gain:	17.55 dBd / 22.05 dBd / 22.05 dBd	Gain:	17.55 dBd / 22.05 dBd / 22.05 dBd
Height (AGL):	180 feet	Height (AGL):	180 feet	Height (AGL):	180 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	4,956.89	ERP (W):	4,956.89	ERP (W):	4,956.89
Antenna A1 MPE %:	**0.75%**	Antenna B1 MPE %:	**0.75%**	Antenna C1 MPE %:	**0.75%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	0.75%
AT&T	3.42%
Other (Field Measurements)	0.49%
Site Total MPE % :	4.66%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	0.75%
Dish Wireless Sector B Total:	0.75%
Dish Wireless Sector C Total:	0.75%
Dish Wireless Sector D Total:	0.00%
Site Total MPE % :	4.66%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	226.27	180.0	1.07	600 MHz n71	400	0.27%
Dish Wireless 1900 MHz n70	4	506.48	180.0	2.41	1900 MHz n70	1000	0.24%
Dish Wireless 2190 MHz n66	4	506.48	180.0	2.41	2190 MHz n66	1000	0.24%
						Total:	**0.75%**

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the Dish Wireless facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Dish Wireless Sector	Power Density Value (%)
Sector A:	0.75%
Sector B:	0.75%
Sector C:	0.75%
Dish Wireless Maximum MPE % (Sector A):	0.75%
Site Total:	4.66%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **4.66%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

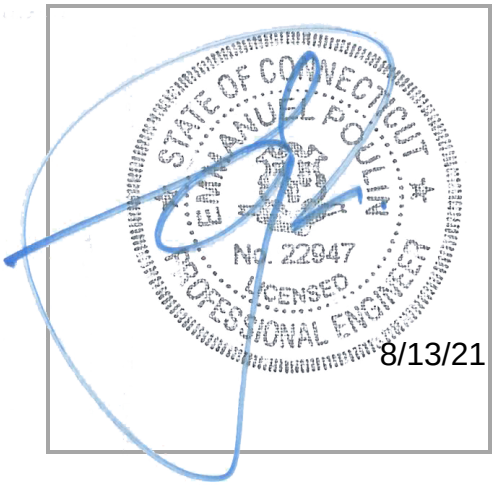
FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

MOUNT ANALYSIS REPORT

August 13, 2021

Dish Wireless Site Name	BOBOS00022A
Dish Wireless Site Number	BOBOS00022A
ATC Site Name	Hartford – NYC, CT
ATC Site Number	302532
Infinigy Job Number	1197-F0001-C
Client	ATC
Carrier	Dish Wireless
Site Location	1337 Route 85 Oakdale, CT 06370 New London County 41.417772 N NAD83 72.19810 W NAD83
Mount Type	8.0 ft Sector Frames
Mount Elevation	179.0 ft AGL
Structural Usage Ratio	**43.4**
Overall Result	**Pass**

The enclosed mount structural analysis has been performed in accordance with the 2018 Connecticut State Building Code (2015 IBC) based on an ultimate 3-second gust wind speed of 135 mph. The evaluation criteria and applicable codes are presented in the next section of this report.



CONTENTS

1. INTRODUCTION

Infinigy performed a structural analysis on the Dish Wireless proposed telecommunication equipment supporting Sector Frames mounted to the existing structure located at the aforementioned address. All referenced supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using Risa-3D version 17.0.4 analysis software.

2. DESIGN/ANALYSIS PARAMETERS

Wind Speed	135 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1.5" ice
Code / Standard	TIA-222-H
Adopted Code	2018 Connecticut State Building Code (2015 IBC)
Risk Category	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft.
Seismic Spectral Response	S_s = 0.166 g / S_1 = 0.059 g
Live Load Wind Speed	60 mph
Man Live Load at Mid/End Points	250 lbs
Man Live Load at Mount Pipes	500 lbs

3. PROPOSED LOADING CONFIGURATION - 179.0 ft. AGL Sector Frames

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
179.0	3	JMA WIRELESS	MX08FRO665-21
	3	FUJITSU	TA08025-B605
	3	FUJITSU	TA08025-B604
	1	RAYCAP	RDIDC-9181-PF-48

4. SUPPORTING DOCUMENTATION

Proposed Loading	Dish Wireless Asset ID CT-ATC-T-302532 Rev 3, Site #BOBOS00022A, dated April 27, 2021
Mount Manufacturer Drawings	Commscope Document # MTC3975083, dated March 17, 2021
Structural Analysis Report	American Tower Corporation, Site #302532, dated April 21, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	28.7%	Pass
Horizontals	16.6%	Pass
Standoffs	43.4%	Pass
Connections	14.7%	Pass
MOUNT RATING =	**43.4 %**	**Pass**

Notes:
1. See additional documentation in Appendix for calculations supporting the capacity consumed and detailed mount connection calculations.

6. RECOMMENDATIONS

Infinigy recommends installing Dish Wireless's proposed equipment loading configuration on the mount at 179.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

Pradin Suinyal Magar
Project Engineer II | **INFINIGY**

7. ASSUMPTIONS

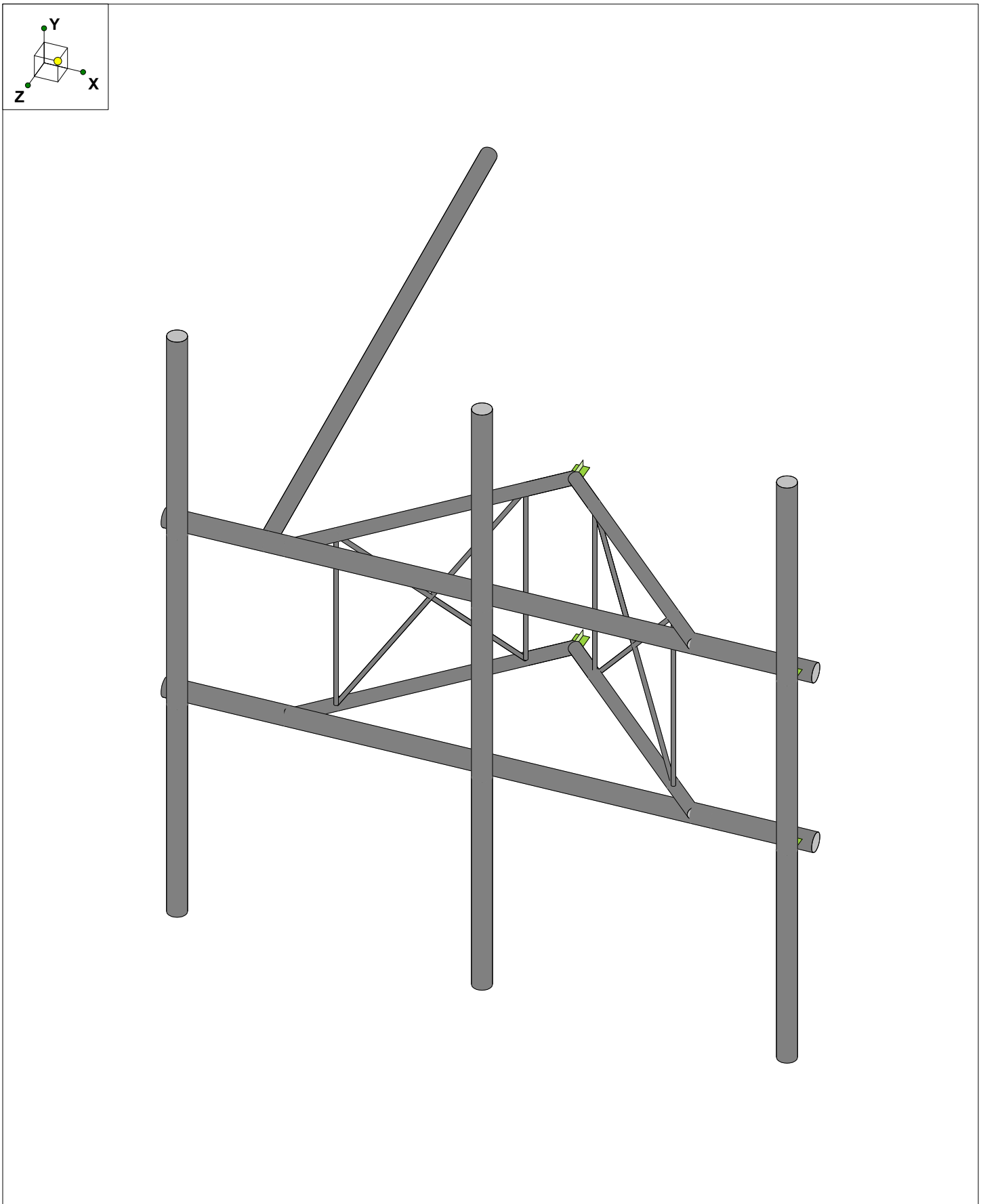
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.
All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
The analysis will require revisions if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
Steel grades have been assumed as follows, unless noted otherwise: Channel, Plate, Built-up Angle — ASTM A1011 36 KSI Solid Round — ASTM A529 Gr 50 Structural Angle — ASTM A529 Gr. 50 HSS (Rectangular) — ASTM A500-B GR 46 HSS (Circular) — ASTM A500-B GR 42 Pipe — ASTM A500 Gr 46 Connection Bolts — ASTM A449 U-Bolts — ASTM A307
All bolted connections are pretensioned in accordance with Table 8.2 of the RCSC 2014 Standard

8. LIABILITY WAIVER AND LIMITATIONS

Our structural calculations are completed assuming all information provided to Infinigy is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition as erected and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report, Infinigy should be notified immediately to assess the impact on the results of this report.

Our evaluation is completed using industry standard methods and procedures. The structural results, conclusions and recommendations contained in this report are proprietary and should not be used by others as their own. Infinigy is not responsible for decisions made by others that are or are not based on the stated assumptions and conclusions in this report.

This report is an evaluation of the mount structure only and does not determine the adequacy of the supporting structure, other carrier mounts or cable mounting attachments. The analysis of these elements is outside the scope of this analysis, are assumed to be adequate for the purpose of this report and to have been installed per their manufacturer requirements. This document is not for construction purposes.



Infinigy Engineering, PLLC	BOBOS00022A	Rendered
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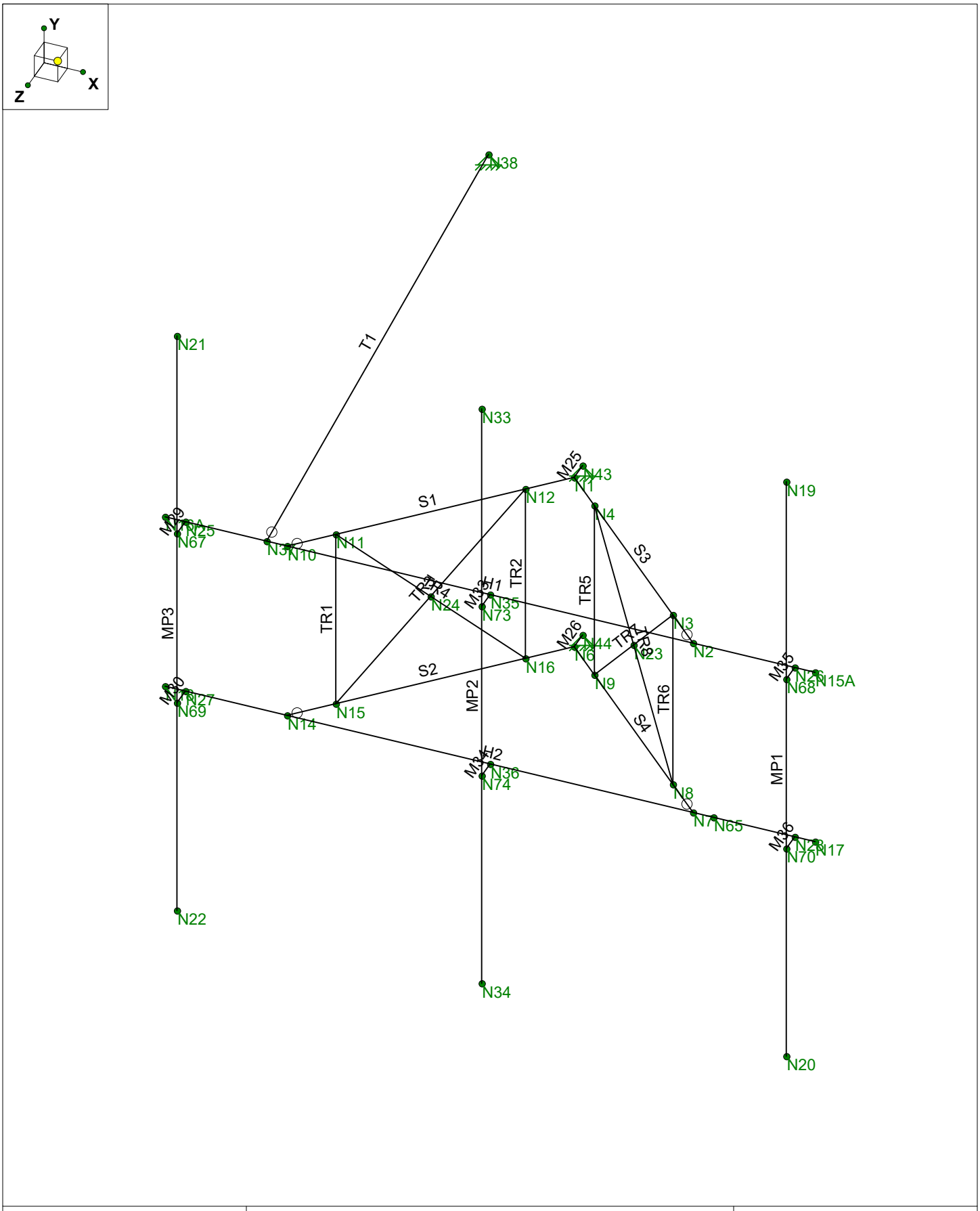

Infinigy Engineering, PLLC	BOBOS00022A	WireFrame
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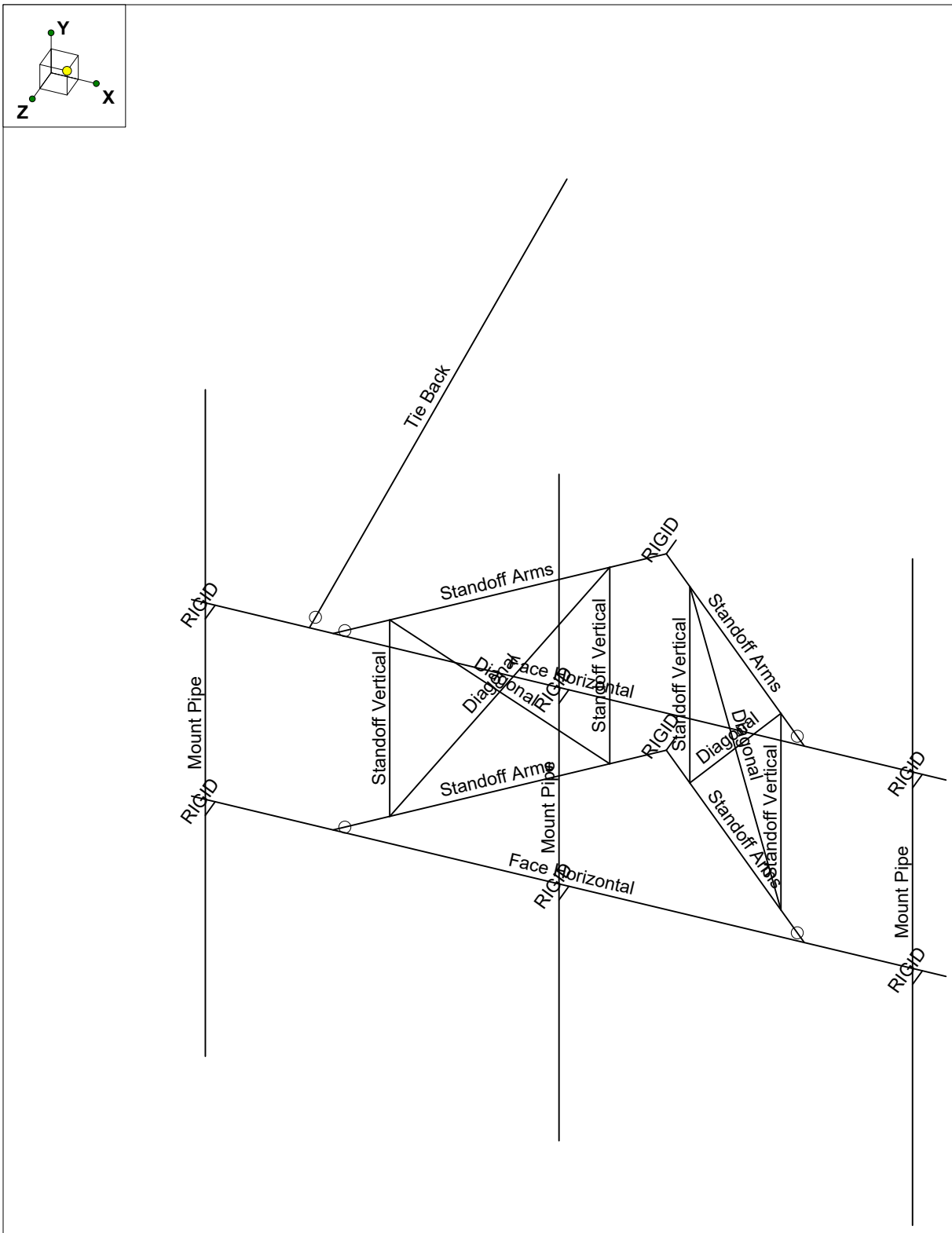
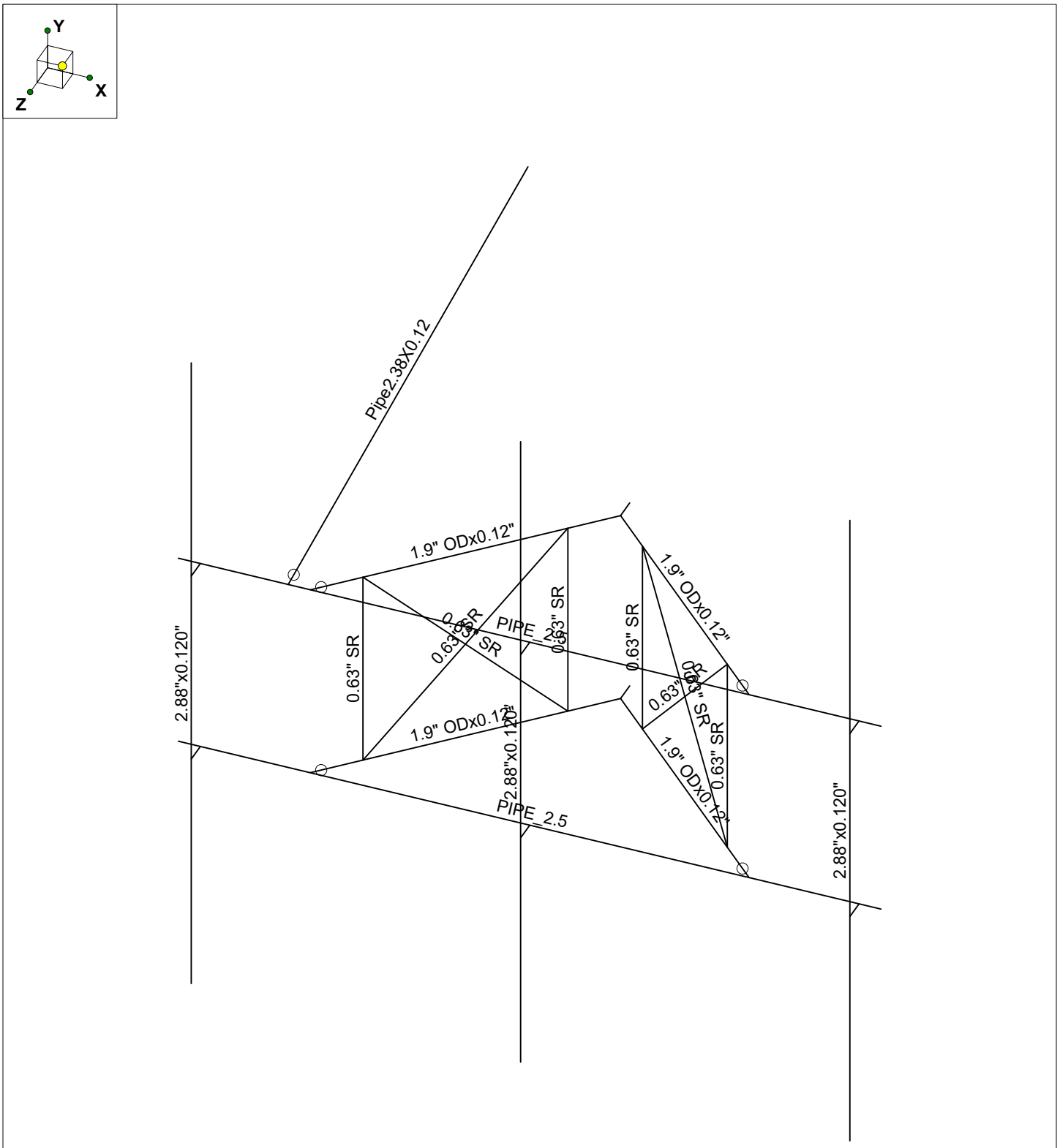


Infinigy Engineering, PLLC	BOBOS00022A	Section Sets
PSM		Aug 13, 2021 at 11:28 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



Infinigy Engineering, PLLC	BOBOS00022A	Member Shapes
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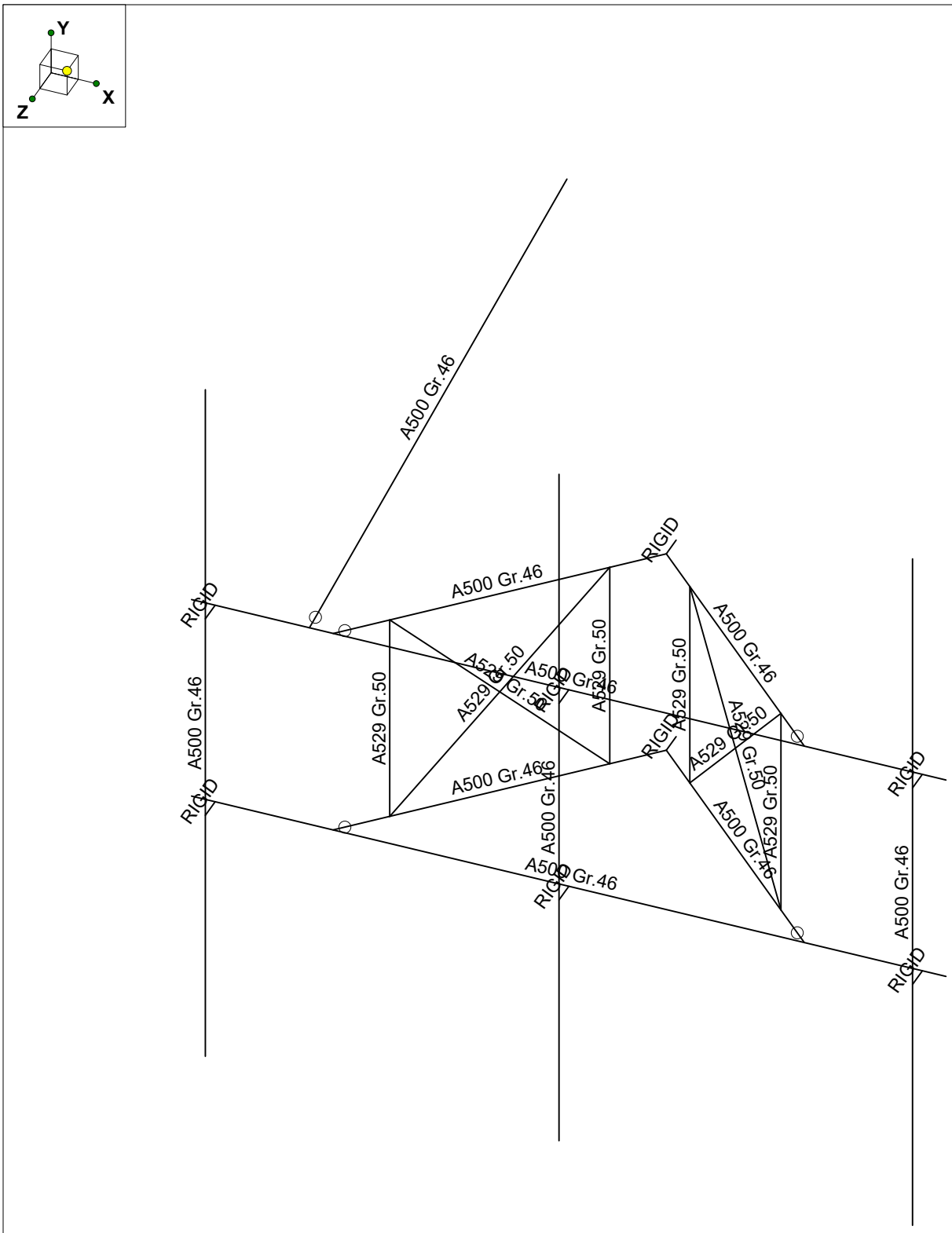
1197-F0001-C		BOBOS00022A_loaded.r3d



Infinigy Engineering, PLLC	BOBOS00022A	Material Sets
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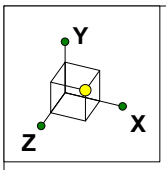
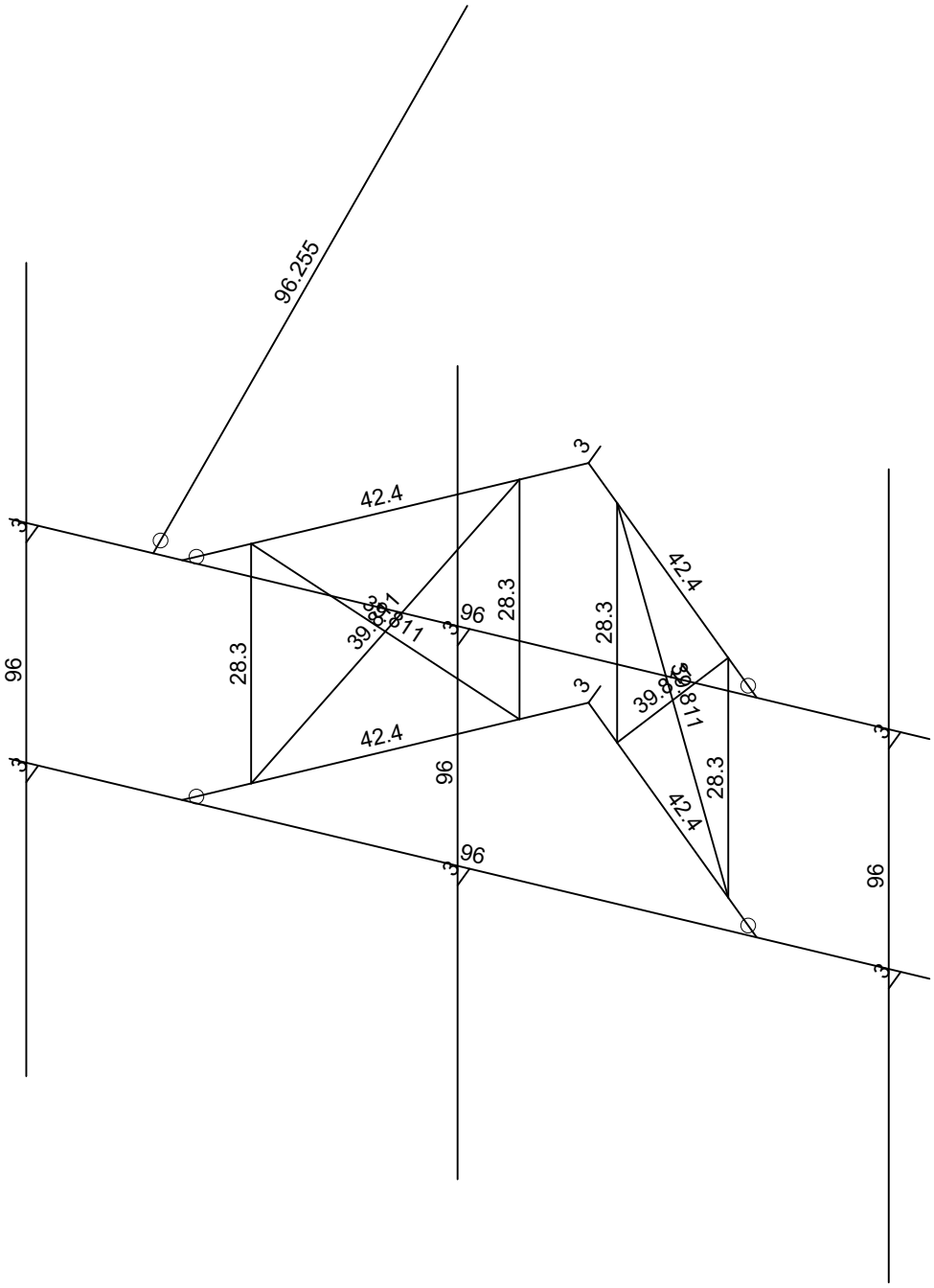
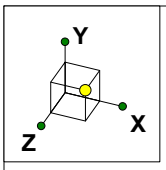
1197-F0001-C		BOBOS00022A_loaded.r3d

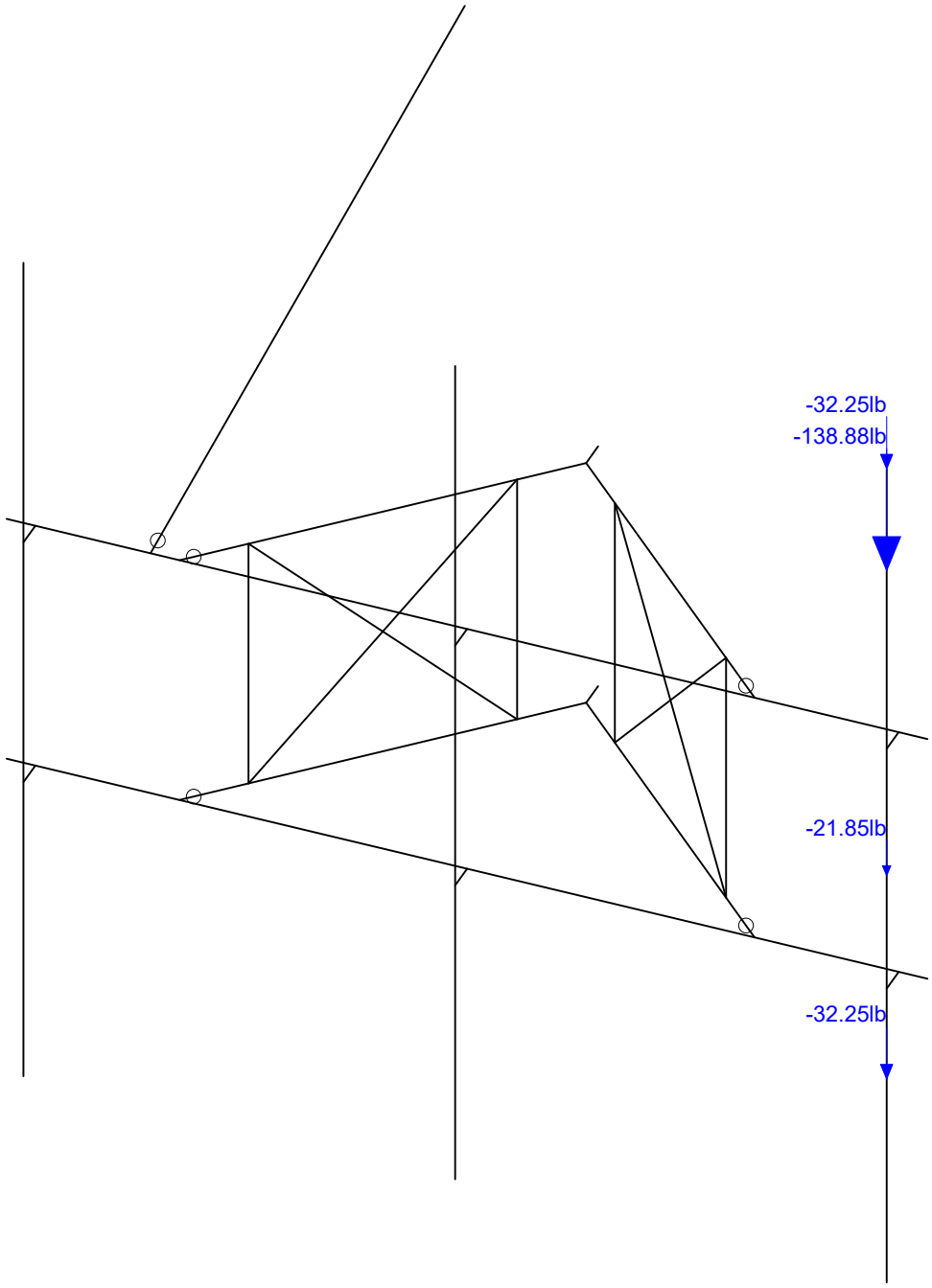




Member Length (in) Displayed

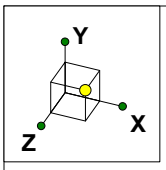
Infinigy Engineering, PLLC	BOBOS00022A	Member Lengths
PSM		Aug 13, 2021 at 11:29 AM
1197-F0001-C		BOBOS00022A_loaded.r3d

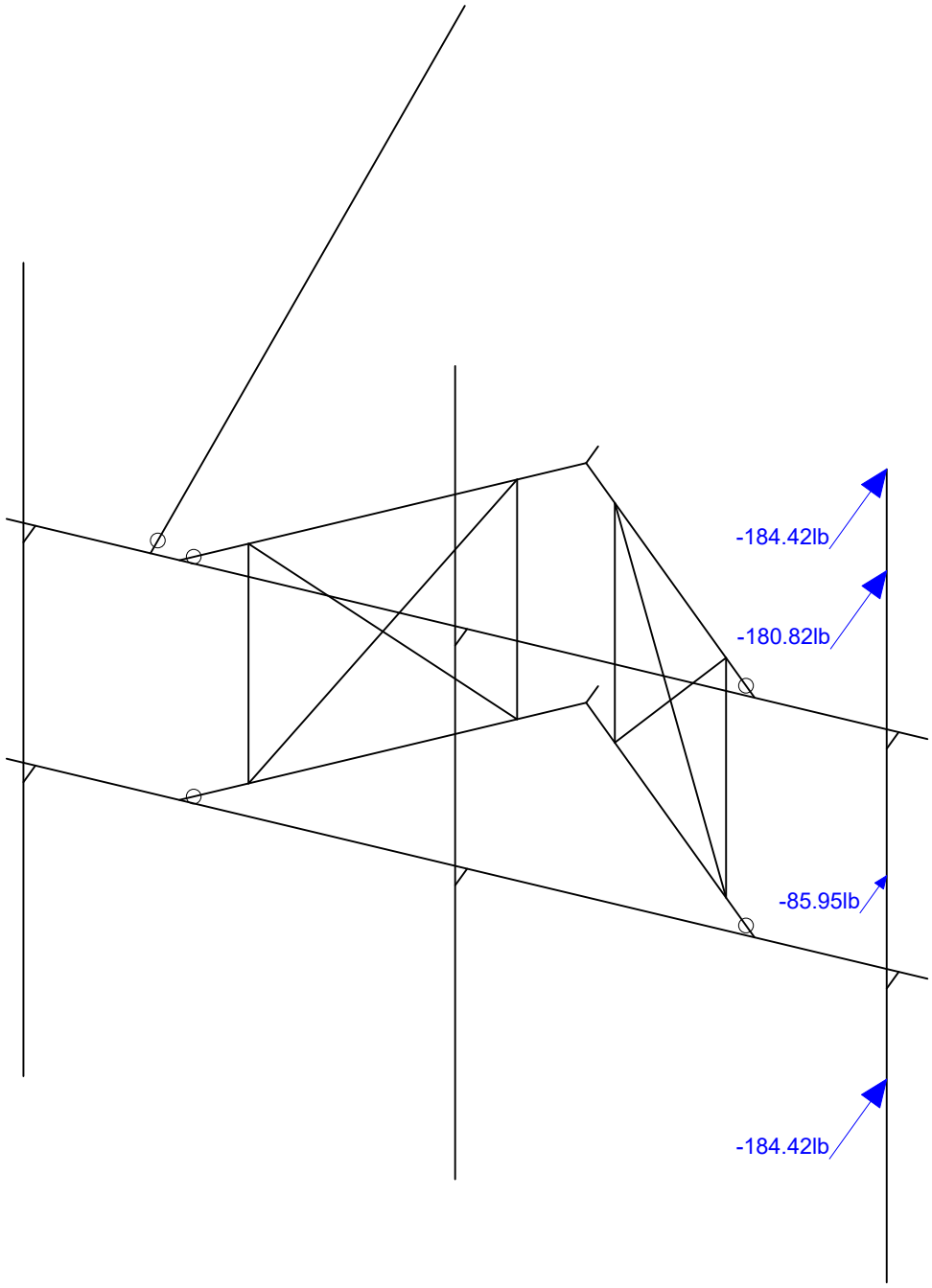




Loads: BLC 1, Self Weight

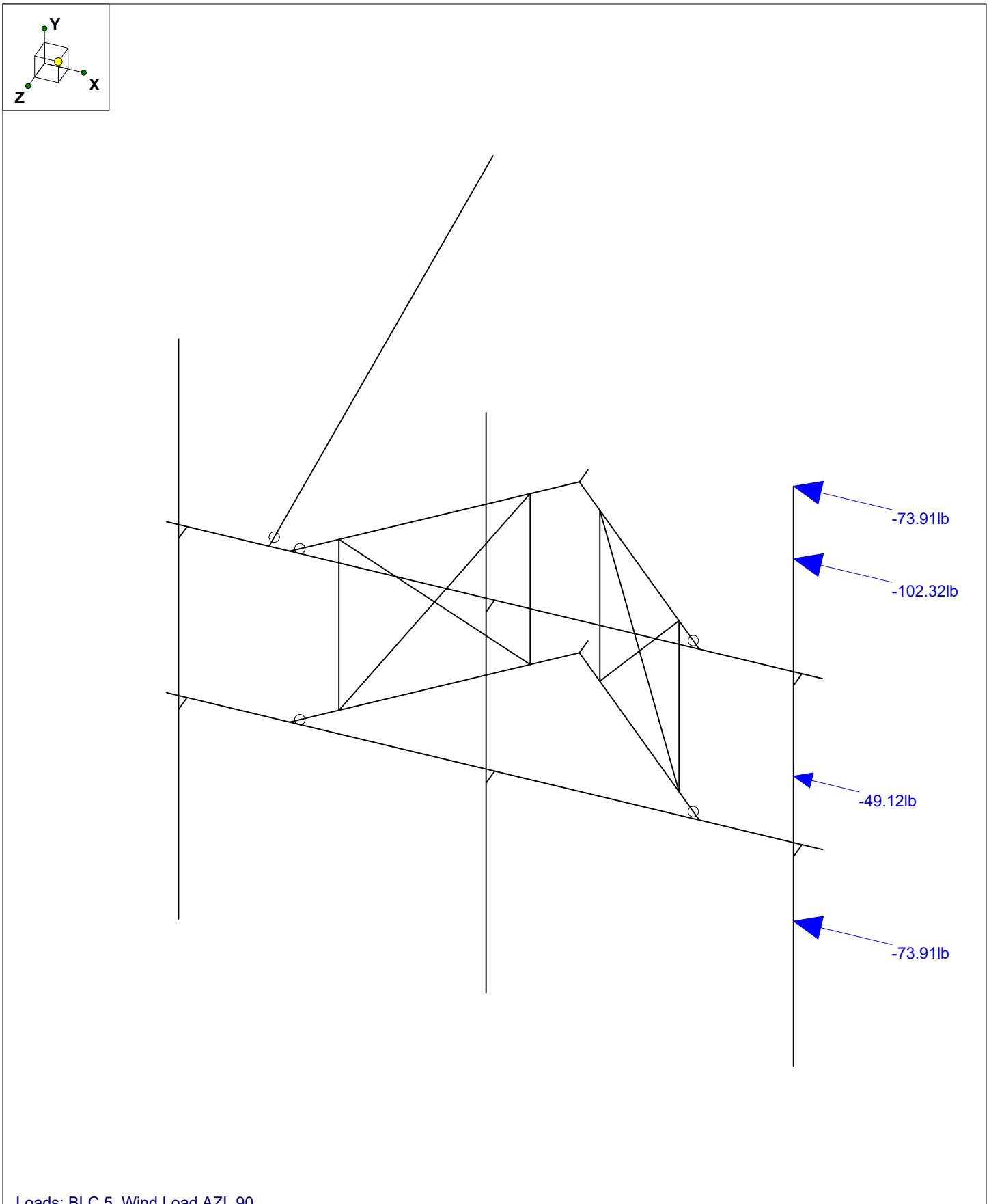
Infinigy Engineering, PLLC	BOBOS00022A	Self- Weight
PSM		Aug 13, 2021 at 11:29 AM
1197-F0001-C		BOBOS00022A_loaded.r3d





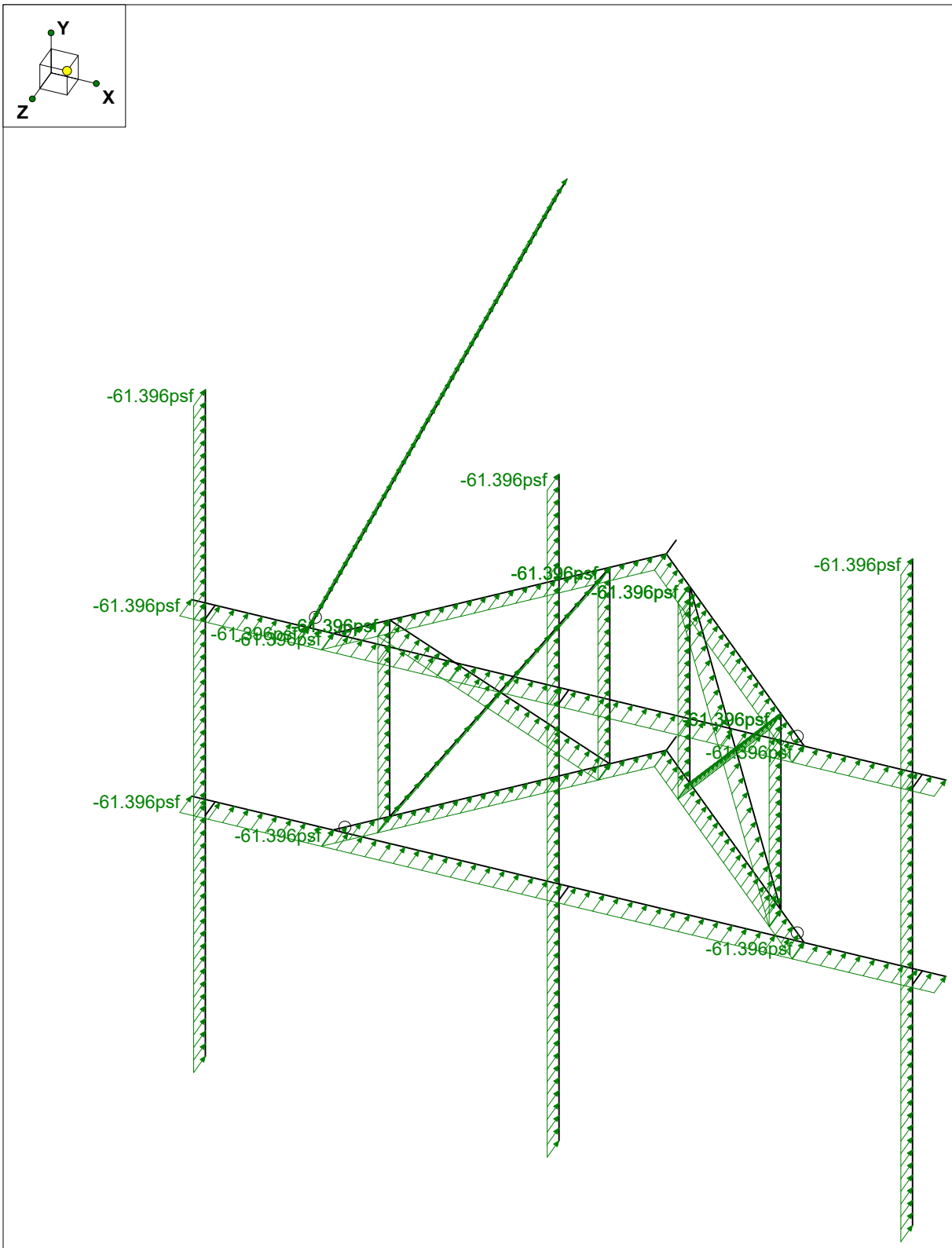
Loads: BLC 2, Wind Load AZI 0

Infinigy Engineering, PLLC	BOBOS00022A	Wind Load AZI 000
PSM		Aug 13, 2021 at 11:30 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



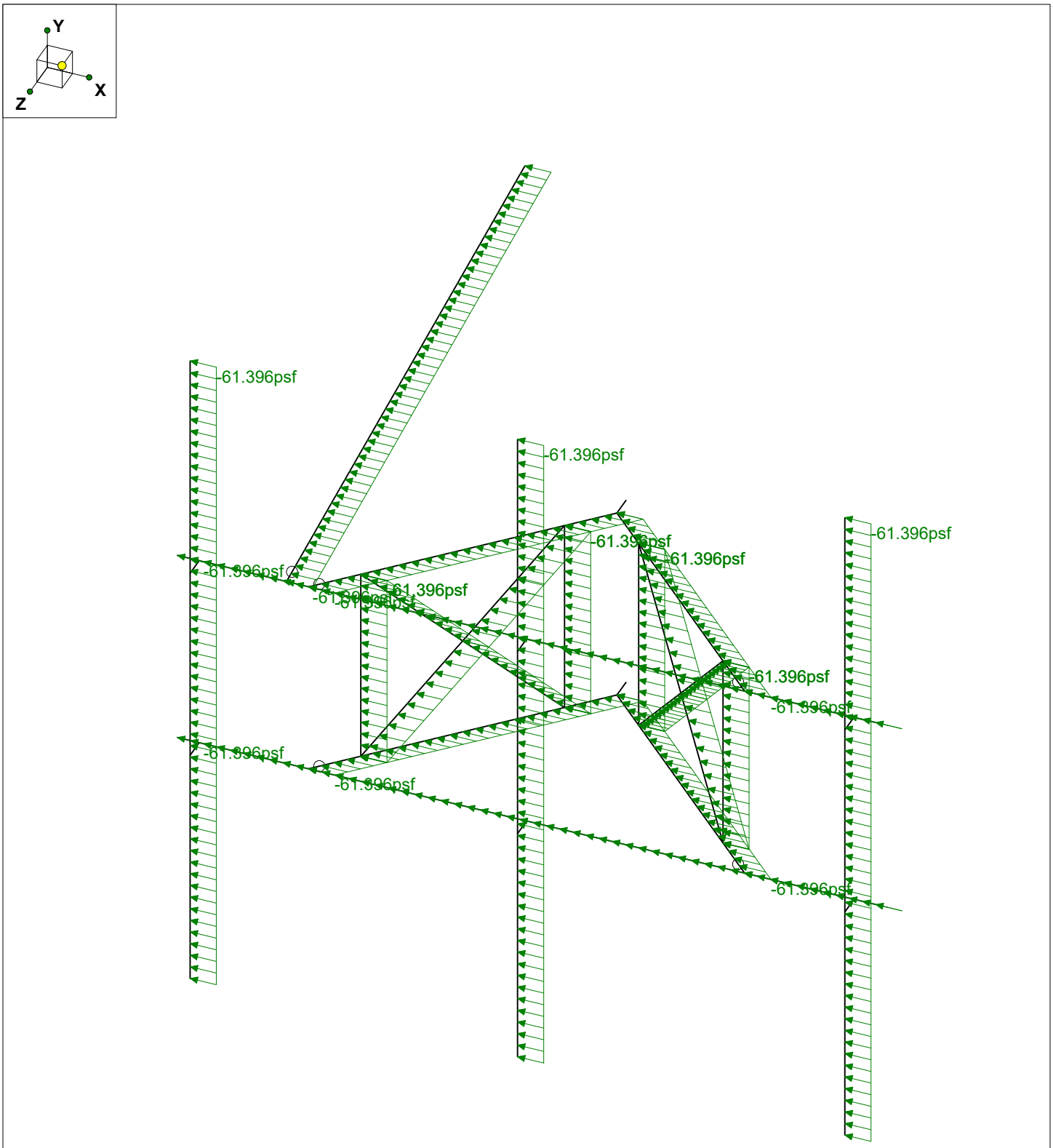
Loads: BLC 5, Wind Load AZI 90

Infinigy Engineering, PLLC	BOBOS00022A	Wind Load AZI 090
PSM		Aug 13, 2021 at 11:30 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



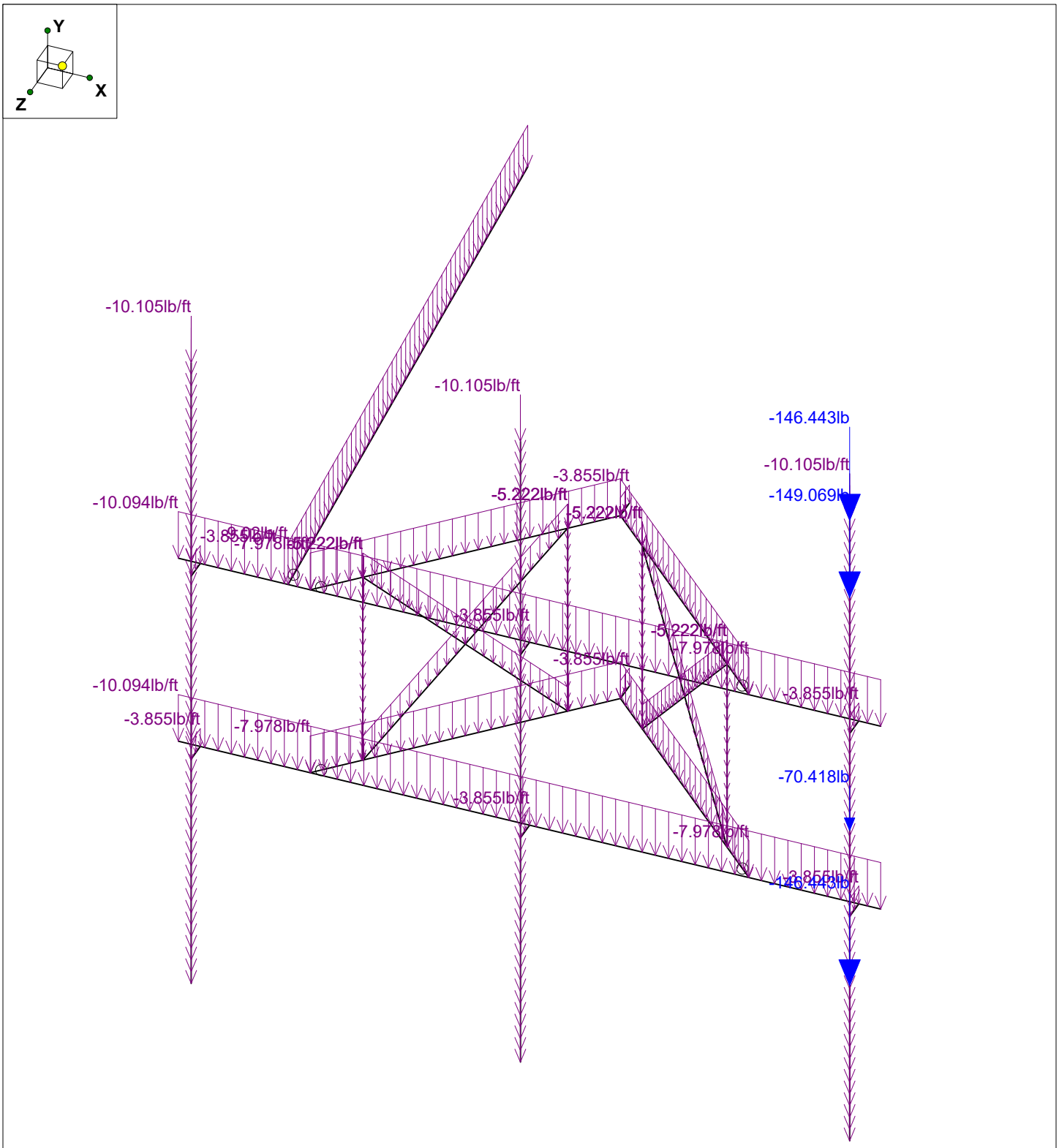
Loads: BLC 14, Distr. Wind Load Z

Infinigy Engineering, PLLC	BOBOS00022A	Distr Wind Load AZI 000
PSM		Aug 13, 2021 at 11:30 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



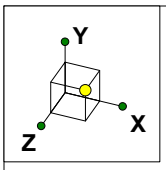
Loads: BLC 15, Distr. Wind Load X

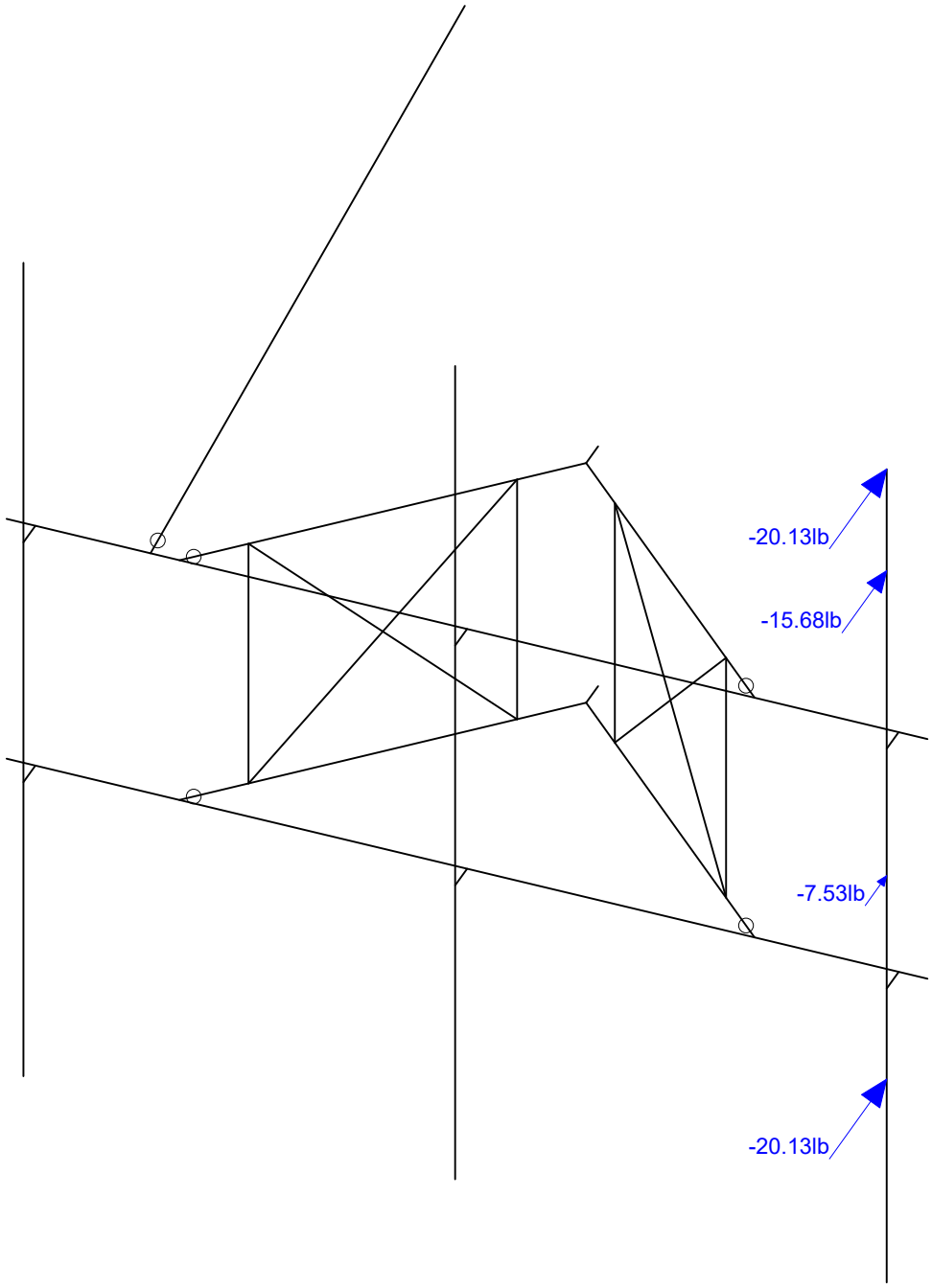
Infinigy Engineering, PLLC	BOBOS00022A	Distr Wind Load AZI 090
PSM		Aug 13, 2021 at 11:31 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



Loads: BLC 16, Ice Weight

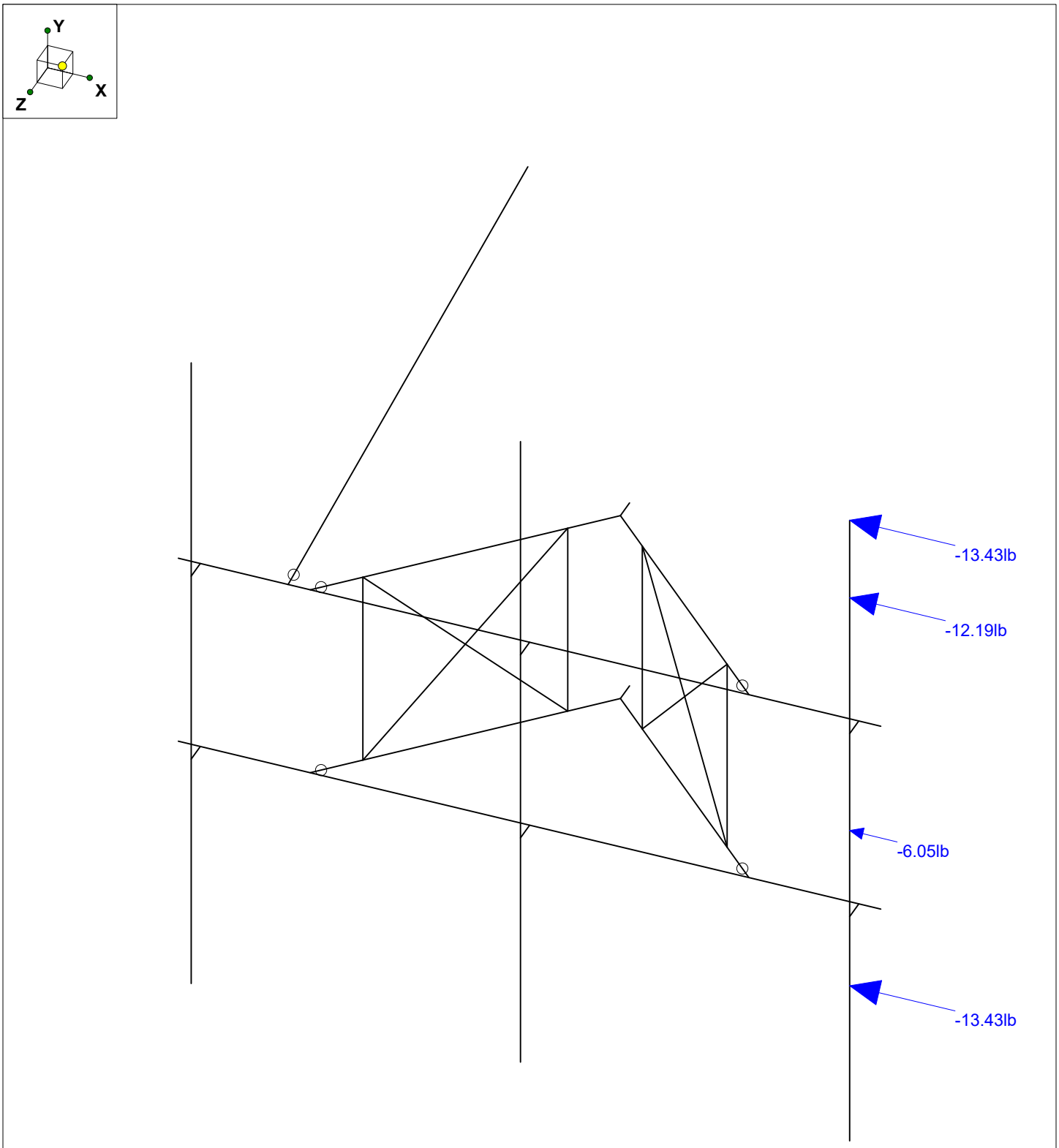
Infinigy Engineering, PLLC	BOBOS00022A	Ice Weight
PSM		Aug 13, 2021 at 11:31 AM
1197-F0001-C		BOBOS00022A_loaded.r3d





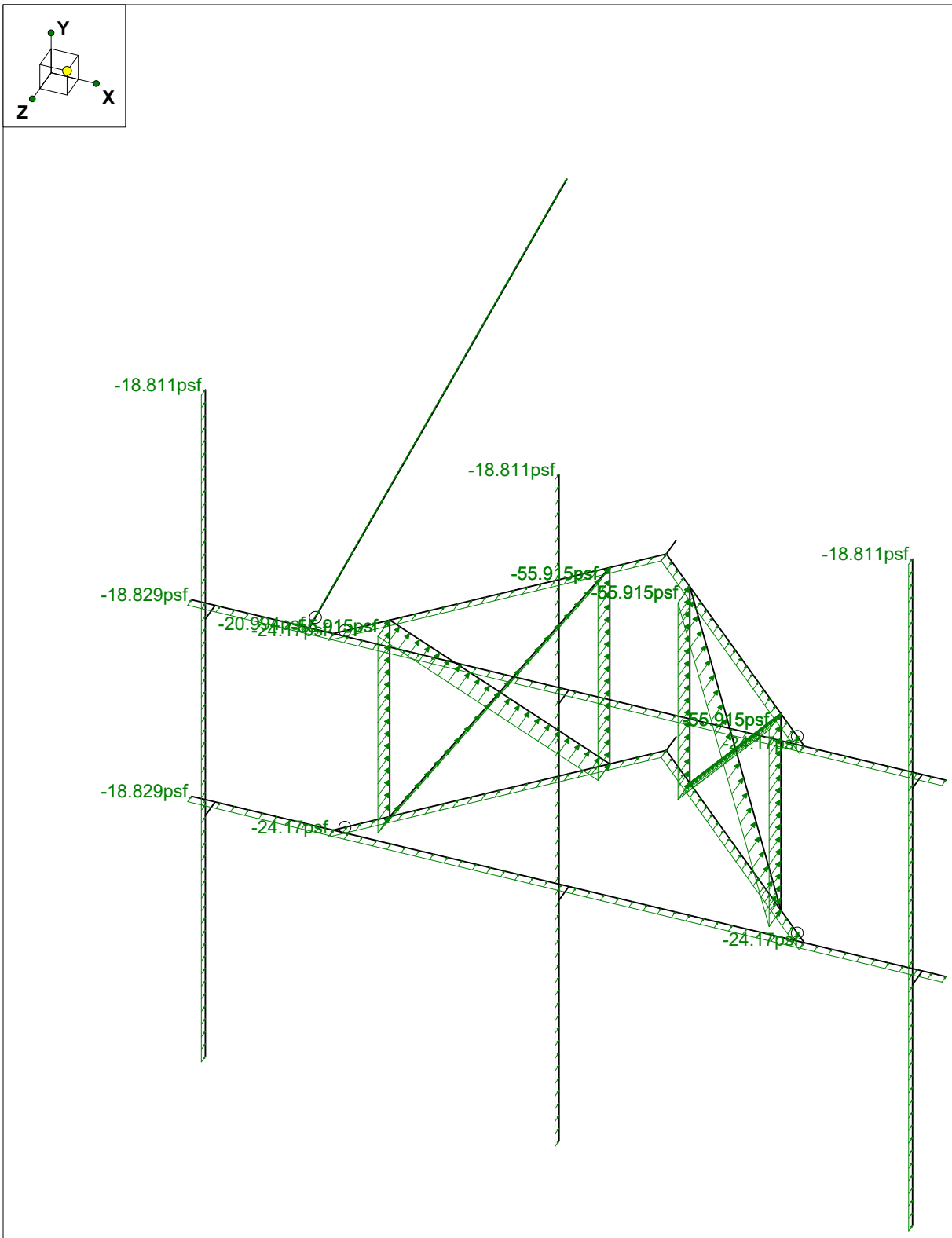
Loads: BLC 17, Ice Wind Load AZI 0

Infinigy Engineering, PLLC	BOBOS00022A	Ice + Wind Load AZI 000
PSM		Aug 13, 2021 at 11:31 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



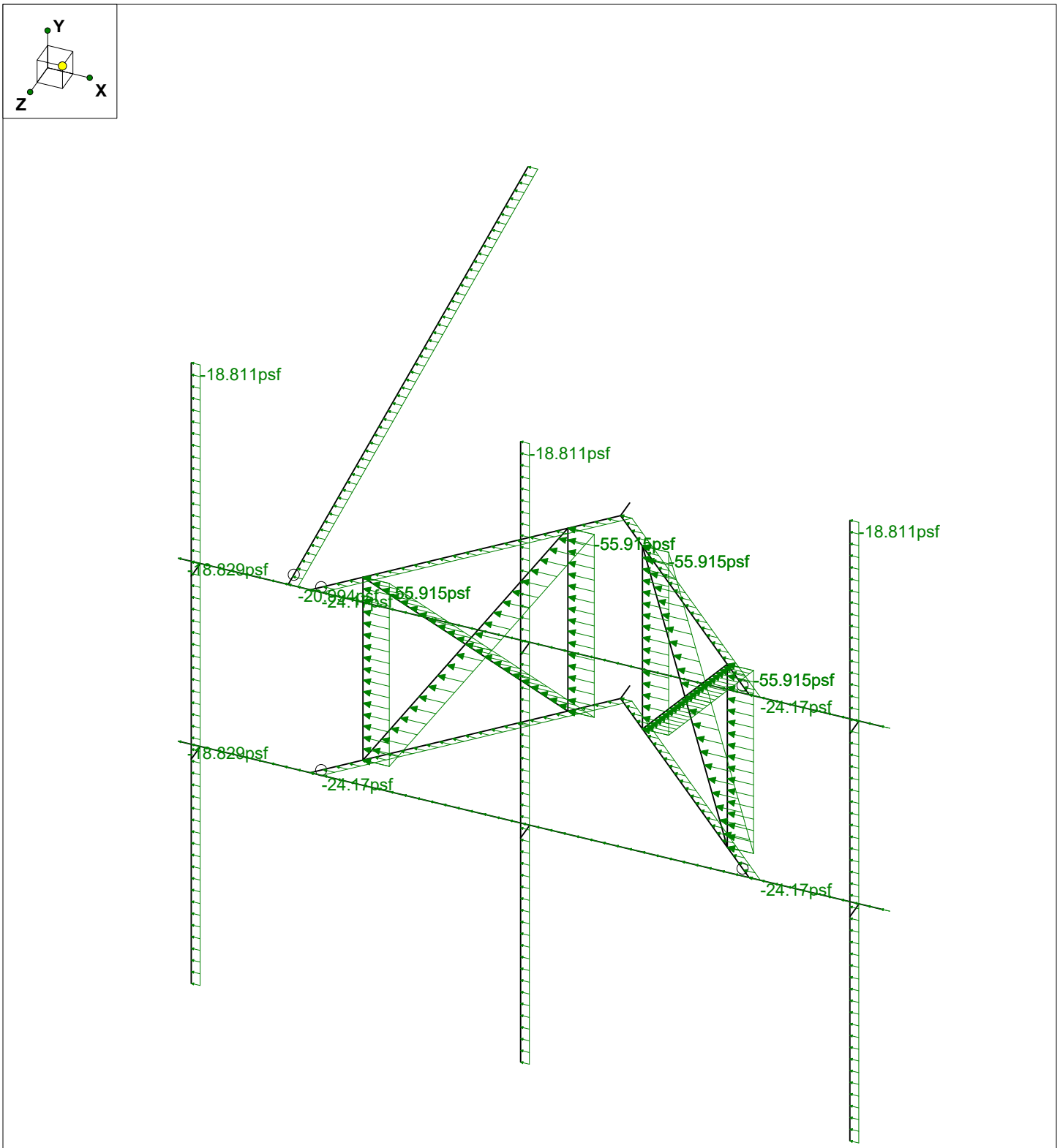
Loads: BLC 20, Ice Wind Load AZI 90

Infinigy Engineering, PLLC	BOBOS00022A	Ice + Wind Load AZI 090
PSM		Aug 13, 2021 at 11:31 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



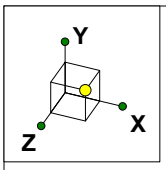
Loads: BLC 29, Distr. Ice Wind Load Z

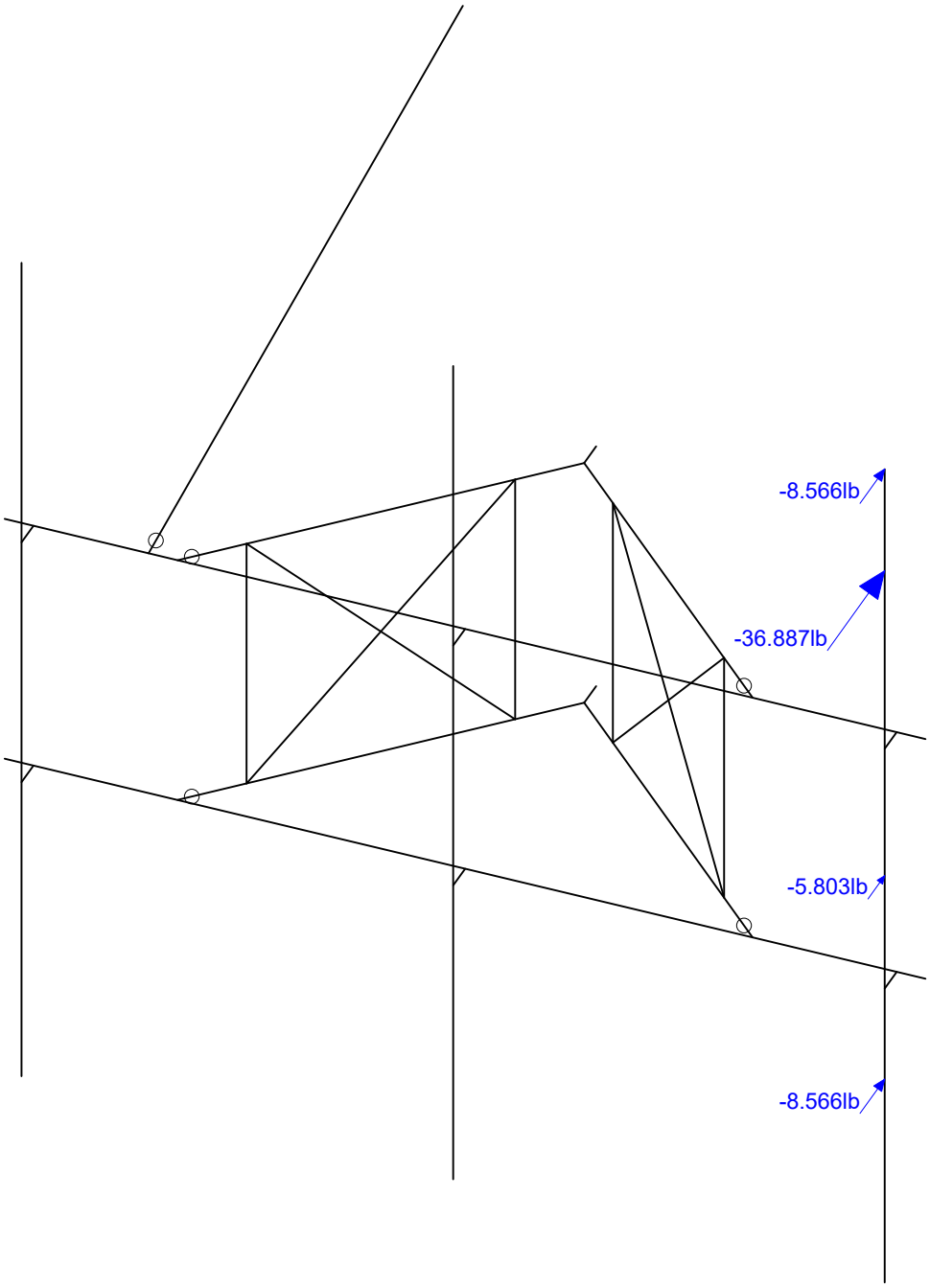
Infinigy Engineering, PLLC	BOBOS00022A	Distr Ice + Wind Load AZI 000
PSM		Aug 13, 2021 at 11:32 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



Loads: BLC 30, Distr. Ice Wind Load X

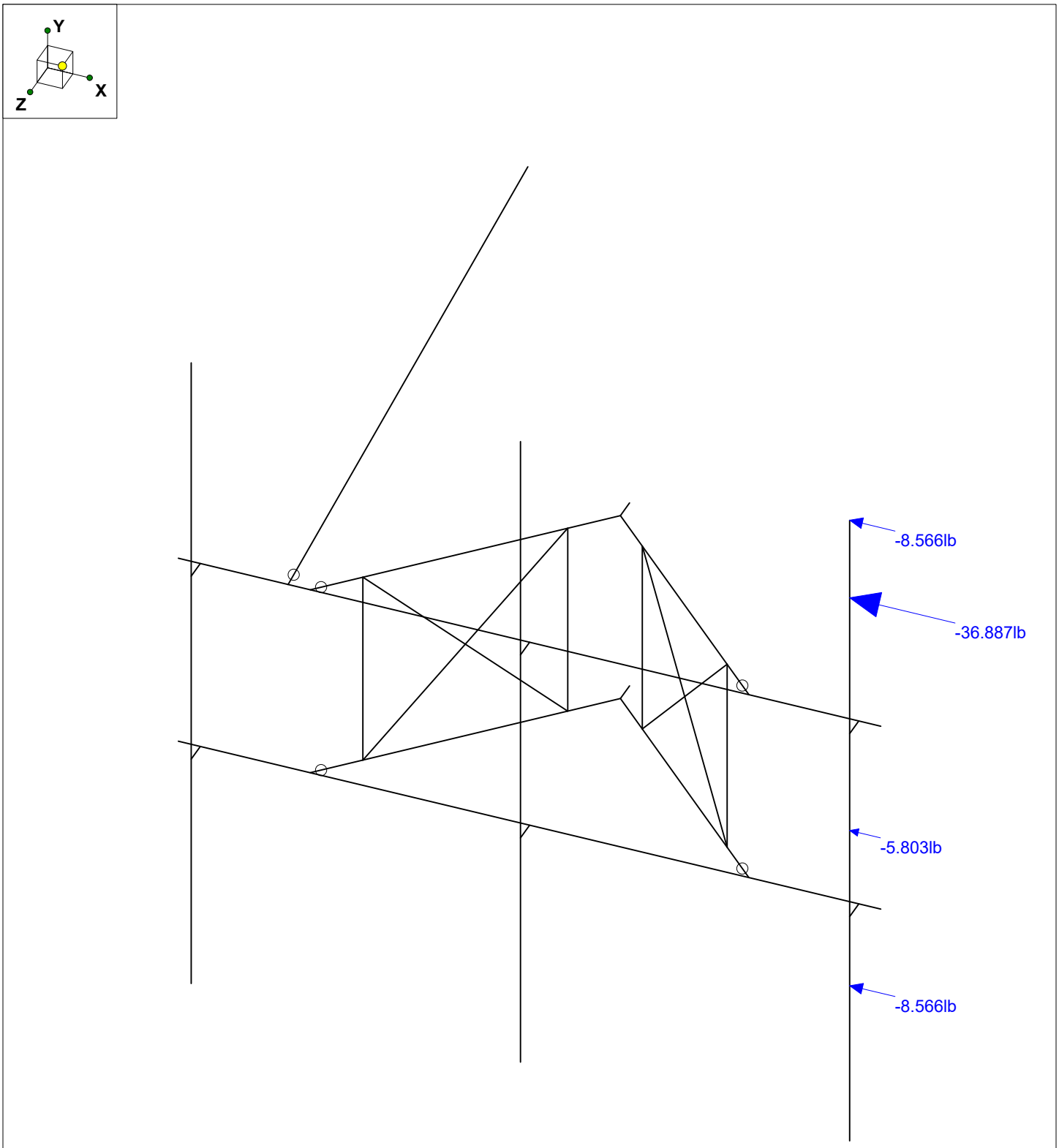
Infinigy Engineering, PLLC	BOBOS00022A	Distr Ice + Wind Load AZI 090
PSM		Aug 13, 2021 at 11:32 AM
1197-F0001-C		BOBOS00022A_loaded.r3d





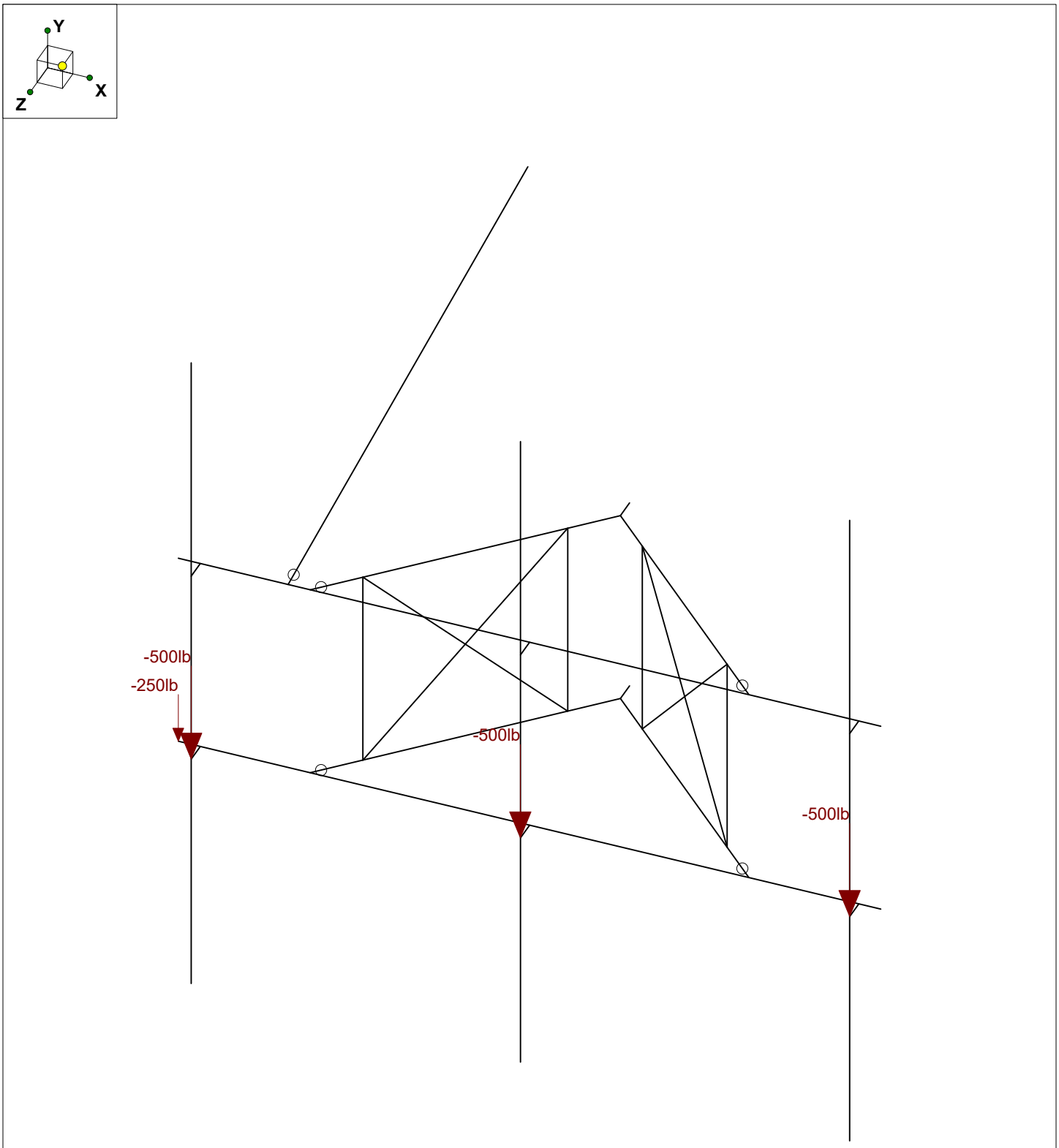
Loads: BLC 31, Seismic Load Z

Infinigy Engineering, PLLC	BOBOS00022A	Seismic Load AZI 000
PSM		Aug 13, 2021 at 11:32 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



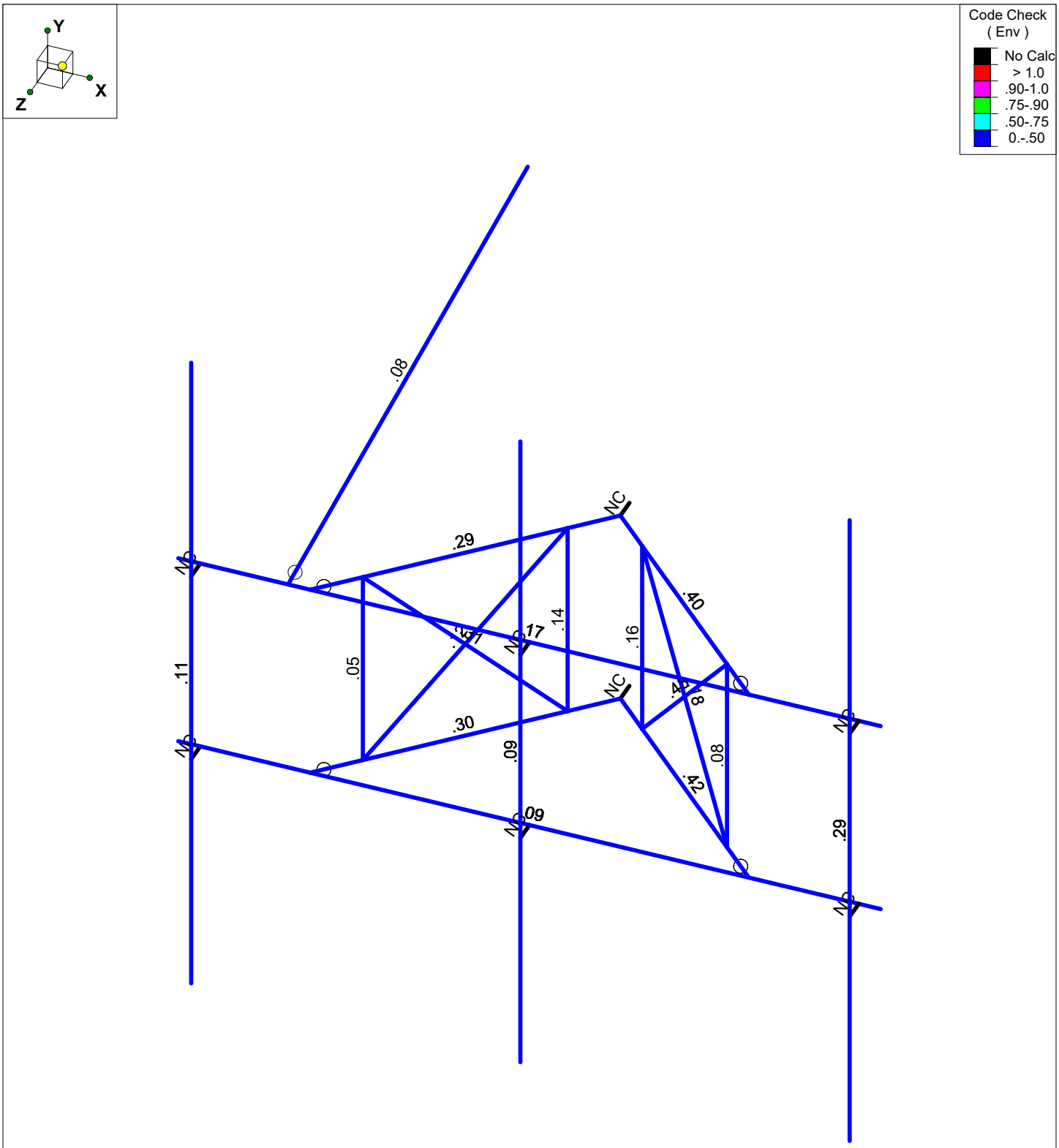
Loads: BLC 32, Seismic Load X

Infinigy Engineering, PLLC	BOBOS00022A	Seismic Load AZI 090
PSM		Aug 13, 2021 at 11:33 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



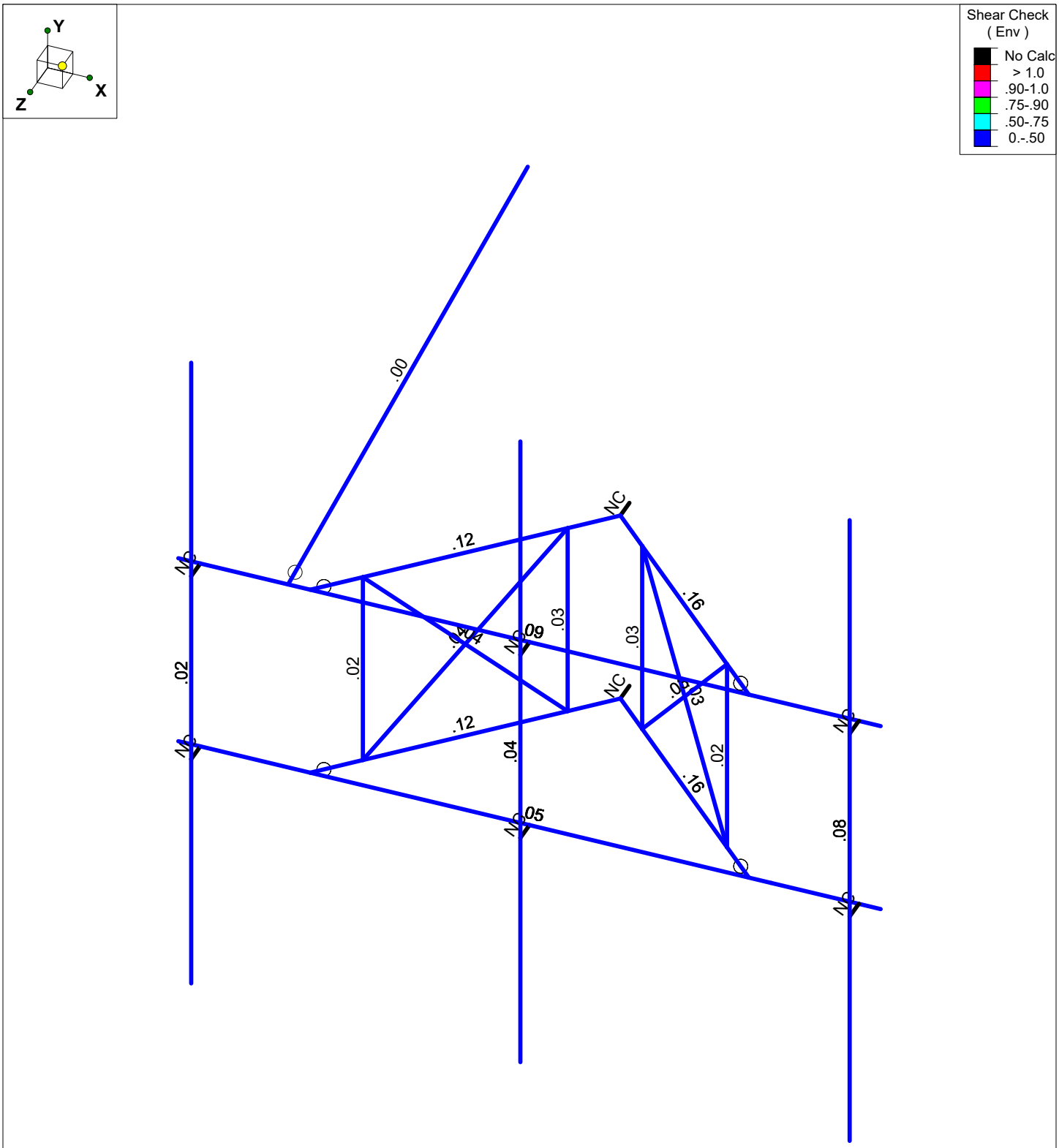
Loads: LL - Live Load

Infinigy Engineering, PLLC	BOBOS00022A	Non-concurrent Live Loads
PSM		Aug 13, 2021 at 11:33 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00022A	Bending Check
PSM		Aug 13, 2021 at 11:34 AM
1197-F0001-C		BOBOS00022A_loaded.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00022A	Shear Check
PSM		Aug 13, 2021 at 11:34 AM
1197-F0001-C		BOBOS00022A_loaded.r3d

Program Inputs

PROJECT INFORMATION	
Client:	ATC
Carrier:	Dish Wireless
Engineer:	Pradin Suinyal Magar, M.S

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	B	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	303.67	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Sector Frame	
Num Sectors:	3	
Centerline AGL:	179.00	ft
Tower Height AGL:	1030.00	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.950	
Ground Ele. Factor (K_e):	0.989	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Gust Effect Factor (G_h):	1.000	

CODE STANDARDS		
Building Code:	2015 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-10	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	135	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1.5	in
Flat Pressure:	102.327	psf
Round Pressure:	61.396	psf
Ice Wind Pressure:	8.422	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.166	g
1-Second Accel. (S_1):	0.059	g
Short-Period Design (S_{DS}):	0.177	
1-Second Design (S_{D1}):	0.094	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY

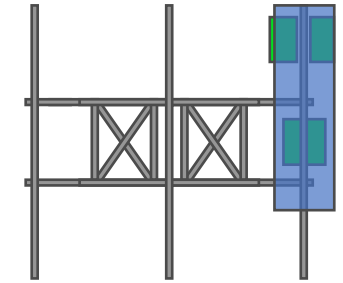
FROM ZERO TO INFINIGY

the solutions are endless

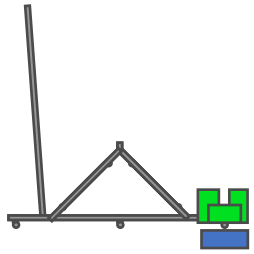
Infinigy Load Calculator V2.1.7

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.7

APPURTENANCE INFORMATION

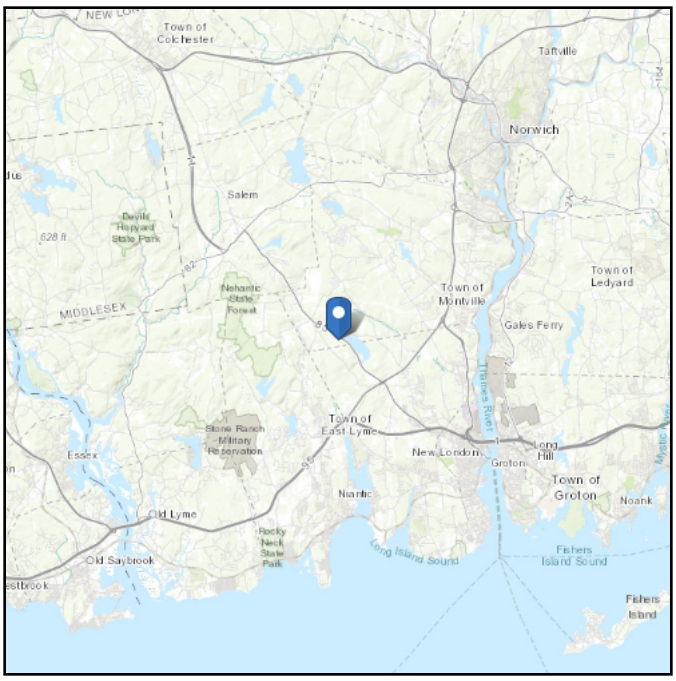
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
JMA WIRELESS MX08FRO665-21	179.0	3	0.90	51.16	8.01	3.21	368.84	147.81	64.50	17.13	MP1
FUJITSU TA08025-B605	179.0	3	0.90	51.16	1.96	1.19	90.41	54.76	74.95	19.91	MP1
FUJITSU TA08025-B604	179.0	3	0.90	51.16	1.96	1.03	90.41	47.56	63.93	16.98	MP1
RAYCAP RDIDC-9181-PF-48	179.0	1	0.90	51.16	1.87	1.07	85.95	49.12	21.85	5.80	MP1

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 303.67 ft (NAVD 88)
Latitude: 41.417772
Longitude: -72.1981



Wind

Results:

Wind Speed:	135 mph per Montville City Requirements in WSEL.
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	98 Vmph
100-year MRI	108 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Fri Aug 13 2021

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

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

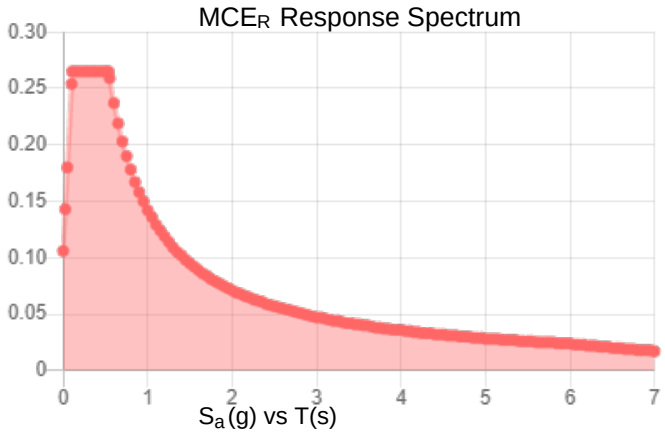
Seismic

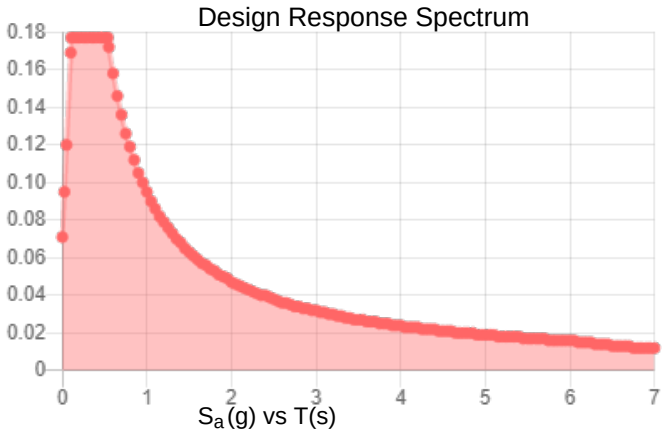
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.166	S_{DS} :	0.177
S_1 :	0.059	S_{D1} :	0.095
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.083
S_{MS} :	0.265	PGA_M :	0.133
S_{M1} :	0.142	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Fri Aug 13 2021

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

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Fri Aug 13 2021

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

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

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design Rules
1	S3	N2	N1			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
2	S4	N7	N6			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
3	TR6	N3	N8			Standoff Vertical	None	None	A529 Gr.50	Typical
4	TR5	N4	N9			Standoff Vertical	None	None	A529 Gr.50	Typical
5	TR8	N4	N8			Diagonal	None	None	A529 Gr.50	Typical
6	TR7	N3	N9			Diagonal	None	None	A529 Gr.50	Typical
7	S1	N10	N1			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
8	S2	N14	N6			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
9	TR1	N11	N15			Standoff Vertical	None	None	A529 Gr.50	Typical
10	TR2	N12	N16			Standoff Vertical	None	None	A529 Gr.50	Typical
11	TR3	N12	N15			Diagonal	None	None	A529 Gr.50	Typical
12	TR4	N11	N16			Diagonal	None	None	A529 Gr.50	Typical
13	H1	N16A	N15A			Face Horizontal	Beam	Pipe	A500 Gr.46	Typical
14	H2	N18	N17			Face Horizontal	Beam	Pipe	A500 Gr.46	Typical
15	MP3	N21	N22			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
16	MP1	N19	N20			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
17	MP2	N33	N34			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
18	T1	N37	N38			Tie Back	None	None	A500 Gr.46	Typical
19	M29	N25	N67			RIGID	None	None	RIGID	Typical
20	M30	N27	N69			RIGID	None	None	RIGID	Typical
21	M33	N35	N73			RIGID	None	None	RIGID	Typical
22	M34	N36	N74			RIGID	None	None	RIGID	Typical
23	M35	N26	N68			RIGID	None	None	RIGID	Typical
24	M36	N28	N70			RIGID	None	None	RIGID	Typical
25	M25	N43	N1			RIGID	None	None	RIGID	Typical
26	M26	N44	N6			RIGID	None	None	RIGID	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
1	S3	Standoff Arms	42.4			Lbyy						Late...
2	S4	Standoff Arms	42.4			Lbyy						Late...
3	TR6	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
4	TR5	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
5	TR8	Diagonal	39.811			Lbyy			.7	.7		Late...
6	TR7	Diagonal	39.811			Lbyy			.5	.5		Late...
7	S1	Standoff Arms	42.4			Lbyy						Late...
8	S2	Standoff Arms	42.4			Lbyy						Late...
9	TR1	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
10	TR2	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
11	TR3	Diagonal	39.811			Lbyy			.7	.7		Late...

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
12	TR4	Diagonal	39.811			Lbyy			.5	.5		Late...
13	H1	Face Horizontal	96			Lbyy						Late...
14	H2	Face Horizontal	96			Lbyy						Late...
15	MP3	Mount Pipe	96			Lbyy						Late...
16	MP1	Mount Pipe	96			Lbyy						Late...
17	MP2	Mount Pipe	96			Lbyy						Late...
18	T1	Tie Back	96.255			Lbyy						Late...

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismi...
1	S3	BenPIN					Yes	Default			None
2	S4	BenPIN					Yes	Default			None
3	TR6						Yes	** NA **			None
4	TR5						Yes	** NA **			None
5	TR8						Yes	** NA **			None
6	TR7						Yes	** NA **			None
7	S1	BenPIN					Yes	Default			None
8	S2	BenPIN					Yes	Default			None
9	TR1						Yes	** NA **			None
10	TR2						Yes	** NA **			None
11	TR3						Yes	** NA **			None
12	TR4						Yes	** NA **			None
13	H1						Yes				None
14	H2						Yes				None
15	MP3						Yes	** NA **			None
16	MP1						Yes	** NA **			None
17	MP2						Yes	** NA **			None
18	T1	BenPIN					Yes	** NA **			None
19	M29						Yes	** NA **			None
20	M30						Yes	** NA **			None
21	M33						Yes	** NA **			None
22	M34						Yes	** NA **			None
23	M35						Yes	** NA **			None
24	M36						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		8	24	0
3	Total General		8	24	0
4					
5	Hot Rolled Steel				
6	A500 Gr.46	1.9" ODx0.12"	4	169.6	32.27
7	A500 Gr.46	PIPE 2.5	2	192	87.656
8	A500 Gr.46	2.88"x0.120"	3	288	84.933
9	A500 Gr.46	Pipe2.38X0.12	1	96.3	23.255
10	A529 Gr.50	0.63" SR	8	272.4	24.082
11	Total HR Steel		18	1018.3	252.196

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	A [in2]	Iyy [in...	Izz [in...	J [in4]
1	Face Horizontal	PIPE 2.5	Beam	Pipe	A500 G...	Typical	1.61	1.45	1.45	2.89
2	Standoff Arms	1.9" ODx0.12"	Beam	Pipe	A500 G...	Typical	.671	.267	.267	.534
3	Diagonal	0.63" SR	None	None	A529 G...	Typical	.312	.008	.008	.015
4	Mount Pipe	2.88"x0.120"	Colu...	Pipe	A500 G...	Typical	1.04	.993	.993	1.985
5	Tie Back	Pipe2.38X0.12	None	None	A500 G...	Typical	.852	.545	.545	1.091
6	End Support Pipe	3.5"x0.120	None	None	A500 G...	Typical	1.274	1.822	1.822	3.644
7	Standoff Vertical	0.63" SR	None	None	A529 G...	Typical	.312	.008	.008	.015

Basic Load Cases

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
1	Self Weight	DL		-1			5			
2	Wind Load AZI 0	WLZ					10			
3	Wind Load AZI 30	None					10			
4	Wind Load AZI 60	None					10			
5	Wind Load AZI 90	WLX					10			
6	Wind Load AZI 1...	None					10			
7	Wind Load AZI 1...	None					10			
8	Wind Load AZI 1...	None					10			
9	Wind Load AZI 2...	None					10			
10	Wind Load AZI 2...	None					10			
11	Wind Load AZI 2...	None					10			
12	Wind Load AZI 3...	None					10			
13	Wind Load AZI 3...	None					10			
14	Distr. Wind Load Z	WLZ						26		

Basic Load Cases (Continued)

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
15	Distr. Wind Load X	WLX						26		
16	Ice Weight	OL1					5	26		
17	Ice Wind Load A...	OL2					10			
18	Ice Wind Load A...	None					10			
19	Ice Wind Load A...	None					10			
20	Ice Wind Load A...	OL3					10			
21	Ice Wind Load A...	None					10			
22	Ice Wind Load A...	None					10			
23	Ice Wind Load A...	None					10			
24	Ice Wind Load A...	None					10			
25	Ice Wind Load A...	None					10			
26	Ice Wind Load A...	None					10			
27	Ice Wind Load A...	None					10			
28	Ice Wind Load A...	None					10			
29	Distr. Ice Wind L...	OL2						26		
30	Distr. Ice Wind L...	OL3						26		
31	Seismic Load Z	ELZ			-.266		5			
32	Seismic Load X	ELX	-.266				5			
33	Service Live Loa...	LL				1				
34	Maintenance Loa...	LL				1				
35	Maintenance Loa...	LL				1				
36	Maintenance Loa...	LL				1				

Load Combinations

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4DL	Y...	Y		1	1.4																				
2	1.2DL + 1WL AZI 0	Y...	Y		1	1.2	2	1	14	1	15															
3	1.2DL + 1WL AZI 30	Y...	Y		1	1.2	3	1	14	.866	15	.5														
4	1.2DL + 1WL AZI 60	Y...	Y		1	1.2	4	1	14	.5	15	.866														
5	1.2DL + 1WL AZI 90	Y...	Y		1	1.2	5	1	14		15	1														
6	1.2DL + 1WL AZI 120	Y...	Y		1	1.2	6	1	14	-.5	15	.866														
7	1.2DL + 1WL AZI 150	Y...	Y		1	1.2	7	1	14	-.8...	15	.5														
8	1.2DL + 1WL AZI 180	Y...	Y		1	1.2	8	1	14	-1	15															
9	1.2DL + 1WL AZI 210	Y...	Y		1	1.2	9	1	14	-.8...	15	-.5														
10	1.2DL + 1WL AZI 240	Y...	Y		1	1.2	10	1	14	-.5	15	-.8...														
11	1.2DL + 1WL AZI 270	Y...	Y		1	1.2	11	1	14		15	-1														
12	1.2DL + 1WL AZI 300	Y...	Y		1	1.2	12	1	14	.5	15	-.8...														
13	1.2DL + 1WL AZI 330	Y...	Y		1	1.2	13	1	14	.866	15	-.5														
14	0.9DL + 1WL AZI 0	Y...	Y		1	.9	2	1	14	1	15															
15	0.9DL + 1WL AZI 30	Y...	Y		1	.9	3	1	14	.866	15	.5														
16	0.9DL + 1WL AZI 60	Y...	Y		1	.9	4	1	14	.5	15	.866														

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
17	0.9DL + 1WL AZI 90	Y...	Y		1	.9	5	1	14		15	1														
18	0.9DL + 1WL AZI 120	Y...	Y		1	.9	6	1	14	-.5	15	.866														
19	0.9DL + 1WL AZI 150	Y...	Y		1	.9	7	1	14	-.8...	15	.5														
20	0.9DL + 1WL AZI 180	Y...	Y		1	.9	8	1	14	-1	15															
21	0.9DL + 1WL AZI 210	Y...	Y		1	.9	9	1	14	-.8...	15	-.5														
22	0.9DL + 1WL AZI 240	Y...	Y		1	.9	10	1	14	-.5	15	-.8...														
23	0.9DL + 1WL AZI 270	Y...	Y		1	.9	11	1	14		15	-1														
24	0.9DL + 1WL AZI 300	Y...	Y		1	.9	12	1	14	.5	15	-.8...														
25	0.9DL + 1WL AZI 330	Y...	Y		1	.9	13	1	14	.866	15	-.5														
26	1.2D + 1.0Di	Y...	Y		1	1.2	16	1																		
27	1.2D + 1.0Di +1.0Wi AZI 0	Y...	Y		1	1.2	16	1	17	1	29	1	30													
28	1.2D + 1.0Di +1.0Wi AZI 30	Y...	Y		1	1.2	16	1	18	1	29	.866	30	.5												
29	1.2D + 1.0Di +1.0Wi AZI 60	Y...	Y		1	1.2	16	1	19	1	29	.5	30	.866												
30	1.2D + 1.0Di +1.0Wi AZI 90	Y...	Y		1	1.2	16	1	20	1	29		30	1												
31	1.2D + 1.0Di +1.0Wi AZI 120	Y...	Y		1	1.2	16	1	21	1	29	-.5	30	.866												
32	1.2D + 1.0Di +1.0Wi AZI 150	Y...	Y		1	1.2	16	1	22	1	29	-.8...	30	.5												
33	1.2D + 1.0Di +1.0Wi AZI 180	Y...	Y		1	1.2	16	1	23	1	29	-1	30													
34	1.2D + 1.0Di +1.0Wi AZI 210	Y...	Y		1	1.2	16	1	24	1	29	-.8...	30	-.5												
35	1.2D + 1.0Di +1.0Wi AZI 240	Y...	Y		1	1.2	16	1	25	1	29	-.5	30	-.8...												
36	1.2D + 1.0Di +1.0Wi AZI 270	Y...	Y		1	1.2	16	1	26	1	29		30	-1												
37	1.2D + 1.0Di +1.0Wi AZI 300	Y...	Y		1	1.2	16	1	27	1	29	.5	30	-.8...												
38	1.2D + 1.0Di +1.0Wi AZI 330	Y...	Y		1	1.2	16	1	28	1	29	.866	30	-.5												
39	(1.2 + 0.2Sds)DL + 1.0E AZI 0	Y...	Y		1	1.2...	31	1	32																	
40	(1.2 + 0.2Sds)DL + 1.0E AZI 30	Y...	Y		1	1.2...	31	.866	32	.5																
41	(1.2 + 0.2Sds)DL + 1.0E AZI 60	Y...	Y		1	1.2...	31	.5	32	.866																
42	(1.2 + 0.2Sds)DL + 1.0E AZI 90	Y...	Y		1	1.2...	31		32	1																
43	(1.2 + 0.2Sds)DL + 1.0E AZI 1...	Y...	Y		1	1.2...	31	-.5	32	.866																
44	(1.2 + 0.2Sds)DL + 1.0E AZI 1...	Y...	Y		1	1.2...	31	-.8...	32	.5																
45	(1.2 + 0.2Sds)DL + 1.0E AZI 1...	Y...	Y		1	1.2...	31	-1	32																	
46	(1.2 + 0.2Sds)DL + 1.0E AZI 2...	Y...	Y		1	1.2...	31	-.8...	32	-.5																
47	(1.2 + 0.2Sds)DL + 1.0E AZI 2...	Y...	Y		1	1.2...	31	-.5	32	-.8...																
48	(1.2 + 0.2Sds)DL + 1.0E AZI 2...	Y...	Y		1	1.2...	31		32	-1																
49	(1.2 + 0.2Sds)DL + 1.0E AZI 3...	Y...	Y		1	1.2...	31	.5	32	-.8...																
50	(1.2 + 0.2Sds)DL + 1.0E AZI 3...	Y...	Y		1	1.2...	31	.866	32	-.5																
51	(0.9 - 0.2Sds)DL + 1.0E AZI 0	Y...	Y		1	.865	31	1	32																	
52	(0.9 - 0.2Sds)DL + 1.0E AZI 30	Y...	Y		1	.865	31	.866	32	.5																
53	(0.9 - 0.2Sds)DL + 1.0E AZI 60	Y...	Y		1	.865	31	.5	32	.866																
54	(0.9 - 0.2Sds)DL + 1.0E AZI 90	Y...	Y		1	.865	31		32	1																
55	(0.9 - 0.2Sds)DL + 1.0E AZI 1...	Y...	Y		1	.865	31	-.5	32	.866																
56	(0.9 - 0.2Sds)DL + 1.0E AZI 1...	Y...	Y		1	.865	31	-.8...	32	.5																
57	(0.9 - 0.2Sds)DL + 1.0E AZI 1...	Y...	Y		1	.865	31	-1	32																	
58	(0.9 - 0.2Sds)DL + 1.0E AZI 2...	Y...	Y		1	.865	31	-.8...	32	-.5																

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
59	(0.9 - 0.2Sds)DL + 1.0E AZI 2...	Y...	Y		1	.865	31	-.5	32	-.8...															
60	(0.9 - 0.2Sds)DL + 1.0E AZI 2...	Y...	Y		1	.865	31		32	-1															
61	(0.9 - 0.2Sds)DL + 1.0E AZI 3...	Y...	Y		1	.865	31	.5	32	-.8...															
62	(0.9 - 0.2Sds)DL + 1.0E AZI 3...	Y...	Y		1	.865	31	.866	32	-.5															
63	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	2	.198	14	.198	15		33	1.5											
64	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	3	.198	14	.171	15	.099	33	1.5											
65	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	4	.198	14	.099	15	.171	33	1.5											
66	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	5	.198	14		15	.198	33	1.5											
67	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	6	.198	14	-.0...	15	.171	33	1.5											
68	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	7	.198	14	-.1...	15	.099	33	1.5											
69	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	8	.198	14	-.1...	15		33	1.5											
70	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	9	.198	14	-.1...	15	-.0...	33	1.5											
71	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	10	.198	14	-.0...	15	-.1...	33	1.5											
72	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	11	.198	14		15	-.1...	33	1.5											
73	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	12	.198	14	.099	15	-.1...	33	1.5											
74	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	13	.198	14	.171	15	-.0...	33	1.5											
75	1.2DL + 1.5LL	Y...	Y		1	1.2	33	1.5																	
76	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	2	.049	14	.049	15												
77	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	3	.049	14	.043	15	.025											
78	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	4	.049	14	.025	15	.043											
79	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	5	.049	14		15	.049											
80	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	6	.049	14	-.0...	15	.043											
81	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	7	.049	14	-.0...	15	.025											
82	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	8	.049	14	-.0...	15												
83	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	9	.049	14	-.0...	15	-.0...											
84	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	10	.049	14	-.0...	15	-.0...											
85	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	11	.049	14		15	-.0...											
86	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	12	.049	14	.025	15	-.0...											
87	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	13	.049	14	.043	15	-.0...											
88	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	2	.049	14	.049	15												
89	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	3	.049	14	.043	15	.025											
90	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	4	.049	14	.025	15	.043											
91	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	5	.049	14		15	.049											
92	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	6	.049	14	-.0...	15	.043											
93	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	7	.049	14	-.0...	15	.025											
94	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	8	.049	14	-.0...	15												
95	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	9	.049	14	-.0...	15	-.0...											
96	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	10	.049	14	-.0...	15	-.0...											
97	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	11	.049	14		15	-.0...											
98	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	12	.049	14	.025	15	-.0...											
99	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	13	.049	14	.043	15	-.0...											
100	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	2	.049	14	.049	15												

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
101	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	3	.049	14	.043	15	.025										
102	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	4	.049	14	.025	15	.043										
103	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	5	.049	14		15	.049										
104	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	6	.049	14	-.0...	15	.043										
105	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	7	.049	14	-.0...	15	.025										
106	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	8	.049	14	-.0...	15											
107	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	9	.049	14	-.0...	15	-.0...										
108	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	10	.049	14	-.0...	15	-.0...										
109	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	11	.049	14		15	-.0...										
110	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	12	.049	14	.025	15	-.0...										

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1						
2	N6						
3	N38	Reaction	Reaction	Reaction			
4	N43	Reaction	Reaction	Reaction			
5	N44	Reaction	Reaction	Reaction			

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N38	...	113.911	6	50.188	37	1115.6...	7	0	110	0	110	0	110
2		...	-114.329	12	10.044	55	-1116.7...	25	0	1	0	1	0	1
3	N43	...	806.636	78	898.499	31	1462.8...	25	0	110	0	110	0	110
4		...	-1632.69	96	178.67	20	-2607.4...	7	0	1	0	1	0	1
5	N44	...	1615.443	91	856.799	37	2137.3...	27	0	110	0	110	0	110
6		...	-789.068	85	175.287	14	156.13	20	0	1	0	1	0	1
7	Totals:	...	877.712	5	1800.7...	28	1389.5...	2						
8		...	-877.712	23	412.778	55	-1389.5...	20						

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-32.25	0
2	MP1	Y	-32.25	72
3	MP1	Y	-74.95	12
4	MP1	Y	-63.93	12
5	MP1	Y	-21.85	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-184.42	0
3	MP1	X	0	72
4	MP1	Z	-184.42	72
5	MP1	X	0	12
6	MP1	Z	-90.41	12
7	MP1	X	0	12
8	MP1	Z	-90.41	12
9	MP1	X	0	48
10	MP1	Z	-85.95	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-78.4	0
2	MP1	Z	-135.78	0
3	MP1	X	-78.4	72
4	MP1	Z	-135.78	72
5	MP1	X	-40.75	12
6	MP1	Z	-70.58	12
7	MP1	X	-39.85	12
8	MP1	Z	-69.02	12
9	MP1	X	-38.37	48
10	MP1	Z	-66.46	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-87.93	0
2	MP1	Z	-50.77	0
3	MP1	X	-87.93	72
4	MP1	Z	-50.77	72
5	MP1	X	-55.14	12
6	MP1	Z	-31.84	12
7	MP1	X	-50.47	12
8	MP1	Z	-29.14	12
9	MP1	X	-50.51	48
10	MP1	Z	-29.16	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-73.91	0
2	MP1	Z	0	0

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-73.91	72
4	MP1	Z	0	72
5	MP1	X	-54.76	12
6	MP1	Z	0	12
7	MP1	X	-47.56	12
8	MP1	Z	0	12
9	MP1	X	-49.12	48
10	MP1	Z	0	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-87.93	0
2	MP1	Z	50.77	0
3	MP1	X	-87.93	72
4	MP1	Z	50.77	72
5	MP1	X	-55.14	12
6	MP1	Z	31.84	12
7	MP1	X	-50.47	12
8	MP1	Z	29.14	12
9	MP1	X	-50.51	48
10	MP1	Z	29.16	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-78.4	0
2	MP1	Z	135.78	0
3	MP1	X	-78.4	72
4	MP1	Z	135.78	72
5	MP1	X	-40.75	12
6	MP1	Z	70.58	12
7	MP1	X	-39.85	12
8	MP1	Z	69.02	12
9	MP1	X	-38.37	48
10	MP1	Z	66.46	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	184.42	0
3	MP1	X	0	72
4	MP1	Z	184.42	72

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP1	X	0	12
6	MP1	Z	90.41	12
7	MP1	X	0	12
8	MP1	Z	90.41	12
9	MP1	X	0	48
10	MP1	Z	85.95	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	78.4	0
2	MP1	Z	135.78	0
3	MP1	X	78.4	72
4	MP1	Z	135.78	72
5	MP1	X	40.75	12
6	MP1	Z	70.58	12
7	MP1	X	39.85	12
8	MP1	Z	69.02	12
9	MP1	X	38.37	48
10	MP1	Z	66.46	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	87.93	0
2	MP1	Z	50.77	0
3	MP1	X	87.93	72
4	MP1	Z	50.77	72
5	MP1	X	55.14	12
6	MP1	Z	31.84	12
7	MP1	X	50.47	12
8	MP1	Z	29.14	12
9	MP1	X	50.51	48
10	MP1	Z	29.16	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	73.91	0
2	MP1	Z	0	0
3	MP1	X	73.91	72
4	MP1	Z	0	72
5	MP1	X	54.76	12
6	MP1	Z	0	12

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP1	X	47.56	12
8	MP1	Z	0	12
9	MP1	X	49.12	48
10	MP1	Z	0	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	87.93	0
2	MP1	Z	-50.77	0
3	MP1	X	87.93	72
4	MP1	Z	-50.77	72
5	MP1	X	55.14	12
6	MP1	Z	-31.84	12
7	MP1	X	50.47	12
8	MP1	Z	-29.14	12
9	MP1	X	50.51	48
10	MP1	Z	-29.16	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	78.4	0
2	MP1	Z	-135.78	0
3	MP1	X	78.4	72
4	MP1	Z	-135.78	72
5	MP1	X	40.75	12
6	MP1	Z	-70.58	12
7	MP1	X	39.85	12
8	MP1	Z	-69.02	12
9	MP1	X	38.37	48
10	MP1	Z	-66.46	48

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-146.443	0
2	MP1	Y	-146.443	72
3	MP1	Y	-76.882	12
4	MP1	Y	-72.187	12
5	MP1	Y	-70.418	48

Member Point Loads (BLC 17 : Ice Wind Load AZI 0)

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

Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-20.13	0
3	MP1	X	0	72
4	MP1	Z	-20.13	72
5	MP1	X	0	12
6	MP1	Z	-7.84	12
7	MP1	X	0	12
8	MP1	Z	-7.84	12
9	MP1	X	0	48
10	MP1	Z	-7.53	48

Member Point Loads (BLC 18 : Ice Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.23	0
2	MP1	Z	-15.98	0
3	MP1	X	-9.23	72
4	MP1	Z	-15.98	72
5	MP1	X	-3.72	12
6	MP1	Z	-6.44	12
7	MP1	X	-3.68	12
8	MP1	Z	-6.38	12
9	MP1	X	-3.58	48
10	MP1	Z	-6.2	48

Member Point Loads (BLC 19 : Ice Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.08	0
2	MP1	Z	-7.55	0
3	MP1	X	-13.08	72
4	MP1	Z	-7.55	72
5	MP1	X	-5.76	12
6	MP1	Z	-3.32	12
7	MP1	X	-5.55	12
8	MP1	Z	-3.21	12
9	MP1	X	-5.56	48
10	MP1	Z	-3.21	48

Member Point Loads (BLC 20 : Ice Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.43	0
2	MP1	Z	0	0

Member Point Loads (BLC 20 : Ice Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-13.43	72
4	MP1	Z	0	72
5	MP1	X	-6.25	12
6	MP1	Z	0	12
7	MP1	X	-5.94	12
8	MP1	Z	0	12
9	MP1	X	-6.05	48
10	MP1	Z	0	48

Member Point Loads (BLC 21 : Ice Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.08	0
2	MP1	Z	7.55	0
3	MP1	X	-13.08	72
4	MP1	Z	7.55	72
5	MP1	X	-5.76	12
6	MP1	Z	3.32	12
7	MP1	X	-5.55	12
8	MP1	Z	3.21	12
9	MP1	X	-5.56	48
10	MP1	Z	3.21	48

Member Point Loads (BLC 22 : Ice Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.23	0
2	MP1	Z	15.98	0
3	MP1	X	-9.23	72
4	MP1	Z	15.98	72
5	MP1	X	-3.72	12
6	MP1	Z	6.44	12
7	MP1	X	-3.68	12
8	MP1	Z	6.38	12
9	MP1	X	-3.58	48
10	MP1	Z	6.2	48

Member Point Loads (BLC 23 : Ice Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	20.13	0
3	MP1	X	0	72
4	MP1	Z	20.13	72

Member Point Loads (BLC 23 : Ice Wind Load AZI 180) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP1	X	0	12
6	MP1	Z	7.84	12
7	MP1	X	0	12
8	MP1	Z	7.84	12
9	MP1	X	0	48
10	MP1	Z	7.53	48

Member Point Loads (BLC 24 : Ice Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.23	0
2	MP1	Z	15.98	0
3	MP1	X	9.23	72
4	MP1	Z	15.98	72
5	MP1	X	3.72	12
6	MP1	Z	6.44	12
7	MP1	X	3.68	12
8	MP1	Z	6.38	12
9	MP1	X	3.58	48
10	MP1	Z	6.2	48

Member Point Loads (BLC 25 : Ice Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.08	0
2	MP1	Z	7.55	0
3	MP1	X	13.08	72
4	MP1	Z	7.55	72
5	MP1	X	5.76	12
6	MP1	Z	3.32	12
7	MP1	X	5.55	12
8	MP1	Z	3.21	12
9	MP1	X	5.56	48
10	MP1	Z	3.21	48

Member Point Loads (BLC 26 : Ice Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.43	0
2	MP1	Z	0	0
3	MP1	X	13.43	72
4	MP1	Z	0	72
5	MP1	X	6.25	12
6	MP1	Z	0	12

Member Point Loads (BLC 26 : Ice Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP1	X	5.94	12
8	MP1	Z	0	12
9	MP1	X	6.05	48
10	MP1	Z	0	48

Member Point Loads (BLC 27 : Ice Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.08	0
2	MP1	Z	-7.55	0
3	MP1	X	13.08	72
4	MP1	Z	-7.55	72
5	MP1	X	5.76	12
6	MP1	Z	-3.32	12
7	MP1	X	5.55	12
8	MP1	Z	-3.21	12
9	MP1	X	5.56	48
10	MP1	Z	-3.21	48

Member Point Loads (BLC 28 : Ice Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.23	0
2	MP1	Z	-15.98	0
3	MP1	X	9.23	72
4	MP1	Z	-15.98	72
5	MP1	X	3.72	12
6	MP1	Z	-6.44	12
7	MP1	X	3.68	12
8	MP1	Z	-6.38	12
9	MP1	X	3.58	48
10	MP1	Z	-6.2	48

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Z	-8.566	0
2	MP1	Z	-8.566	72
3	MP1	Z	-19.907	12
4	MP1	Z	-16.98	12
5	MP1	Z	-5.803	48

Member Point Loads (BLC 32 : Seismic Load X)

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

Member Point Loads (BLC 32 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-8.566	0
2	MP1	X	-8.566	72
3	MP1	X	-19.907	12
4	MP1	X	-16.98	12
5	MP1	X	-5.803	48

Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N18	L	Y	-250

Joint Loads and Enforced Displacements (BLC 34 : Maintenance Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N69	L	Y	-500

Joint Loads and Enforced Displacements (BLC 35 : Maintenance Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N70	L	Y	-500

Joint Loads and Enforced Displacements (BLC 36 : Maintenance Load 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N74	L	Y	-500

Member Distributed Loads (BLC 14 : Distr. Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	SZ	-61.396	-61.396	0	%100
2	S4	SZ	-61.396	-61.396	0	%100
3	TR6	SZ	-61.396	-61.396	0	%100
4	TR5	SZ	-61.396	-61.396	0	%100
5	TR8	SZ	-61.396	-61.396	0	%100
6	TR7	SZ	-61.396	-61.396	0	%100
7	S1	SZ	-61.396	-61.396	0	%100
8	S2	SZ	-61.396	-61.396	0	%100
9	TR1	SZ	-61.396	-61.396	0	%100
10	TR2	SZ	-61.396	-61.396	0	%100
11	TR3	SZ	-61.396	-61.396	0	%100
12	TR4	SZ	-61.396	-61.396	0	%100
13	H1	SZ	-61.396	-61.396	0	%100
14	H2	SZ	-61.396	-61.396	0	%100

Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
15	MP3	SZ	-61.396	-61.396	0	%100
16	MP1	SZ	-61.396	-61.396	0	%100
17	MP2	SZ	-61.396	-61.396	0	%100
18	T1	SZ	-61.396	-61.396	0	%100
19	M29	SZ	0	0	0	%100
20	M30	SZ	0	0	0	%100
21	M33	SZ	0	0	0	%100
22	M34	SZ	0	0	0	%100
23	M35	SZ	0	0	0	%100
24	M36	SZ	0	0	0	%100
25	M25	SZ	0	0	0	%100
26	M26	SZ	0	0	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	SX	-61.396	-61.396	0	%100
2	S4	SX	-61.396	-61.396	0	%100
3	TR6	SX	-61.396	-61.396	0	%100
4	TR5	SX	-61.396	-61.396	0	%100
5	TR8	SX	-61.396	-61.396	0	%100
6	TR7	SX	-61.396	-61.396	0	%100
7	S1	SX	-61.396	-61.396	0	%100
8	S2	SX	-61.396	-61.396	0	%100
9	TR1	SX	-61.396	-61.396	0	%100
10	TR2	SX	-61.396	-61.396	0	%100
11	TR3	SX	-61.396	-61.396	0	%100
12	TR4	SX	-61.396	-61.396	0	%100
13	H1	SX	-61.396	-61.396	0	%100
14	H2	SX	-61.396	-61.396	0	%100
15	MP3	SX	-61.396	-61.396	0	%100
16	MP1	SX	-61.396	-61.396	0	%100
17	MP2	SX	-61.396	-61.396	0	%100
18	T1	SX	-61.396	-61.396	0	%100
19	M29	SX	0	0	0	%100
20	M30	SX	0	0	0	%100
21	M33	SX	0	0	0	%100
22	M34	SX	0	0	0	%100
23	M35	SX	0	0	0	%100
24	M36	SX	0	0	0	%100
25	M25	SX	0	0	0	%100
26	M26	SX	0	0	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	Y	-7.978	-7.978	0	%100
2	S4	Y	-7.978	-7.978	0	%100
3	TR6	Y	-5.222	-5.222	0	%100
4	TR5	Y	-5.222	-5.222	0	%100
5	TR8	Y	-5.222	-5.222	0	%100
6	TR7	Y	-5.222	-5.222	0	%100
7	S1	Y	-7.978	-7.978	0	%100
8	S2	Y	-7.978	-7.978	0	%100
9	TR1	Y	-5.222	-5.222	0	%100
10	TR2	Y	-5.222	-5.222	0	%100
11	TR3	Y	-5.222	-5.222	0	%100
12	TR4	Y	-5.222	-5.222	0	%100
13	H1	Y	-10.094	-10.094	0	%100
14	H2	Y	-10.094	-10.094	0	%100
15	MP3	Y	-10.105	-10.105	0	%100
16	MP1	Y	-10.105	-10.105	0	%100
17	MP2	Y	-10.105	-10.105	0	%100
18	T1	Y	-9.02	-9.02	0	%100
19	M29	Y	-3.855	-3.855	0	%100
20	M30	Y	-3.855	-3.855	0	%100
21	M33	Y	-3.855	-3.855	0	%100
22	M34	Y	-3.855	-3.855	0	%100
23	M35	Y	-3.855	-3.855	0	%100
24	M36	Y	-3.855	-3.855	0	%100
25	M25	Y	-3.855	-3.855	0	%100
26	M26	Y	-3.855	-3.855	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	SZ	-24.17	-24.17	0	%100
2	S4	SZ	-24.17	-24.17	0	%100
3	TR6	SZ	-55.915	-55.915	0	%100
4	TR5	SZ	-55.915	-55.915	0	%100
5	TR8	SZ	-55.915	-55.915	0	%100
6	TR7	SZ	-55.915	-55.915	0	%100
7	S1	SZ	-24.17	-24.17	0	%100
8	S2	SZ	-24.17	-24.17	0	%100
9	TR1	SZ	-55.915	-55.915	0	%100
10	TR2	SZ	-55.915	-55.915	0	%100
11	TR3	SZ	-55.915	-55.915	0	%100
12	TR4	SZ	-55.915	-55.915	0	%100
13	H1	SZ	-18.829	-18.829	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
14	H2	SZ	-18.829	-18.829	0	%100
15	MP3	SZ	-18.811	-18.811	0	%100
16	MP1	SZ	-18.811	-18.811	0	%100
17	MP2	SZ	-18.811	-18.811	0	%100
18	T1	SZ	-20.994	-20.994	0	%100
19	M29	SZ	0	0	0	%100
20	M30	SZ	0	0	0	%100
21	M33	SZ	0	0	0	%100
22	M34	SZ	0	0	0	%100
23	M35	SZ	0	0	0	%100
24	M36	SZ	0	0	0	%100
25	M25	SZ	0	0	0	%100
26	M26	SZ	0	0	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	SX	-24.17	-24.17	0	%100
2	S4	SX	-24.17	-24.17	0	%100
3	TR6	SX	-55.915	-55.915	0	%100
4	TR5	SX	-55.915	-55.915	0	%100
5	TR8	SX	-55.915	-55.915	0	%100
6	TR7	SX	-55.915	-55.915	0	%100
7	S1	SX	-24.17	-24.17	0	%100
8	S2	SX	-24.17	-24.17	0	%100
9	TR1	SX	-55.915	-55.915	0	%100
10	TR2	SX	-55.915	-55.915	0	%100
11	TR3	SX	-55.915	-55.915	0	%100
12	TR4	SX	-55.915	-55.915	0	%100
13	H1	SX	-18.829	-18.829	0	%100
14	H2	SX	-18.829	-18.829	0	%100
15	MP3	SX	-18.811	-18.811	0	%100
16	MP1	SX	-18.811	-18.811	0	%100
17	MP2	SX	-18.811	-18.811	0	%100
18	T1	SX	-20.994	-20.994	0	%100
19	M29	SX	0	0	0	%100
20	M30	SX	0	0	0	%100
21	M33	SX	0	0	0	%100
22	M34	SX	0	0	0	%100
23	M35	SX	0	0	0	%100
24	M36	SX	0	0	0	%100
25	M25	SX	0	0	0	%100
26	M26	SX	0	0	0	%100

Member Area Loads

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

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

	Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*Mn z-z [lb...	Cb	Eqn
1	TR7	0.63" SR	.434	39.811	27	.025	19.905		85	4409....	1402...	147.2...	147.295	2....	H1-1a
2	S4	1.9" ODx0.1...	.420	35.333	30	.160	42.4		28	2049...	2777...	1314....	1314.45	1....	H1-1b
3	S3	1.9" ODx0.1...	.400	35.333	31	.162	42.4		30	2049...	2777...	1314....	1314.45	1....	H1-1b
4	TR4	0.63" SR	.311	39.811	87	.039	19.905		30	4409....	1402...	147.2...	147.295	2....	H1-1a
5	S2	1.9" ODx0.1...	.299	35.333	85	.117	42.4		84	2049...	2777...	1314....	1314.45	1....	H1-1b
6	MP1	2.88"x0.120"	.287	33	2	.078	33		2	2249...	43056	3156....	3156.75	3....	H1-1b
7	S1	1.9" ODx0.1...	.287	35.333	81	.118	42.4		87	2049...	2777...	1314....	1314.45	1.83	H1-1b
8	TR8	0.63" SR	.179	0	32	.025	19.905		81	2249....	1402...	147.2...	147.295	2....	H1-1b
9	H1	PIPE_2.5	.166	77	8	.094	78		2	3348...	66654	4726.5	4726.5	1.93	H1-1b
10	TR5	0.63" SR	.162	28.3	27	.034	0		95	5162....	1402...	147.2...	147.295	2....	H1-1b
11	TR2	0.63" SR	.141	0	32	.035	0		95	5162....	1402...	147.2...	147.295	2....	H1-1b
12	TR3	0.63" SR	.122	0	81	.037	19.905		36	2249....	1402...	147.2...	147.295	2....	H1-1b
13	MP3	2.88"x0.120"	.109	33	81	.022	61		87	2249...	43056	3156....	3156.75	4....	H1-1b
14	MP2	2.88"x0.120"	.091	33	8	.039	33		93	2249...	43056	3156....	3156.75	4....	H1-1b
15	H2	PIPE_2.5	.090	93	96	.049	78		94	3348...	66654	4726.5	4726.5	2....	H1-1b
16	T1	Pipe2.38X0....	.085	0	7	.005	96.255		36	1328...	3527...	2114....	2114.85	1....	H1-1...
17	TR6	0.63" SR	.078	0	93	.016	28.3		98	5162....	1402...	147.2...	147.295	2....	H1-1b
18	TR1	0.63" SR	.054	28.3	77	.015	0		98	5162....	1402...	147.2...	147.295	2....	H1-1b

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOBOS00022A
Site Number:	BOBOS00022A
Connection Description:	Sector Frame to Tower Leg

MAXIMUM BOLT LOADS		
Bolt Tension:	1303.73	lbs
Bolt Shear:	876.19	lbs

WORST CASE BOLT LOADS[1]		
Bolt Tension:	1303.73	lbs
Bolt Shear:	131.50	lbs

WORST CASE CONNECTION SLIP LOADS[2]		
Sliding Force:	875.93	lbs
Torsion About Leg:	0.00	lbs-ft

BOLT PROPERTIES		
Bolt Type:	Threaded Rod	-
Bolt Diameter:	0.625	in
Bolt Grade:	A449	-
# of Threaded Rods:	2	-
Leg Diameter:	5.563	in
Threads Excluded?	No	-

[1] *Worst case bolt loads correspond to Load combination #7 on member M25 in RISA-3D, which causes the maximum demand on the bolts.*

[2] *Worst Case slip loads correspond to Load combination #32 on member M25 in RISA 3D, which causes the maximum slip demand on the connection.*

Member Information
I nodes of M25, M26

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	6.4%	
Max Shear Usage	6.3%	
Interaction Check (Worst Case)	0.00	***≤1.05***
Result	Pass	

SLIP CHECK (WORST CASE)		
Torsional Slip Resistance	1380.74	
Sliding Resistance	5956.80	
Torsional Slip Usage	0.0%	
Sliding Usage	14.7%	
Interaction Check	0.02	***≤1.05***
Result	Pass	

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

TOWER ENGINEERING PROFESSIONALS

Structural Analysis Report

Structure	:	**1030 ft Guyed Tower**
ATC Site Name	:	**Hartford - Nyc,CT**
ATC Site Number	:	**302532**
Engineering Number	:	**13726721_C3_02**
Proposed Carrier	:	**DISH WIRELESS L.L.C.**
Carrier Site Name	:	**BOBOS00022A**
Carrier Site Number	:	**BOBOS00022A**
Site Location	:	**1337 Route 85** **Oakdale, CT 06370-1832** **41.4178, -72.1981**
County	:	**New London**
Date	:	**October 25, 2021**
Max Usage	:	**72%**
Result	:	**Pass**

Prepared By:

Jack Davis
TEP

Reviewed By:

STATE OF CONNECTICUT
AARON THOMAS RUCKER
32608
LICENSED PROFESSIONAL ENGINEER

10/25/2021

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 1030 ft Guyed tower to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	TSL Dwg No. 4335-E, dated November 6, 1985 TSL Dwg No. YCB20.000, dated March 26, 1986
Foundation Drawing	TSL Dwg No. BE 20.0001, dated April 22, 1986
Geotechnical Report	PSI Project No. 862-05163

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:	125 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	Ss = 0.20, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

****Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222-H, Annex S.**

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 contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
819.0	1	RFS Celwave PD-340-2	Side Arm	(1) 7/8" Coax	US DEPT OF JUSTICE

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
180.0	3	Fujitsu TA08025-B604	Sector Frames	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	1	Raycap RDIDC-9181-PF-48			
	3	Fujitsu TA08025-B605			
	3	Commscope FFVV-65B-R2			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines on any empty face.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	63%	Pass
Diagonals	52%	Pass
Horizontals	44%	Pass
Guys	55%	Pass
Leg Bolts	5%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Base Axial (kips)	1,523.6	2,056.9	597.9	29%
Anchor 1 Uplift (kips)	114.5	154.6	44.9	29%
Anchor 1 Shear (kips)	140.2	189.2	60.2	32%
Anchor 2 Uplift (kips)	181.0	244.3	160.6	66%
Anchor 2 Shear (kips)	146.1	197.2	141.6	72%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
180.0	Commscope FFVV-65B-R2	DISH WIRELESS L.L.C.	0.203	0.280	0.076
	Fujitsu TA08025-B604				
	Fujitsu TA08025-B605				
	Raycap RDIDC-9181-PF-48				

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC 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 Service, PLLC

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

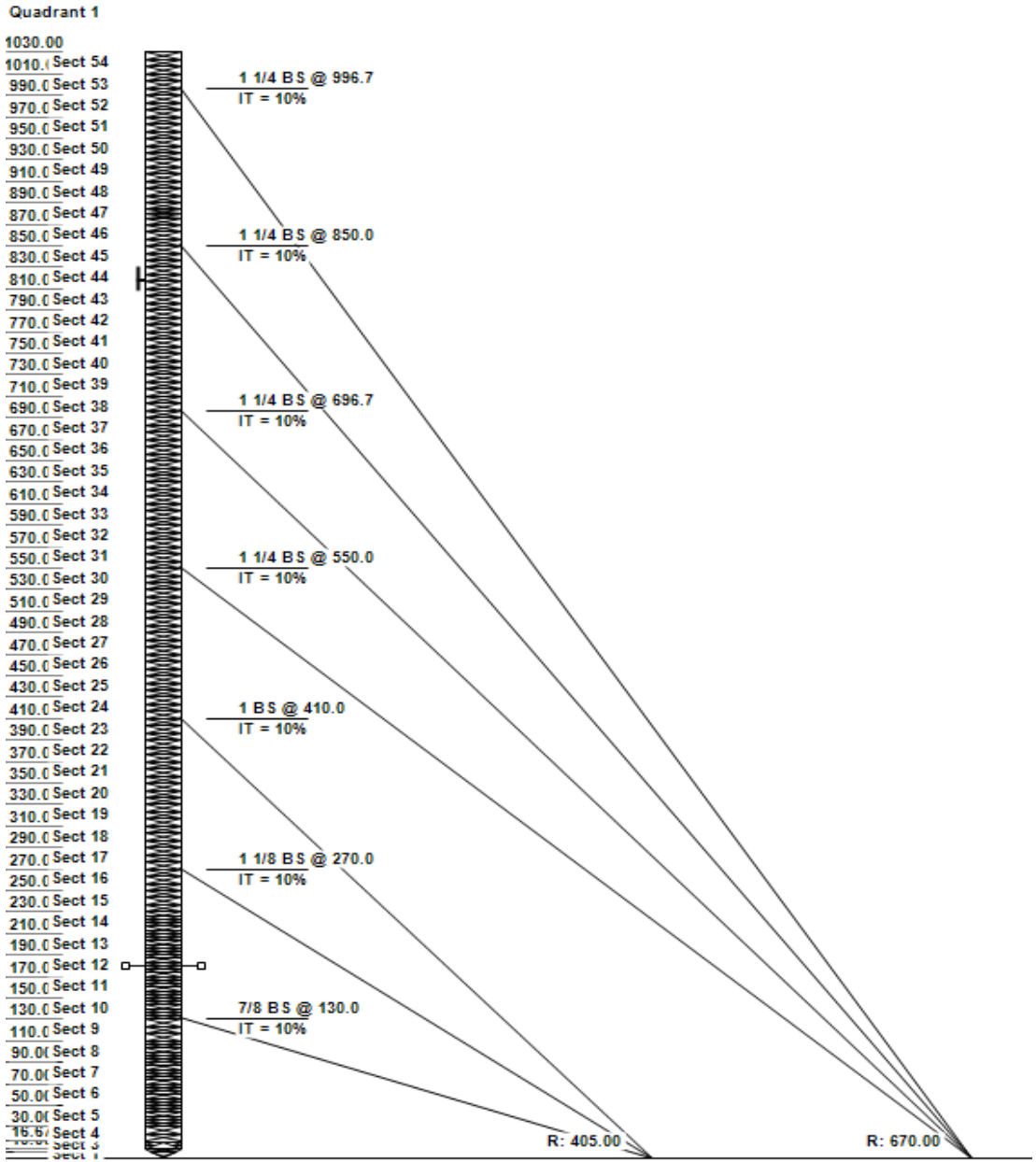
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, 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 Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

JOB INFORMATION

Asset:	302532, Hartford - Nyc	Height :	1030 ft
Client	DISH WIRELESS L.L.C.	Base Width :	7 ft
Code:	ANSI/TIA-222-H	Shape :	Triangle



SITE PARAMETERS

Nominal Wind : 121.83 mph wind with no ic	Exposure : B	Site Class : D
Ice Wind: 48.73 mph wind with 0.850"	Topo Method: Method 1	Risk Cat : II
Service Wind : 60 mph Serviceability	Topo Feature :	S_s : 0.199 S_1 : 0.054

SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1	PXX 50 ksi 5" DIA PIP	PL 36 ksi PL 4 x 3/8"	DAL 36 ksi 4X3X0.25
2	PXX 50 ksi 5" DIA PIP	SAU 36 ksi 4X3X0.25	DCH 36 ksi C 5x6.7 B TO B
3	PXX 50 ksi 5" DIA PIP	DAE 36 ksi 3X3X0.25	DAE 36 ksi 3X3X0.25
4	PXX 50 ksi 5" DIA PIP	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
5 - 8	PXX 50 ksi 5" DIA PIP	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
9	PXX 50 ksi 5" DIA PIP	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
10	PSP 50 ksi 5.563" x 0	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
11 - 14	PSP 50 ksi 5.563" x 0	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
15 - 17	PSP 50 ksi 5.563" x 0	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
18 - 21	PSP 50 ksi 5.563" x 0	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
22 - 24	PSP 50 ksi 5.563" x 0	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
25	PSP 50 ksi 5.563" x 0	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
26 - 29	PSP 50 ksi 5.563" OD	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
30 - 31	PSP 50 ksi 5.563" OD	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
32	PSP 50 ksi 5.563" OD	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
33 - 37	PSP 50 ksi 5.563" x 0	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
38	PSP 50 ksi 5.563" x 0	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
39 - 44	PSP 50 ksi 5.563" x 0	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
45 - 46	PSP 50 ksi 5.563" x 0	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
47 - 52	PST 50 ksi 5" DIA PIP	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875
53	PST 50 ksi 5" DIA PIP	SOL 36 ksi 7/8" SOLID	DAE 36 ksi 1.75X1.75X0.1875
54	PST 50 ksi 5" DIA PIP	SOL 36 ksi 3/4" SOLID	DAE 36 ksi 1.75X1.75X0.1875

REDUNDANT SECONDARY BRACING

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 2	-	-	-	-	-	-
3	S2X2X0.25	S2X2X0.25	-	-	-	-
4	-	-	-	-	-	-
5 - 8	-	-	-	-	-	-
9	-	-	-	-	-	-
10 - 14	-	-	-	-	-	-
15 - 54	-	-	-	-	-	-

DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
819.00	DIPOLE	1	RFS Celwave PD-340-2
808.00	Side Arm	1	Generic Flat Side Arm
180.00	BOB/SSB	1	Raycap RDIDC-9181-PF-48
180.00	PANEL	3	Commscope FFVV-65B-R2
180.00	RRU/RRH	3	Fujitsu TA08025-B605
180.00	RRU/RRH	3	Fujitsu TA08025-B604
180.00	Sector Frame	3	Generic Flat Light Sector Fram

LINEAR APPURTENANCE

Elev (ft) From	To	Qty	Description

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JOB INFORMATION

Asset:	302532, Hartford - Nyc	Height :	1030 ft
Client	DISH WIRELESS L.L.C.	Base Width :	7 ft
Code:	ANSI/TIA-222-H	Shape :	Triangle

LINEAR APPURTENANCE

Elev (ft) From	To	Qty	Description
0.00	819.00	1	7/8" Coax
0.00	180.00	1	1.60" (40.6mm) Hybrid

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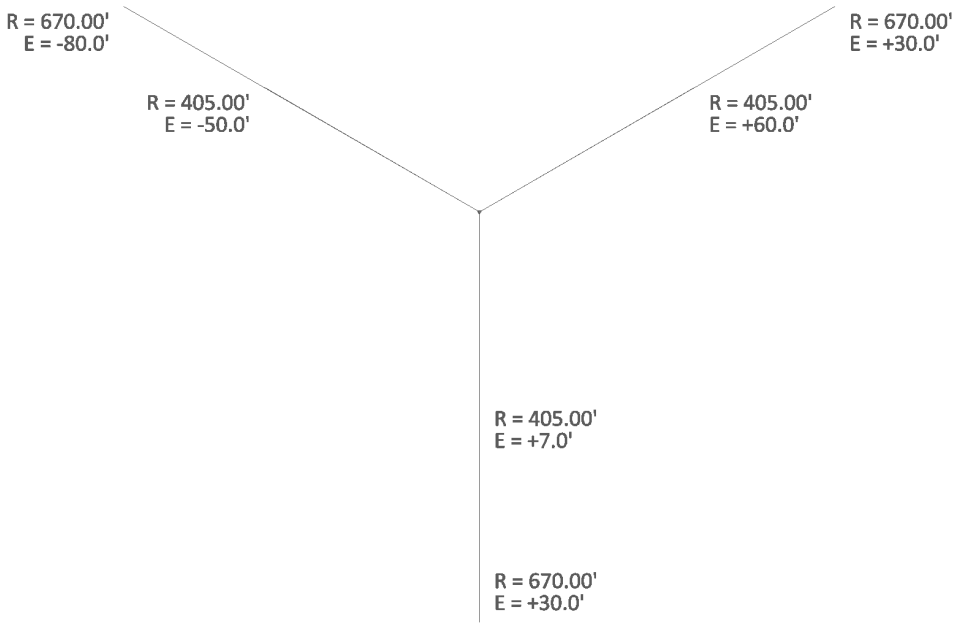
JOB INFORMATION

Asset:	302532, Hartford - Nyc	Height :	1030 ft
Client	DISH WIRELESS L.L.C.	Base Width :	7 ft
Code:	ANSI/TIA-222-H	Shape :	Triangle



GUY ANCHOR DESIGN LOADS

Radius (ft)	Drop (ft)	Azimuth (o)	Uplift (kip)	Shear (kip)
405.00	7.00	0	37.34	59.91
405.00	60.00	120	30.27	60.16
405.00	-50.00	240	44.93	59.46
670.00	30.00	0	141.46	141.57
670.00	30.00	120	141.38	141.41
670.00	-80.00	240	160.56	140.98

GLOBAL BASE FOUNDATION DESIGN LOADS

Vertical (kip)	Horizontal (kip)
597.94	2.47

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ANALYSIS PARAMETERS			
Location:	New London County, CT	Height:	1030 ft
Type and Shape:	Guyed, Triangle	Base Elevation:	0.00 ft
Manufacturer:	Central Tower	Bottom Face Width:	7.00 ft
Kd	0.85	Top Face Width:	7.00 ft
Ke:	0.99		

ICE & WIND PARAMETERS			
Exposure Category:	B	Design Wind Speed Without Ice:	122 mph
Risk Category:	II	Design Wind Speed with Ice:	49 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	Flat	Design Ice Thickness:	0.85 in
Crest Height:	0 ft	HMSL:	302 ft

SEISMIC PARAMETERS					
Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			Period Based on Rayleigh Method (sec):	1.73
T_L (sec):	6	P:	1.3	$C_{s:}$	0.030
$S_{s:}$	0.199	$S_{1:}$	0.054	$C_{s,}$ Max:	0.030
$F_{a:}$	1.600	$F_{v:}$	2.400	$C_{s,}$ Min:	0.030
$S_{ds:}$	0.212	S_{d1}:	0.086		

LOAD CASES	
1.2D + 1.0W Normal Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W Normal Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W Normal Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W Normal Pattern 4	121.83 mph wind with no ice
1.2D + 1.0W 60° Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W 60° Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W 60° Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W 60° Pattern 4	121.83 mph wind with no ice
1.2D + 1.0W 90° Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W 90° Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W 90° Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W 90° Pattern 4	121.83 mph wind with no ice
1.2D + 1.0W 120° Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W 120° Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W 120° Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W 120° Pattern 4	121.83 mph wind with no ice
1.2D + 1.0W 180° Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W 180° Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W 180° Pattern 4	121.83 mph wind with no ice
1.2D + 1.0W 180° Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W 210° Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W 210° Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W 210° Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W 210° Pattern 4	121.83 mph wind with no ice
1.2D + 1.0W 240° Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W 240° Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W 240° Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W 240° Pattern 4	121.83 mph wind with no ice
1.2D + 1.0W 300° Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W 300° Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W 300° Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W 300° Pattern 4	121.83 mph wind with no ice
1.2D + 1.0W 330° Pattern 1	121.83 mph wind with no ice
1.2D + 1.0W 330° Pattern 3	121.83 mph wind with no ice
1.2D + 1.0W 330° Pattern 2	121.83 mph wind with no ice
1.2D + 1.0W 330° Pattern 4	121.83 mph wind with no ice

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LOAD CASES	
1.2D + 1.0Di + 1.0Wi Normal	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Di + 1.0Wi 60°	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Di + 1.0Wi 90°	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Di + 1.0Wi 120°	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Di + 1.0Wi 180°	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Di + 1.0Wi 210°	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Di + 1.0Wi 240°	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Di + 1.0Wi 300°	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Di + 1.0Wi 330°	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
1.2D + 1.0Ev + 1.0Eh 60°	Seismic
1.2D + 1.0Ev + 1.0Eh 90°	Seismic
1.2D + 1.0Ev + 1.0Eh 120°	Seismic
1.2D + 1.0Ev + 1.0Eh 180°	Seismic
1.2D + 1.0Ev + 1.0Eh 210°	Seismic
1.2D + 1.0Ev + 1.0Eh 240°	Seismic
1.2D + 1.0Ev + 1.0Eh 300°	Seismic
1.2D + 1.0Ev + 1.0Eh 330°	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 60°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 90°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 120°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 180°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 210°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 240°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 300°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 330°	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice
1.0D + 1.0W Service 60°	60 mph Wind with No Ice
1.0D + 1.0W Service 90°	60 mph Wind with No Ice
1.0D + 1.0W Service 120°	60 mph Wind with No Ice
1.0D + 1.0W Service 180°	60 mph Wind with No Ice
1.0D + 1.0W Service 210°	60 mph Wind with No Ice
1.0D + 1.0W Service 240°	60 mph Wind with No Ice
1.0D + 1.0W Service 300°	60 mph Wind with No Ice
1.0D + 1.0W Service 330°	60 mph Wind with No Ice

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TOWER LOADING

Discrete Appurtenance Properties 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)
819.0	RFS Celwave PD-340-2	1	37	7.5	22.5	3.0	0.0	1.00	1.00	0.0	0.00	57.57	369	44
808.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	57.35	307	225
180.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	0.50	0.0	0.00	37.34	24	26
180.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	37.34	75	230
180.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	37.34	75	270
180.0	Commscope FFVV-65B-R2	3	71	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.00	37.34	598	255
180.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	37.34	857	1440
	Totals	15	2,076	118.0									2,304	2,491

TOWER LOADING

Discrete Appurtenance Properties 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)
819.0	RFS Celwave PD-340-2	1	37	7.5	22.5	3.0	0.0	1.00	1.00	0.0	0.00	57.57	369	44
808.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	57.35	307	225
180.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	0.50	0.0	0.00	37.34	24	26
180.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	37.34	75	230
180.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	37.34	75	270
180.0	Commscope FFVV-65B-R2	3	71	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.00	37.34	598	255
180.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	37.34	857	1440
	Totals	15	2,076	118.0									2,304	2,491

TOWER LOADING

Discrete Appurtenance Properties 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)
819.0	RFS Celwave PD-340-2	1	37	7.5	22.5	3.0	0.0	1.00	1.00	0.0	0.00	57.57	369	44
808.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	57.35	307	225
180.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	0.50	0.0	0.00	37.34	24	26
180.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	37.34	75	230
180.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	37.34	75	270
180.0	Commscope FFVV-65B-R2	3	71	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.00	37.34	598	255
180.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	37.34	857	1440
	Totals	15	2,076	118.0									2,304	2,491

TOWER LOADING

Discrete Appurtenance Properties 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)
819.0	RFS Celwave PD-340-2	1	37	7.5	22.5	3.0	0.0	1.00	1.00	0.0	0.00	57.57	369	44
808.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	57.35	307	225
180.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	0.50	0.0	0.00	37.34	24	26
180.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	37.34	75	230
180.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	37.34	75	270
180.0	Commscope FFVV-65B-R2	3	71	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.00	37.34	598	255
180.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	37.34	857	1440
	Totals	15	2,076	118.0									2,304	2,491

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elev (ft)	Description	Qty	Ice Wt	Ice EPA	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)

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			(lb)	(sf)										
819.0	RFS Celwave PD-340-2	1	169	14.1	22.5	3.0	0.0	1.00	1.00	0.0	0.00	9.21	110	176
808.0	Generic Flat Side Arm	1	277	8.4	0.0	0.0	0.0	1.00	1.00	0.0	0.00	9.18	65	314
180.0	Raycap RDIDC-9181-PF-48	1	55	2.4	1.3	14.0	8.0	0.80	0.50	0.0	0.00	5.97	5	59
180.0	Fujitsu TA08025-B604	3	98	2.5	1.3	15.0	7.9	0.80	0.50	0.0	0.00	5.97	15	331
180.0	Fujitsu TA08025-B605	3	111	2.5	1.3	15.0	9.1	0.80	0.50	0.0	0.00	5.97	15	379
180.0	Commscope FFVV-65B-R2	3	216	13.9	6.0	19.6	7.8	0.80	0.64	0.0	0.00	5.97	108	691
180.0	Generic Flat Light Sector Fram	3	574	26.6	0.0	0.0	0.0	0.75	0.67	0.0	0.00	5.97	204	1962
	Totals	15	3,498	161.4									523	3,913

TOWER LOADING

Discrete Appurtenance Properties 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)
819.0	RFS Celwave PD-340-2	1	37	7.5	22.5	3.0	0.0	1.00	1.00	0.0	0.00	13.96	89	37
808.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	13.91	74	188
180.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	0.50	0.0	0.00	9.06	6	22
180.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	9.06	18	192
180.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	9.06	18	225
180.0	Commscope FFVV-65B-R2	3	71	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.00	9.06	145	212
180.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	9.06	208	1200
	Totals	15	2,076	118.0									559	2,076

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TOWER LOADING

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	819.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	180.0	1.60" (40.6mm) Hybrid	1	1.60	2.34	100	2	Individual	0.00	N	1.00	1.00	0.00

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SECTION FORCES

1.2D + 1.0W Normal Pattern 1
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493

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SECTION FORCES

Sect #	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	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.35	18.47	0.00	1479	0	351	12	363
														136,867	0			80,222

1.2D + 1.0W Normal Pattern 2
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902

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SECTION FORCES

Sect #	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)
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W Normal Pattern 3
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077

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SECTION FORCES

Sect #	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)
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W Normal Pattern 4
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247

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SECTION FORCES

Sect #	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	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 60° Pattern 1
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228

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SECTION FORCES

Sect #	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	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 60° Pattern 2 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233

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SECTION FORCES

Sect #	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)
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 60° Pattern 3 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316

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SECTION FORCES

Sect #	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)
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 60° Pattern 4 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365

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SECTION FORCES

Sect #	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)
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 90° Pattern 1 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393

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SECTION FORCES

Sect #	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)
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 90° Pattern 2
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432

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SECTION FORCES

Sect #	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)
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 90° Pattern 3 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544

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SECTION FORCES

Sect #	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)
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 90° Pattern 4
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501

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SECTION FORCES

Sect #	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)
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 120° Pattern 1
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581

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SECTION FORCES

Sect #	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)
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 120° Pattern 2 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611

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SECTION FORCES

Sect #	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)
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 120° Pattern 3
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676

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SECTION FORCES

Sect #	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)
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 120° Pattern 4 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666

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SECTION FORCES

Sect #	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)
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 180° Pattern 1 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620

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SECTION FORCES

Sect #	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)
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 180° Pattern 2
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643

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SECTION FORCES

Sect #	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)
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 180° Pattern 3 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665

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SECTION FORCES

Sect #	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)
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 180° Pattern 4 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686

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SECTION FORCES

Sect #	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)
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 210° Pattern 1
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724

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SECTION FORCES

Sect #	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)
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 210° Pattern 2
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775

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SECTION FORCES

Sect #	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)
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 210° Pattern 3
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848

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SECTION FORCES

Sect #	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)
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 210° Pattern 4
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714

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SECTION FORCES

Sect #	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)
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 240° Pattern 1
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790

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SECTION FORCES

Sect #	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)
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 240° Pattern 2 Gust Response Factor (Gh): 0.85
121.83 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918

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SECTION FORCES

Sect #	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)
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 240° Pattern 3
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 240° Pattern 4
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.85	34.83	0.00	1687	0	1815	0	1815
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	13.78	37.02	0.00	1945	0	1918	0	1918
52	980	60.60	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.88	34.91	0.00	1687	0	1798	0	1798
51	960	60.25	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.89	34.95	0.00	1687	0	1790	0	1790
50	940	59.88	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.91	35.00	0.00	1687	0	1781	0	1781
49	920	59.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.92	35.04	0.00	1687	0	1773	0	1773
48	900	59.15	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	12.94	35.09	0.00	1687	0	1764	0	1764
47	880	58.77	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	14.40	38.52	0.00	1852	0	1924	0	1924
46	860	58.38	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	13.36	36.03	0.00	2244	0	1788	0	1788
45	840	57.99	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	13.91	37.37	0.00	2389	0	1842	0	1842
44	820	57.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.01	35.28	0.00	2134	0	1727	29	1756
43	800	57.19	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.03	35.33	0.00	2138	0	1717	64	1781
42	780	56.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.05	35.38	0.00	2138	0	1707	63	1770
41	760	56.36	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.07	35.43	0.00	2138	0	1697	63	1760
40	740	55.93	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.09	35.48	0.00	2138	0	1687	62	1749
39	720	55.49	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.11	35.54	0.00	2138	0	1676	62	1738
38	700	55.05	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	14.05	37.72	0.00	2397	0	1765	61	1826
37	680	54.59	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.15	35.65	0.00	2138	0	1654	61	1715
36	660	54.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.17	35.71	0.00	2138	0	1643	60	1703
35	640	53.66	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.19	35.77	0.00	2138	0	1631	60	1691
34	620	53.17	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.22	35.83	0.00	2138	0	1619	59	1679
33	600	52.68	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	13.24	35.90	0.00	2138	0	1607	59	1666
32	580	52.17	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.26	35.96	0.00	2589	0	1595	58	1653
31	560	51.65	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.67	36.87	0.00	2702	0	1619	57	1676
30	540	51.11	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.23	38.22	0.00	2847	0	1660	57	1717
29	520	50.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.34	36.18	0.00	2589	0	1555	56	1611
28	500	50.00	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.37	36.25	0.00	2589	0	1541	56	1596
27	480	49.42	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.40	36.33	0.00	2589	0	1526	55	1581
26	460	48.82	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.43	36.41	0.00	2589	0	1511	54	1565
25	440	48.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.46	36.49	0.00	3015	0	1495	54	1549
24	420	47.57	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.87	37.41	0.00	3129	0	1513	53	1566
23	400	46.91	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.44	38.77	0.00	3274	0	1546	52	1598
22	380	46.23	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	13.94	37.60	0.00	3129	0	1477	51	1529
21	360	45.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.60	36.87	0.00	3015	0	1427	51	1477
20	340	44.78	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.64	36.98	0.00	3015	0	1408	50	1457
19	320	44.02	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.68	37.09	0.00	3015	0	1388	49	1436
18	300	43.21	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.72	37.20	0.00	3015	0	1367	48	1415
17	280	42.37	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.14	38.15	0.00	3129	0	1374	47	1421
16	260	41.48	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	14.72	39.54	0.00	3274	0	1394	46	1440
15	240	40.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.24	38.42	0.00	3129	0	1324	45	1369
14	220	39.55	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.93	37.76	0.00	3015	0	1269	44	1313
13	200	38.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	13.99	37.93	0.00	3015	0	1241	43	1284
12	180	37.34	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.06	38.12	0.00	3043	0	1210	72	1282
11	160	36.11	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.14	38.33	0.00	3071	0	1176	99	1275
10	140	34.76	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	14.59	39.36	0.00	3185	0	1163	95	1258
9	120	33.26	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	15.22	40.87	0.00	3732	0	1155	91	1247
8	100	31.57	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.44	39.16	0.00	3474	0	1051	87	1137
7	80	29.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.59	39.56	0.00	3474	0	996	81	1077
6	60	27.28	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.79	40.10	0.00	3474	0	930	75	1005
5	40	24.30	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	14.92	40.46	0.00	3474	0	836	67	902
4	23	22.36	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.19	27.48	0.00	2391	0	522	41	563
3	13	22.36	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.35	24.86	0.00	1834	0	473	20	493
2	8	22.36	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.92	17.22	0.00	1111	0	327	9	336
1	3	22.36	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.38	18.53	0.00	1479	0	352	12	364
														136,867	0			80,223

1.2D + 1.0W 300° Pattern 1
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 300° Pattern 2
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 300° Pattern 3
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 300° Pattern 4
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.27	33.28	0.00	1687	0	1734	0	1734
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.11	35.22	0.00	1945	0	1825	0	1825
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.30	33.36	0.00	1687	0	1718	0	1718
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.32	33.40	0.00	1687	0	1711	0	1711
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.34	33.45	0.00	1687	0	1703	0	1703
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.35	33.49	0.00	1687	0	1694	0	1694
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.37	33.54	0.00	1687	0	1686	0	1686
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	13.64	36.48	0.00	1852	0	1822	0	1822
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	12.78	34.49	0.00	2244	0	1712	0	1712
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.24	35.56	0.00	2389	0	1753	0	1753
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.44	33.73	0.00	2134	0	1651	29	1680
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.46	33.78	0.00	2138	0	1642	64	1705
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.48	33.83	0.00	2138	0	1632	63	1696
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.49	33.88	0.00	2138	0	1623	63	1686
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.51	33.93	0.00	2138	0	1613	62	1675
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.53	33.99	0.00	2138	0	1603	62	1665
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	13.37	35.92	0.00	2397	0	1681	61	1742
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.58	34.10	0.00	2138	0	1582	61	1643
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.60	34.16	0.00	2138	0	1572	60	1632
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.62	34.22	0.00	2138	0	1561	60	1620
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.64	34.28	0.00	2138	0	1549	59	1609
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	12.67	34.35	0.00	2138	0	1538	59	1596
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.69	34.41	0.00	2589	0	1526	58	1584
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.10	35.33	0.00	2702	0	1551	57	1608
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.56	36.41	0.00	2847	0	1582	57	1639
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.77	34.63	0.00	2589	0	1488	56	1544
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.80	34.70	0.00	2589	0	1475	56	1530
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.83	34.78	0.00	2589	0	1461	55	1516
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.86	34.86	0.00	2589	0	1447	54	1501
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	12.89	34.94	0.00	3015	0	1432	54	1486
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.30	35.87	0.00	3129	0	1451	53	1503
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	13.76	36.97	0.00	3274	0	1474	52	1526
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.37	36.06	0.00	3129	0	1417	51	1468
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.03	35.32	0.00	3015	0	1367	51	1417
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.06	35.43	0.00	3015	0	1349	50	1398
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.11	35.54	0.00	3015	0	1330	49	1378
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.15	35.66	0.00	3015	0	1310	48	1358
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.57	36.61	0.00	3129	0	1318	47	1365
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.05	37.73	0.00	3274	0	1330	46	1377
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	13.67	36.88	0.00	3129	0	1271	45	1316
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.36	36.21	0.00	3015	0	1217	44	1261
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.42	36.38	0.00	3015	0	1190	43	1233
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.49	36.57	0.00	3043	0	1161	72	1233
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.56	36.78	0.00	3071	0	1129	99	1228
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	14.02	37.82	0.00	3185	0	1117	95	1213
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	14.54	39.06	0.00	3732	0	1104	91	1196
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	13.87	37.61	0.00	3474	0	1009	87	1096
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.02	38.01	0.00	3474	0	957	81	1038
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.22	38.55	0.00	3474	0	894	75	969
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.35	38.91	0.00	3474	0	804	67	870
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	9.81	26.46	0.00	2391	0	503	41	544
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	8.98	21.57	0.00	1834	0	410	20	430
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.58	14.63	0.00	1111	0	278	9	287
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.33	16.64	0.00	1479	0	316	12	329
														136,867	0			76,748

1.2D + 1.0W 330° Pattern 1
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 330° Pattern 2
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 330° Pattern 3
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0W 330° Pattern 4
121.83 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	61.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.42	33.67	0.00	1687	0	1754	0	1754
53	1000	60.95	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.28	35.67	0.00	1945	0	1848	0	1848
52	980	60.60	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.45	33.75	0.00	1687	0	1738	0	1738
51	960	60.25	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.46	33.79	0.00	1687	0	1730	0	1730
50	940	59.88	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.48	33.83	0.00	1687	0	1722	0	1722
49	920	59.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.49	33.88	0.00	1687	0	1714	0	1714
48	900	59.15	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.51	33.92	0.00	1687	0	1705	0	1705
47	880	58.77	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	13.83	36.99	0.00	1852	0	1848	0	1848
46	860	58.38	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	12.93	34.88	0.00	2244	0	1731	0	1731
45	840	57.99	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.41	36.01	0.00	2389	0	1775	0	1775
44	820	57.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.58	34.11	0.00	2134	0	1670	29	1699
43	800	57.19	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.60	34.16	0.00	2138	0	1661	64	1724
42	780	56.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.62	34.21	0.00	2138	0	1651	63	1714
41	760	56.36	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.64	34.27	0.00	2138	0	1641	63	1704
40	740	55.93	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.66	34.32	0.00	2138	0	1632	62	1694
39	720	55.49	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.68	34.37	0.00	2138	0	1621	62	1683
38	700	55.05	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	13.54	36.37	0.00	2397	0	1702	61	1763
37	680	54.59	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.72	34.49	0.00	2138	0	1600	61	1661
36	660	54.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.74	34.55	0.00	2138	0	1590	60	1650
35	640	53.66	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.76	34.61	0.00	2138	0	1578	60	1638
34	620	53.17	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.79	34.67	0.00	2138	0	1567	59	1626
33	600	52.68	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	12.81	34.73	0.00	2138	0	1555	59	1614
32	580	52.17	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.84	34.80	0.00	2589	0	1543	58	1601
31	560	51.65	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.24	35.72	0.00	2702	0	1568	57	1625
30	540	51.11	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.73	36.86	0.00	2847	0	1602	57	1658
29	520	50.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.91	35.01	0.00	2589	0	1505	56	1561
28	500	50.00	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.94	35.09	0.00	2589	0	1491	56	1547
27	480	49.42	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	12.97	35.17	0.00	2589	0	1477	55	1532
26	460	48.82	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.00	35.25	0.00	2589	0	1463	54	1517
25	440	48.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.03	35.33	0.00	3015	0	1448	54	1501
24	420	47.57	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.44	36.26	0.00	3129	0	1466	53	1519
23	400	46.91	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	13.93	37.42	0.00	3274	0	1492	52	1544
22	380	46.23	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.51	36.44	0.00	3129	0	1432	51	1483
21	360	45.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.17	35.71	0.00	3015	0	1382	51	1432
20	340	44.78	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.21	35.81	0.00	3015	0	1363	50	1413
19	320	44.02	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.25	35.92	0.00	3015	0	1344	49	1393
18	300	43.21	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.29	36.04	0.00	3015	0	1324	48	1372
17	280	42.37	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.71	36.99	0.00	3129	0	1332	47	1379
16	260	41.48	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.22	38.19	0.00	3274	0	1346	46	1392
15	240	40.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	13.81	37.27	0.00	3129	0	1284	45	1329
14	220	39.55	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.50	36.60	0.00	3015	0	1230	44	1274
13	200	38.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.56	36.77	0.00	3015	0	1203	43	1246
12	180	37.34	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.63	36.96	0.00	3043	0	1173	72	1245
11	160	36.11	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	13.71	37.17	0.00	3071	0	1141	99	1240
10	140	34.76	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	14.16	38.21	0.00	3185	0	1129	95	1224
9	120	33.26	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	14.71	39.52	0.00	3732	0	1117	91	1208
8	100	31.57	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.01	38.00	0.00	3474	0	1020	87	1106
7	80	29.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.16	38.40	0.00	3474	0	967	81	1048
6	60	27.28	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.36	38.93	0.00	3474	0	903	75	978
5	40	24.30	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	14.49	39.30	0.00	3474	0	812	67	878
4	23	22.36	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	9.90	26.71	0.00	2391	0	508	41	549
3	13	22.36	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.32	22.39	0.00	1834	0	426	20	446
2	8	22.36	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.92	15.28	0.00	1111	0	290	9	299
1	3	22.36	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.59	17.11	0.00	1479	0	325	12	338
														136,867	0			77,617

1.2D + 1.0Di + 1.0Wi Normal
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	573	0	573
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	1.00	1.00	1.2	31.49	70.40	23.60	3545	1600	584	0	584
52	980	9.70	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	567	0	567
51	960	9.64	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	563	0	563
50	940	9.58	2.858	45.554	23.56	0.316	2.25	1.00	1.00	1.2	30.48	68.71	23.56	3208	1521	560	0	560
49	920	9.52	2.858	45.504	23.51	0.316	2.25	1.00	1.00	1.2	30.45	68.65	23.51	3204	1517	556	0	556
48	900	9.46	2.858	45.452	23.46	0.315	2.26	1.00	1.00	1.2	30.41	68.60	23.46	3199	1512	552	0	552
47	880	9.40	3.811	49.520	26.91	0.348	2.18	1.00	1.00	1.2	34.43	74.90	26.91	3597	1745	599	0	599
46	860	9.34	2.858	45.919	23.35	0.318	2.25	1.00	1.00	1.2	30.76	69.14	23.35	3778	1534	549	0	549
45	840	9.28	3.363	45.864	23.30	0.322	2.24	1.00	1.00	1.2	31.27	70.07	23.30	3961	1573	553	0	553
44	820	9.21	2.858	45.233	23.24	0.314	2.26	1.00	1.00	1.2	30.26	68.36	23.24	3656	1522	535	17	552
43	800	9.15	2.858	45.176	23.18	0.314	2.26	1.00	1.00	1.2	30.22	68.29	23.18	3691	1553	531	37	568
42	780	9.08	2.858	45.117	23.12	0.313	2.26	1.00	1.00	1.2	30.18	68.23	23.12	3686	1548	527	36	563
41	760	9.02	2.858	45.057	23.06	0.313	2.26	1.00	1.00	1.2	30.13	68.16	23.06	3680	1542	522	36	558
40	740	8.95	2.858	44.996	23.00	0.313	2.26	1.00	1.00	1.2	30.09	68.10	23.00	3675	1537	518	36	554
39	720	8.88	2.858	44.932	22.94	0.312	2.26	1.00	1.00	1.2	30.05	68.03	22.94	3669	1531	513	35	549
38	700	8.81	3.363	45.443	22.88	0.319	2.25	1.00	1.00	1.2	30.98	69.61	22.88	3995	1598	521	35	556
37	680	8.73	2.858	44.802	22.81	0.311	2.27	1.00	1.00	1.2	29.96	67.89	22.81	3657	1519	504	35	539
36	660	8.66	2.858	44.734	22.74	0.311	2.27	1.00	1.00	1.1	29.91	67.81	22.74	3651	1513	499	34	533
35	640	8.58	2.858	44.664	22.67	0.311	2.27	1.00	1.00	1.1	29.86	67.74	22.67	3645	1507	494	34	528
34	620	8.51	2.858	44.592	22.60	0.310	2.27	1.00	1.00	1.1	29.81	67.66	22.60	3638	1500	489	34	523
33	600	8.43	2.858	44.518	22.53	0.310	2.27	1.00	1.00	1.1	29.76	67.58	22.53	3632	1493	484	33	517
32	580	8.35	2.858	44.444	22.45	0.309	2.27	1.00	1.00	1.1	29.71	67.50	22.45	4076	1487	479	33	512
31	560	8.26	2.858	44.940	22.37	0.312	2.26	1.00	1.00	1.1	30.07	68.07	22.37	4212	1510	478	32	510
30	540	8.18	3.363	44.859	22.29	0.315	2.26	1.00	1.00	1.1	30.57	68.98	22.29	4391	1544	479	32	511
29	520	8.09	2.858	44.200	22.21	0.308	2.28	1.00	1.00	1.1	29.54	67.23	22.21	4054	1465	462	32	494
28	500	8.00	2.858	44.113	22.12	0.307	2.28	1.00	1.00	1.1	29.48	67.14	22.12	4046	1457	456	31	488
27	480	7.91	2.858	44.023	22.03	0.307	2.28	1.00	1.00	1.1	29.42	67.04	22.03	4038	1449	451	31	481
26	460	7.81	2.858	43.929	21.94	0.306	2.28	1.00	1.00	1.1	29.36	66.94	21.94	4030	1441	444	30	475
25	440	7.71	2.858	43.832	21.84	0.305	2.28	1.00	1.00	1.1	29.29	66.83	21.84	4447	1432	438	30	468
24	420	7.61	2.858	44.306	21.74	0.308	2.27	1.00	1.00	1.1	29.64	67.38	21.74	4581	1452	436	29	465
23	400	7.51	3.363	44.200	21.63	0.311	2.27	1.00	1.00	1.1	30.11	68.26	21.63	4757	1483	435	29	464
22	380	7.40	2.858	44.089	21.52	0.307	2.28	1.00	1.00	1.1	29.49	67.14	21.52	4562	1433	422	28	451
21	360	7.28	2.858	43.398	21.40	0.303	2.29	1.00	1.00	1.1	28.99	66.36	21.40	4409	1394	411	28	439
20	340	7.16	2.858	43.276	21.28	0.302	2.29	1.00	1.00	1.1	28.91	66.22	21.28	4399	1384	403	28	431
19	320	7.04	2.858	43.147	21.15	0.301	2.29	1.00	1.00	1.1	28.82	66.08	21.15	4388	1372	396	27	423
18	300	6.91	2.858	43.011	21.02	0.300	2.30	1.00	1.00	1.1	28.73	65.93	21.02	4376	1361	387	26	414
17	280	6.78	2.858	43.442	20.87	0.303	2.29	1.00	1.00	1.1	29.04	66.43	20.87	4505	1376	383	26	408
16	260	6.64	3.363	43.288	20.72	0.306	2.28	1.00	1.00	1.0	29.49	67.27	20.72	4675	1401	379	25	404
15	240	6.49	2.858	43.122	20.55	0.301	2.29	1.00	1.00	1.0	28.82	66.09	20.55	4477	1348	364	24	389
14	220	6.33	2.858	42.369	20.38	0.296	2.31	1.00	1.00	1.0	28.29	65.23	20.38	4321	1305	351	24	375
13	200	6.16	2.858	42.176	20.18	0.295	2.31	1.00	1.00	1.0	28.16	65.02	20.18	4304	1289	340	23	363
12	180	5.97	2.858	41.965	19.97	0.294	2.31	1.00	1.00	1.0	28.02	64.79	19.97	4346	1303	329	35	364
11	160	5.78	2.858	41.731	19.74	0.292	2.32	1.00	1.00	1.0	27.86	64.53	19.74	4386	1315	317	46	363
10	140	5.56	2.858	42.044	19.48	0.294	2.31	1.00	1.00	1.0	28.09	64.91	19.48	4502	1318	307	44	351
9	120	5.32	3.363	41.746	19.18	0.296	2.31	1.00	1.00	1.0	28.43	65.59	19.18	5059	1327	297	42	338
8	100	5.05	2.858	40.824	18.83	0.287	2.33	1.00	1.00	0.9	27.25	63.54	18.83	4709	1235	273	40	313
7	80	4.74	2.858	40.409	18.42	0.284	2.34	1.00	1.00	0.9	26.97	63.09	18.42	4674	1200	254	37	291
6	60	4.36	2.858	39.887	17.89	0.281	2.35	1.00	1.00	0.9	26.62	62.51	17.89	4629	1155	232	34	266
5	40	3.89	2.858	39.176	17.18	0.276	2.36	1.00	1.00	0.9	26.15	61.73	17.18	4570	1096	204	29	233
4	23	3.58	1.906	25.895	10.85	0.274	2.37	1.00	1.00	0.8	17.30	40.93	10.85	3087	696	124	18	142
3	13	3.58	6.850	10.708	4.52	0.347	2.18	1.00	1.00	0.8	13.43	29.27	4.52	2488	654	89	8	97
2	8	3.58	6.706	6.675	3.35	0.626	1.79	1.00	1.00	0.7	11.78	21.09	3.35	1531	420	64	2	66
1	3	3.58	5.288	10.287	3.62	0.802	1.82	1.00	1.00	0.7	14.42	26.20	3.62	1724	245	80	2	82
														211,150	74,284			24,064

1.2D + 1.0Di + 1.0Wi 60°
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	562	0	562
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	0.80	1.00	1.2	30.81	68.89	23.60	3545	1600	571	0	571
52	980	9.70	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	556	0	556
51	960	9.64	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	553	0	553
50	940	9.58	2.858	45.554	23.56	0.316	2.25	0.80	1.00	1.2	29.91	67.42	23.56	3208	1521	549	0	549
49	920	9.52	2.858	45.504	23.51	0.316	2.25	0.80	1.00	1.2	29.88	67.37	23.51	3204	1517	545	0	545
48	900	9.46	2.858	45.452	23.46	0.315	2.26	0.80	1.00	1.2	29.84	67.31	23.46	3199	1512	541	0	541
47	880	9.40	3.811	49.520	26.91	0.348	2.18	0.80	1.00	1.2	33.67	73.24	26.91	3597	1745	585	0	585
46	860	9.34	2.858	45.919	23.35	0.318	2.25	0.80	1.00	1.2	30.18	67.85	23.35	3778	1534	539	0	539
45	840	9.28	3.363	45.864	23.30	0.322	2.24	0.80	1.00	1.2	30.60	68.56	23.30	3961	1573	541	0	541
44	820	9.21	2.858	45.233	23.24	0.314	2.26	0.80	1.00	1.2	29.69	67.06	23.24	3656	1522	525	17	542
43	800	9.15	2.858	45.176	23.18	0.314	2.26	0.80	1.00	1.2	29.65	67.00	23.18	3691	1553	521	37	558
42	780	9.08	2.858	45.117	23.12	0.313	2.26	0.80	1.00	1.2	29.60	66.94	23.12	3686	1548	517	36	553
41	760	9.02	2.858	45.057	23.06	0.313	2.26	0.80	1.00	1.2	29.56	66.87	23.06	3680	1542	512	36	548
40	740	8.95	2.858	44.996	23.00	0.313	2.26	0.80	1.00	1.2	29.52	66.80	23.00	3675	1537	508	36	544
39	720	8.88	2.858	44.932	22.94	0.312	2.26	0.80	1.00	1.2	29.48	66.73	22.94	3669	1531	504	35	539
38	700	8.81	3.363	45.443	22.88	0.319	2.25	0.80	1.00	1.2	30.31	68.10	22.88	3995	1598	510	35	544
37	680	8.73	2.858	44.802	22.81	0.311	2.27	0.80	1.00	1.2	29.39	66.59	22.81	3657	1519	494	35	529
36	660	8.66	2.858	44.734	22.74	0.311	2.27	0.80	1.00	1.1	29.34	66.52	22.74	3651	1513	490	34	524
35	640	8.58	2.858	44.664	22.67	0.311	2.27	0.80	1.00	1.1	29.29	66.44	22.67	3645	1507	485	34	519
34	620	8.51	2.858	44.592	22.60	0.310	2.27	0.80	1.00	1.1	29.24	66.36	22.60	3638	1500	480	34	513
33	600	8.43	2.858	44.518	22.53	0.310	2.27	0.80	1.00	1.1	29.19	66.28	22.53	3632	1493	475	33	508
32	580	8.35	2.858	44.444	22.45	0.309	2.27	0.80	1.00	1.1	29.14	66.20	22.45	4076	1487	470	33	502
31	560	8.26	2.858	44.940	22.37	0.312	2.26	0.80	1.00	1.1	29.50	66.78	22.37	4212	1510	469	32	501
30	540	8.18	3.363	44.859	22.29	0.315	2.26	0.80	1.00	1.1	29.90	67.46	22.29	4391	1544	469	32	501
29	520	8.09	2.858	44.200	22.21	0.308	2.28	0.80	1.00	1.1	28.97	65.93	22.21	4054	1465	453	32	485
28	500	8.00	2.858	44.113	22.12	0.307	2.28	0.80	1.00	1.1	28.91	65.83	22.12	4046	1457	448	31	479
27	480	7.91	2.858	44.023	22.03	0.307	2.28	0.80	1.00	1.1	28.85	65.73	22.03	4038	1449	442	31	473
26	460	7.81	2.858	43.929	21.94	0.306	2.28	0.80	1.00	1.1	28.78	65.63	21.94	4030	1441	436	30	466
25	440	7.71	2.858	43.832	21.84	0.305	2.28	0.80	1.00	1.1	28.72	65.52	21.84	4447	1432	430	30	460
24	420	7.61	2.858	44.306	21.74	0.308	2.27	0.80	1.00	1.1	29.06	66.08	21.74	4581	1452	427	29	457
23	400	7.51	3.363	44.200	21.63	0.311	2.27	0.80	1.00	1.1	29.44	66.74	21.63	4757	1483	426	29	455
22	380	7.40	2.858	44.089	21.52	0.307	2.28	0.80	1.00	1.1	28.91	65.84	21.52	4562	1433	414	28	442
21	360	7.28	2.858	43.398	21.40	0.303	2.29	0.80	1.00	1.1	28.42	65.05	21.40	4409	1394	403	28	431
20	340	7.16	2.858	43.276	21.28	0.302	2.29	0.80	1.00	1.1	28.34	64.91	21.28	4399	1384	395	28	423
19	320	7.04	2.858	43.147	21.15	0.301	2.29	0.80	1.00	1.1	28.25	64.77	21.15	4388	1372	388	27	415
18	300	6.91	2.858	43.011	21.02	0.300	2.30	0.80	1.00	1.1	28.16	64.62	21.02	4376	1361	380	26	406
17	280	6.78	2.858	43.442	20.87	0.303	2.29	0.80	1.00	1.1	28.47	65.13	20.87	4505	1376	375	26	401
16	260	6.64	3.363	43.288	20.72	0.306	2.28	0.80	1.00	1.0	28.81	65.73	20.72	4675	1401	371	25	396
15	240	6.49	2.858	43.122	20.55	0.301	2.29	0.80	1.00	1.0	28.25	64.77	20.55	4477	1348	357	24	381
14	220	6.33	2.858	42.369	20.38	0.296	2.31	0.80	1.00	1.0	27.72	63.91	20.38	4321	1305	344	24	368
13	200	6.16	2.858	42.176	20.18	0.295	2.31	0.80	1.00	1.0	27.59	63.70	20.18	4304	1289	333	23	356
12	180	5.97	2.858	41.965	19.97	0.294	2.31	0.80	1.00	1.0	27.44	63.47	19.97	4346	1303	322	35	358
11	160	5.78	2.858	41.731	19.74	0.292	2.32	0.80	1.00	1.0	27.29	63.21	19.74	4386	1315	310	46	357
10	140	5.56	2.858	42.044	19.48	0.294	2.31	0.80	1.00	1.0	27.52	63.59	19.48	4502	1318	301	44	345
9	120	5.32	3.363	41.746	19.18	0.296	2.31	0.80	1.00	1.0	27.76	64.04	19.18	5059	1327	290	42	331
8	100	5.05	2.858	40.824	18.83	0.287	2.33	0.80	1.00	0.9	26.68	62.21	18.83	4709	1235	267	40	307
7	80	4.74	2.858	40.409	18.42	0.284	2.34	0.80	1.00	0.9	26.40	61.75	18.42	4674	1200	249	37	286
6	60	4.36	2.858	39.887	17.89	0.281	2.35	0.80	1.00	0.9	26.05	61.17	17.89	4629	1155	227	34	261
5	40	3.89	2.858	39.176	17.18	0.276	2.36	0.80	1.00	0.9	25.58	60.39	17.18	4570	1096	200	29	229
4	23	3.58	1.906	25.895	10.85	0.274	2.37	0.80	1.00	0.8	16.92	40.03	10.85	3087	696	122	18	139
3	13	3.58	6.850	10.708	4.52	0.347	2.18	0.80	1.00	0.8	12.06	26.29	4.52	2488	654	80	8	88
2	8	3.58	6.706	6.675	3.35	0.626	1.79	0.80	1.00	0.7	10.44	18.69	3.35	1531	420	57	2	59
1	3	3.58	5.288	10.287	3.62	0.802	1.82	0.80	1.00	0.7	13.36	24.28	3.62	1724	245	74	2	76
														211,150	74,284			23,595

1.2D + 1.0Di + 1.0Wi 90°
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	565	0	565
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	0.85	1.00	1.2	30.98	69.27	23.60	3545	1600	574	0	574
52	980	9.70	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	559	0	559
51	960	9.64	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	555	0	555
50	940	9.58	2.858	45.554	23.56	0.316	2.25	0.85	1.00	1.2	30.05	67.74	23.56	3208	1521	552	0	552
49	920	9.52	2.858	45.504	23.51	0.316	2.25	0.85	1.00	1.2	30.02	67.69	23.51	3204	1517	548	0	548
48	900	9.46	2.858	45.452	23.46	0.315	2.26	0.85	1.00	1.2	29.98	67.63	23.46	3199	1512	544	0	544
47	880	9.40	3.811	49.520	26.91	0.348	2.18	0.85	1.00	1.2	33.86	73.66	26.91	3597	1745	589	0	589
46	860	9.34	2.858	45.919	23.35	0.318	2.25	0.85	1.00	1.2	30.33	68.17	23.35	3778	1534	541	0	541
45	840	9.28	3.363	45.864	23.30	0.322	2.24	0.85	1.00	1.2	30.77	68.94	23.30	3961	1573	544	0	544
44	820	9.21	2.858	45.233	23.24	0.314	2.26	0.85	1.00	1.2	29.83	67.39	23.24	3656	1522	528	17	544
43	800	9.15	2.858	45.176	23.18	0.314	2.26	0.85	1.00	1.2	29.79	67.32	23.18	3691	1553	524	37	560
42	780	9.08	2.858	45.117	23.12	0.313	2.26	0.85	1.00	1.2	29.75	67.26	23.12	3686	1548	519	36	556
41	760	9.02	2.858	45.057	23.06	0.313	2.26	0.85	1.00	1.2	29.71	67.19	23.06	3680	1542	515	36	551
40	740	8.95	2.858	44.996	23.00	0.313	2.26	0.85	1.00	1.2	29.66	67.13	23.00	3675	1537	511	36	546
39	720	8.88	2.858	44.932	22.94	0.312	2.26	0.85	1.00	1.2	29.62	67.06	22.94	3669	1531	506	35	541
38	700	8.81	3.363	45.443	22.88	0.319	2.25	0.85	1.00	1.2	30.47	68.48	22.88	3995	1598	513	35	547
37	680	8.73	2.858	44.802	22.81	0.311	2.27	0.85	1.00	1.2	29.53	66.91	22.81	3657	1519	497	35	531
36	660	8.66	2.858	44.734	22.74	0.311	2.27	0.85	1.00	1.1	29.48	66.84	22.74	3651	1513	492	34	526
35	640	8.58	2.858	44.664	22.67	0.311	2.27	0.85	1.00	1.1	29.43	66.76	22.67	3645	1507	487	34	521
34	620	8.51	2.858	44.592	22.60	0.310	2.27	0.85	1.00	1.1	29.38	66.68	22.60	3638	1500	482	34	516
33	600	8.43	2.858	44.518	22.53	0.310	2.27	0.85	1.00	1.1	29.33	66.60	22.53	3632	1493	477	33	510
32	580	8.35	2.858	44.444	22.45	0.309	2.27	0.85	1.00	1.1	29.28	66.52	22.45	4076	1487	472	33	505
31	560	8.26	2.858	44.940	22.37	0.312	2.26	0.85	1.00	1.1	29.65	67.10	22.37	4212	1510	471	32	504
30	540	8.18	3.363	44.859	22.29	0.315	2.26	0.85	1.00	1.1	30.07	67.84	22.29	4391	1544	472	32	503
29	520	8.09	2.858	44.200	22.21	0.308	2.28	0.85	1.00	1.1	29.11	66.25	22.21	4054	1465	456	32	487
28	500	8.00	2.858	44.113	22.12	0.307	2.28	0.85	1.00	1.1	29.05	66.16	22.12	4046	1457	450	31	481
27	480	7.91	2.858	44.023	22.03	0.307	2.28	0.85	1.00	1.1	28.99	66.06	22.03	4038	1449	444	31	475
26	460	7.81	2.858	43.929	21.94	0.306	2.28	0.85	1.00	1.1	28.93	65.96	21.94	4030	1441	438	30	468
25	440	7.71	2.858	43.832	21.84	0.305	2.28	0.85	1.00	1.1	28.86	65.85	21.84	4447	1432	432	30	462
24	420	7.61	2.858	44.306	21.74	0.308	2.27	0.85	1.00	1.1	29.21	66.40	21.74	4581	1452	430	29	459
23	400	7.51	3.363	44.200	21.63	0.311	2.27	0.85	1.00	1.1	29.61	67.12	21.63	4757	1483	428	29	457
22	380	7.40	2.858	44.089	21.52	0.307	2.28	0.85	1.00	1.1	29.06	66.16	21.52	4562	1433	416	28	444
21	360	7.28	2.858	43.398	21.40	0.303	2.29	0.85	1.00	1.1	28.56	65.37	21.40	4409	1394	405	28	433
20	340	7.16	2.858	43.276	21.28	0.302	2.29	0.85	1.00	1.1	28.48	65.24	21.28	4399	1384	397	28	425
19	320	7.04	2.858	43.147	21.15	0.301	2.29	0.85	1.00	1.1	28.39	65.10	21.15	4388	1372	390	27	417
18	300	6.91	2.858	43.011	21.02	0.300	2.30	0.85	1.00	1.1	28.30	64.95	21.02	4376	1361	382	26	408
17	280	6.78	2.858	43.442	20.87	0.303	2.29	0.85	1.00	1.1	28.61	65.45	20.87	4505	1376	377	26	403
16	260	6.64	3.363	43.288	20.72	0.306	2.28	0.85	1.00	1.0	28.98	66.12	20.72	4675	1401	373	25	398
15	240	6.49	2.858	43.122	20.55	0.301	2.29	0.85	1.00	1.0	28.39	65.10	20.55	4477	1348	359	24	383
14	220	6.33	2.858	42.369	20.38	0.296	2.31	0.85	1.00	1.0	27.86	64.24	20.38	4321	1305	345	24	369
13	200	6.16	2.858	42.176	20.18	0.295	2.31	0.85	1.00	1.0	27.73	64.03	20.18	4304	1289	335	23	358
12	180	5.97	2.858	41.965	19.97	0.294	2.31	0.85	1.00	1.0	27.59	63.80	19.97	4346	1303	324	35	359
11	160	5.78	2.858	41.731	19.74	0.292	2.32	0.85	1.00	1.0	27.43	63.54	19.74	4386	1315	312	46	358
10	140	5.56	2.858	42.044	19.48	0.294	2.31	0.85	1.00	1.0	27.66	63.92	19.48	4502	1318	302	44	346
9	120	5.32	3.363	41.746	19.18	0.296	2.31	0.85	1.00	1.0	27.93	64.43	19.18	5059	1327	291	42	333
8	100	5.05	2.858	40.824	18.83	0.287	2.33	0.85	1.00	0.9	26.82	62.54	18.83	4709	1235	269	40	308
7	80	4.74	2.858	40.409	18.42	0.284	2.34	0.85	1.00	0.9	26.54	62.08	18.42	4674	1200	250	37	287
6	60	4.36	2.858	39.887	17.89	0.281	2.35	0.85	1.00	0.9	26.19	61.51	17.89	4629	1155	228	34	262
5	40	3.89	2.858	39.176	17.18	0.276	2.36	0.85	1.00	0.9	25.72	60.72	17.18	4570	1096	201	29	230
4	23	3.58	1.906	25.895	10.85	0.274	2.37	0.85	1.00	0.8	17.01	40.25	10.85	3087	696	122	18	140
3	13	3.58	6.850	10.708	4.52	0.347	2.18	0.85	1.00	0.8	12.41	27.03	4.52	2488	654	82	8	90
2	8	3.58	6.706	6.675	3.35	0.626	1.79	0.85	1.00	0.7	10.78	19.29	3.35	1531	420	59	2	61
1	3	3.58	5.288	10.287	3.62	0.802	1.82	0.85	1.00	0.7	13.62	24.76	3.62	1724	245	75	2	77
														211,150	74,284			23,712

1.2D + 1.0Di + 1.0Wi 120°
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	573	0	573
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	1.00	1.00	1.2	31.49	70.40	23.60	3545	1600	584	0	584
52	980	9.70	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	567	0	567
51	960	9.64	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	563	0	563
50	940	9.58	2.858	45.554	23.56	0.316	2.25	1.00	1.00	1.2	30.48	68.71	23.56	3208	1521	560	0	560
49	920	9.52	2.858	45.504	23.51	0.316	2.25	1.00	1.00	1.2	30.45	68.65	23.51	3204	1517	556	0	556
48	900	9.46	2.858	45.452	23.46	0.315	2.26	1.00	1.00	1.2	30.41	68.60	23.46	3199	1512	552	0	552
47	880	9.40	3.811	49.520	26.91	0.348	2.18	1.00	1.00	1.2	34.43	74.90	26.91	3597	1745	599	0	599
46	860	9.34	2.858	45.919	23.35	0.318	2.25	1.00	1.00	1.2	30.76	69.14	23.35	3778	1534	549	0	549
45	840	9.28	3.363	45.864	23.30	0.322	2.24	1.00	1.00	1.2	31.27	70.07	23.30	3961	1573	553	0	553
44	820	9.21	2.858	45.233	23.24	0.314	2.26	1.00	1.00	1.2	30.26	68.36	23.24	3656	1522	535	17	552
43	800	9.15	2.858	45.176	23.18	0.314	2.26	1.00	1.00	1.2	30.22	68.29	23.18	3691	1553	531	37	568
42	780	9.08	2.858	45.117	23.12	0.313	2.26	1.00	1.00	1.2	30.18	68.23	23.12	3686	1548	527	36	563
41	760	9.02	2.858	45.057	23.06	0.313	2.26	1.00	1.00	1.2	30.13	68.16	23.06	3680	1542	522	36	558
40	740	8.95	2.858	44.996	23.00	0.313	2.26	1.00	1.00	1.2	30.09	68.10	23.00	3675	1537	518	36	554
39	720	8.88	2.858	44.932	22.94	0.312	2.26	1.00	1.00	1.2	30.05	68.03	22.94	3669	1531	513	35	549
38	700	8.81	3.363	45.443	22.88	0.319	2.25	1.00	1.00	1.2	30.98	69.61	22.88	3995	1598	521	35	556
37	680	8.73	2.858	44.802	22.81	0.311	2.27	1.00	1.00	1.2	29.96	67.89	22.81	3657	1519	504	35	539
36	660	8.66	2.858	44.734	22.74	0.311	2.27	1.00	1.00	1.1	29.91	67.81	22.74	3651	1513	499	34	533
35	640	8.58	2.858	44.664	22.67	0.311	2.27	1.00	1.00	1.1	29.86	67.74	22.67	3645	1507	494	34	528
34	620	8.51	2.858	44.592	22.60	0.310	2.27	1.00	1.00	1.1	29.81	67.66	22.60	3638	1500	489	34	523
33	600	8.43	2.858	44.518	22.53	0.310	2.27	1.00	1.00	1.1	29.76	67.58	22.53	3632	1493	484	33	517
32	580	8.35	2.858	44.444	22.45	0.309	2.27	1.00	1.00	1.1	29.71	67.50	22.45	4076	1487	479	33	512
31	560	8.26	2.858	44.940	22.37	0.312	2.26	1.00	1.00	1.1	30.07	68.07	22.37	4212	1510	478	32	510
30	540	8.18	3.363	44.859	22.29	0.315	2.26	1.00	1.00	1.1	30.57	68.98	22.29	4391	1544	479	32	511
29	520	8.09	2.858	44.200	22.21	0.308	2.28	1.00	1.00	1.1	29.54	67.23	22.21	4054	1465	462	32	494
28	500	8.00	2.858	44.113	22.12	0.307	2.28	1.00	1.00	1.1	29.48	67.14	22.12	4046	1457	456	31	488
27	480	7.91	2.858	44.023	22.03	0.307	2.28	1.00	1.00	1.1	29.42	67.04	22.03	4038	1449	451	31	481
26	460	7.81	2.858	43.929	21.94	0.306	2.28	1.00	1.00	1.1	29.36	66.94	21.94	4030	1441	444	30	475
25	440	7.71	2.858	43.832	21.84	0.305	2.28	1.00	1.00	1.1	29.29	66.83	21.84	4447	1432	438	30	468
24	420	7.61	2.858	44.306	21.74	0.308	2.27	1.00	1.00	1.1	29.64	67.38	21.74	4581	1452	436	29	465
23	400	7.51	3.363	44.200	21.63	0.311	2.27	1.00	1.00	1.1	30.11	68.26	21.63	4757	1483	435	29	464
22	380	7.40	2.858	44.089	21.52	0.307	2.28	1.00	1.00	1.1	29.49	67.14	21.52	4562	1433	422	28	451
21	360	7.28	2.858	43.398	21.40	0.303	2.29	1.00	1.00	1.1	28.99	66.36	21.40	4409	1394	411	28	439
20	340	7.16	2.858	43.276	21.28	0.302	2.29	1.00	1.00	1.1	28.91	66.22	21.28	4399	1384	403	28	431
19	320	7.04	2.858	43.147	21.15	0.301	2.29	1.00	1.00	1.1	28.82	66.08	21.15	4388	1372	396	27	423
18	300	6.91	2.858	43.011	21.02	0.300	2.30	1.00	1.00	1.1	28.73	65.93	21.02	4376	1361	387	26	414
17	280	6.78	2.858	43.442	20.87	0.303	2.29	1.00	1.00	1.1	29.04	66.43	20.87	4505	1376	383	26	408
16	260	6.64	3.363	43.288	20.72	0.306	2.28	1.00	1.00	1.0	29.49	67.27	20.72	4675	1401	379	25	404
15	240	6.49	2.858	43.122	20.55	0.301	2.29	1.00	1.00	1.0	28.82	66.09	20.55	4477	1348	364	24	389
14	220	6.33	2.858	42.369	20.38	0.296	2.31	1.00	1.00	1.0	28.29	65.23	20.38	4321	1305	351	24	375
13	200	6.16	2.858	42.176	20.18	0.295	2.31	1.00	1.00	1.0	28.16	65.02	20.18	4304	1289	340	23	363
12	180	5.97	2.858	41.965	19.97	0.294	2.31	1.00	1.00	1.0	28.02	64.79	19.97	4346	1303	329	35	364
11	160	5.78	2.858	41.731	19.74	0.292	2.32	1.00	1.00	1.0	27.86	64.53	19.74	4386	1315	317	46	363
10	140	5.56	2.858	42.044	19.48	0.294	2.31	1.00	1.00	1.0	28.09	64.91	19.48	4502	1318	307	44	351
9	120	5.32	3.363	41.746	19.18	0.296	2.31	1.00	1.00	1.0	28.43	65.59	19.18	5059	1327	297	42	338
8	100	5.05	2.858	40.824	18.83	0.287	2.33	1.00	1.00	0.9	27.25	63.54	18.83	4709	1235	273	40	313
7	80	4.74	2.858	40.409	18.42	0.284	2.34	1.00	1.00	0.9	26.97	63.09	18.42	4674	1200	254	37	291
6	60	4.36	2.858	39.887	17.89	0.281	2.35	1.00	1.00	0.9	26.62	62.51	17.89	4629	1155	232	34	266
5	40	3.89	2.858	39.176	17.18	0.276	2.36	1.00	1.00	0.9	26.15	61.73	17.18	4570	1096	204	29	233
4	23	3.58	1.906	25.895	10.85	0.274	2.37	1.00	1.00	0.8	17.30	40.93	10.85	3087	696	124	18	142
3	13	3.58	6.850	10.708	4.52	0.347	2.18	1.00	1.00	0.8	13.43	29.27	4.52	2488	654	89	8	97
2	8	3.58	6.706	6.675	3.35	0.626	1.79	1.00	1.00	0.7	11.78	21.09	3.35	1531	420	64	2	66
1	3	3.58	5.288	10.287	3.62	0.802	1.82	1.00	1.00	0.7	14.42	26.20	3.62	1724	245	80	2	82
														211,150	74,284			24,064

1.2D + 1.0Di + 1.0Wi 180°
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	562	0	562
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	0.80	1.00	1.2	30.81	68.89	23.60	3545	1600	571	0	571
52	980	9.70	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	556	0	556
51	960	9.64	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	553	0	553
50	940	9.58	2.858	45.554	23.56	0.316	2.25	0.80	1.00	1.2	29.91	67.42	23.56	3208	1521	549	0	549
49	920	9.52	2.858	45.504	23.51	0.316	2.25	0.80	1.00	1.2	29.88	67.37	23.51	3204	1517	545	0	545
48	900	9.46	2.858	45.452	23.46	0.315	2.26	0.80	1.00	1.2	29.84	67.31	23.46	3199	1512	541	0	541
47	880	9.40	3.811	49.520	26.91	0.348	2.18	0.80	1.00	1.2	33.67	73.24	26.91	3597	1745	585	0	585
46	860	9.34	2.858	45.919	23.35	0.318	2.25	0.80	1.00	1.2	30.18	67.85	23.35	3778	1534	539	0	539
45	840	9.28	3.363	45.864	23.30	0.322	2.24	0.80	1.00	1.2	30.60	68.56	23.30	3961	1573	541	0	541
44	820	9.21	2.858	45.233	23.24	0.314	2.26	0.80	1.00	1.2	29.69	67.06	23.24	3656	1522	525	17	542
43	800	9.15	2.858	45.176	23.18	0.314	2.26	0.80	1.00	1.2	29.65	67.00	23.18	3691	1553	521	37	558
42	780	9.08	2.858	45.117	23.12	0.313	2.26	0.80	1.00	1.2	29.60	66.94	23.12	3686	1548	517	36	553
41	760	9.02	2.858	45.057	23.06	0.313	2.26	0.80	1.00	1.2	29.56	66.87	23.06	3680	1542	512	36	548
40	740	8.95	2.858	44.996	23.00	0.313	2.26	0.80	1.00	1.2	29.52	66.80	23.00	3675	1537	508	36	544
39	720	8.88	2.858	44.932	22.94	0.312	2.26	0.80	1.00	1.2	29.48	66.73	22.94	3669	1531	504	35	539
38	700	8.81	3.363	45.443	22.88	0.319	2.25	0.80	1.00	1.2	30.31	68.10	22.88	3995	1598	510	35	544
37	680	8.73	2.858	44.802	22.81	0.311	2.27	0.80	1.00	1.2	29.39	66.59	22.81	3657	1519	494	35	529
36	660	8.66	2.858	44.734	22.74	0.311	2.27	0.80	1.00	1.1	29.34	66.52	22.74	3651	1513	490	34	524
35	640	8.58	2.858	44.664	22.67	0.311	2.27	0.80	1.00	1.1	29.29	66.44	22.67	3645	1507	485	34	519
34	620	8.51	2.858	44.592	22.60	0.310	2.27	0.80	1.00	1.1	29.24	66.36	22.60	3638	1500	480	34	513
33	600	8.43	2.858	44.518	22.53	0.310	2.27	0.80	1.00	1.1	29.19	66.28	22.53	3632	1493	475	33	508
32	580	8.35	2.858	44.444	22.45	0.309	2.27	0.80	1.00	1.1	29.14	66.20	22.45	4076	1487	470	33	502
31	560	8.26	2.858	44.940	22.37	0.312	2.26	0.80	1.00	1.1	29.50	66.78	22.37	4212	1510	469	32	501
30	540	8.18	3.363	44.859	22.29	0.315	2.26	0.80	1.00	1.1	29.90	67.46	22.29	4391	1544	469	32	501
29	520	8.09	2.858	44.200	22.21	0.308	2.28	0.80	1.00	1.1	28.97	65.93	22.21	4054	1465	453	32	485
28	500	8.00	2.858	44.113	22.12	0.307	2.28	0.80	1.00	1.1	28.91	65.83	22.12	4046	1457	448	31	479
27	480	7.91	2.858	44.023	22.03	0.307	2.28	0.80	1.00	1.1	28.85	65.73	22.03	4038	1449	442	31	473
26	460	7.81	2.858	43.929	21.94	0.306	2.28	0.80	1.00	1.1	28.78	65.63	21.94	4030	1441	436	30	466
25	440	7.71	2.858	43.832	21.84	0.305	2.28	0.80	1.00	1.1	28.72	65.52	21.84	4447	1432	430	30	460
24	420	7.61	2.858	44.306	21.74	0.308	2.27	0.80	1.00	1.1	29.06	66.08	21.74	4581	1452	427	29	457
23	400	7.51	3.363	44.200	21.63	0.311	2.27	0.80	1.00	1.1	29.44	66.74	21.63	4757	1483	426	29	455
22	380	7.40	2.858	44.089	21.52	0.307	2.28	0.80	1.00	1.1	28.91	65.84	21.52	4562	1433	414	28	442
21	360	7.28	2.858	43.398	21.40	0.303	2.29	0.80	1.00	1.1	28.42	65.05	21.40	4409	1394	403	28	431
20	340	7.16	2.858	43.276	21.28	0.302	2.29	0.80	1.00	1.1	28.34	64.91	21.28	4399	1384	395	28	423
19	320	7.04	2.858	43.147	21.15	0.301	2.29	0.80	1.00	1.1	28.25	64.77	21.15	4388	1372	388	27	415
18	300	6.91	2.858	43.011	21.02	0.300	2.30	0.80	1.00	1.1	28.16	64.62	21.02	4376	1361	380	26	406
17	280	6.78	2.858	43.442	20.87	0.303	2.29	0.80	1.00	1.1	28.47	65.13	20.87	4505	1376	375	26	401
16	260	6.64	3.363	43.288	20.72	0.306	2.28	0.80	1.00	1.0	28.81	65.73	20.72	4675	1401	371	25	396
15	240	6.49	2.858	43.122	20.55	0.301	2.29	0.80	1.00	1.0	28.25	64.77	20.55	4477	1348	357	24	381
14	220	6.33	2.858	42.369	20.38	0.296	2.31	0.80	1.00	1.0	27.72	63.91	20.38	4321	1305	344	24	368
13	200	6.16	2.858	42.176	20.18	0.295	2.31	0.80	1.00	1.0	27.59	63.70	20.18	4304	1289	333	23	356
12	180	5.97	2.858	41.965	19.97	0.294	2.31	0.80	1.00	1.0	27.44	63.47	19.97	4346	1303	322	35	358
11	160	5.78	2.858	41.731	19.74	0.292	2.32	0.80	1.00	1.0	27.29	63.21	19.74	4386	1315	310	46	357
10	140	5.56	2.858	42.044	19.48	0.294	2.31	0.80	1.00	1.0	27.52	63.59	19.48	4502	1318	301	44	345
9	120	5.32	3.363	41.746	19.18	0.296	2.31	0.80	1.00	1.0	27.76	64.04	19.18	5059	1327	290	42	331
8	100	5.05	2.858	40.824	18.83	0.287	2.33	0.80	1.00	0.9	26.68	62.21	18.83	4709	1235	267	40	307
7	80	4.74	2.858	40.409	18.42	0.284	2.34	0.80	1.00	0.9	26.40	61.75	18.42	4674	1200	249	37	286
6	60	4.36	2.858	39.887	17.89	0.281	2.35	0.80	1.00	0.9	26.05	61.17	17.89	4629	1155	227	34	261
5	40	3.89	2.858	39.176	17.18	0.276	2.36	0.80	1.00	0.9	25.58	60.39	17.18	4570	1096	200	29	229
4	23	3.58	1.906	25.895	10.85	0.274	2.37	0.80	1.00	0.8	16.92	40.03	10.85	3087	696	122	18	139
3	13	3.58	6.850	10.708	4.52	0.347	2.18	0.80	1.00	0.8	12.06	26.29	4.52	2488	654	80	8	88
2	8	3.58	6.706	6.675	3.35	0.626	1.79	0.80	1.00	0.7	10.44	18.69	3.35	1531	420	57	2	59
1	3	3.58	5.288	10.287	3.62	0.802	1.82	0.80	1.00	0.7	13.36	24.28	3.62	1724	245	74	2	76
														211,150	74,284			23,595

1.2D + 1.0Di + 1.0Wi 210°
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	565	0	565
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	0.85	1.00	1.2	30.98	69.27	23.60	3545	1600	574	0	574
52	980	9.70	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	559	0	559
51	960	9.64	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	555	0	555
50	940	9.58	2.858	45.554	23.56	0.316	2.25	0.85	1.00	1.2	30.05	67.74	23.56	3208	1521	552	0	552
49	920	9.52	2.858	45.504	23.51	0.316	2.25	0.85	1.00	1.2	30.02	67.69	23.51	3204	1517	548	0	548
48	900	9.46	2.858	45.452	23.46	0.315	2.26	0.85	1.00	1.2	29.98	67.63	23.46	3199	1512	544	0	544
47	880	9.40	3.811	49.520	26.91	0.348	2.18	0.85	1.00	1.2	33.86	73.66	26.91	3597	1745	589	0	589
46	860	9.34	2.858	45.919	23.35	0.318	2.25	0.85	1.00	1.2	30.33	68.17	23.35	3778	1534	541	0	541
45	840	9.28	3.363	45.864	23.30	0.322	2.24	0.85	1.00	1.2	30.77	68.94	23.30	3961	1573	544	0	544
44	820	9.21	2.858	45.233	23.24	0.314	2.26	0.85	1.00	1.2	29.83	67.39	23.24	3656	1522	528	17	544
43	800	9.15	2.858	45.176	23.18	0.314	2.26	0.85	1.00	1.2	29.79	67.32	23.18	3691	1553	524	37	560
42	780	9.08	2.858	45.117	23.12	0.313	2.26	0.85	1.00	1.2	29.75	67.26	23.12	3686	1548	519	36	556
41	760	9.02	2.858	45.057	23.06	0.313	2.26	0.85	1.00	1.2	29.71	67.19	23.06	3680	1542	515	36	551
40	740	8.95	2.858	44.996	23.00	0.313	2.26	0.85	1.00	1.2	29.66	67.13	23.00	3675	1537	511	36	546
39	720	8.88	2.858	44.932	22.94	0.312	2.26	0.85	1.00	1.2	29.62	67.06	22.94	3669	1531	506	35	541
38	700	8.81	3.363	45.443	22.88	0.319	2.25	0.85	1.00	1.2	30.47	68.48	22.88	3995	1598	513	35	547
37	680	8.73	2.858	44.802	22.81	0.311	2.27	0.85	1.00	1.2	29.53	66.91	22.81	3657	1519	497	35	531
36	660	8.66	2.858	44.734	22.74	0.311	2.27	0.85	1.00	1.1	29.48	66.84	22.74	3651	1513	492	34	526
35	640	8.58	2.858	44.664	22.67	0.311	2.27	0.85	1.00	1.1	29.43	66.76	22.67	3645	1507	487	34	521
34	620	8.51	2.858	44.592	22.60	0.310	2.27	0.85	1.00	1.1	29.38	66.68	22.60	3638	1500	482	34	516
33	600	8.43	2.858	44.518	22.53	0.310	2.27	0.85	1.00	1.1	29.33	66.60	22.53	3632	1493	477	33	510
32	580	8.35	2.858	44.444	22.45	0.309	2.27	0.85	1.00	1.1	29.28	66.52	22.45	4076	1487	472	33	505
31	560	8.26	2.858	44.940	22.37	0.312	2.26	0.85	1.00	1.1	29.65	67.10	22.37	4212	1510	471	32	504
30	540	8.18	3.363	44.859	22.29	0.315	2.26	0.85	1.00	1.1	30.07	67.84	22.29	4391	1544	472	32	503
29	520	8.09	2.858	44.200	22.21	0.308	2.28	0.85	1.00	1.1	29.11	66.25	22.21	4054	1465	456	32	487
28	500	8.00	2.858	44.113	22.12	0.307	2.28	0.85	1.00	1.1	29.05	66.16	22.12	4046	1457	450	31	481
27	480	7.91	2.858	44.023	22.03	0.307	2.28	0.85	1.00	1.1	28.99	66.06	22.03	4038	1449	444	31	475
26	460	7.81	2.858	43.929	21.94	0.306	2.28	0.85	1.00	1.1	28.93	65.96	21.94	4030	1441	438	30	468
25	440	7.71	2.858	43.832	21.84	0.305	2.28	0.85	1.00	1.1	28.86	65.85	21.84	4447	1432	432	30	462
24	420	7.61	2.858	44.306	21.74	0.308	2.27	0.85	1.00	1.1	29.21	66.40	21.74	4581	1452	430	29	459
23	400	7.51	3.363	44.200	21.63	0.311	2.27	0.85	1.00	1.1	29.61	67.12	21.63	4757	1483	428	29	457
22	380	7.40	2.858	44.089	21.52	0.307	2.28	0.85	1.00	1.1	29.06	66.16	21.52	4562	1433	416	28	444
21	360	7.28	2.858	43.398	21.40	0.303	2.29	0.85	1.00	1.1	28.56	65.37	21.40	4409	1394	405	28	433
20	340	7.16	2.858	43.276	21.28	0.302	2.29	0.85	1.00	1.1	28.48	65.24	21.28	4399	1384	397	28	425
19	320	7.04	2.858	43.147	21.15	0.301	2.29	0.85	1.00	1.1	28.39	65.10	21.15	4388	1372	390	27	417
18	300	6.91	2.858	43.011	21.02	0.300	2.30	0.85	1.00	1.1	28.30	64.95	21.02	4376	1361	382	26	408
17	280	6.78	2.858	43.442	20.87	0.303	2.29	0.85	1.00	1.1	28.61	65.45	20.87	4505	1376	377	26	403
16	260	6.64	3.363	43.288	20.72	0.306	2.28	0.85	1.00	1.0	28.98	66.12	20.72	4675	1401	373	25	398
15	240	6.49	2.858	43.122	20.55	0.301	2.29	0.85	1.00	1.0	28.39	65.10	20.55	4477	1348	359	24	383
14	220	6.33	2.858	42.369	20.38	0.296	2.31	0.85	1.00	1.0	27.86	64.24	20.38	4321	1305	345	24	369
13	200	6.16	2.858	42.176	20.18	0.295	2.31	0.85	1.00	1.0	27.73	64.03	20.18	4304	1289	335	23	358
12	180	5.97	2.858	41.965	19.97	0.294	2.31	0.85	1.00	1.0	27.59	63.80	19.97	4346	1303	324	35	359
11	160	5.78	2.858	41.731	19.74	0.292	2.32	0.85	1.00	1.0	27.43	63.54	19.74	4386	1315	312	46	358
10	140	5.56	2.858	42.044	19.48	0.294	2.31	0.85	1.00	1.0	27.66	63.92	19.48	4502	1318	302	44	346
9	120	5.32	3.363	41.746	19.18	0.296	2.31	0.85	1.00	1.0	27.93	64.43	19.18	5059	1327	291	42	333
8	100	5.05	2.858	40.824	18.83	0.287	2.33	0.85	1.00	0.9	26.82	62.54	18.83	4709	1235	269	40	308
7	80	4.74	2.858	40.409	18.42	0.284	2.34	0.85	1.00	0.9	26.54	62.08	18.42	4674	1200	250	37	287
6	60	4.36	2.858	39.887	17.89	0.281	2.35	0.85	1.00	0.9	26.19	61.51	17.89	4629	1155	228	34	262
5	40	3.89	2.858	39.176	17.18	0.276	2.36	0.85	1.00	0.9	25.72	60.72	17.18	4570	1096	201	29	230
4	23	3.58	1.906	25.895	10.85	0.274	2.37	0.85	1.00	0.8	17.01	40.25	10.85	3087	696	122	18	140
3	13	3.58	6.850	10.708	4.52	0.347	2.18	0.85	1.00	0.8	12.41	27.03	4.52	2488	654	82	8	90
2	8	3.58	6.706	6.675	3.35	0.626	1.79	0.85	1.00	0.7	10.78	19.29	3.35	1531	420	59	2	61
1	3	3.58	5.288	10.287	3.62	0.802	1.82	0.85	1.00	0.7	13.62	24.76	3.62	1724	245	75	2	77
														211,150	74,284			23,712

1.2D + 1.0Di + 1.0Wi 240°
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	573	0	573
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	1.00	1.00	1.2	31.49	70.40	23.60	3545	1600	584	0	584
52	980	9.70	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	567	0	567
51	960	9.64	2.858	45.590	23.60	0.316	2.25	1.00	1.00	1.2	30.51	68.75	23.60	3211	1524	563	0	563
50	940	9.58	2.858	45.554	23.56	0.316	2.25	1.00	1.00	1.2	30.48	68.71	23.56	3208	1521	560	0	560
49	920	9.52	2.858	45.504	23.51	0.316	2.25	1.00	1.00	1.2	30.45	68.65	23.51	3204	1517	556	0	556
48	900	9.46	2.858	45.452	23.46	0.315	2.26	1.00	1.00	1.2	30.41	68.60	23.46	3199	1512	552	0	552
47	880	9.40	3.811	49.520	26.91	0.348	2.18	1.00	1.00	1.2	34.43	74.90	26.91	3597	1745	599	0	599
46	860	9.34	2.858	45.919	23.35	0.318	2.25	1.00	1.00	1.2	30.76	69.14	23.35	3778	1534	549	0	549
45	840	9.28	3.363	45.864	23.30	0.322	2.24	1.00	1.00	1.2	31.27	70.07	23.30	3961	1573	553	0	553
44	820	9.21	2.858	45.233	23.24	0.314	2.26	1.00	1.00	1.2	30.26	68.36	23.24	3656	1522	535	17	552
43	800	9.15	2.858	45.176	23.18	0.314	2.26	1.00	1.00	1.2	30.22	68.29	23.18	3691	1553	531	37	568
42	780	9.08	2.858	45.117	23.12	0.313	2.26	1.00	1.00	1.2	30.18	68.23	23.12	3686	1548	527	36	563
41	760	9.02	2.858	45.057	23.06	0.313	2.26	1.00	1.00	1.2	30.13	68.16	23.06	3680	1542	522	36	558
40	740	8.95	2.858	44.996	23.00	0.313	2.26	1.00	1.00	1.2	30.09	68.10	23.00	3675	1537	518	36	554
39	720	8.88	2.858	44.932	22.94	0.312	2.26	1.00	1.00	1.2	30.05	68.03	22.94	3669	1531	513	35	549
38	700	8.81	3.363	45.443	22.88	0.319	2.25	1.00	1.00	1.2	30.98	69.61	22.88	3995	1598	521	35	556
37	680	8.73	2.858	44.802	22.81	0.311	2.27	1.00	1.00	1.2	29.96	67.89	22.81	3657	1519	504	35	539
36	660	8.66	2.858	44.734	22.74	0.311	2.27	1.00	1.00	1.1	29.91	67.81	22.74	3651	1513	499	34	533
35	640	8.58	2.858	44.664	22.67	0.311	2.27	1.00	1.00	1.1	29.86	67.74	22.67	3645	1507	494	34	528
34	620	8.51	2.858	44.592	22.60	0.310	2.27	1.00	1.00	1.1	29.81	67.66	22.60	3638	1500	489	34	523
33	600	8.43	2.858	44.518	22.53	0.310	2.27	1.00	1.00	1.1	29.76	67.58	22.53	3632	1493	484	33	517
32	580	8.35	2.858	44.444	22.45	0.309	2.27	1.00	1.00	1.1	29.71	67.50	22.45	4076	1487	479	33	512
31	560	8.26	2.858	44.940	22.37	0.312	2.26	1.00	1.00	1.1	30.07	68.07	22.37	4212	1510	478	32	510
30	540	8.18	3.363	44.859	22.29	0.315	2.26	1.00	1.00	1.1	30.57	68.98	22.29	4391	1544	479	32	511
29	520	8.09	2.858	44.200	22.21	0.308	2.28	1.00	1.00	1.1	29.54	67.23	22.21	4054	1465	462	32	494
28	500	8.00	2.858	44.113	22.12	0.307	2.28	1.00	1.00	1.1	29.48	67.14	22.12	4046	1457	456	31	488
27	480	7.91	2.858	44.023	22.03	0.307	2.28	1.00	1.00	1.1	29.42	67.04	22.03	4038	1449	451	31	481
26	460	7.81	2.858	43.929	21.94	0.306	2.28	1.00	1.00	1.1	29.36	66.94	21.94	4030	1441	444	30	475
25	440	7.71	2.858	43.832	21.84	0.305	2.28	1.00	1.00	1.1	29.29	66.83	21.84	4447	1432	438	30	468
24	420	7.61	2.858	44.306	21.74	0.308	2.27	1.00	1.00	1.1	29.64	67.38	21.74	4581	1452	436	29	465
23	400	7.51	3.363	44.200	21.63	0.311	2.27	1.00	1.00	1.1	30.11	68.26	21.63	4757	1483	435	29	464
22	380	7.40	2.858	44.089	21.52	0.307	2.28	1.00	1.00	1.1	29.49	67.14	21.52	4562	1433	422	28	451
21	360	7.28	2.858	43.398	21.40	0.303	2.29	1.00	1.00	1.1	28.99	66.36	21.40	4409	1394	411	28	439
20	340	7.16	2.858	43.276	21.28	0.302	2.29	1.00	1.00	1.1	28.91	66.22	21.28	4399	1384	403	28	431
19	320	7.04	2.858	43.147	21.15	0.301	2.29	1.00	1.00	1.1	28.82	66.08	21.15	4388	1372	396	27	423
18	300	6.91	2.858	43.011	21.02	0.300	2.30	1.00	1.00	1.1	28.73	65.93	21.02	4376	1361	387	26	414
17	280	6.78	2.858	43.442	20.87	0.303	2.29	1.00	1.00	1.1	29.04	66.43	20.87	4505	1376	383	26	408
16	260	6.64	3.363	43.288	20.72	0.306	2.28	1.00	1.00	1.0	29.49	67.27	20.72	4675	1401	379	25	404
15	240	6.49	2.858	43.122	20.55	0.301	2.29	1.00	1.00	1.0	28.82	66.09	20.55	4477	1348	364	24	389
14	220	6.33	2.858	42.369	20.38	0.296	2.31	1.00	1.00	1.0	28.29	65.23	20.38	4321	1305	351	24	375
13	200	6.16	2.858	42.176	20.18	0.295	2.31	1.00	1.00	1.0	28.16	65.02	20.18	4304	1289	340	23	363
12	180	5.97	2.858	41.965	19.97	0.294	2.31	1.00	1.00	1.0	28.02	64.79	19.97	4346	1303	329	35	364
11	160	5.78	2.858	41.731	19.74	0.292	2.32	1.00	1.00	1.0	27.86	64.53	19.74	4386	1315	317	46	363
10	140	5.56	2.858	42.044	19.48	0.294	2.31	1.00	1.00	1.0	28.09	64.91	19.48	4502	1318	307	44	351
9	120	5.32	3.363	41.746	19.18	0.296	2.31	1.00	1.00	1.0	28.43	65.59	19.18	5059	1327	297	42	338
8	100	5.05	2.858	40.824	18.83	0.287	2.33	1.00	1.00	0.9	27.25	63.54	18.83	4709	1235	273	40	313
7	80	4.74	2.858	40.409	18.42	0.284	2.34	1.00	1.00	0.9	26.97	63.09	18.42	4674	1200	254	37	291
6	60	4.36	2.858	39.887	17.89	0.281	2.35	1.00	1.00	0.9	26.62	62.51	17.89	4629	1155	232	34	266
5	40	3.89	2.858	39.176	17.18	0.276	2.36	1.00	1.00	0.9	26.15	61.73	17.18	4570	1096	204	29	233
4	23	3.58	1.906	25.895	10.85	0.274	2.37	1.00	1.00	0.8	17.30	40.93	10.85	3087	696	124	18	142
3	13	3.58	6.850	10.708	4.52	0.347	2.18	1.00	1.00	0.8	13.43	29.27	4.52	2488	654	89	8	97
2	8	3.58	6.706	6.675	3.35	0.626	1.79	1.00	1.00	0.7	11.78	21.09	3.35	1531	420	64	2	66
1	3	3.58	5.288	10.287	3.62	0.802	1.82	1.00	1.00	0.7	14.42	26.20	3.62	1724	245	80	2	82
														211,150	74,284			24,064

1.2D + 1.0Di + 1.0Wi 300°
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	562	0	562
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	0.80	1.00	1.2	30.81	68.89	23.60	3545	1600	571	0	571
52	980	9.70	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	556	0	556
51	960	9.64	2.858	45.590	23.60	0.316	2.25	0.80	1.00	1.2	29.94	67.46	23.60	3211	1524	553	0	553
50	940	9.58	2.858	45.554	23.56	0.316	2.25	0.80	1.00	1.2	29.91	67.42	23.56	3208	1521	549	0	549
49	920	9.52	2.858	45.504	23.51	0.316	2.25	0.80	1.00	1.2	29.88	67.37	23.51	3204	1517	545	0	545
48	900	9.46	2.858	45.452	23.46	0.315	2.26	0.80	1.00	1.2	29.84	67.31	23.46	3199	1512	541	0	541
47	880	9.40	3.811	49.520	26.91	0.348	2.18	0.80	1.00	1.2	33.67	73.24	26.91	3597	1745	585	0	585
46	860	9.34	2.858	45.919	23.35	0.318	2.25	0.80	1.00	1.2	30.18	67.85	23.35	3778	1534	539	0	539
45	840	9.28	3.363	45.864	23.30	0.322	2.24	0.80	1.00	1.2	30.60	68.56	23.30	3961	1573	541	0	541
44	820	9.21	2.858	45.233	23.24	0.314	2.26	0.80	1.00	1.2	29.69	67.06	23.24	3656	1522	525	17	542
43	800	9.15	2.858	45.176	23.18	0.314	2.26	0.80	1.00	1.2	29.65	67.00	23.18	3691	1553	521	37	558
42	780	9.08	2.858	45.117	23.12	0.313	2.26	0.80	1.00	1.2	29.60	66.94	23.12	3686	1548	517	36	553
41	760	9.02	2.858	45.057	23.06	0.313	2.26	0.80	1.00	1.2	29.56	66.87	23.06	3680	1542	512	36	548
40	740	8.95	2.858	44.996	23.00	0.313	2.26	0.80	1.00	1.2	29.52	66.80	23.00	3675	1537	508	36	544
39	720	8.88	2.858	44.932	22.94	0.312	2.26	0.80	1.00	1.2	29.48	66.73	22.94	3669	1531	504	35	539
38	700	8.81	3.363	45.443	22.88	0.319	2.25	0.80	1.00	1.2	30.31	68.10	22.88	3995	1598	510	35	544
37	680	8.73	2.858	44.802	22.81	0.311	2.27	0.80	1.00	1.2	29.39	66.59	22.81	3657	1519	494	35	529
36	660	8.66	2.858	44.734	22.74	0.311	2.27	0.80	1.00	1.1	29.34	66.52	22.74	3651	1513	490	34	524
35	640	8.58	2.858	44.664	22.67	0.311	2.27	0.80	1.00	1.1	29.29	66.44	22.67	3645	1507	485	34	519
34	620	8.51	2.858	44.592	22.60	0.310	2.27	0.80	1.00	1.1	29.24	66.36	22.60	3638	1500	480	34	513
33	600	8.43	2.858	44.518	22.53	0.310	2.27	0.80	1.00	1.1	29.19	66.28	22.53	3632	1493	475	33	508
32	580	8.35	2.858	44.444	22.45	0.309	2.27	0.80	1.00	1.1	29.14	66.20	22.45	4076	1487	470	33	502
31	560	8.26	2.858	44.940	22.37	0.312	2.26	0.80	1.00	1.1	29.50	66.78	22.37	4212	1510	469	32	501
30	540	8.18	3.363	44.859	22.29	0.315	2.26	0.80	1.00	1.1	29.90	67.46	22.29	4391	1544	469	32	501
29	520	8.09	2.858	44.200	22.21	0.308	2.28	0.80	1.00	1.1	28.97	65.93	22.21	4054	1465	453	32	485
28	500	8.00	2.858	44.113	22.12	0.307	2.28	0.80	1.00	1.1	28.91	65.83	22.12	4046	1457	448	31	479
27	480	7.91	2.858	44.023	22.03	0.307	2.28	0.80	1.00	1.1	28.85	65.73	22.03	4038	1449	442	31	473
26	460	7.81	2.858	43.929	21.94	0.306	2.28	0.80	1.00	1.1	28.78	65.63	21.94	4030	1441	436	30	466
25	440	7.71	2.858	43.832	21.84	0.305	2.28	0.80	1.00	1.1	28.72	65.52	21.84	4447	1432	430	30	460
24	420	7.61	2.858	44.306	21.74	0.308	2.27	0.80	1.00	1.1	29.06	66.08	21.74	4581	1452	427	29	457
23	400	7.51	3.363	44.200	21.63	0.311	2.27	0.80	1.00	1.1	29.44	66.74	21.63	4757	1483	426	29	455
22	380	7.40	2.858	44.089	21.52	0.307	2.28	0.80	1.00	1.1	28.91	65.84	21.52	4562	1433	414	28	442
21	360	7.28	2.858	43.398	21.40	0.303	2.29	0.80	1.00	1.1	28.42	65.05	21.40	4409	1394	403	28	431
20	340	7.16	2.858	43.276	21.28	0.302	2.29	0.80	1.00	1.1	28.34	64.91	21.28	4399	1384	395	28	423
19	320	7.04	2.858	43.147	21.15	0.301	2.29	0.80	1.00	1.1	28.25	64.77	21.15	4388	1372	388	27	415
18	300	6.91	2.858	43.011	21.02	0.300	2.30	0.80	1.00	1.1	28.16	64.62	21.02	4376	1361	380	26	406
17	280	6.78	2.858	43.442	20.87	0.303	2.29	0.80	1.00	1.1	28.47	65.13	20.87	4505	1376	375	26	401
16	260	6.64	3.363	43.288	20.72	0.306	2.28	0.80	1.00	1.0	28.81	65.73	20.72	4675	1401	371	25	396
15	240	6.49	2.858	43.122	20.55	0.301	2.29	0.80	1.00	1.0	28.25	64.77	20.55	4477	1348	357	24	381
14	220	6.33	2.858	42.369	20.38	0.296	2.31	0.80	1.00	1.0	27.72	63.91	20.38	4321	1305	344	24	368
13	200	6.16	2.858	42.176	20.18	0.295	2.31	0.80	1.00	1.0	27.59	63.70	20.18	4304	1289	333	23	356
12	180	5.97	2.858	41.965	19.97	0.294	2.31	0.80	1.00	1.0	27.44	63.47	19.97	4346	1303	322	35	358
11	160	5.78	2.858	41.731	19.74	0.292	2.32	0.80	1.00	1.0	27.29	63.21	19.74	4386	1315	310	46	357
10	140	5.56	2.858	42.044	19.48	0.294	2.31	0.80	1.00	1.0	27.52	63.59	19.48	4502	1318	301	44	345
9	120	5.32	3.363	41.746	19.18	0.296	2.31	0.80	1.00	1.0	27.76	64.04	19.18	5059	1327	290	42	331
8	100	5.05	2.858	40.824	18.83	0.287	2.33	0.80	1.00	0.9	26.68	62.21	18.83	4709	1235	267	40	307
7	80	4.74	2.858	40.409	18.42	0.284	2.34	0.80	1.00	0.9	26.40	61.75	18.42	4674	1200	249	37	286
6	60	4.36	2.858	39.887	17.89	0.281	2.35	0.80	1.00	0.9	26.05	61.17	17.89	4629	1155	227	34	261
5	40	3.89	2.858	39.176	17.18	0.276	2.36	0.80	1.00	0.9	25.58	60.39	17.18	4570	1096	200	29	229
4	23	3.58	1.906	25.895	10.85	0.274	2.37	0.80	1.00	0.8	16.92	40.03	10.85	3087	696	122	18	139
3	13	3.58	6.850	10.708	4.52	0.347	2.18	0.80	1.00	0.8	12.06	26.29	4.52	2488	654	80	8	88
2	8	3.58	6.706	6.675	3.35	0.626	1.79	0.80	1.00	0.7	10.44	18.69	3.35	1531	420	57	2	59
1	3	3.58	5.288	10.287	3.62	0.802	1.82	0.80	1.00	0.7	13.36	24.28	3.62	1724	245	74	2	76
														211,150	74,284			23,595

1.2D + 1.0Di + 1.0Wi 330°
48.73 mph wind with 0.850" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

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SECTION FORCES

Sect #	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)
54	1020	9.81	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	565	0	565
53	1000	9.75	3.363	46.165	23.60	0.323	2.24	0.85	1.00	1.2	30.98	69.27	23.60	3545	1600	574	0	574
52	980	9.70	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	559	0	559
51	960	9.64	2.858	45.590	23.60	0.316	2.25	0.85	1.00	1.2	30.08	67.78	23.60	3211	1524	555	0	555
50	940	9.58	2.858	45.554	23.56	0.316	2.25	0.85	1.00	1.2	30.05	67.74	23.56	3208	1521	552	0	552
49	920	9.52	2.858	45.504	23.51	0.316	2.25	0.85	1.00	1.2	30.02	67.69	23.51	3204	1517	548	0	548
48	900	9.46	2.858	45.452	23.46	0.315	2.26	0.85	1.00	1.2	29.98	67.63	23.46	3199	1512	544	0	544
47	880	9.40	3.811	49.520	26.91	0.348	2.18	0.85	1.00	1.2	33.86	73.66	26.91	3597	1745	589	0	589
46	860	9.34	2.858	45.919	23.35	0.318	2.25	0.85	1.00	1.2	30.33	68.17	23.35	3778	1534	541	0	541
45	840	9.28	3.363	45.864	23.30	0.322	2.24	0.85	1.00	1.2	30.77	68.94	23.30	3961	1573	544	0	544
44	820	9.21	2.858	45.233	23.24	0.314	2.26	0.85	1.00	1.2	29.83	67.39	23.24	3656	1522	528	17	544
43	800	9.15	2.858	45.176	23.18	0.314	2.26	0.85	1.00	1.2	29.79	67.32	23.18	3691	1553	524	37	560
42	780	9.08	2.858	45.117	23.12	0.313	2.26	0.85	1.00	1.2	29.75	67.26	23.12	3686	1548	519	36	556
41	760	9.02	2.858	45.057	23.06	0.313	2.26	0.85	1.00	1.2	29.71	67.19	23.06	3680	1542	515	36	551
40	740	8.95	2.858	44.996	23.00	0.313	2.26	0.85	1.00	1.2	29.66	67.13	23.00	3675	1537	511	36	546
39	720	8.88	2.858	44.932	22.94	0.312	2.26	0.85	1.00	1.2	29.62	67.06	22.94	3669	1531	506	35	541
38	700	8.81	3.363	45.443	22.88	0.319	2.25	0.85	1.00	1.2	30.47	68.48	22.88	3995	1598	513	35	547
37	680	8.73	2.858	44.802	22.81	0.311	2.27	0.85	1.00	1.2	29.53	66.91	22.81	3657	1519	497	35	531
36	660	8.66	2.858	44.734	22.74	0.311	2.27	0.85	1.00	1.1	29.48	66.84	22.74	3651	1513	492	34	526
35	640	8.58	2.858	44.664	22.67	0.311	2.27	0.85	1.00	1.1	29.43	66.76	22.67	3645	1507	487	34	521
34	620	8.51	2.858	44.592	22.60	0.310	2.27	0.85	1.00	1.1	29.38	66.68	22.60	3638	1500	482	34	516
33	600	8.43	2.858	44.518	22.53	0.310	2.27	0.85	1.00	1.1	29.33	66.60	22.53	3632	1493	477	33	510
32	580	8.35	2.858	44.444	22.45	0.309	2.27	0.85	1.00	1.1	29.28	66.52	22.45	4076	1487	472	33	505
31	560	8.26	2.858	44.940	22.37	0.312	2.26	0.85	1.00	1.1	29.65	67.10	22.37	4212	1510	471	32	504
30	540	8.18	3.363	44.859	22.29	0.315	2.26	0.85	1.00	1.1	30.07	67.84	22.29	4391	1544	472	32	503
29	520	8.09	2.858	44.200	22.21	0.308	2.28	0.85	1.00	1.1	29.11	66.25	22.21	4054	1465	456	32	487
28	500	8.00	2.858	44.113	22.12	0.307	2.28	0.85	1.00	1.1	29.05	66.16	22.12	4046	1457	450	31	481
27	480	7.91	2.858	44.023	22.03	0.307	2.28	0.85	1.00	1.1	28.99	66.06	22.03	4038	1449	444	31	475
26	460	7.81	2.858	43.929	21.94	0.306	2.28	0.85	1.00	1.1	28.93	65.96	21.94	4030	1441	438	30	468
25	440	7.71	2.858	43.832	21.84	0.305	2.28	0.85	1.00	1.1	28.86	65.85	21.84	4447	1432	432	30	462
24	420	7.61	2.858	44.306	21.74	0.308	2.27	0.85	1.00	1.1	29.21	66.40	21.74	4581	1452	430	29	459
23	400	7.51	3.363	44.200	21.63	0.311	2.27	0.85	1.00	1.1	29.61	67.12	21.63	4757	1483	428	29	457
22	380	7.40	2.858	44.089	21.52	0.307	2.28	0.85	1.00	1.1	29.06	66.16	21.52	4562	1433	416	28	444
21	360	7.28	2.858	43.398	21.40	0.303	2.29	0.85	1.00	1.1	28.56	65.37	21.40	4409	1394	405	28	433
20	340	7.16	2.858	43.276	21.28	0.302	2.29	0.85	1.00	1.1	28.48	65.24	21.28	4399	1384	397	28	425
19	320	7.04	2.858	43.147	21.15	0.301	2.29	0.85	1.00	1.1	28.39	65.10	21.15	4388	1372	390	27	417
18	300	6.91	2.858	43.011	21.02	0.300	2.30	0.85	1.00	1.1	28.30	64.95	21.02	4376	1361	382	26	408
17	280	6.78	2.858	43.442	20.87	0.303	2.29	0.85	1.00	1.1	28.61	65.45	20.87	4505	1376	377	26	403
16	260	6.64	3.363	43.288	20.72	0.306	2.28	0.85	1.00	1.0	28.98	66.12	20.72	4675	1401	373	25	398
15	240	6.49	2.858	43.122	20.55	0.301	2.29	0.85	1.00	1.0	28.39	65.10	20.55	4477	1348	359	24	383
14	220	6.33	2.858	42.369	20.38	0.296	2.31	0.85	1.00	1.0	27.86	64.24	20.38	4321	1305	345	24	369
13	200	6.16	2.858	42.176	20.18	0.295	2.31	0.85	1.00	1.0	27.73	64.03	20.18	4304	1289	335	23	358
12	180	5.97	2.858	41.965	19.97	0.294	2.31	0.85	1.00	1.0	27.59	63.80	19.97	4346	1303	324	35	359
11	160	5.78	2.858	41.731	19.74	0.292	2.32	0.85	1.00	1.0	27.43	63.54	19.74	4386	1315	312	46	358
10	140	5.56	2.858	42.044	19.48	0.294	2.31	0.85	1.00	1.0	27.66	63.92	19.48	4502	1318	302	44	346
9	120	5.32	3.363	41.746	19.18	0.296	2.31	0.85	1.00	1.0	27.93	64.43	19.18	5059	1327	291	42	333
8	100	5.05	2.858	40.824	18.83	0.287	2.33	0.85	1.00	0.9	26.82	62.54	18.83	4709	1235	269	40	308
7	80	4.74	2.858	40.409	18.42	0.284	2.34	0.85	1.00	0.9	26.54	62.08	18.42	4674	1200	250	37	287
6	60	4.36	2.858	39.887	17.89	0.281	2.35	0.85	1.00	0.9	26.19	61.51	17.89	4629	1155	228	34	262
5	40	3.89	2.858	39.176	17.18	0.276	2.36	0.85	1.00	0.9	25.72	60.72	17.18	4570	1096	201	29	230
4	23	3.58	1.906	25.895	10.85	0.274	2.37	0.85	1.00	0.8	17.01	40.25	10.85	3087	696	122	18	140
3	13	3.58	6.850	10.708	4.52	0.347	2.18	0.85	1.00	0.8	12.41	27.03	4.52	2488	654	82	8	90
2	8	3.58	6.706	6.675	3.35	0.626	1.79	0.85	1.00	0.7	10.78	19.29	3.35	1531	420	59	2	61
1	3	3.58	5.288	10.287	3.62	0.802	1.82	0.85	1.00	0.7	13.62	24.76	3.62	1724	245	75	2	77
														211,150	74,284			23,712

1.0D + 1.0W Service Normal
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	530	0	530
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	1621	0	552	0	552
52	980	14.70	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	524	0	524
51	960	14.61	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	521	0	521
50	940	14.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	518	0	518
49	920	14.44	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	515	0	515
48	900	14.35	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	512	0	512
47	880	14.25	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	16.85	45.06	0.00	1543	0	546	0	546
46	860	14.16	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	15.83	42.72	0.00	1870	0	514	0	514
45	840	14.07	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.91	0.00	1991	0	525	0	525
44	820	13.97	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1778	0	498	7	505
43	800	13.87	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	495	15	510
42	780	13.77	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	491	15	507
41	760	13.67	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	488	15	503
40	740	13.57	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	484	15	499
39	720	13.46	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	480	15	495
38	700	13.35	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.91	0.00	1997	0	498	15	513
37	680	13.24	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	472	15	487
36	660	13.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	468	15	483
35	640	13.01	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	464	14	479
34	620	12.90	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	460	14	474
33	600	12.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	456	14	470
32	580	12.65	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	451	14	466
31	560	12.53	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2252	0	455	14	469
30	540	12.40	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2373	0	463	14	477
29	520	12.26	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	438	14	451
28	500	12.13	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	433	13	446
27	480	11.99	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	428	13	441
26	460	11.84	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	423	13	436
25	440	11.69	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	417	13	430
24	420	11.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	419	13	432
23	400	11.38	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2728	0	425	13	437
22	380	11.21	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	407	12	420
21	360	11.04	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	394	12	406
20	340	10.86	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	388	12	400
19	320	10.68	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	381	12	393
18	300	10.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	374	12	386
17	280	10.28	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	373	11	385
16	260	10.06	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2728	0	376	11	387
15	240	9.83	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	357	11	368
14	220	9.59	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	342	11	353
13	200	9.33	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	333	10	343
12	180	9.06	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2536	0	323	17	341
11	160	8.76	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2559	0	312	24	337
10	140	8.43	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2654	0	306	23	329
9	120	8.07	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	3110	0	301	22	323
8	100	7.66	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	273	21	294
7	80	7.18	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	256	20	276
6	60	6.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	236	18	254
5	40	5.89	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	210	16	226
4	23	5.42	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.56	28.48	0.00	1992	0	131	10	141
3	13	5.42	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.49	25.19	0.00	1528	0	116	5	121
2	8	5.42	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.95	17.27	0.00	926	0	80	2	82
1	3	5.42	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.43	18.60	0.00	1233	0	86	3	89
														114,056	0			22,322

1.0D + 1.0W Service 60°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	511	0	511
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1621	0	529	0	529
52	980	14.70	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	505	0	505
51	960	14.61	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	502	0	502
50	940	14.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	499	0	499
49	920	14.44	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	496	0	496
48	900	14.35	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	493	0	493
47	880	14.25	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	16.09	43.03	0.00	1543	0	521	0	521
46	860	14.16	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	1870	0	496	0	496
45	840	14.07	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1991	0	503	0	503
44	820	13.97	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1778	0	480	7	487
43	800	13.87	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	477	15	492
42	780	13.77	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	473	15	488
41	760	13.67	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	470	15	485
40	740	13.57	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	466	15	481
39	720	13.46	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	462	15	477
38	700	13.35	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1997	0	478	15	493
37	680	13.24	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	455	15	470
36	660	13.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	451	15	466
35	640	13.01	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	447	14	462
34	620	12.90	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	443	14	457
33	600	12.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	439	14	453
32	580	12.65	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	435	14	449
31	560	12.53	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2252	0	438	14	452
30	540	12.40	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2373	0	444	14	458
29	520	12.26	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	421	14	435
28	500	12.13	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	417	13	430
27	480	11.99	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	412	13	425
26	460	11.84	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	407	13	420
25	440	11.69	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	402	13	415
24	420	11.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	404	13	417
23	400	11.38	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2728	0	407	13	420
22	380	11.21	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	392	12	405
21	360	11.04	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	379	12	392
20	340	10.86	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	373	12	385
19	320	10.68	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	367	12	379
18	300	10.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	360	12	372
17	280	10.28	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	360	11	371
16	260	10.06	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2728	0	360	11	371
15	240	9.83	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	344	11	355
14	220	9.59	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	330	11	340
13	200	9.33	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	321	10	331
12	180	9.06	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2536	0	311	17	329
11	160	8.76	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2559	0	301	24	325
10	140	8.43	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2654	0	295	23	318
9	120	8.07	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	3110	0	289	22	311
8	100	7.66	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	263	21	284
7	80	7.18	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	247	20	267
6	60	6.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	227	18	246
5	40	5.89	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	203	16	219
4	23	5.42	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	10.17	27.45	0.00	1992	0	127	10	136
3	13	5.42	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	9.12	21.90	0.00	1528	0	101	5	106
2	8	5.42	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.61	14.68	0.00	926	0	68	2	70
1	3	5.42	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.37	16.72	0.00	1233	0	77	3	80
														114,056	0			21,479

1.0D + 1.0W Service 90°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	516	0	516
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1621	0	535	0	535
52	980	14.70	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	510	0	510
51	960	14.61	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	507	0	507
50	940	14.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	504	0	504
49	920	14.44	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	501	0	501
48	900	14.35	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	498	0	498
47	880	14.25	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	16.28	43.54	0.00	1543	0	527	0	527
46	860	14.16	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.56	0.00	1870	0	500	0	500
45	840	14.07	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1991	0	509	0	509
44	820	13.97	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1778	0	485	7	492
43	800	13.87	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	481	15	497
42	780	13.77	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	478	15	493
41	760	13.67	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	474	15	489
40	740	13.57	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	471	15	486
39	720	13.46	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	467	15	482
38	700	13.35	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1997	0	483	15	498
37	680	13.24	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	459	15	474
36	660	13.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	455	15	470
35	640	13.01	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	451	14	466
34	620	12.90	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	447	14	462
33	600	12.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	443	14	457
32	580	12.65	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	439	14	453
31	560	12.53	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2252	0	443	14	457
30	540	12.40	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2373	0	449	14	462
29	520	12.26	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	425	14	439
28	500	12.13	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	421	13	434
27	480	11.99	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	416	13	429
26	460	11.84	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	411	13	424
25	440	11.69	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	406	13	419
24	420	11.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	408	13	420
23	400	11.38	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2728	0	412	13	424
22	380	11.21	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	396	12	409
21	360	11.04	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	383	12	395
20	340	10.86	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	377	12	389
19	320	10.68	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	370	12	382
18	300	10.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	364	12	375
17	280	10.28	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	363	11	374
16	260	10.06	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2728	0	364	11	375
15	240	9.83	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	347	11	358
14	220	9.59	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	333	11	343
13	200	9.33	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	324	10	334
12	180	9.06	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2536	0	314	17	332
11	160	8.76	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2559	0	304	24	328
10	140	8.43	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2654	0	298	23	321
9	120	8.07	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	3110	0	292	22	314
8	100	7.66	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	266	21	287
7	80	7.18	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	249	20	269
6	60	6.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	230	18	248
5	40	5.89	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	204	16	221
4	23	5.42	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	10.27	27.71	0.00	1992	0	128	10	138
3	13	5.42	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.46	22.72	0.00	1528	0	105	5	110
2	8	5.42	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.94	15.32	0.00	926	0	71	2	73
1	3	5.42	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.63	17.19	0.00	1233	0	79	3	82
														114,056	0			21,690

1.0D + 1.0W Service 120°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	530	0	530
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	1621	0	552	0	552
52	980	14.70	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	524	0	524
51	960	14.61	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	521	0	521
50	940	14.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	518	0	518
49	920	14.44	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	515	0	515
48	900	14.35	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	512	0	512
47	880	14.25	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	16.85	45.06	0.00	1543	0	546	0	546
46	860	14.16	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	15.83	42.72	0.00	1870	0	514	0	514
45	840	14.07	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.91	0.00	1991	0	525	0	525
44	820	13.97	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1778	0	498	7	505
43	800	13.87	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	495	15	510
42	780	13.77	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	491	15	507
41	760	13.67	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	488	15	503
40	740	13.57	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	484	15	499
39	720	13.46	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	480	15	495
38	700	13.35	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.91	0.00	1997	0	498	15	513
37	680	13.24	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	472	15	487
36	660	13.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	468	15	483
35	640	13.01	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	464	14	479
34	620	12.90	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	460	14	474
33	600	12.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	456	14	470
32	580	12.65	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	451	14	466
31	560	12.53	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2252	0	455	14	469
30	540	12.40	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2373	0	463	14	477
29	520	12.26	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	438	14	451
28	500	12.13	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	433	13	446
27	480	11.99	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	428	13	441
26	460	11.84	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	423	13	436
25	440	11.69	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	417	13	430
24	420	11.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	419	13	432
23	400	11.38	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2728	0	425	13	437
22	380	11.21	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	407	12	420
21	360	11.04	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	394	12	406
20	340	10.86	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	388	12	400
19	320	10.68	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	381	12	393
18	300	10.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	374	12	386
17	280	10.28	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	373	11	385
16	260	10.06	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2728	0	376	11	387
15	240	9.83	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	357	11	368
14	220	9.59	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	342	11	353
13	200	9.33	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	333	10	343
12	180	9.06	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2536	0	323	17	341
11	160	8.76	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2559	0	312	24	337
10	140	8.43	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2654	0	306	23	329
9	120	8.07	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	3110	0	301	22	323
8	100	7.66	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	273	21	294
7	80	7.18	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	256	20	276
6	60	6.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	236	18	254
5	40	5.89	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	210	16	226
4	23	5.42	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.56	28.48	0.00	1992	0	131	10	141
3	13	5.42	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.49	25.19	0.00	1528	0	116	5	121
2	8	5.42	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.95	17.27	0.00	926	0	80	2	82
1	3	5.42	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.43	18.60	0.00	1233	0	86	3	89
														114,056	0			22,322

1.0D + 1.0W Service 180°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	511	0	511
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1621	0	529	0	529
52	980	14.70	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	505	0	505
51	960	14.61	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	502	0	502
50	940	14.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	499	0	499
49	920	14.44	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	496	0	496
48	900	14.35	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	493	0	493
47	880	14.25	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	16.09	43.03	0.00	1543	0	521	0	521
46	860	14.16	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	1870	0	496	0	496
45	840	14.07	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1991	0	503	0	503
44	820	13.97	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1778	0	480	7	487
43	800	13.87	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	477	15	492
42	780	13.77	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	473	15	488
41	760	13.67	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	470	15	485
40	740	13.57	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	466	15	481
39	720	13.46	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	462	15	477
38	700	13.35	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1997	0	478	15	493
37	680	13.24	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	455	15	470
36	660	13.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	451	15	466
35	640	13.01	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	447	14	462
34	620	12.90	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	443	14	457
33	600	12.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	439	14	453
32	580	12.65	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	435	14	449
31	560	12.53	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2252	0	438	14	452
30	540	12.40	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2373	0	444	14	458
29	520	12.26	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	421	14	435
28	500	12.13	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	417	13	430
27	480	11.99	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	412	13	425
26	460	11.84	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	407	13	420
25	440	11.69	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	402	13	415
24	420	11.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	404	13	417
23	400	11.38	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2728	0	407	13	420
22	380	11.21	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	392	12	405
21	360	11.04	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	379	12	392
20	340	10.86	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	373	12	385
19	320	10.68	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	367	12	379
18	300	10.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	360	12	372
17	280	10.28	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	360	11	371
16	260	10.06	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2728	0	360	11	371
15	240	9.83	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	344	11	355
14	220	9.59	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	330	11	340
13	200	9.33	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	321	10	331
12	180	9.06	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2536	0	311	17	329
11	160	8.76	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2559	0	301	24	325
10	140	8.43	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2654	0	295	23	318
9	120	8.07	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	3110	0	289	22	311
8	100	7.66	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	263	21	284
7	80	7.18	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	247	20	267
6	60	6.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	227	18	246
5	40	5.89	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	203	16	219
4	23	5.42	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	10.17	27.45	0.00	1992	0	127	10	136
3	13	5.42	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	9.12	21.90	0.00	1528	0	101	5	106
2	8	5.42	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.61	14.68	0.00	926	0	68	2	70
1	3	5.42	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.37	16.72	0.00	1233	0	77	3	80
														114,056	0			21,479

1.0D + 1.0W Service 210°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	516	0	516
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1621	0	535	0	535
52	980	14.70	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	510	0	510
51	960	14.61	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	507	0	507
50	940	14.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	504	0	504
49	920	14.44	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	501	0	501
48	900	14.35	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	498	0	498
47	880	14.25	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	16.28	43.54	0.00	1543	0	527	0	527
46	860	14.16	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.56	0.00	1870	0	500	0	500
45	840	14.07	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1991	0	509	0	509
44	820	13.97	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1778	0	485	7	492
43	800	13.87	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	481	15	497
42	780	13.77	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	478	15	493
41	760	13.67	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	474	15	489
40	740	13.57	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	471	15	486
39	720	13.46	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	467	15	482
38	700	13.35	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1997	0	483	15	498
37	680	13.24	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	459	15	474
36	660	13.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	455	15	470
35	640	13.01	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	451	14	466
34	620	12.90	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	447	14	462
33	600	12.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	443	14	457
32	580	12.65	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	439	14	453
31	560	12.53	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2252	0	443	14	457
30	540	12.40	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2373	0	449	14	462
29	520	12.26	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	425	14	439
28	500	12.13	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	421	13	434
27	480	11.99	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	416	13	429
26	460	11.84	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	411	13	424
25	440	11.69	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	406	13	419
24	420	11.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	408	13	420
23	400	11.38	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2728	0	412	13	424
22	380	11.21	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	396	12	409
21	360	11.04	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	383	12	395
20	340	10.86	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	377	12	389
19	320	10.68	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	370	12	382
18	300	10.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	364	12	375
17	280	10.28	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	363	11	374
16	260	10.06	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2728	0	364	11	375
15	240	9.83	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	347	11	358
14	220	9.59	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	333	11	343
13	200	9.33	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	324	10	334
12	180	9.06	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2536	0	314	17	332
11	160	8.76	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2559	0	304	24	328
10	140	8.43	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2654	0	298	23	321
9	120	8.07	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	3110	0	292	22	314
8	100	7.66	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	266	21	287
7	80	7.18	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	249	20	269
6	60	6.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	230	18	248
5	40	5.89	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	204	16	221
4	23	5.42	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	10.27	27.71	0.00	1992	0	128	10	138
3	13	5.42	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.46	22.72	0.00	1528	0	105	5	110
2	8	5.42	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.94	15.32	0.00	926	0	71	2	73
1	3	5.42	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.63	17.19	0.00	1233	0	79	3	82
														114,056	0			21,690

1.0D + 1.0W Service 240°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	530	0	530
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	1621	0	552	0	552
52	980	14.70	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	524	0	524
51	960	14.61	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	521	0	521
50	940	14.52	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	518	0	518
49	920	14.44	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	515	0	515
48	900	14.35	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	1406	0	512	0	512
47	880	14.25	3.811	22.611	0.00	0.177	2.67	1.00	1.00	0.0	16.85	45.06	0.00	1543	0	546	0	546
46	860	14.16	2.858	22.567	0.00	0.170	2.70	1.00	1.00	0.0	15.83	42.72	0.00	1870	0	514	0	514
45	840	14.07	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.91	0.00	1991	0	525	0	525
44	820	13.97	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1778	0	498	7	505
43	800	13.87	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	495	15	510
42	780	13.77	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	491	15	507
41	760	13.67	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	488	15	503
40	740	13.57	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	484	15	499
39	720	13.46	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	480	15	495
38	700	13.35	3.363	22.567	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.91	0.00	1997	0	498	15	513
37	680	13.24	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	472	15	487
36	660	13.13	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	468	15	483
35	640	13.01	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	464	14	479
34	620	12.90	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	460	14	474
33	600	12.78	2.858	21.992	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.97	0.00	1782	0	456	14	470
32	580	12.65	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	451	14	466
31	560	12.53	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2252	0	455	14	469
30	540	12.40	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2373	0	463	14	477
29	520	12.26	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	438	14	451
28	500	12.13	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	433	13	446
27	480	11.99	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	428	13	441
26	460	11.84	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2157	0	423	13	436
25	440	11.69	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	417	13	430
24	420	11.54	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	419	13	432
23	400	11.38	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2728	0	425	13	437
22	380	11.21	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	407	12	420
21	360	11.04	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	394	12	406
20	340	10.86	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	388	12	400
19	320	10.68	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	381	12	393
18	300	10.48	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	374	12	386
17	280	10.28	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	373	11	385
16	260	10.06	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	2728	0	376	11	387
15	240	9.83	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2607	0	357	11	368
14	220	9.59	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	342	11	353
13	200	9.33	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2513	0	333	10	343
12	180	9.06	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2536	0	323	17	341
11	160	8.76	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2559	0	312	24	337
10	140	8.43	2.858	22.569	0.00	0.170	2.70	1.00	1.00	0.0	15.84	42.72	0.00	2654	0	306	23	329
9	120	8.07	3.363	22.569	0.00	0.174	2.69	1.00	1.00	0.0	16.35	43.92	0.00	3110	0	301	22	323
8	100	7.66	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	273	21	294
7	80	7.18	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	256	20	276
6	60	6.62	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	236	18	254
5	40	5.89	2.858	21.994	0.00	0.167	2.71	1.00	1.00	0.0	15.48	41.98	0.00	2895	0	210	16	226
4	23	5.42	1.906	15.042	0.00	0.170	2.70	1.00	1.00	0.0	10.56	28.48	0.00	1992	0	131	10	141
3	13	5.42	6.850	6.184	0.00	0.262	2.40	1.00	1.00	0.0	10.49	25.19	0.00	1528	0	116	5	121
2	8	5.42	6.706	3.329	0.00	0.479	1.93	1.00	1.00	0.0	8.95	17.27	0.00	926	0	80	2	82
1	3	5.42	5.288	6.670	0.00	0.641	1.78	1.00	1.00	0.0	10.43	18.60	0.00	1233	0	86	3	89
														114,056	0			22,322

1.0D + 1.0W Service 300°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	511	0	511
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1621	0	529	0	529
52	980	14.70	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	505	0	505
51	960	14.61	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	502	0	502
50	940	14.52	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	499	0	499
49	920	14.44	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	496	0	496
48	900	14.35	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	1406	0	493	0	493
47	880	14.25	3.811	22.611	0.00	0.177	2.67	0.80	1.00	0.0	16.09	43.03	0.00	1543	0	521	0	521
46	860	14.16	2.858	22.567	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	1870	0	496	0	496
45	840	14.07	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1991	0	503	0	503
44	820	13.97	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1778	0	480	7	487
43	800	13.87	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	477	15	492
42	780	13.77	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	473	15	488
41	760	13.67	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	470	15	485
40	740	13.57	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	466	15	481
39	720	13.46	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	462	15	477
38	700	13.35	3.363	22.567	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	1997	0	478	15	493
37	680	13.24	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	455	15	470
36	660	13.13	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	451	15	466
35	640	13.01	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	447	14	462
34	620	12.90	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	443	14	457
33	600	12.78	2.858	21.992	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.42	0.00	1782	0	439	14	453
32	580	12.65	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	435	14	449
31	560	12.53	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2252	0	438	14	452
30	540	12.40	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2373	0	444	14	458
29	520	12.26	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	421	14	435
28	500	12.13	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	417	13	430
27	480	11.99	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	412	13	425
26	460	11.84	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2157	0	407	13	420
25	440	11.69	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	402	13	415
24	420	11.54	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	404	13	417
23	400	11.38	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2728	0	407	13	420
22	380	11.21	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	392	12	405
21	360	11.04	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	379	12	392
20	340	10.86	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	373	12	385
19	320	10.68	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	367	12	379
18	300	10.48	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	360	12	372
17	280	10.28	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	360	11	371
16	260	10.06	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	2728	0	360	11	371
15	240	9.83	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2607	0	344	11	355
14	220	9.59	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	330	11	340
13	200	9.33	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2513	0	321	10	331
12	180	9.06	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2536	0	311	17	329
11	160	8.76	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2559	0	301	24	325
10	140	8.43	2.858	22.569	0.00	0.170	2.70	0.80	1.00	0.0	15.26	41.18	0.00	2654	0	295	23	318
9	120	8.07	3.363	22.569	0.00	0.174	2.69	0.80	1.00	0.0	15.68	42.11	0.00	3110	0	289	22	311
8	100	7.66	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	263	21	284
7	80	7.18	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	247	20	267
6	60	6.62	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	227	18	246
5	40	5.89	2.858	21.994	0.00	0.167	2.71	0.80	1.00	0.0	14.91	40.43	0.00	2895	0	203	16	219
4	23	5.42	1.906	15.042	0.00	0.170	2.70	0.80	1.00	0.0	10.17	27.45	0.00	1992	0	127	10	136
3	13	5.42	6.850	6.184	0.00	0.262	2.40	0.80	1.00	0.0	9.12	21.90	0.00	1528	0	101	5	106
2	8	5.42	6.706	3.329	0.00	0.479	1.93	0.80	1.00	0.0	7.61	14.68	0.00	926	0	68	2	70
1	3	5.42	5.288	6.670	0.00	0.641	1.78	0.80	1.00	0.0	9.37	16.72	0.00	1233	0	77	3	80
														114,056	0			21,479

1.0D + 1.0W Service 330°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

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SECTION FORCES

Sect #	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)
54	1020	14.87	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	516	0	516
53	1000	14.78	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1621	0	535	0	535
52	980	14.70	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	510	0	510
51	960	14.61	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	507	0	507
50	940	14.52	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	504	0	504
49	920	14.44	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	501	0	501
48	900	14.35	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1406	0	498	0	498
47	880	14.25	3.811	22.611	0.00	0.177	2.67	0.85	1.00	0.0	16.28	43.54	0.00	1543	0	527	0	527
46	860	14.16	2.858	22.567	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.56	0.00	1870	0	500	0	500
45	840	14.07	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1991	0	509	0	509
44	820	13.97	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1778	0	485	7	492
43	800	13.87	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	481	15	497
42	780	13.77	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	478	15	493
41	760	13.67	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	474	15	489
40	740	13.57	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	471	15	486
39	720	13.46	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	467	15	482
38	700	13.35	3.363	22.567	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	1997	0	483	15	498
37	680	13.24	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	459	15	474
36	660	13.13	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	455	15	470
35	640	13.01	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	451	14	466
34	620	12.90	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	447	14	462
33	600	12.78	2.858	21.992	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	1782	0	443	14	457
32	580	12.65	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	439	14	453
31	560	12.53	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2252	0	443	14	457
30	540	12.40	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2373	0	449	14	462
29	520	12.26	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	425	14	439
28	500	12.13	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	421	13	434
27	480	11.99	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	416	13	429
26	460	11.84	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2157	0	411	13	424
25	440	11.69	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	406	13	419
24	420	11.54	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	408	13	420
23	400	11.38	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2728	0	412	13	424
22	380	11.21	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	396	12	409
21	360	11.04	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	383	12	395
20	340	10.86	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	377	12	389
19	320	10.68	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	370	12	382
18	300	10.48	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	364	12	375
17	280	10.28	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	363	11	374
16	260	10.06	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	2728	0	364	11	375
15	240	9.83	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2607	0	347	11	358
14	220	9.59	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	333	11	343
13	200	9.33	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2513	0	324	10	334
12	180	9.06	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2536	0	314	17	332
11	160	8.76	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2559	0	304	24	328
10	140	8.43	2.858	22.569	0.00	0.170	2.70	0.85	1.00	0.0	15.41	41.57	0.00	2654	0	298	23	321
9	120	8.07	3.363	22.569	0.00	0.174	2.69	0.85	1.00	0.0	15.85	42.56	0.00	3110	0	292	22	314
8	100	7.66	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	266	21	287
7	80	7.18	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	249	20	269
6	60	6.62	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	230	18	248
5	40	5.89	2.858	21.994	0.00	0.167	2.71	0.85	1.00	0.0	15.05	40.81	0.00	2895	0	204	16	221
4	23	5.42	1.906	15.042	0.00	0.170	2.70	0.85	1.00	0.0	10.27	27.71	0.00	1992	0	128	10	138
3	13	5.42	6.850	6.184	0.00	0.262	2.40	0.85	1.00	0.0	9.46	22.72	0.00	1528	0	105	5	110
2	8	5.42	6.706	3.329	0.00	0.479	1.93	0.85	1.00	0.0	7.94	15.32	0.00	926	0	71	2	73
1	3	5.42	5.288	6.670	0.00	0.641	1.78	0.85	1.00	0.0	9.63	17.19	0.00	1233	0	79	3	82
														114,056	0			21,690

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EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_S):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
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}):	0.21
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):	1.73
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.61
Total Unfactored Dead Load:	116.13 k
Seismic Base Shear (E):	4.53 k

SEISMIC

Load Case: 0.9D - 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
54	1020.00	1,406	99,859,355	0.038	173	1,205
53	1000.00	1,621	111,539,564	0.043	193	1,390
52	980.00	1,406	93,620,766	0.036	162	1,205
51	960.00	1,406	90,559,095	0.035	157	1,205
50	940.00	1,406	87,536,249	0.034	152	1,205
49	920.00	1,406	84,552,545	0.032	147	1,205
48	900.00	1,406	81,608,313	0.031	141	1,205
47	880.00	1,543	86,416,368	0.033	150	1,324
46	860.00	1,870	100,877,222	0.039	175	1,603
45	840.00	1,991	103,401,408	0.040	179	1,707
44	820.00	1,778	88,848,455	0.034	154	1,525
43	800.00	1,782	85,554,486	0.033	148	1,528
42	780.00	1,782	82,131,962	0.031	142	1,528
41	760.00	1,782	78,762,777	0.030	137	1,528
40	740.00	1,782	75,447,472	0.029	131	1,528
39	720.00	1,782	72,186,605	0.028	125	1,528
38	700.00	1,997	77,317,966	0.030	134	1,713
37	680.00	1,782	65,830,536	0.025	114	1,528
36	660.00	1,782	62,736,565	0.024	109	1,528
35	640.00	1,782	59,699,501	0.023	103	1,528
34	620.00	1,782	56,720,027	0.022	98	1,528
33	600.00	1,782	53,798,855	0.021	93	1,528
32	580.00	2,157	61,673,655	0.024	107	1,850
31	560.00	2,252	60,832,332	0.023	105	1,931
30	540.00	2,373	60,447,408	0.023	105	2,035
29	520.00	2,157	51,716,026	0.020	90	1,850
28	500.00	2,157	48,546,516	0.019	84	1,850
27	480.00	2,157	45,453,734	0.017	79	1,850
26	460.00	2,157	42,438,907	0.016	74	1,850
25	440.00	2,513	46,007,254	0.018	80	2,155
24	420.00	2,607	44,286,810	0.017	77	2,236
23	400.00	2,728	42,834,375	0.016	74	2,339

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22	380.00	2,607	37,686,332	0.014	65	2,236
21	360.00	2,513	33,288,363	0.013	58	2,155
20	340.00	2,513	30,357,305	0.012	53	2,155
19	320.00	2,513	27,530,020	0.010	48	2,155
18	300.00	2,513	24,808,977	0.010	43	2,155
17	280.00	2,607	23,031,315	0.009	40	2,236
16	260.00	2,728	21,384,848	0.008	37	2,339
15	240.00	2,607	17,962,376	0.007	31	2,236
14	220.00	2,513	15,045,301	0.006	26	2,155
13	200.00	2,513	12,901,885	0.005	22	2,155
12	180.00	2,536	10,987,347	0.004	19	2,175
11	160.00	2,559	9,170,558	0.004	16	2,195
10	140.00	2,654	7,666,906	0.003	13	2,276
9	120.00	3,110	7,007,583	0.003	12	2,667
8	100.00	2,895	4,860,949	0.002	8	2,482
7	80.00	2,895	3,391,946	0.001	6	2,482
6	60.00	2,895	2,132,943	0.001	4	2,482
5	40.00	2,895	1,109,235	0.000	2	2,482
4	23.34	1,992	320,158	0.000	1	1,709
3	13.34	1,528	99,609	0.000	0	1,311
2	8.34	926	28,292	0.000	0	794
1	3.34	1,233	8,597	0.000	0	1,057
RFS Celwave PD-340-2	819.00	37	1,845,070	0.001	3	32
Generic Flat Side Arm	808.00	188	9,148,348	0.004	16	161
Raycap RDIDC-9181-PF-48	180.00	22	94,881	0.000	0	19
Fujitsu TA08025-B604	180.00	192	830,535	0.000	1	164
Fujitsu TA08025-B605	180.00	225	974,807	0.000	2	193
Commscope FFVV-65B-R2	180.00	212	920,217	0.000	2	182
Generic Flat Light Sector Frame	180.00	1,200	5,198,969	0.002	9	1,029
Totals		116,131	2,613,036,78	1.000	4,529	99,588

SEISMIC

Load Case: 1.2D + 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
54	1020.00	1,406	99,859,355	0.038	173	1,746
53	1000.00	1,621	111,539,564	0.043	193	2,014
52	980.00	1,406	93,620,766	0.036	162	1,746
51	960.00	1,406	90,559,095	0.035	157	1,746
50	940.00	1,406	87,536,249	0.034	152	1,746
49	920.00	1,406	84,552,545	0.032	147	1,746
48	900.00	1,406	81,608,313	0.031	141	1,746
47	880.00	1,543	86,416,368	0.033	150	1,918
46	860.00	1,870	100,877,222	0.039	175	2,323
45	840.00	1,991	103,401,408	0.040	179	2,473
44	820.00	1,778	88,848,455	0.034	154	2,209
43	800.00	1,782	85,554,486	0.033	148	2,214
42	780.00	1,782	82,131,962	0.031	142	2,214
41	760.00	1,782	78,762,777	0.030	137	2,214
40	740.00	1,782	75,447,472	0.029	131	2,214
39	720.00	1,782	72,186,605	0.028	125	2,214
38	700.00	1,997	77,317,966	0.030	134	2,481
37	680.00	1,782	65,830,536	0.025	114	2,214
36	660.00	1,782	62,736,565	0.024	109	2,214
35	640.00	1,782	59,699,501	0.023	103	2,214
34	620.00	1,782	56,720,027	0.022	98	2,214
33	600.00	1,782	53,798,855	0.021	93	2,214
32	580.00	2,157	61,673,655	0.024	107	2,681
31	560.00	2,252	60,832,332	0.023	105	2,798
30	540.00	2,373	60,447,408	0.023	105	2,948
29	520.00	2,157	51,716,026	0.020	90	2,681
28	500.00	2,157	48,546,516	0.019	84	2,681
27	480.00	2,157	45,453,734	0.017	79	2,681
26	460.00	2,157	42,438,907	0.016	74	2,681
25	440.00	2,513	46,007,254	0.018	80	3,122
24	420.00	2,607	44,286,810	0.017	77	3,239
23	400.00	2,728	42,834,375	0.016	74	3,389
22	380.00	2,607	37,686,332	0.014	65	3,239
21	360.00	2,513	33,288,363	0.013	58	3,122

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20		340.00	2,513	30,357,305	0.012	53	3,122
19		320.00	2,513	27,530,020	0.010	48	3,122
18		300.00	2,513	24,808,977	0.010	43	3,122
17		280.00	2,607	23,031,315	0.009	40	3,239
16		260.00	2,728	21,384,848	0.008	37	3,389
15		240.00	2,607	17,962,376	0.007	31	3,239
14		220.00	2,513	15,045,301	0.006	26	3,122
13		200.00	2,513	12,901,885	0.005	22	3,122
12		180.00	2,536	10,987,347	0.004	19	3,151
11		160.00	2,559	9,170,558	0.004	16	3,180
10		140.00	2,654	7,666,906	0.003	13	3,297
9		120.00	3,110	7,007,583	0.003	12	3,864
8		100.00	2,895	4,860,949	0.002	8	3,597
7		80.00	2,895	3,391,946	0.001	6	3,597
6		60.00	2,895	2,132,943	0.001	4	3,597
5		40.00	2,895	1,109,235	0.000	2	3,597
4		23.34	1,992	320,158	0.000	1	2,476
3		13.34	1,528	99,609	0.000	0	1,899
2		8.34	926	28,292	0.000	0	1,151
1		3.34	1,233	8,597	0.000	0	1,531
RFS Celwave PD-340-2		819.00	37	1,845,070	0.001	3	46
Generic Flat Side Arm		808.00	188	9,148,348	0.004	16	233
Raycap RDIDC-9181-PF-48		180.00	22	94,881	0.000	0	27
Fujitsu TA08025-B604		180.00	192	830,535	0.000	1	238
Fujitsu TA08025-B605		180.00	225	974,807	0.000	2	280
Commscope FFVV-65B-R2		180.00	212	920,217	0.000	2	264
Generic Flat Light Sector Frame		180.00	1,200	5,198,969	0.002	9	1,491
	Totals		116,131	2,613,036,78	1.000	4,529	144,287

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FORCE/STRESS SUMMARY

Section 1 – Bolt Elevation 0.0 (ft) and Height 6.67 (ft)

Max 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 PXX - 5" DIA PIPE	-215.04	1.2D + 1.0Di + 1.0Wi N	5.576	100	100	100	38.90	50.0	455.23	0.00	0.00	0	0	47	Member X
H DAL - 4X3X0.25	-1.19	1.2D + 1.0W 60° Pattern	1.05	100	100	100	69.68	36.0	103.10	55.22	69.60	4	4	2	Bolt Shear

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
D PL - PL 4 x 3/8"	0.00	1.2D + 1.0W N Pattern 1	36.0	58	48.60	0.00	0.00	0.00	0	0	0	Member

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

Section 2 – Bolt Elevation 6.7 (ft) and Height 3.33 (ft)

Max 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 PXX - 5" DIA PIPE	-215.14	1.2D + 1.0Di + 1.0Wi N	3.321	100	100	100	23.17	50.0	488.92	0.00	0.00	0	0	44	Member X
D SAU - 4X3X0.25	-0.55	1.2D + 1.0W N Pattern 1	6.549	100	100	100	120.71	36.0	32.96	0.00	0.00	0	0	0	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DCH - C 5x6.7 B TO B	47.65	1.2D + 1.0Di + 1.0Wi N	36.0	58	107.58	110.45	115.26	0.00	8	4	44	Member

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

Section 3 – Bolt Elevation 10.0 (ft) and Height 6.67 (ft)

Max 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 PXX - 5" DIA PIPE	-198.83	1.2D + 1.0Di + 1.0Wi N	6.42	50	50	50	22.40	50.0	490.19	0.00	0.00	0	0	40	Member X
H DAE - 3X3X0.25	-1.03	1.2D + 1.0W N Pattern 1	3.498	100	100	50	46.57	36.0	96.61	79.52	83.52	4	2	1	Bolt Shear
D DAE - 3X3X0.25	-3.00	1.2D + 1.0W N Pattern 1	7.311	50	100	50	97.34	36.0	72.79	79.52	83.52	4	2	4	Member Y

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 3X3X0.25	1.80	1.2D + 1.0W 60° Pattern 1	36.0	58	80.71	79.52	66.99	44.59	4	2	4	Blk Shear
D DAE - 3X3X0.25	2.37	1.2D + 1.0W N Pattern 1	36.0	58	80.71	79.52	66.99	44.59	4	2	5	Blk Shear

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

Section 4 – Bolt Elevation 16.7 (ft) and Height 13.33 (ft)

Max 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 PXX - 5" DIA PIPE	-200.87	1.2D + 1.0Di + 1.0Wi 60	6.665	50	50	50	23.25	50.0	488.79	0.00	0.00	0	0	41	Member X
H DAE - 1.75X1.75X0.1875	-2.39	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	16	Member X
D SOL - 7/8" SOLID	-0.01	1.2D + 1.0Di + 1.0Wi 90	9.663	100	100	100	530.21	36.0	0.48	0.00	121.80	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls

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FORCE/STRESS SUMMARY

H DAE - 1.75X1.75X0.1875	0.14	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 7/8" SOLID	3.00	1.2D + 1.0W 90° Pattern 1	36.0	58	19.48	0.00	97.44	0.00	2	0	15	Member

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

Section 5 – Bolt Elevation 30.0 (ft) and Height 20.00 (ft)

Max 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 PXX - 5" DIA PIPE	-201.77	1.2D + 1.0W 60° Pattern	6.667	50	50	50	23.26	50.0	488.78	0.00	0.00	0	0	41	Member X
H DAE - 1.75X1.75X0.1875	-1.75	1.2D + 1.0W 120° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	12	Member X
D SOL - 3/4" SOLID	-0.09	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.04	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.49	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	17	Member

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

Section 6 – Bolt Elevation 50.0 (ft) and Height 20.00 (ft)

Max 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 PXX - 5" DIA PIPE	-202.94	1.2D + 1.0W 60° Pattern	6.667	50	50	50	23.26	50.0	488.78	0.00	0.00	0	0	41	Member X
H DAE - 1.75X1.75X0.1875	-1.05	1.2D + 1.0W 120° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	7	Member X
D SOL - 3/4" SOLID	-0.21	1.2D + 1.0W 90° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.08	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	1.60	1.2D + 1.0W 120° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	11	Member

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

Section 7 – Bolt Elevation 70.0 (ft) and Height 20.00 (ft)

Max 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 PXX - 5" DIA PIPE	-202.76	1.2D + 1.0W 60° Pattern	6.667	100	100	100	46.51	50.0	434.11	0.00	0.00	0	0	46	Member X
H DAE - 1.75X1.75X0.1875	-1.24	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	8	Member X
D SOL - 3/4" SOLID	-0.20	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.01	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	1.45	1.2D + 1.0W 180° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	10	Member

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

Section 8 – Bolt Elevation 90.0 (ft) and Height 20.00 (ft)

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Max 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 PXX - 5" DIA PIPE	-201.48	1.2D + 1.0Di + 1.0Wi 60	6.667	100	100	100	46.51	50.0	434.11	0.00	0.00	0	0	46	Member X
H DAE - 1.75X1.75X0.1875	-2.10	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	14	Member X
D SOL - 3/4" SOLID	-0.10	1.2D + 1.0W 240° Patter	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.04	1.2D + 1.0W 240° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.68	1.2D + 1.0W 210° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	18	Member

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

Section 9 – Bolt Elevation 110.0 (ft) and Height 20.00 (ft)

Max 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 PXX - 5" DIA PIPE	-196.71	1.2D + 1.0Di + 1.0Wi 60	6.667	100	100	100	46.51	50.0	434.11	0.00	0.00	0	0	45	Member X
H DAE - 1.75X1.75X0.1875	-2.48	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	17	Member X
D SOL - 7/8" SOLID	-0.18	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.24	1.2D + 1.0W 60° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	3.63	1.2D + 1.0W 210° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	18	Member

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

Section 10 – Bolt Elevation 130.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-185.02	1.2D + 1.0Di + 1.0Wi N	6.667	50	50	50	22.73	50.0	420.32	0.00	0.00	0	0	44	Member X
H DAE - 1.75X1.75X0.1875	-3.20	1.2D + 1.0W 120° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	22	Member X
D SOL - 7/8" SOLID	-0.19	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.29	1.2D + 1.0W 60° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	4.55	1.2D + 1.0W 120° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	23	Member

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

Section 11 – Bolt Elevation 150.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-190.34	1.2D + 1.0W 60° Pattern	6.667	50	50	50	22.73	50.0	420.32	0.00	0.00	0	0	45	Member X
H DAE - 1.75X1.75X0.1875	-2.51	1.2D + 1.0W 120° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	17	Member X
D SOL - 3/4" SOLID	-0.14	1.2D + 1.0W 240° Patter	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

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Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.23	1.2D + 1.0W 240° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 3/4" SOLID	3.56	1.2D + 1.0W 120° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	24	Member

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

Section 12 – Bolt Elevation 170.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-190.82	1.2D + 1.0W 60° Pattern	6.667	50	50	50	22.73	50.0	420.32	0.00	0.00	0	0	45	Member X
H DAE - 1.75X1.75X0.1875	-1.34	1.2D + 1.0W 330° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	9	Member X
D SOL - 3/4" SOLID	-0.14	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.30	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 3/4" SOLID	2.09	1.2D + 1.0W 120° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	14	Member

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

Section 13 – Bolt Elevation 190.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-187.69	1.2D + 1.0Di + 1.0Wi 60	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	50	Member X
H DAE - 1.75X1.75X0.1875	-2.33	1.2D + 1.0W 330° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	16	Member X
D SOL - 3/4" SOLID	-0.01	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.10	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.97	1.2D + 1.0W 330° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	20	Member

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

Section 14 – Bolt Elevation 210.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-180.49	1.2D + 1.0Di + 1.0Wi N	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	48	Member X
H DAE - 1.75X1.75X0.1875	-3.28	1.2D + 1.0W 330° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	22	Member X
D SOL - 3/4" SOLID	-0.01	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.02	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	4.24	1.2D + 1.0W 330° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	29	Member

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

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Section 15 – Bolt Elevation 230.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Φc Pn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	# Bolt	# Hole	Use %	Controls
L PSP - 5.563" x 0.625"	-177.80	1.2D + 1.0Di + 1.0Wi N	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	47	Member X
H DAE - 1.75X1.75X0.1875	-4.13	1.2D + 1.0W 330° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	28	Member X
D SOL - 7/8" SOLID	-0.04	1.2D + 1.0W 240° Patter	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.03	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 7/8" SOLID	5.54	1.2D + 1.0W 330° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	28	Member

Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type

Section 16 – Bolt Elevation 250.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Φc Pn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	# Bolt	# Hole	Use %	Controls
L PSP - 5.563" x 0.625"	-180.57	1.2D + 1.0W 60° Pattern	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	48	Member X
H DAE - 1.75X1.75X0.1875	-4.51	1.2D + 1.0W 330° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	31	Member X
D SOL - 7/8" SOLID	-0.47	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.25	1.2D + 1.0W 60° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	6.45	1.2D + 1.0W 330° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	33	Member

Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type

Section 17 – Bolt Elevation 270.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Φc Pn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	# Bolt	# Hole	Use %	Controls
L PSP - 5.563" x 0.625"	-175.77	1.2D + 1.0W 60° Pattern	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	46	Member X
H DAE - 1.75X1.75X0.1875	-4.04	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	27	Member X
D SOL - 7/8" SOLID	-0.44	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.37	1.2D + 1.0W 60° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	5.73	1.2D + 1.0W 210° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	29	Member

Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type

Section 18 – Bolt Elevation 290.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Φc Pn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	# Bolt	# Hole	Use %	Controls
L PSP - 5.563" x 0.625"	-165.82	1.2D + 1.0W 60° Pattern	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	44	Member X
H DAE - 1.75X1.75X0.1875	-3.38	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	23	Member X
D SOL - 3/4" SOLID	-0.01	1.2D + 1.0W 240° Patter	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

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Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.02	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	4.78	1.2D + 1.0W 210° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	33	Member

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

Section 19 – Bolt Elevation 310.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-157.65	1.2D + 1.0Di + 1.0Wi N	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	42	Member X
H DAE - 1.75X1.75X0.1875	-2.48	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	17	Member X
D SOL - 3/4" SOLID	-0.07	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.03	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	3.65	1.2D + 1.0W 210° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	25	Member

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

Section 20 – Bolt Elevation 330.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-158.84	1.2D + 1.0Di + 1.0Wi 90	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	42	Member X
H DAE - 1.75X1.75X0.1875	-1.43	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	9	Member X
D SOL - 3/4" SOLID	-0.03	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.11	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.22	1.2D + 1.0W 210° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	15	Member

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

Section 21 – Bolt Elevation 350.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-158.83	1.2D + 1.0Di + 1.0Wi 12	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	42	Member X
H DAE - 1.75X1.75X0.1875	-1.51	1.2D + 1.0W 120° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	10	Member X
D SOL - 3/4" SOLID	-0.24	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.00	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	1.73	1.2D + 1.0W 120° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	12	Member

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

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Section 22 – Bolt Elevation 370.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-154.61	1.2D + 1.0Di + 1.0Wi N	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	41	Member X
H DAE - 1.75X1.75X0.1875	-2.46	1.2D + 1.0W 120° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	16	Member X
D SOL - 7/8" SOLID	-0.08	1.2D + 1.0Ev + 1.0Eh N	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.06	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 7/8" SOLID	3.13	1.2D + 1.0W 120° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	16	Member

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

Section 23 – Bolt Elevation 390.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-155.67	1.2D + 1.0Di + 1.0Wi N	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	41	Member X
H DAE - 1.75X1.75X0.1875	-2.85	1.2D + 1.0W 120° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	19	Member X
D SOL - 7/8" SOLID	-0.45	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.23	1.2D + 1.0W 180° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	4.12	1.2D + 1.0W 120° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	21	Member

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

Section 24 – Bolt Elevation 410.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-147.39	1.2D + 1.0Di + 1.0Wi N	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	39	Member X
H DAE - 1.75X1.75X0.1875	-2.50	1.2D + 1.0W 300° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	17	Member X
D SOL - 7/8" SOLID	-0.39	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.26	1.2D + 1.0Di + 1.0Wi 60°	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	3.73	1.2D + 1.0W 300° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	19	Member

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

Section 25 – Bolt Elevation 430.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.625"	-140.29	1.2D + 1.0Di + 1.0Wi N	6.667	100	100	100	45.45	50.0	375.29	0.00	0.00	0	0	37	Member X
H DAE - 1.75X1.75X0.1875	-1.87	1.2D + 1.0W 300° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	12	Member X
D SOL - 3/4" SOLID	-0.24	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

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Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.02	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.80	1.2D + 1.0W 300° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	19	Member

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

Section 26 – Bolt Elevation 450.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" OD x 0.5"	-136.39	1.2D + 1.0Di + 1.0Wi 90	6.667	100	100	100	44.47	50.0	309.71	0.00	0.00	0	0	44	Member X
H DAE - 1.75X1.75X0.1875	-1.81	1.2D + 1.0W 240° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	12	Member X
D SOL - 3/4" SOLID	-0.14	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.12	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.23	1.2D + 1.0W 240° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	15	Member

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

Section 27 – Bolt Elevation 470.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" OD x 0.5"	-134.37	1.2D + 1.0Di + 1.0Wi N	6.667	100	100	100	44.47	50.0	309.71	0.00	0.00	0	0	43	Member X
H DAE - 1.75X1.75X0.1875	-2.69	1.2D + 1.0W 240° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	18	Member X
D SOL - 3/4" SOLID	-0.20	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.11	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	3.44	1.2D + 1.0W 240° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	24	Member

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

Section 28 – Bolt Elevation 490.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" OD x 0.5"	-147.70	1.2D + 1.0W 240° Patter	6.667	100	100	100	44.47	50.0	309.71	0.00	0.00	0	0	47	Member X
H DAE - 1.75X1.75X0.1875	-3.59	1.2D + 1.0W 240° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	24	Member X
D SOL - 3/4" SOLID	-0.01	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.08	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	4.73	1.2D + 1.0W 240° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	33	Member

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

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Section 29 – Bolt Elevation 510.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" OD x 0.5"	-168.73	1.2D + 1.0W 240° Patter	6.667	100	100	100	44.47	50.0	309.71	0.00	0.00	0	0	54	Member X
H DAE - 1.75X1.75X0.1875	-4.34	1.2D + 1.0W 240° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	29	Member X
D SOL - 3/4" SOLID	-0.02	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.11	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	5.68	1.2D + 1.0W 240° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	39	Member

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

Section 30 – Bolt Elevation 530.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" OD x 0.5"	-192.28	1.2D + 1.0W 240° Patter	6.667	100	100	100	44.47	50.0	309.71	0.00	0.00	0	0	62	Member X
H DAE - 1.75X1.75X0.1875	-4.57	1.2D + 1.0W 240° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	31	Member X
D SOL - 7/8" SOLID	-0.01	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.24	1.2D + 1.0W 300° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	6.45	1.2D + 1.0W 240° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	33	Member

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

Section 31 – Bolt Elevation 550.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" OD x 0.5"	-187.11	1.2D + 1.0W 240° Patter	6.667	100	100	100	44.47	50.0	309.71	0.00	0.00	0	0	60	Member X
H DAE - 1.75X1.75X0.1875	-4.01	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	27	Member X
D SOL - 7/8" SOLID	-0.15	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.24	1.2D + 1.0Di + 1.0Wi 300°	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	5.68	1.2D + 1.0W 90° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	29	Member

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

Section 32 – Bolt Elevation 570.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" OD x 0.5"	-168.14	1.2D + 1.0W 240° Patter	6.667	100	100	100	44.47	50.0	309.71	0.00	0.00	0	0	54	Member X
H DAE - 1.75X1.75X0.1875	-3.28	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	22	Member X
D SOL - 3/4" SOLID	-0.00	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

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Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.08	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	4.68	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	32	Member

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

Section 33 – Bolt Elevation 590.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-151.75	1.2D + 1.0W 240° Patter	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	63	Member X
H DAE - 1.75X1.75X0.1875	-2.36	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	16	Member X
D SOL - 3/4" SOLID	-0.05	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.09	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	3.47	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	24	Member

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

Section 34 – Bolt Elevation 610.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-139.81	1.2D + 1.0W 240° Patter	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	58	Member X
H DAE - 1.75X1.75X0.1875	-1.35	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	9	Member X
D SOL - 3/4" SOLID	-0.13	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.13	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.12	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	14	Member

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

Section 35 – Bolt Elevation 630.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-132.36	1.2D + 1.0W 240° Patter	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	55	Member X
H DAE - 1.75X1.75X0.1875	-1.07	1.2D + 1.0W N Pattern 1	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	7	Member X
D SOL - 3/4" SOLID	-0.19	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.06	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	1.30	1.2D + 1.0W 180° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	9	Member

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

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Section 36 – Bolt Elevation 650.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-135.59	1.2D + 1.0W N Pattern 1	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	56	Member X
H DAE - 1.75X1.75X0.1875	-2.09	1.2D + 1.0W 300° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	14	Member X
D SOL - 3/4" SOLID	-0.03	1.2D + 1.0W 240° Patter	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.06	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.74	1.2D + 1.0W 300° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	19	Member

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

Section 37 – Bolt Elevation 670.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-147.06	1.2D + 1.0W N Pattern 1	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	61	Member X
H DAE - 1.75X1.75X0.1875	-2.83	1.2D + 1.0W 330° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	19	Member X
D SOL - 3/4" SOLID	-0.21	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.26	1.2D + 1.0Di + 1.0Wi 300°	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 3/4" SOLID	4.02	1.2D + 1.0W 300° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	28	Member

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

Section 38 – Bolt Elevation 690.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-150.33	1.2D + 1.0W N Pattern 1	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	62	Member X
H DAE - 1.75X1.75X0.1875	-5.83	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	40	Member X
D SOL - 7/8" SOLID	-0.06	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.25	1.2D + 1.0W 180° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	8.41	1.2D + 1.0W 90° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	43	Member

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

Section 39 – Bolt Elevation 710.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-125.61	1.2D + 1.0W N Pattern 1	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	52	Member X
H DAE - 1.75X1.75X0.1875	-5.36	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	36	Member X
D SOL - 3/4" SOLID	-0.06	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

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Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.12	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	7.54	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	52	Member

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

Section 40 – Bolt Elevation 730.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-97.54	1.2D + 1.0W N Pattern 1	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	40	Member X
H DAE - 1.75X1.75X0.1875	-4.32	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	29	Member X
D SOL - 3/4" SOLID	-0.08	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.16	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	6.23	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	43	Member

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

Section 41 – Bolt Elevation 750.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-94.36	1.2D + 1.0W 60° Pattern	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	39	Member X
H DAE - 1.75X1.75X0.1875	-3.17	1.2D + 1.0W N Pattern 1	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	21	Member X
D SOL - 3/4" SOLID	-0.02	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.21	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	4.59	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	32	Member

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

Section 42 – Bolt Elevation 770.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-98.70	1.2D + 1.0W 60° Pattern	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	41	Member X
H DAE - 1.75X1.75X0.1875	-2.16	1.2D + 1.0W N Pattern 1	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	14	Member X
D SOL - 3/4" SOLID	-0.05	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.09	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	3.14	1.2D + 1.0W N Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	21	Member

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

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Section 43 – Bolt Elevation 790.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-99.91	1.2D + 1.0W 60° Pattern	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	41	Member X
H DAE - 1.75X1.75X0.1875	-1.09	1.2D + 1.0W N Pattern 1	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	7	Member X
D SOL - 3/4" SOLID	-0.06	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.27	1.2D + 1.0W 240° Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 3/4" SOLID	1.61	1.2D + 1.0W N Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	11	Member

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

Section 44 – Bolt Elevation 810.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-98.14	1.2D + 1.0W 60° Pattern	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	40	Member X
H DAE - 1.75X1.75X0.1875	-2.47	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	17	Member X
D SOL - 3/4" SOLID	-0.00	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.21	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	3.16	1.2D + 1.0W 180° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	22	Member

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

Section 45 – Bolt Elevation 830.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-88.30	1.2D + 1.0W 60° Pattern	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	36	Member X
H DAE - 1.75X1.75X0.1875	-2.97	1.2D + 1.0W 210° Patter	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	20	Member X
D SOL - 7/8" SOLID	-0.09	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.24	1.2D + 1.0Ev + 1.0Eh 60°	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	4.37	1.2D + 1.0W 210° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	22	Member

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

Section 46 – Bolt Elevation 850.0 (ft) and Height 20.00 (ft)

Max 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 PSP - 5.563" x 0.375"	-51.11	1.2D + 1.0W N Pattern 1	6.667	100	100	100	43.50	50.0	239.42	0.00	0.00	0	0	21	Member X
H DAE - 1.75X1.75X0.1875	-4.74	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	32	Member X
D SOL - 7/8" SOLID	-0.16	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

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Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.27	1.2D + 1.0Ev + 1.0Eh 90°	36.0	58	32.04	55.22	41.76	22.63	4	2	1	Blk Shear
D SOL - 7/8" SOLID	6.80	1.2D + 1.0W 90° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	34	Member

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

Section 47 – Bolt Elevation 870.0 (ft) and Height 20.00 (ft)

Max 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 PST - 5" DIA PIPE	-59.51	1.2D + 1.0W 60° Pattern	5	100	100	100	31.91	50.0	179.61	0.00	0.00	0	0	33	Member X
H DAE - 1.75X1.75X0.1875	-3.90	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	26	Member X
D SOL - 3/4" SOLID	-0.05	1.2D + 1.0W N Pattern 1	8.6	100	100	100	550.37	36.0	0.33	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.10	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	4.92	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	34	Member

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

Section 48 – Bolt Elevation 890.0 (ft) and Height 20.00 (ft)

Max 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 PST - 5" DIA PIPE	-70.87	1.2D + 1.0W 60° Pattern	6.667	100	100	100	42.55	50.0	169.50	0.00	0.00	0	0	41	Member X
H DAE - 1.75X1.75X0.1875	-2.59	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	17	Member X
D SOL - 3/4" SOLID	-0.06	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 5" DIA PIPE	0.84	1.2D + 1.0W 240° Pattern 1	50.0	65	193.50	0.00	0.00		0	0	0	Member
H DAE - 1.75X1.75X0.1875	0.13	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	3.83	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	26	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	3.57	1.2D + 1.0W 240° Pattern 1	0.00	0	0	

Section 49 – Bolt Elevation 910.0 (ft) and Height 20.00 (ft)

Max 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 PST - 5" DIA PIPE	-75.03	1.2D + 1.0W 60° Pattern	6.667	100	100	100	42.55	50.0	169.50	0.00	0.00	0	0	44	Member X
H DAE - 1.75X1.75X0.1875	-1.33	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	9	Member X
D SOL - 3/4" SOLID	-0.12	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 5" DIA PIPE	6.84	1.2D + 1.0W N Pattern 1	50.0	65	193.50	0.00	0.00		0	0	3	Member
H DAE - 1.75X1.75X0.1875	0.18	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.11	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	14	Member

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Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	7.88	1.2D + 1.0W 120° Pattern 1	0.00	0	0	
Bot Tension	3.57	1.2D + 1.0W 240° Pattern 1	163.55	2	3	1 A449

Section 50 – Bolt Elevation 930.0 (ft) and Height 20.00 (ft)

Max 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 PST - 5" DIA PIPE	-76.19	1.2D + 1.0W 60° Pattern	6.667	100	100	100	42.55	50.0	169.50	0.00	0.00	0	0	44	Member X
H DAE - 1.75X1.75X0.1875	-1.15	1.2D + 1.0W N Pattern 1	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	7	Member X
D SOL - 3/4" SOLID	-0.24	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 5" DIA PIPE	7.89	1.2D + 1.0W N Pattern 1	50.0	65	193.50	0.00	0.00		0	0	4	Member
H DAE - 1.75X1.75X0.1875	0.09	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	1.23	1.2D + 1.0W N Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	8	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	6.38	1.2D + 1.0W 120° Pattern 1	0.00	0	0	
Bot Tension	7.88	1.2D + 1.0W 120° Pattern 1	163.55	5	3	1 A449

Section 51 – Bolt Elevation 950.0 (ft) and Height 20.00 (ft)

Max 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 PST - 5" DIA PIPE	-74.66	1.2D + 1.0W 60° Pattern	6.667	100	100	100	42.55	50.0	169.50	0.00	0.00	0	0	44	Member X
H DAE - 1.75X1.75X0.1875	-2.27	1.2D + 1.0W N Pattern 1	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	15	Member X
D SOL - 3/4" SOLID	-0.01	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 5" DIA PIPE	4.31	1.2D + 1.0W N Pattern 1	50.0	65	193.50	0.00	0.00		0	0	2	Member
H DAE - 1.75X1.75X0.1875	0.14	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	2.77	1.2D + 1.0W N Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	19	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	6.38	1.2D + 1.0W 120° Pattern 1	163.55	4	3	1 A449

Section 52 – Bolt Elevation 970.0 (ft) and Height 20.00 (ft)

Max 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 PST - 5" DIA PIPE	-67.07	1.2D + 1.0W 60° Pattern	6.667	100	100	100	42.55	50.0	169.50	0.00	0.00	0	0	39	Member X
H DAE - 1.75X1.75X0.1875	-3.24	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	22	Member X
D SOL - 3/4" SOLID	-0.02	1.2D + 1.0W N Pattern 1	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H DAE - 1.75X1.75X0.1875	0.15	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	4.50	1.2D + 1.0W 210° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	31	Member

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

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Section 53 – Bolt Elevation 990.0 (ft) and Height 20.00 (ft)

Max 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 PST - 5" DIA PIPE	-53.38	1.2D + 1.0W 60° Pattern	6.667	100	100	100	42.55	50.0	169.50	0.00	0.00	0	0	31	Member X
H DAE - 1.75X1.75X0.1875	-1.63	1.2D + 1.0W 90° Pattern	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	11	Member X
D SOL - 7/8" SOLID	-0.09	1.2D + 1.0W N Pattern 1	9.664	100	100	100	530.27	36.0	0.48	0.00	146.16	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 5" DIA PIPE	6.00	1.2D + 1.0W 60° Pattern 1	50.0	65	193.50	0.00	0.00		0	0	3	Member
H DAE - 1.75X1.75X0.1875	0.08	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 7/8" SOLID	4.74	1.2D + 1.0W 210° Pattern 1	36.0	58	19.48	0.00	117.23	0.00	2	0	24	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	3.02	1.2D + 1.0W 300° Pattern 1	0.00	0	0	

Section 54 – Bolt Elevation 1010.0 (ft) and Height 20.00 (ft)

Max 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 PST - 5" DIA PIPE	-4.52	1.2D + 1.0W N Pattern 1	6.667	100	100	100	42.55	50.0	169.50	0.00	0.00	0	0	2	Member X
H DAE - 1.75X1.75X0.1875	-0.91	1.2D + 1.0W N Pattern 1	6.997	100	100	50	156.35	36.0	14.52	55.22	52.20	4	2	6	Member X
D SOL - 3/4" SOLID	-0.10	1.2D + 1.0W 60° Pattern	9.664	100	100	100	618.51	36.0	0.26	0.00	125.28	2	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 5" DIA PIPE	0.43	1.2D + 1.0W N Pattern 1	50.0	65	193.50	0.00	0.00		0	0	0	Member
H DAE - 1.75X1.75X0.1875	0.08	1.2D + 1.0W N Pattern 1	36.0	58	32.04	55.22	41.76	22.63	4	2	0	Blk Shear
D SOL - 3/4" SOLID	1.57	1.2D + 1.0W 90° Pattern 1	36.0	58	14.31	0.00	100.48	0.00	2	0	10	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	3.02	1.2D + 1.0W 300° Pattern 1	163.55	2	3	1 A449

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DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down *F_X (kip)	*F_Y (kip)	*F_Z (kip)
1.2D + 1.0W Normal Pattern 1	0.00	0.00		1	0.11	494.21	-2.35
	405.00	7.00	0	A1	0.00	-5.86	10.23
	405.00	-50.00	240	A1a	-38.25	-33.28	-24.52
	405.00	60.00	120	A1b	37.90	-21.22	-24.28
	670.00	30.00	0	A2	-0.01	-22.90	16.63
	670.00	-80.00	240	A2a	-83.36	-117.59	-60.19
	670.00	30.00	120	A2b	82.85	-101.73	-59.41
1.2D + 1.0W Normal Pattern 2	0.00	0.00		1	0.11	494.21	-2.35
	405.00	7.00	0	A1	0.00	-5.86	10.23
	405.00	-50.00	240	A1a	-38.25	-33.28	-24.52
	405.00	60.00	120	A1b	37.90	-21.22	-24.28
	670.00	30.00	0	A2	-0.01	-22.90	16.63
	670.00	-80.00	240	A2a	-83.36	-117.59	-60.19
	670.00	30.00	120	A2b	82.85	-101.73	-59.41
1.2D + 1.0W Normal Pattern 3	0.00	0.00		1	0.11	494.21	-2.35
	405.00	7.00	0	A1	0.00	-5.86	10.23
	405.00	-50.00	240	A1a	-38.25	-33.28	-24.52
	405.00	60.00	120	A1b	37.90	-21.22	-24.28
	670.00	30.00	0	A2	-0.01	-22.90	16.63
	670.00	-80.00	240	A2a	-83.36	-117.59	-60.19
	670.00	30.00	120	A2b	82.85	-101.73	-59.41
1.2D + 1.0W Normal Pattern 4	0.00	0.00		1	0.11	494.21	-2.35
	405.00	7.00	0	A1	0.00	-5.86	10.23
	405.00	-50.00	240	A1a	-38.25	-33.28	-24.52
	405.00	60.00	120	A1b	37.90	-21.22	-24.28
	670.00	30.00	0	A2	-0.01	-22.90	16.63
	670.00	-80.00	240	A2a	-83.36	-117.59	-60.19
	670.00	30.00	120	A2b	82.85	-101.73	-59.41
1.2D + 1.0W 60° Pattern 1	0.00	0.00		1	-1.10	544.91	-0.64
	405.00	7.00	0	A1	-2.10	-15.73	25.00
	405.00	-50.00	240	A1a	-51.50	-44.93	-29.73
	405.00	60.00	120	A1b	20.72	-12.42	-14.36
	670.00	30.00	0	A2	-10.01	-62.41	55.97
	670.00	-80.00	240	A2a	-122.09	-160.56	-70.49
	670.00	30.00	120	A2b	43.51	-62.44	-36.68
1.2D + 1.0W 60° Pattern 2	0.00	0.00		1	-1.10	544.91	-0.64
	405.00	7.00	0	A1	-2.10	-15.73	25.00
	405.00	-50.00	240	A1a	-51.50	-44.93	-29.73
	405.00	60.00	120	A1b	20.72	-12.42	-14.36
	670.00	30.00	0	A2	-10.01	-62.41	55.97
	670.00	-80.00	240	A2a	-122.09	-160.56	-70.49
	670.00	30.00	120	A2b	43.51	-62.44	-36.68
1.2D + 1.0W 60° Pattern 3	0.00	0.00		1	-1.10	544.91	-0.64
	405.00	7.00	0	A1	-2.10	-15.73	25.00
	405.00	-50.00	240	A1a	-51.50	-44.93	-29.73
	405.00	60.00	120	A1b	20.72	-12.42	-14.36
	670.00	30.00	0	A2	-10.01	-62.41	55.97
	670.00	-80.00	240	A2a	-122.09	-160.56	-70.49
	670.00	30.00	120	A2b	43.51	-62.44	-36.68
1.2D + 1.0W 60° Pattern 4	0.00	0.00		1	-1.10	544.91	-0.64
	405.00	7.00	0	A1	-2.10	-15.73	25.00
	405.00	-50.00	240	A1a	-51.50	-44.93	-29.73
	405.00	60.00	120	A1b	20.72	-12.42	-14.36
	670.00	30.00	0	A2	-10.01	-62.41	55.97
	670.00	-80.00	240	A2a	-122.09	-160.56	-70.49
	670.00	30.00	120	A2b	43.51	-62.44	-36.68
1.2D + 1.0W 90° Pattern 1	0.00	0.00		1	-1.68	526.88	0.32
	405.00	7.00	0	A1	-2.66	-20.92	34.47
	405.00	-50.00	240	A1a	-47.83	-40.86	-26.48
	405.00	60.00	120	A1b	12.62	-7.26	-8.30
	670.00	30.00	0	A2	-12.30	-82.90	79.56
	670.00	-80.00	240	A2a	-114.87	-147.32	-60.10
	670.00	30.00	120	A2b	24.72	-38.33	-19.98

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DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down *Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0W 90° Pattern 2	0.00	0.00		1	-1.68	526.88	0.32
	405.00	7.00	0	A1	-2.66	-20.92	34.47
	405.00	-50.00	240	A1a	-47.83	-40.86	-26.48
	405.00	60.00	120	A1b	12.62	-7.26	-8.30
	670.00	30.00	0	A2	-12.30	-82.90	79.56
	670.00	-80.00	240	A2a	-114.87	-147.32	-60.10
	670.00	30.00	120	A2b	24.72	-38.33	-19.98
1.2D + 1.0W 90° Pattern 3	0.00	0.00		1	-1.68	526.88	0.32
	405.00	7.00	0	A1	-2.66	-20.92	34.47
	405.00	-50.00	240	A1a	-47.83	-40.86	-26.48
	405.00	60.00	120	A1b	12.62	-7.26	-8.30
	670.00	30.00	0	A2	-12.30	-82.90	79.56
	670.00	-80.00	240	A2a	-114.87	-147.32	-60.10
	670.00	30.00	120	A2b	24.72	-38.33	-19.98
1.2D + 1.0W 90° Pattern 4	0.00	0.00		1	-1.68	526.88	0.32
	405.00	7.00	0	A1	-2.66	-20.92	34.47
	405.00	-50.00	240	A1a	-47.83	-40.86	-26.48
	405.00	60.00	120	A1b	12.62	-7.26	-8.30
	670.00	30.00	0	A2	-12.30	-82.90	79.56
	670.00	-80.00	240	A2a	-114.87	-147.32	-60.10
	670.00	30.00	120	A2b	24.72	-38.33	-19.98
1.2D + 1.0W 120° Pattern 1	0.00	0.00		1	-1.95	497.76	1.20
	405.00	7.00	0	A1	-2.10	-26.69	45.02
	405.00	-50.00	240	A1a	-40.23	-32.97	-20.79
	405.00	60.00	120	A1b	8.62	-3.77	-4.98
	670.00	30.00	0	A2	-10.03	-101.68	101.38
	670.00	-80.00	240	A2a	-93.73	-117.52	-42.05
	670.00	30.00	120	A2b	14.65	-23.12	-8.47
1.2D + 1.0W 120° Pattern 2	0.00	0.00		1	-1.95	497.76	1.20
	405.00	7.00	0	A1	-2.10	-26.69	45.02
	405.00	-50.00	240	A1a	-40.23	-32.97	-20.79
	405.00	60.00	120	A1b	8.62	-3.77	-4.98
	670.00	30.00	0	A2	-10.03	-101.68	101.38
	670.00	-80.00	240	A2a	-93.73	-117.52	-42.05
	670.00	30.00	120	A2b	14.65	-23.12	-8.47
1.2D + 1.0W 120° Pattern 3	0.00	0.00		1	-1.95	497.76	1.20
	405.00	7.00	0	A1	-2.10	-26.69	45.02
	405.00	-50.00	240	A1a	-40.23	-32.97	-20.79
	405.00	60.00	120	A1b	8.62	-3.77	-4.98
	670.00	30.00	0	A2	-10.03	-101.68	101.38
	670.00	-80.00	240	A2a	-93.73	-117.52	-42.05
	670.00	30.00	120	A2b	14.65	-23.12	-8.47
1.2D + 1.0W 120° Pattern 4	0.00	0.00		1	-1.95	497.76	1.20
	405.00	7.00	0	A1	-2.10	-26.69	45.02
	405.00	-50.00	240	A1a	-40.23	-32.97	-20.79
	405.00	60.00	120	A1b	8.62	-3.77	-4.98
	670.00	30.00	0	A2	-10.03	-101.68	101.38
	670.00	-80.00	240	A2a	-93.73	-117.52	-42.05
	670.00	30.00	120	A2b	14.65	-23.12	-8.47
1.2D + 1.0W 180° Pattern 1	0.00	0.00		1	0.05	536.48	1.50
	405.00	7.00	0	A1	-0.01	-37.34	59.91
	405.00	-50.00	240	A1a	-23.24	-19.99	-10.99
	405.00	60.00	120	A1b	23.39	-12.87	-11.12
	670.00	30.00	0	A2	0.00	-141.46	141.57
	670.00	-80.00	240	A2a	-55.00	-74.38	-19.73
	670.00	30.00	120	A2b	55.57	-65.16	-20.58
1.2D + 1.0W 180° Pattern 2	0.00	0.00		1	0.05	536.48	1.50
	405.00	7.00	0	A1	-0.01	-37.34	59.91
	405.00	-50.00	240	A1a	-23.24	-19.99	-10.99
	405.00	60.00	120	A1b	23.39	-12.87	-11.12
	670.00	30.00	0	A2	0.00	-141.46	141.57
	670.00	-80.00	240	A2a	-55.00	-74.38	-19.73
	670.00	30.00	120	A2b	55.57	-65.16	-20.58
1.2D + 1.0W 180° Pattern 3	0.00	0.00		1	0.05	536.48	1.50
	405.00	7.00	0	A1	-0.01	-37.34	59.91
	405.00	-50.00	240	A1a	-23.24	-19.99	-10.99

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DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down *F_X (kip)	*F_Y (kip)	*F_Z (kip)
	405.00	60.00	120	A1b	23.39	-12.87	-11.12
	670.00	30.00	0	A2	0.00	-141.46	141.57
	670.00	-80.00	240	A2a	-55.00	-74.38	-19.73
	670.00	30.00	120	A2b	55.57	-65.16	-20.58
1.2D + 1.0W 180° Pattern 4	0.00	0.00		1	0.05	536.48	1.50
	405.00	7.00	0	A1	-0.01	-37.34	59.91
	405.00	-50.00	240	A1a	-23.24	-19.99	-10.99
	405.00	60.00	120	A1b	23.39	-12.87	-11.12
	670.00	30.00	0	A2	0.00	-141.46	141.57
	670.00	-80.00	240	A2a	-55.00	-74.38	-19.73
	670.00	30.00	120	A2b	55.57	-65.16	-20.58
1.2D + 1.0W 210° Pattern 1	0.00	0.00		1	1.15	518.52	1.45
	405.00	7.00	0	A1	0.93	-34.33	55.69
	405.00	-50.00	240	A1a	-14.36	-12.80	-7.16
	405.00	60.00	120	A1b	32.09	-17.17	-15.48
	670.00	30.00	0	A2	5.04	-131.42	131.68
	670.00	-80.00	240	A2a	-31.62	-48.00	-12.16
	670.00	30.00	120	A2b	78.16	-86.97	-30.96
1.2D + 1.0W 210° Pattern 2	0.00	0.00		1	1.15	518.52	1.45
	405.00	7.00	0	A1	0.93	-34.33	55.69
	405.00	-50.00	240	A1a	-14.36	-12.80	-7.16
	405.00	60.00	120	A1b	32.09	-17.17	-15.48
	670.00	30.00	0	A2	5.04	-131.42	131.68
	670.00	-80.00	240	A2a	-31.62	-48.00	-12.16
	670.00	30.00	120	A2b	78.16	-86.97	-30.96
1.2D + 1.0W 210° Pattern 3	0.00	0.00		1	1.15	518.52	1.45
	405.00	7.00	0	A1	0.93	-34.33	55.69
	405.00	-50.00	240	A1a	-14.36	-12.80	-7.16
	405.00	60.00	120	A1b	32.09	-17.17	-15.48
	670.00	30.00	0	A2	5.04	-131.42	131.68
	670.00	-80.00	240	A2a	-31.62	-48.00	-12.16
	670.00	30.00	120	A2b	78.16	-86.97	-30.96
1.2D + 1.0W 210° Pattern 4	0.00	0.00		1	1.15	518.52	1.45
	405.00	7.00	0	A1	0.93	-34.33	55.69
	405.00	-50.00	240	A1a	-14.36	-12.80	-7.16
	405.00	60.00	120	A1b	32.09	-17.17	-15.48
	670.00	30.00	0	A2	5.04	-131.42	131.68
	670.00	-80.00	240	A2a	-31.62	-48.00	-12.16
	670.00	30.00	120	A2b	78.16	-86.97	-30.96
1.2D + 1.0W 240° Pattern 1	0.00	0.00		1	2.16	491.69	1.20
	405.00	7.00	0	A1	2.09	-27.15	45.32
	405.00	-50.00	240	A1a	-9.54	-8.65	-5.50
	405.00	60.00	120	A1b	40.10	-21.36	-20.77
	670.00	30.00	0	A2	10.04	-106.78	105.75
	670.00	-80.00	240	A2a	-15.85	-30.44	-9.15
	670.00	30.00	120	A2b	96.60	-106.79	-44.18
1.2D + 1.0W 240° Pattern 2	0.00	0.00		1	2.16	491.69	1.20
	405.00	7.00	0	A1	2.09	-27.15	45.32
	405.00	-50.00	240	A1a	-9.54	-8.65	-5.50
	405.00	60.00	120	A1b	40.10	-21.36	-20.77
	670.00	30.00	0	A2	10.04	-106.78	105.75
	670.00	-80.00	240	A2a	-15.85	-30.44	-9.15
	670.00	30.00	120	A2b	96.60	-106.79	-44.18
1.2D + 1.0W 240° Pattern 3	0.00	0.00		1	2.16	491.69	1.20
	405.00	7.00	0	A1	2.09	-27.15	45.32
	405.00	-50.00	240	A1a	-9.54	-8.65	-5.50
	405.00	60.00	120	A1b	40.10	-21.36	-20.77
	670.00	30.00	0	A2	10.04	-106.78	105.75
	670.00	-80.00	240	A2a	-15.85	-30.44	-9.15
	670.00	30.00	120	A2b	96.60	-106.79	-44.18
1.2D + 1.0W 240° Pattern 4	0.00	0.00		1	2.16	491.69	1.20
	405.00	7.00	0	A1	2.09	-27.15	45.32
	405.00	-50.00	240	A1a	-9.54	-8.65	-5.50
	405.00	60.00	120	A1b	40.10	-21.36	-20.77
	670.00	30.00	0	A2	10.04	-106.78	105.75
	670.00	-80.00	240	A2a	-15.85	-30.44	-9.15
	670.00	30.00	120	A2b	96.60	-106.79	-44.18
1.2D + 1.0W 300° Pattern 1	0.00	0.00		1	1.48	533.30	-0.83
	405.00	7.00	0	A1	2.09	-16.70	26.22

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DETAILED REACTIONS

*(-) Uplift and (+) Down

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*Fx (kip)	*Fy (kip)	*Fz (kip)
	405.00	-50.00	240	A1a	-21.56	-20.46	-14.87
	405.00	60.00	120	A1b	52.10	-30.27	-30.09
	670.00	30.00	0	A2	9.97	-65.16	58.43
	670.00	-80.00	240	A2a	-44.64	-74.44	-37.80
	670.00	30.00	120	A2b	122.46	-141.38	-70.71
1.2D + 1.0W 300° Pattern 2	0.00	0.00		1	1.48	533.30	-0.83
	405.00	7.00	0	A1	2.09	-16.70	26.22
	405.00	-50.00	240	A1a	-21.56	-20.46	-14.87
	405.00	60.00	120	A1b	52.10	-30.27	-30.09
	670.00	30.00	0	A2	9.97	-65.16	58.43
	670.00	-80.00	240	A2a	-44.64	-74.44	-37.80
	670.00	30.00	120	A2b	122.46	-141.38	-70.71
1.2D + 1.0W 300° Pattern 3	0.00	0.00		1	1.48	533.30	-0.83
	405.00	7.00	0	A1	2.09	-16.70	26.22
	405.00	-50.00	240	A1a	-21.56	-20.46	-14.87
	405.00	60.00	120	A1b	52.10	-30.27	-30.09
	670.00	30.00	0	A2	9.97	-65.16	58.43
	670.00	-80.00	240	A2a	-44.64	-74.44	-37.80
	670.00	30.00	120	A2b	122.46	-141.38	-70.71
1.2D + 1.0W 300° Pattern 4	0.00	0.00		1	1.48	533.30	-0.83
	405.00	7.00	0	A1	2.09	-16.70	26.22
	405.00	-50.00	240	A1a	-21.56	-20.46	-14.87
	405.00	60.00	120	A1b	52.10	-30.27	-30.09
	670.00	30.00	0	A2	9.97	-65.16	58.43
	670.00	-80.00	240	A2a	-44.64	-74.44	-37.80
	670.00	30.00	120	A2b	122.46	-141.38	-70.71
1.2D + 1.0W 330° Pattern 1	0.00	0.00		1	0.86	516.92	-1.77
	405.00	7.00	0	A1	0.93	-10.10	15.81
	405.00	-50.00	240	A1a	-29.26	-26.61	-19.92
	405.00	60.00	120	A1b	47.19	-27.18	-28.26
	670.00	30.00	0	A2	4.91	-39.69	32.59
	670.00	-80.00	240	A2a	-63.46	-96.76	-51.29
	670.00	30.00	120	A2b	109.11	-128.35	-68.81
1.2D + 1.0W 330° Pattern 2	0.00	0.00		1	0.86	516.92	-1.77
	405.00	7.00	0	A1	0.93	-10.10	15.81
	405.00	-50.00	240	A1a	-29.26	-26.61	-19.92
	405.00	60.00	120	A1b	47.19	-27.18	-28.26
	670.00	30.00	0	A2	4.91	-39.69	32.59
	670.00	-80.00	240	A2a	-63.46	-96.76	-51.29
	670.00	30.00	120	A2b	109.11	-128.35	-68.81
1.2D + 1.0W 330° Pattern 3	0.00	0.00		1	0.86	516.92	-1.77
	405.00	7.00	0	A1	0.93	-10.10	15.81
	405.00	-50.00	240	A1a	-29.26	-26.61	-19.92
	405.00	60.00	120	A1b	47.19	-27.18	-28.26
	670.00	30.00	0	A2	4.91	-39.69	32.59
	670.00	-80.00	240	A2a	-63.46	-96.76	-51.29
	670.00	30.00	120	A2b	109.11	-128.35	-68.81
1.2D + 1.0W 330° Pattern 4	0.00	0.00		1	0.86	516.92	-1.77
	405.00	7.00	0	A1	0.93	-10.10	15.81
	405.00	-50.00	240	A1a	-29.26	-26.61	-19.92
	405.00	60.00	120	A1b	47.19	-27.18	-28.26
	670.00	30.00	0	A2	4.91	-39.69	32.59
	670.00	-80.00	240	A2a	-63.46	-96.76	-51.29
	670.00	30.00	120	A2b	109.11	-128.35	-68.81
1.2D + 1.0Di + 1.0Wi Normal	0.00	0.00		1	0.15	596.17	-0.35
	405.00	7.00	0	A1	-0.01	-17.87	33.04
	405.00	-50.00	240	A1a	-38.45	-31.40	-23.32
	405.00	60.00	120	A1b	38.22	-19.53	-23.18
	670.00	30.00	0	A2	-0.02	-48.68	52.94
	670.00	-80.00	240	A2a	-70.30	-88.43	-45.66
	670.00	30.00	120	A2b	70.06	-75.87	-45.34
1.2D + 1.0Di + 1.0Wi 60°	0.00	0.00		1	-0.06	595.77	-0.07
	405.00	7.00	0	A1	-0.98	-20.19	36.42
	405.00	-50.00	240	A1a	-41.48	-33.63	-23.94
	405.00	60.00	120	A1b	31.07	-15.50	-19.06
	670.00	30.00	0	A2	-4.25	-57.68	62.11
	670.00	-80.00	240	A2a	-80.92	-98.99	-46.72
	670.00	30.00	120	A2b	51.69	-57.72	-34.75
1.2D + 1.0Di + 1.0Wi 90°	0.00	0.00		1	-0.11	597.14	0.08

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DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down *F_X (kip)	*F_Y (kip)	*F_Z (kip)
	405.00	7.00	0	A1	-1.24	-22.74	40.69
	405.00	-50.00	240	A1a	-41.19	-33.13	-23.25
	405.00	60.00	120	A1b	29.13	-14.14	-17.29
	670.00	30.00	0	A2	-5.19	-66.61	72.57
	670.00	-80.00	240	A2a	-79.89	-96.07	-43.54
	670.00	30.00	120	A2b	46.70	-51.10	-29.43
1.2D + 1.0Di + 1.0Wi 120°	0.00	0.00		1	-0.13	597.94	0.15
	405.00	7.00	0	A1	-0.99	-25.27	44.93
	405.00	-50.00	240	A1a	-39.48	-31.45	-21.66
	405.00	60.00	120	A1b	28.74	-13.70	-16.60
	670.00	30.00	0	A2	-4.23	-75.87	83.36
	670.00	-80.00	240	A2a	-74.70	-88.43	-38.05
	670.00	30.00	120	A2b	45.80	-48.66	-26.46
1.2D + 1.0Di + 1.0Wi 180°	0.00	0.00		1	0.15	590.23	0.25
	405.00	7.00	0	A1	-0.01	-27.12	47.81
	405.00	-50.00	240	A1a	-32.14	-25.37	-17.43
	405.00	60.00	120	A1b	32.19	-15.63	-17.48
	670.00	30.00	0	A2	-0.03	-85.27	92.94
	670.00	-80.00	240	A2a	-55.88	-67.29	-27.16
	670.00	30.00	120	A2b	56.10	-57.98	-27.53
1.2D + 1.0Di + 1.0Wi 210°	0.00	0.00		1	0.34	588.85	0.23
	405.00	7.00	0	A1	0.42	-26.71	47.27
	405.00	-50.00	240	A1a	-29.58	-23.32	-16.54
	405.00	60.00	120	A1b	35.90	-17.61	-19.31
	670.00	30.00	0	A2	2.05	-82.53	90.40
	670.00	-80.00	240	A2a	-48.39	-59.36	-25.32
	670.00	30.00	120	A2b	65.40	-66.63	-31.82
1.2D + 1.0Di + 1.0Wi 240°	0.00	0.00		1	0.47	588.68	0.19
	405.00	7.00	0	A1	0.96	-25.28	44.97
	405.00	-50.00	240	A1a	-28.63	-22.58	-16.52
	405.00	60.00	120	A1b	39.27	-19.56	-21.57
	670.00	30.00	0	A2	4.17	-75.58	83.09
	670.00	-80.00	240	A2a	-44.96	-56.19	-25.96
	670.00	30.00	120	A2b	74.06	-75.60	-37.94
1.2D + 1.0Di + 1.0Wi 300°	0.00	0.00		1	0.38	588.79	-0.17
	405.00	7.00	0	A1	0.96	-20.34	36.64
	405.00	-50.00	240	A1a	-31.15	-25.37	-19.11
	405.00	60.00	120	A1b	41.23	-21.13	-23.81
	670.00	30.00	0	A2	4.21	-57.97	62.35
	670.00	-80.00	240	A2a	-51.49	-67.32	-34.83
	670.00	30.00	120	A2b	80.46	-85.28	-46.48
1.2D + 1.0Di + 1.0Wi 330°	0.00	0.00		1	0.27	592.29	-0.28
	405.00	7.00	0	A1	0.43	-18.55	33.91
	405.00	-50.00	240	A1a	-34.71	-28.42	-21.44
	405.00	60.00	120	A1b	40.45	-20.71	-23.83
	670.00	30.00	0	A2	2.10	-51.36	55.40
	670.00	-80.00	240	A2a	-60.30	-77.73	-40.99
	670.00	30.00	120	A2b	77.30	-82.64	-47.06
1.2D + 1.0Ev + 1.0Eh Normal	0.00	0.00		1	0.06	406.59	0.03
	405.00	7.00	0	A1	-0.01	-19.90	34.35
	405.00	-50.00	240	A1a	-30.45	-25.44	-17.58
	405.00	60.00	120	A1b	30.39	-16.00	-17.55
	670.00	30.00	0	A2	-0.01	-45.19	47.97
	670.00	-80.00	240	A2a	-44.75	-57.33	-25.85
	670.00	30.00	120	A2b	44.78	-49.41	-25.88
1.2D + 1.0Ev + 1.0Eh 60°	0.00	0.00		1	0.06	406.64	0.03
	405.00	7.00	0	A1	-0.01	-20.10	34.58
	405.00	-50.00	240	A1a	-30.64	-25.64	-17.69
	405.00	60.00	120	A1b	29.92	-15.61	-17.28
	670.00	30.00	0	A2	-0.02	-46.52	49.16
	670.00	-80.00	240	A2a	-45.81	-58.90	-26.45
	670.00	30.00	120	A2b	42.58	-46.54	-24.61
1.2D + 1.0Ev + 1.0Eh 90°	0.00	0.00		1	0.06	406.63	0.01
	405.00	7.00	0	A1	-0.01	-20.31	34.84
	405.00	-50.00	240	A1a	-30.58	-25.59	-17.65
	405.00	60.00	120	A1b	29.74	-15.46	-17.18
	670.00	30.00	0	A2	-0.02	-47.95	50.43
	670.00	-80.00	240	A2a	-45.50	-58.42	-26.26
	670.00	30.00	120	A2b	41.84	-45.58	-24.17

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DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down *F_X (kip)	*F_Y (kip)	*F_Z (kip)
1.2D + 1.0Ev + 1.0Eh 120°	0.00	0.00		1	0.06	406.61	-0.01
	405.00	7.00	0	A1	-0.01	-20.51	35.10
	405.00	-50.00	240	A1a	-30.43	-25.42	-17.56
	405.00	60.00	120	A1b	29.69	-15.43	-17.15
	670.00	30.00	0	A2	-0.02	-49.39	51.71
	670.00	-80.00	240	A2a	-44.76	-57.33	-25.83
	670.00	30.00	120	A2b	41.55	-45.20	-24.00
1.2D + 1.0Ev + 1.0Eh 180°	0.00	0.00		1	0.06	406.50	-0.01
	405.00	7.00	0	A1	-0.01	-20.75	35.38
	405.00	-50.00	240	A1a	-30.05	-24.99	-17.34
	405.00	60.00	120	A1b	29.91	-15.60	-17.27
	670.00	30.00	0	A2	-0.01	-50.89	53.05
	670.00	-80.00	240	A2a	-42.65	-54.20	-24.61
	670.00	30.00	120	A2b	42.75	-46.74	-24.68
1.2D + 1.0Ev + 1.0Eh 210°	0.00	0.00		1	0.04	406.46	-0.01
	405.00	7.00	0	A1	-0.01	-20.71	35.34
	405.00	-50.00	240	A1a	-29.89	-24.83	-17.26
	405.00	60.00	120	A1b	30.16	-15.80	-17.41
	670.00	30.00	0	A2	0.00	-50.55	52.75
	670.00	-80.00	240	A2a	-41.89	-53.08	-24.18
	670.00	30.00	120	A2b	43.86	-48.17	-25.32
1.2D + 1.0Ev + 1.0Eh 240°	0.00	0.00		1	0.04	406.45	0.00
	405.00	7.00	0	A1	0.00	-20.55	35.15
	405.00	-50.00	240	A1a	-29.85	-24.78	-17.23
	405.00	60.00	120	A1b	30.40	-16.00	-17.56
	670.00	30.00	0	A2	0.00	-49.56	51.87
	670.00	-80.00	240	A2a	-41.61	-52.67	-24.02
	670.00	30.00	120	A2b	44.94	-49.58	-25.94
1.2D + 1.0Ev + 1.0Eh 300°	0.00	0.00		1	0.04	406.47	0.00
	405.00	7.00	0	A1	0.00	-20.13	34.64
	405.00	-50.00	240	A1a	-30.05	-25.00	-17.35
	405.00	60.00	120	A1b	30.64	-16.19	-17.69
	670.00	30.00	0	A2	0.00	-46.72	49.34
	670.00	-80.00	240	A2a	-42.65	-54.21	-24.63
	670.00	30.00	120	A2b	45.95	-50.90	-26.54
1.2D + 1.0Ev + 1.0Eh 330°	0.00	0.00		1	0.05	406.53	0.03
	405.00	7.00	0	A1	0.00	-19.97	34.43
	405.00	-50.00	240	A1a	-30.26	-25.22	-17.47
	405.00	60.00	120	A1b	30.57	-16.13	-17.65
	670.00	30.00	0	A2	0.00	-45.64	48.37
	670.00	-80.00	240	A2a	-43.69	-55.76	-25.24
	670.00	30.00	120	A2b	45.62	-50.48	-26.36
0.9D - 1.0Ev + 1.0Eh Normal	0.00	0.00		1	0.04	364.05	0.02
	405.00	7.00	0	A1	-0.01	-20.12	34.65
	405.00	-50.00	240	A1a	-30.70	-25.71	-17.73
	405.00	60.00	120	A1b	30.65	-16.19	-17.70
	670.00	30.00	0	A2	-0.01	-45.64	48.38
	670.00	-80.00	240	A2a	-45.11	-57.85	-26.05
	670.00	30.00	120	A2b	45.14	-49.85	-26.08
0.9D - 1.0Ev + 1.0Eh 60°	0.00	0.00		1	0.05	364.09	0.02
	405.00	7.00	0	A1	-0.01	-20.33	34.88
	405.00	-50.00	240	A1a	-30.88	-25.90	-17.83
	405.00	60.00	120	A1b	30.19	-15.81	-17.43
	670.00	30.00	0	A2	-0.02	-46.97	49.56
	670.00	-80.00	240	A2a	-46.17	-59.41	-26.66
	670.00	30.00	120	A2b	42.93	-46.99	-24.81
0.9D - 1.0Ev + 1.0Eh 90°	0.00	0.00		1	0.05	364.09	0.01
	405.00	7.00	0	A1	-0.01	-20.53	35.13
	405.00	-50.00	240	A1a	-30.84	-25.85	-17.80
	405.00	60.00	120	A1b	30.01	-15.66	-17.33
	670.00	30.00	0	A2	-0.02	-48.40	50.84
	670.00	-80.00	240	A2a	-45.88	-58.98	-26.48
	670.00	30.00	120	A2b	42.16	-45.99	-24.36
0.9D - 1.0Ev + 1.0Eh 120°	0.00	0.00		1	0.05	364.07	0.00
	405.00	7.00	0	A1	-0.01	-20.75	35.40
	405.00	-50.00	240	A1a	-30.68	-25.69	-17.71
	405.00	60.00	120	A1b	29.94	-15.61	-17.29
	670.00	30.00	0	A2	-0.02	-49.83	52.12
	670.00	-80.00	240	A2a	-45.11	-57.84	-26.03

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DETAILED REACTIONS

*(-) Uplift and (+) Down

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*Fx (kip)	*Fy (kip)	*Fz (kip)
	670.00	30.00	120	A2b	41.92	-45.66	-24.21
0.9D - 1.0Ev + 1.0Eh 180°	0.00	0.00		1	0.04	363.96	-0.01
	405.00	7.00	0	A1	-0.01	-20.96	35.67
	405.00	-50.00	240	A1a	-30.29	-25.26	-17.49
	405.00	60.00	120	A1b	30.19	-15.81	-17.43
	670.00	30.00	0	A2	-0.01	-51.33	53.46
	670.00	-80.00	240	A2a	-42.99	-54.70	-24.81
	670.00	30.00	120	A2b	43.11	-47.21	-24.89
0.9D - 1.0Ev + 1.0Eh 210°	0.00	0.00		1	0.03	363.93	0.00
	405.00	7.00	0	A1	-0.01	-20.92	35.62
	405.00	-50.00	240	A1a	-30.15	-25.10	-17.40
	405.00	60.00	120	A1b	30.43	-15.99	-17.57
	670.00	30.00	0	A2	0.00	-51.01	53.17
	670.00	-80.00	240	A2a	-42.25	-53.60	-24.39
	670.00	30.00	120	A2b	44.21	-48.62	-25.52
0.9D - 1.0Ev + 1.0Eh 240°	0.00	0.00		1	0.02	363.92	0.00
	405.00	7.00	0	A1	0.00	-20.77	35.44
	405.00	-50.00	240	A1a	-30.09	-25.04	-17.37
	405.00	60.00	120	A1b	30.68	-16.20	-17.71
	670.00	30.00	0	A2	0.00	-50.01	52.28
	670.00	-80.00	240	A2a	-41.97	-53.20	-24.23
	670.00	30.00	120	A2b	45.28	-50.02	-26.14
0.9D - 1.0Ev + 1.0Eh 300°	0.00	0.00		1	0.03	363.94	0.02
	405.00	7.00	0	A1	0.00	-20.35	34.92
	405.00	-50.00	240	A1a	-30.31	-25.27	-17.50
	405.00	60.00	120	A1b	30.91	-16.39	-17.85
	670.00	30.00	0	A2	0.00	-47.15	49.74
	670.00	-80.00	240	A2a	-43.01	-54.73	-24.84
	670.00	30.00	120	A2b	46.31	-51.36	-26.75
0.9D - 1.0Ev + 1.0Eh 330°	0.00	0.00		1	0.03	363.99	0.02
	405.00	7.00	0	A1	0.00	-20.19	34.73
	405.00	-50.00	240	A1a	-30.51	-25.49	-17.61
	405.00	60.00	120	A1b	30.84	-16.33	-17.81
	670.00	30.00	0	A2	0.00	-46.06	48.77
	670.00	-80.00	240	A2a	-44.06	-56.30	-25.45
	670.00	30.00	120	A2b	45.97	-50.93	-26.56
1.0D + 1.0W Service Normal	0.00	0.00		1	0.06	390.83	-0.58
	405.00	7.00	0	A1	-0.01	-16.59	29.02
	405.00	-50.00	240	A1a	-33.37	-28.24	-19.85
	405.00	60.00	120	A1b	33.21	-17.81	-19.76
	670.00	30.00	0	A2	-0.01	-36.88	38.35
	670.00	-80.00	240	A2a	-51.48	-67.33	-32.56
	670.00	30.00	120	A2b	51.40	-58.00	-32.41
1.0D + 1.0W Service 60°	0.00	0.00		1	-0.39	391.10	-0.24
	405.00	7.00	0	A1	-0.51	-18.49	31.85
	405.00	-50.00	240	A1a	-35.71	-30.12	-20.61
	405.00	60.00	120	A1b	27.36	-14.38	-16.38
	670.00	30.00	0	A2	-2.37	-44.10	45.42
	670.00	-80.00	240	A2a	-58.74	-75.20	-33.91
	670.00	30.00	120	A2b	38.15	-44.11	-24.77
1.0D + 1.0W Service 90°	0.00	0.00		1	-0.48	391.60	0.04
	405.00	7.00	0	A1	-0.65	-20.51	35.11
	405.00	-50.00	240	A1a	-35.29	-29.61	-20.10
	405.00	60.00	120	A1b	25.60	-13.21	-15.03
	670.00	30.00	0	A2	-2.90	-50.90	52.93
	670.00	-80.00	240	A2a	-57.81	-73.03	-31.93
	670.00	30.00	120	A2b	34.21	-38.93	-21.13
1.0D + 1.0W Service 120°	0.00	0.00		1	-0.46	391.79	0.29
	405.00	7.00	0	A1	-0.51	-22.65	38.53
	405.00	-50.00	240	A1a	-33.73	-28.10	-18.88
	405.00	60.00	120	A1b	25.07	-12.78	-14.48
	670.00	30.00	0	A2	-2.36	-58.01	60.74
	670.00	-80.00	240	A2a	-53.94	-67.32	-28.30
	670.00	30.00	120	A2b	33.17	-36.85	-19.16
1.0D + 1.0W Service 180°	0.00	0.00		1	0.04	388.12	0.49
	405.00	7.00	0	A1	-0.01	-24.53	41.41
	405.00	-50.00	240	A1a	-28.18	-23.33	-15.68
	405.00	60.00	120	A1b	28.17	-14.59	-15.69
	670.00	30.00	0	A2	-0.01	-65.24	67.87

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DETAILED REACTIONS

*(-) Uplift and (+) Down

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*Fx (kip)	*Fy (kip)	*Fz (kip)
	670.00	-80.00	240	A2a	-40.63	-51.48	-20.61
	670.00	30.00	120	A2b	40.82	-44.50	-20.85
1.0D + 1.0W Service 210°	0.00	0.00		1	0.31	387.07	0.43
	405.00	7.00	0	A1	0.22	-24.22	40.97
	405.00	-50.00	240	A1a	-26.25	-21.73	-14.87
	405.00	60.00	120	A1b	31.15	-16.26	-17.25
	670.00	30.00	0	A2	1.15	-63.26	66.06
	670.00	-80.00	240	A2a	-35.30	-45.37	-18.92
	670.00	30.00	120	A2b	47.49	-51.17	-24.09
1.0D + 1.0W Service 240°	0.00	0.00		1	0.54	386.60	0.28
	405.00	7.00	0	A1	0.50	-22.99	39.05
	405.00	-50.00	240	A1a	-25.47	-21.09	-14.70
	405.00	60.00	120	A1b	34.01	-17.98	-19.06
	670.00	30.00	0	A2	2.34	-58.07	60.80
	670.00	-80.00	240	A2a	-32.79	-42.70	-18.93
	670.00	30.00	120	A2b	53.82	-58.07	-28.37
1.0D + 1.0W Service 300°	0.00	0.00		1	0.48	387.35	-0.25
	405.00	7.00	0	A1	0.50	-18.89	32.40
	405.00	-50.00	240	A1a	-27.84	-23.48	-16.66
	405.00	60.00	120	A1b	35.99	-19.39	-20.78
	670.00	30.00	0	A2	2.35	-44.51	45.79
	670.00	-80.00	240	A2a	-38.19	-51.51	-24.90
	670.00	30.00	120	A2b	58.73	-65.22	-33.92
1.0D + 1.0W Service 330°	0.00	0.00		1	0.30	388.99	-0.46
	405.00	7.00	0	A1	0.22	-17.32	30.04
	405.00	-50.00	240	A1a	-30.52	-25.85	-18.35
	405.00	60.00	120	A1b	35.22	-18.95	-20.58
	670.00	30.00	0	A2	1.17	-39.24	40.49
	670.00	-80.00	240	A2a	-44.47	-59.29	-29.13
	670.00	30.00	120	A2b	56.53	-63.18	-34.00

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GUY ANCHOR DESIGN LOADS

Radius (ft)	Drop (ft)	Azimuth (deg)	Uplift (kip)	Shear (kip)
405.00	7.00	0	37.34	59.91
405.00	60.00	120	30.27	60.16
405.00	-50.00	240	44.93	59.46
670.00	30.00	0	141.46	141.57
670.00	30.00	120	141.38	141.41
670.00	-80.00	240	160.56	140.98

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0W Normal Pattern 1	130.00	7/8 BS	A1	24	55.2	4.26	8
		7/8 BS	A1b	24a	55.2	13.73	25
		7/8 BS	A1a	24b	55.2	15.07	27
	270.00	1 1/8 BS	A1	45	93.6	5.01	5
		1 1/8 BS	A1b	45a	93.6	20.99	22
		1 1/8 BS	A1a	45b	93.6	24.05	26
	410.00	1 BS	A1	66	73.2	4.59	6
		1 BS	A1b	66a	73.2	17.47	24
		1 BS	A1a	66b	73.2	20.01	27
	550.00	1 1/4 BS	A2	87	115.2	7.92	7
		1 1/4 BS	A2b	87a	115.2	29.64	26
		1 1/4 BS	A2a	87b	115.2	32.44	28
	696.67	1 1/4 BS	A2	109	115.2	6.02	5
		1 1/4 BS	A2b	109a	115.2	34.88	30
		1 1/4 BS	A2a	109b	115.2	38.14	33
	850.00	1 1/4 BS	A2	132	115.2	9.89	9
		1 1/4 BS	A2b	132a	115.2	42.65	37
		1 1/4 BS	A2a	132b	115.2	46.3	40
	996.67	1 1/4 BS	A2	155	115.2	14.51	13
		1 1/4 BS	A2b	155a	115.2	47.31	41
		1 1/4 BS	A2a	155b	115.2	51	44
1.2D + 1.0W Normal Pattern 2	130.00	7/8 BS	A1	24	55.2	4.26	8
		7/8 BS	A1b	24a	55.2	13.73	25
		7/8 BS	A1a	24b	55.2	15.07	27
	270.00	1 1/8 BS	A1	45	93.6	5.01	5
		1 1/8 BS	A1b	45a	93.6	20.99	22
		1 1/8 BS	A1a	45b	93.6	24.05	26
	410.00	1 BS	A1	66	73.2	4.59	6
		1 BS	A1b	66a	73.2	17.47	24
		1 BS	A1a	66b	73.2	20.01	27
	550.00	1 1/4 BS	A2	87	115.2	7.92	7
		1 1/4 BS	A2b	87a	115.2	29.64	26
		1 1/4 BS	A2a	87b	115.2	32.44	28
	696.67	1 1/4 BS	A2	109	115.2	6.02	5
		1 1/4 BS	A2b	109a	115.2	34.88	30
		1 1/4 BS	A2a	109b	115.2	38.14	33
	850.00	1 1/4 BS	A2	132	115.2	9.89	9
		1 1/4 BS	A2b	132a	115.2	42.65	37
		1 1/4 BS	A2a	132b	115.2	46.3	40
	996.67	1 1/4 BS	A2	155	115.2	14.51	13
		1 1/4 BS	A2b	155a	115.2	47.31	41
		1 1/4 BS	A2a	155b	115.2	51	44
1.2D + 1.0W Normal Pattern 3	130.00	7/8 BS	A1	24	55.2	4.26	8
		7/8 BS	A1b	24a	55.2	13.73	25
		7/8 BS	A1a	24b	55.2	15.07	27
	270.00	1 1/8 BS	A1	45	93.6	5.01	5
		1 1/8 BS	A1b	45a	93.6	20.99	22
		1 1/8 BS	A1a	45b	93.6	24.05	26
	410.00	1 BS	A1	66	73.2	4.59	6
		1 BS	A1b	66a	73.2	17.47	24
		1 BS	A1a	66b	73.2	20.01	27
	550.00	1 1/4 BS	A2	87	115.2	7.92	7
		1 1/4 BS	A2b	87a	115.2	29.64	26
		1 1/4 BS	A2a	87b	115.2	32.44	28
	696.67	1 1/4 BS	A2	109	115.2	6.02	5
		1 1/4 BS	A2b	109a	115.2	34.88	30
		1 1/4 BS	A2a	109b	115.2	38.14	33
	850.00	1 1/4 BS	A2	132	115.2	9.89	9
		1 1/4 BS	A2b	132a	115.2	42.65	37
		1 1/4 BS	A2a	132b	115.2	46.3	40
	996.67	1 1/4 BS	A2	155	115.2	14.51	13
		1 1/4 BS	A2b	155a	115.2	47.31	41
		1 1/4 BS	A2a	155b	115.2	51	44
1.2D + 1.0W Normal Pattern 4	130.00	7/8 BS	A1	24	55.2	4.26	8
		7/8 BS	A1b	24a	55.2	13.73	25
		7/8 BS	A1a	24b	55.2	15.07	27

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
	270.00	1 1/8 BS	A1	45	93.6	5.01	5
		1 1/8 BS	A1b	45a	93.6	20.99	22
		1 1/8 BS	A1a	45b	93.6	24.05	26
	410.00	1 BS	A1	66	73.2	4.59	6
		1 BS	A1b	66a	73.2	17.47	24
		1 BS	A1a	66b	73.2	20.01	27
	550.00	1 1/4 BS	A2	87	115.2	7.92	7
		1 1/4 BS	A2b	87a	115.2	29.64	26
		1 1/4 BS	A2a	87b	115.2	32.44	28
	696.67	1 1/4 BS	A2	109	115.2	6.02	5
		1 1/4 BS	A2b	109a	115.2	34.88	30
		1 1/4 BS	A2a	109b	115.2	38.14	33
	850.00	1 1/4 BS	A2	132	115.2	9.89	9
		1 1/4 BS	A2b	132a	115.2	42.65	37
		1 1/4 BS	A2a	132b	115.2	46.3	40
	996.67	1 1/4 BS	A2	155	115.2	14.51	13
		1 1/4 BS	A2b	155a	115.2	47.31	41
		1 1/4 BS	A2a	155b	115.2	51	44
1.2D + 1.0W 60° Pattern 1	130.00	7/8 BS	A1	24	55.2	8.01	15
		7/8 BS	A1b	24a	55.2	7.74	14
		7/8 BS	A1a	24b	55.2	18.15	33
	270.00	1 1/8 BS	A1	45	93.6	12.44	13
		1 1/8 BS	A1b	45a	93.6	11.68	12
		1 1/8 BS	A1a	45b	93.6	31.08	33
	410.00	1 BS	A1	66	73.2	11.49	16
		1 BS	A1b	66a	73.2	10.78	15
		1 BS	A1a	66b	73.2	28.31	39
	550.00	1 1/4 BS	A2	87	115.2	20.29	18
		1 1/4 BS	A2b	87a	115.2	20.36	18
		1 1/4 BS	A2a	87b	115.2	44.8	39
	696.67	1 1/4 BS	A2	109	115.2	21.84	19
		1 1/4 BS	A2b	109a	115.2	21.84	19
		1 1/4 BS	A2a	109b	115.2	54.02	47
	850.00	1 1/4 BS	A2	132	115.2	24.31	21
		1 1/4 BS	A2b	132a	115.2	24.29	21
		1 1/4 BS	A2a	132b	115.2	62.9	55
	996.67	1 1/4 BS	A2	155	115.2	28.25	25
		1 1/4 BS	A2b	155a	115.2	28.25	25
		1 1/4 BS	A2a	155b	115.2	63.75	55
1.2D + 1.0W 60° Pattern 2	130.00	7/8 BS	A1	24	55.2	8.01	15
		7/8 BS	A1b	24a	55.2	7.74	14
		7/8 BS	A1a	24b	55.2	18.15	33
	270.00	1 1/8 BS	A1	45	93.6	12.44	13
		1 1/8 BS	A1b	45a	93.6	11.68	12
		1 1/8 BS	A1a	45b	93.6	31.08	33
	410.00	1 BS	A1	66	73.2	11.49	16
		1 BS	A1b	66a	73.2	10.78	15
		1 BS	A1a	66b	73.2	28.31	39
	550.00	1 1/4 BS	A2	87	115.2	20.29	18
		1 1/4 BS	A2b	87a	115.2	20.36	18
		1 1/4 BS	A2a	87b	115.2	44.8	39
	696.67	1 1/4 BS	A2	109	115.2	21.84	19
		1 1/4 BS	A2b	109a	115.2	21.84	19
		1 1/4 BS	A2a	109b	115.2	54.02	47
	850.00	1 1/4 BS	A2	132	115.2	24.31	21
		1 1/4 BS	A2b	132a	115.2	24.29	21
		1 1/4 BS	A2a	132b	115.2	62.9	55
	996.67	1 1/4 BS	A2	155	115.2	28.25	25
		1 1/4 BS	A2b	155a	115.2	28.25	25
		1 1/4 BS	A2a	155b	115.2	63.75	55
1.2D + 1.0W 60° Pattern 3	130.00	7/8 BS	A1	24	55.2	8.01	15
		7/8 BS	A1b	24a	55.2	7.74	14
		7/8 BS	A1a	24b	55.2	18.15	33
	270.00	1 1/8 BS	A1	45	93.6	12.44	13
		1 1/8 BS	A1b	45a	93.6	11.68	12
		1 1/8 BS	A1a	45b	93.6	31.08	33
	410.00	1 BS	A1	66	73.2	11.49	16
		1 BS	A1b	66a	73.2	10.78	15

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 BS	A1a	66b	73.2	28.31	39
	550.00	1 1/4 BS	A2	87	115.2	20.29	18
		1 1/4 BS	A2b	87a	115.2	20.36	18
		1 1/4 BS	A2a	87b	115.2	44.8	39
	696.67	1 1/4 BS	A2	109	115.2	21.84	19
		1 1/4 BS	A2b	109a	115.2	21.84	19
		1 1/4 BS	A2a	109b	115.2	54.02	47
	850.00	1 1/4 BS	A2	132	115.2	24.31	21
		1 1/4 BS	A2b	132a	115.2	24.29	21
		1 1/4 BS	A2a	132b	115.2	62.9	55
	996.67	1 1/4 BS	A2	155	115.2	28.25	25
		1 1/4 BS	A2b	155a	115.2	28.25	25
		1 1/4 BS	A2a	155b	115.2	63.75	55
1.2D + 1.0W 60° Pattern 4	130.00	7/8 BS	A1	24	55.2	8.01	15
		7/8 BS	A1b	24a	55.2	7.74	14
		7/8 BS	A1a	24b	55.2	18.15	33
	270.00	1 1/8 BS	A1	45	93.6	12.44	13
		1 1/8 BS	A1b	45a	93.6	11.68	12
		1 1/8 BS	A1a	45b	93.6	31.08	33
	410.00	1 BS	A1	66	73.2	11.49	16
		1 BS	A1b	66a	73.2	10.78	15
		1 BS	A1a	66b	73.2	28.31	39
	550.00	1 1/4 BS	A2	87	115.2	20.29	18
		1 1/4 BS	A2b	87a	115.2	20.36	18
		1 1/4 BS	A2a	87b	115.2	44.8	39
	696.67	1 1/4 BS	A2	109	115.2	21.84	19
		1 1/4 BS	A2b	109a	115.2	21.84	19
		1 1/4 BS	A2a	109b	115.2	54.02	47
	850.00	1 1/4 BS	A2	132	115.2	24.31	21
		1 1/4 BS	A2b	132a	115.2	24.29	21
		1 1/4 BS	A2a	132b	115.2	62.9	55
	996.67	1 1/4 BS	A2	155	115.2	28.25	25
		1 1/4 BS	A2b	155a	115.2	28.25	25
		1 1/4 BS	A2a	155b	115.2	63.75	55
1.2D + 1.0W 90° Pattern 1	130.00	7/8 BS	A1	24	55.2	11.07	20
		7/8 BS	A1b	24a	55.2	4.94	9
		7/8 BS	A1a	24b	55.2	17.05	31
	270.00	1 1/8 BS	A1	45	93.6	17.05	18
		1 1/8 BS	A1b	45a	93.6	7	7
		1 1/8 BS	A1a	45b	93.6	28.57	31
	410.00	1 BS	A1	66	73.2	14.74	20
		1 BS	A1b	66a	73.2	6.7	9
		1 BS	A1a	66b	73.2	25.57	35
	550.00	1 1/4 BS	A2	87	115.2	25.63	22
		1 1/4 BS	A2b	87a	115.2	12.86	11
		1 1/4 BS	A2a	87b	115.2	40.86	35
	696.67	1 1/4 BS	A2	109	115.2	28.91	25
		1 1/4 BS	A2b	109a	115.2	13.06	11
		1 1/4 BS	A2a	109b	115.2	49.25	43
	850.00	1 1/4 BS	A2	132	115.2	33.53	29
		1 1/4 BS	A2b	132a	115.2	14.96	13
		1 1/4 BS	A2a	132b	115.2	57.97	50
	996.67	1 1/4 BS	A2	155	115.2	37.83	33
		1 1/4 BS	A2b	155a	115.2	19.06	17
		1 1/4 BS	A2a	155b	115.2	59.91	52
1.2D + 1.0W 90° Pattern 2	130.00	7/8 BS	A1	24	55.2	11.07	20
		7/8 BS	A1b	24a	55.2	4.94	9
		7/8 BS	A1a	24b	55.2	17.05	31
	270.00	1 1/8 BS	A1	45	93.6	17.05	18
		1 1/8 BS	A1b	45a	93.6	7	7
		1 1/8 BS	A1a	45b	93.6	28.57	31
	410.00	1 BS	A1	66	73.2	14.74	20
		1 BS	A1b	66a	73.2	6.7	9
		1 BS	A1a	66b	73.2	25.57	35
	550.00	1 1/4 BS	A2	87	115.2	25.63	22
		1 1/4 BS	A2b	87a	115.2	12.86	11
		1 1/4 BS	A2a	87b	115.2	40.86	35
	696.67	1 1/4 BS	A2	109	115.2	28.91	25

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/4 BS	A2b	109a	115.2	13.06	11
		1 1/4 BS	A2a	109b	115.2	49.25	43
	850.00	1 1/4 BS	A2	132	115.2	33.53	29
		1 1/4 BS	A2b	132a	115.2	14.96	13
		1 1/4 BS	A2a	132b	115.2	57.97	50
	996.67	1 1/4 BS	A2	155	115.2	37.83	33
		1 1/4 BS	A2b	155a	115.2	19.06	17
		1 1/4 BS	A2a	155b	115.2	59.91	52
1.2D + 1.0W 90° Pattern 3	130.00	7/8 BS	A1	24	55.2	11.07	20
		7/8 BS	A1b	24a	55.2	4.94	9
		7/8 BS	A1a	24b	55.2	17.05	31
	270.00	1 1/8 BS	A1	45	93.6	17.05	18
		1 1/8 BS	A1b	45a	93.6	7	7
		1 1/8 BS	A1a	45b	93.6	28.57	31
	410.00	1 BS	A1	66	73.2	14.74	20
		1 BS	A1b	66a	73.2	6.7	9
		1 BS	A1a	66b	73.2	25.57	35
	550.00	1 1/4 BS	A2	87	115.2	25.63	22
		1 1/4 BS	A2b	87a	115.2	12.86	11
		1 1/4 BS	A2a	87b	115.2	40.86	35
	696.67	1 1/4 BS	A2	109	115.2	28.91	25
		1 1/4 BS	A2b	109a	115.2	13.06	11
		1 1/4 BS	A2a	109b	115.2	49.25	43
	850.00	1 1/4 BS	A2	132	115.2	33.53	29
		1 1/4 BS	A2b	132a	115.2	14.96	13
		1 1/4 BS	A2a	132b	115.2	57.97	50
	996.67	1 1/4 BS	A2	155	115.2	37.83	33
		1 1/4 BS	A2b	155a	115.2	19.06	17
		1 1/4 BS	A2a	155b	115.2	59.91	52
1.2D + 1.0W 90° Pattern 4	130.00	7/8 BS	A1	24	55.2	11.07	20
		7/8 BS	A1b	24a	55.2	4.94	9
		7/8 BS	A1a	24b	55.2	17.05	31
	270.00	1 1/8 BS	A1	45	93.6	17.05	18
		1 1/8 BS	A1b	45a	93.6	7	7
		1 1/8 BS	A1a	45b	93.6	28.57	31
	410.00	1 BS	A1	66	73.2	14.74	20
		1 BS	A1b	66a	73.2	6.7	9
		1 BS	A1a	66b	73.2	25.57	35
	550.00	1 1/4 BS	A2	87	115.2	25.63	22
		1 1/4 BS	A2b	87a	115.2	12.86	11
		1 1/4 BS	A2a	87b	115.2	40.86	35
	696.67	1 1/4 BS	A2	109	115.2	28.91	25
		1 1/4 BS	A2b	109a	115.2	13.06	11
		1 1/4 BS	A2a	109b	115.2	49.25	43
	850.00	1 1/4 BS	A2	132	115.2	33.53	29
		1 1/4 BS	A2b	132a	115.2	14.96	13
		1 1/4 BS	A2a	132b	115.2	57.97	50
	996.67	1 1/4 BS	A2	155	115.2	37.83	33
		1 1/4 BS	A2b	155a	115.2	19.06	17
		1 1/4 BS	A2a	155b	115.2	59.91	52
1.2D + 1.0W 120° Pattern 1	130.00	7/8 BS	A1	24	55.2	14.51	26
		7/8 BS	A1b	24a	55.2	4.12	7
		7/8 BS	A1a	24b	55.2	15.31	28
	270.00	1 1/8 BS	A1	45	93.6	22.38	24
		1 1/8 BS	A1b	45a	93.6	5.35	6
		1 1/8 BS	A1a	45b	93.6	23.98	26
	410.00	1 BS	A1	66	73.2	18.08	25
		1 BS	A1b	66a	73.2	2.86	4
		1 BS	A1a	66b	73.2	19.52	27
	550.00	1 1/4 BS	A2	87	115.2	29.58	26
		1 1/4 BS	A2b	87a	115.2	8.31	7
		1 1/4 BS	A2a	87b	115.2	32.27	28
	696.67	1 1/4 BS	A2	109	115.2	34.84	30
		1 1/4 BS	A2b	109a	115.2	6.02	5
		1 1/4 BS	A2a	109b	115.2	38.15	33
	850.00	1 1/4 BS	A2	132	115.2	42.65	37
		1 1/4 BS	A2b	132a	115.2	9.87	9
		1 1/4 BS	A2a	132b	115.2	46.33	40

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
	996.67	1 1/4 BS	A2	155	115.2	47.32	41
		1 1/4 BS	A2b	155a	115.2	14.49	13
		1 1/4 BS	A2a	155b	115.2	51.01	44
1.2D + 1.0W 120° Pattern 2	130.00	7/8 BS	A1	24	55.2	14.51	26
		7/8 BS	A1b	24a	55.2	4.12	7
		7/8 BS	A1a	24b	55.2	15.31	28
	270.00	1 1/8 BS	A1	45	93.6	22.38	24
		1 1/8 BS	A1b	45a	93.6	5.35	6
		1 1/8 BS	A1a	45b	93.6	23.98	26
	410.00	1 BS	A1	66	73.2	18.08	25
		1 BS	A1b	66a	73.2	2.86	4
		1 BS	A1a	66b	73.2	19.52	27
	550.00	1 1/4 BS	A2	87	115.2	29.58	26
		1 1/4 BS	A2b	87a	115.2	8.31	7
		1 1/4 BS	A2a	87b	115.2	32.27	28
	696.67	1 1/4 BS	A2	109	115.2	34.84	30
		1 1/4 BS	A2b	109a	115.2	6.02	5
		1 1/4 BS	A2a	109b	115.2	38.15	33
	850.00	1 1/4 BS	A2	132	115.2	42.65	37
		1 1/4 BS	A2b	132a	115.2	9.87	9
		1 1/4 BS	A2a	132b	115.2	46.33	40
	996.67	1 1/4 BS	A2	155	115.2	47.32	41
		1 1/4 BS	A2b	155a	115.2	14.49	13
		1 1/4 BS	A2a	155b	115.2	51.01	44
1.2D + 1.0W 120° Pattern 3	130.00	7/8 BS	A1	24	55.2	14.51	26
		7/8 BS	A1b	24a	55.2	4.12	7
		7/8 BS	A1a	24b	55.2	15.31	28
	270.00	1 1/8 BS	A1	45	93.6	22.38	24
		1 1/8 BS	A1b	45a	93.6	5.35	6
		1 1/8 BS	A1a	45b	93.6	23.98	26
	410.00	1 BS	A1	66	73.2	18.08	25
		1 BS	A1b	66a	73.2	2.86	4
		1 BS	A1a	66b	73.2	19.52	27
	550.00	1 1/4 BS	A2	87	115.2	29.58	26
		1 1/4 BS	A2b	87a	115.2	8.31	7
		1 1/4 BS	A2a	87b	115.2	32.27	28
	696.67	1 1/4 BS	A2	109	115.2	34.84	30
		1 1/4 BS	A2b	109a	115.2	6.02	5
		1 1/4 BS	A2a	109b	115.2	38.15	33
	850.00	1 1/4 BS	A2	132	115.2	42.65	37
		1 1/4 BS	A2b	132a	115.2	9.87	9
		1 1/4 BS	A2a	132b	115.2	46.33	40
	996.67	1 1/4 BS	A2	155	115.2	47.32	41
		1 1/4 BS	A2b	155a	115.2	14.49	13
		1 1/4 BS	A2a	155b	115.2	51.01	44
1.2D + 1.0W 120° Pattern 4	130.00	7/8 BS	A1	24	55.2	14.51	26
		7/8 BS	A1b	24a	55.2	4.12	7
		7/8 BS	A1a	24b	55.2	15.31	28
	270.00	1 1/8 BS	A1	45	93.6	22.38	24
		1 1/8 BS	A1b	45a	93.6	5.35	6
		1 1/8 BS	A1a	45b	93.6	23.98	26
	410.00	1 BS	A1	66	73.2	18.08	25
		1 BS	A1b	66a	73.2	2.86	4
		1 BS	A1a	66b	73.2	19.52	27
	550.00	1 1/4 BS	A2	87	115.2	29.58	26
		1 1/4 BS	A2b	87a	115.2	8.31	7
		1 1/4 BS	A2a	87b	115.2	32.27	28
	696.67	1 1/4 BS	A2	109	115.2	34.84	30
		1 1/4 BS	A2b	109a	115.2	6.02	5
		1 1/4 BS	A2a	109b	115.2	38.15	33
	850.00	1 1/4 BS	A2	132	115.2	42.65	37
		1 1/4 BS	A2b	132a	115.2	9.87	9
		1 1/4 BS	A2a	132b	115.2	46.33	40
	996.67	1 1/4 BS	A2	155	115.2	47.32	41
		1 1/4 BS	A2b	155a	115.2	14.49	13
		1 1/4 BS	A2a	155b	115.2	51.01	44
1.2D + 1.0W 180° Pattern 1	130.00	7/8 BS	A1	24	55.2	17.3	31
		7/8 BS	A1b	24a	55.2	7.78	14

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		7/8 BS	A1a	24b	55.2	8.42	15
	270.00	1 1/8 BS	A1	45	93.6	29.41	31
		1 1/8 BS	A1b	45a	93.6	12.09	13
		1 1/8 BS	A1a	45b	93.6	13.82	15
	410.00	1 BS	A1	66	73.2	26.76	37
		1 BS	A1b	66a	73.2	11.17	15
		1 BS	A1a	66b	73.2	12.93	18
	550.00	1 1/4 BS	A2	87	115.2	41.5	36
		1 1/4 BS	A2b	87a	115.2	20.92	18
		1 1/4 BS	A2a	87b	115.2	22.61	20
	696.67	1 1/4 BS	A2	109	115.2	50.12	44
		1 1/4 BS	A2b	109a	115.2	22.73	20
		1 1/4 BS	A2a	109b	115.2	24.67	21
	850.00	1 1/4 BS	A2	132	115.2	59.05	51
		1 1/4 BS	A2b	132a	115.2	25.33	22
		1 1/4 BS	A2a	132b	115.2	27.44	24
	996.67	1 1/4 BS	A2	155	115.2	60.1	52
		1 1/4 BS	A2b	155a	115.2	29.37	25
		1 1/4 BS	A2a	155b	115.2	31.41	27
1.2D + 1.0W 180° Pattern 2	130.00	7/8 BS	A1	24	55.2	17.3	31
		7/8 BS	A1b	24a	55.2	7.78	14
		7/8 BS	A1a	24b	55.2	8.42	15
	270.00	1 1/8 BS	A1	45	93.6	29.41	31
		1 1/8 BS	A1b	45a	93.6	12.09	13
		1 1/8 BS	A1a	45b	93.6	13.82	15
	410.00	1 BS	A1	66	73.2	26.76	37
		1 BS	A1b	66a	73.2	11.17	15
		1 BS	A1a	66b	73.2	12.93	18
	550.00	1 1/4 BS	A2	87	115.2	41.5	36
		1 1/4 BS	A2b	87a	115.2	20.92	18
		1 1/4 BS	A2a	87b	115.2	22.61	20
	696.67	1 1/4 BS	A2	109	115.2	50.12	44
		1 1/4 BS	A2b	109a	115.2	22.73	20
		1 1/4 BS	A2a	109b	115.2	24.67	21
	850.00	1 1/4 BS	A2	132	115.2	59.05	51
		1 1/4 BS	A2b	132a	115.2	25.33	22
		1 1/4 BS	A2a	132b	115.2	27.44	24
	996.67	1 1/4 BS	A2	155	115.2	60.1	52
		1 1/4 BS	A2b	155a	115.2	29.37	25
		1 1/4 BS	A2a	155b	115.2	31.41	27
1.2D + 1.0W 180° Pattern 3	130.00	7/8 BS	A1	24	55.2	17.3	31
		7/8 BS	A1b	24a	55.2	7.78	14
		7/8 BS	A1a	24b	55.2	8.42	15
	270.00	1 1/8 BS	A1	45	93.6	29.41	31
		1 1/8 BS	A1b	45a	93.6	12.09	13
		1 1/8 BS	A1a	45b	93.6	13.82	15
	410.00	1 BS	A1	66	73.2	26.76	37
		1 BS	A1b	66a	73.2	11.17	15
		1 BS	A1a	66b	73.2	12.93	18
	550.00	1 1/4 BS	A2	87	115.2	41.5	36
		1 1/4 BS	A2b	87a	115.2	20.92	18
		1 1/4 BS	A2a	87b	115.2	22.61	20
	696.67	1 1/4 BS	A2	109	115.2	50.12	44
		1 1/4 BS	A2b	109a	115.2	22.73	20
		1 1/4 BS	A2a	109b	115.2	24.67	21
	850.00	1 1/4 BS	A2	132	115.2	59.05	51
		1 1/4 BS	A2b	132a	115.2	25.33	22
		1 1/4 BS	A2a	132b	115.2	27.44	24
	996.67	1 1/4 BS	A2	155	115.2	60.1	52
		1 1/4 BS	A2b	155a	115.2	29.37	25
		1 1/4 BS	A2a	155b	115.2	31.41	27
1.2D + 1.0W 180° Pattern 4	130.00	7/8 BS	A1	24	55.2	17.3	31
		7/8 BS	A1b	24a	55.2	7.78	14
		7/8 BS	A1a	24b	55.2	8.42	15
	270.00	1 1/8 BS	A1	45	93.6	29.41	31
		1 1/8 BS	A1b	45a	93.6	12.09	13
		1 1/8 BS	A1a	45b	93.6	13.82	15
	410.00	1 BS	A1	66	73.2	26.76	37

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 BS	A1b	66a	73.2	11.17	15
		1 BS	A1a	66b	73.2	12.93	18
	550.00	1 1/4 BS	A2	87	115.2	41.5	36
		1 1/4 BS	A2b	87a	115.2	20.92	18
		1 1/4 BS	A2a	87b	115.2	22.61	20
	696.67	1 1/4 BS	A2	109	115.2	50.12	44
		1 1/4 BS	A2b	109a	115.2	22.73	20
		1 1/4 BS	A2a	109b	115.2	24.67	21
	850.00	1 1/4 BS	A2	132	115.2	59.05	51
		1 1/4 BS	A2b	132a	115.2	25.33	22
		1 1/4 BS	A2a	132b	115.2	27.44	24
	996.67	1 1/4 BS	A2	155	115.2	60.1	52
		1 1/4 BS	A2b	155a	115.2	29.37	25
		1 1/4 BS	A2a	155b	115.2	31.41	27
1.2D + 1.0W 210° Pattern 1	130.00	7/8 BS	A1	24	55.2	16.33	30
		7/8 BS	A1b	24a	55.2	10.79	20
		7/8 BS	A1a	24b	55.2	5.45	10
	270.00	1 1/8 BS	A1	45	93.6	27.34	29
		1 1/8 BS	A1b	45a	93.6	16.52	18
		1 1/8 BS	A1a	45b	93.6	8.56	9
	410.00	1 BS	A1	66	73.2	24.55	34
		1 BS	A1b	66a	73.2	14.53	20
		1 BS	A1a	66b	73.2	9	12
	550.00	1 1/4 BS	A2	87	115.2	38.29	33
		1 1/4 BS	A2b	87a	115.2	26.52	23
		1 1/4 BS	A2a	87b	115.2	14.55	13
	696.67	1 1/4 BS	A2	109	115.2	46.24	40
		1 1/4 BS	A2b	109a	115.2	30.2	26
		1 1/4 BS	A2a	109b	115.2	15.64	14
	850.00	1 1/4 BS	A2	132	115.2	55.06	48
		1 1/4 BS	A2b	132a	115.2	35.16	31
		1 1/4 BS	A2a	132b	115.2	17.88	16
	996.67	1 1/4 BS	A2	155	115.2	57.12	50
		1 1/4 BS	A2b	155a	115.2	39.46	34
		1 1/4 BS	A2a	155b	115.2	22.14	19
1.2D + 1.0W 210° Pattern 2	130.00	7/8 BS	A1	24	55.2	16.33	30
		7/8 BS	A1b	24a	55.2	10.79	20
		7/8 BS	A1a	24b	55.2	5.45	10
	270.00	1 1/8 BS	A1	45	93.6	27.34	29
		1 1/8 BS	A1b	45a	93.6	16.52	18
		1 1/8 BS	A1a	45b	93.6	8.56	9
	410.00	1 BS	A1	66	73.2	24.55	34
		1 BS	A1b	66a	73.2	14.53	20
		1 BS	A1a	66b	73.2	9	12
	550.00	1 1/4 BS	A2	87	115.2	38.29	33
		1 1/4 BS	A2b	87a	115.2	26.52	23
		1 1/4 BS	A2a	87b	115.2	14.55	13
	696.67	1 1/4 BS	A2	109	115.2	46.24	40
		1 1/4 BS	A2b	109a	115.2	30.2	26
		1 1/4 BS	A2a	109b	115.2	15.64	14
	850.00	1 1/4 BS	A2	132	115.2	55.06	48
		1 1/4 BS	A2b	132a	115.2	35.16	31
		1 1/4 BS	A2a	132b	115.2	17.88	16
	996.67	1 1/4 BS	A2	155	115.2	57.12	50
		1 1/4 BS	A2b	155a	115.2	39.46	34
		1 1/4 BS	A2a	155b	115.2	22.14	19
1.2D + 1.0W 210° Pattern 3	130.00	7/8 BS	A1	24	55.2	16.33	30
		7/8 BS	A1b	24a	55.2	10.79	20
		7/8 BS	A1a	24b	55.2	5.45	10
	270.00	1 1/8 BS	A1	45	93.6	27.34	29
		1 1/8 BS	A1b	45a	93.6	16.52	18
		1 1/8 BS	A1a	45b	93.6	8.56	9
	410.00	1 BS	A1	66	73.2	24.55	34
		1 BS	A1b	66a	73.2	14.53	20
		1 BS	A1a	66b	73.2	9	12
	550.00	1 1/4 BS	A2	87	115.2	38.29	33
		1 1/4 BS	A2b	87a	115.2	26.52	23
		1 1/4 BS	A2a	87b	115.2	14.55	13

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
	696.67	1 1/4 BS	A2	109	115.2	46.24	40
		1 1/4 BS	A2b	109a	115.2	30.2	26
		1 1/4 BS	A2a	109b	115.2	15.64	14
	850.00	1 1/4 BS	A2	132	115.2	55.06	48
		1 1/4 BS	A2b	132a	115.2	35.16	31
		1 1/4 BS	A2a	132b	115.2	17.88	16
	996.67	1 1/4 BS	A2	155	115.2	57.12	50
		1 1/4 BS	A2b	155a	115.2	39.46	34
		1 1/4 BS	A2a	155b	115.2	22.14	19
1.2D + 1.0W 210° Pattern 4	130.00	7/8 BS	A1	24	55.2	16.33	30
		7/8 BS	A1b	24a	55.2	10.79	20
		7/8 BS	A1a	24b	55.2	5.45	10
	270.00	1 1/8 BS	A1	45	93.6	27.34	29
		1 1/8 BS	A1b	45a	93.6	16.52	18
		1 1/8 BS	A1a	45b	93.6	8.56	9
	410.00	1 BS	A1	66	73.2	24.55	34
		1 BS	A1b	66a	73.2	14.53	20
		1 BS	A1a	66b	73.2	9	12
	550.00	1 1/4 BS	A2	87	115.2	38.29	33
		1 1/4 BS	A2b	87a	115.2	26.52	23
		1 1/4 BS	A2a	87b	115.2	14.55	13
	696.67	1 1/4 BS	A2	109	115.2	46.24	40
		1 1/4 BS	A2b	109a	115.2	30.2	26
		1 1/4 BS	A2a	109b	115.2	15.64	14
	850.00	1 1/4 BS	A2	132	115.2	55.06	48
		1 1/4 BS	A2b	132a	115.2	35.16	31
		1 1/4 BS	A2a	132b	115.2	17.88	16
	996.67	1 1/4 BS	A2	155	115.2	57.12	50
		1 1/4 BS	A2b	155a	115.2	39.46	34
		1 1/4 BS	A2a	155b	115.2	22.14	19
1.2D + 1.0W 240° Pattern 1	130.00	7/8 BS	A1	24	55.2	14.26	26
		7/8 BS	A1b	24a	55.2	13.7	25
		7/8 BS	A1a	24b	55.2	4.47	8
	270.00	1 1/8 BS	A1	45	93.6	22.41	24
		1 1/8 BS	A1b	45a	93.6	20.99	22
		1 1/8 BS	A1a	45b	93.6	5	5
	410.00	1 BS	A1	66	73.2	18.82	26
		1 BS	A1b	66a	73.2	17.7	24
		1 BS	A1a	66b	73.2	6.96	10
	550.00	1 1/4 BS	A2	87	115.2	30.16	26
		1 1/4 BS	A2b	87a	115.2	30.11	26
		1 1/4 BS	A2a	87b	115.2	7.14	6
	696.67	1 1/4 BS	A2	109	115.2	36.5	32
		1 1/4 BS	A2b	109a	115.2	36.53	32
		1 1/4 BS	A2a	109b	115.2	9.49	8
	850.00	1 1/4 BS	A2	132	115.2	45.01	39
		1 1/4 BS	A2b	132a	115.2	45.03	39
		1 1/4 BS	A2a	132b	115.2	12.75	11
	996.67	1 1/4 BS	A2	155	115.2	49.45	43
		1 1/4 BS	A2b	155a	115.2	49.44	43
		1 1/4 BS	A2a	155b	115.2	17.41	15
1.2D + 1.0W 240° Pattern 2	130.00	7/8 BS	A1	24	55.2	14.26	26
		7/8 BS	A1b	24a	55.2	13.7	25
		7/8 BS	A1a	24b	55.2	4.47	8
	270.00	1 1/8 BS	A1	45	93.6	22.41	24
		1 1/8 BS	A1b	45a	93.6	20.99	22
		1 1/8 BS	A1a	45b	93.6	5	5
	410.00	1 BS	A1	66	73.2	18.82	26
		1 BS	A1b	66a	73.2	17.7	24
		1 BS	A1a	66b	73.2	6.96	10
	550.00	1 1/4 BS	A2	87	115.2	30.16	26
		1 1/4 BS	A2b	87a	115.2	30.11	26
		1 1/4 BS	A2a	87b	115.2	7.14	6
	696.67	1 1/4 BS	A2	109	115.2	36.5	32
		1 1/4 BS	A2b	109a	115.2	36.53	32
		1 1/4 BS	A2a	109b	115.2	9.49	8
	850.00	1 1/4 BS	A2	132	115.2	45.01	39
		1 1/4 BS	A2b	132a	115.2	45.03	39

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/4 BS	A2a	132b	115.2	12.75	11
	996.67	1 1/4 BS	A2	155	115.2	49.45	43
		1 1/4 BS	A2b	155a	115.2	49.44	43
		1 1/4 BS	A2a	155b	115.2	17.41	15
1.2D + 1.0W 240° Pattern 3	130.00	7/8 BS	A1	24	55.2	14.26	26
		7/8 BS	A1b	24a	55.2	13.7	25
		7/8 BS	A1a	24b	55.2	4.47	8
	270.00	1 1/8 BS	A1	45	93.6	22.41	24
		1 1/8 BS	A1b	45a	93.6	20.99	22
		1 1/8 BS	A1a	45b	93.6	5	5
	410.00	1 BS	A1	66	73.2	18.82	26
		1 BS	A1b	66a	73.2	17.7	24
		1 BS	A1a	66b	73.2	6.96	10
	550.00	1 1/4 BS	A2	87	115.2	30.16	26
		1 1/4 BS	A2b	87a	115.2	30.11	26
		1 1/4 BS	A2a	87b	115.2	7.14	6
	696.67	1 1/4 BS	A2	109	115.2	36.5	32
		1 1/4 BS	A2b	109a	115.2	36.53	32
		1 1/4 BS	A2a	109b	115.2	9.49	8
	850.00	1 1/4 BS	A2	132	115.2	45.01	39
		1 1/4 BS	A2b	132a	115.2	45.03	39
		1 1/4 BS	A2a	132b	115.2	12.75	11
	996.67	1 1/4 BS	A2	155	115.2	49.45	43
		1 1/4 BS	A2b	155a	115.2	49.44	43
		1 1/4 BS	A2a	155b	115.2	17.41	15
1.2D + 1.0W 240° Pattern 4	130.00	7/8 BS	A1	24	55.2	14.26	26
		7/8 BS	A1b	24a	55.2	13.7	25
		7/8 BS	A1a	24b	55.2	4.47	8
	270.00	1 1/8 BS	A1	45	93.6	22.41	24
		1 1/8 BS	A1b	45a	93.6	20.99	22
		1 1/8 BS	A1a	45b	93.6	5	5
	410.00	1 BS	A1	66	73.2	18.82	26
		1 BS	A1b	66a	73.2	17.7	24
		1 BS	A1a	66b	73.2	6.96	10
	550.00	1 1/4 BS	A2	87	115.2	30.16	26
		1 1/4 BS	A2b	87a	115.2	30.11	26
		1 1/4 BS	A2a	87b	115.2	7.14	6
	696.67	1 1/4 BS	A2	109	115.2	36.5	32
		1 1/4 BS	A2b	109a	115.2	36.53	32
		1 1/4 BS	A2a	109b	115.2	9.49	8
	850.00	1 1/4 BS	A2	132	115.2	45.01	39
		1 1/4 BS	A2b	132a	115.2	45.03	39
		1 1/4 BS	A2a	132b	115.2	12.75	11
	996.67	1 1/4 BS	A2	155	115.2	49.45	43
		1 1/4 BS	A2b	155a	115.2	49.44	43
		1 1/4 BS	A2a	155b	115.2	17.41	15
1.2D + 1.0W 300° Pattern 1	130.00	7/8 BS	A1	24	55.2	8.04	15
		7/8 BS	A1b	24a	55.2	16.54	30
		7/8 BS	A1a	24b	55.2	8.39	15
	270.00	1 1/8 BS	A1	45	93.6	13.24	14
		1 1/8 BS	A1b	45a	93.6	27.6	29
		1 1/8 BS	A1a	45b	93.6	14.2	15
	410.00	1 BS	A1	66	73.2	12.22	17
		1 BS	A1b	66a	73.2	25.99	36
		1 BS	A1a	66b	73.2	13.25	18
	550.00	1 1/4 BS	A2	87	115.2	20.98	18
		1 1/4 BS	A2b	87a	115.2	41.07	36
		1 1/4 BS	A2a	87b	115.2	22.7	20
	696.67	1 1/4 BS	A2	109	115.2	22.68	20
		1 1/4 BS	A2b	109a	115.2	50.3	44
		1 1/4 BS	A2a	109b	115.2	24.68	21
	850.00	1 1/4 BS	A2	132	115.2	25.33	22
		1 1/4 BS	A2b	132a	115.2	59.13	51
		1 1/4 BS	A2a	132b	115.2	27.43	24
	996.67	1 1/4 BS	A2	155	115.2	29.38	26
		1 1/4 BS	A2b	155a	115.2	60.09	52
		1 1/4 BS	A2a	155b	115.2	31.4	27
1.2D + 1.0W 300° Pattern 2	130.00	7/8 BS	A1	24	55.2	8.04	15

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		7/8 BS	A1b	24a	55.2	16.54	30
		7/8 BS	A1a	24b	55.2	8.39	15
	270.00	1 1/8 BS	A1	45	93.6	13.24	14
		1 1/8 BS	A1b	45a	93.6	27.6	29
		1 1/8 BS	A1a	45b	93.6	14.2	15
	410.00	1 BS	A1	66	73.2	12.22	17
		1 BS	A1b	66a	73.2	25.99	36
		1 BS	A1a	66b	73.2	13.25	18
	550.00	1 1/4 BS	A2	87	115.2	20.98	18
		1 1/4 BS	A2b	87a	115.2	41.07	36
		1 1/4 BS	A2a	87b	115.2	22.7	20
	696.67	1 1/4 BS	A2	109	115.2	22.68	20
		1 1/4 BS	A2b	109a	115.2	50.3	44
		1 1/4 BS	A2a	109b	115.2	24.68	21
	850.00	1 1/4 BS	A2	132	115.2	25.33	22
		1 1/4 BS	A2b	132a	115.2	59.13	51
		1 1/4 BS	A2a	132b	115.2	27.43	24
	996.67	1 1/4 BS	A2	155	115.2	29.38	26
		1 1/4 BS	A2b	155a	115.2	60.09	52
		1 1/4 BS	A2a	155b	115.2	31.4	27
1.2D + 1.0W 300° Pattern 3	130.00	7/8 BS	A1	24	55.2	8.04	15
		7/8 BS	A1b	24a	55.2	16.54	30
		7/8 BS	A1a	24b	55.2	8.39	15
	270.00	1 1/8 BS	A1	45	93.6	13.24	14
		1 1/8 BS	A1b	45a	93.6	27.6	29
		1 1/8 BS	A1a	45b	93.6	14.2	15
	410.00	1 BS	A1	66	73.2	12.22	17
		1 BS	A1b	66a	73.2	25.99	36
		1 BS	A1a	66b	73.2	13.25	18
	550.00	1 1/4 BS	A2	87	115.2	20.98	18
		1 1/4 BS	A2b	87a	115.2	41.07	36
		1 1/4 BS	A2a	87b	115.2	22.7	20
	696.67	1 1/4 BS	A2	109	115.2	22.68	20
		1 1/4 BS	A2b	109a	115.2	50.3	44
		1 1/4 BS	A2a	109b	115.2	24.68	21
	850.00	1 1/4 BS	A2	132	115.2	25.33	22
		1 1/4 BS	A2b	132a	115.2	59.13	51
		1 1/4 BS	A2a	132b	115.2	27.43	24
	996.67	1 1/4 BS	A2	155	115.2	29.38	26
		1 1/4 BS	A2b	155a	115.2	60.09	52
		1 1/4 BS	A2a	155b	115.2	31.4	27
1.2D + 1.0W 300° Pattern 4	130.00	7/8 BS	A1	24	55.2	8.04	15
		7/8 BS	A1b	24a	55.2	16.54	30
		7/8 BS	A1a	24b	55.2	8.39	15
	270.00	1 1/8 BS	A1	45	93.6	13.24	14
		1 1/8 BS	A1b	45a	93.6	27.6	29
		1 1/8 BS	A1a	45b	93.6	14.2	15
	410.00	1 BS	A1	66	73.2	12.22	17
		1 BS	A1b	66a	73.2	25.99	36
		1 BS	A1a	66b	73.2	13.25	18
	550.00	1 1/4 BS	A2	87	115.2	20.98	18
		1 1/4 BS	A2b	87a	115.2	41.07	36
		1 1/4 BS	A2a	87b	115.2	22.7	20
	696.67	1 1/4 BS	A2	109	115.2	22.68	20
		1 1/4 BS	A2b	109a	115.2	50.3	44
		1 1/4 BS	A2a	109b	115.2	24.68	21
	850.00	1 1/4 BS	A2	132	115.2	25.33	22
		1 1/4 BS	A2b	132a	115.2	59.13	51
		1 1/4 BS	A2a	132b	115.2	27.43	24
	996.67	1 1/4 BS	A2	155	115.2	29.38	26
		1 1/4 BS	A2b	155a	115.2	60.09	52
		1 1/4 BS	A2a	155b	115.2	31.4	27
1.2D + 1.0W 330° Pattern 1	130.00	7/8 BS	A1	24	55.2	5.13	9
		7/8 BS	A1b	24a	55.2	15.42	28
		7/8 BS	A1a	24b	55.2	11.47	21
	270.00	1 1/8 BS	A1	45	93.6	7.88	8
		1 1/8 BS	A1b	45a	93.6	25.31	27
		1 1/8 BS	A1a	45b	93.6	18.9	20

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
	410.00	1 BS	A1	66	73.2	7.95	11
		1 BS	A1b	66a	73.2	23.28	32
		1 BS	A1a	66b	73.2	16.62	23
	550.00	1 1/4 BS	A2	87	115.2	13.17	11
		1 1/4 BS	A2b	87a	115.2	37.35	32
		1 1/4 BS	A2a	87b	115.2	28.24	25
	696.67	1 1/4 BS	A2	109	115.2	13.47	12
		1 1/4 BS	A2b	109a	115.2	45.42	39
		1 1/4 BS	A2a	109b	115.2	31.97	28
	850.00	1 1/4 BS	A2	132	115.2	15.45	13
		1 1/4 BS	A2b	132a	115.2	53.88	47
		1 1/4 BS	A2a	132b	115.2	36.88	32
	996.67	1 1/4 BS	A2	155	115.2	19.65	17
		1 1/4 BS	A2b	155a	115.2	55.9	49
		1 1/4 BS	A2a	155b	115.2	41.08	36
1.2D + 1.0W 330° Pattern 2	130.00	7/8 BS	A1	24	55.2	5.13	9
		7/8 BS	A1b	24a	55.2	15.42	28
		7/8 BS	A1a	24b	55.2	11.47	21
	270.00	1 1/8 BS	A1	45	93.6	7.88	8
		1 1/8 BS	A1b	45a	93.6	25.31	27
		1 1/8 BS	A1a	45b	93.6	18.9	20
	410.00	1 BS	A1	66	73.2	7.95	11
		1 BS	A1b	66a	73.2	23.28	32
		1 BS	A1a	66b	73.2	16.62	23
	550.00	1 1/4 BS	A2	87	115.2	13.17	11
		1 1/4 BS	A2b	87a	115.2	37.35	32
		1 1/4 BS	A2a	87b	115.2	28.24	25
	696.67	1 1/4 BS	A2	109	115.2	13.47	12
		1 1/4 BS	A2b	109a	115.2	45.42	39
		1 1/4 BS	A2a	109b	115.2	31.97	28
	850.00	1 1/4 BS	A2	132	115.2	15.45	13
		1 1/4 BS	A2b	132a	115.2	53.88	47
		1 1/4 BS	A2a	132b	115.2	36.88	32
	996.67	1 1/4 BS	A2	155	115.2	19.65	17
		1 1/4 BS	A2b	155a	115.2	55.9	49
		1 1/4 BS	A2a	155b	115.2	41.08	36
1.2D + 1.0W 330° Pattern 3	130.00	7/8 BS	A1	24	55.2	5.13	9
		7/8 BS	A1b	24a	55.2	15.42	28
		7/8 BS	A1a	24b	55.2	11.47	21
	270.00	1 1/8 BS	A1	45	93.6	7.88	8
		1 1/8 BS	A1b	45a	93.6	25.31	27
		1 1/8 BS	A1a	45b	93.6	18.9	20
	410.00	1 BS	A1	66	73.2	7.95	11
		1 BS	A1b	66a	73.2	23.28	32
		1 BS	A1a	66b	73.2	16.62	23
	550.00	1 1/4 BS	A2	87	115.2	13.17	11
		1 1/4 BS	A2b	87a	115.2	37.35	32
		1 1/4 BS	A2a	87b	115.2	28.24	25
	696.67	1 1/4 BS	A2	109	115.2	13.47	12
		1 1/4 BS	A2b	109a	115.2	45.42	39
		1 1/4 BS	A2a	109b	115.2	31.97	28
	850.00	1 1/4 BS	A2	132	115.2	15.45	13
		1 1/4 BS	A2b	132a	115.2	53.88	47
		1 1/4 BS	A2a	132b	115.2	36.88	32
	996.67	1 1/4 BS	A2	155	115.2	19.65	17
		1 1/4 BS	A2b	155a	115.2	55.9	49
		1 1/4 BS	A2a	155b	115.2	41.08	36
1.2D + 1.0W 330° Pattern 4	130.00	7/8 BS	A1	24	55.2	5.13	9
		7/8 BS	A1b	24a	55.2	15.42	28
		7/8 BS	A1a	24b	55.2	11.47	21
	270.00	1 1/8 BS	A1	45	93.6	7.88	8
		1 1/8 BS	A1b	45a	93.6	25.31	27
		1 1/8 BS	A1a	45b	93.6	18.9	20
	410.00	1 BS	A1	66	73.2	7.95	11
		1 BS	A1b	66a	73.2	23.28	32
		1 BS	A1a	66b	73.2	16.62	23
	550.00	1 1/4 BS	A2	87	115.2	13.17	11
		1 1/4 BS	A2b	87a	115.2	37.35	32

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/4 BS	A2a	87b	115.2	28.24	25
	696.67	1 1/4 BS	A2	109	115.2	13.47	12
		1 1/4 BS	A2b	109a	115.2	45.42	39
		1 1/4 BS	A2a	109b	115.2	31.97	28
	850.00	1 1/4 BS	A2	132	115.2	15.45	13
		1 1/4 BS	A2b	132a	115.2	53.88	47
		1 1/4 BS	A2a	132b	115.2	36.88	32
	996.67	1 1/4 BS	A2	155	115.2	19.65	17
		1 1/4 BS	A2b	155a	115.2	55.9	49
		1 1/4 BS	A2a	155b	115.2	41.08	36
1.2D + 1.0Di + 1.0Wi Normal	130.00	7/8 BS	A1	24	55.2	11.94	22
		7/8 BS	A1b	24a	55.2	14.35	26
		7/8 BS	A1a	24b	55.2	15.78	29
	270.00	1 1/8 BS	A1	45	93.6	17.37	19
		1 1/8 BS	A1b	45a	93.6	20.79	22
		1 1/8 BS	A1a	45b	93.6	23.95	26
	410.00	1 BS	A1	66	73.2	12.57	17
		1 BS	A1b	66a	73.2	17.63	24
		1 BS	A1a	66b	73.2	20.25	28
	550.00	1 1/4 BS	A2	87	115.2	24.01	21
		1 1/4 BS	A2b	87a	115.2	31.27	27
		1 1/4 BS	A2a	87b	115.2	34.26	30
	696.67	1 1/4 BS	A2	109	115.2	22.47	20
		1 1/4 BS	A2b	109a	115.2	32.47	28
		1 1/4 BS	A2a	109b	115.2	35.52	31
	850.00	1 1/4 BS	A2	132	115.2	21.84	19
		1 1/4 BS	A2b	132a	115.2	33.73	29
		1 1/4 BS	A2a	132b	115.2	36.68	32
	996.67	1 1/4 BS	A2	155	115.2	22.96	20
		1 1/4 BS	A2b	155a	115.2	34.81	30
		1 1/4 BS	A2a	155b	115.2	37.49	33
1.2D + 1.0Di + 1.0Wi 60°	130.00	7/8 BS	A1	24	55.2	12.78	23
		7/8 BS	A1b	24a	55.2	12.3	22
		7/8 BS	A1a	24b	55.2	16.59	30
	270.00	1 1/8 BS	A1	45	93.6	18.6	20
		1 1/8 BS	A1b	45a	93.6	17.4	19
		1 1/8 BS	A1a	45b	93.6	25.29	27
	410.00	1 BS	A1	66	73.2	14.67	20
		1 BS	A1b	66a	73.2	13.73	19
		1 BS	A1a	66b	73.2	21.8	30
	550.00	1 1/4 BS	A2	87	115.2	25.86	22
		1 1/4 BS	A2b	87a	115.2	25.82	22
		1 1/4 BS	A2a	87b	115.2	36.16	31
	696.67	1 1/4 BS	A2	109	115.2	25.42	22
		1 1/4 BS	A2b	109a	115.2	25.49	22
		1 1/4 BS	A2a	109b	115.2	38.7	34
	850.00	1 1/4 BS	A2	132	115.2	25.78	22
		1 1/4 BS	A2b	132a	115.2	25.79	22
		1 1/4 BS	A2a	132b	115.2	41.18	36
	996.67	1 1/4 BS	A2	155	115.2	27.23	24
		1 1/4 BS	A2b	155a	115.2	27.22	24
		1 1/4 BS	A2a	155b	115.2	42.21	37
1.2D + 1.0Di + 1.0Wi 90°	130.00	7/8 BS	A1	24	55.2	13.9	25
		7/8 BS	A1b	24a	55.2	11.64	21
		7/8 BS	A1a	24b	55.2	16.43	30
	270.00	1 1/8 BS	A1	45	93.6	20.49	22
		1 1/8 BS	A1b	45a	93.6	16.41	18
		1 1/8 BS	A1a	45b	93.6	25	27
	410.00	1 BS	A1	66	73.2	16.7	23
		1 BS	A1b	66a	73.2	12.43	17
		1 BS	A1a	66b	73.2	21.47	29
	550.00	1 1/4 BS	A2	87	115.2	28.61	25
		1 1/4 BS	A2b	87a	115.2	24.28	21
		1 1/4 BS	A2a	87b	115.2	35.8	31
	696.67	1 1/4 BS	A2	109	115.2	28.88	25
		1 1/4 BS	A2b	109a	115.2	23.23	20
		1 1/4 BS	A2a	109b	115.2	37.9	33
	850.00	1 1/4 BS	A2	132	115.2	29.65	26

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/4 BS	A2b	132a	115.2	22.91	20
		1 1/4 BS	A2a	132b	115.2	39.91	35
	996.67	1 1/4 BS	A2	155	115.2	30.95	27
		1 1/4 BS	A2b	155a	115.2	24.19	21
		1 1/4 BS	A2a	155b	115.2	40.82	35
1.2D + 1.0Di + 1.0Wi 120°	130.00	7/8 BS	A1	24	55.2	14.99	27
		7/8 BS	A1b	24a	55.2	11.45	21
		7/8 BS	A1a	24b	55.2	15.82	29
	270.00	1 1/8 BS	A1	45	93.6	22.37	24
		1 1/8 BS	A1b	45a	93.6	16.21	17
		1 1/8 BS	A1a	45b	93.6	23.96	26
	410.00	1 BS	A1	66	73.2	18.73	26
		1 BS	A1b	66a	73.2	11.99	16
		1 BS	A1a	66b	73.2	20.29	28
	550.00	1 1/4 BS	A2	87	115.2	31.36	27
		1 1/4 BS	A2b	87a	115.2	23.88	21
		1 1/4 BS	A2a	87b	115.2	34.29	30
	696.67	1 1/4 BS	A2	109	115.2	32.41	28
		1 1/4 BS	A2b	109a	115.2	22.54	20
		1 1/4 BS	A2a	109b	115.2	35.51	31
	850.00	1 1/4 BS	A2	132	115.2	33.7	29
		1 1/4 BS	A2b	132a	115.2	21.87	19
		1 1/4 BS	A2a	132b	115.2	36.66	32
	996.67	1 1/4 BS	A2	155	115.2	34.81	30
		1 1/4 BS	A2b	155a	115.2	22.95	20
		1 1/4 BS	A2a	155b	115.2	37.48	33
1.2D + 1.0Di + 1.0Wi 180°	130.00	7/8 BS	A1	24	55.2	15.74	29
		7/8 BS	A1b	24a	55.2	12.29	22
		7/8 BS	A1a	24b	55.2	13.51	24
	270.00	1 1/8 BS	A1	45	93.6	23.64	25
		1 1/8 BS	A1b	45a	93.6	17.5	19
		1 1/8 BS	A1a	45b	93.6	20.04	21
	410.00	1 BS	A1	66	73.2	20.16	28
		1 BS	A1b	66a	73.2	13.86	19
		1 BS	A1a	66b	73.2	15.98	22
	550.00	1 1/4 BS	A2	87	115.2	33.09	29
		1 1/4 BS	A2b	87a	115.2	25.8	22
		1 1/4 BS	A2a	87b	115.2	28.17	24
	696.67	1 1/4 BS	A2	109	115.2	35.35	31
		1 1/4 BS	A2b	109a	115.2	25.56	22
		1 1/4 BS	A2a	109b	115.2	27.91	24
	850.00	1 1/4 BS	A2	132	115.2	37.94	33
		1 1/4 BS	A2b	132a	115.2	25.94	23
		1 1/4 BS	A2a	132b	115.2	28.17	24
	996.67	1 1/4 BS	A2	155	115.2	39.28	34
		1 1/4 BS	A2b	155a	115.2	27.37	24
		1 1/4 BS	A2a	155b	115.2	29.4	26
1.2D + 1.0Di + 1.0Wi 210°	130.00	7/8 BS	A1	24	55.2	15.64	28
		7/8 BS	A1b	24a	55.2	13.4	24
		7/8 BS	A1a	24b	55.2	12.76	23
	270.00	1 1/8 BS	A1	45	93.6	23.39	25
		1 1/8 BS	A1b	45a	93.6	19.16	20
		1 1/8 BS	A1a	45b	93.6	18.98	20
	410.00	1 BS	A1	66	73.2	19.83	27
		1 BS	A1b	66a	73.2	15.76	22
		1 BS	A1a	66b	73.2	14.39	20
	550.00	1 1/4 BS	A2	87	115.2	32.73	28
		1 1/4 BS	A2b	87a	115.2	28.48	25
		1 1/4 BS	A2a	87b	115.2	26.43	23
	696.67	1 1/4 BS	A2	109	115.2	34.58	30
		1 1/4 BS	A2b	109a	115.2	28.91	25
		1 1/4 BS	A2a	109b	115.2	25.36	22
	850.00	1 1/4 BS	A2	132	115.2	36.71	32
		1 1/4 BS	A2b	132a	115.2	29.71	26
		1 1/4 BS	A2a	132b	115.2	24.91	22
	996.67	1 1/4 BS	A2	155	115.2	37.92	33
		1 1/4 BS	A2b	155a	115.2	30.98	27
		1 1/4 BS	A2a	155b	115.2	25.99	23

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Di + 1.0Wi 240°	130.00	7/8 BS	A1	24	55.2	15.04	27
		7/8 BS	A1b	24a	55.2	14.39	26
		7/8 BS	A1a	24b	55.2	12.56	23
	270.00	1 1/8 BS	A1	45	93.6	22.34	24
		1 1/8 BS	A1b	45a	93.6	20.92	22
		1 1/8 BS	A1a	45b	93.6	18.67	20
	410.00	1 BS	A1	66	73.2	18.74	26
		1 BS	A1b	66a	73.2	17.56	24
		1 BS	A1a	66b	73.2	13.78	19
	550.00	1 1/4 BS	A2	87	115.2	31.26	27
		1 1/4 BS	A2b	87a	115.2	31.22	27
		1 1/4 BS	A2a	87b	115.2	25.94	23
	696.67	1 1/4 BS	A2	109	115.2	32.32	28
		1 1/4 BS	A2b	109a	115.2	32.37	28
		1 1/4 BS	A2a	109b	115.2	24.47	21
	850.00	1 1/4 BS	A2	132	115.2	33.61	29
		1 1/4 BS	A2b	132a	115.2	33.63	29
		1 1/4 BS	A2a	132b	115.2	23.62	21
	996.67	1 1/4 BS	A2	155	115.2	34.69	30
		1 1/4 BS	A2b	155a	115.2	34.69	30
		1 1/4 BS	A2a	155b	115.2	24.49	21
1.2D + 1.0Di + 1.0Wi 300°	130.00	7/8 BS	A1	24	55.2	12.84	23
		7/8 BS	A1b	24a	55.2	15.02	27
		7/8 BS	A1a	24b	55.2	13.47	24
	270.00	1 1/8 BS	A1	45	93.6	18.74	20
		1 1/8 BS	A1b	45a	93.6	22.08	24
		1 1/8 BS	A1a	45b	93.6	20.08	21
	410.00	1 BS	A1	66	73.2	14.75	20
		1 BS	A1b	66a	73.2	19.04	26
		1 BS	A1a	66b	73.2	15.96	22
	550.00	1 1/4 BS	A2	87	115.2	25.88	22
		1 1/4 BS	A2b	87a	115.2	32.96	29
		1 1/4 BS	A2a	87b	115.2	28.2	24
	696.67	1 1/4 BS	A2	109	115.2	25.49	22
		1 1/4 BS	A2b	109a	115.2	35.43	31
		1 1/4 BS	A2a	109b	115.2	27.92	24
	850.00	1 1/4 BS	A2	132	115.2	25.92	22
		1 1/4 BS	A2b	132a	115.2	37.98	33
		1 1/4 BS	A2a	132b	115.2	28.17	24
	996.67	1 1/4 BS	A2	155	115.2	27.37	24
		1 1/4 BS	A2b	155a	115.2	39.28	34
		1 1/4 BS	A2a	155b	115.2	29.41	26
1.2D + 1.0Di + 1.0Wi 330°	130.00	7/8 BS	A1	24	55.2	12.11	22
		7/8 BS	A1b	24a	55.2	14.88	27
		7/8 BS	A1a	24b	55.2	14.64	27
	270.00	1 1/8 BS	A1	45	93.6	17.7	19
		1 1/8 BS	A1b	45a	93.6	21.78	23
		1 1/8 BS	A1a	45b	93.6	21.99	23
	410.00	1 BS	A1	66	73.2	13.19	18
		1 BS	A1b	66a	73.2	18.69	26
		1 BS	A1a	66b	73.2	18.17	25
	550.00	1 1/4 BS	A2	87	115.2	24.41	21
		1 1/4 BS	A2b	87a	115.2	32.62	28
		1 1/4 BS	A2a	87b	115.2	31.21	27
	696.67	1 1/4 BS	A2	109	115.2	23.24	20
		1 1/4 BS	A2b	109a	115.2	34.69	30
		1 1/4 BS	A2a	109b	115.2	31.67	27
	850.00	1 1/4 BS	A2	132	115.2	22.99	20
		1 1/4 BS	A2b	132a	115.2	36.78	32
		1 1/4 BS	A2a	132b	115.2	32.37	28
	996.67	1 1/4 BS	A2	155	115.2	24.32	21
		1 1/4 BS	A2b	155a	115.2	37.98	33
		1 1/4 BS	A2a	155b	115.2	33.41	29
1.2D + 1.0Ev + 1.0Eh Normal	130.00	7/8 BS	A1	24	55.2	12.01	22
		7/8 BS	A1b	24a	55.2	11.63	21
		7/8 BS	A1a	24b	55.2	12.76	23
	270.00	1 1/8 BS	A1	45	93.6	17.86	19
		1 1/8 BS	A1b	45a	93.6	17.07	18

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/8 BS	A1a	45b	93.6	19.46	21
	410.00	1 BS	A1	66	73.2	12.24	17
		1 BS	A1b	66a	73.2	12.09	17
		1 BS	A1a	66b	73.2	13.84	19
	550.00	1 1/4 BS	A2	87	115.2	19.93	17
		1 1/4 BS	A2b	87a	115.2	20.83	18
		1 1/4 BS	A2a	87b	115.2	22.71	20
	696.67	1 1/4 BS	A2	109	115.2	18.92	16
		1 1/4 BS	A2b	109a	115.2	20.38	18
		1 1/4 BS	A2a	109b	115.2	22.24	19
	850.00	1 1/4 BS	A2	132	115.2	18.42	16
		1 1/4 BS	A2b	132a	115.2	20.22	18
		1 1/4 BS	A2a	132b	115.2	21.94	19
	996.67	1 1/4 BS	A2	155	115.2	18.6	16
		1 1/4 BS	A2b	155a	115.2	20.11	17
		1 1/4 BS	A2a	155b	115.2	21.62	19
1.2D + 1.0Ev + 1.0Eh 60°	130.00	7/8 BS	A1	24	55.2	12.02	22
		7/8 BS	A1b	24a	55.2	11.61	21
		7/8 BS	A1a	24b	55.2	12.77	23
	270.00	1 1/8 BS	A1	45	93.6	17.94	19
		1 1/8 BS	A1b	45a	93.6	16.84	18
		1 1/8 BS	A1a	45b	93.6	19.58	21
	410.00	1 BS	A1	66	73.2	12.45	17
		1 BS	A1b	66a	73.2	11.67	16
		1 BS	A1a	66b	73.2	14.01	19
	550.00	1 1/4 BS	A2	87	115.2	20.23	18
		1 1/4 BS	A2b	87a	115.2	20.24	18
		1 1/4 BS	A2a	87b	115.2	23	20
	696.67	1 1/4 BS	A2	109	115.2	19.37	17
		1 1/4 BS	A2b	109a	115.2	19.38	17
		1 1/4 BS	A2a	109b	115.2	22.78	20
	850.00	1 1/4 BS	A2	132	115.2	18.98	16
		1 1/4 BS	A2b	132a	115.2	18.99	16
		1 1/4 BS	A2a	132b	115.2	22.6	20
	996.67	1 1/4 BS	A2	155	115.2	19.1	17
		1 1/4 BS	A2b	155a	115.2	19.1	17
		1 1/4 BS	A2a	155b	115.2	22.12	19
1.2D + 1.0Ev + 1.0Eh 90°	130.00	7/8 BS	A1	24	55.2	12.06	22
		7/8 BS	A1b	24a	55.2	11.58	21
		7/8 BS	A1a	24b	55.2	12.76	23
	270.00	1 1/8 BS	A1	45	93.6	18.01	19
		1 1/8 BS	A1b	45a	93.6	16.81	18
		1 1/8 BS	A1a	45b	93.6	19.53	21
	410.00	1 BS	A1	66	73.2	12.67	17
		1 BS	A1b	66a	73.2	11.46	16
		1 BS	A1a	66b	73.2	13.99	19
	550.00	1 1/4 BS	A2	87	115.2	20.52	18
		1 1/4 BS	A2b	87a	115.2	20.01	17
		1 1/4 BS	A2a	87b	115.2	22.93	20
	696.67	1 1/4 BS	A2	109	115.2	19.87	17
		1 1/4 BS	A2b	109a	115.2	19.07	17
		1 1/4 BS	A2a	109b	115.2	22.58	20
	850.00	1 1/4 BS	A2	132	115.2	19.59	17
		1 1/4 BS	A2b	132a	115.2	18.57	16
		1 1/4 BS	A2a	132b	115.2	22.41	19
	996.67	1 1/4 BS	A2	155	115.2	19.6	17
		1 1/4 BS	A2b	155a	115.2	18.74	16
		1 1/4 BS	A2a	155b	115.2	21.97	19
1.2D + 1.0Ev + 1.0Eh 120°	130.00	7/8 BS	A1	24	55.2	12.1	22
		7/8 BS	A1b	24a	55.2	11.57	21
		7/8 BS	A1a	24b	55.2	12.74	23
	270.00	1 1/8 BS	A1	45	93.6	18.13	19
		1 1/8 BS	A1b	45a	93.6	16.79	18
		1 1/8 BS	A1a	45b	93.6	19.44	21
	410.00	1 BS	A1	66	73.2	12.85	18
		1 BS	A1b	66a	73.2	11.43	16
		1 BS	A1a	66b	73.2	13.85	19
	550.00	1 1/4 BS	A2	87	115.2	20.85	18

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/4 BS	A2b	87a	115.2	19.93	17
		1 1/4 BS	A2a	87b	115.2	22.7	20
	696.67	1 1/4 BS	A2	109	115.2	20.36	18
		1 1/4 BS	A2b	109a	115.2	18.94	16
		1 1/4 BS	A2a	109b	115.2	22.24	19
	850.00	1 1/4 BS	A2	132	115.2	20.2	18
		1 1/4 BS	A2b	132a	115.2	18.43	16
		1 1/4 BS	A2a	132b	115.2	21.95	19
	996.67	1 1/4 BS	A2	155	115.2	20.12	17
		1 1/4 BS	A2b	155a	115.2	18.6	16
		1 1/4 BS	A2a	155b	115.2	21.62	19
1.2D + 1.0Ev + 1.0Eh 180°	130.00	7/8 BS	A1	24	55.2	12.11	22
		7/8 BS	A1b	24a	55.2	11.58	21
		7/8 BS	A1a	24b	55.2	12.71	23
	270.00	1 1/8 BS	A1	45	93.6	18.25	20
		1 1/8 BS	A1b	45a	93.6	16.92	18
		1 1/8 BS	A1a	45b	93.6	19.22	21
	410.00	1 BS	A1	66	73.2	13.09	18
		1 BS	A1b	66a	73.2	11.6	16
		1 BS	A1a	66b	73.2	13.48	18
	550.00	1 1/4 BS	A2	87	115.2	21.18	18
		1 1/4 BS	A2b	87a	115.2	20.3	18
		1 1/4 BS	A2a	87b	115.2	22.03	19
	696.67	1 1/4 BS	A2	109	115.2	20.87	18
		1 1/4 BS	A2b	109a	115.2	19.46	17
		1 1/4 BS	A2a	109b	115.2	21.23	18
	850.00	1 1/4 BS	A2	132	115.2	20.85	18
		1 1/4 BS	A2b	132a	115.2	19.06	17
		1 1/4 BS	A2a	132b	115.2	20.7	18
	996.67	1 1/4 BS	A2	155	115.2	20.64	18
		1 1/4 BS	A2b	155a	115.2	19.15	17
		1 1/4 BS	A2a	155b	115.2	20.57	18
1.2D + 1.0Ev + 1.0Eh 210°	130.00	7/8 BS	A1	24	55.2	12.12	22
		7/8 BS	A1b	24a	55.2	11.61	21
		7/8 BS	A1a	24b	55.2	12.68	23
	270.00	1 1/8 BS	A1	45	93.6	18.24	19
		1 1/8 BS	A1b	45a	93.6	17.01	18
		1 1/8 BS	A1a	45b	93.6	19.16	20
	410.00	1 BS	A1	66	73.2	13.03	18
		1 BS	A1b	66a	73.2	11.82	16
		1 BS	A1a	66b	73.2	13.33	18
	550.00	1 1/4 BS	A2	87	115.2	21.11	18
		1 1/4 BS	A2b	87a	115.2	20.62	18
		1 1/4 BS	A2a	87b	115.2	21.8	19
	696.67	1 1/4 BS	A2	109	115.2	20.76	18
		1 1/4 BS	A2b	109a	115.2	19.94	17
		1 1/4 BS	A2a	109b	115.2	20.87	18
	850.00	1 1/4 BS	A2	132	115.2	20.7	18
		1 1/4 BS	A2b	132a	115.2	19.67	17
		1 1/4 BS	A2a	132b	115.2	20.25	18
	996.67	1 1/4 BS	A2	155	115.2	20.52	18
		1 1/4 BS	A2b	155a	115.2	19.67	17
		1 1/4 BS	A2a	155b	115.2	20.19	18
1.2D + 1.0Ev + 1.0Eh 240°	130.00	7/8 BS	A1	24	55.2	12.08	22
		7/8 BS	A1b	24a	55.2	11.65	21
		7/8 BS	A1a	24b	55.2	12.69	23
	270.00	1 1/8 BS	A1	45	93.6	18.21	19
		1 1/8 BS	A1b	45a	93.6	17.09	18
		1 1/8 BS	A1a	45b	93.6	19.12	20
	410.00	1 BS	A1	66	73.2	12.85	18
		1 BS	A1b	66a	73.2	12.06	16
		1 BS	A1a	66b	73.2	13.29	18
	550.00	1 1/4 BS	A2	87	115.2	20.9	18
		1 1/4 BS	A2b	87a	115.2	20.91	18
		1 1/4 BS	A2a	87b	115.2	21.71	19
	696.67	1 1/4 BS	A2	109	115.2	20.41	18
		1 1/4 BS	A2b	109a	115.2	20.43	18
		1 1/4 BS	A2a	109b	115.2	20.74	18

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
	850.00	1 1/4 BS	A2	132	115.2	20.27	18
		1 1/4 BS	A2b	132a	115.2	20.27	18
		1 1/4 BS	A2a	132b	115.2	20.09	17
	996.67	1 1/4 BS	A2	155	115.2	20.17	18
		1 1/4 BS	A2b	155a	115.2	20.17	18
		1 1/4 BS	A2a	155b	115.2	20.05	17
1.2D + 1.0Ev + 1.0Eh 300°	130.00	7/8 BS	A1	24	55.2	12.05	22
		7/8 BS	A1b	24a	55.2	11.66	21
		7/8 BS	A1a	24b	55.2	12.7	23
	270.00	1 1/8 BS	A1	45	93.6	17.98	19
		1 1/8 BS	A1b	45a	93.6	17.19	18
		1 1/8 BS	A1a	45b	93.6	19.24	21
	410.00	1 BS	A1	66	73.2	12.45	17
		1 BS	A1b	66a	73.2	12.29	17
		1 BS	A1a	66b	73.2	13.48	18
	550.00	1 1/4 BS	A2	87	115.2	20.28	18
		1 1/4 BS	A2b	87a	115.2	21.17	18
		1 1/4 BS	A2a	87b	115.2	22.06	19
	696.67	1 1/4 BS	A2	109	115.2	19.44	17
		1 1/4 BS	A2b	109a	115.2	20.89	18
		1 1/4 BS	A2a	109b	115.2	21.23	18
	850.00	1 1/4 BS	A2	132	115.2	19.06	17
		1 1/4 BS	A2b	132a	115.2	20.86	18
		1 1/4 BS	A2a	132b	115.2	20.69	18
	996.67	1 1/4 BS	A2	155	115.2	19.15	17
		1 1/4 BS	A2b	155a	115.2	20.64	18
		1 1/4 BS	A2a	155b	115.2	20.57	18
1.2D + 1.0Ev + 1.0Eh 330°	130.00	7/8 BS	A1	24	55.2	12	22
		7/8 BS	A1b	24a	55.2	11.66	21
		7/8 BS	A1a	24b	55.2	12.74	23
	270.00	1 1/8 BS	A1	45	93.6	17.9	19
		1 1/8 BS	A1b	45a	93.6	17.15	18
		1 1/8 BS	A1a	45b	93.6	19.35	21
	410.00	1 BS	A1	66	73.2	12.3	17
		1 BS	A1b	66a	73.2	12.22	17
		1 BS	A1a	66b	73.2	13.66	19
	550.00	1 1/4 BS	A2	87	115.2	20.03	17
		1 1/4 BS	A2b	87a	115.2	21.07	18
		1 1/4 BS	A2a	87b	115.2	22.39	19
	696.67	1 1/4 BS	A2	109	115.2	19.09	17
		1 1/4 BS	A2b	109a	115.2	20.75	18
		1 1/4 BS	A2a	109b	115.2	21.71	19
	850.00	1 1/4 BS	A2	132	115.2	18.59	16
		1 1/4 BS	A2b	132a	115.2	20.68	18
		1 1/4 BS	A2a	132b	115.2	21.33	19
	996.67	1 1/4 BS	A2	155	115.2	18.77	16
		1 1/4 BS	A2b	155a	115.2	20.49	18
		1 1/4 BS	A2a	155b	115.2	21.09	18
0.9D - 1.0Ev + 1.0Eh Normal	130.00	7/8 BS	A1	24	55.2	12.04	22
		7/8 BS	A1b	24a	55.2	11.67	21
		7/8 BS	A1a	24b	55.2	12.79	23
	270.00	1 1/8 BS	A1	45	93.6	18.04	19
		1 1/8 BS	A1b	45a	93.6	17.22	18
		1 1/8 BS	A1a	45b	93.6	19.63	21
	410.00	1 BS	A1	66	73.2	12.4	17
		1 BS	A1b	66a	73.2	12.26	17
		1 BS	A1a	66b	73.2	14.04	19
	550.00	1 1/4 BS	A2	87	115.2	20.08	17
		1 1/4 BS	A2b	87a	115.2	20.98	18
		1 1/4 BS	A2a	87b	115.2	22.86	20
	696.67	1 1/4 BS	A2	109	115.2	19.08	17
		1 1/4 BS	A2b	109a	115.2	20.53	18
		1 1/4 BS	A2a	109b	115.2	22.41	19
	850.00	1 1/4 BS	A2	132	115.2	18.58	16
		1 1/4 BS	A2b	132a	115.2	20.38	18
		1 1/4 BS	A2a	132b	115.2	22.12	19
	996.67	1 1/4 BS	A2	155	115.2	18.75	16
		1 1/4 BS	A2b	155a	115.2	20.27	18

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/4 BS	A2a	155b	115.2	21.78	19
0.9D - 1.0Ev + 1.0Eh 60°	130.00	7/8 BS	A1	24	55.2	12.05	22
		7/8 BS	A1b	24a	55.2	11.63	21
		7/8 BS	A1a	24b	55.2	12.82	23
	270.00	1 1/8 BS	A1	45	93.6	18.12	19
		1 1/8 BS	A1b	45a	93.6	17.01	18
		1 1/8 BS	A1a	45b	93.6	19.73	21
	410.00	1 BS	A1	66	73.2	12.62	17
		1 BS	A1b	66a	73.2	11.84	16
		1 BS	A1a	66b	73.2	14.2	19
	550.00	1 1/4 BS	A2	87	115.2	20.34	18
		1 1/4 BS	A2b	87a	115.2	20.34	18
		1 1/4 BS	A2a	87b	115.2	23.22	20
	696.67	1 1/4 BS	A2	109	115.2	19.56	17
		1 1/4 BS	A2b	109a	115.2	19.56	17
		1 1/4 BS	A2a	109b	115.2	22.88	20
	850.00	1 1/4 BS	A2	132	115.2	19.14	17
		1 1/4 BS	A2b	132a	115.2	19.15	17
		1 1/4 BS	A2a	132b	115.2	22.76	20
	996.67	1 1/4 BS	A2	155	115.2	19.24	17
		1 1/4 BS	A2b	155a	115.2	19.25	17
		1 1/4 BS	A2a	155b	115.2	22.29	19
0.9D - 1.0Ev + 1.0Eh 90°	130.00	7/8 BS	A1	24	55.2	12.09	22
		7/8 BS	A1b	24a	55.2	11.61	21
		7/8 BS	A1a	24b	55.2	12.8	23
	270.00	1 1/8 BS	A1	45	93.6	18.19	19
		1 1/8 BS	A1b	45a	93.6	16.97	18
		1 1/8 BS	A1a	45b	93.6	19.7	21
	410.00	1 BS	A1	66	73.2	12.83	18
		1 BS	A1b	66a	73.2	11.65	16
		1 BS	A1a	66b	73.2	14.17	19
	550.00	1 1/4 BS	A2	87	115.2	20.67	18
		1 1/4 BS	A2b	87a	115.2	20.14	17
		1 1/4 BS	A2a	87b	115.2	23.11	20
	696.67	1 1/4 BS	A2	109	115.2	20.03	17
		1 1/4 BS	A2b	109a	115.2	19.23	17
		1 1/4 BS	A2a	109b	115.2	22.75	20
	850.00	1 1/4 BS	A2	132	115.2	19.74	17
		1 1/4 BS	A2b	132a	115.2	18.72	16
		1 1/4 BS	A2a	132b	115.2	22.6	20
	996.67	1 1/4 BS	A2	155	115.2	19.75	17
		1 1/4 BS	A2b	155a	115.2	18.88	16
		1 1/4 BS	A2a	155b	115.2	22.16	19
0.9D - 1.0Ev + 1.0Eh 120°	130.00	7/8 BS	A1	24	55.2	12.13	22
		7/8 BS	A1b	24a	55.2	11.59	21
		7/8 BS	A1a	24b	55.2	12.78	23
	270.00	1 1/8 BS	A1	45	93.6	18.28	20
		1 1/8 BS	A1b	45a	93.6	16.97	18
		1 1/8 BS	A1a	45b	93.6	19.62	21
	410.00	1 BS	A1	66	73.2	13.05	18
		1 BS	A1b	66a	73.2	11.57	16
		1 BS	A1a	66b	73.2	14.04	19
	550.00	1 1/4 BS	A2	87	115.2	20.98	18
		1 1/4 BS	A2b	87a	115.2	20.08	17
		1 1/4 BS	A2a	87b	115.2	22.86	20
	696.67	1 1/4 BS	A2	109	115.2	20.51	18
		1 1/4 BS	A2b	109a	115.2	19.1	17
		1 1/4 BS	A2a	109b	115.2	22.41	19
	850.00	1 1/4 BS	A2	132	115.2	20.37	18
		1 1/4 BS	A2b	132a	115.2	18.59	16
		1 1/4 BS	A2a	132b	115.2	22.11	19
	996.67	1 1/4 BS	A2	155	115.2	20.27	18
		1 1/4 BS	A2b	155a	115.2	18.75	16
		1 1/4 BS	A2a	155b	115.2	21.79	19
0.9D - 1.0Ev + 1.0Eh 180°	130.00	7/8 BS	A1	24	55.2	12.15	22
		7/8 BS	A1b	24a	55.2	11.62	21
		7/8 BS	A1a	24b	55.2	12.73	23
	270.00	1 1/8 BS	A1	45	93.6	18.43	20

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/8 BS	A1b	45a	93.6	17.07	18
		1 1/8 BS	A1a	45b	93.6	19.4	21
	410.00	1 BS	A1	66	73.2	13.24	18
		1 BS	A1b	66a	73.2	11.79	16
		1 BS	A1a	66b	73.2	13.67	19
	550.00	1 1/4 BS	A2	87	115.2	21.33	19
		1 1/4 BS	A2b	87a	115.2	20.42	18
		1 1/4 BS	A2a	87b	115.2	22.19	19
	696.67	1 1/4 BS	A2	109	115.2	21.02	18
		1 1/4 BS	A2b	109a	115.2	19.63	17
		1 1/4 BS	A2a	109b	115.2	21.39	19
	850.00	1 1/4 BS	A2	132	115.2	21	18
		1 1/4 BS	A2b	132a	115.2	19.24	17
		1 1/4 BS	A2a	132b	115.2	20.86	18
	996.67	1 1/4 BS	A2	155	115.2	20.79	18
		1 1/4 BS	A2b	155a	115.2	19.32	17
		1 1/4 BS	A2a	155b	115.2	20.73	18
0.9D - 1.0Ev + 1.0Eh 210°	130.00	7/8 BS	A1	24	55.2	12.14	22
		7/8 BS	A1b	24a	55.2	11.65	21
		7/8 BS	A1a	24b	55.2	12.72	23
	270.00	1 1/8 BS	A1	45	93.6	18.43	20
		1 1/8 BS	A1b	45a	93.6	17.16	18
		1 1/8 BS	A1a	45b	93.6	19.32	21
	410.00	1 BS	A1	66	73.2	13.18	18
		1 BS	A1b	66a	73.2	12.01	16
		1 BS	A1a	66b	73.2	13.53	18
	550.00	1 1/4 BS	A2	87	115.2	21.26	18
		1 1/4 BS	A2b	87a	115.2	20.75	18
		1 1/4 BS	A2a	87b	115.2	21.95	19
	696.67	1 1/4 BS	A2	109	115.2	20.92	18
		1 1/4 BS	A2b	109a	115.2	20.1	17
		1 1/4 BS	A2a	109b	115.2	21.04	18
	850.00	1 1/4 BS	A2	132	115.2	20.86	18
		1 1/4 BS	A2b	132a	115.2	19.83	17
		1 1/4 BS	A2a	132b	115.2	20.43	18
	996.67	1 1/4 BS	A2	155	115.2	20.67	18
		1 1/4 BS	A2b	155a	115.2	19.82	17
		1 1/4 BS	A2a	155b	115.2	20.36	18
0.9D - 1.0Ev + 1.0Eh 240°	130.00	7/8 BS	A1	24	55.2	12.12	22
		7/8 BS	A1b	24a	55.2	11.69	21
		7/8 BS	A1a	24b	55.2	12.7	23
	270.00	1 1/8 BS	A1	45	93.6	18.39	20
		1 1/8 BS	A1b	45a	93.6	17.22	18
		1 1/8 BS	A1a	45b	93.6	19.3	21
	410.00	1 BS	A1	66	73.2	13	18
		1 BS	A1b	66a	73.2	12.26	17
		1 BS	A1a	66b	73.2	13.48	18
	550.00	1 1/4 BS	A2	87	115.2	21.05	18
		1 1/4 BS	A2b	87a	115.2	21.04	18
		1 1/4 BS	A2a	87b	115.2	21.87	19
	696.67	1 1/4 BS	A2	109	115.2	20.58	18
		1 1/4 BS	A2b	109a	115.2	20.58	18
		1 1/4 BS	A2a	109b	115.2	20.91	18
	850.00	1 1/4 BS	A2	132	115.2	20.42	18
		1 1/4 BS	A2b	132a	115.2	20.43	18
		1 1/4 BS	A2a	132b	115.2	20.27	18
	996.67	1 1/4 BS	A2	155	115.2	20.32	18
		1 1/4 BS	A2b	155a	115.2	20.32	18
		1 1/4 BS	A2a	155b	115.2	20.22	18
0.9D - 1.0Ev + 1.0Eh 300°	130.00	7/8 BS	A1	24	55.2	12.06	22
		7/8 BS	A1b	24a	55.2	11.71	21
		7/8 BS	A1a	24b	55.2	12.74	23
	270.00	1 1/8 BS	A1	45	93.6	18.17	19
		1 1/8 BS	A1b	45a	93.6	17.32	19
		1 1/8 BS	A1a	45b	93.6	19.41	21
	410.00	1 BS	A1	66	73.2	12.6	17
		1 BS	A1b	66a	73.2	12.47	17
		1 BS	A1a	66b	73.2	13.67	19

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
	550.00	1 1/4 BS	A2	87	115.2	20.43	18
		1 1/4 BS	A2b	87a	115.2	21.31	18
		1 1/4 BS	A2a	87b	115.2	22.21	19
	696.67	1 1/4 BS	A2	109	115.2	19.6	17
		1 1/4 BS	A2b	109a	115.2	21.05	18
		1 1/4 BS	A2a	109b	115.2	21.4	19
	850.00	1 1/4 BS	A2	132	115.2	19.21	17
		1 1/4 BS	A2b	132a	115.2	21.02	18
		1 1/4 BS	A2a	132b	115.2	20.87	18
	996.67	1 1/4 BS	A2	155	115.2	19.3	17
		1 1/4 BS	A2b	155a	115.2	20.8	18
		1 1/4 BS	A2a	155b	115.2	20.74	18
0.9D - 1.0Ev + 1.0Eh 330°	130.00	7/8 BS	A1	24	55.2	12.05	22
		7/8 BS	A1b	24a	55.2	11.7	21
		7/8 BS	A1a	24b	55.2	12.76	23
	270.00	1 1/8 BS	A1	45	93.6	18.08	19
		1 1/8 BS	A1b	45a	93.6	17.29	18
		1 1/8 BS	A1a	45b	93.6	19.53	21
	410.00	1 BS	A1	66	73.2	12.45	17
		1 BS	A1b	66a	73.2	12.42	17
		1 BS	A1a	66b	73.2	13.85	19
	550.00	1 1/4 BS	A2	87	115.2	20.18	18
		1 1/4 BS	A2b	87a	115.2	21.21	18
		1 1/4 BS	A2a	87b	115.2	22.54	20
	696.67	1 1/4 BS	A2	109	115.2	19.24	17
		1 1/4 BS	A2b	109a	115.2	20.9	18
		1 1/4 BS	A2a	109b	115.2	21.89	19
	850.00	1 1/4 BS	A2	132	115.2	18.74	16
		1 1/4 BS	A2b	132a	115.2	20.84	18
		1 1/4 BS	A2a	132b	115.2	21.51	19
	996.67	1 1/4 BS	A2	155	115.2	18.91	16
		1 1/4 BS	A2b	155a	115.2	20.65	18
		1 1/4 BS	A2a	155b	115.2	21.26	18
1.0D + 1.0W Service Normal	130.00	7/8 BS	A1	24	55.2	10.46	19
		7/8 BS	A1b	24a	55.2	12.55	23
		7/8 BS	A1a	24b	55.2	13.77	25
	270.00	1 1/8 BS	A1	45	93.6	15.47	17
		1 1/8 BS	A1b	45a	93.6	18.57	20
		1 1/8 BS	A1a	45b	93.6	21.19	23
	410.00	1 BS	A1	66	73.2	9.81	13
		1 BS	A1b	66a	73.2	13.72	19
		1 BS	A1a	66b	73.2	15.78	22
	550.00	1 1/4 BS	A2	87	115.2	17.45	15
		1 1/4 BS	A2b	87a	115.2	23.24	20
		1 1/4 BS	A2a	87b	115.2	25.36	22
	696.67	1 1/4 BS	A2	109	115.2	15.71	14
		1 1/4 BS	A2b	109a	115.2	23.34	20
		1 1/4 BS	A2a	109b	115.2	25.47	22
	850.00	1 1/4 BS	A2	132	115.2	14.65	13
		1 1/4 BS	A2b	132a	115.2	23.65	21
		1 1/4 BS	A2a	132b	115.2	25.67	22
	996.67	1 1/4 BS	A2	155	115.2	15.36	13
		1 1/4 BS	A2b	155a	115.2	23.85	21
		1 1/4 BS	A2a	155b	115.2	25.66	22
1.0D + 1.0W Service 60°	130.00	7/8 BS	A1	24	55.2	11.24	20
		7/8 BS	A1b	24a	55.2	10.83	20
		7/8 BS	A1a	24b	55.2	14.46	26
	270.00	1 1/8 BS	A1	45	93.6	16.62	18
		1 1/8 BS	A1b	45a	93.6	15.64	17
		1 1/8 BS	A1a	45b	93.6	22.33	24
	410.00	1 BS	A1	66	73.2	11.34	15
		1 BS	A1b	66a	73.2	10.66	15
		1 BS	A1a	66b	73.2	17.02	23
	550.00	1 1/4 BS	A2	87	115.2	19.02	17
		1 1/4 BS	A2b	87a	115.2	19	16
		1 1/4 BS	A2a	87b	115.2	26.92	23
	696.67	1 1/4 BS	A2	109	115.2	18.05	16
		1 1/4 BS	A2b	109a	115.2	18.06	16

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/4 BS	A2a	109b	115.2	27.91	24
	850.00	1 1/4 BS	A2	132	115.2	17.77	15
		1 1/4 BS	A2b	132a	115.2	17.78	15
		1 1/4 BS	A2a	132b	115.2	28.94	25
	996.67	1 1/4 BS	A2	155	115.2	18.52	16
		1 1/4 BS	A2b	155a	115.2	18.52	16
		1 1/4 BS	A2a	155b	115.2	28.89	25
1.0D + 1.0W Service 90°	130.00	7/8 BS	A1	24	55.2	12.12	22
		7/8 BS	A1b	24a	55.2	10.23	19
		7/8 BS	A1a	24b	55.2	14.29	26
	270.00	1 1/8 BS	A1	45	93.6	18.13	19
		1 1/8 BS	A1b	45a	93.6	14.73	16
		1 1/8 BS	A1a	45b	93.6	22.01	24
	410.00	1 BS	A1	66	73.2	12.85	18
		1 BS	A1b	66a	73.2	9.63	13
		1 BS	A1a	66b	73.2	16.71	23
	550.00	1 1/4 BS	A2	87	115.2	21.15	18
		1 1/4 BS	A2b	87a	115.2	17.74	15
		1 1/4 BS	A2a	87b	115.2	26.58	23
	696.67	1 1/4 BS	A2	109	115.2	20.61	18
		1 1/4 BS	A2b	109a	115.2	16.33	14
		1 1/4 BS	A2a	109b	115.2	27.29	24
	850.00	1 1/4 BS	A2	132	115.2	20.63	18
		1 1/4 BS	A2b	132a	115.2	15.56	14
		1 1/4 BS	A2a	132b	115.2	28.03	24
	996.67	1 1/4 BS	A2	155	115.2	21.14	18
		1 1/4 BS	A2b	155a	115.2	16.32	14
		1 1/4 BS	A2a	155b	115.2	27.95	24
1.0D + 1.0W Service 120°	130.00	7/8 BS	A1	24	55.2	13.05	24
		7/8 BS	A1b	24a	55.2	10.02	18
		7/8 BS	A1a	24b	55.2	13.71	25
	270.00	1 1/8 BS	A1	45	93.6	19.67	21
		1 1/8 BS	A1b	45a	93.6	14.46	15
		1 1/8 BS	A1a	45b	93.6	21.09	23
	410.00	1 BS	A1	66	73.2	14.47	20
		1 BS	A1b	66a	73.2	9.23	13
		1 BS	A1a	66b	73.2	15.7	21
	550.00	1 1/4 BS	A2	87	115.2	23.32	20
		1 1/4 BS	A2b	87a	115.2	17.37	15
		1 1/4 BS	A2a	87b	115.2	25.37	22
	696.67	1 1/4 BS	A2	109	115.2	23.3	20
		1 1/4 BS	A2b	109a	115.2	15.73	14
		1 1/4 BS	A2a	109b	115.2	25.47	22
	850.00	1 1/4 BS	A2	132	115.2	23.63	21
		1 1/4 BS	A2b	132a	115.2	14.67	13
		1 1/4 BS	A2a	132b	115.2	25.66	22
	996.67	1 1/4 BS	A2	155	115.2	23.85	21
		1 1/4 BS	A2b	155a	115.2	15.35	13
		1 1/4 BS	A2a	155b	115.2	25.66	22
1.0D + 1.0W Service 180°	130.00	7/8 BS	A1	24	55.2	13.84	25
		7/8 BS	A1b	24a	55.2	10.88	20
		7/8 BS	A1a	24b	55.2	11.9	22
	270.00	1 1/8 BS	A1	45	93.6	21.03	22
		1 1/8 BS	A1b	45a	93.6	15.83	17
		1 1/8 BS	A1a	45b	93.6	18	19
	410.00	1 BS	A1	66	73.2	15.81	22
		1 BS	A1b	66a	73.2	10.84	15
		1 BS	A1a	66b	73.2	12.55	17
	550.00	1 1/4 BS	A2	87	115.2	24.82	22
		1 1/4 BS	A2b	87a	115.2	19.07	17
		1 1/4 BS	A2a	87b	115.2	20.7	18
	696.67	1 1/4 BS	A2	109	115.2	25.65	22
		1 1/4 BS	A2b	109a	115.2	18.2	16
		1 1/4 BS	A2a	109b	115.2	19.84	17
	850.00	1 1/4 BS	A2	132	115.2	26.81	23
		1 1/4 BS	A2b	132a	115.2	17.95	16
		1 1/4 BS	A2a	132b	115.2	19.48	17
	996.67	1 1/4 BS	A2	155	115.2	26.97	23

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1 1/4 BS	A2b	155a	115.2	18.67	16
		1 1/4 BS	A2a	155b	115.2	20.05	17
1.0D + 1.0W Service 210°	130.00	7/8 BS	A1	24	55.2	13.72	25
		7/8 BS	A1b	24a	55.2	11.78	21
		7/8 BS	A1a	24b	55.2	11.27	20
	270.00	1 1/8 BS	A1	45	93.6	20.83	22
		1 1/8 BS	A1b	45a	93.6	17.31	18
		1 1/8 BS	A1a	45b	93.6	17.04	18
	410.00	1 BS	A1	66	73.2	15.58	21
		1 BS	A1b	66a	73.2	12.28	17
		1 BS	A1a	66b	73.2	11.47	16
	550.00	1 1/4 BS	A2	87	115.2	24.52	21
		1 1/4 BS	A2b	87a	115.2	21.17	18
		1 1/4 BS	A2a	87b	115.2	19.29	17
	696.67	1 1/4 BS	A2	109	115.2	25.06	22
		1 1/4 BS	A2b	109a	115.2	20.73	18
		1 1/4 BS	A2a	109b	115.2	17.9	16
	850.00	1 1/4 BS	A2	132	115.2	25.93	23
		1 1/4 BS	A2b	132a	115.2	20.75	18
		1 1/4 BS	A2a	132b	115.2	17.01	15
	996.67	1 1/4 BS	A2	155	115.2	26.07	23
		1 1/4 BS	A2b	155a	115.2	21.23	18
		1 1/4 BS	A2a	155b	115.2	17.61	15
1.0D + 1.0W Service 240°	130.00	7/8 BS	A1	24	55.2	13.17	24
		7/8 BS	A1b	24a	55.2	12.67	23
		7/8 BS	A1a	24b	55.2	11.06	20
	270.00	1 1/8 BS	A1	45	93.6	19.99	21
		1 1/8 BS	A1b	45a	93.6	18.77	20
		1 1/8 BS	A1a	45b	93.6	16.71	18
	410.00	1 BS	A1	66	73.2	14.66	20
		1 BS	A1b	66a	73.2	13.8	19
		1 BS	A1a	66b	73.2	11	15
	550.00	1 1/4 BS	A2	87	115.2	23.34	20
		1 1/4 BS	A2b	87a	115.2	23.31	20
		1 1/4 BS	A2a	87b	115.2	18.84	16
	696.67	1 1/4 BS	A2	109	115.2	23.33	20
		1 1/4 BS	A2b	109a	115.2	23.35	20
		1 1/4 BS	A2a	109b	115.2	17.15	15
	850.00	1 1/4 BS	A2	132	115.2	23.65	21
		1 1/4 BS	A2b	132a	115.2	23.66	21
		1 1/4 BS	A2a	132b	115.2	15.93	14
	996.67	1 1/4 BS	A2	155	115.2	23.85	21
		1 1/4 BS	A2b	155a	115.2	23.85	21
		1 1/4 BS	A2a	155b	115.2	16.46	14
1.0D + 1.0W Service 300°	130.00	7/8 BS	A1	24	55.2	11.34	21
		7/8 BS	A1b	24a	55.2	13.32	24
		7/8 BS	A1a	24b	55.2	11.95	22
	270.00	1 1/8 BS	A1	45	93.6	16.95	18
		1 1/8 BS	A1b	45a	93.6	19.86	21
		1 1/8 BS	A1a	45b	93.6	18.12	19
	410.00	1 BS	A1	66	73.2	11.61	16
		1 BS	A1b	66a	73.2	15.05	21
		1 BS	A1a	66b	73.2	12.61	17
	550.00	1 1/4 BS	A2	87	115.2	19.13	17
		1 1/4 BS	A2b	87a	115.2	24.71	21
		1 1/4 BS	A2a	87b	115.2	20.74	18
	696.67	1 1/4 BS	A2	109	115.2	18.17	16
		1 1/4 BS	A2b	109a	115.2	25.7	22
		1 1/4 BS	A2a	109b	115.2	19.84	17
	850.00	1 1/4 BS	A2	132	115.2	17.94	16
		1 1/4 BS	A2b	132a	115.2	26.84	23
		1 1/4 BS	A2a	132b	115.2	19.48	17
	996.67	1 1/4 BS	A2	155	115.2	18.68	16
		1 1/4 BS	A2b	155a	115.2	26.97	23
		1 1/4 BS	A2a	155b	115.2	20.05	17
1.0D + 1.0W Service 330°	130.00	7/8 BS	A1	24	55.2	10.7	19
		7/8 BS	A1b	24a	55.2	13.12	24
		7/8 BS	A1a	24b	55.2	12.84	23

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DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
	270.00	1 1/8 BS	A1	45	93.6	15.93	17
		1 1/8 BS	A1b	45a	93.6	19.51	21
		1 1/8 BS	A1a	45b	93.6	19.63	21
	410.00	1 BS	A1	66	73.2	10.38	14
		1 BS	A1b	66a	73.2	14.7	20
		1 BS	A1a	66b	73.2	14.2	19
	550.00	1 1/4 BS	A2	87	115.2	17.88	16
		1 1/4 BS	A2b	87a	115.2	24.38	21
		1 1/4 BS	A2a	87b	115.2	23.02	20
	696.67	1 1/4 BS	A2	109	115.2	16.4	14
		1 1/4 BS	A2b	109a	115.2	25.08	22
		1 1/4 BS	A2a	109b	115.2	22.6	20
	850.00	1 1/4 BS	A2	132	115.2	15.66	14
		1 1/4 BS	A2b	132a	115.2	25.92	23
		1 1/4 BS	A2a	132b	115.2	22.52	20
	996.67	1 1/4 BS	A2	155	115.2	16.44	14
		1 1/4 BS	A2b	155a	115.2	26.06	23
		1 1/4 BS	A2a	155b	115.2	22.83	20

MAXIMUM CABLE FORCES SUMMARY

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Allowed Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0W 60° Pattern 1	130.00	7/8 BS	A1a	24b	55.20	18.15	33
1.2D + 1.0W 60° Pattern 1	270.00	1 1/8 BS	A1a	45b	93.60	31.08	33
1.2D + 1.0W 60° Pattern 1	410.00	1 BS	A1a	66b	73.20	28.31	39
1.2D + 1.0W 60° Pattern 1	550.00	1 1/4 BS	A2a	87b	115.20	44.80	39
1.2D + 1.0W 60° Pattern 1	696.67	1 1/4 BS	A2a	109b	115.20	54.02	47
1.2D + 1.0W 60° Pattern 1	850.00	1 1/4 BS	A2a	132b	115.20	62.90	55
1.2D + 1.0W 60° Pattern 1	996.67	1 1/4 BS	A2a	155b	115.20	63.75	55

MAXIMUM TORQUE ARM STRESS SUMMARY

Load Case	Elevation (ft)	Member	Type	Compression %	Tension %
1.2D + 1.0W Normal Pattern 1	130.00	2.5X2.5X0.3125	Horiz	0	9
1.2D + 1.0W Normal Pattern 1	270.00	2.5X2.5X0.3125	Horiz	0	12
1.2D + 1.0W Normal Pattern 1	410.00	2.5X2.5X0.3125	Horiz	0	9
1.2D + 1.0W Normal Pattern 1	550.00	2.5X2.5X0.3125	Horiz	0	16
1.2D + 1.0W Normal Pattern 1	700.00	2.5X2.5X0.3125	Horiz	0	17
1.2D + 1.0W 240° Pattern 1	850.00	2.5X2.5X0.3125	Horiz	0	19
1.2D + 1.0W 240° Pattern 1	1000.00	2.5X2.5X0.3125	Horiz	0	18

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W Normal Pattern 4 121.83 mph wind with no ice	176.67	0.5562	0.3314	0.0971	0.3453
1.2D + 1.0W Normal Pattern 4 121.83 mph wind with no ice	810.00	2.1537	0.2762	0.6469	0.7033
1.2D + 1.0W Normal Pattern 4 121.83 mph wind with no ice	816.67	2.2243	0.2597	0.6125	0.6651
1.2D + 1.0W Normal Pattern 2 121.83 mph wind with no ice	176.67	0.5562	0.3314	0.0971	0.3453
1.2D + 1.0W Normal Pattern 2 121.83 mph wind with no ice	810.00	2.1537	0.2762	0.6469	0.7033
1.2D + 1.0W Normal Pattern 2 121.83 mph wind with no ice	816.67	2.2243	0.2597	0.6125	0.6651
1.2D + 1.0W Normal Pattern 1 121.83 mph wind with no ice	176.67	0.5562	0.3314	0.0971	0.3453
1.2D + 1.0W Normal Pattern 1 121.83 mph wind with no ice	810.00	2.1537	0.2762	0.6469	0.7033
1.2D + 1.0W Normal Pattern 1 121.83 mph wind with no ice	816.67	2.2243	0.2597	0.6125	0.6651
1.2D + 1.0W Normal Pattern 3 121.83 mph wind with no ice	176.67	0.5562	0.3314	0.0971	0.3453
1.2D + 1.0W Normal Pattern 3 121.83 mph wind with no ice	810.00	2.1537	0.2762	0.6469	0.7033
1.2D + 1.0W Normal Pattern 3 121.83 mph wind with no ice	816.67	2.2243	0.2597	0.6125	0.6651
1.2D + 1.0W 60° Pattern 2 121.83 mph wind with no ice	176.67	0.6483	-0.1149	0.1483	0.1866
1.2D + 1.0W 60° Pattern 2 121.83 mph wind with no ice	810.00	4.0673	-0.0476	0.4311	0.4337
1.2D + 1.0W 60° Pattern 2 121.83 mph wind with no ice	816.67	4.1146	-0.0404	0.4143	0.4163
1.2D + 1.0W 60° Pattern 3 121.83 mph wind with no ice	176.67	0.6483	-0.1149	0.1483	0.1866

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DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W 60° Pattern 3 121.83 mph wind with no ice	810.00	4.0673	-0.0476	0.4311	0.4337
1.2D + 1.0W 60° Pattern 3 121.83 mph wind with no ice	816.67	4.1146	-0.0404	0.4143	0.4163
1.2D + 1.0W 60° Pattern 1 121.83 mph wind with no ice	176.67	0.6483	-0.1149	0.1483	0.1866
1.2D + 1.0W 60° Pattern 1 121.83 mph wind with no ice	810.00	4.0673	-0.0476	0.4311	0.4337
1.2D + 1.0W 60° Pattern 1 121.83 mph wind with no ice	816.67	4.1146	-0.0404	0.4143	0.4163
1.2D + 1.0W 60° Pattern 4 121.83 mph wind with no ice	176.67	0.6483	-0.1149	0.1483	0.1866
1.2D + 1.0W 60° Pattern 4 121.83 mph wind with no ice	810.00	4.0673	-0.0476	0.4311	0.4337
1.2D + 1.0W 60° Pattern 4 121.83 mph wind with no ice	816.67	4.1146	-0.0404	0.4143	0.4163
1.2D + 1.0W 90° Pattern 4 121.83 mph wind with no ice	176.67	0.648	0.6938	0.1230	0.7044
1.2D + 1.0W 90° Pattern 4 121.83 mph wind with no ice	810.00	3.5231	0.5230	0.4969	0.7214
1.2D + 1.0W 90° Pattern 4 121.83 mph wind with no ice	816.67	3.5728	0.5011	0.4772	0.692
1.2D + 1.0W 90° Pattern 1 121.83 mph wind with no ice	176.67	0.648	0.6938	0.1230	0.7044
1.2D + 1.0W 90° Pattern 1 121.83 mph wind with no ice	810.00	3.5231	0.5230	0.4969	0.7214
1.2D + 1.0W 90° Pattern 1 121.83 mph wind with no ice	816.67	3.5728	0.5011	0.4772	0.692
1.2D + 1.0W 90° Pattern 3 121.83 mph wind with no ice	176.67	0.648	0.6938	0.1230	0.7044
1.2D + 1.0W 90° Pattern 3 121.83 mph wind with no ice	810.00	3.5231	0.5230	0.4969	0.7214
1.2D + 1.0W 90° Pattern 3 121.83 mph wind with no ice	816.67	3.5728	0.5011	0.4772	0.692
1.2D + 1.0W 90° Pattern 2 121.83 mph wind with no ice	176.67	0.648	0.6938	0.1230	0.7044
1.2D + 1.0W 90° Pattern 2 121.83 mph wind with no ice	810.00	3.5231	0.5230	0.4969	0.7214
1.2D + 1.0W 90° Pattern 2 121.83 mph wind with no ice	816.67	3.5728	0.5011	0.4772	0.692
1.2D + 1.0W 120° Pattern 2 121.83 mph wind with no ice	176.67	0.6372	-0.2953	0.1155	0.3171
1.2D + 1.0W 120° Pattern 2 121.83 mph wind with no ice	810.00	2.1641	-0.2764	0.6487	0.705
1.2D + 1.0W 120° Pattern 2 121.83 mph wind with no ice	816.67	2.2348	-0.2600	0.6145	0.6671
1.2D + 1.0W 120° Pattern 4 121.83 mph wind with no ice	176.67	0.6372	-0.2953	0.1155	0.3171
1.2D + 1.0W 120° Pattern 4 121.83 mph wind with no ice	810.00	2.1641	-0.2764	0.6487	0.705
1.2D + 1.0W 120° Pattern 4 121.83 mph wind with no ice	816.67	2.2348	-0.2600	0.6145	0.6671
1.2D + 1.0W 120° Pattern 3 121.83 mph wind with no ice	176.67	0.6372	-0.2953	0.1155	0.3171
1.2D + 1.0W 120° Pattern 3 121.83 mph wind with no ice	810.00	2.1641	-0.2764	0.6487	0.705
1.2D + 1.0W 120° Pattern 3 121.83 mph wind with no ice	816.67	2.2348	-0.2600	0.6145	0.6671
1.2D + 1.0W 120° Pattern 1 121.83 mph wind with no ice	176.67	0.6372	-0.2953	0.1155	0.3171
1.2D + 1.0W 120° Pattern 1 121.83 mph wind with no ice	810.00	2.1641	-0.2764	0.6487	0.705
1.2D + 1.0W 120° Pattern 1 121.83 mph wind with no ice	816.67	2.2348	-0.2600	0.6145	0.6671
1.2D + 1.0W 180° Pattern 4 121.83 mph wind with no ice	176.67	0.5551	0.1651	0.1240	0.2052
1.2D + 1.0W 180° Pattern 4 121.83 mph wind with no ice	810.00	3.263	-0.0650	0.3552	0.361
1.2D + 1.0W 180° Pattern 4 121.83 mph wind with no ice	816.67	3.3031	-0.0805	0.3341	0.3435
1.2D + 1.0W 180° Pattern 2 121.83 mph wind with no ice	176.67	0.5551	0.1651	0.1240	0.2052
1.2D + 1.0W 180° Pattern 2 121.83 mph wind with no ice	810.00	3.263	-0.0650	0.3552	0.361
1.2D + 1.0W 180° Pattern 2 121.83 mph wind with no ice	816.67	3.3031	-0.0805	0.3341	0.3435
1.2D + 1.0W 180° Pattern 3 121.83 mph wind with no ice	176.67	0.5551	0.1651	0.1240	0.2052
1.2D + 1.0W 180° Pattern 3 121.83 mph wind with no ice	810.00	3.263	-0.0650	0.3552	0.361
1.2D + 1.0W 180° Pattern 3 121.83 mph wind with no ice	816.67	3.3031	-0.0805	0.3341	0.3435
1.2D + 1.0W 180° Pattern 1 121.83 mph wind with no ice	176.67	0.5551	0.1651	0.1240	0.2052
1.2D + 1.0W 180° Pattern 1 121.83 mph wind with no ice	810.00	3.263	-0.0650	0.3552	0.361
1.2D + 1.0W 180° Pattern 1 121.83 mph wind with no ice	816.67	3.3031	-0.0805	0.3341	0.3435
1.2D + 1.0W 210° Pattern 3 121.83 mph wind with no ice	176.67	0.5303	0.6535	0.1024	0.6612
1.2D + 1.0W 210° Pattern 3 121.83 mph wind with no ice	810.00	2.9544	0.4959	0.4555	0.6733
1.2D + 1.0W 210° Pattern 3 121.83 mph wind with no ice	816.67	2.999	0.4744	0.4361	0.6444
1.2D + 1.0W 210° Pattern 2 121.83 mph wind with no ice	176.67	0.5303	0.6535	0.1024	0.6612
1.2D + 1.0W 210° Pattern 2 121.83 mph wind with no ice	810.00	2.9544	0.4959	0.4555	0.6733
1.2D + 1.0W 210° Pattern 2 121.83 mph wind with no ice	816.67	2.999	0.4744	0.4361	0.6444
1.2D + 1.0W 210° Pattern 4 121.83 mph wind with no ice	176.67	0.5303	0.6535	0.1024	0.6612
1.2D + 1.0W 210° Pattern 4 121.83 mph wind with no ice	810.00	2.9544	0.4959	0.4555	0.6733
1.2D + 1.0W 210° Pattern 4 121.83 mph wind with no ice	816.67	2.999	0.4744	0.4361	0.6444
1.2D + 1.0W 210° Pattern 1 121.83 mph wind with no ice	176.67	0.5303	0.6535	0.1024	0.6612
1.2D + 1.0W 210° Pattern 1 121.83 mph wind with no ice	810.00	2.9544	0.4959	0.4555	0.6733
1.2D + 1.0W 210° Pattern 1 121.83 mph wind with no ice	816.67	2.999	0.4744	0.4361	0.6444
1.2D + 1.0W 240° Pattern 1 121.83 mph wind with no ice	176.67	0.448	-0.1698	0.0777	0.184
1.2D + 1.0W 240° Pattern 1 121.83 mph wind with no ice	810.00	2.3221	-0.0382	0.6331	0.6343
1.2D + 1.0W 240° Pattern 1 121.83 mph wind with no ice	816.67	2.393	-0.0287	0.6131	0.6137
1.2D + 1.0W 240° Pattern 4 121.83 mph wind with no ice	176.67	0.448	-0.1698	0.0777	0.184
1.2D + 1.0W 240° Pattern 4 121.83 mph wind with no ice	810.00	2.3221	-0.0382	0.6331	0.6343
1.2D + 1.0W 240° Pattern 4 121.83 mph wind with no ice	816.67	2.393	-0.0287	0.6131	0.6137
1.2D + 1.0W 240° Pattern 3 121.83 mph wind with no ice	176.67	0.448	-0.1698	0.0777	0.184
1.2D + 1.0W 240° Pattern 3 121.83 mph wind with no ice	810.00	2.3221	-0.0382	0.6331	0.6343
1.2D + 1.0W 240° Pattern 3 121.83 mph wind with no ice	816.67	2.393	-0.0287	0.6131	0.6137
1.2D + 1.0W 240° Pattern 2 121.83 mph wind with no ice	176.67	0.448	-0.1698	0.0777	0.184
1.2D + 1.0W 240° Pattern 2 121.83 mph wind with no ice	810.00	2.3221	-0.0382	0.6331	0.6343
1.2D + 1.0W 240° Pattern 2 121.83 mph wind with no ice	816.67	2.393	-0.0287	0.6131	0.6137

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DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W 300° Pattern 3 121.83 mph wind with no ice	176.67	0.4798	-0.1868	0.0993	0.21
1.2D + 1.0W 300° Pattern 3 121.83 mph wind with no ice	810.00	3.2751	0.0741	0.3512	0.3588
1.2D + 1.0W 300° Pattern 3 121.83 mph wind with no ice	816.67	3.3147	0.0904	0.3302	0.3421
1.2D + 1.0W 300° Pattern 2 121.83 mph wind with no ice	176.67	0.4798	-0.1868	0.0993	0.21
1.2D + 1.0W 300° Pattern 2 121.83 mph wind with no ice	810.00	3.2751	0.0741	0.3512	0.3588
1.2D + 1.0W 300° Pattern 2 121.83 mph wind with no ice	816.67	3.3147	0.0904	0.3302	0.3421
1.2D + 1.0W 300° Pattern 1 121.83 mph wind with no ice	176.67	0.4798	-0.1868	0.0993	0.21
1.2D + 1.0W 300° Pattern 1 121.83 mph wind with no ice	810.00	3.2751	0.0741	0.3512	0.3588
1.2D + 1.0W 300° Pattern 1 121.83 mph wind with no ice	816.67	3.3147	0.0904	0.3302	0.3421
1.2D + 1.0W 300° Pattern 4 121.83 mph wind with no ice	176.67	0.4798	-0.1868	0.0993	0.21
1.2D + 1.0W 300° Pattern 4 121.83 mph wind with no ice	810.00	3.2751	0.0741	0.3512	0.3588
1.2D + 1.0W 300° Pattern 4 121.83 mph wind with no ice	816.67	3.3147	0.0904	0.3302	0.3421
1.2D + 1.0W 330° Pattern 3 121.83 mph wind with no ice	176.67	0.5101	0.7255	0.0867	0.7304
1.2D + 1.0W 330° Pattern 3 121.83 mph wind with no ice	810.00	2.8748	0.7404	0.4234	0.8529
1.2D + 1.0W 330° Pattern 3 121.83 mph wind with no ice	816.67	2.9168	0.7234	0.4027	0.828
1.2D + 1.0W 330° Pattern 2 121.83 mph wind with no ice	176.67	0.5101	0.7255	0.0867	0.7304
1.2D + 1.0W 330° Pattern 2 121.83 mph wind with no ice	810.00	2.8748	0.7404	0.4234	0.8529
1.2D + 1.0W 330° Pattern 2 121.83 mph wind with no ice	816.67	2.9168	0.7234	0.4027	0.828
1.2D + 1.0W 330° Pattern 4 121.83 mph wind with no ice	176.67	0.5101	0.7255	0.0867	0.7304
1.2D + 1.0W 330° Pattern 4 121.83 mph wind with no ice	810.00	2.8748	0.7404	0.4234	0.8529
1.2D + 1.0W 330° Pattern 4 121.83 mph wind with no ice	816.67	2.9168	0.7234	0.4027	0.828
1.2D + 1.0W 330° Pattern 1 121.83 mph wind with no ice	176.67	0.5101	0.7255	0.0867	0.7304
1.2D + 1.0W 330° Pattern 1 121.83 mph wind with no ice	810.00	2.8748	0.7404	0.4234	0.8529
1.2D + 1.0W 330° Pattern 1 121.83 mph wind with no ice	816.67	2.9168	0.7234	0.4027	0.828
1.2D + 1.0Di + 1.0Wi Normal 48.73 mph wind with 0.850" radial ice	176.67	0.2117	0.3148	0.0757	0.3238
1.2D + 1.0Di + 1.0Wi Normal 48.73 mph wind with 0.850" radial ice	810.00	0.268	0.1559	0.1962	0.2506
1.2D + 1.0Di + 1.0Wi Normal 48.73 mph wind with 0.850" radial ice	816.67	0.2643	0.1390	0.2070	0.2494
1.2D + 1.0Di + 1.0Wi 60° 48.73 mph wind with 0.850" radial ice	176.67	0.2784	-0.2306	0.0934	0.2484
1.2D + 1.0Di + 1.0Wi 60° 48.73 mph wind with 0.850" radial ice	810.00	0.963	-0.0238	0.0284	0.037
1.2D + 1.0Di + 1.0Wi 60° 48.73 mph wind with 0.850" radial ice	816.67	0.9633	-0.0143	0.0204	0.0249
1.2D + 1.0Di + 1.0Wi 90° 48.73 mph wind with 0.850" radial ice	176.67	0.3005	0.4232	0.0995	0.4347
1.2D + 1.0Di + 1.0Wi 90° 48.73 mph wind with 0.850" radial ice	810.00	0.8039	0.3892	0.1307	0.4105
1.2D + 1.0Di + 1.0Wi 90° 48.73 mph wind with 0.850" radial ice	816.67	0.8037	0.3735	0.1404	0.399
1.2D + 1.0Di + 1.0Wi 120° 48.73 mph wind with 0.850" radial ice	176.67	0.2633	-0.2304	0.1058	0.2535
1.2D + 1.0Di + 1.0Wi 120° 48.73 mph wind with 0.850" radial ice	810.00	0.2694	-0.1599	0.1931	0.2507
1.2D + 1.0Di + 1.0Wi 120° 48.73 mph wind with 0.850" radial ice	816.67	0.2665	-0.1430	0.2035	0.2487
1.2D + 1.0Di + 1.0Wi 180° 48.73 mph wind with 0.850" radial ice	176.67	0.2074	0.2448	0.0768	0.2561
1.2D + 1.0Di + 1.0Wi 180° 48.73 mph wind with 0.850" radial ice	810.00	0.542	0.0233	0.0279	0.0361
1.2D + 1.0Di + 1.0Wi 180° 48.73 mph wind with 0.850" radial ice	816.67	0.5412	0.0085	0.0325	0.0335
1.2D + 1.0Di + 1.0Wi 210° 48.73 mph wind with 0.850" radial ice	176.67	0.1963	0.4322	0.0816	0.4397
1.2D + 1.0Di + 1.0Wi 210° 48.73 mph wind with 0.850" radial ice	810.00	0.5997	0.3739	0.1494	0.4026
1.2D + 1.0Di + 1.0Wi 210° 48.73 mph wind with 0.850" radial ice	816.67	0.6096	0.3565	0.1567	0.3894
1.2D + 1.0Di + 1.0Wi 240° 48.73 mph wind with 0.850" radial ice	176.67	0.1253	-0.1666	0.0503	0.1731
1.2D + 1.0Di + 1.0Wi 240° 48.73 mph wind with 0.850" radial ice	810.00	0.4385	-0.0116	0.2064	0.2067
1.2D + 1.0Di + 1.0Wi 240° 48.73 mph wind with 0.850" radial ice	816.67	0.4624	-0.0031	0.2138	0.2138
1.2D + 1.0Di + 1.0Wi 300° 48.73 mph wind with 0.850" radial ice	176.67	0.1411	-0.2467	0.0580	0.253
1.2D + 1.0Di + 1.0Wi 300° 48.73 mph wind with 0.850" radial ice	810.00	0.5531	-0.0129	0.0278	0.0304
1.2D + 1.0Di + 1.0Wi 300° 48.73 mph wind with 0.850" radial ice	816.67	0.5519	0.0027	0.0333	0.0335
1.2D + 1.0Di + 1.0Wi 330° 48.73 mph wind with 0.850" radial ice	176.67	0.196	0.4551	0.0713	0.4605
1.2D + 1.0Di + 1.0Wi 330° 48.73 mph wind with 0.850" radial ice	810.00	0.3207	0.4825	0.1390	0.5019
1.2D + 1.0Di + 1.0Wi 330° 48.73 mph wind with 0.850" radial ice	816.67	0.3128	0.4645	0.1475	0.4872
1.2D + 1.0Ev + 1.0Eh Normal Seismic	176.67	0.0351	-0.1026	0.0322	0.1075
1.2D + 1.0Ev + 1.0Eh Normal Seismic	810.00	0.3419	0.0517	0.0267	0.0582
1.2D + 1.0Ev + 1.0Eh Normal Seismic	816.67	0.3436	0.0475	0.0206	0.0516
1.2D + 1.0Ev + 1.0Eh 60° Seismic	176.67	0.0339	-0.1469	0.0396	0.1521
1.2D + 1.0Ev + 1.0Eh 60° Seismic	810.00	0.3811	0.0172	0.0333	0.0374
1.2D + 1.0Ev + 1.0Eh 60° Seismic	816.67	0.3848	0.0155	0.0314	0.035
1.2D + 1.0Ev + 1.0Eh 90° Seismic	176.67	0.0343	-0.1126	0.0388	0.1191
1.2D + 1.0Ev + 1.0Eh 90° Seismic	810.00	0.3703	0.0725	0.0381	0.0817
1.2D + 1.0Ev + 1.0Eh 90° Seismic	816.67	0.3729	0.0627	0.0361	0.0721
1.2D + 1.0Ev + 1.0Eh 120° Seismic	176.67	0.0353	-0.0696	0.0403	0.0804
1.2D + 1.0Ev + 1.0Eh 120° Seismic	810.00	0.3406	-0.0438	0.0277	0.0519
1.2D + 1.0Ev + 1.0Eh 120° Seismic	816.67	0.3425	-0.0400	0.0210	0.0449
1.2D + 1.0Ev + 1.0Eh 180° Seismic	176.67	0.0309	-0.0663	0.0335	0.0743
1.2D + 1.0Ev + 1.0Eh 180° Seismic	810.00	0.1869	0.0654	0.0181	0.0679
1.2D + 1.0Ev + 1.0Eh 180° Seismic	816.67	0.1874	0.0556	0.0169	0.0581
1.2D + 1.0Ev + 1.0Eh 210° Seismic	176.67	0.028	-0.1074	0.0302	0.1116
1.2D + 1.0Ev + 1.0Eh 210° Seismic	810.00	0.109	0.0794	0.0085	0.0798

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DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh 210° Seismic	816.67	0.1085	0.0688	0.0079	0.0692
1.2D + 1.0Ev + 1.0Eh 240° Seismic	176.67	0.0255	-0.1321	0.0327	0.136
1.2D + 1.0Ev + 1.0Eh 240° Seismic	810.00	0.0618	0.0038	0.0049	0.0062
1.2D + 1.0Ev + 1.0Eh 240° Seismic	816.67	0.0623	0.0041	0.0037	0.0055
1.2D + 1.0Ev + 1.0Eh 300° Seismic	176.67	0.0269	-0.1433	0.0258	0.1456
1.2D + 1.0Ev + 1.0Eh 300° Seismic	810.00	0.1883	-0.0663	0.0170	0.0684
1.2D + 1.0Ev + 1.0Eh 300° Seismic	816.67	0.1888	-0.0563	0.0159	0.0586
1.2D + 1.0Ev + 1.0Eh 330° Seismic	176.67	0.0303	-0.1488	0.0233	0.1506
1.2D + 1.0Ev + 1.0Eh 330° Seismic	810.00	0.2699	0.0234	0.0244	0.0338
1.2D + 1.0Ev + 1.0Eh 330° Seismic	816.67	0.2726	0.0309	0.0234	0.0387
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	176.67	0.0345	-0.1224	0.0165	0.1235
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	810.00	0.3376	0.0372	0.0265	0.0457
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	816.67	0.3394	0.0333	0.0204	0.0389
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	176.67	0.0349	-0.1160	0.0268	0.1191
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	810.00	0.3742	0.0254	0.0355	0.0436
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	816.67	0.3781	0.0234	0.0336	0.0409
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	176.67	0.0355	-0.0971	0.0297	0.1015
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	810.00	0.3713	0.0892	0.0382	0.0969
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	816.67	0.3738	0.0806	0.0360	0.088
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	176.67	0.0354	-0.0756	0.0282	0.0807
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	810.00	0.3363	-0.0671	0.0268	0.0722
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	816.67	0.3382	-0.0625	0.0218	0.066
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	176.67	0.0328	-0.0804	0.0286	0.0853
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	810.00	0.1816	0.0608	0.0174	0.0632
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	816.67	0.1822	0.0516	0.0163	0.0541
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	176.67	0.03	-0.0882	0.0279	0.0925
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	810.00	0.1063	0.0755	0.0084	0.0759
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	816.67	0.1062	0.0655	0.0075	0.066
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	176.67	0.0276	-0.1054	0.0271	0.1088
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	810.00	0.0578	0.0004	0.0049	0.005
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	816.67	0.0583	0.0009	0.0038	0.0039
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	176.67	0.0306	-0.1603	0.0248	0.1623
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	810.00	0.1871	-0.0559	0.0171	0.0585
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	816.67	0.1877	-0.0468	0.0159	0.0494
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	176.67	0.0327	-0.1473	0.0205	0.1487
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	810.00	0.2692	0.0249	0.0241	0.0345
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	816.67	0.2719	0.0318	0.0228	0.0391
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	176.67	0.1483	0.2194	0.0463	0.2242
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	810.00	0.2067	0.0957	0.1072	0.1437
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	816.67	0.1992	0.0845	0.1157	0.1432
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	176.67	0.1895	-0.1751	0.0615	0.1851
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	810.00	0.6616	0.0062	0.0091	0.0109
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	816.67	0.6622	0.0065	0.0023	0.0068
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	176.67	0.2031	0.2727	0.0759	0.2829
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	810.00	0.5463	0.2698	0.0729	0.2794
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	816.67	0.5448	0.2604	0.0798	0.2724
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	176.67	0.1813	-0.2045	0.0668	0.2152
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	810.00	0.206	-0.1008	0.1060	0.1463
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	816.67	0.1987	-0.0894	0.1145	0.1453
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	176.67	0.1379	0.1930	0.0433	0.1973
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	810.00	0.4034	-0.0013	0.0134	0.0134
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	816.67	0.4032	-0.0110	0.0169	0.0202
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	176.67	0.1316	0.2693	0.0568	0.2751
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	810.00	0.3501	0.2549	0.0787	0.2667
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	816.67	0.3533	0.2438	0.0843	0.2579
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	176.67	0.0962	-0.1714	0.0387	0.1749
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	810.00	0.1262	0.0020	0.1049	0.1049
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	816.67	0.1389	0.0027	0.1128	0.1129
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	176.67	0.0888	-0.1520	0.0407	0.1569
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	810.00	0.4084	0.0019	0.0135	0.0136
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	816.67	0.4079	0.0116	0.0176	0.0211
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	176.67	0.1306	0.2802	0.0403	0.2831
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	810.00	0.278	0.3305	0.0757	0.339
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	816.67	0.2727	0.3193	0.0824	0.3296

MAXIMUM REACTIONS SUMMARY

Anchor Group	Uplift	Shear
BASE	597.94	2.47

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A1	30.27	60.16
A2	160.56	140.98

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DISH Wireless L.L.C. SITE ID:

BOBOS00022A

DISH Wireless L.L.C. SITE ADDRESS:

1334 ROUTE 85
OAKDALE, CT 06371

SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

TOWER SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (3) PROPOSED ANTENNA SECTOR FRAME MOUNTS (1 PER SECTOR)
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED INDOOR RACK
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED CIENA BOX (IF REQUIRED)

SITE INFORMATION

PROPERTY OWNER:	CITY OF NEW LONDON
ADDRESS:	1337 ROUTE 85 OAKDALE, CT 06370
TOWER TYPE:	GUYED TOWER
TOWER CO SITE ID:	302532
TOWER APP NUMBER:	13726721_D2
COUNTY:	NEW LONDON
LATITUDE (NAD 83):	41° 25' 3.980" N 41.41777222
LONGITUDE (NAD 83):	72° 11' 53.160" W -72.1981
ZONING JURISDICTION:	NEW LONDON COUNTY
ZONING DISTRICT:	COMMERCIAL
PARCEL NUMBER:	CITY OF NEW LONDON
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	TBD
TELEPHONE COMPANY:	CROWN CASTLE

PROJECT DIRECTORY

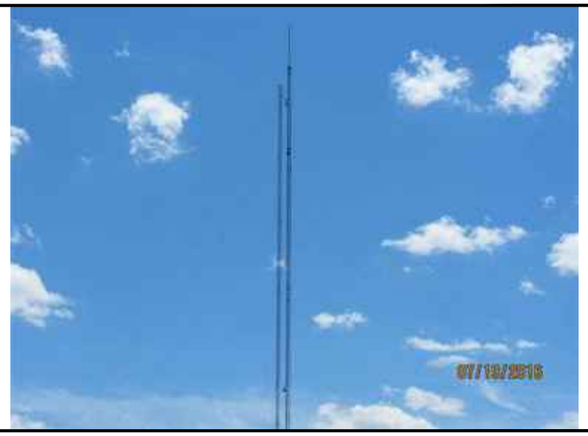
APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801
ENGINEER:	ATC TOWER SERVICES, LLC 3500 REGENCY PARKWAY SUITE 100 CARY, NC 27518
SITE ACQUISITION:	DAVID GOODFELLOW DAVID.GOODFELLOW@DISH.COM
CONSTRUCTION MANAGER:	CHAD WILCOX CHAD.WILCOX@DISH.COM
RF ENGINEER:	ARVIN SEBASTIAN ARVIN.SEBASTIAN@DISH.COM

CONNECTICUT CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

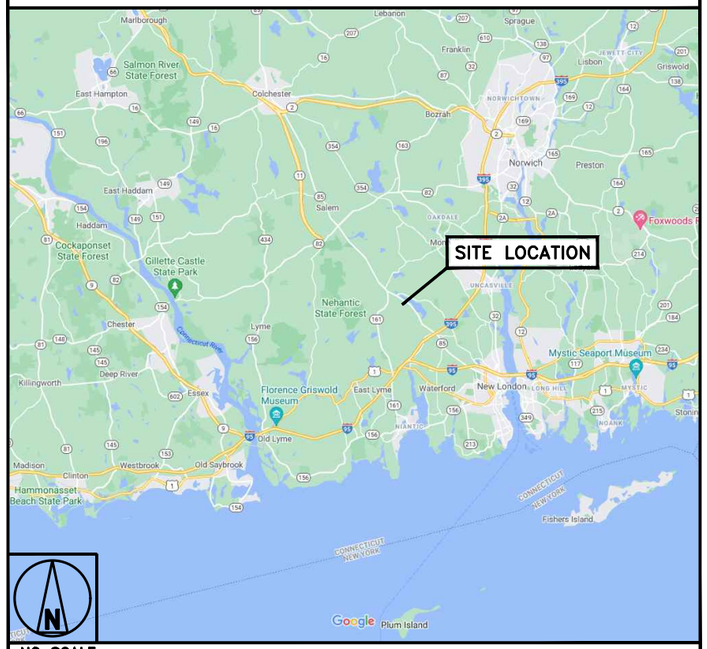
SITE PHOTO



DIRECTIONS

FROM SALEM, TAKE ROUTE 85 SOUTH. CONTINUE SOUTH AND THE COMPOUND WILL BE LOCATED ON THE RIGHT.

VICINITY MAP



NO SCALE

UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 922-4455
WWW.CBYD.COM

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

811

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

SHEET INDEX

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
MC	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION
1	05/26/2022	ADDRESS CHANGE

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

A&E PROJECT NUMBER

302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION

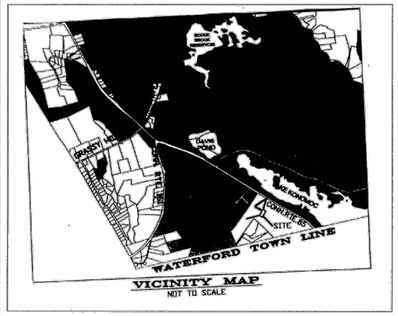
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE

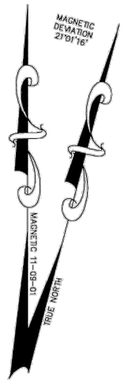
TITLE SHEET

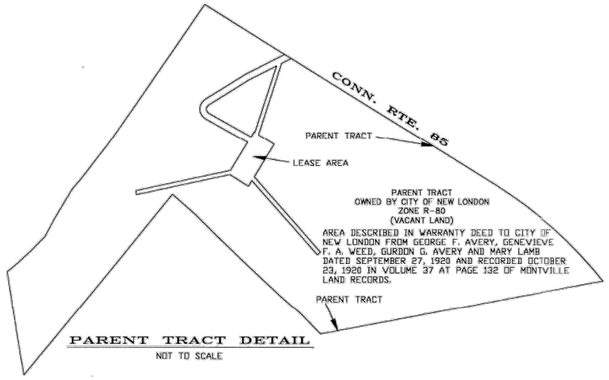
SHEET NUMBER

T-1



VICINITY MAP
NOT TO SCALE





PARENT TRACT DETAIL
NOT TO SCALE

I, JOHN PAUL MEREEN, L.S. DO HEREBY CERTIFY TO SPECTRASITE BROADCAST TOWERS, INC., GARDERE WYNNE SEWELL LLP, LAWYERS TITLE INSURANCE CORPORATION AND COMMERCE LAND TITLE, INC.
THAT THIS SURVEY WAS MADE ON THE GROUND UNDER MY PERSONAL SUPERVISION AND THAT THIS IS A TRUE, CORRECT REPRESENTATION OF THE FACTS FOUND AT THIS TIME OF THE SURVEY, AND MORE SPECIFICALLY, I SO HEREBY CERTIFY THAT THE SURVEY CONFORMS TO THE CONDITIONS AND STIPULATIONS AS CHECKED (X) BELOW (NOTE: ON LEASED PARCELS, "SUBJECT PROPERTY" IS DEFINED AS THE LEASED PREMISES AND ITS APPURTENANT EASEMENTS; AND THIS SURVEY NOT BE CONSTRUED AS A FULL BOUNDARY SURVEY OF THE PARENT TRACT)"

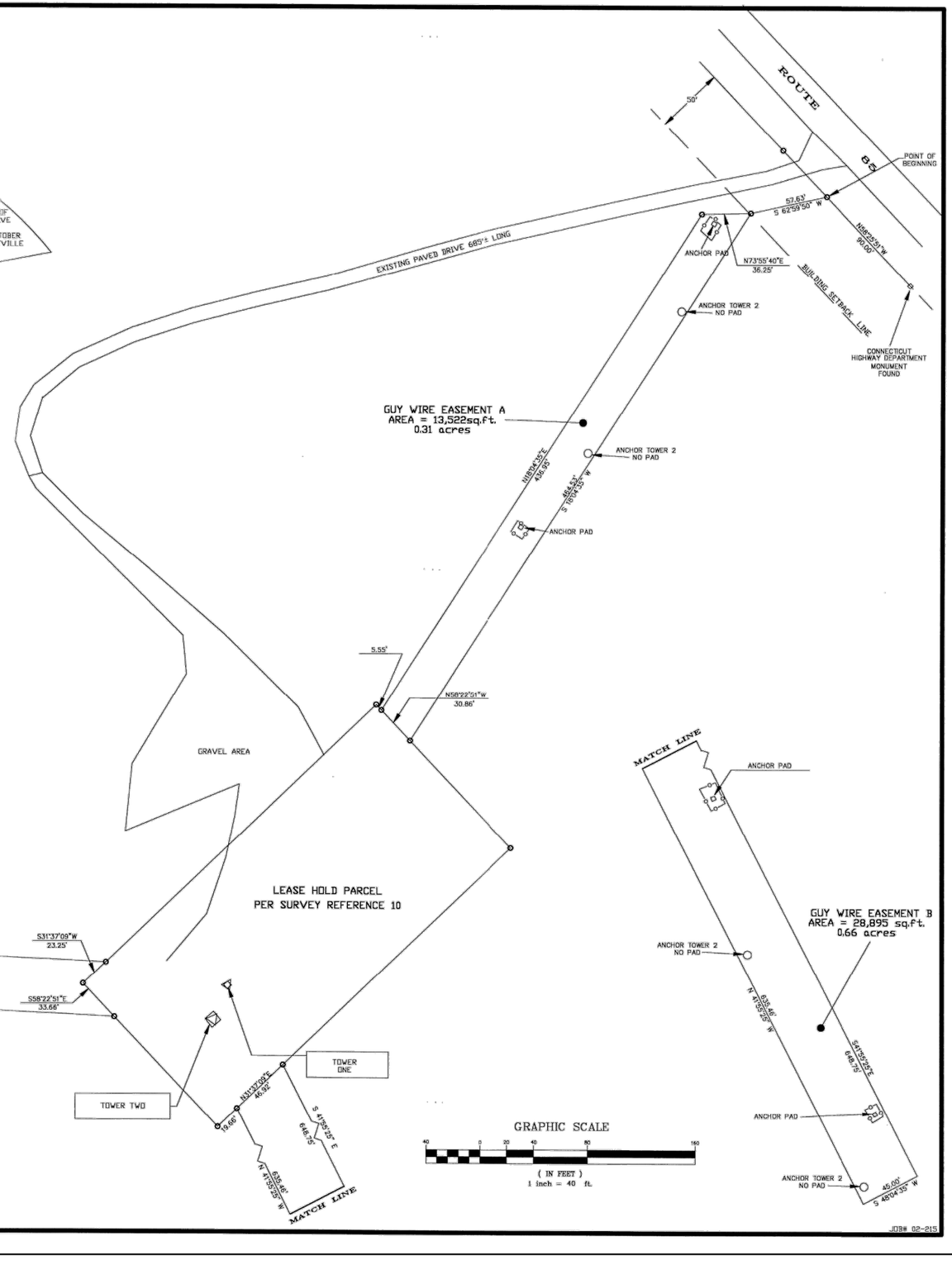
(X) 1. EXCEPT AS SHOWN THERE ARE NO VISIBLE EASEMENTS, RIGHTS-OF WAY, PARTY WALLS OR CONFLICTS.
(X) 2. ACCESS IS CONTIGUOUS BETWEEN THE SUBJECT PROPERTY AND A PUBLIC RIGHT-OF-WAY, AS SHOWN.
(X) 3. THE SURVEY MEETS THE MINIMUM TOLERANCES OF PRECISION FOR BOUNDARY SURVEYS AS SET FORTH BY CONNECTICUT STATE LAW.

THIS SURVEY WAS EXECUTED IN ACCORDANCE WITH THE MINIMUM CONNECTICUT STANDARDS FOR PROPERTY BOUNDARY SURVEYS.

JOHN PAUL MEREEN, L.S.

CT. LICENSE #18859

THE WORD "CERTIFY" IS UNDERSTOOD TO BE AN EXPRESSION OF THE PROFESSIONAL OPINION BY THE LAND SURVEYOR WHICH IS BASED ON HIS OR HER BEST KNOWLEDGE, INFORMATION AND BELIEF, AS SUCH IT CONSTITUTES NEITHER GUARANTEE OR WARRANTY.



Surveyor:

JOHN PAUL MEREEN, L.S.

Work Coordinated by:

International WIRELESS SERVICES, LLC

2230 McKOWN DRIVE
Norman, Oklahoma 73072
(405) 701-2323 www.viewlws.com

GUY WIRE EASEMENTS

Prepared For:

SPECTRASITE BROADCAST TOWERS, INC.

SpectraSite Broadcast Towers, Inc.
5601 North MacArthur Boulevard, Suite 100
Irving, Texas 75038
Phone: 972-550-9500
Fax: 972-550-9595
Website: www.SpectraSite.com

Project Location: Route 85 Montville, CT.	
Project Address ROUTE 85 Montville, CT.	
Site Name Hartford /NYC	
SpectraSite Number CT-0068	

SHEET 1 OF 2

GUY WIRE EASEMENTS

Date: 12/20/02	
Dwn. By E.N.	
Aprvd. By J.P.M.	
Dwg. No. 02-215	
IWS JOB # W;01-12-02	
Scale: 1"=40'	

REVISIONS

DESCRIPTION:	DATE:

JOB# 02-215

ENCROACHMENT STATEMENT:

THERE APPEARS TO BE NO ENCROACHMENTS OF THE LEASE AREA OTHER THAN SHOWN HEREON.

SURVEY REFERENCES:

1. CERTIFICATE OF NOTICE OF DECISION FROM THE ZONING AND PLANNING COMMISSION ALLOWING THE CONSTRUCTION OF A 1200 FOOT TOWER AND A ONE STORY BUILDING UNDATED AND RECORDED AUGUST 29, 1985 IN VOLUME 167 AT PAGE 128 OF THE MONTVILLE LAND RECORDS.
2. MINUTES OF THE WATER AND WATER POLLUTION CONTROL AUTHORITY ACKNOWLEDGING RECEIPT OF AN EASEMENT AGREEMENT AND GROUND AGREEMENT BETWEEN THE CITY OF NEW LONDON AND C & S BROADCASTING CORP. AND AUTHORIZING THE GRANT OF A CONCURRENT EASEMENT TO THE CONNECTICUT LIGHT AND POWER COMPANY, SAID MINUTES WERE DATED OCTOBER 24, 1985 AND RECORDED MARCH 4, 1986 IN VOLUME 170 AT PAGE 873 OF THE MONTVILLE LAND RECORDS.
3. CERTIFICATE OF TITLE TO THE CONNECTICUT LIGHT AND POWER COMPANY STATING THAT TITLE IS VESTED IN THE CITY OF NEW LONDON AND IS UNENCUMBERED EXCEPT FOR THE GROUND LEASE AND EASEMENT IN FAVOR OF C & S BROADCASTING CORPORATION DATED JANUARY 24, 1986 AND RECORDED MARCH 5, 1986 IN VOLUME 170-AT-PAGE 875 OF THE MONTVILLE LAND RECORDS.
4. EASEMENT IN FAVOR OF THE CONNECTICUT LIGHT AND POWER COMPANY DATED NOVEMBER 1985 AND RECORDED MARCH 5, 1986 IN VOLUME 170 AT PAGE 876 OF THE MONTVILLE LAND RECORDS.
5. NOTICE OF LEASE IN FAVOR OF C & S BROADCASTING CORPORATION AS ASSIGNED TO CAP COMMUNICATIONS OF NEW LONDON, INC. DATED OCTOBER 19, 1999 AND RECORDED DECEMBER 20, 1999 IN VOLUME 333 AT PAGE 293 OF THE NEW LONDON LAND RECORDS.
6. POSSIBLE EASEMENT IN FAVOR OF THE STATE OF CONNECTICUT DATED JANUARY 26, 2001 AND RECORDED JANUARY 26, 2001 IN VOLUME 347 AT PAGE 288 OF THE MONTVILLE LAND RECORDS.
7. UCC-1 IN FAVOR OF PAXSON COMMUNICATIONS OF NEW LONDON-26 FROM CAP COMMUNICATIONS OF NEW LONDON, INC. RECORDED MARCH 1, 1999 IN VOLUME 321 AT PAGE 762 OF THE MONTVILLE LAND RECORDS.
8. UCC-1 IN FAVOR OF PAXSON COMMUNICATIONS OF NEW LONDON-26 FROM CAP COMMUNICATIONS LICENSE OF NEW LONDON, INC. RECORDED MARCH 1, 1999 IN VOLUME 321 AT PAGE 764 OF THE MONTVILLE LAND RECORDS.
9. UCC-1 IN FAVOR OF THE CHRISTIAN NETWORK, INC. FROM CAP COMMUNICATIONS LICENSE OF NEW LONDON, INC. RECORDED MARCH 1, 1999 IN VOLUME 340 AT PAGE 467 OF THE MONTVILLE LAND RECORDS.
10. MAP REFERENCE: "INTERNATIONAL WIRELESS SERVICES, LLC. PROJECT LOCATION: ROUTE 85 MONTVILLE, CONNECTICUT PREPARED FOR SPECTRASITE BROADCAST TOWERS, INC., AS BUILT SURVEY DATE: 12/04/01 REVISED 12/13/01

SURVEYORS NOTES:

1. THE PARENT TRACT AREA = 3,463,033.8 SQ. FT. OR 79.5 ACRES, MORE OR LESS.
2. THE GUY WIRE LEASE AREA = 66,875 SQ.FT. OR 1.5 ACRES, MORE OR LESS.
3. THE PARENT TRACT IS OWNED BY THE CITY OF NEW LONDON, CONNECTICUT.

GUY WIRE EASEMENT "A" AS SHOWN ON SURVEY PLAN

A CERTAIN TRACT OR PARCEL OF LAND SITUATED IN THE WESTERLY SIDE OF CONNECTICUT STATE ROUTE 85 IN THE TOWN OF MONTVILLE, COUNTY OF NEW LONDON AND STATE OF CONNECTICUT, SAID PARCEL IS SHOWN AS GUY WIRE EASEMENT PARCEL ON A PLAN ENTITLED "INTERNATIONAL WIRELESS SERVICES, LLC. GUY WIRE EASEMENTS PROJECT LOCATION: ROUTE 85 MONTVILLE, CONNECTICUT PREPARED FOR SPECTRASITE BROADCAST TOWERS, INC.", SAID PLAN TO BE FILED IN THE MONTVILLE TOWN CLERK'S OFFICE:

BEGINNING AT A POINT IN THE SOUTHERLY LINE OF THE INGRESS AND EGRESS EASEMENT, SAID POINT BEING S 62°- 59'- 59" W, AND A DISTANCE OF 57.63 FEET FROM THE POINT OF BEGINNING OF THE INGRESS AND EGRESS EASEMENT;

THENCE RUNNING S 18°- 04'- 35" W, A DISTANCE OF 464.53 FEET ALONG GUY WIRE EASEMENT "A" TO A POINT IN THE NORTHEASTERLY LINE OF THE LEASE HOLD PARCEL AREA;

THENCE RUNNING N 58°- 22'- 51" W, A DISTANCE OF 30.86 FEET TO A POINT IN THE NORTHEASTERLY LINE OF THE LEASE HOLD PARCEL AREA;

THENCE RUNNING N 18°- 04'- 35" E, A DISTANCE OF 436.95 FEET ALONG THE NORTHERLY LINE OF GUY WIRE EASEMENT "A" TO A POINT IN THE INGRESS AND EGRESS EASEMENT;

THENCE RUNNING N 73°- 55'- 40" E, A DISTANCE OF 36.25 FEET ALONG THE SOUTHERLY LINE OF INGRESS AND EGRESS OF THE LEASE HOLD PARCEL AREA TO THE POINT AND PLACE OF BEGINNING.

GUY WIRE EASEMENT "B" AS SHOWN ON SURVEY PLAN

A CERTAIN TRACT OR PARCEL OF LAND SITUATED IN THE WESTERLY SIDE OF CONNECTICUT ROUTE 85 IN THE TOWN OF MONTVILLE, COUNTY OF NEW LONDON AND STATE OF CONNECTICUT, SAID PARCEL IS SHOWN AS GUY WIRE EASEMENT PARCEL ON A PLAN ENTITLED "INTERNATIONAL WIRELESS SERVICES, LLC. GUY WIRE EASEMENTS PROJECT LOCATION: ROUTE 85 MONTVILLE, CONNECTICUT PREPARED FOR SPECTRASITE BROADCAST TOWERS, INC.", SAID PLAN TO BE FILED IN THE MONTVILLE TOWN CLERK'S OFFICE:

BEGINNING AT A POINT IN THE SOUTHERLY LINE OF THE LEASE HOLD PARCEL AREA AND A POINT AT THE NORTHEASTERLY CORNER OF GUY WIRE LEASE AREA "B";

THENCE RUNNING S 41°- 55'- 25" E, A DISTANCE OF 648.73 FEET ALONG THE EASTERLY LINE OF GUY WIRE EASEMENT AREA "B" TO A POINT AT THE SOUTHEASTERLY CORNER OF GUY WIRE EASEMENT AREA "B";

THENCE RUNNING S 48°- 04'- 35" W, A DISTANCE OF 45.00 FEET TO THE SOUTHWESTERLY CORNER OF GUY WIRE EASEMENT AREA "B";

THENCE RUNNING N 41°- 55'- 25" W, A DISTANCE OF 635.46 FEET ALONG THE WESTERLY LINE OF GUY WIRE EASEMENT AREA "B" TO A POINT IN THE SOUTHERLY LINE OF THE LEASE HOLD PARCEL AREA AND THE NORTHWESTERLY CORNER OF THE GUY WIRE EASEMENT AREA "B";

THENCE RUNNING N 31°- 37'- 09" E, A DISTANCE OF 46.92 FEET TO THE POINT AND PLACE OF BEGINNING.

GUY WIRE EASEMENT "C" AS SHOWN ON SURVEY PLAN

A CERTAIN TRACT OR PARCEL OF LAND SITUATED IN THE WESTERLY SIDE OF CONNECTICUT STATE ROUTE 85 IN THE TOWN OF MONTVILLE, COUNTY OF NEW LONDON AND STATE OF CONNECTICUT, SAID PARCEL IS SHOWN AS GUY WIRE EASEMENT PARCEL ON A PLAN ENTITLED "INTERNATIONAL WIRELESS SERVICES, LLC. GUY WIRE EASEMENTS PROJECT LOCATION: ROUTE 85 MONTVILLE, CONNECTICUT PREPARED FOR SPECTRASITE BROADCAST TOWERS, INC.", SAID PLAN TO BE FILED IN THE MONTVILLE TOWN CLERK'S OFFICE:

BEGINNING AT A POINT SITUATED S 58°- 22'- 51" E, AND 33.66 FEET FROM THE NORTHWESTERLY CORNER OF THE LEASE HOLD PARCEL;

THENCE RUNNING S 78°- 04'- 35" W, A DISTANCE OF 625.11 FEET ALONG THE SOUTHERLY LINE OF GUY WIRE EASEMENT AREA "C" TO A POINT AT THE SOUTHWESTERLY CORNER OF GUY WIRE EASEMENT AREA "C";

THENCE RUNNING N 11°- 55'- 11" W, A DISTANCE OF 40.04 FEET TO A POINT AT THE NORTHWESTERLY CORNER OF GUY WIRE EASEMENT AREA "C";

THENCE RUNNING N 78°- 04'- 35" E, A DISTANCE OF 616.72 FEET TO A POINT AT THE NORTHEASTERLY CORNER OF GUY WIRE EASEMENT AREA "C";

THENCE RUNNING S 31°- 37'- 09" W, A DISTANCE OF 23.25 FEET TO THE NORTHWEST CORNER OF THE LEASE HOLD PARCEL;

THENCE RUNNING S 58°- 22'- 51" E, A DISTANCE OF 33.66 FEET TO THE POINT AND PLACE OF BEGINNING.

PARENT TRACT PER VOLUME 37 PAGE 132 DATED SEPTEMBER 27, 1920, RECORDED OCTOBER 23, 1920

FIRST TRACT:BEGINNING AT THE SOUTHEAST CORNER OF THE PLOT TO BE DESCRIBED ON THE WESTERLY LINE OF THE HARTFORD TURNPIKE AT THE INTERSECTION OF LAND NOW OR FORMERLY OWNED BY THE HEIRS OF ENOCH MORGAN; THENCE NORTHWESTERLY BY AND ALONG THE WESTERLY LINE OF THE HARTFORD TURNPIKE THREE THOUSAND, SEVEN HUNDRED TWENTY-THREE AND SIXTY-ONE ONE-HUNDREDTHS (3723.61) FEET TO THE LINE WALL BETWEEN LAND DESCRIBED AND LAND NOW OR FORMERLY OF C.W. CAULKINS; THENCE DEFLECTING 85°-07'-30" TO THE LEFT AND RUNNING SOUTHWESTERLY ON THE LINE WALL AND FENCE BETWEEN LAND DESCRIBED AND LAND NOW OR FORMERLY OF C.W. CAULKINS TWO THOUSAND TWENTY-SIX AND NINE-TENTHS (2026.9) FEET TO LAND NOW OR FORMERLY OF C. DANIELS; THENCE SOUTHERLY BY AND ALONG LAND NOW OR FORMERLY OWNED BY C. DANIELS SIX HUNDRED FIFTY-THREE AND FORTY-SEVEN HUNDREDTHS (653.47) FEET TO LAND NOW OR FORMERLY OWNED BY J. BISHOP; THENCE NORTHWESTERLY BY AND ALONG LAND NOW OR FORMERLY OWNED BY J. BISHOP FOURTEEN HUNDRED FORTY-SEVEN AND SEVENTY-SIX HUNDREDTHS (1447.76) FEET; THENCE DEFLECTING 92°-55' TO THE RIGHT AND RUNNING SOUTHEASTERLY BY WALL BETWEEN LAND NOW OR FORMERLY OWNED BY J. BISHOP AND LAND DESCRIBEDTWENTY-FIVE HUNDRED THIRTEEN AND SEVENTY-SEVEN HUNDREDTHS (2513.77) FEET TO THE SOUTHWEST CORNER OF LAND DESCRIBED AND LAND NOW OR FORMERLY OWNED BY THE HEIRS OF ENOCH MORGAN; THENCE BY WALL BETWEEN LAND NOW OR FORMERLY OWNED BY THE HEIRS OF ENOCH MORGAN AND LAND DESCRIBED THIRTEEN HUNDRED FIFTY-SEVEN AND NINETY-FIVE HUNDREDTHS (1357.95) FEET TO THE HARTFORD TURNPIKE AND POINT OF BEGINNING, CONTAINING ABOUT ONE HUNDRED AND TWELVE (112) ACRES. SAID LAND BEING SITUATED IN THE TOWNS OF MONTVILLE AND WATERFORD. BEING ALL THE LAND NOW OWNED BY GRANTORS ON THE WESTERLY SIDE OF THE HARTFORD TURNPIKE.

SECOND TRACT: BEGINNING AT THE SOUTHWEST CORNER OF THE TRACT TO BE DESCRIBED, ON THE EASTERLY LINE OF THE HARTFORD TURNPIKE AT THE INTERSECTION OF LAND NOW OR FORMERLY OF THE HEIRS OF ENOCH MORGAN; THENCE NORTHWESTERLY BY AND ALONG THE EASTERLY LINE OF THE HARTFORD TURNPIKE THREE THOUSAND SEVEN HUNDRED AND SEVENTY-FOUR AND SEVENTY-FOUR ONE-HUNDREDTHS (3774.74) FEET TO LAND NOW OR FORMERLY OWNED BY ABEL CAULKINS; THENCE DEFLECTING 90°-26'-45" TO THE RIGHT AND RUNNING NORTHEASTERLY BY AND ALONG WALL, BETWEEN LAND NOW OR FORMERLY OF ABEL CAULKINS AND LAND DESCRIBED TWO HUNDRED SEVENTY-ONE AND SIXTY-FIVE ONE-HUNDREDTHS (271.65) FEET TO A MERESTONE ON LINE OF LAND OF THE CITY OF NEW LONDON; THENCE DEFLECTING TO THE RIGHT 92°-57' AND RUNNING SOUTHEASTERLY BY AND ALONG LAND OF THE CITY OF NEW LONDON NINE HUNDRED THIRTY-ONE AND TWENTY ONE-HUNDREDTHS (931.20) FEET TO A MERESTONE; THENCE DEFLECTING 89°-09' TO THE LEFT AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON SEVEN HUNDRED FORTY-NINE AND FIFTY-FIVE ONE-HUNDREDTHS (749.55) FEET TO A MERESTONE; THENCE DEFLECTING TO THE LEFT 17°-9'-45" AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON FOUR HUNDRED THIRTY-NINE AND EIGHT-TENTHS (439.8) FEET TO A MERESTONE; THENCE DEFLECTING 47°-31' TO THE RIGHT AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON FIVE HUNDRED NINE AND SEVENTY-NINE ONE-HUNDREDTHS (509.79) FEET TO A MERESTONE; THENCE DEFLECTING 8°-54'-30" TO THE LEFT AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON SEVEN HUNDRED SIXTY-EIGHT AND SEVENTY-FIVE ONE-HUNDREDTHS (768.75) FEET TO A MERESTONE; THENCE DEFLECTING TO THE RIGHT 41°-17'-15" AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON ONE HUNDRED NINETY AND SEVENTY-FIVE ONE-HUNDREDTHS (190.75) FEET TO A MERESTONE; THENCE DEFLECTING TO THE LEFT 37°-51'-30" AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON FIVE HUNDRED AND FOUR-TENTHS (504.4) FEET TO A MERESTONE AT INTERSECTION OF LAND OF THE HEIRS OF ENOCH MORGAN AND THE CITY OF NEW LONDON AND LAND DESCRIBED; THENCE DEFLECTING 107°-01' TO THE RIGHT AND RUNNING SOUTHWESTERLY BY AND ALONG WALL BETWEEN LAND NOW OR FORMERLY OF THE HEIRS OF ENOCH MORGAN AND LAND DESCRIBED THREE HUNDRED, SIXTY AND SEVEN-TENTHS (360.7) FEET TO THE HARTFORD TURNPIKE AND POINT OF BEGINNING. BEING ALL THE LAND OWNED BY GRANTORS EAST OF THE HARTFORD TURNPIKE AND WEST OF LAND OF THE CITY OF NEW LONDON, CONTAINING TWENTY-EIGHT AND FIFTY ONE-HUNDREDTHS (28.50) ACRES MORE OR LESS. SAID LAND BEING SITUATED IN THE TOWNS OF MONTVILLE AND WATERFORD.

THIRD TRACT: BEGINNING AT THE SOUTHEAST CORNER OF TRACT TO BE DESCRIBED ON THE WESTERLY LINE OF THE OLD COLCHESTER ROAD, SO-CALLED, AT INTERSECTION OF LAND NOW OR FORMERLY OWNED BY JOSHUA C. ELDRED; THENCE RUNNING NORTHWESTERLY BY AND ALONG THE WESTERLY LINE OF OLD COLCHESTER ROAD EIGHTEEN HUNDRED FORTY-FIVE AND THIRTY-SEVEN ONE-HUNDREDTHS (1845.37) FEET TO WALL AT INTERSECTION OF LAND NOW OR FORMERLY OWNED BY ABEL CAULKINS AND LAND DESCRIBED; THENCE DEFLECTING TO THE LEFT 81°-57' AND RUNNING BY AND ALONG SAID WALL FOUR HUNDRED FORTY-TWO AND TWENTY-FIVE ONE-HUNDREDTHS (442.25) FEET TO A MERESTONE ON LINE OF LAND OF THE CITY OF NEW LONDON; THENCE DEFLECTING 86°-09'-30" TO THE LEFT AND RUNNING SOUTHEASTERLY BY AND ALONG LAND OF THE CITY OF NEW LONDON FIVE HUNDRED NINETY-FOUR AND TWENTY-THREE ONE-HUNDREDTHS (594.23) FEET TO A MERESTONE; THENCE DEFLECTING 6°-02'-30" TO THE RIGHT AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON TWO HUNDRED NINETY-SIX AND FIVE TENTHS (296.5) FEET TO A MERESTONE; THENCE DEFLECTING 51°-40' TO THE LEFT AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON SEVEN HUNDRED EIGHTY-FIVE AND FIFTY-FIVE ONE-HUNDREDTHS (785.55) FEET TO A MERESTONE; THENCE DEFLECTING 69°-56'-30" TO THE RIGHT AND RUNNING BY AND ALONG LAND OF THE CITY OF NEW LONDON FOUR HUNDRED SIXTEEN AND THREE-TENTHS (416.3) FEET TO A MERE-STONE AT THE INTERSECTION OF LAND NOW OR FORMERLY OWNED BY JOSHUA C. ELDRED AND LAND OF THE CITY OF NEW LONDON AND LAND DESCRIBED; THENCE NORTHEASTERLY BY AND ALONG LAND NOW OR FORMERLY OWNED BY JOSHUA C. ELDRED THREE HUNDRED NINETEEN AND TWENTY-EIGHT ONE-HUNDREDTHS (319.28) FEET TO POINT OF BEGINNING. BEING ALL THE LAND OWNED BY GRANTORS EAST OF LAND OF THE CITY OF NEW LONDON AND WEST OF THE OLD COLCHESTER ROAD, SO-CALLED, CONTAINING SIXTEEN AND TWENTY ONE-HUNDREDTHS (16.20) ACRES, MORE OR LESS. SAID LAND BEING SITUATED IN THE TOWN OF MONTVILLE. THE GRANTORS HEREBY RELEASE ALL RIGHTS TO WATERWAYS NOW ENJOYED BY THEM; ALSO RIGHT TO THE CAUSEWAY, SO-CALLED, WHICH WILL NOW BECOME A CLOSED WAY EXCEPT TO THE CITY OF NEW LONDON, AND THE GRANTORS RELEASE TO SAID CITY ALL RIGHTS AND RESERVATIONS CONTAINED IN DEED OF GRISWOLD G. AVERY TO THE BOARD OF WATER COMMISSIONERS OF THE CITY OF NEW LONDON DATED APRIL 1ST, 1872.

Surveyor:

JOHN PAUL MEREEN, L.S.

Prepared For:
SPECTRASITE BROADCAST TOWERS, INC.
SpectraSite Broadcast Towers, Inc.
5601 North MacArthur Boulevard, Suite 100
Irving, Texas 75038
Phone: 972-550-9500
Fax: 972-550-9585
Website: www.SpectraSite.com

Work Coordinated by:
International WIRELESS SERVICES, LLC
2230 McKOWN DRIVE
Norman, Oklahoma 73072
(405) 701-2323 www.viewiws.com

GUY WIRE EASEMENTS

Project Location: Route 85 Montville, CT.
Project Address: ROUTE 85 Montville, CT.
Site Name: Hartford / NYC
SpectraSite Number: CT-0068

SHEET 2 OF 2

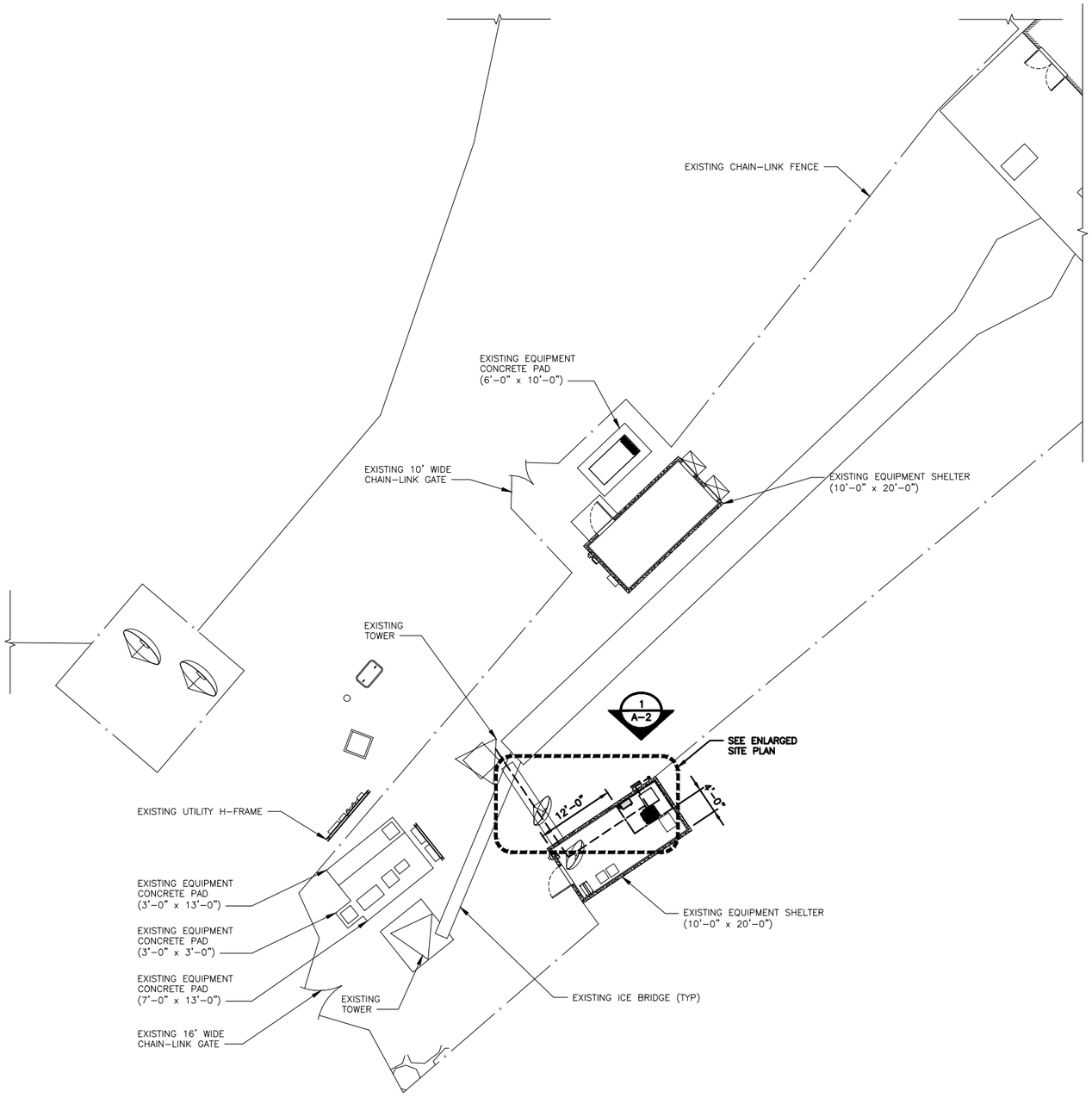
GUY WIRE EASEMENTS
Date: 12/20/02
Dwn. By: E.N.
Aprvd. By: J.P.M.
Dwg. No. 02-215
IWS JOB # W.01-12-02
Scale: 1"=40'

REVISIONS

DESCRIPTION:	

NOTES

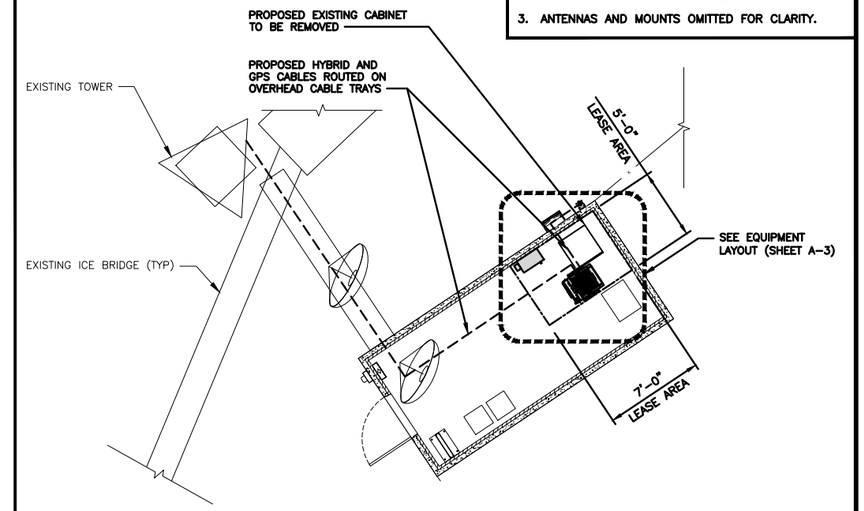
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



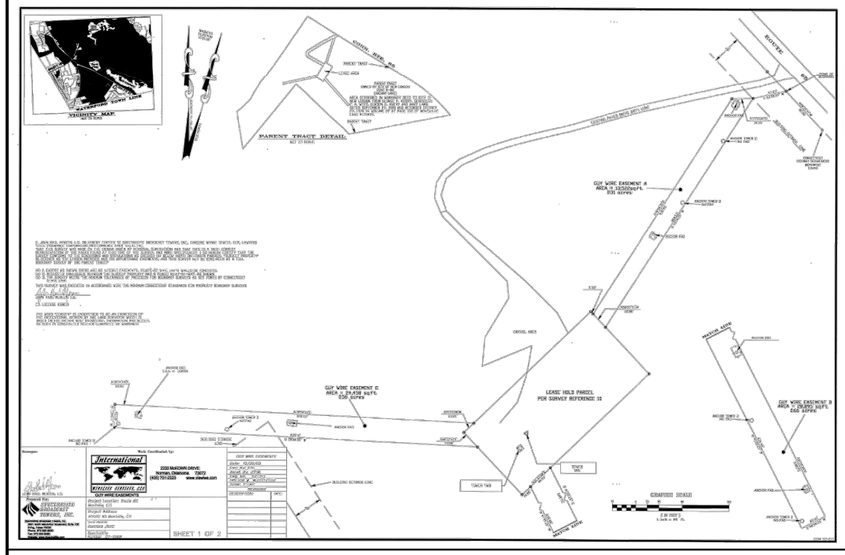
OVERALL SITE PLAN | 10' 0 10' 20' (1"=10') | 1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN | 6' 4' 2' 0 5' 10' (3/16"=1'-0") | 2



EXISTING SURVEY (BY OTHERS) | NO SCALE | 3

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A.T. ENGINEERING SERVICE, PLLC
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CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
MC	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION
1	05/26/2022	ADDRESS CHANGE

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED PROFESSIONAL ENGINEER

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A&E PROJECT NUMBER
302532-13726721_D2

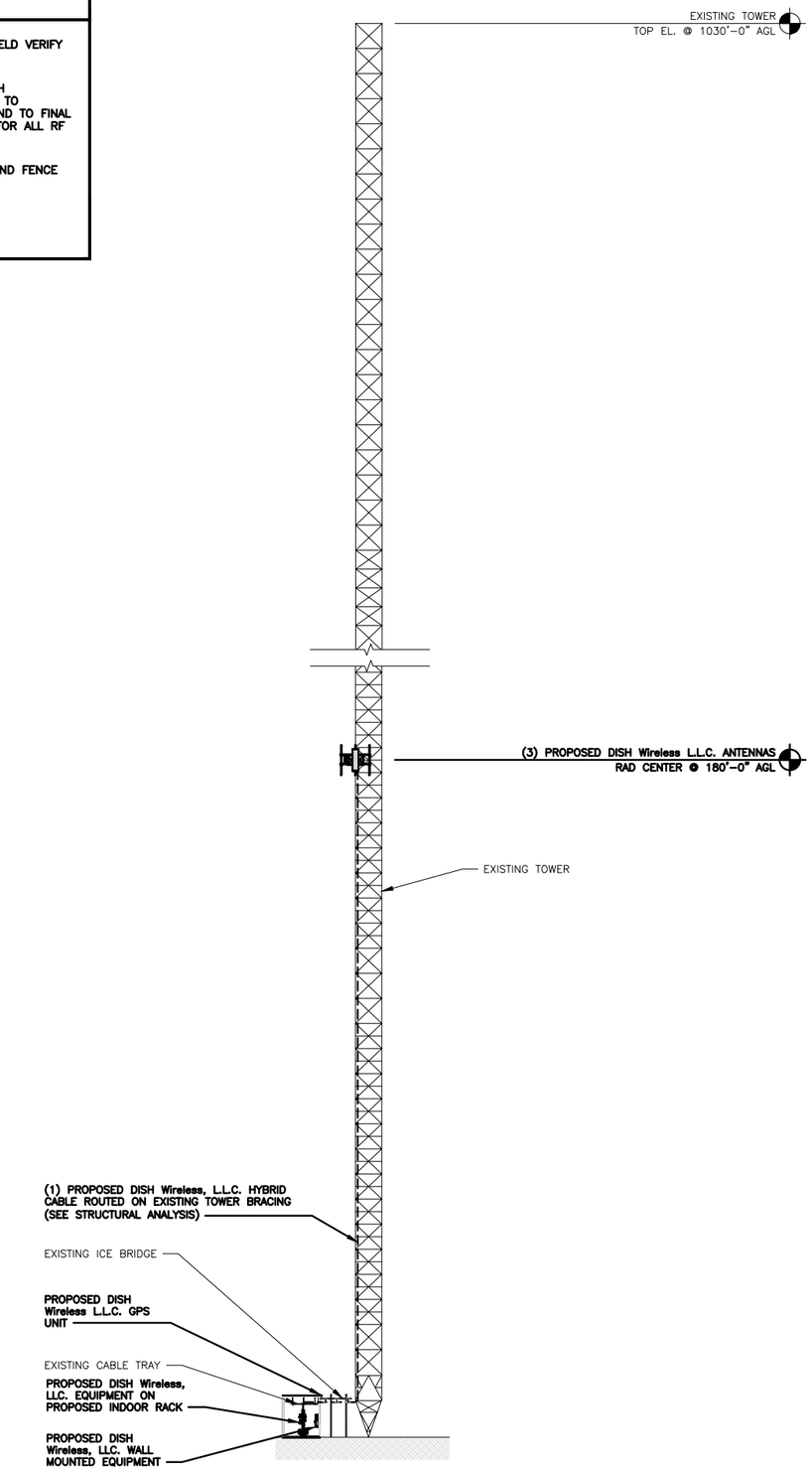
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER
A-1

NOTES

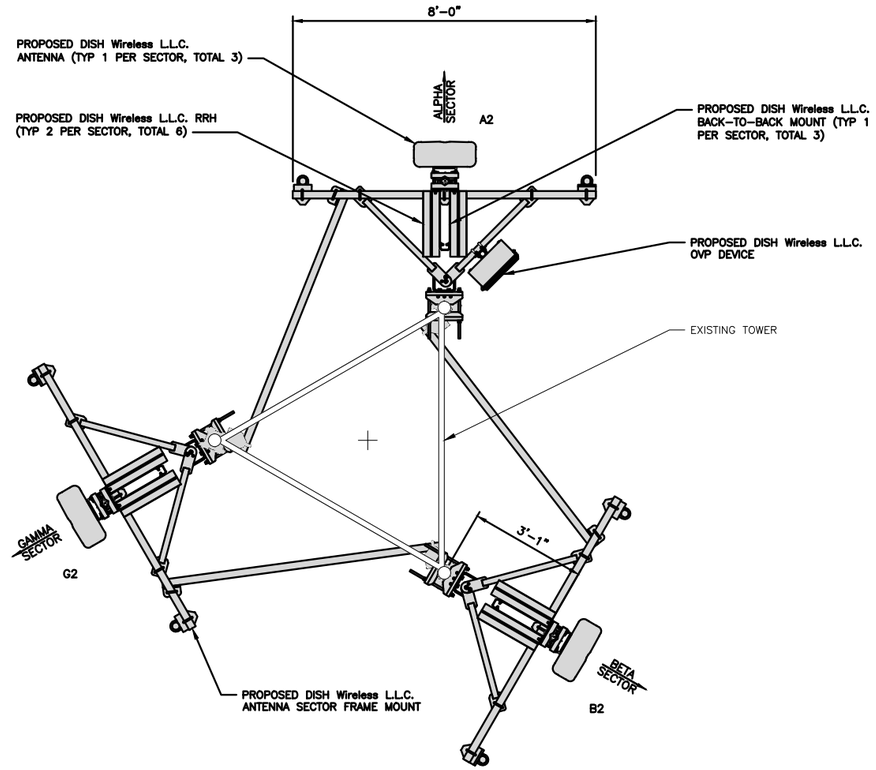
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED NORTH ELEVATION

20' 10' 0 20' 40'
1"=20'

1



ANTENNA LAYOUT

12" 6" 0 1' 2' 3' 4' 5'
1/2"=1'-0"

2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A2	PROPOSED	FFVV-65B-R2	5G	72.0" x 19.6"	0°	180'-0"	(1) HIGH-CAPACITY HYBRID CABLE (248' LONG)
BETA	B2	PROPOSED	FFVV-65B-R2	5G	72.0" x 19.6"	120°	180'-0"	
GAMMA	G2	PROPOSED	FFVV-65B-R2	5G	72.0" x 19.6"	240°	180'-0"	(1) RAYCAP RDIDC-9181-PF-48 OVP

SECTOR	POSITION	RRH	
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY
ALPHA	A2	TA08025-B604	N66 / N70
	A2	TA08025-B605	N29 / N71
BETA	B2	TA08025-B604	N66 / N70
	B2	TA08025-B605	N29 / N71
GAMMA	G2	TA08025-B604	N66 / N70
	G2	TA08025-B605	N29 / N71

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

ANTENNA SCHEDULE

NO SCALE

3

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DRAWN BY:	CHECKED BY:	APPROVED BY:
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RFDS REV #: ----

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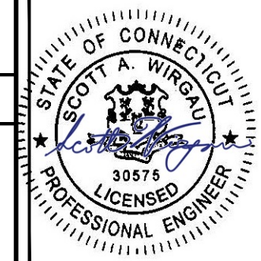

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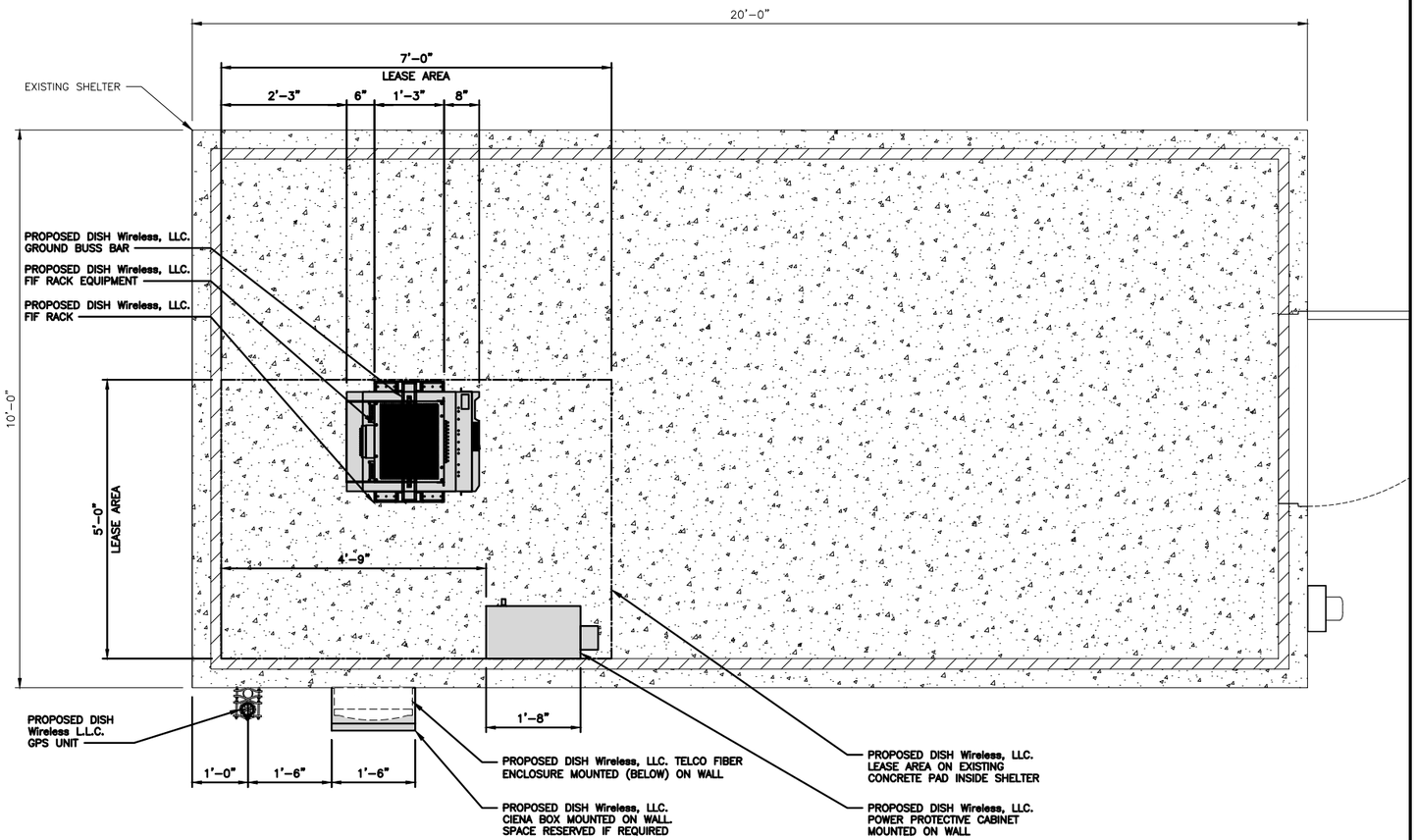
A&E PROJECT NUMBER
302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2



EQUIPMENT PLAN

12" 6" 0 1' 2' 3"
3/4"=1'-0"

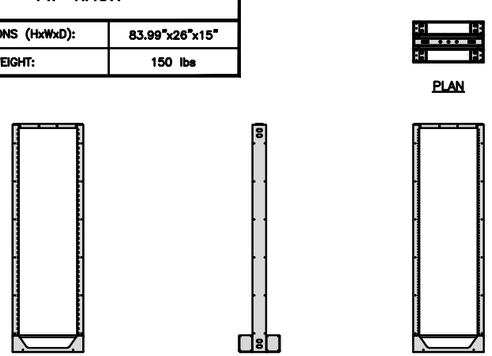
1

NOT USED

NO SCALE

2

FIF RACK	
DIMENSIONS (HxWxD):	83.99"x26"x15"
WEIGHT:	150 lbs



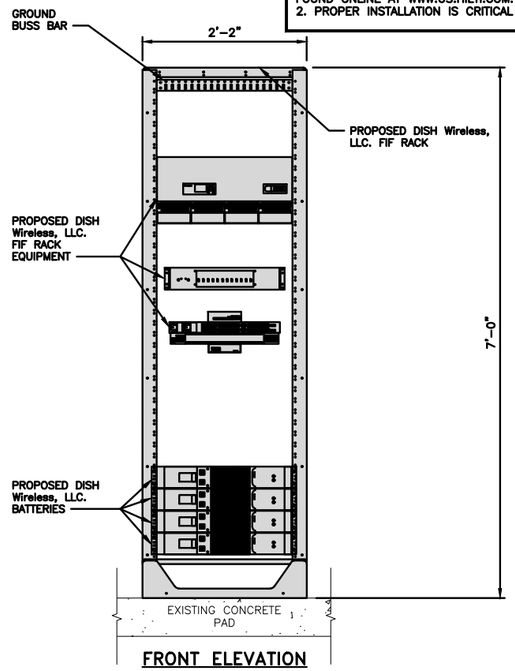
FIF RACK DETAIL

NO SCALE

3

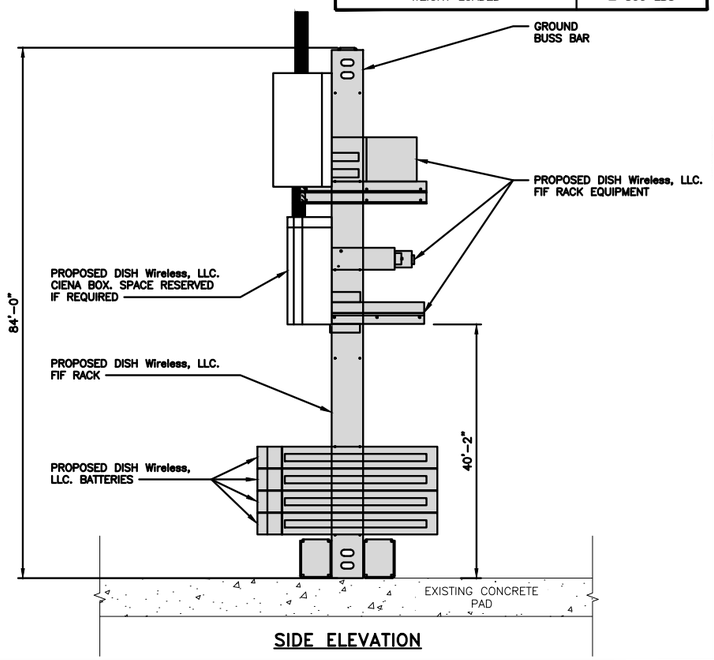
NOTES

1. CONTRACTOR TO INSTALL HILTI KWIK BOLT ANCHORS STRICTLY PER INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR FOUND ONLINE AT WWW.US.HILTI.COM.
2. PROPER INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.



FRONT ELEVATION

FIF RACK LOADED	
DIMENSIONS	83.99"x26"x28.5"
WEIGHT LOADED	± 800 LBS



SIDE ELEVATION

RACK EQUIPMENT ELEVATION

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

4

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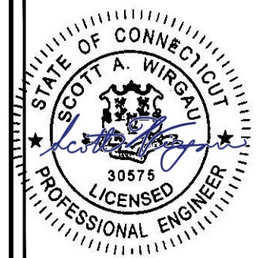

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302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

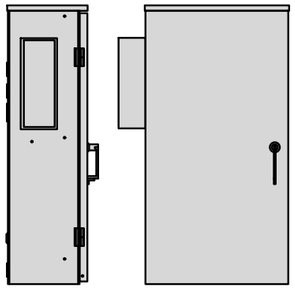
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

RAYCAP RDIAC-6512-P-240-MTS POWER & TELCO PROTECTION CABINET	
DIMENSIONS (HxWxD)	40"x20"x10"
WEIGHT/ VOLUME	124 LBS
MANUAL TRANSFER SWITCH	200A
LOAD CENTER	30 POSITION
MAIN BREAKER	200A, 65kA AIC
GENERATOR RECEPTACLE	CAMLOCK
NEMA RATING	3R POWDER COATED ALUMINUM
SURGE PROTECTION DEVICE	UL 1449 4TH EDITION LISTED

PLAN

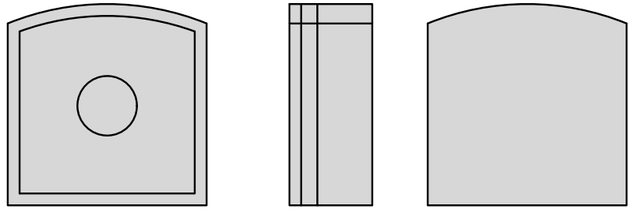
SIDE FRONT



POWER PROTECTION CABINET (PPC) DETAIL | NO SCALE | 1

CIENA 3931 SERVICE DELIVERY SWITCH	
DIMENSIONS (HxWxD)	17.0"x16.8"x7.0" 431x427x178mm
WEIGHT	28.6 LBS/13.0 KG
POWER INPUT	60W MAX

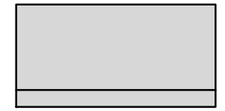
PLAN



FRONT SIDE BACK

CIENA DETAIL | NO SCALE | 2

CHARLES FIBER TELCO ENCLOSURE CUBE-MP1818WB-A	
ENCLOSURE DIM (HxWxD)	18.0"x18.0"x9.25"
NEMA RATING	4X
THERMAL	SEALED
MOUNTING BACKBOARD	WOOD



PLAN

SIDE BACK FRONT

FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 3

NOT USED | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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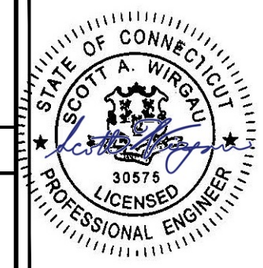

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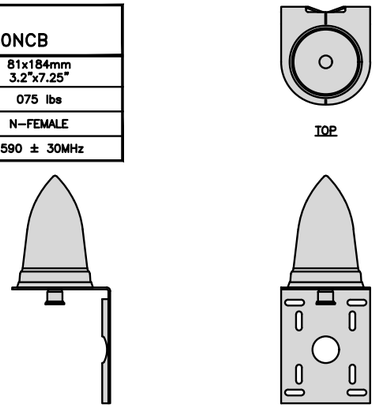
A&E PROJECT NUMBER
302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

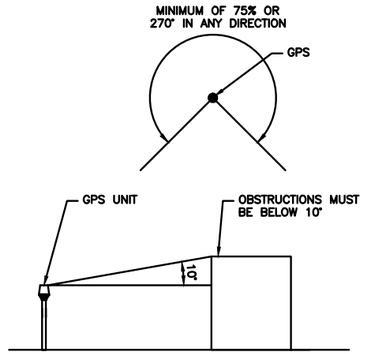
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

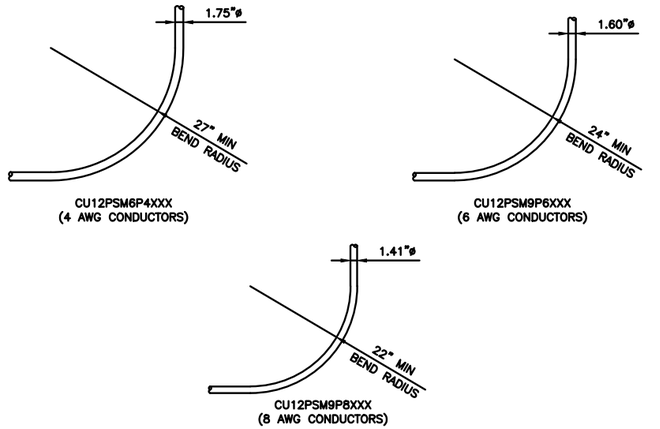
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS DETAIL | NO SCALE | 1



GPS MINIMUM SKY VIEW REQUIREMENTS | NO SCALE | 2



CABLES UNLIMITED HYBRID CABLE
MINIMUM BEND RADIUSES | NO SCALE | 3

NOT USED | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
MC	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS		
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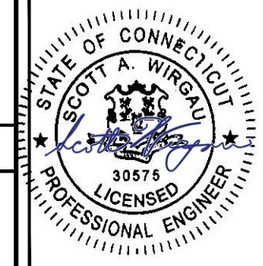
1	05/26/2022	ADDRESS CHANGE



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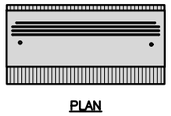
A&E PROJECT NUMBER
302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

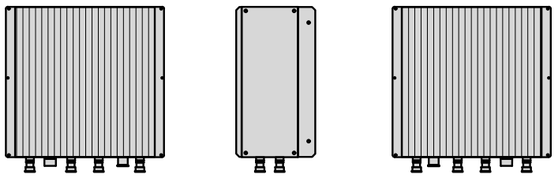
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



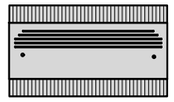
PLAN



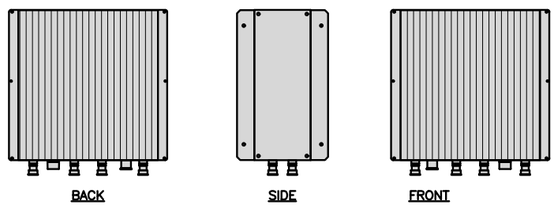
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 1

FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



PLAN

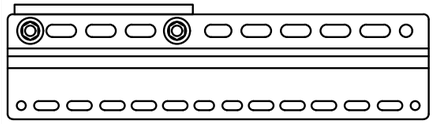


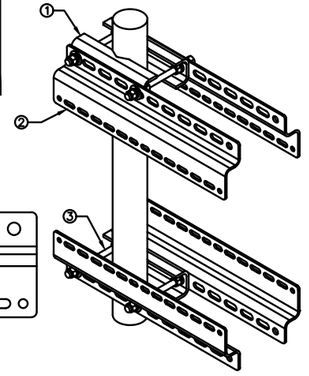
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

SABRE DOUBLE Z-BRACKET G10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

#	DESCRIPTION
1	PLATE, CHANNEL BRACKET
2	RRH Z BRACKET, 3/16"
3	THREADED ROD ASSEMBLY 1/2"x12"



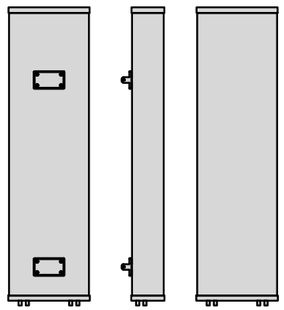


NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH MOUNT DETAIL | NO SCALE | 3

COMMSCOPE FFVV-65B-R2	
DIMENSIONS (HxWxD)(MM/IN)	1828x498x197 72"x19.6"x7.8"
RF CONNECTOR INTERFACE	4.3-10 FEMALE
WEIGHT	70.8 lbs
WEIGHT WITH BRACKETS	98.1 lbs

PLAN



BACK SIDE FRONT

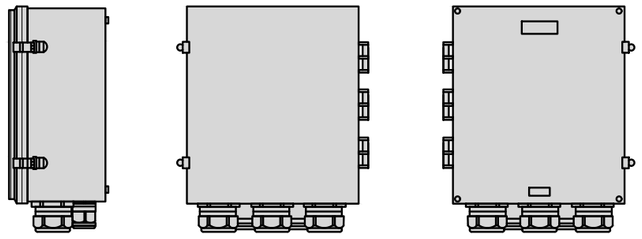
ANTENNA DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS

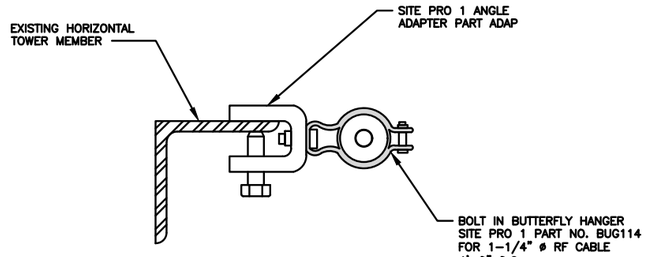
PLAN



SIDE BACK FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

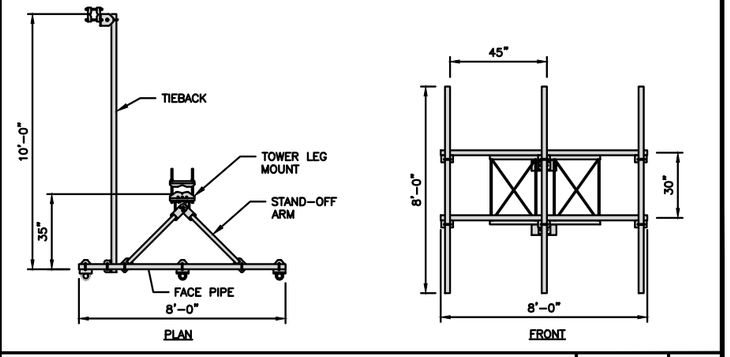
NOTE:
PROVIDED & INSTALLED
BY CONTRACTOR



HYBRID CABLE TOWER BRACE RUN | NO SCALE | 8

COMMSCOPE V-FRAME MTC3975083	
FACE SIZE	8'-0"
WEIGHT	352.136 lbs

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT



ANTENNA FRAME DETAIL | NO SCALE | 9

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PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
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CONSTRUCTION DOCUMENTS

SUBMITTALS

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STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED
PROFESSIONAL ENGINEER

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A&E PROJECT NUMBER
302532-13726721_D2

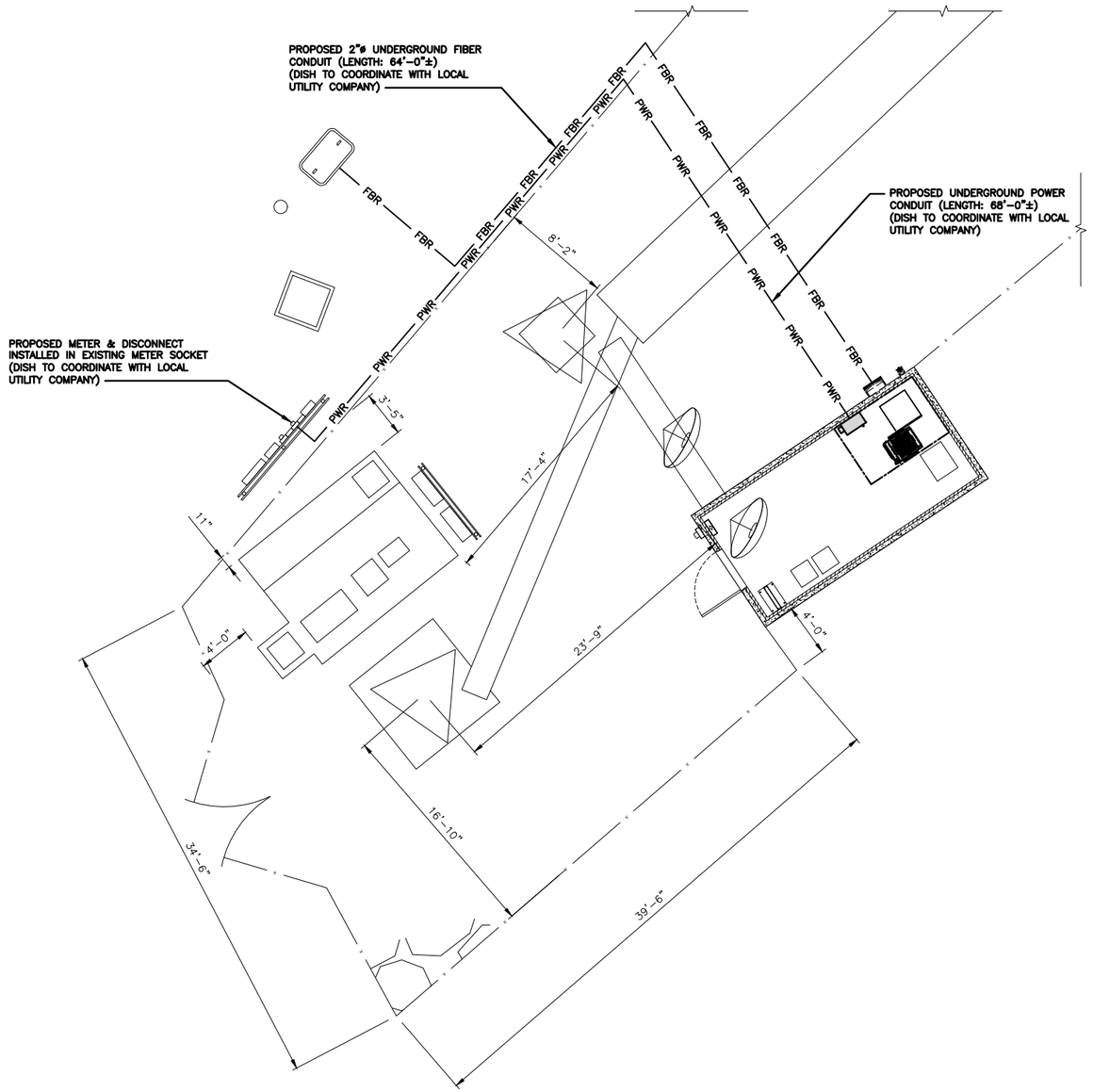
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

NOTES

1. THE EASEMENT RIGHTS FOR THIS SITE DO NOT INCLUDE A SPECIFIED AREA FOR THE LOCATION OF UTILITIES. CONSTRUCTION CONTRACTOR MUST FIELD VERIFY THE APPROPRIATENESS OF ALL PROPOSED UTILITY ROUTES
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. GC TO REFER TO FINAL UTILITY COORDINATION DOCUMENT FOR ALL MEET ME POINTS AND ROUTING DETAILS.



UTILITY ROUTE PLAN

6' 4' 2' 0 5' 10'
3/16"=1'-0"

1

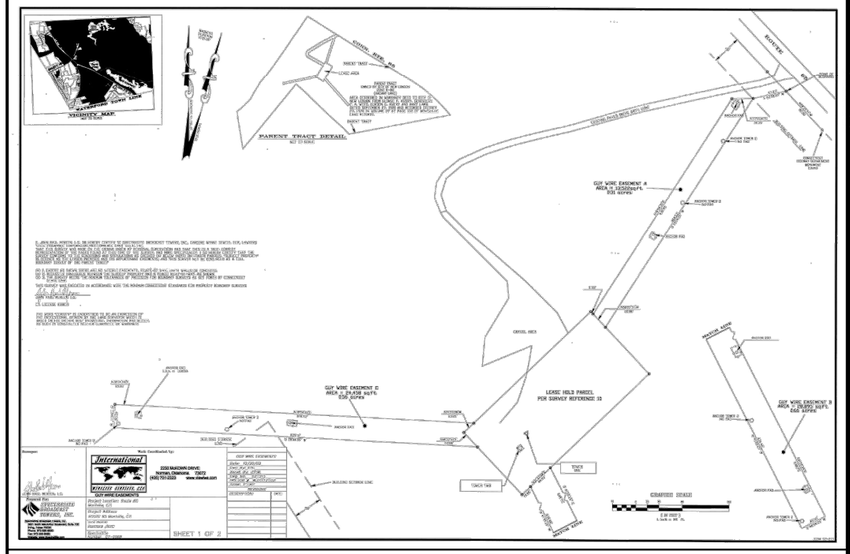
DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND −48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY −48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
13. ALL TRENCHES IN COMPOUND TO BE HAND DUG

ELECTRICAL NOTES

NO SCALE

2



EXISTING SURVEY (BY OTHERS)

NO SCALE

3

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LITTLETON, CO 80120

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

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STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED
PROFESSIONAL ENGINEER

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A&E PROJECT NUMBER
302532-13726721_D2

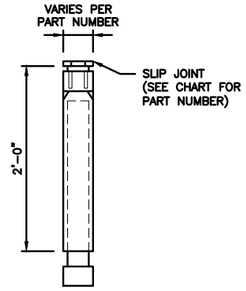
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER
E-1

CARLON EXPANSION FITTINGS

COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"

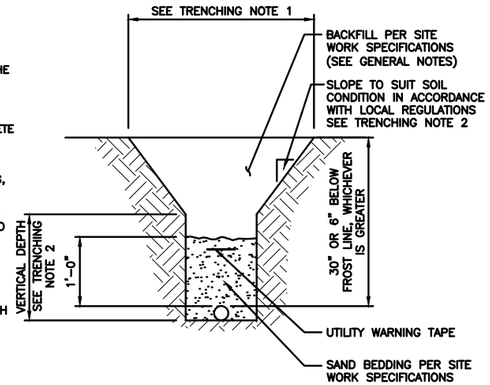


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

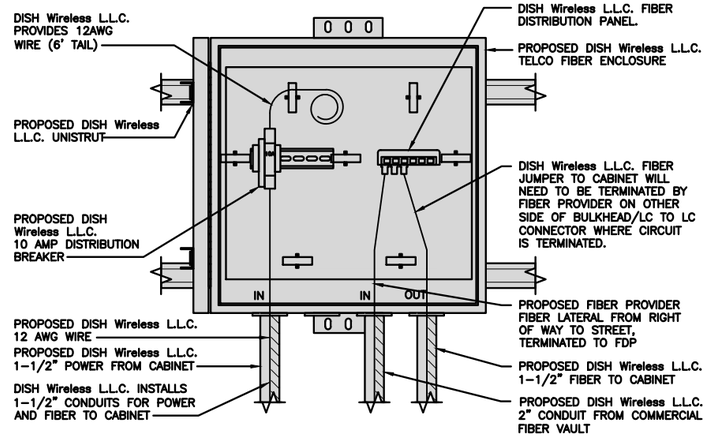
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

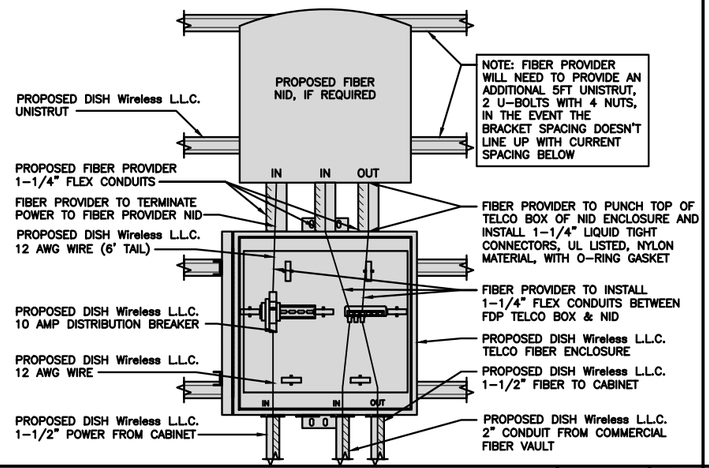
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
3. ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



DARK TELCO BOX – INTERIOR WIRING LAYOUT | NO SCALE | 3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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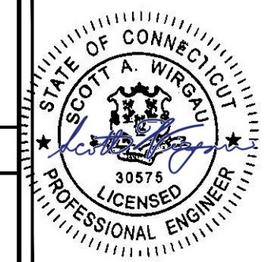

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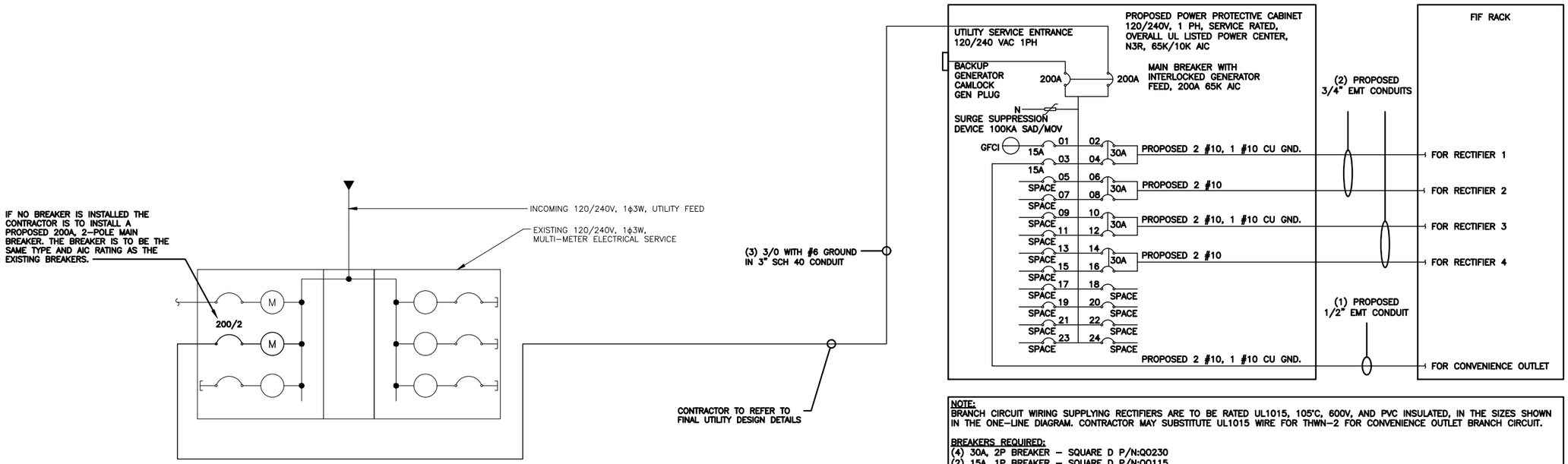
A&E PROJECT NUMBER
302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2



NOTE:
BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

BREAKERS REQUIRED:
(4) 30A, 2P BREAKER - SQUARE D P/N:QO230
(2) 15A, 1P BREAKER - SQUARE D P/N:QO115

PPC ONE-LINE DIAGRAM

NO SCALE | 1

PROPOSED FIF RACK PANEL SCHEDULE

LOAD SERVED	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	LOAD SERVED
PPC GFCI OUTLET	180		15A	1	A	2	30A	2880		ABB/GE INFINITY RECTIFIER 1
FIF RACK GFCI OUTLET		180	15A	3	B	4			2880	
-SPACE-				5	A	6	30A	2880		ABB/GE INFINITY RECTIFIER 2
-SPACE-				7	B	8			2880	
-SPACE-				9	A	10	30A	2880		ABB/GE INFINITY RECTIFIER 3
-SPACE-				11	B	12			2880	
-SPACE-				13	A	14	30A	2880		ABB/GE INFINITY RECTIFIER 4
-SPACE-				15	B	16			2880	
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						11520	11520	
200A MCB, 1ϕ, 24 SPACE, 120/240V			L1		L2		VOLTAGE AMPS			
MB RATING: 65,000 AIC			11700		11700		VOLTAGE AMPS			
			98		98		AMPS			
			98				MAX AMPS			
			123				MAX 125%			

PANEL SCHEDULE

NO SCALE | 2

NOT USED

NO SCALE | 3

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

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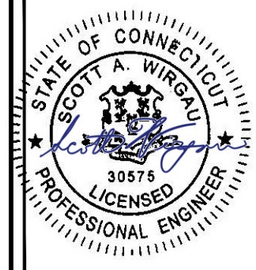

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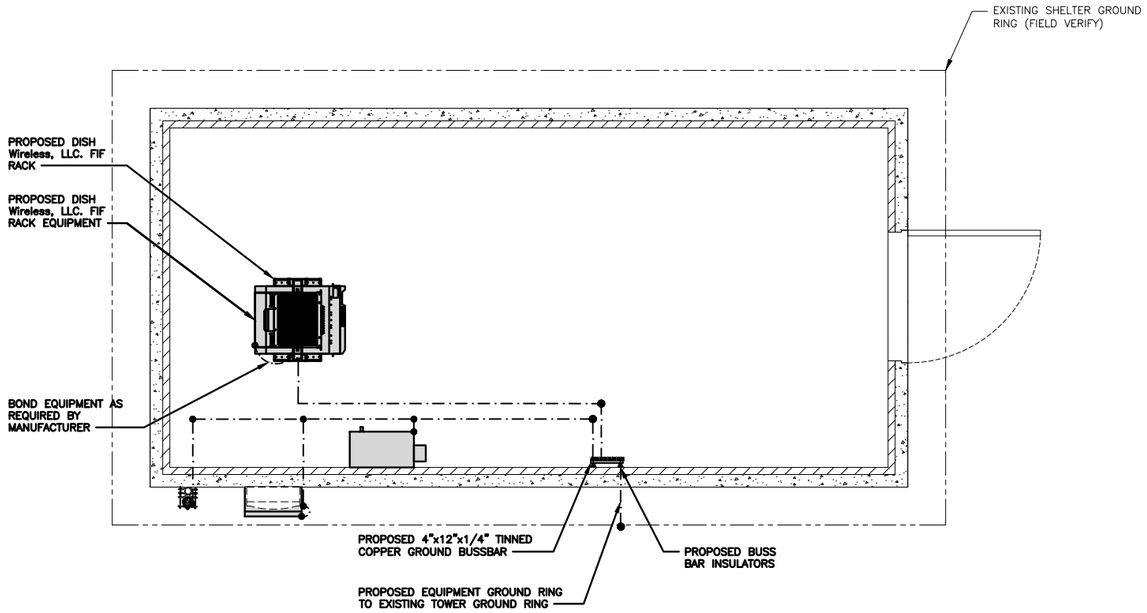
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

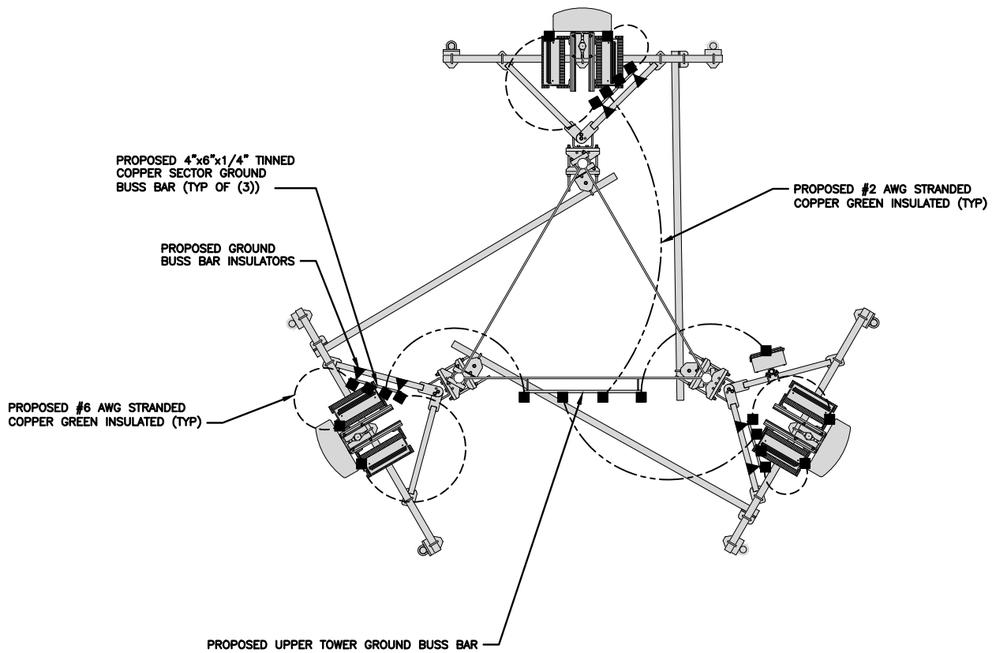
SHEET TITLE
ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

SHEET NUMBER
E-3



TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 2

NOTES

ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE ONLY

- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION
- GROUND BUS BAR
- GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE
- #2 AWG STRANDED & INSULATED
- #2 AWG SOLID COPPER TINNED
- BUSS BAR INSULATOR

GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

(A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.

(B) TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.

(C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.

(D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 5/8" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

(F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.

(G) HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.

(H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.

(J) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.

(K) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.

(L) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.

(M) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.

(N) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE

(P) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.

(Q) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR

(R) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR.

REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE | 3

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PHONE: (919) 468-0112

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CONSTRUCTION DOCUMENTS

SUBMITTALS

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0	01/05/2022	ISSUED FOR CONSTRUCTION
1	05/26/2022	ADDRESS CHANGE

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED PROFESSIONAL ENGINEER

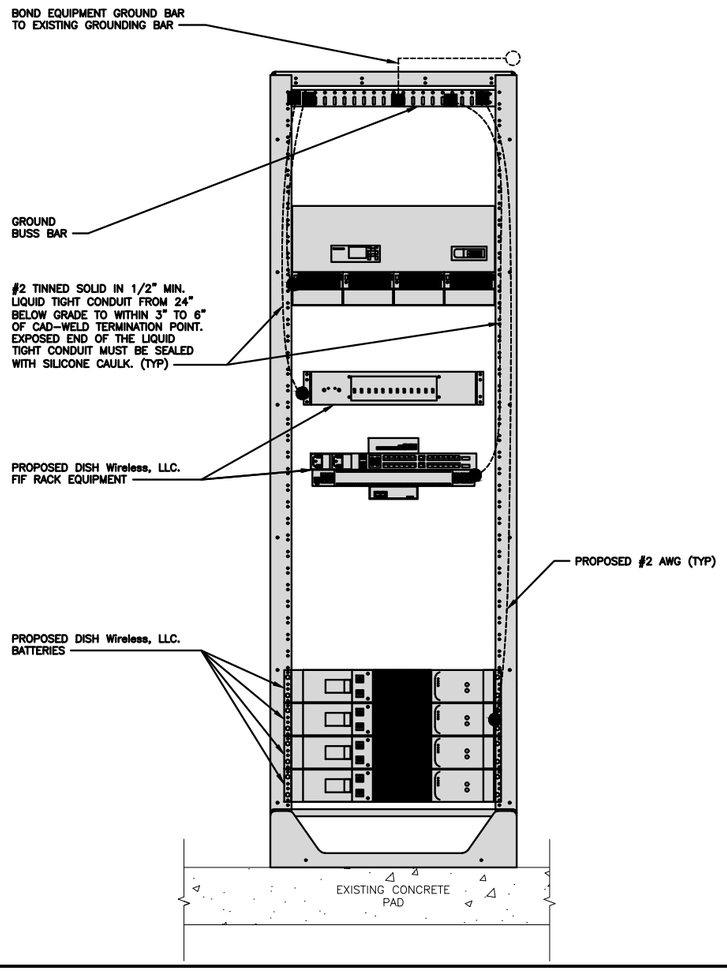
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

A&E PROJECT NUMBER
302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
GROUNDING PLANS AND NOTES

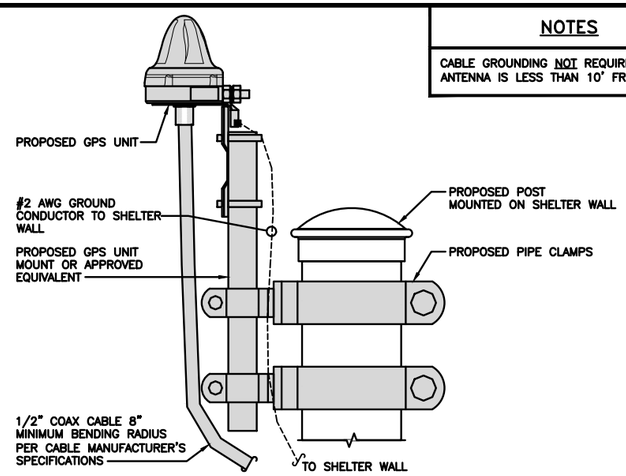
SHEET NUMBER
G-1



RACK GROUNDING DETAIL | NO SCALE | 1

NOTES

EQUIPMENT CABINET OMITTED FOR CLARITY



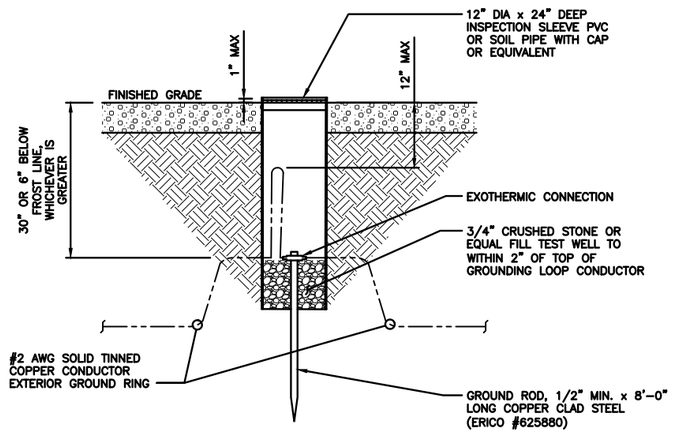
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2

NOTES

CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE | NO SCALE | 5

NOT USED | NO SCALE | 6

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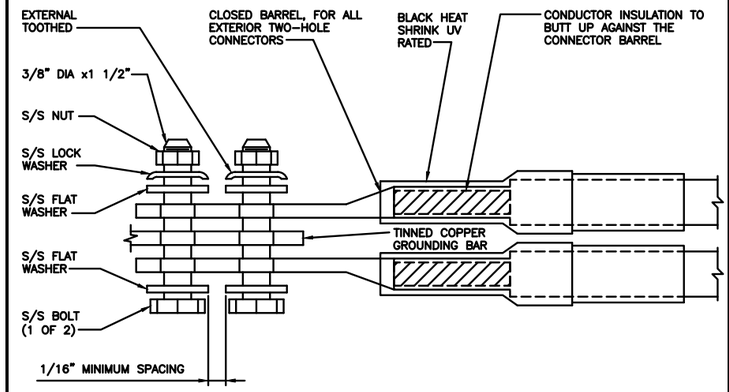
OAKDALE, CT 06371

SHEET TITLE
GROUNDING DETAILS

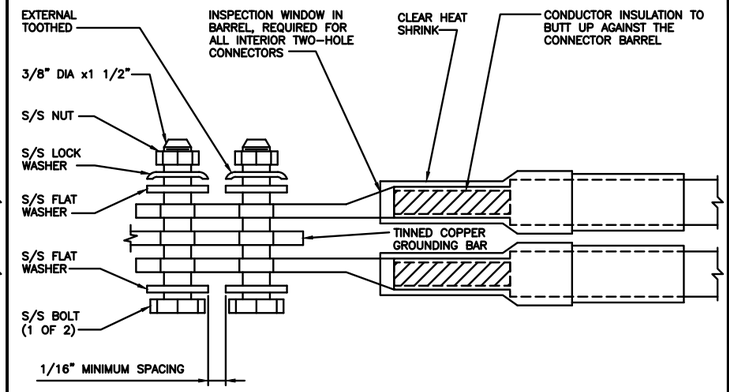
SHEET NUMBER
G-2

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR, ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).

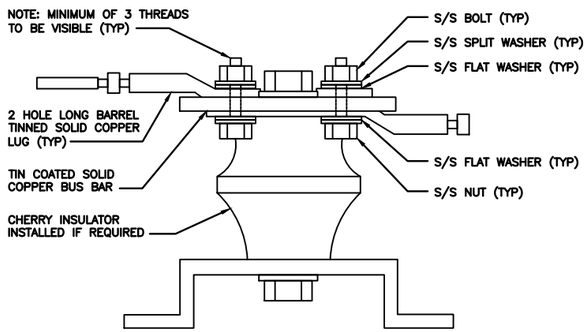
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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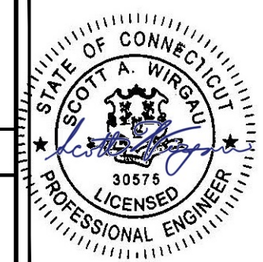

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PROJECT INFORMATION
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1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
GROUNDING DETAILS

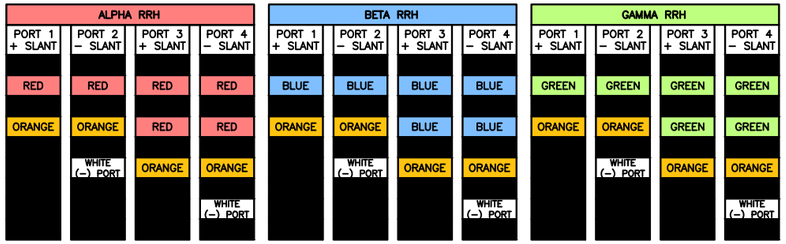
SHEET NUMBER
G-3

RF JUMPER COLOR CODING

3/4" TAPE WIDTHS WITH 3/4" SPACING

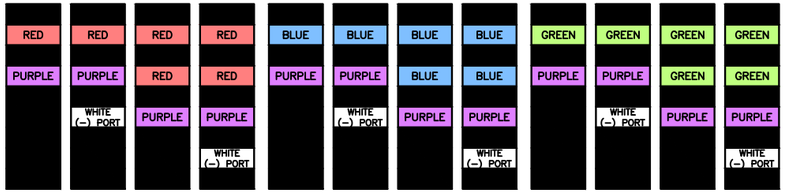
LOW-BAND RRH –
(600MHz N71 BASEBAND) +
(850MHz N26 BAND) +
(700MHz N29 BAND) – OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)



MID-BAND RRH –
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)

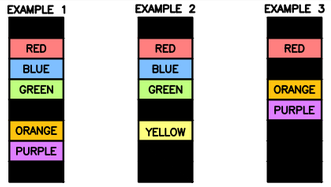


HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED
ALONG WITH FREQUENCY BANDS

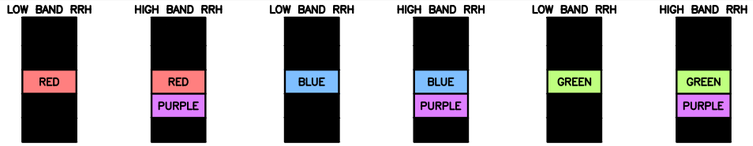
EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS
ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS

EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS
CBRS ONLY, ALL SECTORS



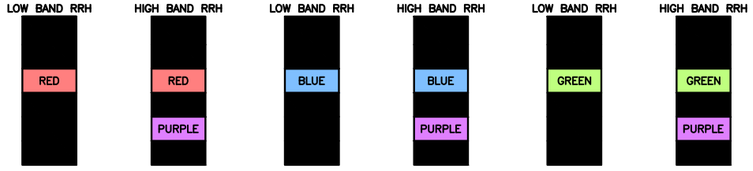
FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR
STRIPE ONLY

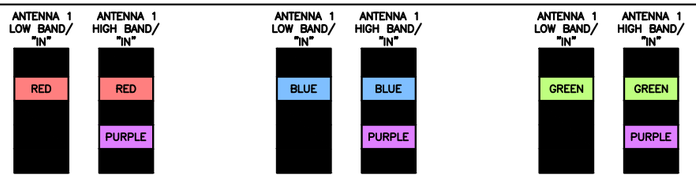


POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR
STRIPE ONLY



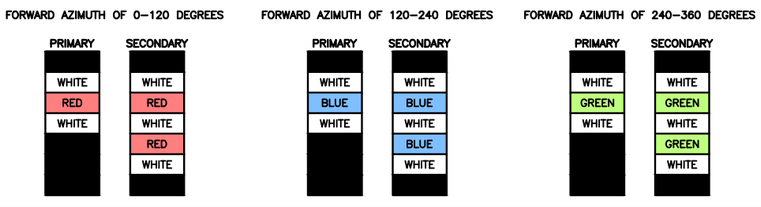
RET MOTORS AT ANTENNAS



MICROWAVE RADIO LINKS

LINKS WILL HAVE A 1.5–2 INCH WHITE WRAP WITH
THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE.
ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH
ADDITIONAL MW RADIO.

MICROWAVE CABLES WILL REQUIRE P-TOUCH
LABELS INSIDE THE CABINET TO IDENTIFY THE
LOCAL AND REMOTE SITE ID'S



RF CABLE COLOR CODES | NO SCALE | 1

LOW BANDS (N71+N26)
OPTIONAL – (N29)
ORANGE

AWS
(N66+N70+H-BLOCK)
PURPLE

CBRS TECH
(3 GHz)
YELLOW

NEGATIVE SLANT PORT
ON ANT/RRH
WHITE

ALPHA SECTOR
RED

BETA SECTOR
BLUE

GAMMA SECTOR
GREEN

COLOR IDENTIFIER | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

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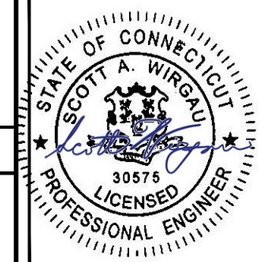

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302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1

LEGEND

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM — T

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE — T

SINGLE POLE SWITCH — $

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE — GFCI

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8 — F

SMOKE DETECTION (DC) — SD

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED–1–25A400/51K–SR4–120–PE–DDBTXD

CHAIN LINK FENCE — x — x — x — x

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE — W — W — W — W — W

UNDERGROUND POWER — UGP — UGP — UGP — UGP — UGP

UNDERGROUND TELCO — UGT — UGT — UGT — UGT — UGT

OVERHEAD POWER — OHP — OHP — OHP — OHP

OVERHEAD TELCO — OHT — OHT — OHT — OHT

UNDERGROUND TELCO/POWER — UGT/P — UGT/P — UGT/P — UGT/P

ABOVE GROUND POWER — AGP — AGP — AGP — AGP — AGP

ABOVE GROUND TELCO — AGT — AGT — AGT — AGT — AGT

ABOVE GROUND TELCO/POWER — AGT/P — AGT/P — AGT/P — AGT/P

WORKPOINT — W.P.

SECTION REFERENCE — XX / X–X

DETAIL REFERENCE — XX / X–X

ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON–CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

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STATE OF CONNECTICUT · SCOTT A. WIRGAU · 30575 · LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

A&E PROJECT NUMBER

302532–13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.

4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).

5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."

6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.

10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.

11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.

12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.

14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.

15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.

16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.

18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1.FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.

4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.

6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.

12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER

13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
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DRAWN BY:	CHECKED BY:	APPROVED BY:
MC	SRF	SRF

RFDS REV #: ----

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1334 ROUTE 85
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GENERAL NOTES

SHEET NUMBER
GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.

3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.

4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.

5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
- CONCRETE EXPOSED TO EARTH OR WEATHER:
- #6 BARS AND LARGER 2"
- #5 BARS AND SMALLER 1-1/2"
- CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLAB AND WALLS 3/4"
- BEAMS AND COLUMNS 1-1/2"

7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.

3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.

4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.

5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.

6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).

7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.

8. TIE WRAPS ARE NOT ALLOWED.

9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).

14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.

18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.

21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).

22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).

23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.

25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.

29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".

30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
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CARY, NC 27518
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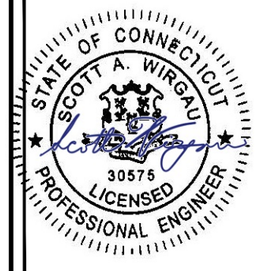

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GN-3

GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.

4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.

7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.

8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.

11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.

13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.

14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.

17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.

19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:

A. ASTM A-572, GRADE 50 – ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE

B. ASTM A-36 – ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.

C. ASTM A-500, GRADE B – HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)

D. ASTM A-325, TYPE SC OR N – ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS

E. ASTM F-1554 07 – ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE

3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.

4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.

6. CONNECTIONS:

A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.

B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.

C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.

D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.

E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.

F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.

G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.

I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND DISH WIRELESS L.L.C. PROJECT MANAGER IN WRITING

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
MC	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION
1	05/26/2022	ADDRESS CHANGE

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED
PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

A&E PROJECT NUMBER
302532-13726721_D2

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00022A
1334 ROUTE 85
OAKDALE, CT 06371

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-4

June 29, 2022

Liz Burdick
Planning Director
Montville Town Hall
310 Norwich-New London Turnpike
Uncasville, CT 06382

Re: Tower Share Application – Dish Site 13726721
Dish Wireless Telecommunications Facility @ 1334 Route 85, Montville, CT 06371

Dear Ms. Burdick:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing 1030 foot tall monopole tower at 1334 Route 85, Montville, CT 06371 (Latitude: 41.41777222 Longitude: -72.1981) and within an existing equipment shelter. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by the City of New London.

Dish proposes to install a PPC cabinet, an indoor equipment rack, power conduit, telco conduit, a telco fiber box, a GPS unit and if necessary, a Ciena box within an existing equipment shelter, and install three (3) new panel antennas, three (3) antenna mounts, six (6) RRUs, and cables on the existing tower at one hundred eighty (180) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower will remain at 1030 feet and no changes will be made to the compound dimensions.

Note there are two (2) towers on the subject property; Dish proposes collocation on the northern, 1030 foot tall tower, identified as Tower One on the survey submitted as page 2 of the enclosed drawings.

In case number TS-DISH-086-190524, dated July 18, 2019, the CSC approved the Gamma Purchasing LLC's (Dish) request for an order to approve a tower sharing at the telecommunications facility located at 1334 Route 85, Montville, Connecticut. Dish has not constructed anything on the site; and in accordance with condition of approval number 6, the approval expired after a year. The tower was approved by the Town of Montville on June 25, 1985, with the approval of Zoning Permit number 85-152 (enclosed).

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

June 29, 2022

The Honorable Ronald K. McDaniel
Montville Town Hall, 2nd Floor
310 Norwich-New London Turnpike.
Uncasville, CT 06382

Re: Tower Share Application – Dish Site 13726721
Dish Wireless Telecommunications Facility @ 1334 Route 85, Montville, CT 06371

Dear Mayor McDaniel:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing 1030 foot tall guyed tower at 1334 Route 85, Montville, CT 06371 (Latitude: 41.41777222 Longitude: -72.1981) and within an existing equipment shelter. The tower is owned and operated by American Tower Corporation. The subject property is owned by the City of New London.

Dish proposes to install a PPC cabinet, an indoor equipment rack, power conduit, telco conduit, a telco fiber box, a GPS unit and if necessary, a Ciena box within an existing equipment shelter, and install three (3) new panel antennas, three (3) antenna mounts, six (6) RRUs, and cables on the existing tower at one hundred eighty (180) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower will remain, and no changes will be made to the compound dimensions.

In case number TS-DISH-086-190524, dated July 18, 2019, the CSC approved the Gamma Purchasing LLC's (Dish) request for an order to approve a tower sharing at the telecommunications facility located at 1334 Route 85, Montville, Connecticut. Dish has not constructed anything on the site; and in accordance with condition of approval number 6, the approval expired after a year. The tower was approved by the Town of Montville on June 25, 1985, with the approval of Zoning Permit number 85-152 (enclosed).

This letter is intended to serve as the required notice to the municipality's chief elected official. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Acting Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

June 29, 2022

Blake Paynter
Project Manager, Site Development
American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Re: Tower Share Application – Dish Site 13726721
Dish Wireless Telecommunications Facility @ 1334 Route 85, Montville, CT 06371

Dear Mr. Paynter:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing 1030 foot tall monopole tower at 1334 Route 85, Montville, CT 06371 (Latitude: 41.41777222 Longitude: -72.1981) and within an existing equipment shelter. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by the City of New London.

Dish proposes to install a PPC cabinet, an indoor equipment rack, power conduit, telco conduit, a telco fiber box, a GPS unit and if necessary, a Ciena box within an existing equipment shelter, and install three (3) new panel antennas, three (3) antenna mounts, six (6) RRUs, and cables on the existing tower at one hundred eighty (180) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower will remain at 1030 feet and no changes will be made to the compound dimensions.

Note there are two (2) towers on the subject property; Dish proposes collocation on the northern, 1030 foot tall tower, identified as Tower One on the survey submitted as page 2 of the enclosed drawings.

In case number TS-DISH-086-190524, dated July 18, 2019, the CSC approved the Gamma Purchasing LLC's (Dish) request for an order to approve a tower sharing at the telecommunications facility located at 1334 Route 85, Montville, Connecticut. Dish has not constructed anything on the site; and in accordance with condition of approval number 6, the approval expired after a year. The tower was approved by the Town of Montville on June 25, 1985, with the approval of Zoning Permit number 85-152 (enclosed).

This letter is intended to serve as the required notice to the tower owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

June 29, 2022

Office of the Mayor
181 State Street
New London, CT 06320

Re: Tower Share Application – Dish Site 13726721
Dish Wireless Telecommunications Facility @ 1334 Route 85, Montville, CT 06371

Dear Mayor Passerol:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing 1030 foot tall monopole tower at 1334 Route 85, Montville, CT 06371 (Latitude: 41.41777222 Longitude: -72.1981) and within an existing equipment shelter. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by the City of New London.

Dish proposes to install a PPC cabinet, an indoor equipment rack, power conduit, telco conduit, a telco fiber box, a GPS unit and if necessary, a Ciena box within an existing equipment shelter, and install three (3) new panel antennas, three (3) antenna mounts, six (6) RRUs, and cables on the existing tower at one hundred eighty (180) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower will remain at 1030 feet and no changes will be made to the compound dimensions.

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The tower was approved by the Town of Montville on June 25, 1985, with the approval of Zoning Permit number 85-152 (enclosed).

This letter is intended to serve as the required notice to the owner of the subject property As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

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