NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Victoria Masse
420 Main Street #2, Sturbridge, MA 01566
860-306-2326
victoria@northeastsitesolutions.com

September 7, 2022

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
555 Main Street, Stamford CT 06901
Latitude: 41.05353500
Longitude: -73.53557900
T-Mobile Site#: CT11410A_Anchor & L600

Dear Ms. Bachman:
T-Mobile currently maintains six (9) antennas at the 210-foot level and 203-foot level of the existing 231.6-foot lattice tower on a rooftop located at 555 Main Street, Stamford CT 06901. The 231.6-foot lattice tower and property are owned by Frontier Communications. T-Mobile now intends to install (6) new 600/700/1900/2500 MHz antenna. The new antennas would be installed at the 210-foot level and 203-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.
T-Mobile Planned Modifications:
Remove:
(23) Coax
(3) Generic Twin TMA
(6) Hybrid Line

Remove and Replace:
(3) Air21 KRC118023 B2A/B4P Antenna (Remove) – (3) AIR6419 B41 2500 MHz Antenna (Replace)
(3) Andrew LNX-6516DS Antenna (Remove) – (3) RFS APXVAALL24 600/700/1900 MHz Antenna (Replace)
(3) Mount Frame (Remove) – (3) Site Pro 1 VFA12-HD Mount Frame (Replace)
(3) RRUS 11 B12 (Remove) – (3) Ericsson Radio 4480 B71 + B85 (Replace)

Install New:
(3) RRU 4460 B25 + B66
(6) Hybrid Lines
(3) Commscope SDX1926Q-43 Diplexers

Existing to Remain:
(3) Air32 KRD901146 B66A-B2A 1900/2100 MHz Antenna

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

This facility was approved by the CT Siting Council. Petition No.154 –on February 19, 1986. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Caroline Simmons, Mayor of the City of Stamford and James Lunney III, Chief Zoning Enforcement Officer for the City of Stamford, as well as the property owner and the tower owner.

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

2. The proposed modifications will not require the extension of the site boundary.

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

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

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

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

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

Sincerely,

Victoria Masse

Victoria Masse
Mobile: 860-306-2326
Fax: 413-521-0558
Office: 420 Main Street, Unit 2, Sturbridge MA 01566
Email: victoria@northeastsitesolutions.com

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments:

cc: Caroline Simmons, Mayor
Stamford Government Center
888 Washington Boulevard
Stamford, CT 06901

James Lunney III, Chief Zoning Enforcement Officer
Stamford Government Center
888 Washington Boulevard
Stamford, CT 06901

Southern NE Telephone c/o
Frontier Communications - as property and tower owner
P.O. Box 2629
Addison, TX 75001-2629

Southern NE Telephone c/o-as property and tower owner
Frontier Communications
401 Merritt 7
Norwalk, CT 06851-1000

Exhibit A

Original Facility Approval

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

10 Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

April 13, 1998

Sharon Burrows
Omnipoint Communications
25 Van Zant Street, Suite 18E
Norwalk, CT 06855

Re: Omnipoint Communications notice of intent to modify an existing telecommunications facility located at 555 Main Street in Stamford, Connecticut.

Dear Ms. Burrows:

At a public meeting held on April 9, 1998, the Connecticut Siting Council (Council) acknowledged Omnipoint Communications (Omnipoint) notice to modify this existing telecommunications facility in Stamford, Connecticut, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with conditions for removal of the unused horn antenna; matching the color of the proposed panel antennas with the tower; removal of aviation beacons as soon as possible, consistent with Federal Aviation Administration (FAA) approval; and repainting the tower to a solid neutral color, consistent with FAA approval, when such scheduled repainting is necessary, but no later than 10 years from the time of such FAA approval.

The proposed modifications as conditioned are to be implemented as specified here and in your notice dated March 12, 1998, and additional information submitted April 8, 1998. The modifications as conditioned are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequency now used on this tower. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston

Mortimer A. Gelston
Chairman

MAG/RKE/sg

c: Honorable Dannel P. Malloy, Mayor, City of Stamford
Norman F. Cole, Principal Planner, City of Stamford
Peter J. Tyrrell, Senior Counsel, Springwich Cellular Ltd. Partnership

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

10 Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

April 14, 1998

Peter J. Tyrrell
Senior Counsel
Springwich Cellular Limited Partnership
500 Enterprise Drive
Rocky Hill, CT 06067-3900

Re: Omnipoint Communications notice of intent to modify an existing telecommunications facility located at 555 Main Street in Stamford, Connecticut.

Dear Attorney Tyrrell:

At a public meeting held on April 9, 1998, the Connecticut Siting Council (Council) acknowledged Omnipoint Communications (Omnipoint) notice to modify this existing telecommunications facility in Stamford, Connecticut, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with conditions for removal of the unused horn antenna; matching the color of the proposed panel antennas with the tower; removal of aviation beacons as soon as possible, consistent with Federal Aviation Administration (FAA) approval; and repainting the tower to a solid neutral color, consistent with FAA approval, when such scheduled repainting is necessary, but no later than 10 years from the time of such FAA approval.

The proposed modifications as conditioned are to be implemented as specified here and in Omnipoint's notice dated March 12, 1998, and additional information submitted April 8, 1998. The modifications as conditioned are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequency now used on this tower. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/RKE/sg

c: Honorable Dannel P. Malloy, Mayor, City of Stamford
Norman F. Cole, Principal Planner, City of Stamford
Sharon Burrows, Omnipoint Communications

Victoria Masse <victoria@northeastsitesolutions.com>

T-Mobile Original Zoning Approval Request for 555 E Main Street, Stamford CT (CT11410A)

Judge, Mary <MJudge@stamfordct.gov> Tue, Jul 12, 2022 at 2:08 PM
To: Victoria Masse <victoria@northeastsitesolutions.com>

We do not have the tower plans for 555 E. Main Street. We have permit plans to replace or add antennas only.

Mary Judge

From: Victoria Masse <victoria@northeastsitesolutions.com>
Sent: Tuesday, July 12, 2022 1:31 PM
To: Zoning Enforcement <ZoningEnforcement@StamfordCT.gov>
Cc: Deborah Chase <deborah@northeastsitesolutions.com>
Subject: Re: T-Mobile Original Zoning Approval Request for 555 E Main Street, Stamford CT (CT11410A)

Good Afternoon,

I am reaching out to see if you have been able to locate the original approval of the Tower build.

Thank you

On Wed, Jul 6, 2022 at 4:48 PM Victoria Masse <victoria@northeastsitesolutions.com> wrote:

> Good Afternoon,
>
> I am reaching out on behalf of T-Mobile regarding their proposed antenna upgrades on an existing tower on a rooftop located at 555 E Main Street.
>
> Currently we are working with T-Mobile to file with the Connecticut Siting Council, part of the Siting Council's filing requirements is that we provide the original zoning approval of the tower build. It does not appear that the council has this on their website so that is why I am reaching out to you for this information.
>
> I have attached the property card for your reference.
>
> If you could review your records for any approvals of when this tower was originally approved to be built with the height that the tower was originally approved for that would be greatly appreciated.

Please let me know if you have any questions or need any additional information, I can be reached at 860-306-2326.

Thank you

--

Victoria Masse

Zoning & Permitting Specialist

Notary Public

Mobile: 860-306-2326

Office: 420 Main Street Unit 1 Box 2 Sturbridge, MA 01566

Email: victoria@northeastsitesolutions.com

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Victoria Masse

Zoning & Permitting Specialist

Notary Public

Mobile: 860-306-2326

Office: 420 Main Street Unit 1 Box 2 Sturbridge, MA 01566

Email: victoria@northeastsitesolutions.com


NORTHEAST
SITE SOLUTIONS
Turnkey Wireless Development
NSS
NSS
www.northeastsitesolutions.com

Exhibit B

Property Card

Property Location 555 EAST MAIN STREET | Map ID 002/ 1817/ / / | Bldg Name | State Use 300C
Vision ID 7840 | Account # 002-1817 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 1 | 2/15/2022 2:29:57 PM

CURRENT OWNER

SOUTHERN NEW ENGLAND TELE C
C/O FRONTIER COMMINICATIONS
PO BOX 2629

ADDISON TX 75001

TOPO		UTILITIES		STRT / ROAD		LOCATION	
		3	Public Sewer	2	Semi-Improve		
		1	All Public	1	Paved		
		4	Gas				

SUPPLEMENTAL DATA

Alt Prcl ID	121 68 37A1	DSSD	Y
Survey1	9150	Agent Nam	C/O DUFF & PHE
Survey2	699	Roll	1
Census Tr	217	Common	SOUTHERN NEW
Census Bl	2002	Neighborh	DOWN T:
Sewer Acct			
GIS ID	S 003 2636	Assoc Pid#	

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
IND LAND	3-1	1,310,410	917,290
IND BLDG	3-2	2,299,340	1,609,540
Total		3,609,750	2,526,830

6135

STAMFORD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
SOUTHERN NEW ENGLAND TELE CO	1251	0285	02-28-1972	U	I	0	25

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	3-1	917,290	2020	3-1	917,290	2020	3-1	917,290
	3-2	1,609,540		3-2	1,609,540		3-2	1,609,540
	Total	2,526,830		Total	2,526,830		Total	2,526,830

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
1000				

NOTES

RECEIVED I&E OWNER OCC.
AT&T
ALL INT = EST

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	2,299,340
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	0
Appraised Land Value (Bldg)	1,310,410
Special Land Value	0
Total Appraised Parcel Value	3,609,750
Valuation Method	C
Total Appraised Parcel Value	3,609,750

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result
03-22-2021	ROB			61	Income and Exp
03-09-2021	PL			18	Board of Assessment Appe
03-09-2012	MJF			01	Measur+1Visit
04-14-2010	BJ			24	Court Stipulation
02-10-2009	ROB			29	Data Mailer
03-06-2008	GS			72	Energy District
01-10-2007	RGB			21	Informal Hearing (NC)

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Distri	District Desc.	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nhbd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
1	300C	Industrial MDL-9	CCN	1		15,484	SF	76.94	1.10000	C	1.00	1000	1.000	W/PID 7839, 7841		0	84.63	1,310,410

Total Card Land Units	0.36	AC	Parcel Total Land Area:	0.36	Total Land Value	1,310,410

Property Location 555 EAST MAIN STREET | Map ID 002/ 1817/ / / | Bldg Name | State Use 300C
Vision ID 7840 | Account # 002-1817 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 1 | 2/15/2022 2:29:58 PM

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	66	Telephone Bldg
Model	94	Comm/Ind
Grade	04	C
Stories:	2	
Occupancy	1.00	
Exterior Wall 1	23	Brick/Masonry
Exterior Wall 2		
Roof Structure	01	Flat
Roof Cover	04	T&G/Rubber
Interior Wall 1	05	Drywall/Plaste
Interior Wall 2		
Interior Floor 1	14	Carpet
Interior Floor 2		
Heating Fuel	02	Gas/LP
Heating Type	03	Forced Air-Duc
AC Type	03	Central
Bldg Use	300C	Industrial MDL-94
Total Rooms		
Total Bedrms	00	
Total Baths	0	
Heat/AC	01	Heat/AC Pkgs
Frame Type	06	FireProofSteel
Baths/Plumbing	02	Average
Ceiling/Wall	05	Sus-Ceil&Wall
Rooms/Prtns	02	Average
Wall Height	18.00	
% Comn Wall	13.00	
1st Floor Use:	300C	

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd	Description

MIXED USE

Code	Description	Percentage
300C	Industrial MDL-94	100
		0
		0

COST / MARKET VALUATION

RCN	2,986,158
Year Built	1971
Effective Year Built	
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	23
Functional Obsol	0
External Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	77
RCNLD	2,299,340
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	

BAS (15,218 sf)

FUS (15,218 sf)

UBM (15,218 sf)

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	15,218	15,218		87.21	1,327,162
FUS	Upper Story, Finished	15,218	15,218		87.21	1,327,162
UBM	Basement, Unfinished	0	15,218		21.81	331,834
	Ttl Gross Liv / Lease Area	30,436	45,654			2,986,158

555 EAST MAIN STREET

Location	555 EAST MAIN STREET	**Mblu**	002/ 1817/ / /
Acct#	002-1817	**Owner**	SOUTHERN NEW ENGLAND TELEPHONE CO
Assessment	$2,526,830	**Appraisal**	$3,609,750
PID	7840	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$2,299,340	$1,310,410	$3,609,750

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$1,609,540	$917,290	$2,526,830

Owner of Record

Owner	SOUTHERN NEW ENGLAND TELEPHONE CO	**Sale Price**	$0
Co-Owner	C/O FRONTIER COMMINICATIONS	**Book & Page**	1251/0285
Address	PO BOX 2629 ADDISON, TX 75001	**Sale Date**	02/28/1972
		Instrument	25

Ownership History

Ownership History				
Owner	**Sale Price**	**Book & Page**	**Instrument**	**Sale Date**
SOUTHERN NEW ENGLAND TELEPHONE CO	$0	1251/0285	25	02/28/1972

Building Information

Building 1 : Section 1

Year Built: 1971
Living Area: 30,436

Building Attributes	
Field	**Description**
STYLE	Telephone Bldg

MODEL	Comm/Ind
Grade	C
Stories:	2
Occupancy	1.00
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	T&G/Rubber
Interior Wall 1	Drywall/Plaste
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Gas/LP
Heating Type	Forced Air-Duc
AC Type	Central
Struct Class	
Bldg Use	Industrial MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	300C
Heat/AC	Heat/AC Pkgs
Frame Type	FireProofSteel
Baths/Plumbing	Average
Ceiling/Wall	Sus-Ceil&Wall
Rooms/Prtns	Average
Wall Height	18.00
% Comn Wall	13.00

Building Photo

(https://images.vgsi.com/photos/StamfordCTPhotos//\00\13\04\22.jpg)

Building Layout

(ParcelSketch.ashx?pid=7840&bid=7840)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	15,218	15,218
FUS	Upper Story, Finished	15,218	15,218
UBM	Basement, Unfinished	15,218	0
		45,654	30,436

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	300C
Description	Industrial MDL-94
Zone	CCN
Neighborhood	1000
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.36
Depth	
Assessed Value	$917,290
Appraised Value	$1,310,410

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$2,299,340	$1,310,410	$3,609,750
2020	$2,299,340	$1,310,410	$3,609,750
2019	$2,299,340	$1,310,410	$3,609,750

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$1,609,540	$917,290	$2,526,830
2020	$1,609,540	$917,290	$2,526,830
2019	$1,609,540	$917,290	$2,526,830

Stamford, CT Tax Maps

555 EAST MAIN STREET

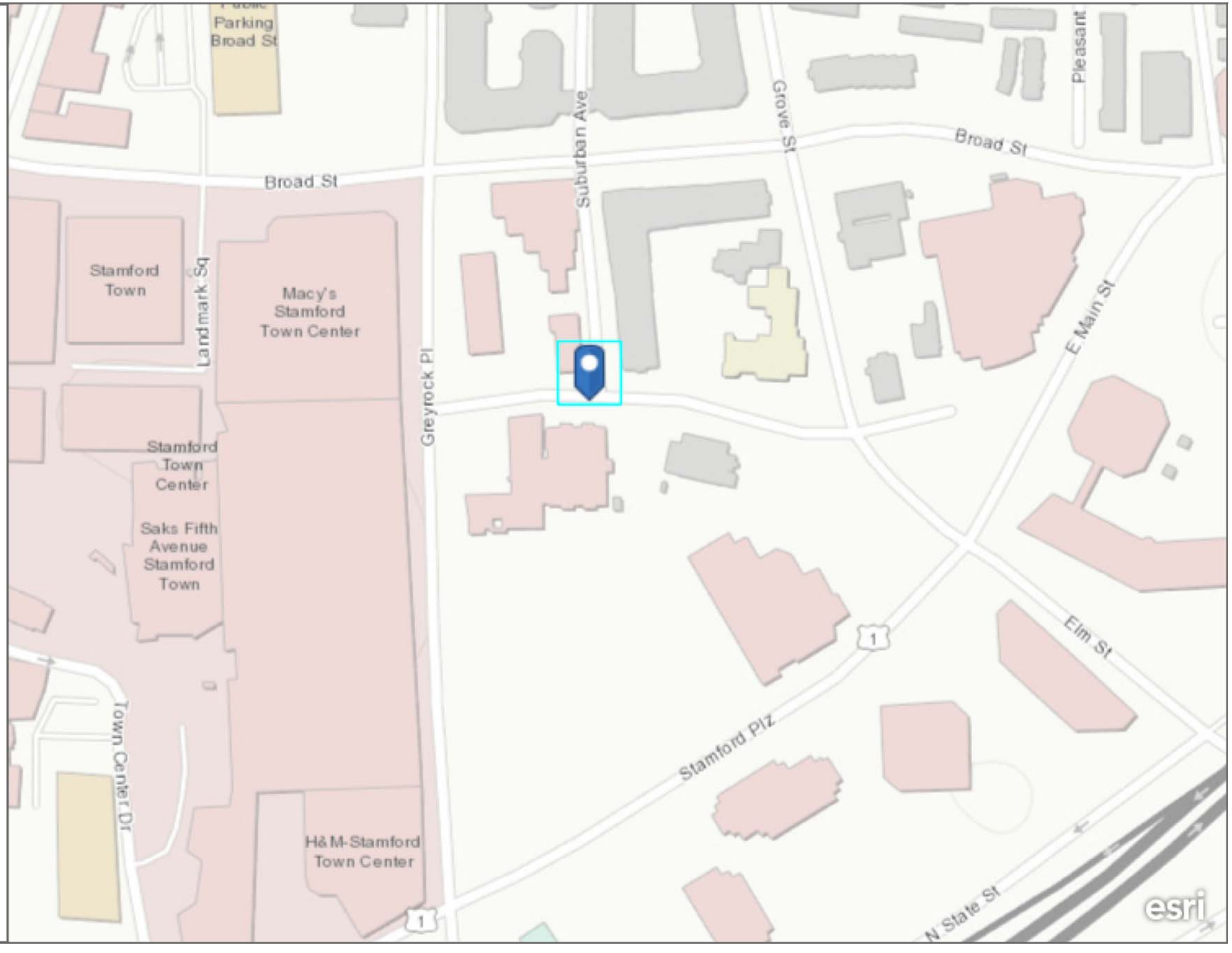


Exhibit C

Construction Drawings

MODIFICATION OF EXISTING WIRELESS FACILITY BY

T-Mobile

T-MOBILE NORTHEAST LLC

PROJECT TITLE: ANCHOR

SITE NUMBER: CT11410A

SITE NAME: STAMFORD / DWTN

SITE ADDRESS: 555 E MAIN STREET STAMFORD, CT, 06901

RF CONFIGURATION: 67E5997DB_2XAIR+1OP (U21 MARKET)

PROJECT NOTES:

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
   HANDICAPPED ACCESS IS NOT REQUIRED.
   POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES, ORDINANCES AND SPECIFICATIONS.

CODE COMPLIANCE:

ALL WORK SHALL COMPLY WITH THE CURRENT NATIONAL AND CONNECTICUT STATE BUILDING AND LIFE SAFETY CODES, SUPPLEMENTS AND AMENDMENTS INCLUDING BUT NOT LIMITED TO THE LATEST EDITION OF:

CONNECTICUT STATE BUILDING CODE (CSBC).

ANSI/TIA-222-G STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

NATIONAL ELECTRICAL CODE (NEC) FOR POWER AND GROUNDING REQUIREMENTS.

OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

NFPA - NATIONAL FIRE PROTECTION ASSOCIATION.

CONTRACTOR'S NOTES:

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

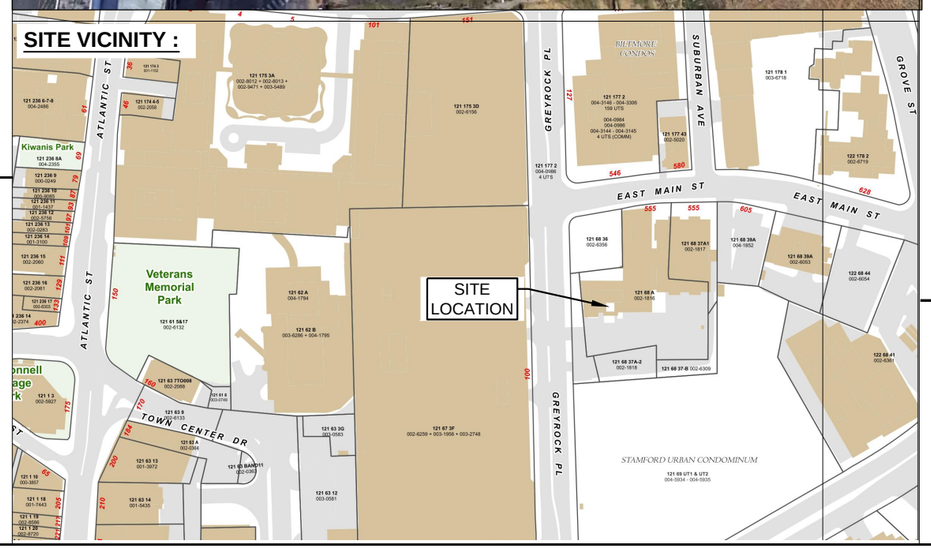
REFER TO STRUCTURAL ANALYSIS REPORT:
MOUNT STRUCTURAL ANALYSIS REPORT - DATED 05/28/2021 BY EFI GLOBAL INC.
STRUCTURAL ANALYSIS REPORT ROOFTOP - DATED 11/16/2021 BY TOWER ENGINEERING PROFESSIONALS.

APPROVALS:

FSA CM	DATE
RF ENGINEER	DATE
FOP	DATE
T-MOBILE ENGINEERING AND DEVELOPMENT	DATE
	DATE
	DATE

SITE IMAGE:

SITE VICINITY :



PROJECT SUMMARY:

THE PROPOSED PROJECT SCOPE WILL CONSIST OF:

UPGRADE EXISTING 6201 CABINET INTERNALLY.
INSTALL A POWER 6230 UNIT INSIDE A 19 INCH RACK ASSEMBLY.
REPLACE (6) OF (9) EXISTING ANTENNAS.
REMOVE (3) EXISTING AND ADD (6) REMOTE RADIO UNITS AT THE ANTENNAS.
REMOVE ALL (3) EXISTING TMA'S AT ANTENNAS.
REMOVE ALL EXISTING COAXIAL AND HCS LINES, ADD (6) 6X24 HCS LINES.

PROJECT INFORMATION:

ADDRESS:	555 E MAIN STREET STAMFORD, CT, 06901
COORDINATES:	41°03'12.45" N, 73°32'08.44" W
STRUCTURE TYPE:	SELF SUPPORT TOWER ON ROOF OF BUILDING
JURISDICTION:	CITY OF STAMFORD CONNECTICUT

PROJECT TEAM:

APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100
LANDLORD:	FRONTIER COMMUNICATIONS 805 CENTRAL EXPRESSWAY SOUTH ALLEN, TX 75013 CONTACT: KELLEY STEWART KELLEY.STEWART@FTR.COM 214-437-8156
PROJECT MANAGER:	NORTHEAST SITE SOLUTIONS 420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 CONTACT: SHELDON FREINCLE SHELDON@NORTHEASTSITESOLUTIONS.COM 201-776-8521
CONSULTANTS:	FORESITE LLC 462 WALNUT ST NEWTON, MA 02460 CONTACT: SAEED MOSSAVAT SMOSSAVAT@FORESITELLC.COM

SHEET INDEX:

T-1:	TITLE SHEET
N-1:	GENERAL NOTES
A-1:	PLANS
A-2:	ELEVATION AND MOUNTING DETAILS
A-3:	ANTENNA LAYOUT PLANS
A-4:	ANTENNA AND EQUIPMENT SPECIFICATIONS
E-1:	ELECTRICAL AND GROUNDING DETAILS

APPLICANT:

T-Mobile

T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER

420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:

FORESITE LLC
Architects . Engineers . Surveyors

462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL

STATE OF CONNECTICUT — MOSSEN M. MOUSSAVI — NO. ARI. 11162 — LICENSED ARCHITECT

REV	DESCRIPTION	DATE
A	PRELIMINARY	11/29/21
0	FINAL ISSUED	12/29/21
1	REVISED PER COMMENTS	01/12/22
2	REVISED PER NEW RF DESIGN	08/10/22

SITE NUMBER: CT11410A
SITE NAME: STAMFORD / DWTN

SITE ADDRESS: 555 E MAIN STREET
STAMFORD, CT, 06901

SHEET TITLE:
T-1: TITLE SHEET

GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.

2. THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.

3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CLIENT'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.

5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

7. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION.

8. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE BASIC STATE BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJEC

9. THE CONTRACTOR SHALL NOTIFY THE CLIENT'S REPRESENTATIVE IN WRITING WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CLIENT'S REPRESENTATIVE.

10. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:

A. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS BUILDING CODES" OR LATEST EDITION.

B. AWS: AMERICAN WELDING SOCIETY INC. AS PUBLISHED IN "STANDARD D1.1-08, STRUCTURAL WELDING CODE" OR LATEST EDITION.

C. AISC: AMERICAN INSTITUTE FOR STEEL CONSTRUCTION AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"; "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (LATEST EDITION).

11. BOLTING:

A. BOLTS SHALL BE CONFORMING TO ASTM A325 HIGH STRENGTH, HOT DIP GALVANIZED WITH ASTM A153 HEAVY HEX TYPE NUTS.

B. BOLTS SHALL BE 3/4"ϕ MINIMUM (UNLESS OTHERWISE NOTED)

C. ALL CONNECTIONS SHALL BE 2 BOLTS MINIMUM.

12. FABRICATION:

A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS STANDARDS AND CODES (LATEST EDITION).

B. ALL STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (LATEST EDITION), UNLESS OTHERWISE NOTED.

13. ERECTION OF STEEL:

A. PROVIDE ALL ERECTION EQUIPMENT, BRACING, PLANKING, FIELD BOLTS, NUTS, WASHERS, DRIFT PINS, AND SIMILAR MATERIALS WHICH DO NOT FORM A PART OF THE COMPLETED CONSTRUCTION BUT ARE NECESSARY FOR ITS PROPER ERECTION.

B. ERECT AND ANCHOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH AISC REFERENCE STANDARDS. ALL WORK SHALL BE ACCURATELY SET TO ESTABLISHED LINES AND ELEVATIONS AND RIGIDLY FASTENED IN PLACE WITH SUITABLE ATTACHMENTS TO THE CONSTRUCTION OF THE BUILDING.

C. TEMPORARY BRACING, GUYING AND SUPPORT SHALL BE PROVIDED TO KEEP THE STRUCTURE SAFE AND ALIGNED AT ALL TIMES DURING CONSTRUCTION, AND TO PREVENT DANGER TO PERSONS AND PROPERTY. CHECK ALL TEMPORARY LOADS AND STAY WITHIN SAFE CAPACITY OF ALL BUILDING COMPONENTS.

14. ANTENNA INSTALLATION:

A. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND CLIENT'S REPRESENTATIVE SPECIFICATIONS.

B. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

C. INSTALL COAXIAL / FIBER CABLES AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS.

15. ANTENNA AND COAXIAL / FIBER CABLE GROUNDING:

A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH ANDREWS CONNECTOR/SPLICE WEATHERPROOFING KIT TYPE #221213 OR EQUAL.

B. ALL COAXIAL / FIBER CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL / FIBER CABLE (NOT WITHIN BENDS).

16. RELATED WORK, FURNISH THE FOLLOWING WORK AS SPECIFIED UNDER CONSTRUCTION DOCUMENTS, BUT COORDINATE WITH OTHER TRADES PRIOR TO BID:

A. FLASHING OF OPENING INTO OUTSIDE WALLS

B. SEALING AND CAULKING ALL OPENINGS

C. PAINTING

D. CUTTING AND PATCHING

17. REQUIREMENTS OF REGULATORY AGENCIES:

A. FURNISH U.L. LISTED EQUIPMENT WHERE SUCH LABEL IS AVAILABLE. INSTALL IN CONFORMANCE WITH U.L. STANDARDS WHERE APPLICABLE.

B. INSTALL ANTENNA, ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH DRAWINGS AND SPECIFICATION IN EFFECT AT PROJECT LOCATION AND RECOMMENDATIONS OF STATE AND LOCAL BUILDING CODES, AND SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

C. TIA-EIA - 222 (LATEST EDITION). STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.

D. FAA - FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70/7460-lH, OBSTRUCTION MARKING AND LIGHTING.

E. FCC - FEDERAL COMMUNICATIONS COMMISSION RULES AND REGULATIONS FORM 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATION FOR ANTENNA STRUCTURES AND FORM 715A, HIGH INTENSITY OBSTRUCTION LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES.

F. AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS (LATEST EDITION).

G. NEC - NATIONAL ELECTRICAL CODE - ON TOWER LIGHTING KITS.

H. UL - UNDERWRITER'S LABORATORIES APPROVED ELECTRICAL PRODUCTS.

I. IN ALL CASES, PART 77 OF THE FAA RULES AND PARTS 17 AND 22 OF THE FCC RULES ARE APPLICABLE AND IN THE EVENT OF CONFLICT, SUPERSEDE ANY OTHER STANDARDS OR SPECIFICATIONS.

J. 2018 LIFE SAFETY CODE NFPA - 101.

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

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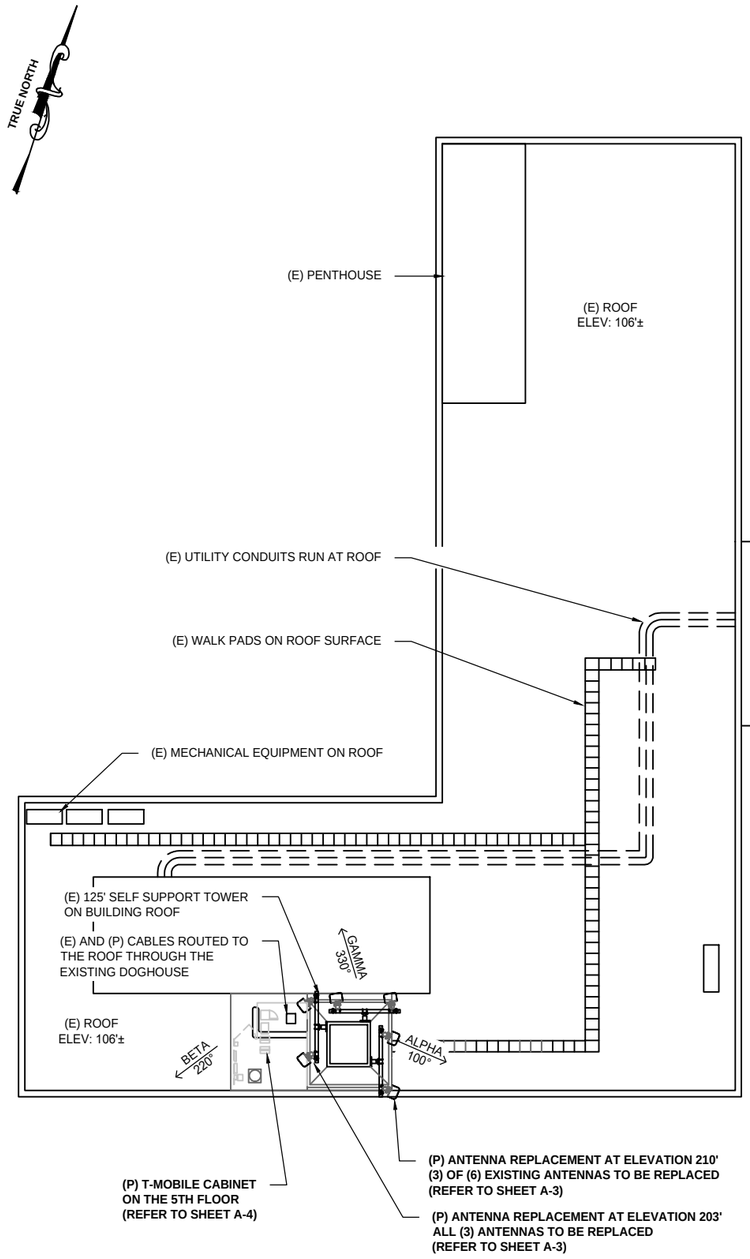
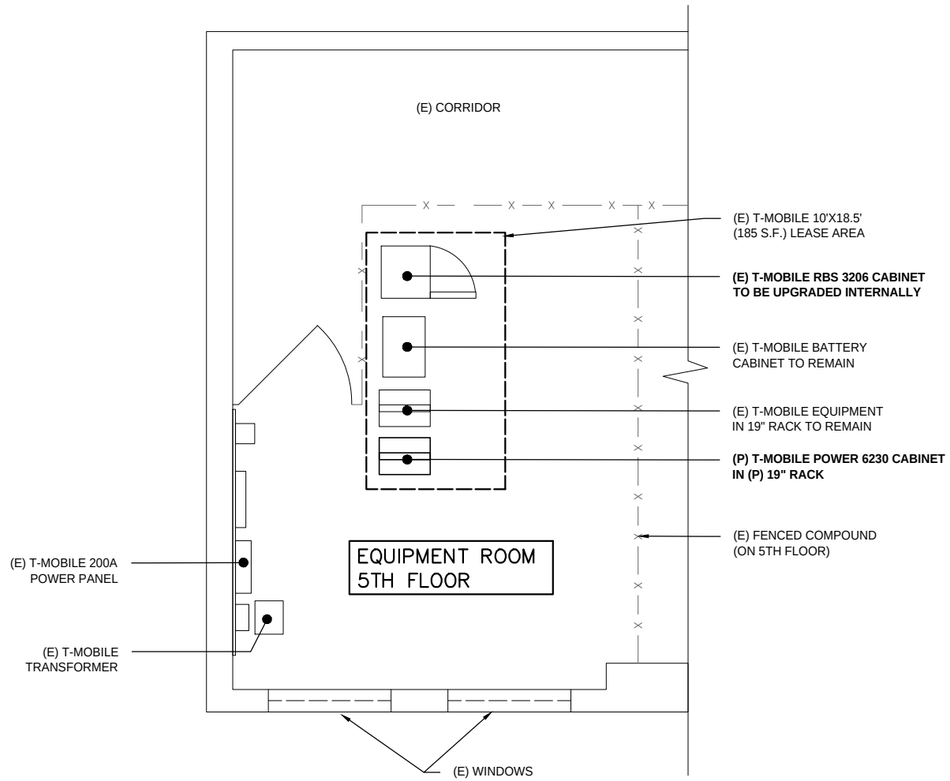
SHEET TITLE:
N-1: GENERAL NOTES



ROOF PLAN
SCALE: 1" = 30' — 1 / A-1



EQUIPMENT ROOM (5TH FLOOR)
SCALE: 1/8" = 1'-0" — 2 / A-1

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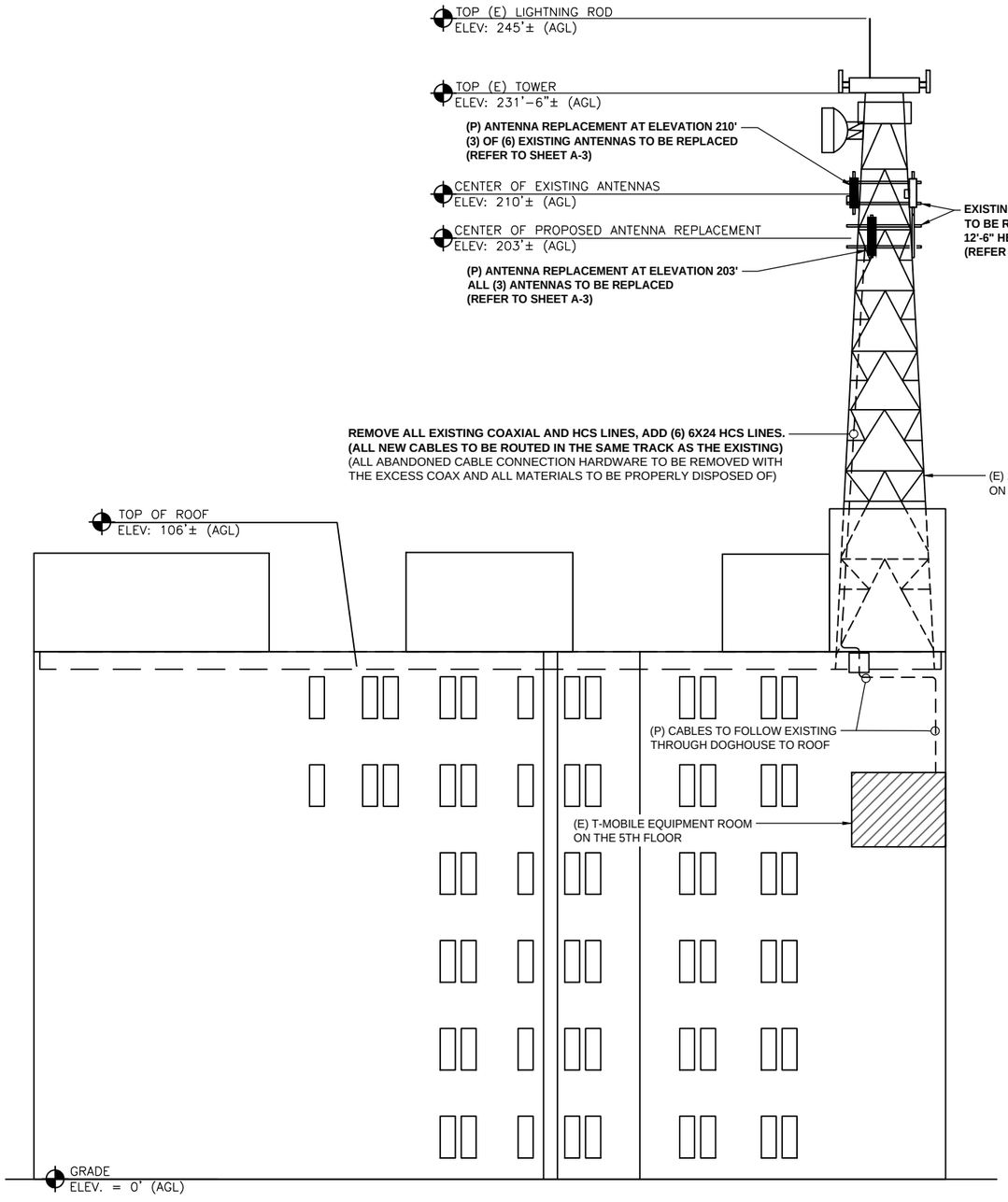
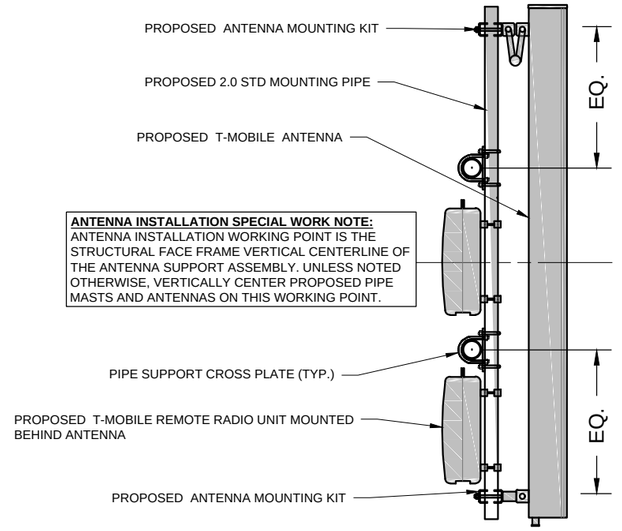
SHEET TITLE:
A-1: PLANS

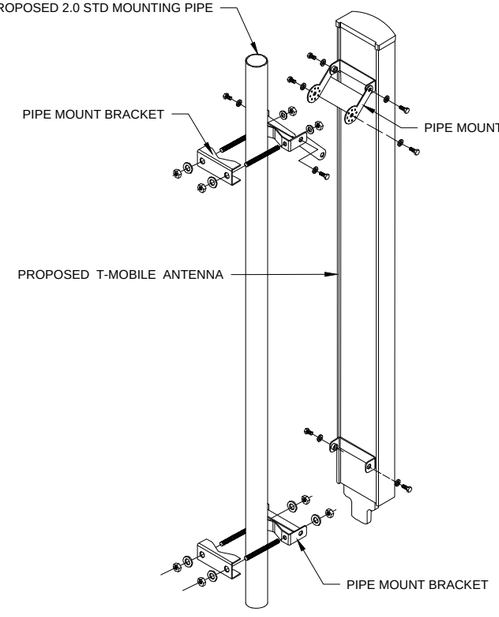


ELEVATION
SCALE: 1"=30' — 1 / A-2

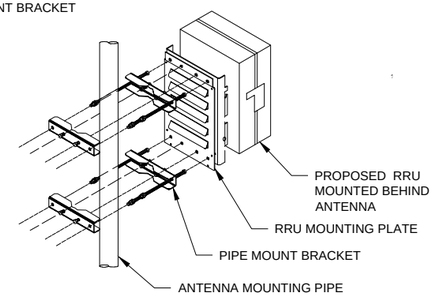


ANTENNA INSTALLATION SPECIAL WORK NOTE:
ANTENNA INSTALLATION WORKING POINT IS THE STRUCTURAL FACE FRAME VERTICAL CENTERLINE OF THE ANTENNA SUPPORT ASSEMBLY. UNLESS NOTED OTHERWISE, VERTICALLY CENTER PROPOSED PIPE MASTS AND ANTENNAS ON THIS WORKING POINT.

ANTENNA ELEVATION
N.T.S — 2 / A-2



ANTENNA MOUNT DETAIL
N.T.S — 3 / A-2



RRU MOUNT DETAIL
N.T.S — 4 / A-2

APPLICANT:
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BLOOMFIELD, CT 06002
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CONSULTANT:
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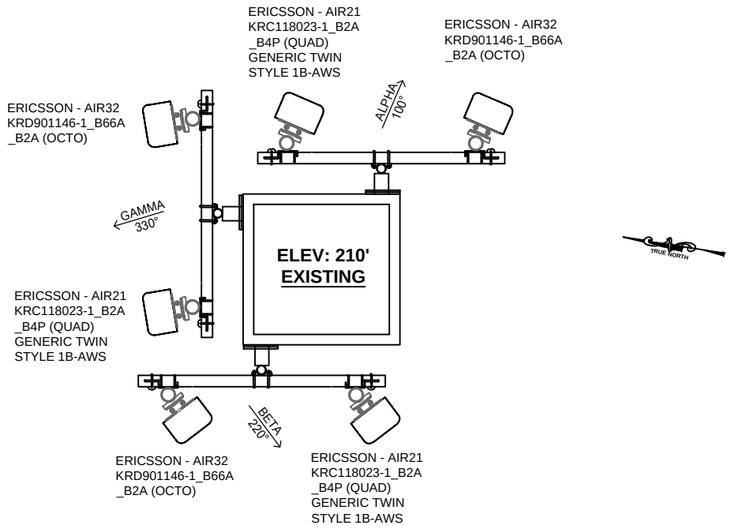
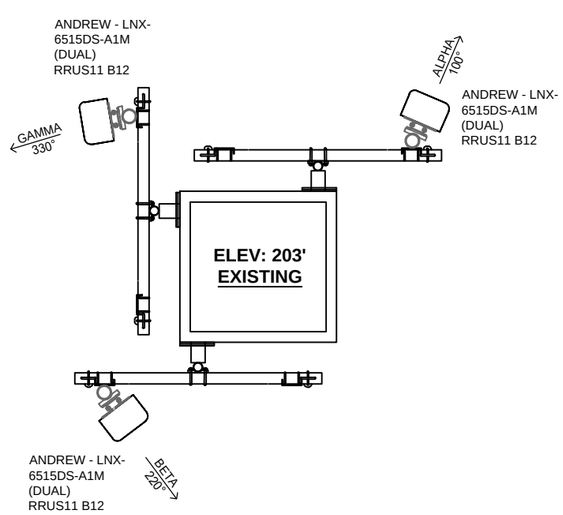
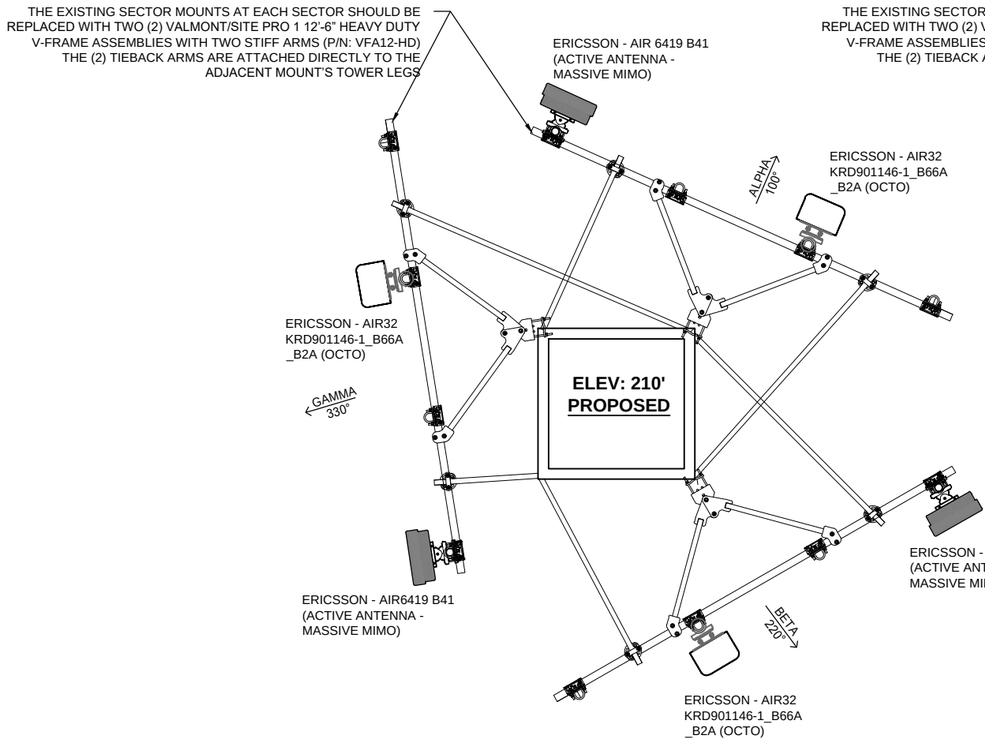
SHEET TITLE:
A-2: ELEVATION AND ANTENNA MOUNTING DETAILS

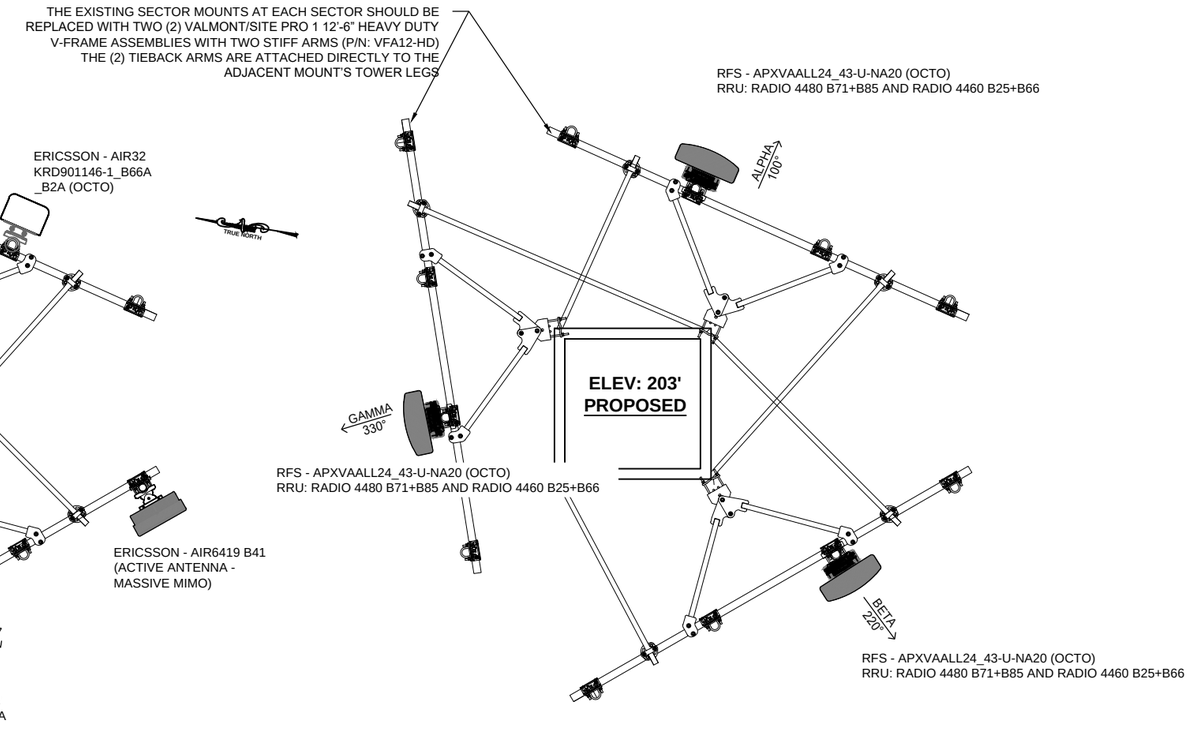




EXISTING ANTENNA PLAN
N.T.S.

1
A-3





FINAL ANTENNA PLAN
N.T.S.

2
A-3

APPLICANT:
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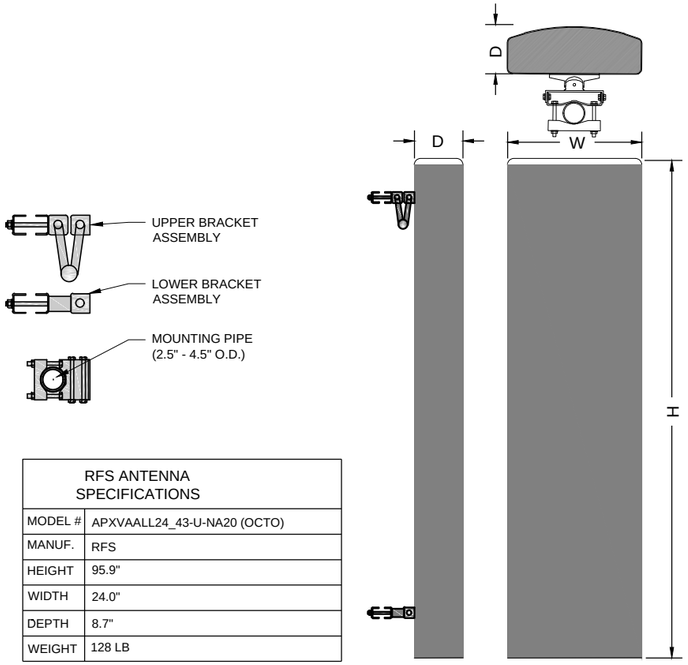
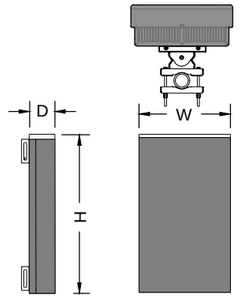
SHEET TITLE:
A-3: ANTENNA LAYOUT PLANS



RFS ANTENNA SPECIFICATIONS	
MODEL #	APXVAALL24_43-U-NA20 (OCTO)
MANUF.	RFS
HEIGHT	95.9"
WIDTH	24.0"
DEPTH	8.7"
WEIGHT	128 LB

RFS ANTENNA
N.T.S

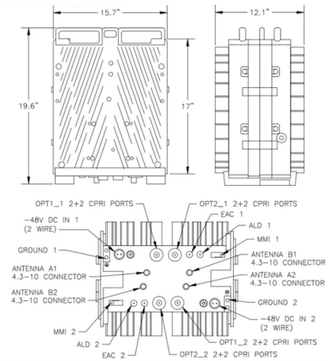
1 A-4



ANTENNA SPECIFICATIONS	
MODEL #	AIR6419 B41
MANUF.	ERICSSON
HEIGHT	33.3"
WIDTH	20.9"
DEPTH	9"
WEIGHT	83.3 LB

ERICSSON ANTENNA
N.T.S

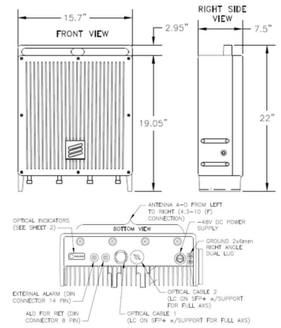
2 A-4



RRU SPECIFICATIONS	
MODEL #	4460 B25+B66
MANUF.	ERICSSON
LENGTH	19.6"
WIDTH	15.7"
DEPTH	12.1"
WEIGHT	109 LB

REMOTE RADIO UNIT
N.T.S.

3 A-4



RRU SPECIFICATIONS	
MODEL #	4480 B71+B85
MANUF.	ERICSSON
LENGTH	22.0"
WIDTH	15.7"
DEPTH	7.5"
WEIGHT	93.0 LB

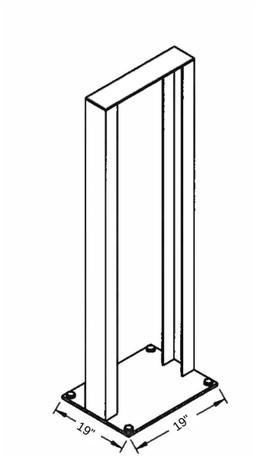
REMOTE RADIO UNIT
N.T.S

4 A-4

BATTERY CABINET SPECIFICATIONS	
MODEL #	POWER 6230
MANUF.	ERICSSON
HEIGHT	19"
WIDTH	26"
DEPTH	26"
WEIGHT	200 LBS

BATTERY SYSTEM
N.T.S

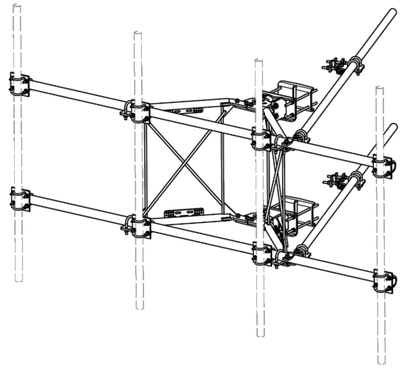
5 A-4



NOTE: CONTRACTOR SHALL SECURE RACK AS PER MANUFACTURER RECOMMENDATIONS

INDOOR EQUIPMENT RACK
N.T.S

6 A-4



VALMONT/SITE PRO 1 12'-6" HEAVY DUTY V-FRAME ASSEMBLY WITH TWO STIFF ARMS (P/N: VFA12-HD), WITH (4) 96" LONG 2.0 STD MOUNT PIPES ARE EQUALLY SPACED ALONG THE FACE

NEW SECTOR MOUNT
N.T.S

7 A-4

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SHEET TITLE:
A-4: ANTENNA AND EQUIPMENT SPECS

ELECTRICAL & GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.

2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PRODUCED PER SPECIFICATION REQUIREMENTS.

3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) ND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

6. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.

7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.

8. RUN ELECTRICAL CONDUIT OR CABLING BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE ARE PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.

9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELECOM CABINET AND RBS CABINET AS INDICATED ON DRAWING A -1. PROVIDE FULL LENGTH PULL ROPE INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.

10. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NAME 3R ENCLOSURE.

11. GROUNDING SHALL COMPLY WITH NEC ART. 250.

12. GROUNDING COAX CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURES COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.

13. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSTALLATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE GROUND.

14. ALL GROUND CONNECTION TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.

15. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AS RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY BOND ANY METER OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

16. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PROCEDURES (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN RBS UNIT).

17. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

18. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTION.

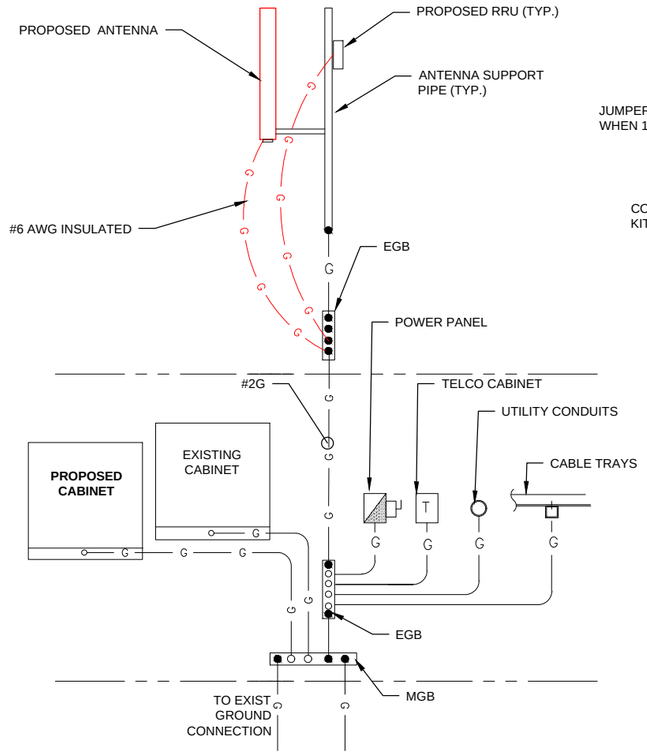
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

20 BOND ANTENNA EGB'S AND MGB TO WATER MAIN.

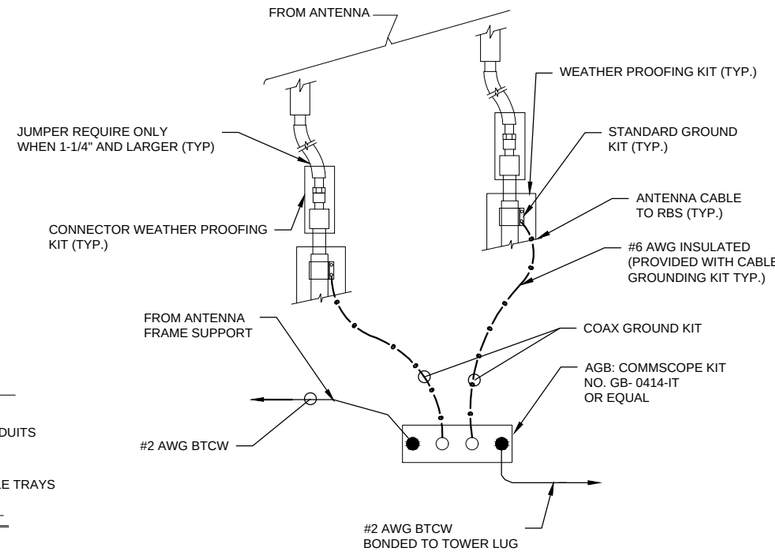
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.

22. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

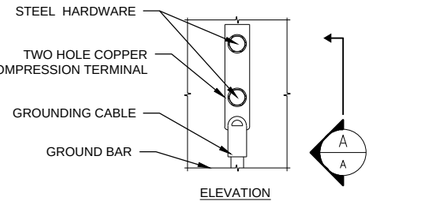


GROUNDING RISER DIAGRAM (1 / E–1)
N.T.S.

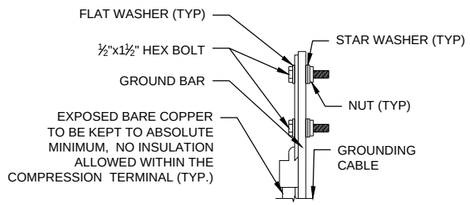


NOTES:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB

TOWER TOP CABLE GROUNDING DETAIL (2 / E–1)
N.T.S.



ELEVATION



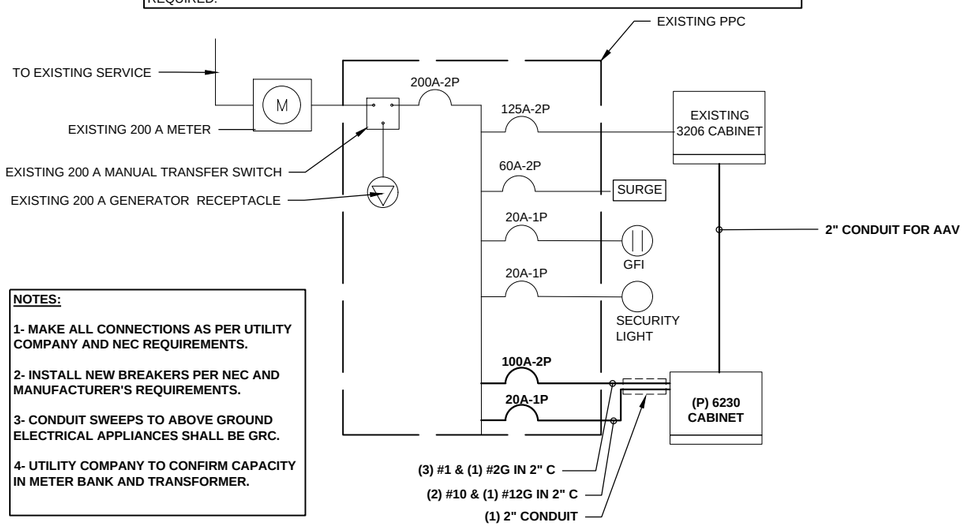
SECTION A-A

NOTES:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR CONNECTIONS DETAIL (3 / E–1)
N.T.S.

SPECIAL CONTRACTOR'S NOTES:

CONTRACTOR TO VERIFY THE POWER FEED & PHASE OF METER BANK AND THAT THE EXISTING AND PROPOSED CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSED LOADING IN ACCORDANCE WITH NEC AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORK AS REQUIRED.



NOTES:

1- MAKE ALL CONNECTIONS AS PER UTILITY COMPANY AND NEC REQUIREMENTS.

2- INSTALL NEW BREAKERS PER NEC AND MANUFACTURER'S REQUIREMENTS.

3- CONDUIT SWEEPS TO ABOVE GROUND ELECTRICAL APPLIANCES SHALL BE GRC.

4- UTILITY COMPANY TO CONFIRM CAPACITY IN METER BANK AND TRANSFORMER.

TYPICAL ONE LINE DIAGRAM (4 / E–1)
N.T.S.

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
NO. ARI. 11162
LICENSED ARCHITECT

REV	DESCRIPTION	DATE
A	PRELIMINARY	11/29/21
0	FINAL ISSUED	12/29/21
1	REVISED PER COMMENTS	01/12/22
2	REVISED PER NEW RF DESIGN	08/10/22

SITE NUMBER: CT11410A
SITE NAME: STAMFORD / DWTN

SITE ADDRESS: 555 E MAIN STREET
STAMFORD, CT, 06901

SHEET TITLE:
E-1: ELECTRICAL & GROUNDING DETAIL

Exhibit D

Structural Analysis Report

September 6, 2022

Thomas Rigg
EIP Holdings II
Two Allegheny Center
Pittsburgh, PA 15212
(603) 498-7462

Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351
Structures@tepgroup.net

Subject: **Structural Analysis Report**

Carrier Designation:	***T-Mobile* Reconfiguration**	
	Carrier Site Number:	CT11410A
	Carrier Site Name:	Stamford/Dwtn
Client Designation:	**Site Number:**	638283
	Site Name:	Stamford #1 CO
Engineering Firm Designation:	**TEP Project Number:**	263252.730266
Site Data:	**555 Main Street, Stamford, Fairfield County, CT 06901** **Latitude *41° 3' 12.4"*, Longitude *-73° 32' 83.09"*** **125 ± Foot - Self-Support Tower**	

Dear Thomas Rigg,

Tower Engineering Professionals is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

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

LC1: Existing + Proposed + Reserved Loading **Sufficient Capacity**
Note: See Table 1 for the existing, proposed, and reserved loading

Structure Capacity	Foundation Capacity
77.4%	-

The analysis has been performed in accordance with the ANSI/TIA-222-G-2-2009 Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2 and the 2018 Connecticut State Building Code.

All modifications and equipment proposed in this report shall be installed in accordance with the appurtenances listed in Table 1 for the determined available structural capacity to be effective.

We at *Tower Engineering Professionals* appreciate the opportunity of providing our continuing professional services to you and *EIP Holdings II.* If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: Austin J. Wilson

Respectfully submitted by:

Aaron T. Rucker, P.E.

Electronic Copy

09/06/2022

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1) INTRODUCTION

The tower is a 125± Foot Self-Support Tower mapped by Hightower Solutions, Inc. in April of 2015. The original design standard and wind speed were unavailable for review. The tower has been modified per reinforcement drawings prepared by MEI, Inc. in June of 2015. The tower is located on rooftop. The bottom of tower is at 106.5-ft above ground level, bringing the total tower height to 231.5-ft. All information provided to TEP was assumed to be accurate and complete.

2) ANALYSIS CRITERIA

TIA-222 Revision: ANSI/TIA-222-G-2-2009
Type of Analysis: Feasibility Study
Risk Category: II
Wind Speed: 91 mph (Ultimate)
Exposure Category: C
Topographic Procedure: Method 2 (Kzt = 1.0)
Ice Thickness: 1.0 in
Wind Speed with Ice: 50 mph
Seismic Design Category: B
Seismic Ss: 0.261
Seismic S1: 0.058
Service Wind Speed: 60 mph

Table 1 - Existing, Proposed, and Reserved Antenna and Cable Information

Existing/ Proposed/ Reserved	Mount Level (ft)	Ant CL (ft)	Qty	Antenna Model	Mount Type	Qty Coax	Coax Size	Coax Location	Owner/ Tenant
Existing	235.0	235.0	6	CCI HPA-45R-BUU-H6	Platform w/ handrails + Mods	12 6 3	1-5/8 3/4 DC 3/8 Fiber	B Leg	AT&T
			2	CCI TPA45R-KU6AA					
			2	CCI OPA-65R-LCUU-H6					
			1	Kathrein 80010964					
			1	Powerwave P65-15-XLH-RR					
			9	Ericsson RRUS 32					
			3	Ericsson Radio 4478					
			3	Ericsson RRUS 11 B12					
			6	Powerwave LGP21401					
			2	CCI TPX-070821					
			2	Raycap DC6-48-60-18-8F					
			1	Raycap DC6-48-60-18-8C					
Existing	229.0	229.0	1	1.5'x 2 Element Yagi	Platform	1	1/2	B Leg	Frontier
Existing	223.5	223.5	1	10' Ø HP Dish	Pipe mount	2	EW90	B Leg	Frontier
Existing	221.5	221.5	-	-	-	2	3/8	B Leg	Unknown
Existing	221.0	221.0	1	1' Ø HP Dish	Pipe mount	1	3/8	B Leg	Frontier
Proposed	***206.5***	***210.0***	***3***	***Ericsson AIR6419 B41***	***(3) SitePro VFA12-HD***	***6***	***HCS 6x24***	***DA Face***	***T-Mobile***
Existing	206.5	210.0	3	Ericsson Air 32 KRD901146-1_B66A_B2A		-	-	DA Face	T-Mobile

Table 1 - Existing, Proposed, and Reserved Antenna and Cable Information - Continued

Existing/ Proposed/ Reserved	Mount Level (ft)	Ant CL (ft)	Qty	Antenna Model	Mount Type	Qty Coax	Coax Size	Coax Location	Owner/ Tenant
To Be Removed	*206.5*	*210.0*	*3*	*Ericsson AIR 21 KRC118023-1_B2A_B4p*	*(3) Sector Mounts*	*29*	*1-5/8 Hybrid 1" Ø*	*DA Face*	*T-Mobile*
			3	*Ericsson Generic Twin Style 1B-AWS*		*1*			
			3	*Ericsson RRUS 11 B12*		*1*			
Proposed	***203.0***	***203.0***	***3***	***RFS APXVAALL24_43-U-NA20***	***(3) SitePro VFA12-HD***	***-***	***-***	***-***	***T-Mobile***
			3	***Ericsson 4480 B71+B85***					
			3	***Ericsson 4460 B25+B66***					
			3	***Commscope SDX1926Q-43***					
To Be Removed	*203.0*	*203.0*	*3*	*Andrew LNX-6516DS-A1M*	*(3) Sector Mounts*	*-*	*-*	*-*	*T-Mobile*
Existing	132.0	132.0	1	4' 7-Element Yagi	Standoff	1	1/2	B Leg	Frontier

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Source
Tower Mapping Report	Hightower Solutions, Inc., dated April 6, 2015 Site No. CT11410A	T-Mobile
Post Modification Inspection	MEI, Inc., dated October 8, 2015 Project No. CT02768S-15V3	T-Mobile
Previous Structural Analysis	MEI, Inc., dated July 9, 2019 Project No. CT02768S-20V0	T-Mobile
Previous Structural Analysis	MEI, Inc., dated May 15, 2020 Project No. CT02768S-19V0	T-Mobile
Tower Inspection Report	Tower Engineering Professionals, Inc., dated May 6, 2021 TEP No. 263252.513145	TEP
Previous Structural Analysis	Tower Engineering Professionals, Inc., dated November 16, 2021 TEP No. 263252.614101	TEP
Correspondence	Correspondence in reference to the existing, proposed, and reserved loading.	T-Mobile

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Analysis Assumptions

1) The tower and foundation were built and maintained in accordance with the manufacturer's specification.
2) The configuration of existing antennas, transmission cables, mounts and other appurtenances are as specified in the tower mapping report by TEP.
3) Unless specified by the client or tower mapping, the location of the existing and proposed coax is assumed by TEP and listed in Table 1.
4) All tower components are in sufficient condition to carry their full design capacity.
5) Serviceability with respect to antenna twist, tilt, roll, or lateral translation, is not checked and is left to the carrier or tower owner to ensure conformance.
6) All antenna mounts and mounting hardware are structurally sufficient to carry the full design capacity requirements of appurtenance wind area and weight as provided by the original manufacturer specifications. It is the carrier's responsibility to ensure compliance to the structural limitations of the existing and/or proposed antenna mounts.
7) TEP assumed that tower geometry is correct per previous structural analysis by MEI, Inc., dated July 09, 2019 (Project No. CT02768S-19V0).

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

4) ANALYSIS RESULTS

Table 3 - Section Capacity (Summary)[1]

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (k)	ϕP_{allow} (k)	% Capacity	Pass / Fail
T1	231.5 - 229	Leg	L4x4x3/8	4	-7116	90149	67.2	Pass
T2	229 - 224.8	Leg	L4x4x3/8	11	-11381	78446	14.5	Pass
T3	224.8 - 220.7	Leg	L4x4x3/8	24	-19961	79245	25.2	Pass
T4	220.7 - 216.5	Leg	L4x4x3/8	40	-25675	78446	32.7	Pass
T5	216.5 - 211.5	Leg	L5x5x1/2	51	-33993	132747	25.6	Pass
T6	211.5 - 206.5	Leg	L5x5x1/2	67	-44692	132747	33.7	Pass
T7	206.5 - 201.5	Leg	L5x5x1/2	84	-56805	132747	42.8	Pass
T8	201.5 - 196.5	Leg	L5x5x1/2	96	-66935	132747	50.4	Pass
T9	196.5 - 191.5	Leg	L5x5x1/2	111	-77809	132747	58.6	Pass
T10	191.5 - 181.5	Leg	L6x6x5/8	123	-86766	208297	41.7	Pass
T11	181.5 - 171.5	Leg	L6x6x5/8	145	-107588	208533	51.6	Pass
T12	171.5 - 161.5	Leg	L6x6x5/8	165	-127691	208732	61.2	Pass
T13	161.5 - 151.5	Leg	L6x6x5/8	187	-147395	208901	70.6	Pass
T14	151.5 - 141.5	Leg	L6x6x3/4	207	-168555	247530	68.1	Pass
T15	141.5 - 131.5	Leg	L6x6x3/4	229	-203846	287117	71.0	Pass
T16	131.5 - 119	Leg	L6x6x7/8	297	-199952	267242	74.8	Pass
T17	119 - 106.5	Leg	L6x6x7/8	337	-221994	313544	70.8	Pass
T2	229 - 224.8	Diagonal	2L2 1/2x2 1/2x1/4x3/8	15	4256	66543	6.4 10.2 (b)	Pass
T3	224.8 - 220.7	Diagonal	2L2 1/2x2 1/2x1/4x3/8	35	4097	66543	6.2 9.8 (b)	Pass
T4	220.7 - 216.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	46	5095	66543	7.7 12.2 (b)	Pass
T5	216.5 - 211.5	Diagonal	L2 1/2x2x1/4	61	-5277	20626	25.6	Pass
T6	211.5 - 206.5	Diagonal	L2 1/2x2x1/4	77	-4957	19949	24.8	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (k)	ϕP_{allow} (k)	% Capacity	Pass / Fail
T7	206.5 - 201.5	Diagonal	L2 1/2x2x1/4	89	-6379	19263	33.1	Pass
T8	201.5 - 196.5	Diagonal	L2 1/2x2x1/4	105	-7026	18570	37.8	Pass
T9	196.5 - 191.5	Diagonal	L2 1/2x2x1/4	117	-7029	17873	39.3	Pass
T10	191.5 - 181.5	Diagonal	L3x3x1/4	135	-11894	22280	53.4	Pass
T11	181.5 - 171.5	Diagonal	L3x3x1/4	155	-11815	21236	55.6	Pass
T12	171.5 - 161.5	Diagonal	L3x3x1/4	177	-11997	20168	59.5	Pass
T13	161.5 - 151.5	Diagonal	L3x3x1/4	197	-12295	19074	64.5	Pass
T14	151.5 - 141.5	Diagonal	L3x3x1/4	219	-11627	17951	64.8	Pass
T15	141.5 - 131.5	Diagonal	L3x3x1/4	251	-13506	27487	49.1 55.1 (b)	Pass
T16	131.5 - 119	Diagonal	2L2 1/2x2 1/2x1/4x3/8	320	-18821	29584	63.6	Pass
T17	119 - 106.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	377	-19711	44078	44.7 45.4 (b)	Pass
T15	141.5 - 131.5	Horizontal	L2 1/2x2x1/4	242	-3060	9698	31.5	Pass
T10	191.5 - 181.5	Secondary Horizontal	L2 1/2x2x1/4	140	-1302	13233	9.8	Pass
T11	181.5 - 171.5	Secondary Horizontal	L2 1/2x2x1/4	160	-1615	10802	14.9	Pass
T12	171.5 - 161.5	Secondary Horizontal	L2 1/2x2x3/16	182	-1917	7028	27.3	Pass
T13	161.5 - 151.5	Secondary Horizontal	L2 1/2x2 1/2x1/4	202	-2212	14360	15.4	Pass
T14	151.5 - 141.5	Secondary Horizontal	L2 1/2x2x1/4	224	-2530	6498	38.9	Pass
T1	231.5 - 229	Top Girt	C8x11.5	8	-730	67065	17.3	Pass
T3	224.8 - 220.7	Top Girt	L2 1/2x2 1/2x1/4	25	-1337	19256	6.9	Pass
T5	216.5 - 211.5	Top Girt	C7x9.8	53	-1269	53353	2.4 3.3 (b)	Pass
T6	211.5 - 206.5	Top Girt	L2 1/2x2x1/4	69	-1006	13832	7.3	Pass
T8	201.5 - 196.5	Top Girt	L2 1/2x2 1/2x1/4	99	-1005	15812	6.4	Pass
T10	191.5 - 181.5	Top Girt	L2 1/2x2 1/2x1/4	130	-2990	13749	21.8	Pass
T11	181.5 - 171.5	Top Girt	L2 1/2x2 1/2x1/4	150	-5419	11873	45.6	Pass
T12	171.5 - 161.5	Top Girt	L2 1/2x2 1/2x1/4	172	-6059	10357	58.5	Pass
T13	161.5 - 151.5	Top Girt	L2 1/2x2 1/2x1/4	192	-6505	9113	71.4	Pass
T14	151.5 - 141.5	Top Girt	L2 1/2x2 1/2x1/4	214	-6254	8081	77.4	Pass
T15	141.5 - 131.5	Top Girt	L2 1/2x2 1/2x1/4	234	-6179	11282	54.8	Pass
T16	131.5 - 119	Top Girt	2L2 1/2x2 1/2x1/4x3/8	301	-8509	50079	17.0 21.9 (b)	Pass
T17	119 - 106.5	Top Girt	2L2 1/2x2 1/2x1/4x3/8	341	-8800	47071	18.7 20.8 (b)	Pass
T15	141.5 - 131.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	247	-3060	17425	17.6 39.1 (b)	Pass
T16	131.5 - 119	Redund Horz 1 Bracing	L2 1/2x2x3/16	317	-3060	17201	17.8 39.1 (b)	Pass
T17	119 - 106.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	365	-3332	16660	20.0 42.6 (b)	Pass
T15	141.5 - 131.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	278	-2065	15237	13.5 26.4 (b)	Pass
T16	131.5 - 119	Redund Diag 1 Bracing	L2 1/2x2x3/16	322	-3524	6932	50.8	Pass
T17	119 - 106.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	366	-4738	12607	37.6 54.9 (b)	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (k)	ϕP_{allow} (k)	% Capacity	Pass / Fail
T15	141.5 - 131.5	Redund Hip 1 Bracing	L2x2x1/4	286	-25	15748	0.4	Pass
T16	131.5 - 119	Redund Hip 1 Bracing	L2x2x1/4	334	-100	15363	0.7	Pass
T17	119 - 106.5	Redund Hip 1 Bracing	L2x2x1/4	391	-126	13945	0.9	Pass
T17	119 - 106.5	Redund Hip Diagonal 1 Bracing	L2x2x1/4	392	-117	2832	4.1	Pass
T17	119 - 106.5	Redund Sub Horz Bracing	L2 1/2x2x3/16	370	4002	22896	17.5 27.8 (b)	Pass
T17	119 - 106.5	Redund Sub Diagonal Bracing	L2 1/2x2x3/16	369	-4580	16755	27.3 27.9 (b)	Pass
T10	191.5 - 181.5	Inner Bracing	L2 1/2x2 1/2x3/16	126	576	30686	1.9	Pass
T12	171.5 - 161.5	Inner Bracing	L2 1/2x2 1/2x3/16	167	1117	30686	3.6	Pass
T14	151.5 - 141.5	Inner Bracing	L2x2 1/2x3/16	209	991	27522	3.6	Pass
T16	131.5 - 119	Inner Bracing	L3x3x3/16	304	-49	9199	0.8	Pass
T17	119 - 106.5	Inner Bracing	L3x3x3/16	344	-43	7938	0.9	Pass
							Summary	
						Leg (T16)	74.8	Pass
						Diagonal (T14)	64.8	Pass
						Horizontal (T15)	31.5	Pass
						Secondary Horizontal (T14)	38.9	Pass
						Top Girt (T14)	77.4	Pass
						Redund Horz 1 Bracing (T17)	42.6	Pass
						Redund Diag 1 Bracing (T17)	54.9	Pass
						Redund Hip 1 Bracing (T17)	0.9	Pass
						Redund Hip Diagonal 1 Bracing (T17)	4.1	Pass
						Redund Sub Horz Bracing (T17)	27.8	Pass
						Redund Sub Diagonal Bracing (T17)	27.9	Pass
						Inner Bracing (T12)	3.6	Pass
						Bolt Checks	52.5	Pass
						RATING =	**77.4**	**Pass**

Structure Rating (max from all components) =	**77.4%**

Table 4 - Dish Twist/Sway Results for 60 mph Service Wind Speed

Elevation (ft)	Dish Model	Beam Deflection		
		Deflection (in)	Tilt (deg)	Twist (deg)
223.5	10' Ø HP Dish	1.943	0.1446	0.0152
221.0	1' Ø HP Dish	1.866	0.1424	0.0150

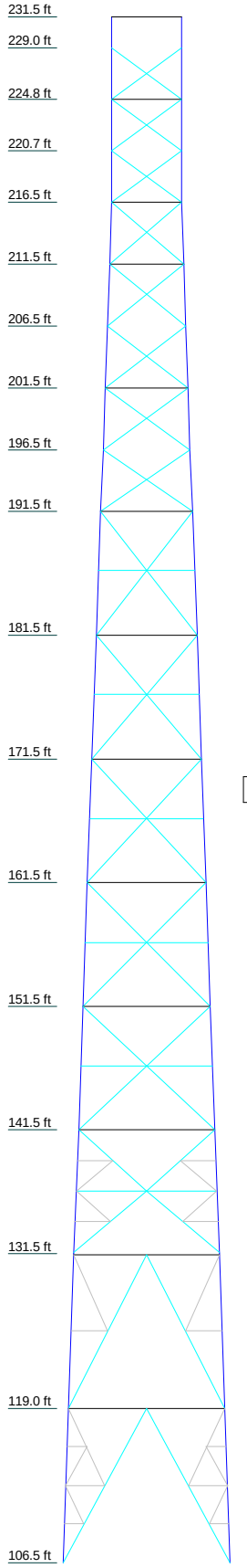
4.1) Recommendations

1) If the load differs from that described in Table 1 of this report or the provisions of this analysis are found to be invalid, another structural analysis should be performed.
2) The tower has sufficient capacity to carry the existing, proposed, and reserved loading. No modifications are required at this time.
3) TEP did not have sufficient information to perform a foundation analysis. Provide TEP with foundation drawings and/or a geotechnical report for this site in order to determine the substructure capacity. If this information is not available, TEP recommends a foundation mapping and/or geotechnical investigation.
4) Prior to acceptance of changed configuration a comprehensive structural analysis shall be performed in order to determine the overall stability and the adequacy of the structural members, foundations and connections.

APPENDIX A

TNX TOWER OUTPUT

Section	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	L6x6x7/8		L6x6x3/4			L6x6x5/8					L5x5x1/2				L4x4x3/8		
Leg Grade	A36																
Diagonals	2L2 1/2x2 1/2x1/4x3/8				L3x3x1/4						L2 1/2x2x1/4			2L2 1/2x2 1/2x1/4x3/8			N.A.
Diagonal Grade	A36																N.A.
Top Girts	2L2 1/2x2 1/2x1/4x3/8				L2 1/2x2 1/2x1/4				N.A.	B	N.A.	C	C7x9.8	N.A.	B	N.A.	A
Horizontals	N.A.		L2 1/2x2x1/4					N.A.									
Sec. Horizontals		N.A.		L2 1/2x2x1/4	L2 1/2x2 1/2x1/4	L2 1/2x2x3/16		L2 1/2x2x1/4				N.A.					
Red. Horizontals		L2 1/2x2x3/16					N.A.										
Red. Diagonals		L2 1/2x2x3/16					N.A.										
Red. Sub-Horizs	L2 1/2x2x3/16																
Red. Sub-Diags	L2 1/2x2x3/16																
Inner Bracing		L3x3x3/16			L2x2 1/2x3/16		N.A.	L2 1/2x2 1/2x3/16				N.A.					
Face Width (ft)	13.5833	12.6766	11.7699	11.0445	10.3191	9.59373	8.86836	8.14298	7.41761	7.05492	6.69223	6.32954	5.96685	5 @ 5	1 @ 4.1	1 @ 4.2	5.60417
# Panels @ (ft)	1 @ 12.5	1 @ 12.4167	2 @ 4.95833			5 @ 10								1 @ 4.2			D
Weight (lb)	25578.5	3935.9	3500.3	2605.4	2231.7	1930.8	1916.1	1825.1	1850.6	606.4	711.3	588.7	670.4	801.5	648.1	735.3	648.1	372.9



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Top Platform Mount	235	2.4" Dia x 8-ft Mount Pipe	206.5
2.4" Dia x 6-ft Pipe	235	2.4" Dia x 8-ft Mount Pipe	206.5
2.4" Dia x 6-ft Pipe	235	AIR 32 KRD901146-1 w/ Mount Pipe	206.5
Unused I-Beam Mount	235	AIR 32 KRD901146-1 w/ Mount Pipe	206.5
(3) HPA-45R-BUU-H6 w/ Mount Pipe	235	AIR 32 KRD901146-1 w/ Mount Pipe	206.5
(3) HPA-45R-BUU-H6 w/ Mount Pipe	235	AIR 6419 B41_TMO w/ Mount Pipe	206.5
TPA45R-KU6A w/ Mount Pipe	235	AIR 6419 B41_TMO w/ Mount Pipe	206.5
TPA45R-KU6A w/ Mount Pipe	235	AIR 6419 B41_TMO w/ Mount Pipe	206.5
P65-15-XLH-RR w/ Mount Pipe	235	Site Pro 1 VFA12-HD	206.5
80010964 w/ Mount Pipe	235	Site Pro 1 VFA12-HD	206.5
(2) OPA-65R-LCUU-H6 w/ Mount Pipe	235	Site Pro 1 VFA12-HD	203
(3) RRUS 32	235	2.4" Dia x 8-ft Mount Pipe	203
(3) RRUS 32	235	2.4" Dia x 8-ft Mount Pipe	203
(3) RRUS 32	235	2.4" Dia x 8-ft Mount Pipe	203
(2) RRUS 4478	235	APXVAALL24_43-U-NA20 w/ mount pipe	203
RRUS 4478	235		
(2) RRUS 11 B12	235	APXVAALL24_43-U-NA20 w/ mount pipe	203
RRUS 11 B12	235		
(2) LGP21401	235	APXVAALL24_43-U-NA20 w/ mount pipe	203
(2) LGP21401	235		
(2) LGP21401	235	RADIO 4480 B71_TMO	203
(2) TPX-070821	235	RADIO 4480 B71_TMO	203
(2) DC6-48-60-18-8F	235	RADIO 4480 B71_TMO	203
DC9-48-60-24-8C-EV	235	RRUS 4460 B25/B66	203
(2) 12" x 24" Beacon	231.5	RRUS 4460 B25/B66	203
5/8" x 4' Lightning Rod	231.5	RRUS 4460 B25/B66	203
13' T Beam Mount	231.5	SDX1926Q-43	203
17" 3 element yagi	229	SDX1926Q-43	203
Pipe Mount [PM 601-1]	223.5	SDX1926Q-43	203
Andrew HP10	223.5	Site Pro 1 VFA12-HD	203
Pipe Mount [PM 601-1]	221	Site Pro 1 VFA12-HD	203
1-ft dish w/ shroud	221	2.4" Dia x 6-ft Pipe	132
4' L x 6' W Rest Platform	216.5	4-ft x 7 Element Yagi	132
4' L x 6' W Rest Platform	216.5	Side Arm Mount [SO 901-1]	132
Site Pro 1 VFA12-HD	206.5	2.4" Dia x 6-ft Pipe	132
2.4" Dia x 8-ft Mount Pipe	206.5		

SYMBOL LIST

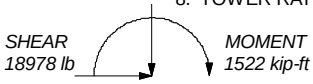
MARK	SIZE	MARK	SIZE
A	C8x11.5	C	L2 1/2x2x1/4
B	L2 1/2x2 1/2x1/4	D	1 @ 2.5

MATERIAL STRENGTH

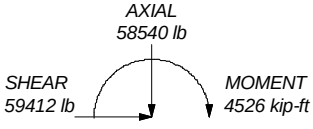
GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi			

ALL REACT
ARE FACTC

MAX. CORNER REACTIONS AT BASE:
DOWN:
SHEAR:
UPLIFT:
SHEAR:
AXIAL
189149



TORQUE 16 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 33 kip-ft
REACTIONS - 91 mph WIND

TOWER DESIGN NOTES

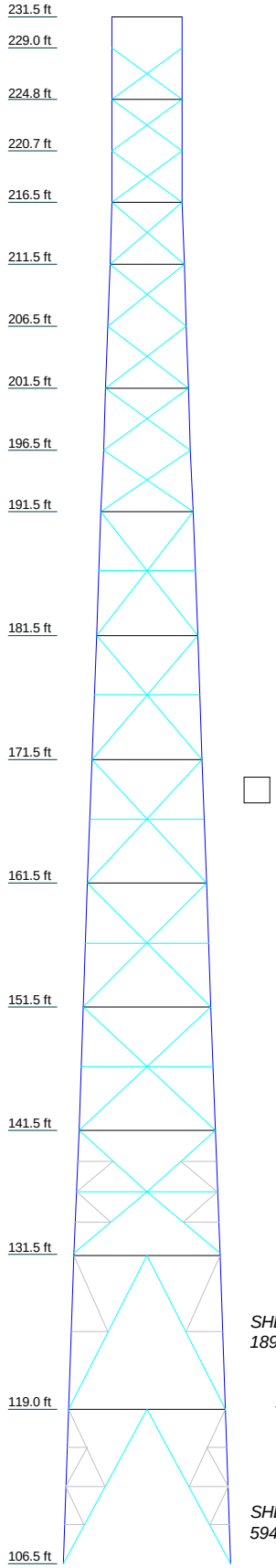
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 91 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 77.4%

Tower Engineering Professionals, Inc.

Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
Phone: (919) 661-6351
FAX: (919) 661-6350

Job:	**Stamford #1 CO (638283)**		
Project:	**TEP No. 263252.730266**		
Client: Everest Infrastructure	Drawn by: Austin J. Wilson		App'd:
Code: TIA-222-G	Date: 09/06/22		Scale: NTS
Path: G:\Shared drives\261552 - 263258\263252\P-344821_L-730266_638283_Stamford_Revised Structural Analysis\tnx\638283 (Stamford).eri			Dwg No. E-1

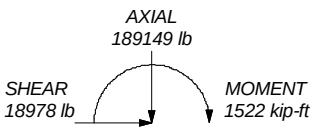
Section	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	L6x6x7/8		L6x6x3/4			L6x6x5/8					L5x5x1/2				L4x4x3/8		
Leg Grade	A36																
Diagonals	2L2 1/2x2 1/2x1/4x3/8				L3x3x1/4						L2 1/2x2x1/4			2L2 1/2x2 1/2x1/4x3/8			N.A.
Diagonal Grade	A36																N.A.
Top Girts	2L2 1/2x2 1/2x1/4x3/8				L2 1/2x2 1/2x1/4				N.A.	B	N.A.	C	C7x9.8	N.A.	B	N.A.	A
Horizontals	N.A.		L2 1/2x2x1/4					N.A.									
Sec. Horizontals		N.A.		L2 1/2x2x1/4	L2 1/2x2 1/2x1/4	L2 1/2x2x3/16		L2 1/2x2x1/4				N.A.					
Red. Horizontals		L2 1/2x2x3/16						N.A.									
Red. Diagonals		L2 1/2x2x3/16						N.A.									
Red. Sub-Horizs	L2 1/2x2x3/16						N.A.										
Red. Sub-Diags	L2 1/2x2x3/16						N.A.										
Inner Bracing		L3x3x3/16		N.A.	L2x2 1/2x3/16		N.A.	L2 1/2x2 1/2x3/16				N.A.					
Face Width (ft)	13.5833	12.6766	11.7699	11.0445	10.3191	9.59373	8.86836	8.14298	7.41761	7.05492	6.69223	6.32954	5.96685	5.60417			
# Panels @ (ft)	1 @ 12.5	1 @ 12.4167	2 @ 4.95833			5 @ 10					5 @ 5			1 @ 4.2	1 @ 4.1	1 @ 4.2	D
Weight (lb)	25578.5	3935.9	3500.3	2605.4	2231.7	1930.8	1916.1	1825.1	1850.6	606.4	711.3	588.7	670.4	801.5	648.1	735.3	648.1	372.9



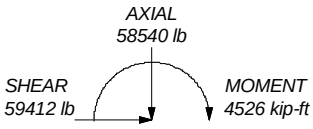
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 250185 lb
SHEAR: 22148 lb

UPLIFT: -224579 lb
SHEAR: 20620 lb



TORQUE 16 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 33 kip-ft
REACTIONS - 91 mph WIND

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	C8x11.5	C	L2 1/2x2x1/4
B	L2 1/2x2 1/2x1/4	D	1 @ 2.5

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 91 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 77.4%

Tower Engineering Professionals, Inc.

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326 Tryon Road
Raleigh, NC 27603
Phone: (919) 661-6351
FAX: (919) 661-6350

Job:	***Stamford #1 CO (638283)***		
Project:	***TEP No. 263252.730266***		
Client: Everest Infrastructure	Drawn by: Austin J. Wilson	App'd:	
Code: TIA-222-G	Date: 09/06/22	Scale: NTS	
Path: G:\Shared drives\261552 - 263258\263252\P-344821_L-730266_638283_Stamford_Revised Structural Analysis\tnx\638283 (Stamford).eri		Dwg No. E-1	

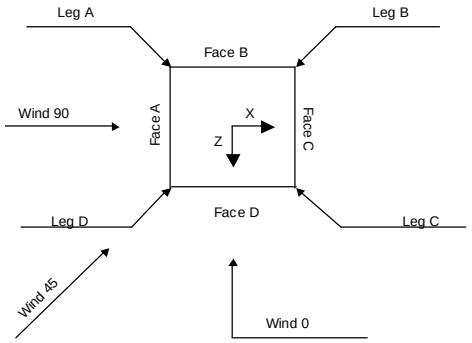
Tower Input Data

The main tower is a 4x free standing tower with an overall height of 231.50 ft above the ground line.
The base of the tower is set at an elevation of 106.50 ft above the ground line.
The face width of the tower is 5.60 ft at the top and 13.58 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 91 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Square Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	231.50-229.00			5.60	1	2.50
T2	229.00-224.80			5.60	1	4.20
T3	224.80-220.70			5.60	1	4.10
T4	220.70-216.50			5.60	1	4.20
T5	216.50-211.50			5.60	1	5.00
T6	211.50-206.50			5.97	1	5.00
T7	206.50-201.50			6.33	1	5.00
T8	201.50-196.50			6.69	1	5.00
T9	196.50-191.50			7.05	1	5.00
T10	191.50-181.50			7.42	1	10.00
T11	181.50-171.50			8.14	1	10.00
T12	171.50-161.50			8.87	1	10.00
T13	161.50-151.50			9.59	1	10.00
T14	151.50-141.50			10.32	1	10.00
T15	141.50-131.50			11.04	1	10.00
T16	131.50-119.00			11.77	1	12.50
T17	119.00-106.50			12.68	1	12.50

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	231.50-229.00	2.50	X Brace	No	Yes	0.0000	0.0000
T2	229.00-224.80	4.20	X Brace	No	No	0.0000	0.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T3	224.80-220.70	4.10	X Brace	No	No	0.0000	0.0000
T4	220.70-216.50	4.20	X Brace	No	No	0.0000	0.0000
T5	216.50-211.50	5.00	X Brace	No	Yes	0.0000	0.0000
T6	211.50-206.50	5.00	X Brace	No	Yes	0.0000	0.0000
T7	206.50-201.50	5.00	X Brace	No	No	0.0000	0.0000
T8	201.50-196.50	5.00	X Brace	No	No	0.0000	0.0000
T9	196.50-191.50	5.00	X Brace	No	No	0.0000	0.0000
T10	191.50-181.50	10.00	X Brace	No	Yes	0.0000	0.0000
T11	181.50-171.50	10.00	X Brace	No	Yes	0.0000	0.0000
T12	171.50-161.50	10.00	X Brace	No	Yes	0.0000	0.0000
T13	161.50-151.50	10.00	X Brace	No	Yes	0.0000	0.0000
T14	151.50-141.50	10.00	X Brace	No	Yes	0.0000	0.0000
T15	141.50-131.50	4.96	Double K1	No	Yes	0.0000	1.0000
T16	131.50-119.00	12.42	K1 Down	No	Yes	1.0000	0.0000
T17	119.00-106.50	12.50	K1B Down	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 231.50-229.00	Equal Angle	L4x4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T2 229.00-224.80	Equal Angle	L4x4x3/8	A36 (36 ksi)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T3 224.80-220.70	Equal Angle	L4x4x3/8	A36 (36 ksi)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T4 220.70-216.50	Equal Angle	L4x4x3/8	A36 (36 ksi)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T5 216.50-211.50	Equal Angle	L5x5x1/2	A36 (36 ksi)	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)
T6 211.50-206.50	Equal Angle	L5x5x1/2	A36 (36 ksi)	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)
T7 206.50-201.50	Equal Angle	L5x5x1/2	A36 (36 ksi)	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)
T8 201.50-196.50	Equal Angle	L5x5x1/2	A36 (36 ksi)	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)
T9 196.50-191.50	Equal Angle	L5x5x1/2	A36 (36 ksi)	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)
T10 191.50-181.50	Equal Angle	L6x6x5/8	A36 (36 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T11 181.50-171.50	Equal Angle	L6x6x5/8	A36 (36 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T12 171.50-161.50	Equal Angle	L6x6x5/8	A36 (36 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T13 161.50-151.50	Equal Angle	L6x6x5/8	A36 (36 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T14 151.50-141.50	Equal Angle	L6x6x3/4	A36 (36 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T15 141.50-131.50	Equal Angle	L6x6x3/4	A36 (36 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T16 131.50-119.00	Equal Angle	L6x6x7/8	A36 (36 ksi)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T17 119.00-106.50	Equal Angle	L6x6x7/8	A36 (36 ksi)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 231.50-229.00	Channel	C8x11.5	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T3 224.80-220.70	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T5 216.50-211.50	Channel	C7x9.8	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T6 211.50-206.50	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T8 201.50-196.50	Single Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T10 191.50-181.50	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T11 181.50-171.50	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T12 171.50-161.50	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T13 161.50-151.50	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T14 151.50-141.50	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T15 141.50-131.50	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T16 131.50-119.00	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T17 119.00-106.50	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)	Equal Angle		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T15 141.50-131.50	None	Flat Bar		A36 (36 ksi)	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)
T16 131.50-119.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T17 119.00-106.50	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T10	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
191.50-181.50						
T11	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)	Single Angle		A36 (36 ksi)
181.50-171.50						
T12	Single Angle	L2 1/2x2x3/16	A36 (36 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
171.50-161.50						
T13	Single Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Single Angle		A36 (36 ksi)
161.50-151.50						
T14	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)	Single Angle	L2x2 1/2x3/16	A36 (36 ksi)
151.50-141.50						
T16	Single Angle		A36 (36 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)
131.50-119.00						
T17	Single Angle		A36 (36 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)
119.00-106.50						

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Bracing Grade	Redundant Type	Redundant Size	K Factor
T15	A36	Horizontal (1)	Single Angle	L2 1/2x2x3/16	1
141.50-131.50	(36 ksi)	Diagonal (1)	Single Angle	L2 1/2x2x3/16	1
		Hip (1)	Single Angle	L2x2x1/4	1
T16	A36	Horizontal (1)	Single Angle	L2 1/2x2x3/16	1
131.50-119.00	(36 ksi)	Diagonal (1)	Single Angle	L2 1/2x2x3/16	1
		Hip (1)	Single Angle	L2x2x1/4	1
T17	A36	Horizontal (1)	Single Angle	L2 1/2x2x3/16	1
119.00-106.50	(36 ksi)	Diagonal (1)	Single Angle	L2 1/2x2x3/16	1
		Sub-Diagonal	Single Angle	L2 1/2x2x3/16	1
		Sub-Horizontal	Single Angle	L2 1/2x2x3/16	1
		Hip (1)	Single Angle	L2x2x1/4	1
		Hip Diagonal (1)	Single Angle	L2x2x1/4	1

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
231.50-229.00									
T2	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	11.0000	36.0000	36.0000
229.00-224.80									
T3	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	11.0000	36.0000	36.0000
224.80-220.70									
T4	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	11.0000	36.0000	36.0000
220.70-216.50									
T5	0.00	0.5000	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
216.50-211.50									
T6	0.00	0.5000	A36	1.03	1	1.05	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
211.50-206.50			(36 ksi)						
T7	0.00	0.5000	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
206.50-201.50									
T8	0.00	0.5000	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
201.50-196.50									
T9	0.00	0.5000	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
196.50-191.50									
T10	0.00	0.6250	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
191.50-181.50									
T11	0.00	0.6250	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
181.50-171.50									
T12	0.00	0.6250	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
171.50-161.50									
T13	0.00	0.6250	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
161.50-151.50									
T14	0.00	0.7500	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
151.50-141.50									
T15	0.00	0.7500	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
141.50-131.50									
T16	0.00	0.8750	A36 (36 ksi)	1.03	1	1.05	22.2500	23.2500	36.0000
131.50-119.00									
T17	0.00	0.8750	A36 (36 ksi)	1.03	1	1.05	22.2500	23.2500	36.0000
119.00-106.50									

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	Yes	No	1	1	1	1	1	1	1	1
231.50-229.00				1	1	1	1	1	1	1
T2	Yes	No	1	1	1	1	1	1	1	1
229.00-224.80				1	1	1	1	1	1	1
T3	Yes	No	1	1	1	1	1	1	1	1
224.80-220.70				1	1	1	1	1	1	1
T4	Yes	No	1	1	1	1	1	1	1	1
220.70-216.50				1	1	1	1	1	1	1
T5	Yes	No	1	1	1	1	1	1	1	1
216.50-211.50				1	1	1	1	1	1	1
T6	Yes	No	1	1	1	1	1	1	1	1
211.50-206.50				1	1	1	1	1	1	1
T7	Yes	No	1	1	1	1	1	1	1	1
206.50-201.50				1	1	1	1	1	1	1
T8	Yes	No	1	1	1	1	1	1	1	1
201.50-196.50				1	1	1	1	1	1	1
T9	Yes	No	1	1	1	1	1	1	1	1
196.50-191.50				1	1	1	1	1	1	1
T10	Yes	No	1	1	1	1	1	1	1	1
191.50-181.50				1	1	1	1	1	1	1
T11	Yes	No	1	1	1	1	1	1	1	1
181.50-171.50				1	1	1	1	1	1	1
T12	Yes	No	1	1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
171.50-161.50				1	1	1	1	1	1	1
T13	Yes	No	1	1	1	1	1	1	1	1
161.50-151.50				1	1	1	1	1	1	1
T14	Yes	No	1	1	1	1	1	1	1	1
151.50-141.50				1	1	1	1	1	1	1
T15	Yes	No	1	1	1	1	1	1	1	1
141.50-131.50				1	1	1	1	1	1	1
T16	Yes	No	1	1	1	1	1	1	1	1
131.50-119.00				1	1	1	1	1	1	1
T17	Yes	No	1	1	1	1	1	1	1	1
119.00-106.50				1	1	1	1	1	1	1

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

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
231.50-229.00														
T2	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
229.00-224.80														
T3	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
224.80-220.70														
T4	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
220.70-216.50														
T5	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
216.50-211.50														
T6	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
211.50-206.50														
T7	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
206.50-201.50														
T8	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
201.50-196.50														
T9	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
196.50-191.50														
T10	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
191.50-181.50														
T11	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
181.50-171.50														
T12	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
171.50-161.50														
T13	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
161.50-151.50														
T14	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
151.50-141.50														
T15	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
141.50-131.50														

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T16	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
131.50-119.00														
T17	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
119.00-106.50														

Tower Elevation ft	Redundant Horizontal Net Width Deduct in	Redundant Horizontal U	Redundant Diagonal Net Width Deduct in	Redundant Diagonal U	Redundant Sub-Diagonal Net Width Deduct in	Redundant Sub-Diagonal U	Redundant Sub-Horizontal Net Width Deduct in	Redundant Sub-Horizontal U	Redundant Vertical Net Width Deduct in	Redundant Vertical U	Redundant Hip Net Width Deduct in	Redundant Hip U	Redundant Hip Diagonal Net Width Deduct in	Redundant Hip Diagonal U
T1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
231.50-229.00														
T2	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
229.00-224.80														
T3	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
224.80-220.70														
T4	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
220.70-216.50														
T5	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
216.50-211.50														
T6	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
211.50-206.50														
T7	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
206.50-201.50														
T8	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
201.50-196.50														
T9	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
196.50-191.50														
T10	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
191.50-181.50														
T11	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
181.50-171.50														
T12	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
171.50-161.50														
T13	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
161.50-151.50														
T14	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
151.50-141.50														
T15	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
141.50-131.50														
T16	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
131.50-119.00														
T17	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
119.00-106.50														

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1	Flange	0.7500	0	0.7500	0	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	0
231.50-229.00		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T2	Flange	0.7500	0	0.7500	2	0.7500	0	0.0000	0	0.6250	0	0.0000	0	0.7500	0
229.00-224.80		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T3	Flange	0.7500	8	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	0
224.80-220.70		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T4	Flange	0.7500	0	0.7500	2	0.7500	0	0.0000	0	0.6250	0	0.0000	0	0.7500	0
220.70-216.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T5	Flange	0.7500	0	0.7500	2	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.7500	0
216.50-211.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T6	Flange	0.7500	0	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	0
211.50-206.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T7	Flange	0.7500	0	0.7500	2	0.7500	0	0.0000	0	0.6250	0	0.0000	0	0.7500	0
206.50-201.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T8	Flange	0.7500	12	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	0
201.50-196.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T9	Flange	0.7500	0	0.7500	2	0.7500	0	0.0000	0	0.6250	0	0.0000	0	0.7500	0
196.50-191.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T10	Flange	0.7500	0	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	2
191.50-181.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T11	Flange	0.7500	16	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	2
181.50-171.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T12	Flange	0.7500	0	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	2
171.50-161.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T13	Flange	0.7500	20	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	2
161.50-151.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T14	Flange	0.7500	0	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.0000	0	0.7500	2
151.50-141.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T15	Flange	0.7500	20	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.7500	2	0.7500	0
141.50-131.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T16	Flange	0.7500	0	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.7500	2	0.7500	0
131.50-119.00		A325N		A325N		A325N		A325X		A325N		A325N		A325N	
T17	Flange	0.7500	28	0.7500	2	0.7500	2	0.0000	0	0.6250	0	0.7500	2	0.7500	0
119.00-106.50		A325N		A325N		A325N		A325X		A325N		A325N		A325N	

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
231.50-229.00	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T2	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
229.00-224.80	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T3	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
224.80-220.70	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
220.70-216.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
216.50-211.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
211.50-206.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T7	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
206.50-201.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
201.50-196.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T9	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
196.50-191.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T10	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
191.50-181.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T11	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
181.50-171.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T12	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
171.50-161.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T13	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
161.50-151.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T14	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
151.50-141.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T15	0.6250	1	0.6250	1	0.6250	2	0.6250	2	0.6250	0	0.6250	2	0.6250	0
141.50-131.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T16	0.6250	1	0.6250	1	0.6250	2	0.6250	2	0.6250	0	0.6250	2	0.6250	0
131.50-119.00	A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T17	0.6250	1	0.6250	1	0.6250	2	0.6250	2	0.6250	0	0.6250	2	0.6250	2
119.00-106.50	A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Climbing Ladder (Af)	B	No	No	Af (CaAa)	231.50 - 106.50	-6.0000	0.45	1	1	3.0000	3.0000		4.00
Safety Line 3/8	B	No	No	Ar (CaAa)	231.50 - 106.50	-6.0000	0.45	1	1	0.3750	0.3750		0.22
*** ****													
Feedline Ladder (Af)	B	No	No	Af (CaAa)	212.50 - 111.75	-10.0000	0.4	1	1	3.0000	3.0000		8.40
Feedline Ladder (Af)	D	No	No	Af (CaAa)	206.50 - 108.00	-12.0000	0.4	1	1	3.0000	3.0000		8.40
Feedline Ladder (Af) **	A	No	No	Af (CaAa)	200.50 - 108.00	0.0000	-0.4	1	1	3.0000	3.0000		8.40
3/8" Coax	B	No	No	Ar (CaAa)	221.50 - 111.50	-5.0000	0.38	2	2	0.3750	0.3750		0.07
EW90(ELLIPTICAL)	B	No	No	Ar (CaAa)	223.50 - 111.50	-5.0000	0.4	2	1	0.5000	1.2800		0.32
LDF7-50A(1-5/8)	C	No	No	Ar (CaAa)	231.50 - 106.50	-18.0000	-0.36	12	12	0.5000	1.9800		0.82
1/2" dia. coax	C	No	No	Ar (CaAa)	132.00 - 111.50	-12.0000	-0.35	2	2	0.5000	0.5000		0.15
1/2" dia. coax	C	No	No	Ar (CaAa)	229.00 - 132.00	-12.0000	-0.35	1	1	0.5000	0.5000		0.15
3/4" DC	C	No	No	Ar (CaAa)	231.50 - 106.50	-12.0000	-0.33	6	3	0.5000	0.7500		1.24

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
5/8" dia. coax	C	No	No	Ar (CaAa)	231.50 - 106.50	-12.000 0	-0.34	3	3	0.5000	0.6250		0.15
**													
**													
HB158-21U6S24-xxM_TMO (1-5/8)	A	No	No	Ar (CaAa)	206.50 - 111.50	3.5000	-0.4	6	3	0.5000	1.9960		2.50
**													
1" Metal Conduit	A	No	No	Ar (CaAa)	231.50 - 111.50	0.0000	0.28	1	1	1.0000	1.0000		1.13
**													

Feed Line/Linear Appurtenances - Entered As Area

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

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	231.50-229.00	A	0.000	0.000	0.250	0.000	3
		B	0.000	0.000	1.344	0.000	11
		C	0.000	0.000	7.534	0.000	44
		D	0.000	0.000	0.000	0.000	0
T2	229.00-224.80	A	0.000	0.000	0.420	0.000	5
		B	0.000	0.000	2.257	0.000	18
		C	0.000	0.000	12.867	0.000	75
		D	0.000	0.000	0.000	0.000	0
T3	224.80-220.70	A	0.000	0.000	0.410	0.000	5
		B	0.000	0.000	2.981	0.000	19
		C	0.000	0.000	12.560	0.000	73
		D	0.000	0.000	0.000	0.000	0
T4	220.70-216.50	A	0.000	0.000	0.420	0.000	5
		B	0.000	0.000	3.648	0.000	21
		C	0.000	0.000	12.867	0.000	75
		D	0.000	0.000	0.000	0.000	0
T5	216.50-211.50	A	0.000	0.000	0.500	0.000	6
		B	0.000	0.000	4.843	0.000	33
		C	0.000	0.000	15.317	0.000	89
		D	0.000	0.000	0.000	0.000	0
T6	211.50-206.50	A	0.000	0.000	0.500	0.000	6
		B	0.000	0.000	6.842	0.000	67
		C	0.000	0.000	15.317	0.000	89
		D	0.000	0.000	0.000	0.000	0

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T7	206.50-201.50	A	0.000	0.000	6.488	0.000	81
		B	0.000	0.000	6.842	0.000	67
		C	0.000	0.000	15.317	0.000	89
		D	0.000	0.000	2.500	0.000	42
T8	201.50-196.50	A	0.000	0.000	8.488	0.000	114
		B	0.000	0.000	6.842	0.000	67
		C	0.000	0.000	15.317	0.000	89
		D	0.000	0.000	2.500	0.000	42
T9	196.50-191.50	A	0.000	0.000	8.988	0.000	123
		B	0.000	0.000	6.842	0.000	67
		C	0.000	0.000	15.317	0.000	89
		D	0.000	0.000	2.500	0.000	42
T10	191.50-181.50	A	0.000	0.000	17.976	0.000	245
		B	0.000	0.000	13.685	0.000	134
		C	0.000	0.000	30.635	0.000	179
		D	0.000	0.000	5.000	0.000	84
T11	181.50-171.50	A	0.000	0.000	17.976	0.000	245
		B	0.000	0.000	13.685	0.000	134
		C	0.000	0.000	30.635	0.000	179
		D	0.000	0.000	5.000	0.000	84
T12	171.50-161.50	A	0.000	0.000	17.976	0.000	245
		B	0.000	0.000	13.685	0.000	134
		C	0.000	0.000	30.635	0.000	179
		D	0.000	0.000	5.000	0.000	84
T13	161.50-151.50	A	0.000	0.000	17.976	0.000	245
		B	0.000	0.000	13.685	0.000	134
		C	0.000	0.000	30.635	0.000	179
		D	0.000	0.000	5.000	0.000	84
T14	151.50-141.50	A	0.000	0.000	17.976	0.000	245
		B	0.000	0.000	13.685	0.000	134
		C	0.000	0.000	30.635	0.000	179
		D	0.000	0.000	5.000	0.000	84
T15	141.50-131.50	A	0.000	0.000	17.976	0.000	245
		B	0.000	0.000	13.685	0.000	134
		C	0.000	0.000	30.660	0.000	179
		D	0.000	0.000	5.000	0.000	84
T16	131.50-119.00	A	0.000	0.000	22.470	0.000	307
		B	0.000	0.000	17.106	0.000	168
		C	0.000	0.000	38.919	0.000	225
		D	0.000	0.000	6.250	0.000	105
T17	119.00-106.50	A	0.000	0.000	15.232	0.000	213
		B	0.000	0.000	12.826	0.000	120
		C	0.000	0.000	38.419	0.000	224
		D	0.000	0.000	5.500	0.000	92

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	231.50-229.00	A	2.429	0.000	0.000	1.464	0.000	28
		B		0.000	0.000	3.773	0.000	81
		C		0.000	0.000	17.154	0.000	304
		D		0.000	0.000	0.000	0.000	0
T2	229.00-224.80	A	2.425	0.000	0.000	2.457	0.000	47
		B		0.000	0.000	6.332	0.000	136
		C		0.000	0.000	31.052	0.000	548
		D		0.000	0.000	0.000	0.000	0

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T3	224.80-220.70	A	2.421	0.000	0.000	2.395	0.000	46
		B		0.000	0.000	10.465	0.000	204
		C		0.000	0.000	30.291	0.000	534
		D		0.000	0.000	0.000	0.000	0
T4	220.70-216.50	A	2.416	0.000	0.000	2.450	0.000	47
		B		0.000	0.000	15.712	0.000	272
		C		0.000	0.000	31.007	0.000	546
		D		0.000	0.000	0.000	0.000	0
T5	216.50-211.50	A	2.411	0.000	0.000	2.911	0.000	56
		B		0.000	0.000	19.659	0.000	350
		C		0.000	0.000	36.882	0.000	648
		D		0.000	0.000	0.000	0.000	0
T6	211.50-206.50	A	2.405	0.000	0.000	2.905	0.000	56
		B		0.000	0.000	23.550	0.000	462
		C		0.000	0.000	36.848	0.000	647
		D		0.000	0.000	0.000	0.000	0
T7	206.50-201.50	A	2.400	0.000	0.000	12.280	0.000	288
		B		0.000	0.000	23.512	0.000	460
		C		0.000	0.000	36.813	0.000	645
		D		0.000	0.000	4.900	0.000	140
T8	201.50-196.50	A	2.394	0.000	0.000	16.179	0.000	399
		B		0.000	0.000	23.474	0.000	459
		C		0.000	0.000	36.778	0.000	644
		D		0.000	0.000	4.894	0.000	140
T9	196.50-191.50	A	2.388	0.000	0.000	17.135	0.000	426
		B		0.000	0.000	23.434	0.000	457
		C		0.000	0.000	36.741	0.000	642
		D		0.000	0.000	4.888	0.000	140
T10	191.50-181.50	A	2.378	0.000	0.000	34.199	0.000	849
		B		0.000	0.000	46.746	0.000	910
		C		0.000	0.000	73.370	0.000	1279
		D		0.000	0.000	9.756	0.000	278
T11	181.50-171.50	A	2.365	0.000	0.000	34.100	0.000	845
		B		0.000	0.000	46.575	0.000	903
		C		0.000	0.000	73.214	0.000	1272
		D		0.000	0.000	9.730	0.000	277
T12	171.50-161.50	A	2.351	0.000	0.000	33.997	0.000	840
		B		0.000	0.000	46.396	0.000	896
		C		0.000	0.000	73.050	0.000	1264
		D		0.000	0.000	9.703	0.000	275
T13	161.50-151.50	A	2.337	0.000	0.000	33.888	0.000	836
		B		0.000	0.000	46.207	0.000	889
		C		0.000	0.000	72.877	0.000	1257
		D		0.000	0.000	9.674	0.000	273
T14	151.50-141.50	A	2.321	0.000	0.000	33.773	0.000	831
		B		0.000	0.000	46.006	0.000	881
		C		0.000	0.000	72.693	0.000	1248
		D		0.000	0.000	9.643	0.000	272
T15	141.50-131.50	A	2.305	0.000	0.000	33.650	0.000	825
		B		0.000	0.000	45.793	0.000	873
		C		0.000	0.000	72.740	0.000	1241
		D		0.000	0.000	9.610	0.000	270
T16	131.50-119.00	A	2.285	0.000	0.000	41.877	0.000	1024
		B		0.000	0.000	56.920	0.000	1079
		C		0.000	0.000	96.348	0.000	1562
		D		0.000	0.000	11.963	0.000	334
T17	119.00-106.50	A	2.261	0.000	0.000	28.325	0.000	701
		B		0.000	0.000	40.891	0.000	780
		C		0.000	0.000	91.045	0.000	1497
		D		0.000	0.000	10.475	0.000	291

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	231.50-229.00	2.0835	-7.0138	3.4052	-8.0113
T2	229.00-224.80	2.7625	-8.5068	4.7236	-9.8880
T3	224.80-220.70	2.8405	-8.2009	3.6394	-7.4178
T4	220.70-216.50	3.4769	-9.1061	6.4386	-11.2437
T5	216.50-211.50	3.0635	-7.9400	4.3429	-7.8542
T6	211.50-206.50	4.3796	-9.3825	6.6934	-10.7185
T7	206.50-201.50	0.7870	-6.4957	4.4634	-10.0064
T8	201.50-196.50	-0.3460	-5.5078	2.5549	-7.7771
T9	196.50-191.50	-0.6269	-5.8674	3.0195	-9.5063
T10	191.50-181.50	-0.5146	-5.7260	3.0501	-9.3538
T11	181.50-171.50	-0.4462	-6.1009	3.5042	-10.2672
T12	171.50-161.50	-0.3829	-6.4593	3.9382	-11.1384
T13	161.50-151.50	-0.3238	-6.8022	4.3522	-11.9718
T14	151.50-141.50	-0.2685	-7.1296	4.7475	-12.7724
T15	141.50-131.50	-0.1907	-6.7590	3.9891	-10.8782
T16	131.50-119.00	-0.1199	-8.5009	6.0858	-15.2975
T17	119.00-106.50	0.7399	-9.0237	6.4404	-14.8658

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	Climbing Ladder (Af)	229.00 - 231.50	0.6000	0.3873
T1	2	Safety Line 3/8	229.00 - 231.50	0.6000	0.3873
T1	11	LDF7-50A(1-5/8)	229.00 - 231.50	0.6000	0.3873
T1	14	3/4" DC	229.00 - 231.50	0.6000	0.3873
T1	15	5/8" dia. coax	229.00 - 231.50	0.6000	0.3873
T1	25	1" Metal Conduit	229.00 - 231.50	0.6000	0.3873
T2	1	Climbing Ladder (Af)	224.80 - 229.00	0.6000	0.4455
T2	2	Safety Line 3/8	224.80 - 229.00	0.6000	0.4455
T2	11	LDF7-50A(1-5/8)	224.80 - 229.00	0.6000	0.4455
T2	13	1/2" dia. coax	224.80 - 229.00	0.6000	0.4455
T2	14	3/4" DC	224.80 - 229.00	0.6000	0.4455
T2	15	5/8" dia. coax	224.80 - 229.00	0.6000	0.4455
T2	25	1" Metal Conduit	224.80 - 229.00	0.6000	0.4455

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T3	1	Climbing Ladder (Af)	220.70 - 224.80	0.6000	0.3130
T3	2	Safety Line 3/8	220.70 - 224.80	0.6000	0.3130
T3	9	3/8" Coax	220.70 - 221.50	0.6000	0.3130
T3	10	EW90(ELLIPTICAL)	220.70 - 223.50	0.6000	0.3130
T3	11	LDF7-50A(1-5/8)	220.70 - 224.80	0.6000	0.3130
T3	13	1/2" dia. coax	220.70 - 224.80	0.6000	0.3130
T3	14	3/4" DC	220.70 - 224.80	0.6000	0.3130
T3	15	5/8" dia. coax	220.70 - 224.80	0.6000	0.3130
T3	25	1" Metal Conduit	220.70 - 224.80	0.6000	0.3130
T4	1	Climbing Ladder (Af)	216.50 - 220.70	0.6000	0.4467
T4	2	Safety Line 3/8	216.50 - 220.70	0.6000	0.4467
T4	9	3/8" Coax	216.50 - 220.70	0.6000	0.4467
T4	10	EW90(ELLIPTICAL)	216.50 - 220.70	0.6000	0.4467
T4	11	LDF7-50A(1-5/8)	216.50 - 220.70	0.6000	0.4467
T4	13	1/2" dia. coax	216.50 - 220.70	0.6000	0.4467
T4	14	3/4" DC	216.50 - 220.70	0.6000	0.4467
T4	15	5/8" dia. coax	216.50 - 220.70	0.6000	0.4467
T4	25	1" Metal Conduit	216.50 - 220.70	0.6000	0.4467
T5	1	Climbing Ladder (Af)	211.50 - 216.50	0.6000	0.3067
T5	2	Safety Line 3/8	211.50 - 216.50	0.6000	0.3067
T5	5	Feedline Ladder (Af)	211.50 - 212.50	0.6000	0.3067
T5	9	3/8" Coax	211.50 - 216.50	0.6000	0.3067
T5	10	EW90(ELLIPTICAL)	211.50 - 216.50	0.6000	0.3067
T5	11	LDF7-50A(1-5/8)	211.50 - 216.50	0.6000	0.3067
T5	13	1/2" dia. coax	211.50 - 216.50	0.6000	0.3067
T5	14	3/4" DC	211.50 - 216.50	0.6000	0.3067
T5	15	5/8" dia. coax	211.50 - 216.50	0.6000	0.3067
T5	25	1" Metal Conduit	211.50 - 216.50	0.6000	0.3067
T6	1	Climbing Ladder (Af)	206.50 - 211.50	0.6000	0.3863
T6	2	Safety Line 3/8	206.50 - 211.50	0.6000	0.3863
T6	5	Feedline Ladder (Af)	206.50 - 211.50	0.6000	0.3863

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T6	9	3/8" Coax	206.50 - 211.50	0.6000	0.3863
T6	10	EW90(ELLIPTICAL)	206.50 - 211.50	0.6000	0.3863
T6	11	LDF7-50A(1-5/8)	206.50 - 211.50	0.6000	0.3863
T6	13	1/2" dia. coax	206.50 - 211.50	0.6000	0.3863
T6	14	3/4" DC	206.50 - 211.50	0.6000	0.3863
T6	15	5/8" dia. coax	206.50 - 211.50	0.6000	0.3863
T6	25	1" Metal Conduit	206.50 - 211.50	0.6000	0.3863
T7	1	Climbing Ladder (Af)	201.50 - 206.50	0.6000	0.5034
T7	2	Safety Line 3/8	201.50 - 206.50	0.6000	0.5034
T7	5	Feedline Ladder (Af)	201.50 - 206.50	0.6000	0.5034
T7	6	Feedline Ladder (Af)	201.50 - 206.50	0.6000	0.5034
T7	9	3/8" Coax	201.50 - 206.50	0.6000	0.5034
T7	10	EW90(ELLIPTICAL)	201.50 - 206.50	0.6000	0.5034
T7	11	LDF7-50A(1-5/8)	201.50 - 206.50	0.6000	0.5034
T7	13	1/2" dia. coax	201.50 - 206.50	0.6000	0.5034
T7	14	3/4" DC	201.50 - 206.50	0.6000	0.5034
T7	15	5/8" dia. coax	201.50 - 206.50	0.6000	0.5034
T7	21	HB158-21U6S24-xxM_TMO (1-5/8)	201.50 - 206.50	0.6000	0.5034
T7	25	1" Metal Conduit	201.50 - 206.50	0.6000	0.5034
T8	1	Climbing Ladder (Af)	196.50 - 201.50	0.6000	0.4157
T8	2	Safety Line 3/8	196.50 - 201.50	0.6000	0.4157
T8	5	Feedline Ladder (Af)	196.50 - 201.50	0.6000	0.4157
T8	6	Feedline Ladder (Af)	196.50 - 201.50	0.6000	0.4157
T8	7	Feedline Ladder (Af)	196.50 - 200.50	0.6000	0.4157
T8	9	3/8" Coax	196.50 - 201.50	0.6000	0.4157
T8	10	EW90(ELLIPTICAL)	196.50 - 201.50	0.6000	0.4157
T8	11	LDF7-50A(1-5/8)	196.50 - 201.50	0.6000	0.4157
T8	13	1/2" dia. coax	196.50 - 201.50	0.6000	0.4157
T8	14	3/4" DC	196.50 - 201.50	0.6000	0.4157
T8	15	5/8" dia. coax	196.50 - 201.50	0.6000	0.4157
T8	21	HB158-21U6S24-xxM_TMO (1-5/8)	196.50 - 201.50	0.6000	0.4157

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T8	25	1" Metal Conduit	196.50 - 201.50	0.6000	0.4157
T9	1	Climbing Ladder (Af)	191.50 - 196.50	0.6000	0.5315
T9	2	Safety Line 3/8	191.50 - 196.50	0.6000	0.5315
T9	5	Feedline Ladder (Af)	191.50 - 196.50	0.6000	0.5315
T9	6	Feedline Ladder (Af)	191.50 - 196.50	0.6000	0.5315
T9	7	Feedline Ladder (Af)	191.50 - 196.50	0.6000	0.5315
T9	9	3/8" Coax	191.50 - 196.50	0.6000	0.5315
T9	10	EW90(ELLIPTICAL)	191.50 - 196.50	0.6000	0.5315
T9	11	LDF7-50A(1-5/8)	191.50 - 196.50	0.6000	0.5315
T9	13	1/2" dia. coax	191.50 - 196.50	0.6000	0.5315
T9	14	3/4" DC	191.50 - 196.50	0.6000	0.5315
T9	15	5/8" dia. coax	191.50 - 196.50	0.6000	0.5315
T9	21	HB158-21U6S24-xxM_TMO (1-5/8)	191.50 - 196.50	0.6000	0.5315
T9	25	1" Metal Conduit	191.50 - 196.50	0.6000	0.5315
T10	1	Climbing Ladder (Af)	181.50 - 191.50	0.6000	0.4988
T10	2	Safety Line 3/8	181.50 - 191.50	0.6000	0.4988
T10	5	Feedline Ladder (Af)	181.50 - 191.50	0.6000	0.4988
T10	6	Feedline Ladder (Af)	181.50 - 191.50	0.6000	0.4988
T10	7	Feedline Ladder (Af)	181.50 - 191.50	0.6000	0.4988
T10	9	3/8" Coax	181.50 - 191.50	0.6000	0.4988
T10	10	EW90(ELLIPTICAL)	181.50 - 191.50	0.6000	0.4988
T10	11	LDF7-50A(1-5/8)	181.50 - 191.50	0.6000	0.4988
T10	13	1/2" dia. coax	181.50 - 191.50	0.6000	0.4988
T10	14	3/4" DC	181.50 - 191.50	0.6000	0.4988
T10	15	5/8" dia. coax	181.50 - 191.50	0.6000	0.4988
T10	21	HB158-21U6S24-xxM_TMO (1-5/8)	181.50 - 191.50	0.6000	0.4988
T10	25	1" Metal Conduit	181.50 - 191.50	0.6000	0.4988
T11	1	Climbing Ladder (Af)	171.50 - 181.50	0.6000	0.5229
T11	2	Safety Line 3/8	171.50 - 181.50	0.6000	0.5229
T11	5	Feedline Ladder (Af)	171.50 - 181.50	0.6000	0.5229
T11	6	Feedline Ladder (Af)	171.50 - 181.50	0.6000	0.5229

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T11	7	Feedline Ladder (Af)	171.50 - 181.50	0.6000	0.5229
T11	9	3/8" Coax	171.50 - 181.50	0.6000	0.5229
T11	10	EW90(ELLIPTICAL)	171.50 - 181.50	0.6000	0.5229
T11	11	LDF7-50A(1-5/8)	171.50 - 181.50	0.6000	0.5229
T11	13	1/2" dia. coax	171.50 - 181.50	0.6000	0.5229
T11	14	3/4" DC	171.50 - 181.50	0.6000	0.5229
T11	15	5/8" dia. coax	171.50 - 181.50	0.6000	0.5229
T11	21	HB158-21U6S24-xxM_TMO (1-5/8)	171.50 - 181.50	0.6000	0.5229
T11	25	1" Metal Conduit	171.50 - 181.50	0.6000	0.5229
T12	1	Climbing Ladder (Af)	161.50 - 171.50	0.6000	0.5434
T12	2	Safety Line 3/8	161.50 - 171.50	0.6000	0.5434
T12	5	Feedline Ladder (Af)	161.50 - 171.50	0.6000	0.5434
T12	6	Feedline Ladder (Af)	161.50 - 171.50	0.6000	0.5434
T12	7	Feedline Ladder (Af)	161.50 - 171.50	0.6000	0.5434
T12	9	3/8" Coax	161.50 - 171.50	0.6000	0.5434
T12	10	EW90(ELLIPTICAL)	161.50 - 171.50	0.6000	0.5434
T12	11	LDF7-50A(1-5/8)	161.50 - 171.50	0.6000	0.5434
T12	13	1/2" dia. coax	161.50 - 171.50	0.6000	0.5434
T12	14	3/4" DC	161.50 - 171.50	0.6000	0.5434
T12	15	5/8" dia. coax	161.50 - 171.50	0.6000	0.5434
T12	21	HB158-21U6S24-xxM_TMO (1-5/8)	161.50 - 171.50	0.6000	0.5434
T12	25	1" Metal Conduit	161.50 - 171.50	0.6000	0.5434
T13	1	Climbing Ladder (Af)	151.50 - 161.50	0.6000	0.5612
T13	2	Safety Line 3/8	151.50 - 161.50	0.6000	0.5612
T13	5	Feedline Ladder (Af)	151.50 - 161.50	0.6000	0.5612
T13	6	Feedline Ladder (Af)	151.50 - 161.50	0.6000	0.5612
T13	7	Feedline Ladder (Af)	151.50 - 161.50	0.6000	0.5612
T13	9	3/8" Coax	151.50 - 161.50	0.6000	0.5612
T13	10	EW90(ELLIPTICAL)	151.50 - 161.50	0.6000	0.5612
T13	11	LDF7-50A(1-5/8)	151.50 - 161.50	0.6000	0.5612
T13	13	1/2" dia. coax	151.50 - 161.50	0.6000	0.5612

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T13	14	3/4" DC	151.50 - 161.50	0.6000	0.5612
T13	15	5/8" dia. coax	151.50 - 161.50	0.6000	0.5612
T13	21	HB158-21U6S24-xxM_TMO (1-5/8)	151.50 - 161.50	0.6000	0.5612
T13	25	1" Metal Conduit	151.50 - 161.50	0.6000	0.5612
T14	1	Climbing Ladder (Af)	141.50 - 151.50	0.6000	0.5770
T14	2	Safety Line 3/8	141.50 - 151.50	0.6000	0.5770
T14	5	Feedline Ladder (Af)	141.50 - 151.50	0.6000	0.5770
T14	6	Feedline Ladder (Af)	141.50 - 151.50	0.6000	0.5770
T14	7	Feedline Ladder (Af)	141.50 - 151.50	0.6000	0.5770
T14	9	3/8" Coax	141.50 - 151.50	0.6000	0.5770
T14	10	EW90(ELLIPTICAL)	141.50 - 151.50	0.6000	0.5770
T14	11	LDF7-50A(1-5/8)	141.50 - 151.50	0.6000	0.5770
T14	13	1/2" dia. coax	141.50 - 151.50	0.6000	0.5770
T14	14	3/4" DC	141.50 - 151.50	0.6000	0.5770
T14	15	5/8" dia. coax	141.50 - 151.50	0.6000	0.5770
T14	21	HB158-21U6S24-xxM_TMO (1-5/8)	141.50 - 151.50	0.6000	0.5770
T14	25	1" Metal Conduit	141.50 - 151.50	0.6000	0.5770
T15	1	Climbing Ladder (Af)	131.50 - 141.50	0.6000	0.4714
T15	2	Safety Line 3/8	131.50 - 141.50	0.6000	0.4714
T15	5	Feedline Ladder (Af)	131.50 - 141.50	0.6000	0.4714
T15	6	Feedline Ladder (Af)	131.50 - 141.50	0.6000	0.4714
T15	7	Feedline Ladder (Af)	131.50 - 141.50	0.6000	0.4714
T15	9	3/8" Coax	131.50 - 141.50	0.6000	0.4714
T15	10	EW90(ELLIPTICAL)	131.50 - 141.50	0.6000	0.4714
T15	11	LDF7-50A(1-5/8)	131.50 - 141.50	0.6000	0.4714
T15	12	1/2" dia. coax	131.50 - 132.00	0.6000	0.4714
T15	13	1/2" dia. coax	132.00 - 141.50	0.6000	0.4714
T15	14	3/4" DC	131.50 - 141.50	0.6000	0.4714
T15	15	5/8" dia. coax	131.50 - 141.50	0.6000	0.4714
T15	21	HB158-21U6S24-xxM_TMO (1-5/8)	131.50 - 141.50	0.6000	0.4714
T15	25	1" Metal Conduit	131.50 - 141.50	0.6000	0.4714

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T16	1	Climbing Ladder (Af)	119.00 - 131.50	0.6000	0.6000
T16	2	Safety Line 3/8	119.00 - 131.50	0.6000	0.6000
T16	5	Feedline Ladder (Af)	119.00 - 131.50	0.6000	0.6000
T16	6	Feedline Ladder (Af)	119.00 - 131.50	0.6000	0.6000
T16	7	Feedline Ladder (Af)	119.00 - 131.50	0.6000	0.6000
T16	9	3/8" Coax	119.00 - 131.50	0.6000	0.6000
T16	10	EW90(ELLIPTICAL)	119.00 - 131.50	0.6000	0.6000
T16	11	LDF7-50A(1-5/8)	119.00 - 131.50	0.6000	0.6000
T16	12	1/2" dia. coax	119.00 - 131.50	0.6000	0.6000
T16	14	3/4" DC	119.00 - 131.50	0.6000	0.6000
T16	15	5/8" dia. coax	119.00 - 131.50	0.6000	0.6000
T16	21	HB158-21U6S24-xxM_TMO (1-5/8)	119.00 - 131.50	0.6000	0.6000
T16	25	1" Metal Conduit	119.00 - 131.50	0.6000	0.6000
T17	1	Climbing Ladder (Af)	106.50 - 119.00	0.6000	0.6000
T17	2	Safety Line 3/8	106.50 - 119.00	0.6000	0.6000
T17	5	Feedline Ladder (Af)	111.75 - 119.00	0.6000	0.6000
T17	6	Feedline Ladder (Af)	108.00 - 119.00	0.6000	0.6000
T17	7	Feedline Ladder (Af)	108.00 - 119.00	0.6000	0.6000
T17	9	3/8" Coax	111.50 - 119.00	0.6000	0.6000
T17	10	EW90(ELLIPTICAL)	111.50 - 119.00	0.6000	0.6000
T17	11	LDF7-50A(1-5/8)	106.50 - 119.00	0.6000	0.6000
T17	12	1/2" dia. coax	111.50 - 119.00	0.6000	0.6000
T17	14	3/4" DC	106.50 - 119.00	0.6000	0.6000
T17	15	5/8" dia. coax	106.50 - 119.00	0.6000	0.6000
T17	21	HB158-21U6S24-xxM_TMO (1-5/8)	111.50 - 119.00	0.6000	0.6000
T17	25	1" Metal Conduit	111.50 - 119.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
**										
(2) 12" x 24" Beacon	B	From Face	0.00		0.0000	231.50	No Ice	1.00	1.00	30
			0.00				1/2" Ice	1.58	1.58	50
			14.00				1" Ice	1.77	1.77	72
5/8" x 4' Lightning Rod	B	From Face	0.00		0.0000	231.50	No Ice	0.25	0.25	4
			0.00				1/2" Ice	0.66	0.66	7
			13.00				1" Ice	0.97	0.97	12
13' T Beam Mount	B	From Face	0.00		0.0000	231.50	No Ice	10.50	10.50	100
			0.00				1/2" Ice	14.00	14.00	150
			6.50				1" Ice	17.50	17.50	200
**										
Top Platform Mount	C	None			0.0000	235.00	No Ice	72.25	72.25	5500
							1/2" Ice	90.00	90.00	7500
							1" Ice	107.75	107.75	9500
2.4" Dia x 6-ft Pipe	B	From Face	4.00		0.0000	235.00	No Ice	1.43	1.43	22
			0.00				1/2" Ice	1.93	1.93	33
			0.00				1" Ice	2.30	2.30	48
2.4" Dia x 6-ft Pipe	D	From Face	4.00		0.0000	235.00	No Ice	1.43	1.43	22
			0.00				1/2" Ice	1.93	1.93	33
			0.00				1" Ice	2.30	2.30	48
Unused I-Beam Mount	A	From Face	4.00		0.0000	235.00	No Ice	2.50	2.50	100
			0.00				1/2" Ice	4.00	4.00	150
			0.00				1" Ice	5.50	5.50	200
(3) HPA-45R-BUU-H6 w/ Mount Pipe	B	From Centroid-Face	4.00		0.0000	235.00	No Ice	12.13	7.70	108
			0.00				1/2" Ice	12.72	8.89	198
			0.00				1" Ice	13.28	9.79	297
(3) HPA-45R-BUU-H6 w/ Mount Pipe	D	From Centroid-Face	4.00		0.0000	235.00	No Ice	12.13	7.70	108
			0.00				1/2" Ice	12.72	8.89	198
			0.00				1" Ice	13.28	9.79	297
TPA45R-KU6A w/ Mount Pipe	B	From Centroid-Face	4.00		0.0000	235.00	No Ice	11.25	8.41	83
			0.00				1/2" Ice	11.86	9.68	171
			0.00				1" Ice	12.45	10.74	266
TPA45R-KU6A w/ Mount Pipe	D	From Centroid-Face	4.00		0.0000	235.00	No Ice	11.25	8.41	83
			0.00				1/2" Ice	11.86	9.68	171
			0.00				1" Ice	12.45	10.74	266
P65-15-XLH-RR w/ Mount Pipe	C	From Centroid-Face	4.00		0.0000	235.00	No Ice	5.30	3.67	48
			0.00				1/2" Ice	5.69	4.28	92
			0.00				1" Ice	6.09	4.90	142
80010964 w/ Mount Pipe	C	From Centroid-Face	4.00		0.0000	235.00	No Ice	10.23	5.51	105
			0.00				1/2" Ice	10.74	6.37	180
			0.00				1" Ice	11.24	7.12	262
(2) OPA-65R-LCUU-H6 w/ Mount Pipe	A	From Centroid-Face	4.00		0.0000	235.00	No Ice	9.90	7.18	99
			0.00				1/2" Ice	10.47	8.36	175
			0.00				1" Ice	11.01	9.26	261
(3) RRUS 32	B	From Centroid-Face	4.00		0.0000	235.00	No Ice	2.86	1.78	55
			0.00				1/2" Ice	3.08	1.97	77
			0.00				1" Ice	3.32	2.17	103
(3) RRUS 32	C	From Centroid-Face	4.00		0.0000	235.00	No Ice	2.86	1.78	55
			0.00				1/2" Ice	3.08	1.97	77
			0.00				1" Ice	3.32	2.17	103
(3) RRUS 32	D	From Centroid-Face	4.00		0.0000	235.00	No Ice	2.86	1.78	55
			0.00				1/2" Ice	3.08	1.97	77
			0.00				1" Ice	3.32	2.17	103
(2) RRUS 4478	B	From Centroid-Face	4.00		0.0000	235.00	No Ice	1.84	1.06	60
			0.00				1/2" Ice	2.01	1.20	76
			0.00				1" Ice	2.19	1.34	94
RRUS 4478	D	From	4.00		0.0000	235.00	No Ice	1.84	1.06	60

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
		Centroid-Face	0.00				1/2" Ice	2.01	1.20	76
			0.00				1" Ice	2.19	1.34	94
(2) RRUS 11 B12	B	From Centroid-Face	4.00		0.0000	235.00	No Ice	2.79	1.19	51
			0.00				1/2" Ice	3.00	1.34	72
			0.00				1" Ice	3.21	1.50	95
RRUS 11 B12	D	From Centroid-Face	4.00		0.0000	235.00	No Ice	2.79	1.19	51
			0.00				1/2" Ice	3.00	1.34	72
			0.00				1" Ice	3.21	1.50	95
(2) LGP21401	B	From Centroid-Face	4.00		0.0000	235.00	No Ice	1.10	0.21	14
			0.00				1/2" Ice	1.24	0.27	21
			0.00				1" Ice	1.38	0.35	30
(2) LGP21401	C	From Centroid-Face	4.00		0.0000	235.00	No Ice	1.10	0.21	14
			0.00				1/2" Ice	1.24	0.27	21
			0.00				1" Ice	1.38	0.35	30
(2) LGP21401	D	From Centroid-Face	4.00		0.0000	235.00	No Ice	1.10	0.21	14
			0.00				1/2" Ice	1.24	0.27	21
			0.00				1" Ice	1.38	0.35	30
(2) TPX-070821	C	From Centroid-Face	4.00		0.0000	235.00	No Ice	0.47	0.10	8
			0.00				1/2" Ice	0.56	0.15	11
			0.00				1" Ice	0.66	0.20	16
(2) DC6-48-60-18-8F	B	From Centroid-Face	4.00		0.0000	235.00	No Ice	1.21	1.21	33
			0.00				1/2" Ice	1.89	1.89	55
			0.00				1" Ice	2.11	2.11	80
DC9-48-60-24-8C-EV	D	From Centroid-Face	4.00		0.0000	235.00	No Ice	1.14	1.14	26
			0.00				1/2" Ice	1.79	1.79	47
			0.00				1" Ice	2.00	2.00	70
17" 3 element yagi	C	From Centroid-Face	4.00		0.0000	229.00	No Ice	0.11	0.25	1
			0.00				1/2" Ice	0.20	0.51	8
			0.00				1" Ice	0.29	0.77	12
**										
Pipe Mount [PM 601-1]	A	From Face	1.50		0.0000	223.50	No Ice	1.32	1.32	65
			0.00				1/2" Ice	1.58	1.58	77
			0.00				1" Ice	1.84	1.84	93
**										
Pipe Mount [PM 601-1]	C	From Face	1.50		0.0000	221.00	No Ice	1.32	1.32	65
			0.00				1/2" Ice	1.58	1.58	77
			0.00				1" Ice	1.84	1.84	93
**										
4' L x 6' W Rest Platform	B	From Face	2.00		0.0000	216.50	No Ice	15.00	15.00	750
			0.00				1/2" Ice	22.50	22.50	1250
			0.00				1" Ice	30.00	30.00	1750
4' L x 6' W Rest Platform	D	From Face	2.00		0.0000	216.50	No Ice	15.00	15.00	750
			0.00				1/2" Ice	22.50	22.50	1250
			0.00				1" Ice	30.00	30.00	1750
**										
Site Pro 1 VFA12-HD	A	From Leg	2.00		0.0000	206.50	No Ice	13.20	9.20	658
			0.00				1/2" Ice	19.50	14.60	804
			0.00				1" Ice	25.80	19.50	1015
Site Pro 1 VFA12-HD	B	From Leg	2.00		0.0000	206.50	No Ice	13.20	9.20	658
			0.00				1/2" Ice	19.50	14.60	804
			0.00				1" Ice	25.80	19.50	1015
Site Pro 1 VFA12-HD	D	From Leg	2.00		0.0000	206.50	No Ice	13.20	9.20	658
			0.00				1/2" Ice	19.50	14.60	804
			0.00				1" Ice	25.80	19.50	1015
2.4" Dia x 8-ft Mount Pipe	A	From Leg	4.00		0.0000	206.50	No Ice	1.90	1.90	29
			0.00				1/2" Ice	2.73	2.73	44
			0.00				1" Ice	3.40	3.40	63

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
2.4" Dia x 8-ft Mount Pipe	B	From Leg	4.00	0.0000	206.50	No Ice	1.90	1.90	29
			0.00			1/2" Ice	2.73	2.73	44
			0.00			1" Ice	3.40	3.40	63
2.4" Dia x 8-ft Mount Pipe	D	From Leg	4.00	0.0000	206.50	No Ice	1.90	1.90	29
			0.00			1/2" Ice	2.73	2.73	44
			0.00			1" Ice	3.40	3.40	63
AIR 32 KRD901146-1 w/ Mount Pipe	A	From Leg	4.00	0.0000	206.50	No Ice	4.00	3.43	54
			0.00			1/2" Ice	4.47	4.26	90
			3.50			1" Ice	4.96	4.96	132
AIR 32 KRD901146-1 w/ Mount Pipe	B	From Leg	4.00	0.0000	206.50	No Ice	4.00	3.43	54
			0.00			1/2" Ice	4.47	4.26	90
			3.50			1" Ice	4.96	4.96	132
AIR 32 KRD901146-1 w/ Mount Pipe	D	From Leg	4.00	0.0000	206.50	No Ice	4.00	3.43	54
			0.00			1/2" Ice	4.47	4.26	90
			3.50			1" Ice	4.96	4.96	132
AIR 6419 B41_TMO w/ Mount Pipe	A	From Leg	4.00	0.0000	206.50	No Ice	7.50	4.78	126
			0.00			1/2" Ice	8.34	5.85	190
			3.50			1" Ice	9.08	6.78	261
AIR 6419 B41_TMO w/ Mount Pipe	B	From Leg	4.00	0.0000	206.50	No Ice	7.50	4.78	126
			0.00			1/2" Ice	8.34	5.85	190
			3.50			1" Ice	9.08	6.78	261
AIR 6419 B41_TMO w/ Mount Pipe	D	From Leg	4.00	0.0000	206.50	No Ice	7.50	4.78	126
			0.00			1/2" Ice	8.34	5.85	190
			3.50			1" Ice	9.08	6.78	261
**									
Site Pro 1 VFA12-HD	A	From Leg	2.00	0.0000	203.00	No Ice	13.20	9.20	658
			0.00			1/2" Ice	19.50	14.60	804
			0.00			1" Ice	25.80	19.50	1015
Site Pro 1 VFA12-HD	B	From Leg	2.00	0.0000	203.00	No Ice	13.20	9.20	658
			0.00			1/2" Ice	19.50	14.60	804
			0.00			1" Ice	25.80	19.50	1015
Site Pro 1 VFA12-HD	D	From Leg	2.00	0.0000	203.00	No Ice	13.20	9.20	658
			0.00			1/2" Ice	19.50	14.60	804
			0.00			1" Ice	25.80	19.50	1015
2.4" Dia x 8-ft Mount Pipe	A	From Leg	4.00	0.0000	203.00	No Ice	1.90	1.90	29
			0.00			1/2" Ice	2.73	2.73	44
			0.00			1" Ice	3.40	3.40	63
2.4" Dia x 8-ft Mount Pipe	B	From Leg	4.00	0.0000	203.00	No Ice	1.90	1.90	29
			0.00			1/2" Ice	2.73	2.73	44
			0.00			1" Ice	3.40	3.40	63
2.4" Dia x 8-ft Mount Pipe	D	From Leg	4.00	0.0000	203.00	No Ice	1.90	1.90	29
			0.00			1/2" Ice	2.73	2.73	44
			0.00			1" Ice	3.40	3.40	63
APXVAALL24_43-U-NA20 w/ mount pipe	A	From Leg	4.00	0.0000	203.00	No Ice	20.24	11.03	169
			0.00			1/2" Ice	20.89	12.46	306
			0.00			1" Ice	21.55	13.56	454
APXVAALL24_43-U-NA20 w/ mount pipe	B	From Leg	4.00	0.0000	203.00	No Ice	20.24	11.03	169
			0.00			1/2" Ice	20.89	12.46	306
			0.00			1" Ice	21.55	13.56	454
APXVAALL24_43-U-NA20 w/ mount pipe	D	From Leg	4.00	0.0000	203.00	No Ice	20.24	11.03	169
			0.00			1/2" Ice	20.89	12.46	306
			0.00			1" Ice	21.55	13.56	454
RADIO 4480 B71_TMO	A	From Leg	4.00	0.0000	203.00	No Ice	2.85	1.38	93
			0.00			1/2" Ice	3.06	1.54	114
			0.00			1" Ice	3.28	1.71	139
RADIO 4480 B71_TMO	B	From Leg	4.00	0.0000	203.00	No Ice	2.85	1.38	93
			0.00			1/2" Ice	3.06	1.54	114

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	3.28	1.71	139
RADIO 4480 B71_TMO	D	From Leg	4.00	0.0000	203.00	No Ice	2.85	1.38	93
			0.00			1/2" Ice	3.06	1.54	114
			0.00			1" Ice	3.28	1.71	139
RRUS 4460 B25/B66	A	From Leg	4.00	0.0000	203.00	No Ice	2.14	1.69	109
			0.00			1/2" Ice	2.32	1.85	131
			0.00			1" Ice	2.51	2.02	156
RRUS 4460 B25/B66	B	From Leg	4.00	0.0000	203.00	No Ice	2.14	1.69	109
			0.00			1/2" Ice	2.32	1.85	131
			0.00			1" Ice	2.51	2.02	156
RRUS 4460 B25/B66	D	From Leg	4.00	0.0000	203.00	No Ice	2.14	1.69	109
			0.00			1/2" Ice	2.32	1.85	131
			0.00			1" Ice	2.51	2.02	156
SDX1926Q-43	A	From Leg	4.00	0.0000	203.00	No Ice	0.24	0.10	6
			0.00			1/2" Ice	0.31	0.14	9
			0.00			1" Ice	0.38	0.19	12
SDX1926Q-43	B	From Leg	4.00	0.0000	203.00	No Ice	0.24	0.10	6
			0.00			1/2" Ice	0.31	0.14	9
			0.00			1" Ice	0.38	0.19	12
SDX1926Q-43	D	From Leg	4.00	0.0000	203.00	No Ice	0.24	0.10	6
			0.00			1/2" Ice	0.31	0.14	9
			0.00			1" Ice	0.38	0.19	12
**									
Side Arm Mount [SO 901-1]	B	From Leg	1.00	0.0000	132.00	No Ice	0.33	0.62	105
			0.00			1/2" Ice	0.46	0.78	113
			0.00			1" Ice	0.62	0.97	123
2.4" Dia x 6-ft Pipe	B	From Leg	2.00	0.0000	132.00	No Ice	1.43	1.43	22
			0.00			1/2" Ice	1.93	1.93	33
			0.00			1" Ice	2.30	2.30	48
2.4" Dia x 6-ft Pipe	B	From Leg	2.50	0.0000	132.00	No Ice	1.43	1.43	22
			0.00			1/2" Ice	1.93	1.93	33
			0.00			1" Ice	2.30	2.30	48
4-ft x 7 Element Yagi	B	From Leg	2.50	0.0000	132.00	No Ice	1.05	1.65	45
			0.00			1/2" Ice	2.05	2.96	61
			0.00			1" Ice	3.04	4.28	77

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
Andrew HP10	A	Paraboloid w/Shroud (HP)	From Face	1.50	0.0000		223.50	10.00	No Ice	78.54	700
				0.00					1/2" Ice	79.85	1300
				0.00					1" Ice	81.17	1900
1-ft dish w/ shroud	C	Paraboloid w/Shroud (HP)	From Face	1.50	0.0000		221.00	1.00	No Ice	3.14	30
				0.00					1/2" Ice	3.41	48
				0.00					1" Ice	3.68	65

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 45 deg - No Ice
5	0.9 Dead+1.6 Wind 45 deg - No Ice
6	1.2 Dead+1.6 Wind 90 deg - No Ice
7	0.9 Dead+1.6 Wind 90 deg - No Ice
8	1.2 Dead+1.6 Wind 135 deg - No Ice
9	0.9 Dead+1.6 Wind 135 deg - No Ice
10	1.2 Dead+1.6 Wind 180 deg - No Ice
11	0.9 Dead+1.6 Wind 180 deg - No Ice
12	1.2 Dead+1.6 Wind 225 deg - No Ice
13	0.9 Dead+1.6 Wind 225 deg - No Ice
14	1.2 Dead+1.6 Wind 270 deg - No Ice
15	0.9 Dead+1.6 Wind 270 deg - No Ice
16	1.2 Dead+1.6 Wind 315 deg - No Ice
17	0.9 Dead+1.6 Wind 315 deg - No Ice
18	1.2 Dead+1.0 Ice+1.0 Temp
19	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
20	1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp
21	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
22	1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp
23	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
24	1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp
25	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
26	1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 45 deg - Service
29	Dead+Wind 90 deg - Service
30	Dead+Wind 135 deg - Service
31	Dead+Wind 180 deg - Service
32	Dead+Wind 225 deg - Service
33	Dead+Wind 270 deg - Service
34	Dead+Wind 315 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	231.5 - 229	Leg	Max Tension	17	4221	-1	-2
			Max. Compression	20	-10287	0	0
			Max. Mx	2	2116	-4	2
			Max. My	12	-2234	4	-4
			Max. Vy	8	-2557	2	-2
			Max. Vx	12	-2570	-2	2
		Top Girt	Max Tension	2	1160	2	0
			Max. Compression	3	-1140	-2	0
			Max. Mx	12	745	4	0
			Max. My	3	-1140	-2	0
			Max. Vy	10	-1427	-4	0
			Max. Vx	13	0	-4	0
T2	229 - 224.8	Leg	Max Tension	17	5947	0	1
			Max. Compression	20	-11380	0	0
			Max. Mx	8	-2133	2	-2

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	12	-2131	-2	2
			Max. Vy	17	-771	-2	2
			Max. Vx	5	-732	2	-2
		Diagonal	Max Tension	17	4256	0	0
			Max. Compression	8	-4367	0	0
			Max. Mx	22	1212	0	0
			Max. My	10	4003	0	0
			Max. Vy	22	69	0	0
			Max. Vx	10	-6	0	0
T3	224.8 - 220.7	Leg	Max Tension	5	14341	0	0
			Max. Compression	16	-19961	0	0
			Max. Mx	2	8501	-1	0
			Max. My	10	8165	0	-1
			Max. Vy	8	-641	0	0
			Max. Vx	4	-652	0	0
		Diagonal	Max Tension	10	4097	0	0
			Max. Compression	10	-4007	0	0
			Max. Mx	26	-541	0	0
			Max. My	2	-3931	0	0
			Max. Vy	19	61	0	0
			Max. Vx	2	9	0	0
		Top Girt	Max Tension	2	1404	0	0
			Max. Compression	3	-1337	0	0
			Max. Mx	18	105	0	0
			Max. Vy	18	-64	0	0
T4	220.7 - 216.5	Leg	Max Tension	17	19784	0	0
			Max. Compression	16	-25675	0	0
			Max. Mx	4	-3889	1	0
			Max. My	8	-3561	0	1
			Max. Vy	6	184	0	0
			Max. Vx	7	-175	0	0
		Diagonal	Max Tension	7	5095	0	0
			Max. Compression	6	-5231	0	0
			Max. Mx	26	591	0	0
			Max. My	2	-3899	0	0
			Max. Vy	26	78	0	0
			Max. Vx	2	11	0	0
T5	216.5 - 211.5	Leg	Max Tension	5	27720	0	0
			Max. Compression	4	-33992	0	0
			Max. Mx	16	-33883	0	0
			Max. My	8	-33591	0	0
			Max. Vy	6	326	0	0
			Max. Vx	14	330	0	0
		Diagonal	Max Tension	7	4740	0	0
			Max. Compression	6	-5277	0	0
			Max. Mx	26	-370	0	0
			Max. My	19	-2430	0	0
			Max. Vy	26	-40	0	0
			Max. Vx	19	-3	0	0
		Top Girt	Max Tension	2	1521	0	0
			Max. Compression	3	-1269	0	0
			Max. Mx	18	424	0	0
			Max. My	18	424	0	0
			Max. Vy	18	-115	0	0
			Max. Vx	18	4	0	0
T6	211.5 - 206.5	Leg	Max Tension	5	36978	0	0
			Max. Compression	4	-44692	0	0
			Max. Mx	4	-3726	1	-1
			Max. My	12	-5273	-1	1
			Max. Vy	8	-191	1	-1
			Max. Vx	16	-190	-1	1

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	6	4973	0	0
			Max. Compression	6	-4957	0	0
			Max. Mx	19	1460	0	0
			Max. My	19	-1321	0	0
			Max. Vy	19	-41	0	0
			Max. Vx	19	-4	0	0
		Top Girt	Max Tension	2	1360	0	0
			Max. Compression	3	-1006	0	0
			Max. Mx	18	623	0	0
			Max. My	18	623	0	0
			Max. Vy	18	63	0	0
			Max. Vx	18	-2	0	0
T7	206.5 - 201.5	Leg	Max Tension	5	45566	0	0
			Max. Compression	16	-56805	0	0
			Max. Mx	4	-4703	1	-1
			Max. My	12	-7167	-1	1
			Max. Vy	6	-668	0	0
			Max. Vx	10	-655	0	0
		Diagonal	Max Tension	7	6145	0	0
			Max. Compression	6	-6379	0	0
			Max. Mx	26	980	0	0
			Max. My	25	1509	0	0
			Max. Vy	26	-49	0	0
			Max. Vx	25	4	0	0
T8	201.5 - 196.5	Leg	Max Tension	5	54907	0	0
			Max. Compression	16	-66935	0	0
			Max. Mx	12	-3366	1	-1
			Max. My	4	-6680	-1	1
			Max. Vy	8	-180	1	-1
			Max. Vx	4	-185	-1	1
		Diagonal	Max Tension	6	6892	0	0
			Max. Compression	6	-7026	0	0
			Max. Mx	19	1911	0	0
			Max. My	25	-2528	0	0
			Max. Vy	19	-46	0	0
			Max. Vx	25	4	0	0
		Top Girt	Max Tension	14	939	0	0
			Max. Compression	15	-778	0	0
			Max. Mx	18	193	0	0
			Max. My	18	193	0	0
			Max. Vy	18	75	0	0
			Max. Vx	18	3	0	0
T9	196.5 - 191.5	Leg	Max Tension	5	65666	0	0
			Max. Compression	4	-77809	0	0
			Max. Mx	12	-3394	1	-1
			Max. My	4	-7486	-1	1
			Max. Vy	8	179	1	-1
			Max. Vx	16	186	-1	1
		Diagonal	Max Tension	6	7067	0	0
			Max. Compression	6	-7029	0	0
			Max. Mx	26	1644	0	0
			Max. My	25	1732	0	0
			Max. Vy	26	-54	0	0
			Max. Vx	25	4	0	0
T10	191.5 - 181.5	Leg	Max Tension	5	75391	0	0
			Max. Compression	4	-86766	0	0
			Max. Mx	6	-59511	-1	0
			Max. My	14	-60458	0	-1
			Max. Vy	16	-219	0	0
			Max. Vx	6	-215	0	-1
		Diagonal	Max Tension	13	10526	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	4	-11894	0	0
			Max. Mx	26	-1303	0	0
			Max. My	12	-11678	0	0
			Max. Vy	26	65	0	0
			Max. Vx	20	6	0	0
		Secondary Horizontal	Max Tension	14	426	0	0
			Max. Compression	14	-422	0	0
			Max. Mx	21	-102	0	0
			Max. My	19	3	0	0
			Max. Vy	21	-52	0	0
			Max. Vx	19	-6	0	0
		Top Girt	Max Tension	14	3402	0	0
			Max. Compression	7	-2990	0	0
			Max. Mx	18	582	0	0
			Max. My	18	582	0	0
			Max. Vy	18	83	0	0
			Max. Vx	18	-3	0	0
		Inner Bracing	Max Tension	25	576	0	0
			Max. Compression	1	0	0	0
			Max. Mx	18	576	0	0
			Max. Vy	18	-110	0	0
T11	181.5 - 171.5	Leg	Max Tension	5	94783	0	0
			Max. Compression	4	-107588	0	0
			Max. Mx	6	-73948	-1	0
			Max. My	14	-74851	0	-1
			Max. Vy	16	-274	-1	-1
			Max. Vx	8	-269	-1	-1
		Diagonal	Max Tension	13	10557	0	0
			Max. Compression	4	-11815	0	0
			Max. Mx	26	-1105	0	0
			Max. My	20	-5929	0	0
			Max. Vy	26	71	0	0
			Max. Vx	25	6	0	0
		Secondary Horizontal	Max Tension	16	547	0	0
			Max. Compression	17	-512	0	0
			Max. Mx	21	-61	0	0
			Max. My	4	-494	0	0
			Max. Vy	21	-56	0	0
			Max. Vx	26	-5	0	0
		Top Girt	Max Tension	14	6623	0	0
			Max. Compression	7	-5419	0	0
			Max. Mx	18	1924	0	0
			Max. My	18	1924	0	0
			Max. Vy	18	90	0	0
			Max. Vx	18	-3	0	0
T12	171.5 - 161.5	Leg	Max Tension	5	113484	0	0
			Max. Compression	4	-127691	1	0
			Max. Mx	6	-87857	-1	0
			Max. My	14	-88716	0	-1
			Max. Vy	16	-306	-1	-1
			Max. Vx	8	-303	-1	-1
		Diagonal	Max Tension	13	10770	0	0
			Max. Compression	4	-11997	0	0
			Max. Mx	26	-1071	0	0
			Max. My	20	-5931	0	0
			Max. Vy	26	76	0	0
			Max. Vx	25	7	0	0
		Secondary Horizontal	Max Tension	16	614	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	17	-573	0	0
			Max. Mx	21	-57	0	0
			Max. My	4	-558	0	0
			Max. Vy	21	-57	0	0
			Max. Vx	26	-5	0	0
		Top Girt	Max Tension	6	6840	0	0
			Max. Compression	7	-6059	0	0
			Max. Mx	18	1209	0	0
			Max. My	18	1209	0	0
			Max. Vy	18	98	0	0
			Max. Vx	18	-4	0	0
		Inner Bracing	Max Tension	21	1117	0	0
			Max. Compression	1	0	0	0
			Max. Mx	18	1117	0	0
			Max. Vy	18	-130	0	0
T13	161.5 - 151.5	Leg	Max Tension	5	131801	0	0
			Max. Compression	4	-147395	1	1
			Max. Mx	6	-101453	-1	0
			Max. My	14	-102283	0	-1
			Max. Vy	16	339	-1	-1
			Max. Vx	8	-336	-1	-1
		Diagonal	Max Tension	13	11082	0	0
			Max. Compression	4	-12295	0	0
			Max. Mx	26	-1030	0	0
			Max. My	20	-5991	0	0
			Max. Vy	26	82	0	0
			Max. Vx	25	6	0	0
		Secondary Horizontal	Max Tension	16	680	0	0
			Max. Compression	17	-636	0	0
			Max. Mx	21	-62	0	0
			Max. My	26	-120	0	0
			Max. Vy	21	-69	0	0
			Max. Vx	26	-7	0	0
		Top Girt	Max Tension	6	7743	0	0
			Max. Compression	7	-6505	0	0
			Max. Mx	18	2084	0	0
			Max. My	18	2084	0	0
			Max. Vy	18	-105	0	0
			Max. Vx	18	4	0	0
T14	151.5 - 141.5	Leg	Max Tension	5	151217	-1	-1
			Max. Compression	4	-168555	1	1
			Max. Mx	12	-166401	1	1
			Max. My	4	-168555	1	1
			Max. Vy	16	-524	-1	-1
			Max. Vx	4	-525	-1	-1
		Diagonal	Max Tension	13	10625	0	0
			Max. Compression	4	-11627	0	0
			Max. Mx	26	-288	0	0
			Max. My	20	-5403	0	0
			Max. Vy	26	86	0	0
			Max. Vx	25	7	0	0
		Secondary Horizontal	Max Tension	16	926	0	0
			Max. Compression	9	-866	0	0
			Max. Mx	21	-84	0	0
			Max. My	26	-158	0	0
			Max. Vy	21	-68	0	0
			Max. Vx	26	-5	0	0
		Top Girt	Max Tension	6	7024	0	0
			Max. Compression	7	-6254	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	18	1253	0	0
			Max. My	18	1253	0	0
			Max. Vy	18	112	0	0
			Max. Vx	18	-4	0	0
		Inner Bracing	Max Tension	21	991	0	0
			Max. Compression	1	0	0	0
			Max. Mx	18	991	1	0
			Max. Vy	18	-140	0	0
T15	141.5 - 131.5	Leg	Max Tension	5	182831	-2	-2
			Max. Compression	4	-203846	2	2
			Max. Mx	6	-143850	3	0
			Max. My	14	-128523	0	3
			Max. Vy	12	8787	2	2
			Max. Vx	4	8811	2	2
		Diagonal	Max Tension	5	12288	0	0
			Max. Compression	4	-13506	0	0
			Max. Mx	4	1953	0	0
			Max. My	4	-3378	0	0
			Max. Vy	20	-57	0	0
			Max. Vx	4	8	0	0
		Horizontal	Max Tension	8	700	0	0
			Max. Compression	17	-645	0	0
			Max. Mx	19	285	0	0
			Max. My	6	593	0	0
			Max. Vy	19	-72	0	0
			Max. Vx	6	-3	0	0
		Top Girt	Max Tension	6	7230	0	0
			Max. Compression	7	-6179	0	0
			Max. Mx	18	1786	0	0
			Max. My	18	1786	0	0
			Max. Vy	18	119	0	0
			Max. Vx	18	-4	0	0
		Redund Horz 1 Bracing	Max Tension	6	2657	0	0
			Max. Compression	7	-2332	0	0
			Max. Mx	18	540	0	0
			Max. My	18	330	0	0
			Max. Vy	18	-27	0	0
			Max. Vx	18	-1	0	0
		Redund Diag 1 Bracing	Max Tension	7	1567	0	0
			Max. Compression	4	-1772	0	0
			Max. Mx	18	-360	0	0
			Max. My	18	-350	0	0
			Max. Vy	18	28	0	0
			Max. Vx	18	1	0	0
		Redund Hip 1 Bracing	Max Tension	5	18	0	0
			Max. Compression	4	-25	0	0
			Max. Mx	18	-17	0	0
			Max. Vy	18	-37	0	0
T16	131.5 - 119	Leg	Max Tension	5	182829	-2	-2
			Max. Compression	4	-203849	1	1
			Max. Mx	6	-141303	5	0
			Max. My	14	-138128	0	5
			Max. Vy	12	8789	1	1
			Max. Vx	4	8813	1	1
		Diagonal	Max Tension	7	18313	0	0
			Max. Compression	6	-18820	0	0
			Max. Mx	4	11989	0	0
			Max. My	4	-13894	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	26	64	0	0
			Max. Vx	4	-40	0	0
		Top Girt	Max Tension	4	9157	0	0
			Max. Compression	9	-8509	0	0
			Max. Mx	19	2239	0	0
			Max. My	6	-2621	0	0
			Max. Vy	19	130	0	0
			Max. Vx	6	-6	0	0
		Redund Horz 1 Bracing	Max Tension	6	2286	0	0
			Max. Compression	7	-2049	0	0
			Max. Mx	18	364	0	0
			Max. My	18	364	0	0
			Max. Vy	18	28	0	0
			Max. Vx	18	-1	0	0
		Redund Diag 1 Bracing	Max Tension	7	2506	0	0
			Max. Compression	6	-2677	0	0
			Max. Mx	18	-138	0	0
			Max. My	18	-138	0	0
			Max. Vy	18	26	0	0
			Max. Vx	18	2	0	0
		Redund Hip 1 Bracing	Max Tension	4	105	0	0
			Max. Compression	5	-100	0	0
			Max. Mx	18	3	0	0
			Max. Vy	18	-38	0	0
		Inner Bracing	Max Tension	5	35	0	0
			Max. Compression	4	-49	0	0
			Max. Mx	18	-26	0	0
			Max. Vy	18	-95	0	0
T17	119 - 106.5	Leg	Max Tension	5	198269	-1	-1
			Max. Compression	4	-221994	-3	-3
			Max. Mx	6	-154106	5	0
			Max. My	14	-150596	0	5
			Max. Vy	4	2385	-4	-4
			Max. Vx	16	2331	-4	-4
		Diagonal	Max Tension	7	18990	0	0
			Max. Compression	6	-19711	0	0
			Max. Mx	4	-12246	0	0
			Max. My	4	-14034	0	0
			Max. Vy	4	81	0	0
			Max. Vx	4	-50	0	0
		Top Girt	Max Tension	7	8726	0	0
			Max. Compression	6	-8800	0	0
			Max. Mx	25	206	0	0
			Max. My	6	1073	0	0
			Max. Vy	25	133	0	0
			Max. Vx	21	6	0	0
		Redund Horz 1 Bracing	Max Tension	12	737	0	0
			Max. Compression	5	-707	0	0
			Max. Mx	18	50	0	0
			Max. My	18	50	0	0
			Max. Vy	18	29	0	0
			Max. Vx	18	-1	0	0
		Redund Diag 1 Bracing	Max Tension	5	4297	0	0
			Max. Compression	4	-4738	0	0
			Max. Mx	4	-4641	0	0
			Max. My	22	-391	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	32	0	0
			Max. Vx	21	-3	0	0
		Redund Hip 1 Bracing	Max Tension	4	131	0	0
			Max. Compression	13	-126	0	0
			Max. Mx	18	2	0	0
			Max. Vy	18	41	0	0
		Redund Hip Diagonal 1 Bracing	Max Tension	14	112	0	0
			Max. Compression	6	-117	0	0
			Max. Mx	18	49	0	0
			Max. Vy	18	65	0	0
		Redund Sub Horz Bracing	Max Tension	4	4002	0	0
			Max. Compression	5	-3526	0	0
			Max. Mx	18	737	0	0
			Max. My	18	737	0	0
			Max. Vy	18	-15	0	0
			Max. Vx	18	-1	0	0
		Redund Sub Diagonal Bracing	Max Tension	5	4015	0	0
			Max. Compression	4	-4580	0	0
			Max. Mx	18	-869	0	0
			Max. My	18	-879	0	0
			Max. Vy	18	16	0	0
			Max. Vx	18	1	0	0
		Inner Bracing	Max Tension	7	31	0	0
			Max. Compression	14	-47	0	0
			Max. Mx	18	-29	0	0
			Max. Vy	18	-101	0	0

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg D	Max. Vert	12	247289	15152	-15876
	Max. H_x	12	247289	15152	-15876
	Max. H_z	5	-224579	-14343	14815
	Min. Vert	5	-224579	-14343	14815
	Min. H_x	5	-224579	-14343	14815
	Min. H_z	12	247289	15152	-15876
Leg C	Max. Vert	8	245781	-15070	-15856
	Max. H_x	17	-219353	13930	14641
	Max. H_z	17	-219353	13930	14641
	Min. Vert	17	-219353	13930	14641
	Min. H_x	8	245781	-15070	-15856
	Min. H_z	8	245781	-15070	-15856
Leg B	Max. Vert	4	250185	-16082	15229
	Max. H_x	13	-221672	14862	-14013
	Max. H_z	4	250185	-16082	15229
	Min. Vert	13	-221672	14862	-14013
	Min. H_x	4	250185	-16082	15229
	Min. H_z	13	-221672	14862	-14013
Leg A	Max. Vert	16	245267	15825	14910
	Max. H_x	16	245267	15825	14910
	Max. H_z	16	245267	15825	14910

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
	Min. Vert	9	-220473	-14936	-13849
	Min. H_x	9	-220473	-14936	-13849
	Min. H_z	9	-220473	-14936	-13849

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	48784	0	0	-13	14	0
1.2 Dead+1.6 Wind 0 deg - No Ice	58540	1	-49110	-3870	21	-15
0.9 Dead+1.6 Wind 0 deg - No Ice	43905	1	-49110	-3866	17	-15
1.2 Dead+1.6 Wind 45 deg - No Ice	58540	42814	-41193	-3126	-3273	-18
0.9 Dead+1.6 Wind 45 deg - No Ice	43905	42814	-41193	-3122	-3277	-18
1.2 Dead+1.6 Wind 90 deg - No Ice	58540	56778	-304	-47	-4336	-33
0.9 Dead+1.6 Wind 90 deg - No Ice	43905	56778	-304	-43	-4340	-33
1.2 Dead+1.6 Wind 135 deg - No Ice	58540	42384	40763	3050	-3229	-25
0.9 Dead+1.6 Wind 135 deg - No Ice	43905	42384	40763	3054	-3234	-25
1.2 Dead+1.6 Wind 180 deg - No Ice	58540	-607	49110	3838	83	15
0.9 Dead+1.6 Wind 180 deg - No Ice	43905	-607	49110	3842	79	15
1.2 Dead+1.6 Wind 225 deg - No Ice	58540	-42191	41133	3087	3234	21
0.9 Dead+1.6 Wind 225 deg - No Ice	43905	-42191	41133	3091	3229	21
1.2 Dead+1.6 Wind 270 deg - No Ice	58540	-56097	304	15	4290	33
0.9 Dead+1.6 Wind 270 deg - No Ice	43905	-56097	304	19	4286	33
1.2 Dead+1.6 Wind 315 deg - No Ice	58540	-41762	-40704	-3075	3190	22
0.9 Dead+1.6 Wind 315 deg - No Ice	43905	-41762	-40704	-3071	3186	22
1.2 Dead+1.0 Ice+1.0 Temp	189149	0	0	-95	6	0
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	189149	2	-16626	-1408	7	-1
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp	189149	13609	-13228	-1105	-1047	-8
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	189149	18575	-63	-102	-1429	-16
1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp	189149	13519	13138	905	-1037	-12
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	189149	-124	16626	1218	20	1
1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp	189149	-13483	13216	913	1045	8
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	189149	-18438	63	-88	1426	16

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp	189149	-13394	-13126	-1094	1035	11
Dead+Wind 0 deg - Service	48784	0	-13344	-1061	15	-4
Dead+Wind 45 deg - Service	48784	11633	-11193	-859	-880	-5
Dead+Wind 90 deg - Service	48784	15428	-82	-22	-1169	-9
Dead+Wind 135 deg - Service	48784	11516	11076	820	-868	-7
Dead+Wind 180 deg - Service	48784	-165	13344	1034	32	4
Dead+Wind 225 deg - Service	48784	-11464	11176	830	888	6
Dead+Wind 270 deg - Service	48784	-15242	82	-5	1175	9
Dead+Wind 315 deg - Service	48784	-11347	-11060	-845	876	6

Solution Summary

Load Comb.	Sum of Applied Forces PX lb	PY lb	PZ lb	Sum of Reactions PX lb	PY lb	PZ lb	% Error
1	0	-48784	0	0	48784	0	0.000%
2	1	-58540	-49110	-1	58540	49110	0.000%
3	1	-43905	-49110	-1	43905	49110	0.000%
4	42814	-58540	-41193	-42814	58540	41193	0.000%
5	42814	-43905	-41193	-42814	43905	41193	0.000%
6	56778	-58540	-304	-56778	58540	304	0.000%
7	56778	-43905	-304	-56778	43905	304	0.000%
8	42384	-58540	40763	-42384	58540	-40763	0.000%
9	42384	-43905	40763	-42384	43905	-40763	0.000%
10	-607	-58540	49110	607	58540	-49110	0.000%
11	-607	-43905	49110	607	43905	-49110	0.000%
12	-42191	-58540	41133	42191	58540	-41133	0.000%
13	-42191	-43905	41133	42191	43905	-41133	0.000%
14	-56097	-58540	304	56097	58540	-304	0.000%
15	-56097	-43905	304	56097	43905	-304	0.000%
16	-41762	-58540	-40704	41762	58540	40704	0.000%
17	-41762	-43905	-40704	41762	43905	40704	0.000%
18	0	-189149	0	0	189149	0	0.000%
19	2	-189149	-16626	-2	189149	16626	0.000%
20	13609	-189149	-13228	-13609	189149	13228	0.000%
21	18575	-189149	-63	-18575	189149	63	0.000%
22	13519	-189149	13138	-13519	189149	-13138	0.000%
23	-124	-189149	16626	124	189149	-16626	0.000%
24	-13483	-189149	13216	13483	189149	-13216	0.000%
25	-18438	-189149	63	18438	189149	-63	0.000%
26	-13394	-189149	-13126	13394	189149	13126	0.000%
27	0	-48784	-13344	0	48784	13344	0.000%
28	11633	-48784	-11193	-11633	48784	11193	0.000%
29	15428	-48784	-82	-15428	48784	82	0.000%
30	11516	-48784	11076	-11516	48784	-11076	0.000%
31	-165	-48784	13344	165	48784	-13344	0.000%
32	-11464	-48784	11176	11464	48784	-11176	0.000%
33	-15242	-48784	82	15242	48784	-82	0.000%
34	-11347	-48784	-11060	11347	48784	11060	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	231.5 - 229	2.218	34	0.1479	0.0164
T2	229 - 224.8	2.112	34	0.1471	0.0153
T3	224.8 - 220.7	1.982	34	0.1455	0.0152
T4	220.7 - 216.5	1.857	34	0.1421	0.0150
T5	216.5 - 211.5	1.732	34	0.1375	0.0147
T6	211.5 - 206.5	1.586	28	0.1335	0.0139
T7	206.5 - 201.5	1.446	28	0.1283	0.0134
T8	201.5 - 196.5	1.310	28	0.1223	0.0126
T9	196.5 - 191.5	1.181	28	0.1149	0.0116
T10	191.5 - 181.5	1.058	28	0.1070	0.0106
T11	181.5 - 171.5	0.832	28	0.0961	0.0090
T12	171.5 - 161.5	0.630	28	0.0838	0.0076
T13	161.5 - 151.5	0.454	28	0.0704	0.0063
T14	151.5 - 141.5	0.308	28	0.0561	0.0052
T15	141.5 - 131.5	0.188	28	0.0432	0.0041
T16	131.5 - 119	0.096	28	0.0299	0.0032
T17	119 - 106.5	0.028	30	0.0152	0.0015

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
235.00	Top Platform Mount	34	2.218	0.1479	0.0164	7638
231.50	(2) 12" x 24" Beacon	34	2.218	0.1479	0.0164	7638
229.00	17" 3 element yagi	34	2.112	0.1471	0.0153	7638
223.50	Andrew HP10	34	1.943	0.1446	0.0152	162068
221.00	1-ft dish w/ shroud	34	1.866	0.1424	0.0150	213135
216.50	4' L x 6' W Rest Platform	34	1.732	0.1375	0.0147	98318
206.50	Site Pro 1 VFA12-HD	28	1.446	0.1283	0.0134	62547
203.00	Site Pro 1 VFA12-HD	28	1.351	0.1242	0.0129	51784
132.00	Side Arm Mount [SO 901-1]	28	0.100	0.0305	0.0033	35151

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	231.5 - 229	8.129	5	0.5335	0.0605
T2	229 - 224.8	7.747	5	0.5309	0.0563
T3	224.8 - 220.7	7.277	5	0.5251	0.0560
T4	220.7 - 216.5	6.825	5	0.5135	0.0552
T5	216.5 - 211.5	6.373	5	0.4973	0.0540
T6	211.5 - 206.5	5.841	5	0.4829	0.0511
T7	206.5 - 201.5	5.327	5	0.4642	0.0493
T8	201.5 - 196.5	4.828	5	0.4435	0.0463
T9	196.5 - 191.5	4.350	5	0.4187	0.0425
T10	191.5 - 181.5	3.898	5	0.3915	0.0391
T11	181.5 - 171.5	3.066	5	0.3530	0.0330
T12	171.5 - 161.5	2.321	5	0.3087	0.0278
T13	161.5 - 151.5	1.674	5	0.2596	0.0232
T14	151.5 - 141.5	1.132	5	0.2066	0.0190

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T15	141.5 - 131.5	0.694	5	0.1592	0.0152
T16	131.5 - 119	0.355	5	0.1101	0.0118
T17	119 - 106.5	0.103	4	0.0560	0.0057

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
235.00	Top Platform Mount	5	8.129	0.5335	0.0605	2079
231.50	(2) 12" x 24" Beacon	5	8.129	0.5335	0.0605	2079
229.00	17" 3 element yagi	5	7.747	0.5309	0.0563	2079
223.50	Andrew HP10	5	7.137	0.5222	0.0560	48046
221.00	1-ft dish w/ shroud	5	6.858	0.5145	0.0553	66915
216.50	4' L x 6' W Rest Platform	5	6.373	0.4973	0.0540	27933
206.50	Site Pro 1 VFA12-HD	5	5.327	0.4642	0.0493	18265
203.00	Site Pro 1 VFA12-HD	5	4.975	0.4500	0.0473	15388
132.00	Side Arm Mount [SO 901-1]	5	0.369	0.1125	0.0120	9552

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	231.5	Top Girt	A325N	0.7500	2	580	14738	0.039	1.05	Member Bearing
T2	229	Diagonal	A325N	0.7500	2	2128	20934	0.102	1.05	Member Block Shear
T3	224.8	Leg	A325N	0.7500	8	1793	29821	0.060	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	2048	20934	0.098	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	702	10467	0.067	1.05	Member Block Shear
T4	220.7	Diagonal	A325N	0.7500	2	2547	20934	0.122	1.05	Member Block Shear
T5	216.5	Diagonal	A325N	0.7500	2	2370	10467	0.226	1.05	Member Block Shear
		Top Girt	A325N	0.7500	3	507	15225	0.033	1.05	Member Bearing
T6	211.5	Diagonal	A325N	0.7500	2	2486	10467	0.238	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	680	10467	0.065	1.05	Member Block Shear
T7	206.5	Diagonal	A325N	0.7500	2	3072	10467	0.294	1.05	Member Block Shear
T8	201.5	Leg	A325N	0.7500	12	4576	29821	0.153	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	3446	10467	0.329	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	502	10467	0.048	1.05	Member Block Shear
T9	196.5	Diagonal	A325N	0.7500	2	3533	10467	0.338	1.05	Member Block Shear
T10	191.5	Diagonal	A325N	0.7500	2	5263	11147	0.472	1.05	Member Block

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
										Shear
		Secondary Horizontal	A325N	0.7500	2	651	10467	0.062	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	1701	10467	0.162	1.05	Member Block Shear
T11	181.5	Leg	A325N	0.7500	16	5914	29821	0.198	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	5278	11147	0.474	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	807	10467	0.077	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	3312	10467	0.316	1.05	Member Block Shear
T12	171.5	Diagonal	A325N	0.7500	2	5385	11147	0.483	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	958	7850	0.122	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	3420	10467	0.327	1.05	Member Block Shear
T13	161.5	Leg	A325N	0.7500	20	6582	29821	0.221	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	5541	11147	0.497	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	1106	10467	0.106	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	3871	10467	0.370	1.05	Member Block Shear
T14	151.5	Diagonal	A325N	0.7500	2	5313	11147	0.477	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	1265	10467	0.121	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	3512	10467	0.336	1.05	Member Block Shear
T15	141.5	Leg	A325N	0.7500	20	9142	29821	0.307	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	6144	11147	0.551	1.05	Member Block Shear
		Horizontal	A325N	0.7500	2	1530	10467	0.146	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	3615	10467	0.345	1.05	Member Block Shear
		Redund Horz 1 Bracing	A325N	0.6250	1	3060	7830	0.391	1.05	Member Bearing
		Redund Diag 1 Bracing	A325N	0.6250	1	2065	7830	0.264	1.05	Member Bearing
		Redund Hip 1 Bracing	A325N	0.6250	2	9	8224	0.001	1.05	Member Block Shear
T16	131.5	Diagonal	A325N	0.7500	2	9156	20934	0.437	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	4579	20934	0.219	1.05	Member Block Shear
		Redund Horz 1 Bracing	A325N	0.6250	1	3060	7830	0.391	1.05	Member Bearing
		Redund Diag 1 Bracing	A325N	0.6250	1	3524	7830	0.450	1.05	Member Bearing
		Redund Hip 1 Bracing	A325N	0.6250	2	52	8224	0.006	1.05	Member Block Shear
T17	119	Leg	A325N	0.7500	28	7072	29821	0.237	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	9495	20934	0.454	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	4363	20934	0.208	1.05	Member Block Shear
		Redund Horz 1	A325N	0.6250	1	3332	7830	0.426	1.05	Member Bearing

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
		Bracing								
		Redund Diag 1 Bracing	A325N	0.6250	1	4297	7830	0.549	1.05	Member Bearing
		Redund Hip 1 Bracing	A325N	0.6250	2	65	8224	0.008	1.05	Member Block Shear
		Redund Hip Diagonal 1 Bracing	A325N	0.6250	2	56	8224	0.007	1.05	Member Block Shear
		Redund Sub Horz Bracing	A325N	0.6250	2	2001	7188	0.278	1.05	Member Block Shear
		Redund Sub Diagonal Bracing	A325N	0.6250	2	2008	7188	0.279	1.05	Member Block Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	231.5 - 229	L4x4x3/8	2.50	2.50	38.1 K=1.00	2.8600	-7116	85857	0.083
T2	229 - 224.8	L4x4x3/8	4.20	4.20	64.0 K=1.00	2.8600	-11381	74711	0.152 [1]
T3	224.8 - 220.7	L4x4x3/8	4.10	4.10	62.4 K=1.00	2.8600	-19961	75472	0.264 [1]
T4	220.7 - 216.5	L4x4x3/8	4.20	4.20	64.0 K=1.00	2.8600	-25675	74711	0.344 [1]
T5	216.5 - 211.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-33993	126426	0.269 [1]
T6	211.5 - 206.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-44692	126426	0.354 [1]
T7	206.5 - 201.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-56805	126426	0.449 [1]
T8	201.5 - 196.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-66935	126426	0.529 [1]
T9	196.5 - 191.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-77809	126426	0.615 [1]
T10	191.5 - 181.5	L6x6x5/8	10.01	5.24	53.3 K=1.00	7.1100	-86766	198378	0.437 [1]
T11	181.5 - 171.5	L6x6x5/8	10.01	5.22	53.1 K=1.00	7.1100	-107588	198603	0.542 [1]
T12	171.5 - 161.5	L6x6x5/8	10.01	5.20	52.9 K=1.00	7.1100	-127691	198792	0.642 [1]
T13	161.5 - 151.5	L6x6x5/8	10.01	5.19	52.8 K=1.00	7.1100	-147395	198953	0.741 [1]
T14	151.5 - 141.5	L6x6x3/4	10.01	5.18	53.1 K=1.00	8.4400	-168555	235743	0.715 [1]
T15	141.5 - 131.5	L6x6x3/4	10.01	0.08	0.9 K=1.00	8.4400	-203846	273445	0.745 [1]
T16	131.5 - 119	L6x6x7/8	12.52	6.22	63.8	9.7300	-199952	254516	0.786 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	119 - 106.5	L6x6x7/8	12.52	3.13	K=1.00 32.1 K=1.00	9.7300	-221994	298613	0.743 [1]

[1] P_u / ϕP_n controls

Leg Bending Design Data (Compression)

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	231.5 - 229	L4x4x3/8	-4	10	0.380	2	5	0.284
T2	229 - 224.8	L4x4x3/8	0	10	0.000	0	5	0.000
T3	224.8 - 220.7	L4x4x3/8	0	10	0.000	0	5	0.000
T4	220.7 - 216.5	L4x4x3/8	0	10	0.000	0	5	0.000
T5	216.5 - 211.5	L5x5x1/2	0	22	0.000	0	11	0.000
T6	211.5 - 206.5	L5x5x1/2	0	22	0.000	0	11	0.000
T7	206.5 - 201.5	L5x5x1/2	0	22	0.000	0	11	0.000
T8	201.5 - 196.5	L5x5x1/2	0	22	0.000	0	11	0.000
T9	196.5 - 191.5	L5x5x1/2	0	22	0.000	0	11	0.000
T10	191.5 - 181.5	L6x6x5/8	0	39	0.000	0	20	0.000
T11	181.5 - 171.5	L6x6x5/8	0	39	0.000	0	20	0.000
T12	171.5 - 161.5	L6x6x5/8	0	39	0.000	0	20	0.000
T13	161.5 - 151.5	L6x6x5/8	0	39	0.000	0	20	0.000
T14	151.5 - 141.5	L6x6x3/4	0	46	0.000	0	23	0.000
T15	141.5 - 131.5	L6x6x3/4	0	46	0.000	0	23	0.000
T16	131.5 - 119	L6x6x7/8	0	52	0.000	0	27	0.000
T17	119 - 106.5	L6x6x7/8	0	52	0.000	0	27	0.000

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	231.5 - 229	L4x4x3/8	0.083	0.380	0.284	0.706	1.050	4.8.1
T2	229 - 224.8	L4x4x3/8	0.152	0.000	0.000	0.152 [1]	1.050	4.8.1
T3	224.8 - 220.7	L4x4x3/8	0.264	0.000	0.000	0.264 [1]	1.050	4.8.1
T4	220.7 - 216.5	L4x4x3/8	0.344	0.000	0.000	0.344 [1]	1.050	4.8.1
T5	216.5 - 211.5	L5x5x1/2	0.269	0.000	0.000	0.269 [1]	1.050	4.8.1
T6	211.5 - 206.5	L5x5x1/2	0.354	0.000	0.000	0.354 [1]	1.050	4.8.1
T7	206.5 - 201.5	L5x5x1/2	0.449	0.000	0.000	0.449 [1]	1.050	4.8.1
T8	201.5 - 196.5	L5x5x1/2	0.529	0.000	0.000	0.529 [1]	1.050	4.8.1
T9	196.5 - 191.5	L5x5x1/2	0.615	0.000	0.000	0.615 [1]	1.050	4.8.1
T10	191.5 - 181.5	L6x6x5/8	0.437	0.000	0.000	0.437 [1]	1.050	4.8.1
T11	181.5 - 171.5	L6x6x5/8	0.542	0.000	0.000	0.542 [1]	1.050	4.8.1
T12	171.5 - 161.5	L6x6x5/8	0.642	0.000	0.000	0.642 [1]	1.050	4.8.1
T13	161.5 - 151.5	L6x6x5/8	0.741	0.000	0.000	0.741 [1]	1.050	4.8.1
T14	151.5 - 141.5	L6x6x3/4	0.715	0.000	0.000	0.715 [1]	1.050	4.8.1
T15	141.5 - 131.5	L6x6x3/4	0.745	0.000	0.000	0.745 [1]	1.050	4.8.1
T16	131.5 - 119	L6x6x7/8	0.786	0.000	0.000	0.786 [1]	1.050	4.8.1
T17	119 - 106.5	L6x6x7/8	0.743	0.000	0.000	0.743 [1]	1.050	4.8.1

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T2	229 - 224.8	2L2 1/2x2 1/2x1/4x3/8	7.00	3.06	47.8 K=1.00	2.3800	-4367	68367	0.064 [1]
T3	224.8 - 220.7	2L2 1/2x2 1/2x1/4x3/8	6.94	3.04	47.4 K=1.00	2.3800	-4007	68517	0.058 [1]
T4	220.7 - 216.5	2L2 1/2x2 1/2x1/4x3/8	7.00	3.06	47.8 K=1.00	2.3800	-5231	68367	0.077 [1]
T5	216.5 - 211.5	L2 1/2x2x1/4	7.65	3.44	103.0 K=1.06	1.0600	-5277	19644	0.269 [1]
T6	211.5 - 206.5	L2 1/2x2x1/4	7.93	3.58	106.0 K=1.05	1.0600	-4957	18999	0.261 [1]
T7	206.5 - 201.5	L2 1/2x2x1/4	8.21	3.73	109.1 K=1.03	1.0600	-6379	18346	0.348 [1]
T8	201.5 - 196.5	L2 1/2x2x1/4	8.50	3.88	112.3 K=1.02	1.0600	-7026	17686	0.397 [1]
T9	196.5 - 191.5	L2 1/2x2x1/4	8.80	4.03	115.5 K=1.01	1.0600	-7029	17022	0.413 [1]
T10	191.5 - 181.5	L3x3x1/4	12.68	6.00	122.3 K=0.99	1.4400	-11894	21219	0.561 [1]
T11	181.5 - 171.5	L3x3x1/4	13.13	6.23	126.0 K=0.99	1.4400	-11815	20225	0.584 [1]
T12	171.5 - 161.5	L3x3x1/4	13.61	6.48	129.8 K=0.98	1.4400	-11997	19208	0.625 [1]
T13	161.5 - 151.5	L3x3x1/4	14.12	6.73	133.8 K=0.97	1.4400	-12295	18166	0.677 [1]
T14	151.5 - 141.5	L3x3x1/4	14.64	7.00	137.9 K=0.96	1.4400	-11627	17097	0.680 [1]
T15	141.5 - 131.5	L3x3x1/4	7.70	6.91	104.8 K=1.17	1.4400	-13506	26178	0.516 [1]
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	13.95	12.94	138.1 K=1.00	2.3800	-18821	28175	0.668 [1]
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	14.23	6.89	107.5 K=1.00	2.3800	-19711	41979	0.470 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2x1/4	11.40	7.95	161.0 K=1.00	1.0600	-3060	9236	0.331 [1]

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T10	191.5 - 181.5	L2 1/2x2x1/4	7.76	6.81	137.8 K=1.00	1.0600	-1302	12603	0.103 [1]
T11	181.5 - 171.5	L2 1/2x2x1/4	8.49	7.53	152.6 K=1.00	1.0600	-1615	10288	0.157 [1]
T12	171.5 - 161.5	L2 1/2x2x3/16	9.22	8.26	165.2 K=1.00	0.8090	-1917	6694	0.286 [1]
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	9.94	8.98	140.2 K=1.00	1.1900	-2212	13676	0.162 [1]
T14	151.5 - 141.5	L2 1/2x2x1/4	10.67	9.71	196.7 K=1.00	1.0600	-2530	6188	0.409 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	231.5 - 229	C8x11.5	5.60	5.27	101.2 K=1.00	3.3800	-730	63872	0.011
T3	224.8 - 220.7	L2 1/2x2 1/2x1/4	5.60	4.81	118.8 K=1.01	1.1900	-1337	18339	0.073 [1]
T5	216.5 - 211.5	C7x9.8	5.60	5.19	107.1 K=1.00	2.8700	-1269	50812	0.025 [1]
T6	211.5 - 206.5	L2 1/2x2x1/4	5.97	5.09	134.8 K=0.94	1.0600	-1006	13173	0.076 [1]
T8	201.5 - 196.5	L2 1/2x2 1/2x1/4	6.69	5.82	133.6 K=0.94	1.1900	-1005	15059	0.067 [1]
T10	191.5 - 181.5	L2 1/2x2 1/2x1/4	7.42	6.46	143.3 K=0.91	1.1900	-2990	13094	0.228 [1]
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	8.14	7.18	154.2 K=0.88	1.1900	-5419	11308	0.479 [1]
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	8.87	7.91	165.1 K=0.85	1.1900	-6059	9864	0.614 [1]
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	9.59	8.64	176.0 K=0.83	1.1900	-6505	8679	0.749 [1]
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	10.32	9.36	186.9 K=0.82	1.1900	-6254	7696	0.813 [1]
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	11.04	7.45	158.2 K=0.87	1.1900	-6179	10745	0.575 [1]
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	11.78	8.23	95.5 K=1.00	2.3800	-8509	47695	0.178 [1]
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	12.68	8.90	101.5 K=1.00	2.3800	-8800	44830	0.196 [1]

[1] P_u / ϕP_n controls

Top Girt Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	231.5 - 229	C8x11.5	-4	22	0.176	0	3	0.000
T3	224.8 - 220.7	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T5	216.5 - 211.5	C7x9.8	0	17	0.000	0	3	0.000
T6	211.5 - 206.5	L2 1/2x2x1/4	0	2	0.000	0	1	0.000
T8	201.5 - 196.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T10	191.5 - 181.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	0	3	0.000	0	5	0.000
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	0	3	0.000	0	5	0.000

Top Girt Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	231.5 - 229	C8x11.5	0.011	0.176	0.000	0.182	1.050	4.8.1
T3	224.8 - 220.7	L2 1/2x2 1/2x1/4	0.073	0.000	0.000	0.073 [1]	1.050	4.8.1
T5	216.5 - 211.5	C7x9.8	0.025	0.000	0.000	0.025 [1]	1.050	4.8.1
T6	211.5 - 206.5	L2 1/2x2x1/4	0.076	0.000	0.000	0.076 [1]	1.050	4.8.1
T8	201.5 - 196.5	L2 1/2x2 1/2x1/4	0.067	0.000	0.000	0.067 [1]	1.050	4.8.1
T10	191.5 - 181.5	L2 1/2x2 1/2x1/4	0.228	0.000	0.000	0.228 [1]	1.050	4.8.1
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	0.479	0.000	0.000	0.479 [1]	1.050	4.8.1
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	0.614	0.000	0.000	0.614 [1]	1.050	4.8.1
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	0.749	0.000	0.000	0.749 [1]	1.050	4.8.1
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	0.813	0.000	0.000	0.813 [1]	1.050	4.8.1
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	0.575	0.000	0.000	0.575 [1]	1.050	4.8.1
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	0.178	0.000	0.000	0.178 [1]	1.050	4.8.1
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	0.196	0.000	0.000	0.196 [1]	1.050	4.8.1

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2x3/16	2.85	2.36	93.2 K=1.40	0.8090	-3060	16595	0.184 [1]
T16	131.5 - 119	L2 1/2x2x3/16	2.94	2.45	94.5 K=1.37	0.8090	-3060	16382	0.187 [1]
T17	119 - 106.5	L2 1/2x2x3/16	3.17	2.68	97.7 K=1.30	0.8090	-3332	15866	0.210 [1]

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

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2x3/16	3.85	3.27	106.0 K=1.15	0.8090	-2065	14512	0.142 [1]
T16	131.5 - 119	L2 1/2x2x3/16	6.78	5.92	166.4 K=1.00	0.8090	-3524	6602	0.534 [1]
T17	119 - 106.5	L2 1/2x2x3/16	6.91	6.09	121.8 K=1.00	0.8090	-4738	12006	0.395 [1]

[1] P_u / ϕP_n controls

Redundant Hip (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2x2x1/4	4.03	3.64	115.8 K=1.04	0.9375	-25	14998	0.002 [1]
T16	131.5 - 119	L2x2x1/4	4.16	3.77	117.8 K=1.02	0.9375	-100	14631	0.007 [1]
T17	119 - 106.5	L2x2x1/4	4.48	4.09	125.4 K=1.00	0.9375	-126	13281	0.009 [1]

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	119 - 106.5	L2x2x1/4	9.53	9.13	280.2 K=1.00	0.9375	-117	2697	0.043 [1]
		KL/R > 250 (C) - 392							

[1] P_u / ϕP_n controls

Redundant Sub-Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	119 - 106.5	L2 1/2x2x3/16	1.58	0.94	73.2 K=2.77	0.8090	-3526	19771	0.178 [1]

[1] P_u / ϕP_n controls

Redundant Sub Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	119 - 106.5	L2 1/2x2x3/16	3.56	2.64	97.1 K=1.31	0.8090	-4580	15958	0.287 [1]

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T16	131.5 - 119	L3x3x3/16	8.33	8.33	167.7 K=1.00	1.0900	-49	8761	0.006 [1]
T17	119 - 106.5	L3x3x3/16	8.96	8.96	180.5 K=1.00	1.0900	-47	7560	0.006 [1]

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	231.5 - 229	L4x4x3/8	2.50	2.50	24.4	2.8600	2710	92664	0.029
T2	229 - 224.8	L4x4x3/8	4.20	4.20	41.0	2.8600	5947	92664	0.064 [1]
T3	224.8 - 220.7	L4x4x3/8	4.10	4.10	40.0	2.8600	14341	92664	0.155 [1]
T4	220.7 - 216.5	L4x4x3/8	4.20	4.20	41.0	2.8600	19784	92664	0.214 [1]
T5	216.5 - 211.5	L5x5x1/2	5.01	5.01	39.0	4.7500	27720	153900	0.180 [1]
T6	211.5 - 206.5	L5x5x1/2	5.01	5.01	39.0	4.7500	36978	153900	0.240 [1]
T7	206.5 - 201.5	L5x5x1/2	5.01	5.01	39.0	4.7500	45566	153900	0.296 [1]

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T8	201.5 - 196.5	L5x5x1/2	5.01	5.01	39.0	4.7500	54907	153900	0.357 [1]
T9	196.5 - 191.5	L5x5x1/2	5.01	5.01	39.0	4.7500	65666	153900	0.427 [1]
T10	191.5 - 181.5	L6x6x5/8	10.01	4.77	31.1	7.1100	75391	230364	0.327 [1]
T11	181.5 - 171.5	L6x6x5/8	10.01	4.79	31.3	7.1100	94783	230364	0.411 [1]
T12	171.5 - 161.5	L6x6x5/8	10.01	4.81	31.4	7.1100	113484	230364	0.493 [1]
T13	161.5 - 151.5	L6x6x5/8	10.01	4.82	31.5	7.1100	131801	230364	0.572 [1]
T14	151.5 - 141.5	L6x6x3/4	10.01	4.84	31.7	8.4400	151217	273456	0.553 [1]
T15	141.5 - 131.5	L6x6x3/4	10.01	0.08	0.5	8.4400	182831	273456	0.669 [1]
T16	131.5 - 119	L6x6x7/8	12.52	0.08	0.6	9.7300	182829	315252	0.580 [1]
T17	119 - 106.5	L6x6x7/8	12.52	3.13	20.7	9.7300	198269	315252	0.629 [1]

[1] P_u / ϕP_n controls

Leg Bending Design Data (Tension)

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
T1	231.5 - 229	L4x4x3/8	-4	10	0.381	-2	5	0.290
T2	229 - 224.8	L4x4x3/8	0	10	0.000	0	5	0.000
T3	224.8 - 220.7	L4x4x3/8	0	10	0.000	0	5	0.000
T4	220.7 - 216.5	L4x4x3/8	0	10	0.000	0	5	0.000
T5	216.5 - 211.5	L5x5x1/2	0	22	0.000	0	11	0.000
T6	211.5 - 206.5	L5x5x1/2	0	22	0.000	0	11	0.000
T7	206.5 - 201.5	L5x5x1/2	0	22	0.000	0	11	0.000
T8	201.5 - 196.5	L5x5x1/2	0	22	0.000	0	11	0.000
T9	196.5 - 191.5	L5x5x1/2	0	22	0.000	0	11	0.000
T10	191.5 - 181.5	L6x6x5/8	0	39	0.000	0	20	0.000
T11	181.5 - 171.5	L6x6x5/8	0	39	0.000	0	20	0.000
T12	171.5 - 161.5	L6x6x5/8	0	39	0.000	0	20	0.000
T13	161.5 - 151.5	L6x6x5/8	0	39	0.000	0	20	0.000
T14	151.5 - 141.5	L6x6x3/4	0	46	0.000	0	23	0.000
T15	141.5 - 131.5	L6x6x3/4	0	46	0.000	0	23	0.000
T16	131.5 - 119	L6x6x7/8	0	52	0.000	0	27	0.000
T17	119 - 106.5	L6x6x7/8	0	52	0.000	0	27	0.000

Leg Interaction Design Data (Tension)

Section No.	Elevation	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	ft							
T1	231.5 - 229	L4x4x3/8	0.029	0.381	0.290	0.686	1.050	4.8.1
T2	229 - 224.8	L4x4x3/8	0.064	0.000	0.000	0.064 [1]	1.050	4.8.1
T3	224.8 - 220.7	L4x4x3/8	0.155	0.000	0.000	0.155 [1]	1.050	4.8.1
T4	220.7 - 216.5	L4x4x3/8	0.214	0.000	0.000	0.214 [1]	1.050	4.8.1
T5	216.5 - 211.5	L5x5x1/2	0.180	0.000	0.000	0.180 [1]	1.050	4.8.1
T6	211.5 - 206.5	L5x5x1/2	0.240	0.000	0.000	0.240 [1]	1.050	4.8.1
T7	206.5 - 201.5	L5x5x1/2	0.296	0.000	0.000	0.296 [1]	1.050	4.8.1
T8	201.5 - 196.5	L5x5x1/2	0.357	0.000	0.000	0.357 [1]	1.050	4.8.1
T9	196.5 - 191.5	L5x5x1/2	0.427	0.000	0.000	0.427 [1]	1.050	4.8.1
T10	191.5 - 181.5	L6x6x5/8	0.327	0.000	0.000	0.327 [1]	1.050	4.8.1
T11	181.5 - 171.5	L6x6x5/8	0.411	0.000	0.000	0.411 [1]	1.050	4.8.1

Section No.	Elevation	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	ft							
T12	171.5 - 161.5	L6x6x5/8	0.493	0.000	0.000	0.493 [1]	1.050	4.8.1
T13	161.5 - 151.5	L6x6x5/8	0.572	0.000	0.000	0.572 [1]	1.050	4.8.1
T14	151.5 - 141.5	L6x6x3/4	0.553	0.000	0.000	0.553 [1]	1.050	4.8.1
T15	141.5 - 131.5	L6x6x3/4	0.669	0.000	0.000	0.669 [1]	1.050	4.8.1
T16	131.5 - 119	L6x6x7/8	0.580	0.000	0.000	0.580 [1]	1.050	4.8.1
T17	119 - 106.5	L6x6x7/8	0.629	0.000	0.000	0.629 [1]	1.050	4.8.1

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T2	229 - 224.8	2L2 1/2x2 1/2x1/4x3/8	7.00	3.06	51.4	1.4569	4256	63374	0.067 [1]
T3	224.8 - 220.7	2L2 1/2x2 1/2x1/4x3/8	6.94	3.04	51.0	1.4569	4097	63374	0.065 [1]
T4	220.7 - 216.5	2L2 1/2x2 1/2x1/4x3/8	7.00	3.06	51.4	1.4569	5095	63374	0.080 [1]
T5	216.5 - 211.5	L2 1/2x2x1/4	7.65	3.44	74.3	0.6309	4740	27446	0.173 [1]
T6	211.5 - 206.5	L2 1/2x2x1/4	7.93	3.58	77.2	0.6309	4973	27446	0.181 [1]
T7	206.5 - 201.5	L2 1/2x2x1/4	8.21	3.73	80.2	0.6309	6145	27446	0.224 [1]
T8	201.5 - 196.5	L2 1/2x2x1/4	8.50	3.88	83.2	0.6309	6892	27446	0.251 [1]
T9	196.5 - 191.5	L2 1/2x2x1/4	8.80	4.03	86.2	0.6309	7067	27446	0.257 [1]
T10	191.5 - 181.5	L3x3x1/4	12.68	6.00	80.7	0.9159	10526	39843	0.264 [1]
T11	181.5 - 171.5	L3x3x1/4	13.13	6.23	83.7	0.9159	10557	39843	0.265 [1]
T12	171.5 - 161.5	L3x3x1/4	13.61	6.48	86.9	0.9159	10770	39843	0.270 [1]
T13	161.5 - 151.5	L3x3x1/4	14.12	6.73	90.2	0.9159	11082	39843	0.278 [1]
T14	151.5 - 141.5	L3x3x1/4	14.64	7.00	93.6	0.9159	10625	39843	0.267 [1]
T15	141.5 - 131.5	L3x3x1/4	7.70	6.91	95.5	0.9159	12289	39843	0.308 [1]
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	13.95	12.94	135.1	1.4569	18313	63374	0.289 [1]
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	14.23	6.89	111.1	1.4569	18990	63374	0.300 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T15	141.5 - 131.5	L2 1/2x2x1/4	11.40	7.95	165.7	0.6309	3060	27446	0.111 [1]

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Tension)

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

Section No.	Elevation (ft)	Size	L (ft)	L_u (ft)	Kl/r	A (in^2)	P_u (lb)	ϕP_n (lb)	Ratio $\frac{P_u}{\phi P_n}$
T10	191.5 - 181.5	L2 1/2x2x1/4	7.76	6.81	147.1	0.6309	1302	27446	0.047 [1]
T11	181.5 - 171.5	L2 1/2x2x1/4	8.49	7.53	161.9	0.6309	1615	27446	0.059 [1]
T12	171.5 - 161.5	L2 1/2x2x3/16	9.22	8.26	174.4	0.4837	1917	21041	0.091 [1]
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	9.94	8.98	147.4	0.7284	2212	31687	0.070 [1]
T14	151.5 - 141.5	L2 1/2x2x1/4	10.67	9.71	206.0	0.6309	2530	27446	0.092 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation (ft)	Size	L (ft)	L_u (ft)	Kl/r	A (in^2)	P_u (lb)	ϕP_n (lb)	Ratio $\frac{P_u}{\phi P_n}$
T1	231.5 - 229	C8x11.5	5.60	5.27	101.2	2.3906	745	103992	0.007
T3	224.8 - 220.7	L2 1/2x2 1/2x1/4	5.60	4.81	82.2	0.7284	1404	31687	0.044 [1]
T5	216.5 - 211.5	C7x9.8	5.60	5.19	107.1	2.0147	1521	87639	0.017 [1]
T6	211.5 - 206.5	L2 1/2x2x1/4	5.97	5.09	112.4	0.6309	1360	27446	0.050 [1]
T8	201.5 - 196.5	L2 1/2x2 1/2x1/4	6.69	5.82	97.9	0.7284	1005	31687	0.032 [1]
T10	191.5 - 181.5	L2 1/2x2 1/2x1/4	7.42	6.46	107.9	0.7284	3402	31687	0.107 [1]
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	8.14	7.18	119.3	0.7284	6623	31687	0.209 [1]
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	8.87	7.91	130.6	0.7284	6840	31687	0.216 [1]
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	9.59	8.64	141.9	0.7284	7743	31687	0.244 [1]
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	10.32	9.36	153.2	0.7284	7024	31687	0.222 [1]
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	11.04	7.45	164.5	0.7284	7230	31687	0.228 [1]
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	11.78	8.23	88.0	1.4569	9157	63374	0.144 [1]
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	12.68	8.90	95.0	1.4569	8726	63374	0.138 [1]

[1] P_u / ϕP_n controls

Top Girt Bending Design Data

Section No.	Elevation (ft)	Size	M_{ux} (kip-ft)	ϕM_{nx} (kip-ft)	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} (kip-ft)	ϕM_{ny} (kip-ft)	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	231.5 - 229	C8x11.5	4	22	0.177	0	3	0.000
T3	224.8 - 220.7	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T5	216.5 - 211.5	C7x9.8	0	17	0.000	0	3	0.000
T6	211.5 - 206.5	L2 1/2x2x1/4	0	2	0.000	0	1	0.000
T8	201.5 - 196.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T10	191.5 - 181.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	0	3	0.000	0	1	0.000
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	0	3	0.000	0	5	0.000
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	0	3	0.000	0	5	0.000

Top Girt Interaction Design Data

Section No.	Elevation (ft)	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	231.5 - 229	C8x11.5	0.007	0.177	0.000	0.181	1.050	4.8.1
T3	224.8 - 220.7	L2 1/2x2 1/2x1/4	0.044	0.000	0.000	0.044 [1]	1.050	4.8.1
T5	216.5 - 211.5	C7x9.8	0.017	0.000	0.000	0.017 [1]	1.050	4.8.1
T6	211.5 - 206.5	L2 1/2x2x1/4	0.050	0.000	0.000	0.050 [1]	1.050	4.8.1
T8	201.5 - 196.5	L2 1/2x2 1/2x1/4	0.032	0.000	0.000	0.032 [1]	1.050	4.8.1
T10	191.5 - 181.5	L2 1/2x2 1/2x1/4	0.107	0.000	0.000	0.107 [1]	1.050	4.8.1
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	0.209	0.000	0.000	0.209 [1]	1.050	4.8.1
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	0.216	0.000	0.000	0.216 [1]	1.050	4.8.1
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	0.244	0.000	0.000	0.244 [1]	1.050	4.8.1
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	0.222	0.000	0.000	0.222 [1]	1.050	4.8.1
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	0.228	0.000	0.000	0.228 [1]	1.050	4.8.1
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	0.144	0.000	0.000	0.144 [1]	1.050	4.8.1
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	0.138	0.000	0.000	0.138 [1]	1.050	4.8.1

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation (ft)	Size	L (ft)	L_u (ft)	Kl/r	A (in^2)	P_u (lb)	ϕP_n (lb)	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2x3/16	2.85	2.36	52.0	0.5013	3060	21806	0.140 [1]
T16	131.5 - 119	L2 1/2x2x3/16	2.94	2.45	53.9	0.5013	3060	21806	0.140 [1]
T17	119 - 106.5	L2 1/2x2x3/16	3.17	2.68	58.4	0.5013	3332	21806	0.153 [1]

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation (ft)	Size	L (ft)	L_u (ft)	Kl/r	A (in^2)	P_u (lb)	ϕP_n (lb)	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2x3/16	3.85	3.27	70.3	0.5013	2065	21806	0.095 [1]
T16	131.5 - 119	L2 1/2x2x3/16	6.78	5.92	123.2	0.5013	3524	21806	0.162 [1]
T17	119 - 106.5	L2 1/2x2x3/16	6.91	6.09	126.6	0.5013	4297	21806	0.197 [1]

[1] P_u / ϕP_n controls

Redundant Hip (1) Design Data (Tension)

Section No.	Elevation (ft)	Size	L (ft)	L_u (ft)	Kl/r	A (in^2)	P_u (lb)	ϕP_n (lb)	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2x2x1/4	4.03	3.64	79.5	0.5625	18	24469	0.001 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T16	131.5 - 119	L2x2x1/4	4.16	3.77	82.1	0.5625	105	24469	0.004 [1]
T17	119 - 106.5	L2x2x1/4	4.48	4.09	88.3	0.5625	131	24469	0.005 [1]

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	119 - 106.5	L2x2x1/4	9.53	9.13	187.8	0.5625	112	24469	0.005 [1]

[1] P_u / ϕP_n controls

Redundant Sub-Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	119 - 106.5	L2 1/2x2x3/16	1.58	0.94	26.7	0.5013	4002	21806	0.184 [1]

[1] P_u / ϕP_n controls

Redundant Sub Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	119 - 106.5	L2 1/2x2x3/16	3.56	2.64	60.7	0.5013	4015	21806	0.184 [1]

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T10	191.5 - 181.5	L2 1/2x2 1/2x3/16	10.49	9.99	154.1	0.9020	576	29225	0.020 [1]
T12	171.5 - 161.5	L2 1/2x2 1/2x3/16	12.54	12.04	185.7	0.9020	1117	29225	0.038 [1]
T14	151.5 - 141.5	L2x2 1/2x3/16	14.59	14.09	282.0	0.8090	991	26212	0.038*[1]
T16	131.5 - 119	L3x3x3/16	8.33	8.33	106.4	1.0900	35	35316	0.001 [1]
T17	119 - 106.5	L3x3x3/16	8.96	8.96	114.6	1.0900	31	35316	0.001 [1]

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

* DL controls

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	231.5 - 229	Leg	L4x4x3/8	4	-7116	90149	67.2	Pass
T2	229 - 224.8	Leg	L4x4x3/8	11	-11381	78446	14.5	Pass
T3	224.8 - 220.7	Leg	L4x4x3/8	24	-19961	79245	25.2	Pass
T4	220.7 - 216.5	Leg	L4x4x3/8	40	-25675	78446	32.7	Pass
T5	216.5 - 211.5	Leg	L5x5x1/2	51	-33993	132747	25.6	Pass
T6	211.5 - 206.5	Leg	L5x5x1/2	67	-44692	132747	33.7	Pass
T7	206.5 - 201.5	Leg	L5x5x1/2	84	-56805	132747	42.8	Pass
T8	201.5 - 196.5	Leg	L5x5x1/2	96	-66935	132747	50.4	Pass
T9	196.5 - 191.5	Leg	L5x5x1/2	111	-77809	132747	58.6	Pass
T10	191.5 - 181.5	Leg	L6x6x5/8	123	-86766	208297	41.7	Pass
T11	181.5 - 171.5	Leg	L6x6x5/8	145	-107588	208533	51.6	Pass
T12	171.5 - 161.5	Leg	L6x6x5/8	165	-127691	208732	61.2	Pass
T13	161.5 - 151.5	Leg	L6x6x5/8	187	-147395	208901	70.6	Pass
T14	151.5 - 141.5	Leg	L6x6x3/4	207	-168555	247530	68.1	Pass
T15	141.5 - 131.5	Leg	L6x6x3/4	229	-203846	287117	71.0	Pass
T16	131.5 - 119	Leg	L6x6x7/8	297	-199952	267242	74.8	Pass
T17	119 - 106.5	Leg	L6x6x7/8	337	-221994	313544	70.8	Pass
T2	229 - 224.8	Diagonal	2L2 1/2x2 1/2x1/4x3/8	15	4256	66543	6.4 10.2 (b)	Pass
T3	224.8 - 220.7	Diagonal	2L2 1/2x2 1/2x1/4x3/8	35	4097	66543	6.2 9.8 (b)	Pass
T4	220.7 - 216.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	46	5095	66543	7.7 12.2 (b)	Pass
T5	216.5 - 211.5	Diagonal	L2 1/2x2x1/4	61	-5277	20626	25.6	Pass
T6	211.5 - 206.5	Diagonal	L2 1/2x2x1/4	77	-4957	19949	24.8	Pass
T7	206.5 - 201.5	Diagonal	L2 1/2x2x1/4	89	-6379	19263	33.1	Pass
T8	201.5 - 196.5	Diagonal	L2 1/2x2x1/4	105	-7026	18570	37.8	Pass
T9	196.5 - 191.5	Diagonal	L2 1/2x2x1/4	117	-7029	17873	39.3	Pass
T10	191.5 - 181.5	Diagonal	L3x3x1/4	135	-11894	22280	53.4	Pass
T11	181.5 - 171.5	Diagonal	L3x3x1/4	155	-11815	21236	55.6	Pass
T12	171.5 - 161.5	Diagonal	L3x3x1/4	177	-11997	20168	59.5	Pass
T13	161.5 - 151.5	Diagonal	L3x3x1/4	197	-12295	19074	64.5	Pass
T14	151.5 - 141.5	Diagonal	L3x3x1/4	219	-11627	17951	64.8	Pass
T15	141.5 - 131.5	Diagonal	L3x3x1/4	251	-13506	27487	49.1 55.1 (b)	Pass
T16	131.5 - 119	Diagonal	2L2 1/2x2 1/2x1/4x3/8	320	-18821	29584	63.6	Pass
T17	119 - 106.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	377	-19711	44078	44.7 45.4 (b)	Pass
T15	141.5 - 131.5	Horizontal	L2 1/2x2x1/4	242	-3060	9698	31.5	Pass
T10	191.5 - 181.5	Secondary Horizontal	L2 1/2x2x1/4	140	-1302	13233	9.8	Pass
T11	181.5 - 171.5	Secondary Horizontal	L2 1/2x2x1/4	160	-1615	10802	14.9	Pass
T12	171.5 - 161.5	Secondary Horizontal	L2 1/2x2x3/16	182	-1917	7028	27.3	Pass
T13	161.5 - 151.5	Secondary Horizontal	L2 1/2x2 1/2x1/4	202	-2212	14360	15.4	Pass
T14	151.5 - 141.5	Secondary Horizontal	L2 1/2x2x1/4	224	-2530	6498	38.9	Pass
T1	231.5 - 229	Top Girt	C8x11.5	8	-730	67065	17.3	Pass
T3	224.8 - 220.7	Top Girt	L2 1/2x2 1/2x1/4	25	-1337	19256	6.9	Pass
T5	216.5 - 211.5	Top Girt	C7x9.8	53	-1269	53353	2.4 3.3 (b)	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T6	211.5 - 206.5	Top Girt	L2 1/2x2x1/4	69	-1006	13832	7.3	Pass
T8	201.5 - 196.5	Top Girt	L2 1/2x2 1/2x1/4	99	-1005	15812	6.4	Pass
T10	191.5 - 181.5	Top Girt	L2 1/2x2 1/2x1/4	130	-2990	13749	21.8	Pass
T11	181.5 - 171.5	Top Girt	L2 1/2x2 1/2x1/4	150	-5419	11873	45.6	Pass
T12	171.5 - 161.5	Top Girt	L2 1/2x2 1/2x1/4	172	-6059	10357	58.5	Pass
T13	161.5 - 151.5	Top Girt	L2 1/2x2 1/2x1/4	192	-6505	9113	71.4	Pass
T14	151.5 - 141.5	Top Girt	L2 1/2x2 1/2x1/4	214	-6254	8081	77.4	Pass
T15	141.5 - 131.5	Top Girt	L2 1/2x2 1/2x1/4	234	-6179	11282	54.8	Pass
T16	131.5 - 119	Top Girt	2L2 1/2x2 1/2x1/4x3/8	301	-8509	50079	17.0 21.9 (b)	Pass
T17	119 - 106.5	Top Girt	2L2 1/2x2 1/2x1/4x3/8	341	-8800	47071	18.7 20.8 (b)	Pass
T15	141.5 - 131.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	247	-3060	17425	17.6 39.1 (b)	Pass
T16	131.5 - 119	Redund Horz 1 Bracing	L2 1/2x2x3/16	317	-3060	17201	17.8 39.1 (b)	Pass
T17	119 - 106.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	365	-3332	16660	20.0 42.6 (b)	Pass
T15	141.5 - 131.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	278	-2065	15237	13.5 26.4 (b)	Pass
T16	131.5 - 119	Redund Diag 1 Bracing	L2 1/2x2x3/16	322	-3524	6932	50.8	Pass
T17	119 - 106.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	366	-4738	12607	37.6 54.9 (b)	Pass
T15	141.5 - 131.5	Redund Hip 1 Bracing	L2x2x1/4	286	-25	15748	0.4	Pass
T16	131.5 - 119	Redund Hip 1 Bracing	L2x2x1/4	334	-100	15363	0.7	Pass
T17	119 - 106.5	Redund Hip 1 Bracing	L2x2x1/4	391	-126	13945	0.9	Pass
T17	119 - 106.5	Redund Hip Diagonal 1 Bracing	L2x2x1/4	392	-117	2832	4.1	Pass
T17	119 - 106.5	Redund Sub Horz Bracing	L2 1/2x2x3/16	370	4002	22896	17.5 27.8 (b)	Pass
T17	119 - 106.5	Redund Sub Diagonal Bracing	L2 1/2x2x3/16	369	-4580	16755	27.3 27.9 (b)	Pass
T10	191.5 - 181.5	Inner Bracing	L2 1/2x2 1/2x3/16	126	576	30686	1.9	Pass
T12	171.5 - 161.5	Inner Bracing	L2 1/2x2 1/2x3/16	167	1117	30686	3.6	Pass
T14	151.5 - 141.5	Inner Bracing	L2x2 1/2x3/16	209	991	27522	3.6	Pass
T16	131.5 - 119	Inner Bracing	L3x3x3/16	304	-49	9199	0.8	Pass
T17	119 - 106.5	Inner Bracing	L3x3x3/16	344	-43	7938	0.9	Pass
							Summary	
							Leg (T16) 74.8	Pass
							Diagonal (T14) 64.8	Pass
							Horizontal (T15) 31.5	Pass
							Secondary Horizontal (T14) 38.9	Pass
							Top Girt (T14) 77.4	Pass
							Redund Horz 1 Bracing (T17) 42.6	Pass
							Redund Diag 1 Bracing (T17) 54.9	Pass
							Redund Hip 0.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						1 Bracing (T17)		
						Redund Hip Diagonal 1 Bracing (T17)	4.1	Pass
						Redund Sub Horz Bracing (T17)	27.8	Pass
						Redund Sub Diagonal Bracing (T17)	27.9	Pass
						Inner Bracing (T12)	3.6	Pass
						Bolt Checks	52.5	Pass
						RATING =	**77.4**	**Pass**

Program Version 8.1.1.0 - 6/3/2021 File:G:/Shared drives/261552 - 263256/263252/P-344821_L-730266_638283_Stamford_Revised Structural Analysis/tnx/638283 (Stamford).eri

APPENDIX B

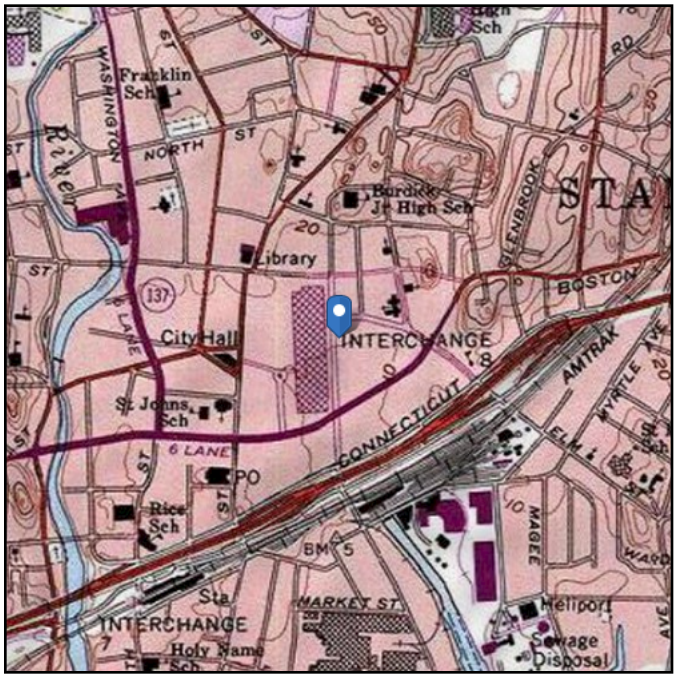
ADDITIONAL CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 11.24 ft (NAVD 88)
Latitude: 41.053444
Longitude: -73.535639



Wind

Results:

Wind Speed:	117 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Tue Oct 19 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 7-16 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 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

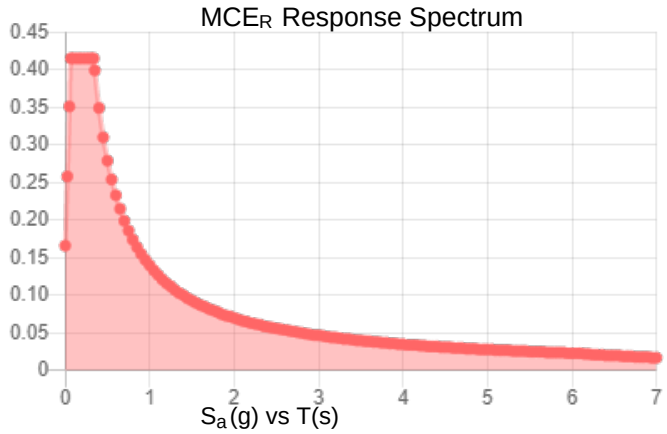
Seismic

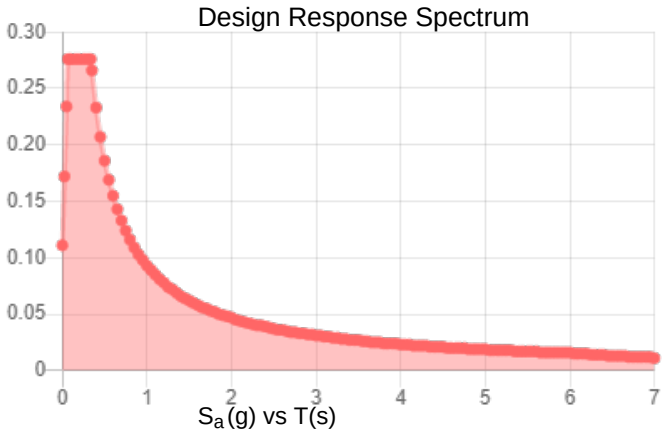
Site Soil Class: D - Default (see Section 11.4.3)

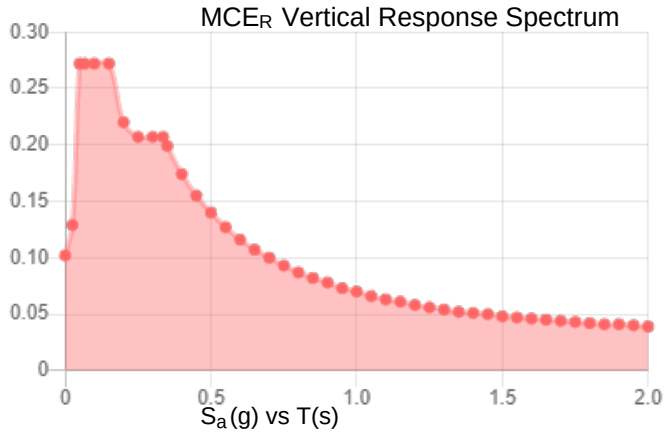
Results:

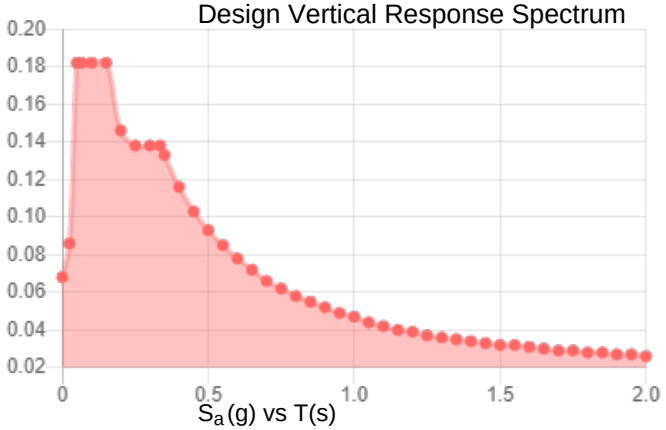
S_S :	0.261	S_{D1} :	0.093
S_1 :	0.058	T_L :	6
F_a :	1.592	PGA :	0.157
F_v :	2.4	PGA_M :	0.233
S_{MS} :	0.415	F_{PGA} :	1.487
S_{M1} :	0.14	I_e :	1
S_{DS} :	0.276	C_v :	0.821

Seismic Design Category B









Data Accessed: Tue Oct 19 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Tue Oct 19 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 500-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.

Exhibit E

Mount Analysis

Date: 8/9/2022

To: T-Mobile Northeast, LLC
35 Griffin Road South
Bloomfield, CT 06002

Subject:	**Mount Structural Analysis Report**	
T-Mobile Designation:	**Site ID:**	CT11410A
	Site Name:	Stamford / Dwtn
EFI Designation:	**Project Number:**	049.03646 - 2275029
Site Data:	**555 Main Street, Stamford, CT 06901** **Latitude 41.053535°, Longitude -73.535579°**	

EFI Global, Inc. is pleased to submit this **"Mount Structural Analysis Report"** to determine the structural capacity of the antenna mounts utilized by T-Mobile at the above referenced site.

The purpose of the analysis is to determine acceptability of the mount stress level for the changes proposed by T-Mobile. Under the following load case we have determined the mounts to have:

Existing + Proposed Equipment **Adequate Capacity (48.1%)**
Note: See Analysis Criteria for loading configuration

The analysis has been performed in accordance with the TIA-222-G Standard and 2018 Connecticut State Building Code (2015 IBC).

We at *EFI Global, Inc.* appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects, please give us a call.

Sincerely,
EFI Global, Inc.
License No: PEC0001245

8/9/2022

Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta, GA 30338 - Tel: (470) 990-6593

1) ANALYSIS CRITERIA

The analysis was performed for the existing and proposed appurtenances as specified in the loading information referenced below, and per the following loading criteria of Table 1.

Table 1 – Loading and Analysis Criteria

Rad Center	210’ and 203’
Structure Type	Self-Support on Rooftop
Exposure Category	B
Basic Wind Speed	120 * √0.6 = 93 mph (ASD)
Ice Loading	0.75” with 50 mph Wind
Risk Category	II
Topographic Factor	Kzt = 1.0

Table 1.1 – Existing Appurtenance Configuration

Qty	Model
3	Ericsson AIR21 B2A/B4P – Antennas
3	Ericsson AIR32 B66A/B2A – Antennas
3	Andrew LNX-6515DS-A1M – Antennas
3	Generic Twin Style 1B - AWS – TMAs
3	RRUS11 B12 – RRUs

Table 1.2 – Proposed and Final Appurtenance Configuration

Qty	Model
3	RFS APXVAALL24_43-U-NA20 – Antennas
3	Ericsson AIR32 B66A/B2A – Antennas
3	Ericsson AIR 6419 B41 – Antennas
3	Radio 4480 B71 + B85 – RRUs*
3	Radio 4460 B25 + B66 – RRUs*

*** To be mounted behind the antennas**

Table 1.3 – Assumed Material Properties

Member Type	ASTM Material Designation	Fy (ksi)	Fu (ksi)
Pipes	A53 Gr. B	35	60
Angles/Channels	A36	36	58
Rectangular HSS	A500 Gr. B - 46	46	58
Round HSS	A500 Gr. B - 42	42	58
Others (UNO)	A572 Gr. 50	50	65

2) ANALYSIS PROCEDURE

The analysis is based on the following information:

Table 2 – Documents

Document	Provided By	Date
RFDS	T-Mobile	08/02/2022
Structural Analysis Report	Malouf Engineering	05/22/2017

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta, GA 30338 - Tel: (470) 990-6593

2.1) Analysis Method

Risa-3D, a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses for various loading cases. Selected output from the analysis is included in the Appendix.

2.2) Analysis Conditions and Assumptions

1) The mount was built and installed in accordance with the manufacturer's specifications.
2) The mount has been maintained and will be maintained in accordance with the manufacturer's specifications. All structural members and connections of the mount are in good condition and can achieve theoretical strength.
3) The configuration of antennas is as specified in "1) Analysis Criteria".
4) The analysis was performed for the subject mount only. It does not include an evaluation of the other mounts or the tower, which should be analyzed by others.
5) The evaluation does not include any antenna rigging loads. The equipment should not be rigged using the subject antenna mount as the support.
6) The analysis includes a minimum 250 lbf maintenance point load at the worst-case location on the mount, as well as a minimum 500 lbf maintenance point load at each antenna location in conjunction with a 30 mph wind load.
7) Any steel grating represented in this model is for loading purposes only and it is not considered to provide any structural restraint or support.
8) Member sizes per the available mount specifications and assumed based on our experience with similar structures. Please refer to calculation output in the appendix of this report for sizes and lengths assumed.
9) 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.

EFI Global, Inc. (EFI), must be notified immediately if any of these assumptions are discovered to be incorrect. The results of this analysis may be affected if any of the assumptions are not valid or have been made in error.

3) ANALYSIS RESULTS AND CONCLUSION

The analysis results are shown on the table below.

Table 3.1 – Mount Component Stresses vs. Capacity – 210'

Component	% Capacity	Pass / Fail
Horizontal Face Pipe	26.3	Pass
Horizontal Standoff Pipe	31.8	Pass
Vertical Standoff Solid Rod	37.1	Pass
Diagonal Standoff Solid Rod	<20.0	Pass
Antenna Mount Pipe	41.1	Pass
Connection Plate	32.2	Pass
Tie-Back	<20.0	Pass

Table 3.2 – Mount Component Stresses vs. Capacity – 203'

Component	% Capacity	Pass / Fail
Horizontal Face Pipe	23.8	Pass
Horizontal Standoff Pipe	31.1	Pass
Vertical Standoff Solid Rod	31.8	Pass
Diagonal Standoff Solid Rod	<20.0	Pass
Antenna Mount Pipe	48.1	Pass
Connection Plate	34.4	Pass
Tie-Back	<20.0	Pass

Sector Mounts: The proposed sector mounts have **adequate** capacity for the proposed changes by T-Mobile. **The existing sector mounts at each sector should be replaced with two (2) Valmont/Site Pro 1 12'-6" Heavy Duty V-Frame Assemblies with Two Stiff Arms (P/N: VFA12-HD), specifications as attached on Appendix.** For the code specified load combinations and as a maximum, the mount members at 203' are stressed to **48.1%** of their structural capacity. The mount members at 210' are stressed to **41.1%** of their structural capacity.

The analysis also assumes the following:

- **The mount centerline is equal to the RAD centerline.**
- **(4) 96" long 2.0 STD mount pipes are equally spaced along the face.**
- **The (2) tieback arms are attached directly to the adjacent mount's tower legs.**

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta, GA 30338 - Tel: (470) 990-6593

APPENDIX

INPUT LOADS
ANALYSIS OUTPUT
MOUNT SPECIFICATIONS

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta, GA 30338 - Tel: (470) 990-6593

CLIENT: ForeSite, LLC

PROJECT: CT11410A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

Tower Height	231.50	ft	Type of Mount: Sector
Basic Wind Speed, V	93	mph (=Ultimate Speed*Sqrt(0.6))	
Basic Wind Speed with Ice, V_i	50	mph	
Maintanence Load Factor, L_{FM}	0.1041	Load Factor for Maint. Load Cases (Basic Wind Speed=30 mph)	
Design Ice Thickness, t_i	0.75	inches	

Table 2-3 Importance Factors

Structure Classification	Wind Load Without Ice	Wind Load With Ice	Ice Thickness	Earthquake
II	1	1	1	1

Table 2-4 Exposure Category Coefficients

Exposure Category	Zg	α	Kzmin	Ke	m
B	1200	7	0.7	0.9	0.55

Table 2-5 Topographic Categories

Kzt 1.000

Table 2-2 Wind Directionality Factor, Kd

Structure Type	Kd	
Lattice Tower	0.95	DOES NOT CHANGE

Gust Effect Factor Gh

Structure Type	Gh	
Lattice Tower	1.00	DOES NOT CHANGE

Shielding Factor, Ka

Structure Type	Ka	
Lattice Tower	0.90	DOES NOT CHANGE

CLIENT: ForeSite, LLC

PROJECT: CT11410A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

Rad Center **210.00** ft

Antenna AND Mount Without Ice

Mounting Pole	Height (ft)	Model Number	#	Weight (lbs)	H (in)	*W (in)	D (in)	Ka	**A_N (ft2)	***A_T (ft2)	Aspect (FRONT)	Aspect (SIDE)	Ca (FRONT)	Ca (SIDE)	K_z	q_z (psf)	Pounds: Wind Load (Front)	Wind Load (Side)	Dead Load	Total Wind Load (Front)	Total Wind Load (Side)	Total Dead Load
Pos. 1 Upper Mount	**210.00**	Ericsson AIR 6419 B41	1	83.3	36.3	20.9	9.0	0.90	5.27	2.27	1.74	4.03	1.20	1.27	1.222	25.7	146.2	66.5	83.3	146	67	83
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
																				74	**34**	**42**
Pos. 2 Upper Mount	**210.00**	Ericsson AIR32 B66A/B2A	1	132.0	56.6	12.9	8.7	0.90	5.07	3.42	4.39	6.51	1.28	1.38	1.222	25.7	150.5	109.0	132	151	109	132
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
																				76	**55**	**66**
Pos. 3 Lower Mount	**203.00**	RFS APXVAALL24_43-U-NA20	1	149.9	95.9	24.0	8.5	0.90	15.98	5.66	4.00	11.28	1.27	1.54	1.210	25.4	463.6	200.0	149.9	464	277	343
	203.00	Ericsson Radio 4480 B71+B85	1	84.0	21.8	N/A	7.5	0.90	-	1.14	-	2.91	-	1.22	1.210	25.4	0.0	31.7	84			
	203.00	Ericsson Radio 4460 B25+B66	1	109.0	19.6	N/A	12.1	0.90	-	1.65	-	1.62	-	1.20	1.210	25.4	0.0	45.3	109			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
																				232	**139**	**172**
Pos. 3-4 (Upper) Pos. 1,2,4 (Lower) Empty		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0	0	0	0
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
																				0	**0**	**0**

* Enter N/A in the W column for front sheilded apurtanances.

** A_N is the product of H and W

*** A_T is the product of H and D

DL 558

Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	*** Ca	K_z	q_z (psf)	Wind Load (PLF)
	210.00	2.5 STD Pipe	12.00	2.88	0.00	1.20	1.222	23.1	7
	210.00	2.0 STD Pipe	12.00	2.38	0.00	1.20	1.222	23.1	5
	210.00	3/4" SR	12.00	0.75	0.00	1.20	1.222	23.1	2
	210.00	5/8" SR	12.00	0.63	0.00	1.20	1.222	23.1	1
	210.00	(LL3x3x4X3)	0.00	3.00	6.00	-	-	-	-
	210.00	(L2.5x2.5x3)	0.00	2.50	2.50	-	-	-	-
	210.00	(L2x2x3)	0.00	2.00	2.00	-	-	-	-
	210.00	PL3.5x0.625	12.00	0.63	3.50	2.00	1.222	23.1	2
	210.00	PL4x3/8	0.00	4.00	0.38	-	-	-	-
	210.00	HSS 4x4x4	0.00	4.00	4.00	-	-	-	-
	210.00	PL0.5X6	0.00	6.00	0.50	-	-	-	-
	210.00	Double Angle (LL2.5x2.5x3x6)	0.00	2.50	2.50	-	-	-	-
	210.00	Double Angle (LL3x3x4x0)	0.00	3.00	3.00	-	-	-	-
	210.00	Channel (C6x2x3/16)	0.00	6.00	2.00	-	-	-	-
	210.00	Invert U 5.375x3.625x.375	0.00	3.63	5.38	-	-	-	-

* The dimension L is the longest dimension of the member

** The dimension W is the height or width of the member that resists wind load

*** Ca will equal 1.2 for round members and 2.0 for flat members

CLIENT: ForeSite, LLC

PROJECT: CT11410A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

ti (in) 1.804936 Kiz 1.2032906 reduction 0.28905

Antenna AND Mount With Ice

Mounting Pole	Height (ft)	Model Number	#	H (in)	W (in)	D (in)	Ka	*A_N (ft2)	*A_T (ft2)	*Volume Ice (ft3)	*Weight Ice (lbs)	**Ca (FRONT)	**Ca (SIDE)	Kz	q_z (psf)	Pounds: Ice Wind Load (Front)	Ice Wind Load (Side)	Combined Wind Load (Front)	Combined Wind Load (Side)	Ice Dead Load	**Total Wind Load (Front)	**Total Wind Load (Side)	Total Ice Load
Pos. 1	**210.00**	Ericsson AIR 6419 B41	1	36.3	20.9	9.0	0.90	1.52	1.23	3.19	178.46	0.70	0.70	1.222	7.4	7.1	5.7	49.4	25.0	178	49	25	178
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					25	**13**	**90**
Pos. 2	**210.00**	Ericsson AIR32 B66A/B2A	1	56.6	12.9	8.7	0.90	1.83	1.73	3.41	190.70	0.70	0.70	1.222	7.4	8.6	8.1	52.1	39.6	191	52	40	191
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					27	**20**	**96**
Pos. 3	**203.00**	RFS APXVAALL24_43-U-NA20	1	95.9	24.0	8.5	0.90	3.10	2.71	7.93	444.23	0.70	0.70	1.210	7.4	14.3	12.5	148.3	70.4	444	148	101	645
	203.00	Ericsson Radio 4480 B71+B85	1	21.8	15.7	7.5	0.90	-	0.83	1.67	93.47	0.70	0.70	1.210	7.4	0.0	3.8	0.0	13.0	93			
	203.00	Ericsson Radio 4460 B25+B66	1	19.6	15.7	12.1	0.90	-	0.89	1.92	107.51	0.70	0.70	1.210	7.4	0.0	4.1	0.0	17.2	108			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					75	**51**	**323**
Pos. 3-4 (Upper)		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	0	0	0
Pos. 1,2,4 (Lower)		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
Empty		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					0	**0**	**0**

* A_N ,A_T, Volume Ice and Weight Ice are calculated per unit

** Ca will equal 1.2 for all ice load calculations

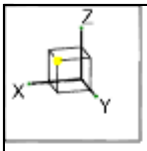
Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	***A_N (ft2)	Volume Ice (ft3)	Weight Ice (lbs)	****Ca (FRONT)	Kz	q_z (psf)	PLF: Ice Wind Load (Front)	Combined Wind Load (Front)	Ice Dead Load
	210.00	2.5 STD Pipe	12.00	2.88	0.00	0.46	0.18	10.33	1.20	1.222	6.7	3.7	5.6	10.3
	210.00	2.0 STD Pipe	12.00	2.38	0.00	0.45	0.16	9.22	1.20	1.222	6.7	3.6	5.2	9.2
	210.00	3/4" SR	12.00	0.75	0.00	0.41	0.10	5.63	1.20	1.222	6.7	3.3	3.8	5.6
	210.00	5/8" SR	12.00	0.63	0.00	0.41	0.10	5.36	1.20	1.222	6.7	3.3	3.7	5.4
	210.00	(LL3x3x4X3)	0.00	3.00	6.00	-	-	-	-	-	-	-	-	-
	210.00	(L2.5x2.5x3)	0.00	2.50	2.50	-	-	-	-	-	-	-	-	-
	210.00	(L2x2x3)	0.00	2.00	2.00	-	-	-	-	-	-	-	-	-
	210.00	PL3.5x0.625	12.00	0.63	3.50	0.41	0.26	14.38	1.20	1.222	6.7	3.3	4.0	14.4
	210.00	PL4x3/8	0.00	4.00	0.38	-	-	-	-	-	-	-	-	-
	210.00	HSS 4x4x4	0.00	4.00	4.00	-	-	-	-	-	-	-	-	-
	210.00	PL0.5X6	0.00	6.00	0.50	-	-	-	-	-	-	-	-	-
	210.00	Double Angle (LL2.5x2.5x3x6)	0.00	2.50	2.50	-	-	-	-	-	-	-	-	-
	210.00	Double Angle (LL3x3x4x0)	0.00	3.00	3.00	-	-	-	-	-	-	-	-	-
	210.00	Channel (C6x2x3/16)	0.00	6.00	2.00	-	-	-	-	-	-	-	-	-
	210.00	Invert U 5.375x3.625x.375	0.00	3.63	5.38	-	-	-	-	-	-	-	-	-

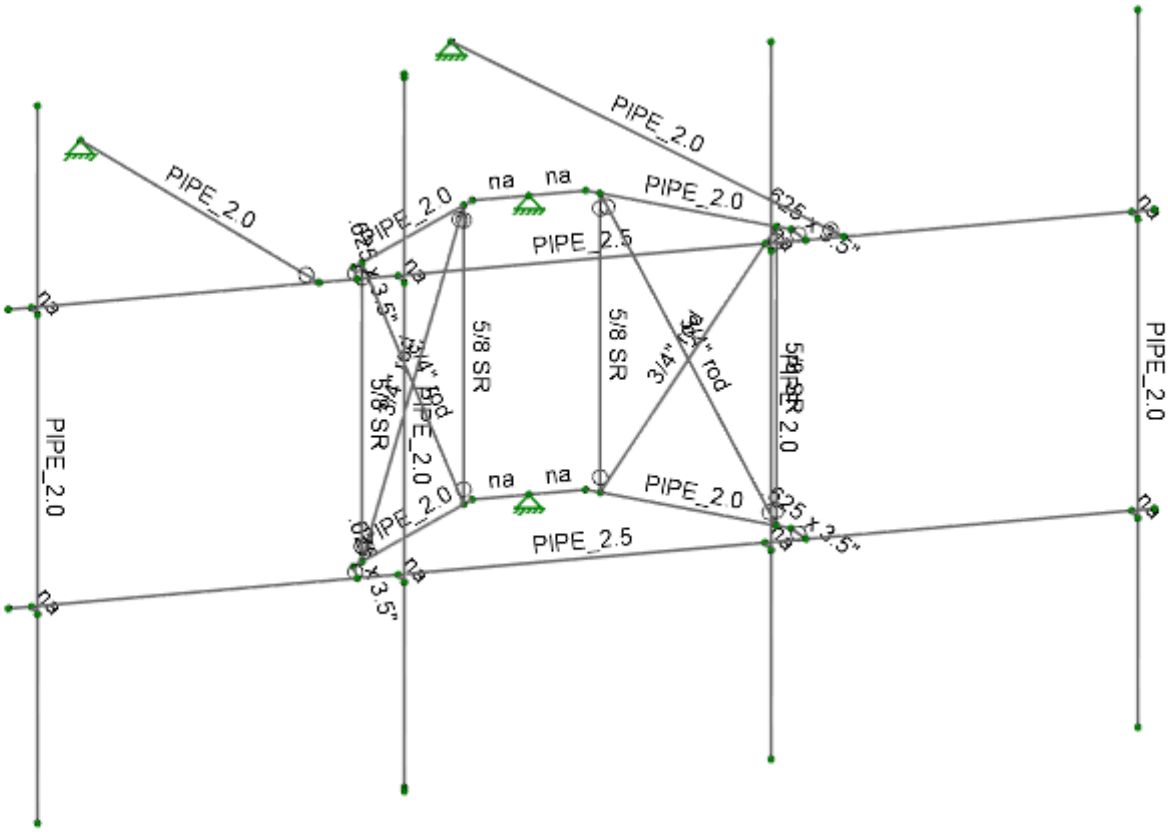
* The dimension L is the longest dimension of the member

** The dimension W is the height or width of the member that resists wind load

*** A_N is the area of ice built up on the LW plane

**** Ca will equal 1.2 for all ice load calculations





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AJ		Aug 08, 2022
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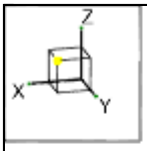

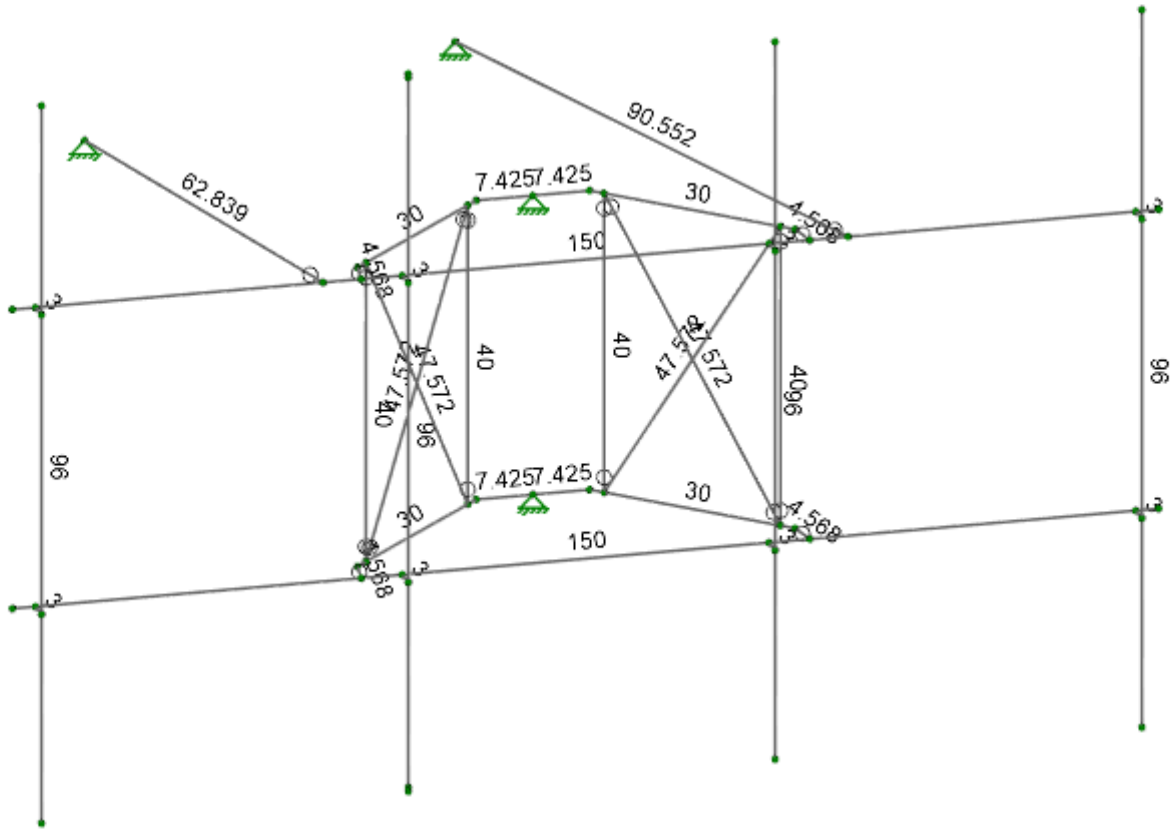

Member Length (in) Displayed
Envelope Only Solution

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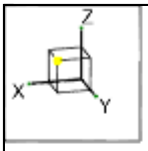

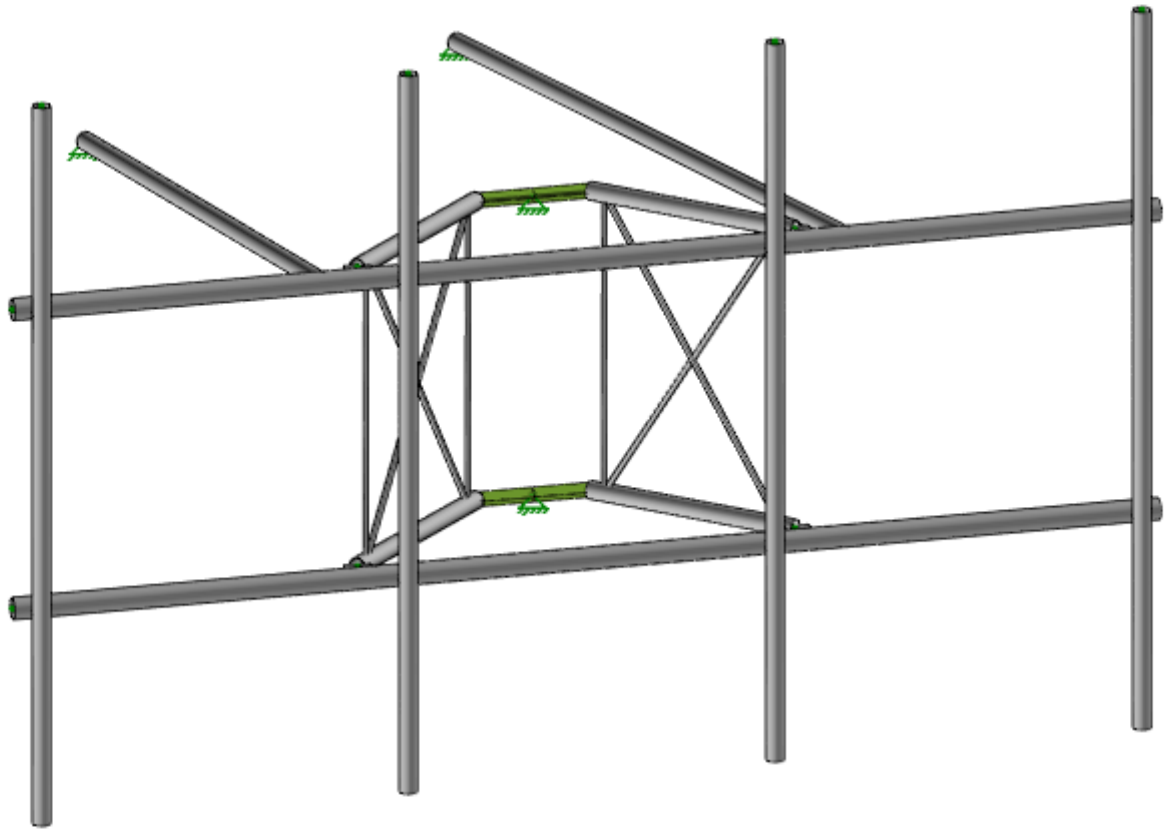

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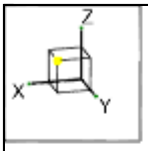

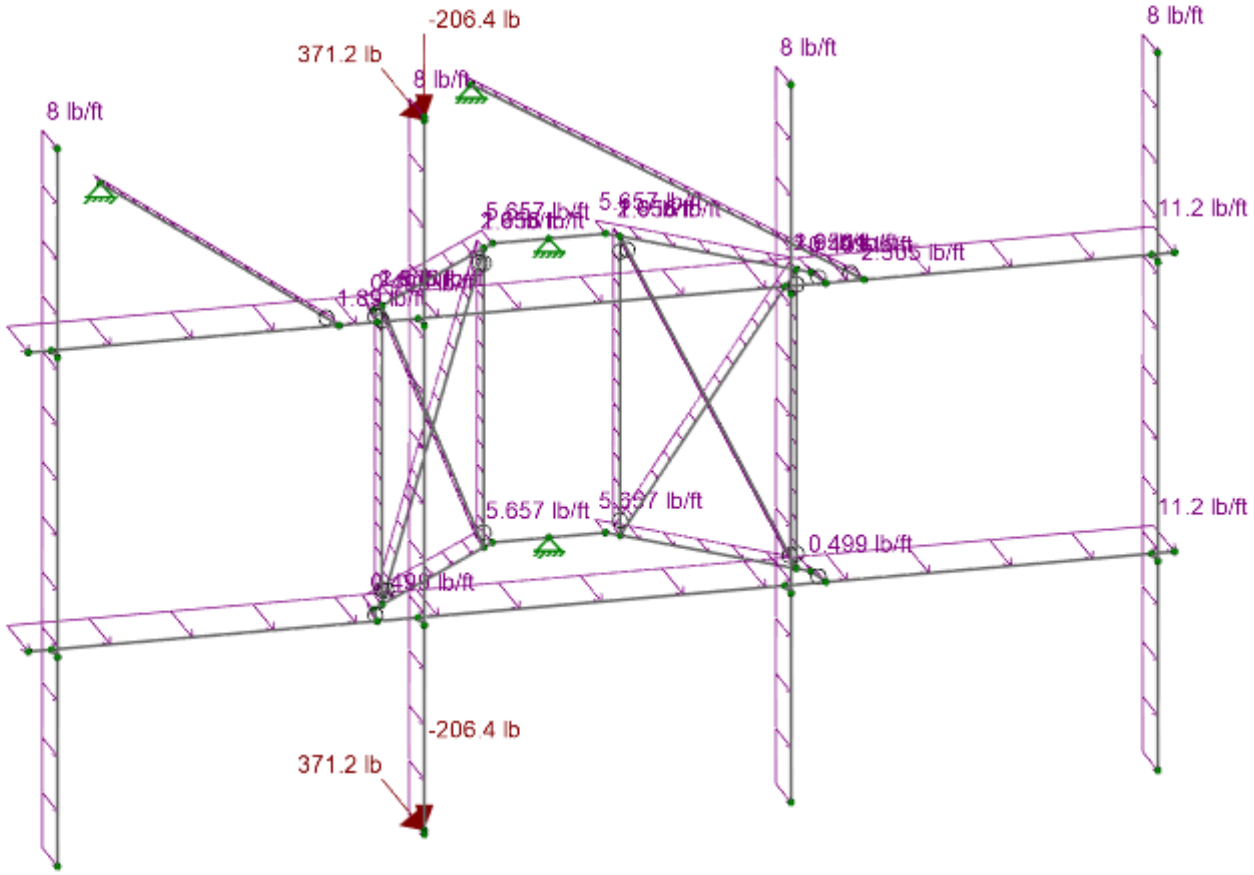

Loads: LC 1, DL + WL (NO ICE) 0 Degree
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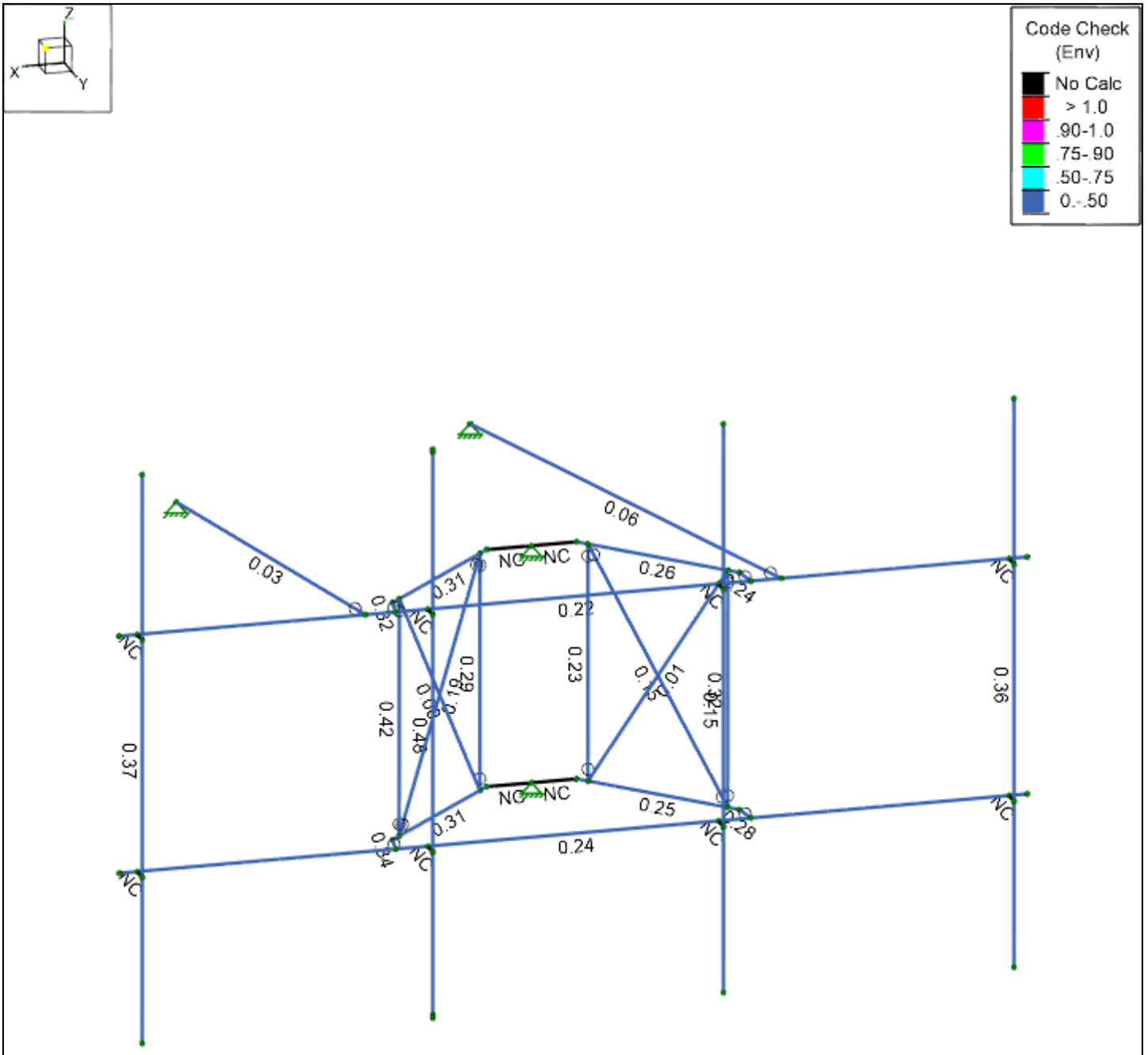
049.03646 - 2275029		CT11410A - VFA12-HD - 203'.r3d



Member Code Checks Displayed (Enveloped)
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Foresite LLC / EFI Global Inc.	CT11410A - 203' RAD Center	SK-5
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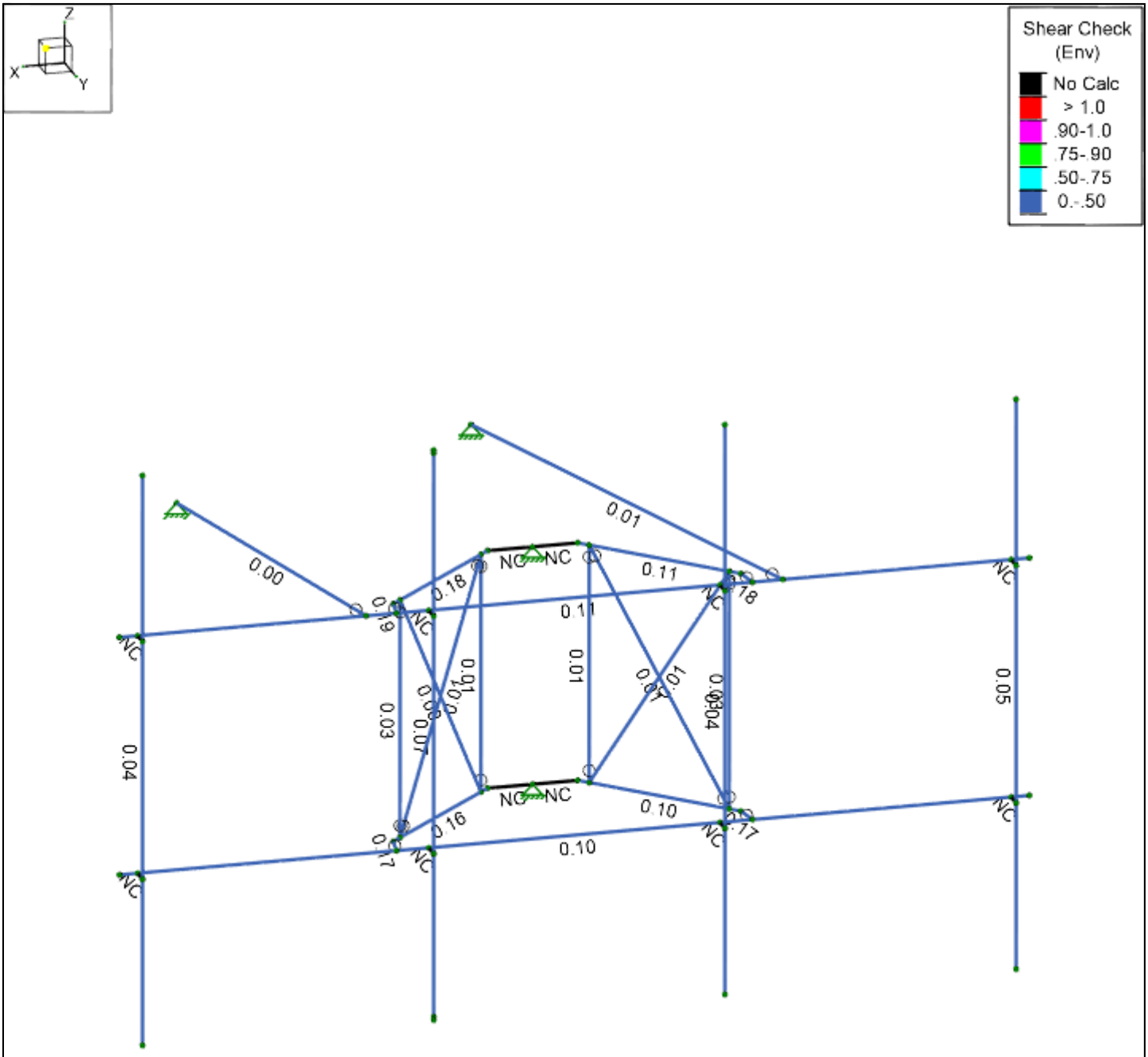

Member Shear Checks Displayed (Enveloped)
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Foresite LLC / EFI Global Inc.	CT11410A - 203' RAD Center	SK-6
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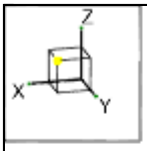

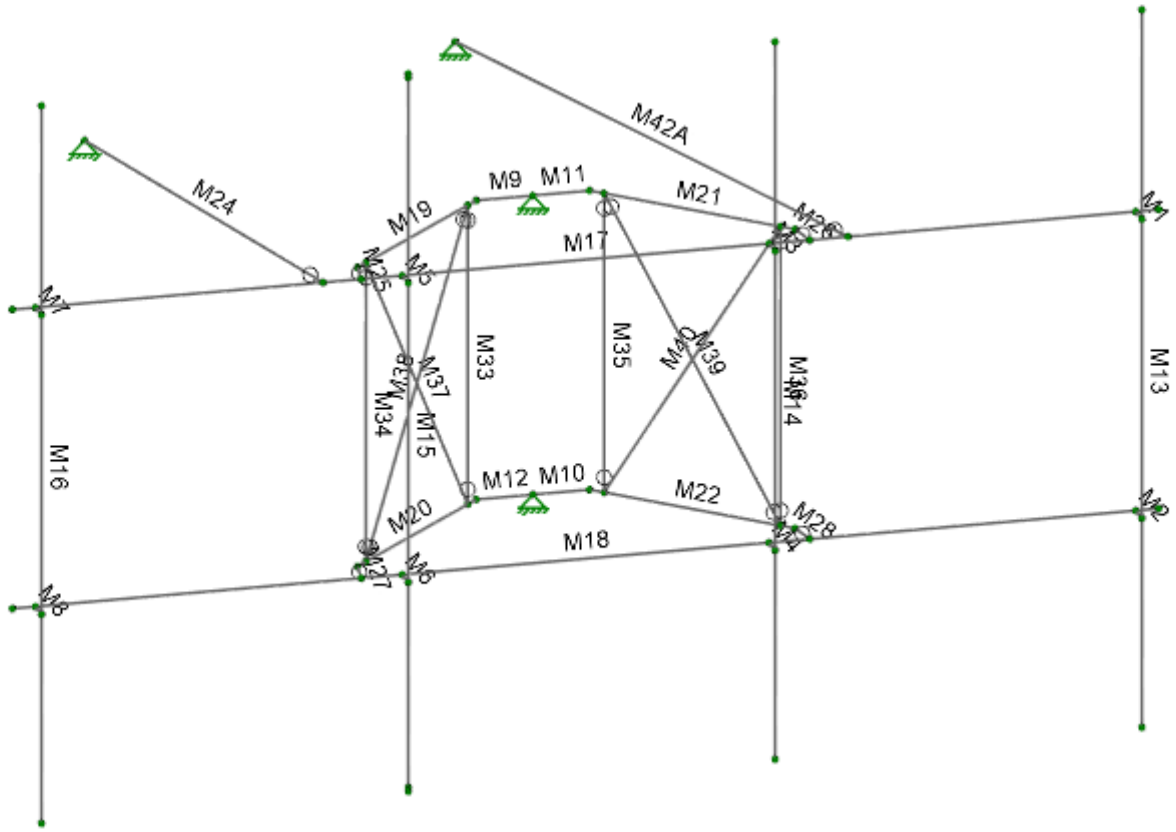

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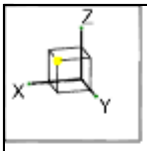

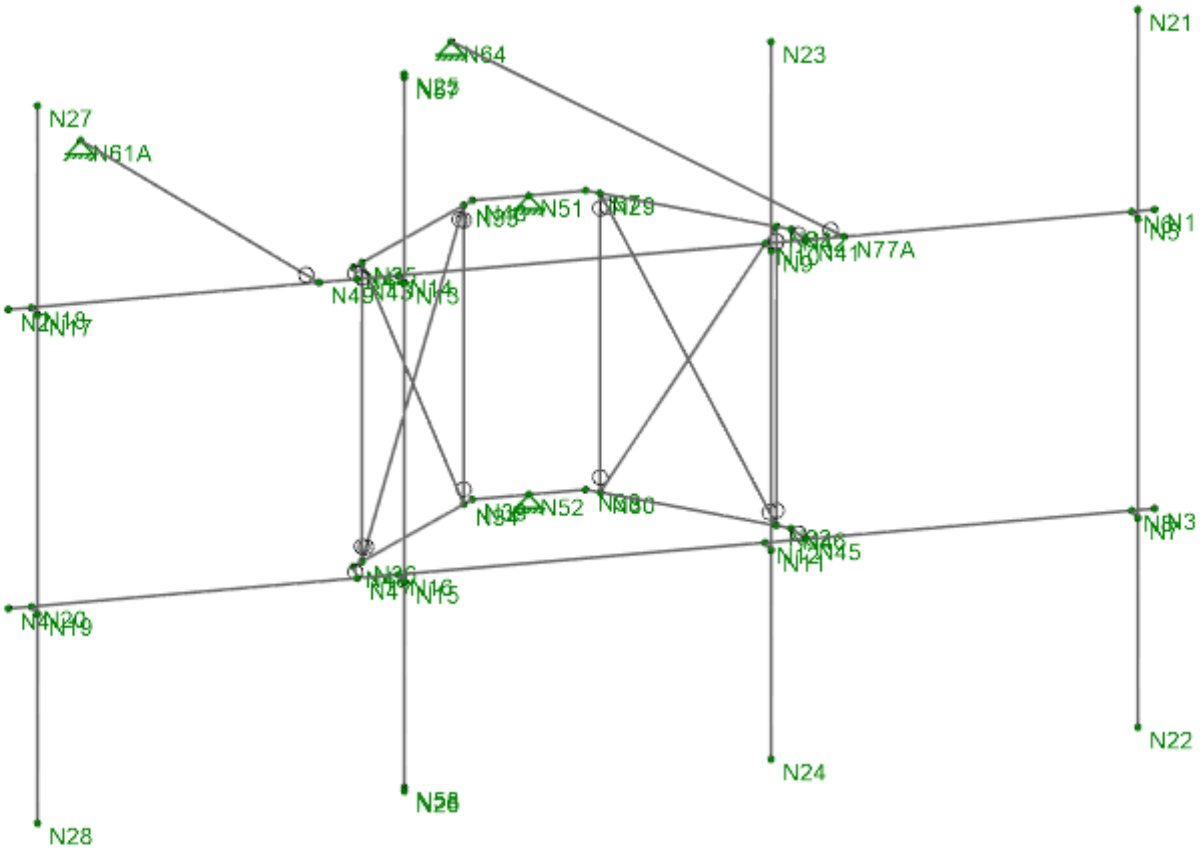

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AJ		Aug 08, 2022
049.03646 - 2275029		CT11410A - VFA12-HD - 203'.r3d

Model Settings

Solution

Members

Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in^2)	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes

Wall Panels

Approximate Mesh Size (in)	12
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	No
Maximum Number of Iterations	3

Processor Core Utilization

Single	No
Multiple (Optimum)	Yes
Maximum	No

Axis

Vertical Global Axis

Global Axis corresponding to vertical direction	Z
Convert Existing Data	Yes

Default Member Orientation

Default Global Plane for z-axis	XZ

Plate Axis

Plate Local Axis Orientation	Nodal

Codes

Hot Rolled Steel	AISC 14th (360-10): LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 14th (360-10): LRFD
Cold Formed Steel	AISI NAS-01: ASD
Stiffness Adjustment	Yes (Iterative)
Wood	AF&PA NDS-05/08: ASD
Temperature	< 100F
Concrete	ACI 318-05
Masonry	ACI 530-05: ASD
Aluminum	AA ADM1-05: ASD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): ASD
Stiffness Adjustment	Yes (Iterative)

Concrete

Column Design

Analysis Methodology	Exact Integration Method
Parme Beta Factor	0.65

Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	No

Model Settings (Continued)

List forces which were ignored for design in the Detail Report	Yes

Rebar

Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No

Shear Reinforcement

Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

Seismic

RISA-3D Seismic Load Options

Code	ASCE 7-05
Occupancy Cat	I or II
Drift Cat	Other
Base Elevation (ft)	
Include the weight of the structure in base shear calcs	Yes

Site Parameters

S_1 (g)	1
SD_1 (g)	1
SD_s (g)	1
T_L (sec)	-1

Structure Characteristics

T Z (sec)	
T X (sec)	
C_tX	0.035
C_tExp. Z	0.75
C_tExp. X	0.75
R Z	8.5
R X	8.5
Ω_0Z	1
Ω_0X	1
C_dZ	4
C_dX	4
ρ Z	1
ρ X	1

Project Grid Lines

No Data to Print...

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2
4	A500 Gr.42	29000	11154	0.3	0.65	0.49	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	0.3	0.65	0.49	46	1.2	58	1.1
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.5	60	1.2
7	A529 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2

Member Primary Data

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	M12	N52	N39	RIGID	None	None	LINK	Typical
2	M1	N5	N6	RIGID	None	None	LINK	Typical
3	M2	N7	N8	RIGID	None	None	LINK	Typical
4	M4	N11	N12	RIGID	None	None	LINK	Typical
5	M5	N13	N14	RIGID	None	None	LINK	Typical
6	M6	N15	N16	RIGID	None	None	LINK	Typical
7	M3	N9	N10	RIGID	None	None	LINK	Typical
8	M8	N19	N20	RIGID	None	None	LINK	Typical
9	M9	N40	N51	RIGID	None	None	LINK	Typical
10	M10	N38	N52	RIGID	None	None	LINK	Typical
11	M11	N51	N37	RIGID	None	None	LINK	Typical
12	M7	N17	N18	RIGID	None	None	LINK	Typical
13	M18	N3	N4	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
14	M17	N1	N2	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
15	M15	N25	N26	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
16	M42A	N77A	N64	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
17	M13	N21	N22	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
18	M14	N23	N24	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
19	M16	N27	N28	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
20	M20	N39	N48	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
21	M21	N37	N42	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
22	M22	N38	N46	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
23	M24	N49	N61A	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
24	M19	N40	N44	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
25	M36	N31	N32	5/8 SR	Beam	BAR	A36 Gr.36	Typical
26	M35	N29	N30	5/8 SR	Beam	BAR	A36 Gr.36	Typical
27	M34	N35	N36	5/8 SR	Beam	BAR	A36 Gr.36	Typical
28	M33	N33	N34	5/8 SR	Beam	BAR	A36 Gr.36	Typical
29	M40	N31	N30	3/4" rod	Beam	BAR	A36 Gr.36	Typical
30	M39	N29	N32	3/4" rod	Beam	BAR	A36 Gr.36	Typical
31	M38	N33	N36	3/4" rod	Beam	BAR	A36 Gr.36	Typical
32	M37	N35	N34	3/4" rod	Beam	BAR	A36 Gr.36	Typical
33	M26	N42	N41	.625 x 3.5"	Beam	RECT	A36 Gr.36	Typical
34	M28	N46	N45	.625 x 3.5"	Beam	RECT	A36 Gr.36	Typical
35	M27	N48	N47	.625 x 3.5"	Beam	RECT	A36 Gr.36	Typical
36	M25	N44	N43	.625 x 3.5"	Beam	RECT	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
1	M12				Yes	** NA **	None
2	M1				Yes	** NA **	None
3	M2				Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
4	M4				Yes	** NA **	None
5	M5				Yes	** NA **	None
6	M6				Yes	** NA **	None
7	M3				Yes	** NA **	None
8	M8				Yes	** NA **	None
9	M9				Yes	** NA **	None
10	M10				Yes	** NA **	None
11	M11				Yes	** NA **	None
12	M7				Yes	** NA **	None
13	M18				Yes		None
14	M17				Yes		None
15	M15				Yes		None
16	M42A	BenPIN			Yes		None
17	M13				Yes		None
18	M14				Yes		None
19	M16				Yes		None
20	M20				Yes		None
21	M21				Yes		None
22	M22				Yes		None
23	M24	BenPIN			Yes		None
24	M19				Yes		None
25	M36	BenPIN	BenPIN		Yes		None
26	M35	BenPIN	BenPIN		Yes		None
27	M34	BenPIN	BenPIN		Yes		None
28	M33	BenPIN	BenPIN		Yes		None
29	M40			Tension Only	Yes		None
30	M39	BenPIN	BenPIN		Yes		None
31	M38	BenPIN	BenPIN		Yes		None
32	M37			Tension Only	Yes		None
33	M26		BenPIN		Yes		None
34	M28		BenPIN		Yes		None
35	M27		BenPIN		Yes		None
36	M25		BenPIN		Yes		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	K y-y	K z-z	Function
1	M18	PIPE_2.5	150					Lateral
2	M17	PIPE_2.5	150					Lateral
3	M15	PIPE_2.0	96					Lateral
4	M42A	PIPE_2.0	90.552					Lateral
5	M13	PIPE_2.0	96					Lateral
6	M14	PIPE_2.0	96					Lateral
7	M16	PIPE_2.0	96					Lateral
8	M20	PIPE_2.0	30					Lateral
9	M21	PIPE_2.0	30					Lateral
10	M22	PIPE_2.0	30					Lateral
11	M24	PIPE_2.0	62.839					Lateral
12	M19	PIPE_2.0	30					Lateral
13	M36	5/8 SR	40	33.62	33.62	0.7	0.7	Lateral
14	M35	5/8 SR	40	33.62	33.62	0.7	0.7	Lateral
15	M34	5/8 SR	40	33.62	33.62	0.7	0.7	Lateral
16	M33	5/8 SR	40	33.62	33.62	0.7	0.7	Lateral
17	M40	3/4" rod	47.572					Lateral
18	M39	3/4" rod	47.572			0.7	0.7	Lateral
19	M38	3/4" rod	47.572			0.7	0.7	Lateral
20	M37	3/4" rod	47.572					Lateral
21	M26	.625 x 3.5"	4.568					Lateral
22	M28	.625 x 3.5"	4.568					Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	K y-y	K z-z	Function
23	M27	.625 x 3.5"	4.568					Lateral
24	M25	.625 x 3.5"	4.568					Lateral

Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N1	-75	0	40	
2	N2	75	0	40	
3	N3	-75	0	0	
4	N4	75	0	0	
5	N5	-72	3	40	
6	N6	-72	0	40	
7	N7	-72	3	0	
8	N8	-72	0	0	
9	N9	-24	3	40	
10	N10	-24	0	40	
11	N11	-24	3	0	
12	N12	-24	0	0	
13	N13	24	3	40	
14	N14	24	0	40	
15	N15	24	3	0	
16	N16	24	0	0	
17	N17	72	3	40	
18	N18	72	0	40	
19	N19	72	3	0	
20	N20	72	0	0	
21	N21	-72	3	68	
22	N22	-72	3	-28	
23	N23	-24	3	68	
24	N24	-24	3	-28	
25	N25	24	3	68	
26	N26	24	3	-28	
27	N27	72	3	68	
28	N28	72	3	-28	
29	N29	-8.927223	-24.223102	40	
30	N30	-8.927223	-24.223102	0	
31	N31	-27.135223	-6.015102	40	
32	N32	-27.135223	-6.015102	0	
33	N33	8.927223	-24.223102	40	
34	N34	8.927223	-24.223102	0	
35	N35	27.135223	-6.015102	40	
36	N36	27.135223	-6.015102	0	
37	N37	-7.424621	-25.725704	40	
38	N38	-7.424621	-25.725704	0	
39	N39	7.424621	-25.725704	0	
40	N40	7.424621	-25.725704	40	
41	N41	-29.35	0	40	
42	N42	-28.637825	-4.5125	40	
43	N43	29.35	0	40	
44	N44	28.637825	-4.5125	40	
45	N45	-29.35	0	-0.	
46	N46	-28.637825	-4.5125	0	
47	N47	29.35	0	0.	
48	N48	28.637825	-4.5125	0	
49	N49	34.35	0	39.999996	
50	N51	0	-25.725704	40	
51	N52	0	-25.725704	0	
52	N77A	-34.35	0	39.999996	
53	N64	-6	-86	39.999998	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
54	N57	24	3	67.5	
55	N58	24	3	-27.5	
56	N61A	49.199072	-61.059004	40	

Node Boundary Conditions

	Y [k/in]	X [k/in]	Z [k/in]	Node Label
1	Reaction	Reaction	Reaction	N51
2	Reaction	Reaction	Reaction	N52
3	Reaction	Reaction	Reaction	N64
4	Reaction	Reaction	Reaction	N61A

Basic Load Cases

	BLC Description	Category	Z Gravity	Nodal	Distributed
1	DEAD LOAD	None	-1	2	
2	DEAD LOAD ICE	None		2	24
3	WIND LOAD (NO ICE) FRONT	None		2	24
4	WIND LOAD (NO ICE) SIDE	None		2	24
5	WIND LOAD (ICE) FRONT	None		2	24
6	WIND LOAD (ICE) SIDE	None		2	24
7	LIVE LOAD1	None		1	
8	LIVE LOAD2	None		1	
9	LIVE LOAD3	None			
10	MAINTENANCE LOAD 1	None		1	
11	MAINTENANCE LOAD 2	None		1	
12	MAINTENANCE LOAD 3	None		1	
13	MAINTENANCE LOAD 4	None		1	

Node Loads and Enforced Displacements (BLC 1 : DEAD LOAD)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	Z	-172
2	N58	L	Z	-172

Node Loads and Enforced Displacements (BLC 2 : DEAD LOAD ICE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	Z	-323
2	N58	L	Z	-323

Node Loads and Enforced Displacements (BLC 3 : WIND LOAD (NO ICE) FRONT)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	Y	232
2	N58	L	Y	232

Node Loads and Enforced Displacements (BLC 4 : WIND LOAD (NO ICE) SIDE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	X	139
2	N58	L	X	139

Node Loads and Enforced Displacements (BLC 5 : WIND LOAD (ICE) FRONT)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	Y	75
2	N58	L	Y	75

Node Loads and Enforced Displacements (BLC 6 : WIND LOAD (ICE) SIDE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	X	51
2	N58	L	X	51

Node Loads and Enforced Displacements (BLC 7 : LIVE LOAD1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N3	L	Z	-250

Node Loads and Enforced Displacements (BLC 8 : LIVE LOAD2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N4	L	Z	-250

Node Loads and Enforced Displacements (BLC 10 : MAINTENANCE LOAD 1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N22	L	Z	-500

Node Loads and Enforced Displacements (BLC 11 : MAINTENANCE LOAD 2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N24	L	Z	-500

Node Loads and Enforced Displacements (BLC 12 : MAINTENANCE LOAD 3)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N26	L	Z	-500

Node Loads and Enforced Displacements (BLC 13 : MAINTENANCE LOAD 4)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N28	L	Z	-500

Member Point Loads

No Data to Print...

Member Distributed Loads (BLC 2 : DEAD LOAD ICE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	Z	-10	-10	0	%100
2	M17	Z	-10	-10	0	%100
3	M24	Z	-9	-9	0	%100
4	M22	Z	-9	-9	0	%100
5	M21	Z	-9	-9	0	%100
6	M20	Z	-9	-9	0	%100
7	M19	Z	-9	-9	0	%100
8	M16	Z	-9	-9	0	%100
9	M15	Z	-9	-9	0	%100

Member Distributed Loads (BLC 2 : DEAD LOAD ICE) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
10	M14	Z	-9	-9	0	%100
11	M13	Z	-9	-9	0	%100
12	M42A	Z	-9	-9	0	%100
13	M36	Z	-5	-5	0	%100
14	M35	Z	-5	-5	0	%100
15	M34	Z	-5	-5	0	%100
16	M33	Z	-5	-5	0	%100
17	M40	Z	-6	-6	0	%100
18	M39	Z	-6	-6	0	%100
19	M38	Z	-6	-6	0	%100
20	M37	Z	-6	-6	0	%100
21	M28	Z	-14	-14	0	%100
22	M27	Z	-14	-14	0	%100
23	M26	Z	-14	-14	0	%100
24	M25	Z	-14	-14	0	%100

Member Distributed Loads (BLC 3 : WIND LOAD (NO ICE) FRONT)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	PY	7	7	0	%100
2	M17	PY	7	7	0	%100
3	M24	PY	5	5	0	%100
4	M22	PY	5	5	0	%100
5	M21	PY	5	5	0	%100
6	M20	PY	5	5	0	%100
7	M19	PY	5	5	0	%100
8	M16	PY	5	5	0	%100
9	M15	PY	5	5	0	%100
10	M14	PY	5	5	0	%100
11	M13	PY	5	5	0	%100
12	M42A	PY	5	5	0	%100
13	M36	PY	1	1	0	%100
14	M35	PY	1	1	0	%100
15	M34	PY	1	1	0	%100
16	M33	PY	1	1	0	%100
17	M40	PY	2	2	0	%100
18	M39	PY	2	2	0	%100
19	M38	PY	2	2	0	%100
20	M37	PY	2	2	0	%100
21	M28	PY	2	2	0	%100
22	M27	PY	2	2	0	%100
23	M26	PY	2	2	0	%100
24	M25	PY	2	2	0	%100

Member Distributed Loads (BLC 4 : WIND LOAD (NO ICE) SIDE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	PX	7	7	0	%100
2	M17	PX	7	7	0	%100
3	M24	PX	5	5	0	%100
4	M22	PX	5	5	0	%100
5	M21	PX	5	5	0	%100
6	M20	PX	5	5	0	%100
7	M19	PX	5	5	0	%100
8	M16	PX	5	5	0	%100
9	M15	PX	5	5	0	%100
10	M14	PX	5	5	0	%100
11	M13	PX	5	5	0	%100

Member Distributed Loads (BLC 4 : WIND LOAD (NO ICE) SIDE) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
12	M42A	PX	5	5	0	%100
13	M36	PX	1	1	0	%100
14	M35	PX	1	1	0	%100
15	M34	PX	1	1	0	%100
16	M33	PX	1	1	0	%100
17	M40	PX	2	2	0	%100
18	M39	PX	2	2	0	%100
19	M38	PX	2	2	0	%100
20	M37	PX	2	2	0	%100
21	M28	PX	2	2	0	%100
22	M27	PX	2	2	0	%100
23	M26	PX	2	2	0	%100
24	M25	PX	2	2	0	%100

Member Distributed Loads (BLC 5 : WIND LOAD (ICE) FRONT)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	PY	5.6	5.6	0	%100
2	M17	PY	5.6	5.6	0	%100
3	M24	PY	5.2	5.2	0	%100
4	M22	PY	5.2	5.2	0	%100
5	M21	PY	5.2	5.2	0	%100
6	M20	PY	5.2	5.2	0	%100
7	M19	PY	5.2	5.2	0	%100
8	M16	PY	5.2	5.2	0	%100
9	M15	PY	5.2	5.2	0	%100
10	M14	PY	5.2	5.2	0	%100
11	M13	PY	5.2	5.2	0	%100
12	M42A	PY	5.2	5.2	0	%100
13	M36	PY	3.7	3.7	0	%100
14	M35	PY	3.7	3.7	0	%100
15	M34	PY	3.7	3.7	0	%100
16	M33	PY	3.7	3.7	0	%100
17	M40	PY	3.8	3.8	0	%100
18	M39	PY	3.8	3.8	0	%100
19	M38	PY	3.8	3.8	0	%100
20	M37	PY	3.8	3.8	0	%100
21	M28	PY	4	4	0	%100
22	M27	PY	4	4	0	%100
23	M26	PY	4	4	0	%100
24	M25	PY	4	4	0	%100

Member Distributed Loads (BLC 6 : WIND LOAD (ICE) SIDE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	PX	5.6	5.6	0	%100
2	M17	PX	5.6	5.6	0	%100
3	M24	PX	5.2	5.2	0	%100
4	M22	PX	5.2	5.2	0	%100
5	M21	PX	5.2	5.2	0	%100
6	M20	PX	5.2	5.2	0	%100
7	M19	PX	5.2	5.2	0	%100
8	M16	PX	5.2	5.2	0	%100
9	M15	PX	5.2	5.2	0	%100
10	M14	PX	5.2	5.2	0	%100
11	M13	PX	5.2	5.2	0	%100
12	M42A	PX	5.2	5.2	0	%100
13	M36	PX	3.7	3.7	0	%100

Member Distributed Loads (BLC 6 : WIND LOAD (ICE) SIDE) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
14	M35	PX	3.7	3.7	0	%100
15	M34	PX	3.7	3.7	0	%100
16	M33	PX	3.7	3.7	0	%100
17	M40	PX	3.8	3.8	0	%100
18	M39	PX	3.8	3.8	0	%100
19	M38	PX	3.8	3.8	0	%100
20	M37	PX	3.8	3.8	0	%100
21	M28	PX	4	4	0	%100
22	M27	PX	4	4	0	%100
23	M26	PX	4	4	0	%100
24	M25	PX	4	4	0	%100

Member Area Loads

No Data to Print...

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL + WL (NO ICE) 0 Degree	Yes	Y	1	1.2			3	1.6		
2	DL + WL (NO ICE) 30 Degree	Yes	Y	1	1.2			3	1.386	4	0.8
3	DL + WL (NO ICE) 60 Degree	Yes	Y	1	1.2			3	0.8	4	1.386
4	DL + WL (NO ICE) 90 Degree	Yes	Y	1	1.2					4	1.6
5	DL + WL (NO ICE) 120 Degree	Yes	Y	1	1.2			3	-0.8	4	1.386
6	DL + WL (NO ICE) 150 Degree	Yes	Y	1	1.2			3	-1.386	4	0.8
7	DL + WL (NO ICE) 180 Degree	Yes	Y	1	1.2			3	-1.6		
8	DL + WL (NO ICE) 210 Degree	Yes	Y	1	1.2			3	-1.386	4	-0.8
9	DL + WL (NO ICE) 240 Degree	Yes	Y	1	1.2			3	-0.8	4	-1.386
10	DL + WL (NO ICE) 270 Degree	Yes	Y	1	1.2					4	-1.6
11	DL + WL (NO ICE) 300 Degree	Yes	Y	1	1.2			3	0.8	4	-1.386
12	DL + WL (NO ICE) 330 Degree	Yes	Y	1	1.2			3	1.386	4	-0.8
13	DL + DL ICE + WL (ICE) 0 Degree	Yes	Y	1	1.2	2	1	5	1		
14	DL + DL ICE + WL (ICE) 30 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	0.5
15	DL + DL ICE + WL (ICE) 60 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	0.866
16	DL + DL ICE + WL (ICE) 90 Degree	Yes	Y	1	1.2	2	1			6	1
17	DL + DL ICE + WL (ICE) 120 Degree	Yes	Y	1	1.2	2	1	5	-0.5	6	0.866
18	DL + DL ICE + WL (ICE) 150 Degree	Yes	Y	1	1.2	2	1	5	-0.866	6	0.5
19	DL + DL ICE + WL (ICE) 180 Degree	Yes	Y	1	1.2	2	1	5	-1		
20	DL + DL ICE + WL (ICE) 210 Degree	Yes	Y	1	1.2	2	1	5	-0.866	6	-0.5
21	DL + DL ICE + WL (ICE) 240 Degree	Yes	Y	1	1.2	2	1	5	-0.5	6	-0.866
22	DL + DL ICE + WL (ICE) 270 Degree	Yes	Y	1	1.2	2	1			6	-1
23	DL + DL ICE + WL (ICE) 300 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	-0.866
24	DL + DL ICE + WL (ICE) 330 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	-0.5
25	DEAD LOAD + LIVE LOAD1	Yes	Y	1	1.2					7	1.5
26	DEAD LOAD + LIVE LOAD2	Yes	Y	1	1.2					8	1.5
27	DEAD LOAD + LIVE LOAD3	Yes	Y	1	1.2					9	1.5
28	DL + MAIN L1+30MPH WL FRONT	Yes	Y	1	1.2	10	1.5	3	0.104		
29	DL + MAIN L2+30MPH WL FRONT	Yes	Y	1	1.2	11	1.5	3	0.104		
30	DL + MAIN L3+30MPH WL FRONT	Yes	Y	1	1.2	12	1.5	3	0.104		
31	DL + MAIN L4+30MPH WL FRONT	Yes	Y	1	1.2	13	1.5	3	0.104		
32	DL + MAIN L1+30MPH WL SIDE	Yes	Y	1	1.2	10	1.5	4	0.104		
33	DL + MAIN L2+30MPH WL SIDE	Yes	Y	1	1.2	11	1.5	4	0.104		
34	DL + MAIN L3+30MPH WL SIDE	Yes	Y	1	1.2	12	1.5	4	0.104		
35	DL + MAIN L4+30MPH WL SIDE	Yes	Y	1	1.2	13	1.5	4	0.104		
36	DL + MAIN L1+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	10	1.5	3	-0.104		
37	DL + MAIN L2+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	11	1.5	3	-0.104		
38	DL + MAIN L3+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	12	1.5	3	-0.104		
39	DL + MAIN L4+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	13	1.5	3	-0.104		
40	DL + MAIN L1+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	10	1.5	4	-0.104		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
41	DL + MAIN L2+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	11	1.5	4	-0.104		
42	DL + MAIN L3+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	12	1.5	4	-0.104		
43	DL + MAIN L4+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	13	1.5	4	-0.104		

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N51	max	981.484	40	-206.75	9	1919.78	14	0	43	0	43	0	43
2		min	-1449.63	35	-1812.464	17	640.821	10	0	1	0	1	0	1
3	N52	max	1616.791	43	1791.325	19	462.085	20	0	43	0	43	0	43
4		min	-1129.079	32	-152.522	1	112.607	4	0	1	0	1	0	1
5	N64	max	101.002	28	349.516	43	49.677	14	0	43	0	43	0	43
6		min	-114.463	39	-307.917	32	15.699	8	0	1	0	1	0	1
7	N61A	max	174.822	11	699.231	6	34.782	23	0	43	0	43	0	43
8		min	-186.622	5	-648.983	12	10.346	39	0	1	0	1	0	1
9	Totals:	max	928.434	10	1432.746	7	2436.415	13						
10		min	-928.433	4	-1432.751	1	864.244	6						

Envelope Node Displacements

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0.03	35	0.065	14	0.117	31	2.219e-3	6	1.829e-3	31	1.383e-3	8
2		min	-0.022	40	-0.047	8	-0.387	36	-2.199e-3	12	-5.496e-3	36	-1.746e-3	2
3	N2	max	0.03	35	0.058	31	0.071	32	2.047e-3	8	5.804e-3	43	1.709e-3	1
4		min	-0.021	40	-0.049	36	-0.433	43	-2.671e-3	2	-1.522e-3	32	-1.646e-3	7
5	N3	max	0.056	32	0.092	4	0.117	43	1.418e-3	25	1.826e-3	43	1.489e-3	8
6		min	-0.056	43	-0.073	10	-0.387	32	-1.301e-3	9	-5.523e-3	32	-1.76e-3	2
7	N4	max	0.055	32	0.12	12	0.071	36	4.139e-3	12	5.8e-3	31	1.7e-3	1
8		min	-0.057	43	-0.139	6	-0.434	31	-4.865e-3	6	-1.487e-3	36	-1.794e-3	6
9	N5	max	0.031	35	0.06	14	0.108	31	2.219e-3	6	1.829e-3	31	1.383e-3	8
10		min	-0.023	40	-0.042	8	-0.369	36	-2.199e-3	12	-5.496e-3	36	-1.746e-3	2
11	N6	max	0.03	35	0.06	14	0.111	31	2.219e-3	6	1.829e-3	31	1.383e-3	8
12		min	-0.022	40	-0.042	8	-0.371	36	-2.199e-3	12	-5.496e-3	36	-1.746e-3	2
13	N7	max	0.056	32	0.089	4	0.108	31	1.418e-3	25	1.826e-3	43	1.489e-3	8
14		min	-0.056	43	-0.071	10	-0.37	36	-1.301e-3	9	-5.523e-3	32	-1.76e-3	2
15	N8	max	0.056	32	0.089	4	0.111	43	1.418e-3	25	1.826e-3	43	1.489e-3	8
16		min	-0.056	43	-0.071	10	-0.371	32	-1.301e-3	9	-5.523e-3	32	-1.76e-3	2
17	N9	max	0.032	35	0.002	6	0.03	35	2.926e-3	7	1.841e-3	43	5.484e-4	40
18		min	-0.023	40	-0.002	13	-0.058	40	-2.934e-3	1	-3.216e-3	32	-6.597e-4	35
19	N10	max	0.03	35	0.002	6	0.032	31	2.926e-3	7	1.841e-3	43	5.484e-4	40
20		min	-0.022	40	-0.002	13	-0.06	36	-2.934e-3	1	-3.216e-3	32	-6.597e-4	35
21	N11	max	0.058	32	0.047	5	0.03	35	2.085e-3	2	1.864e-3	31	1.182e-3	11
22		min	-0.058	43	-0.041	11	-0.058	40	-2.244e-3	8	-3.178e-3	36	-1.501e-3	5
23	N12	max	0.056	32	0.047	5	0.032	39	2.085e-3	2	1.864e-3	31	1.182e-3	11
24		min	-0.056	43	-0.041	11	-0.059	28	-2.244e-3	8	-3.178e-3	36	-1.501e-3	5
25	N13	max	0.028	35	0.004	28	0.006	40	5.515e-3	7	3.837e-3	35	6.655e-4	39
26		min	-0.019	40	-0.003	39	-0.085	35	-6.123e-3	1	-1.238e-3	40	-6.586e-4	28
27	N14	max	0.03	35	0.004	28	0.009	28	5.515e-3	7	3.837e-3	35	6.655e-4	39
28		min	-0.021	40	-0.003	39	-0.086	39	-6.123e-3	1	-1.238e-3	40	-6.586e-4	28
29	N15	max	0.059	32	0.04	11	0.006	40	6.491e-3	1	3.805e-3	43	1.535e-3	11
30		min	-0.06	43	-0.049	5	-0.085	35	-7.281e-3	7	-1.281e-3	32	-1.73e-3	5
31	N16	max	0.055	32	0.04	11	0.009	36	6.491e-3	1	3.805e-3	43	1.535e-3	11
32		min	-0.057	43	-0.049	5	-0.086	31	-7.281e-3	7	-1.281e-3	32	-1.73e-3	5
33	N17	max	0.027	35	0.055	31	0.063	36	2.047e-3	8	5.804e-3	43	1.709e-3	1
34		min	-0.018	40	-0.045	36	-0.417	43	-2.671e-3	2	-1.522e-3	32	-1.646e-3	7
35	N18	max	0.03	35	0.055	31	0.066	32	2.047e-3	8	5.804e-3	43	1.709e-3	1
36		min	-0.021	40	-0.045	36	-0.416	43	-2.671e-3	2	-1.522e-3	32	-1.646e-3	7
37	N19	max	0.058	32	0.115	12	0.063	36	4.139e-3	12	5.8e-3	31	1.7e-3	12

Envelope Node Displacements (Continued)

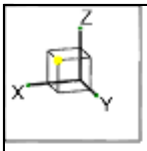
	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
38		min	-0.06	43	-0.133	6	-0.417	43	-4.865e-3	6	-1.487e-3	36	-1.794e-3	6
39	N20	max	0.055	32	0.115	12	0.067	36	4.139e-3	12	5.8e-3	31	1.7e-3	12
40		min	-0.057	43	-0.133	6	-0.417	31	-4.865e-3	6	-1.487e-3	36	-1.794e-3	6
41	N21	max	0.081	31	0.108	1	0.108	31	2.364e-3	6	1.829e-3	31	1.383e-3	8
42		min	-0.176	36	-0.091	7	-0.369	36	-2.345e-3	12	-5.496e-3	36	-1.746e-3	2
43	N22	max	0.209	32	0.12	4	0.108	31	1.418e-3	25	1.837e-3	43	1.489e-3	8
44		min	-0.107	43	-0.104	10	-0.37	36	-1.385e-3	9	-5.423e-3	32	-1.76e-3	2
45	N23	max	0.082	35	0.084	1	0.03	35	3.094e-3	7	1.831e-3	43	5.484e-4	40
46		min	-0.112	40	-0.084	7	-0.058	40	-3.102e-3	1	-3.206e-3	32	-6.597e-4	35
47	N24	max	0.146	32	0.065	3	0.03	35	2.23e-3	2	1.864e-3	31	1.182e-3	11
48		min	-0.109	43	-0.064	9	-0.058	40	-2.389e-3	8	-3.178e-3	36	-1.501e-3	5
49	N25	max	0.162	4	0.363	1	0.005	40	1.54e-2	7	7.097e-3	4	6.655e-4	39
50		min	-0.137	10	-0.346	7	-0.086	35	-1.601e-2	1	-6.499e-3	10	-6.586e-4	28
51	N26	max	0.189	4	0.392	1	0.005	40	1.624e-2	1	7.486e-3	10	1.535e-3	11
52		min	-0.205	10	-0.424	7	-0.086	35	-1.702e-2	7	-6.953e-3	4	-1.73e-3	5
53	N27	max	0.188	31	0.119	2	0.063	36	2.193e-3	8	5.794e-3	43	1.709e-3	1
54		min	-0.059	36	-0.095	8	-0.417	43	-2.816e-3	2	-1.511e-3	32	-1.646e-3	7
55	N28	max	0.1	32	0.234	12	0.063	36	4.284e-3	12	5.684e-3	31	1.7e-3	12
56		min	-0.221	43	-0.272	6	-0.418	43	-5.01e-3	6	-1.487e-3	36	-1.794e-3	6
57	N29	max	0.002	40	0.014	40	0.038	31	-6.569e-4	5	4.229e-3	43	1.647e-3	35
58		min	-0.003	35	-0.02	35	-0.029	36	-2.251e-3	23	-2.662e-3	32	-1.146e-3	40
59	N30	max	0.003	6	0.018	6	0.037	31	4.952e-5	28	3.908e-3	31	9.824e-4	12
60		min	-0.001	12	-0.008	12	-0.025	36	-1.045e-3	24	-2.441e-3	36	-1.869e-3	6
61	N31	max	0.016	35	0.001	6	0.052	35	-7.462e-4	2	2.086e-3	43	1.747e-3	40
62		min	-0.011	40	-0.002	13	-0.055	36	-3.313e-3	20	-2.047e-3	32	-2.338e-3	35
63	N32	max	0.037	5	0.049	5	0.052	35	-6.261e-4	7	1.788e-3	35	3.876e-3	43
64		min	-0.036	11	-0.04	11	-0.05	36	-3.243e-3	24	-2.277e-3	36	-3.41e-3	32
65	N33	max	0.002	40	0.02	35	0.025	36	-6.772e-4	26	4.018e-3	31	1.821e-3	35
66		min	-0.003	35	-0.014	40	-0.042	31	-2.012e-3	16	-2.902e-3	36	-1.247e-3	40
67	N34	max	0.003	6	0.008	12	0.025	36	1.573e-4	31	3.702e-3	43	1.124e-3	12
68		min	-0.002	12	-0.018	6	-0.037	43	-8.967e-4	17	-2.661e-3	32	-2.04e-3	6
69	N35	max	0.011	35	0.008	35	0.03	28	4.485e-4	1	2.566e-3	35	1.981e-3	40
70		min	-0.008	40	-0.005	40	-0.079	39	-3.604e-3	18	-1.633e-3	40	-2.827e-3	35
71	N36	max	0.04	5	0.042	11	0.031	40	-1.126e-4	7	2.824e-3	43	3.905e-3	43
72		min	-0.038	11	-0.054	5	-0.072	35	-3.765e-3	13	-1.309e-3	32	-3.382e-3	32
73	N37	max	0	35	0.012	40	0.034	31	-7.202e-4	5	4.554e-3	31	2.323e-3	35
74		min	0	40	-0.017	35	-0.023	36	-2.223e-3	23	-3.055e-3	36	-1.601e-3	40
75	N38	max	0	36	0.015	6	0.031	43	-1.388e-4	31	4.223e-3	43	8.861e-4	28
76		min	0	31	-0.007	28	-0.021	36	-9.835e-4	16	-2.81e-3	36	-1.982e-3	6
77	N39	max	0	28	0.007	28	0.021	36	-1.388e-4	31	4.223e-3	43	8.861e-4	28
78		min	0	39	-0.015	6	-0.031	43	-9.835e-4	16	-2.81e-3	36	-1.982e-3	6
79	N40	max	0	35	0.017	35	0.023	36	-7.202e-4	5	4.554e-3	31	2.323e-3	35
80		min	0	40	-0.012	40	-0.034	31	-2.223e-3	23	-3.055e-3	36	-1.601e-3	40
81	N41	max	0.03	35	0.004	35	0.041	31	2.812e-3	7	1.757e-3	43	5.55e-4	40
82		min	-0.022	40	-0.003	40	-0.08	36	-2.83e-3	1	-4.447e-3	32	-8.229e-4	35
83	N42	max	0.019	35	0.002	5	0.051	35	-7.585e-4	2	2.033e-3	43	1.771e-3	40
84		min	-0.014	40	-0.002	11	-0.06	36	-3.548e-3	20	-2.375e-3	32	-2.339e-3	35
85	N43	max	0.03	35	0.003	1	0.015	28	5.069e-3	7	4.974e-3	31	9.678e-4	35
86		min	-0.021	40	-0.002	7	-0.109	39	-5.69e-3	1	-1.237e-3	36	-8.418e-4	40
87	N44	max	0.015	35	0.003	31	0.029	28	4.585e-4	1	2.912e-3	35	2.163e-3	40
88		min	-0.011	40	-0.002	8	-0.085	39	-4.111e-3	18	-1.547e-3	40	-3.097e-3	35
89	N45	max	0.056	32	0.054	5	0.042	39	1.963e-3	2	1.769e-3	31	1.018e-3	10
90		min	-0.056	43	-0.047	11	-0.079	28	-2.12e-3	8	-4.422e-3	36	-1.323e-3	4
91	N46	max	0.04	5	0.053	5	0.051	35	-6.809e-4	7	1.756e-3	31	4.035e-3	43
92		min	-0.04	11	-0.045	11	-0.056	40	-3.507e-3	13	-2.595e-3	36	-3.571e-3	32
93	N47	max	0.055	32	0.048	11	0.016	36	6.198e-3	1	4.949e-3	43	1.449e-3	12
94		min	-0.057	43	-0.058	5	-0.108	31	-6.989e-3	7	-1.253e-3	32	-1.641e-3	6
95	N48	max	0.043	5	0.046	11	0.029	36	-6.38e-5	7	3.169e-3	43	4.104e-3	43

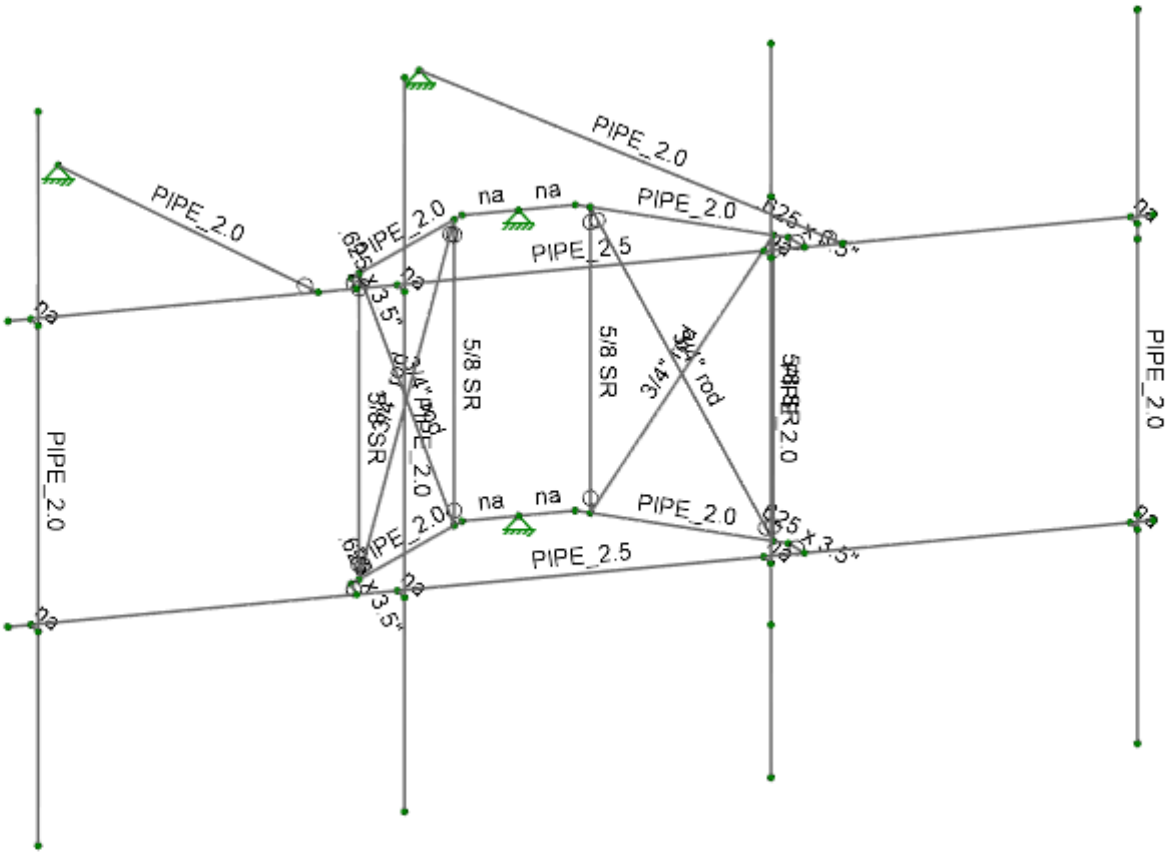
Envelope Node Displacements (Continued)

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
96		min	-0.042	11	-0.057	5	-0.08	31	-4.353e-3	13	-1.253e-3	32	-3.502e-3	32
97	N49	max	0.03	35	0.007	35	0.021	28	4.664e-3	7	6.199e-3	31	1.174e-3	35
98		min	-0.021	40	-0.005	40	-0.137	39	-5.286e-3	1	-1.172e-3	36	-9.406e-4	40
99	N51	max	0	35	0	17	0	10	-7.202e-4	5	4.554e-3	31	2.323e-3	35
100		min	0	40	0	9	0	14	-2.223e-3	23	-3.055e-3	36	-1.601e-3	40
101	N52	max	0	32	0	1	0	4	-1.388e-4	31	4.223e-3	43	8.861e-4	28
102		min	0	43	0	19	0	20	-9.835e-4	16	-2.81e-3	36	-1.982e-3	6
103	N77A	max	0.03	35	0.008	35	0.05	31	2.717e-3	7	1.667e-3	43	4.685e-4	8
104		min	-0.022	40	-0.006	40	-0.106	36	-2.731e-3	1	-5.703e-3	32	-9.484e-4	14
105	N64	max	0	39	0	32	0	8	-6.924e-5	36	1.681e-3	31	1.387e-3	10
106		min	0	28	0	43	0	14	-2.456e-3	23	-5.878e-3	36	-1.481e-3	4
107	N57	max	0.158	4	0.355	1	0.005	40	1.54e-2	7	7.097e-3	4	6.655e-4	39
108		min	-0.134	10	-0.338	7	-0.086	35	-1.601e-2	1	-6.499e-3	10	-6.586e-4	28
109	N58	max	0.186	4	0.384	1	0.005	40	1.624e-2	1	7.486e-3	10	1.535e-3	11
110		min	-0.202	10	-0.416	7	-0.086	35	-1.702e-2	7	-6.953e-3	4	-1.73e-3	5
111	N61A	max	0	5	0	12	0	39	2.969e-4	36	5.397e-3	31	5.875e-4	10
112		min	0	11	0	6	0	23	-3.782e-3	31	-1.512e-3	7	-7.195e-4	4

Envelope AISC 14TH (360-10): LRFD Member Steel Code Checks

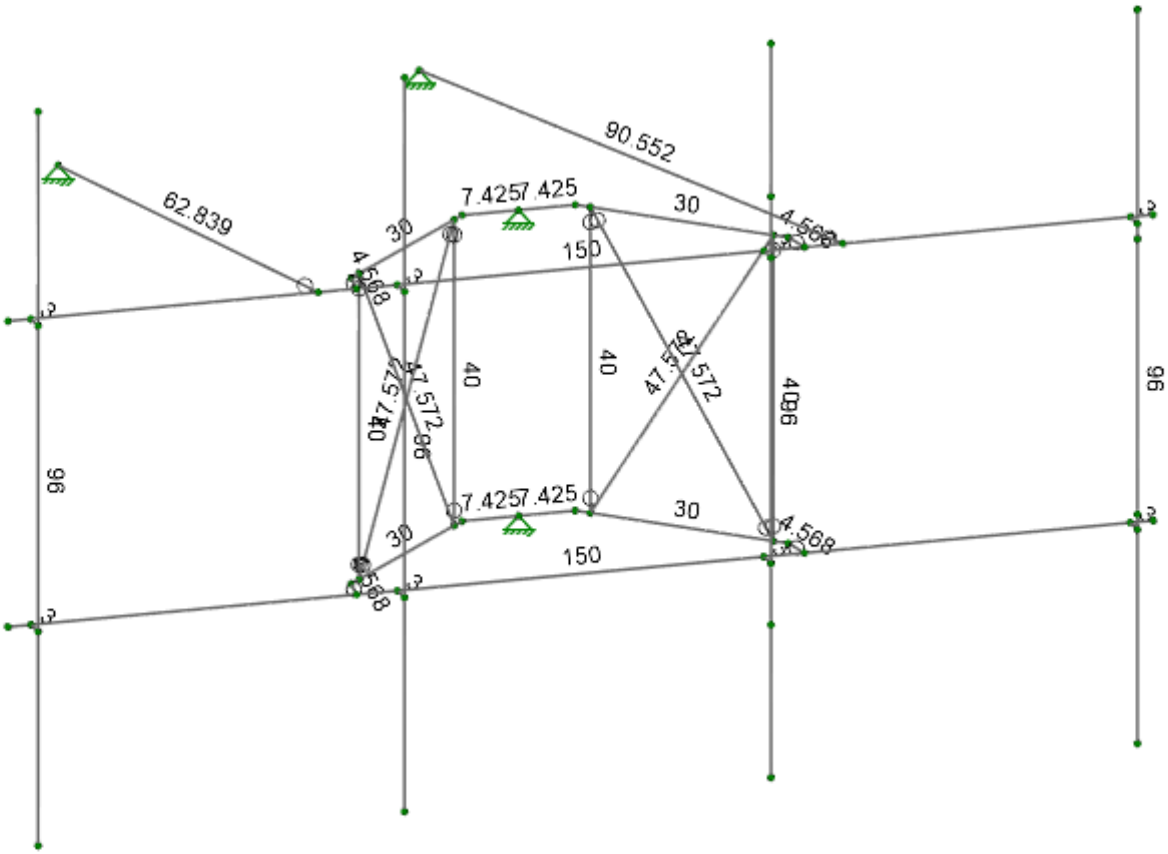
	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M18	PIPE_2.5	0.238	45.312	32	0.101	51.562		6	14558.792	50715	3.596	3.596	2.095	H1-1b
2	M17	PIPE_2.5	0.224	104.688	43	0.109	103.125		7	14558.792	50715	3.596	3.596	1.954	H1-1b
3	M15	PIPE_2.0	0.481	28	1	0.07	28		6	14916.096	32130	1.872	1.872	1.345	H1-1b
4	M42A	PIPE_2.0	0.06	45.276	21	0.005	90.552		22	16233.206	32130	1.872	1.872	1.136	H1-1b
5	M13	PIPE_2.0	0.359	68	28	0.046	28		40	14916.096	32130	1.872	1.872	3	H1-1b
6	M14	PIPE_2.0	0.145	68	6	0.036	68		32	14916.096	32130	1.872	1.872	2.4	H1-1b
7	M16	PIPE_2.0	0.366	68	39	0.043	28		35	14916.096	32130	1.872	1.872	3	H1-1b
8	M20	PIPE_2.0	0.305	2.188	43	0.161	28.125		24	29810.292	32130	1.872	1.872	1.419	H1-1b
9	M21	PIPE_2.0	0.256	0	35	0.111	0		37	29810.292	32130	1.872	1.872	1.742	H1-1b
10	M22	PIPE_2.0	0.251	1.875	43	0.1	28.125		29	29810.292	32130	1.872	1.872	1.503	H1-1b
11	M24	PIPE_2.0	0.033	31.419	17	0.004	62.839		16	23127.234	32130	1.872	1.872	1.136	H1-1b
12	M19	PIPE_2.0	0.311	1.875	35	0.178	0		19	29810.292	32130	1.872	1.872	1.252	H1-1b
13	M36	5/8 SR	0.321	25.417	36	0.027	40		31	2855.265	9946.8	0.097	0.097	1.136	H1-1a
14	M35	5/8 SR	0.229	25.417	32	0.013	40		35	2855.265	9946.8	0.097	0.097	1	H1-1a
15	M34	5/8 SR	0.423	20.833	19	0.03	40		31	2855.265	9946.8	0.097	0.097	1.136	H1-1a
16	M33	5/8 SR	0.292	20.833	23	0.014	40		35	2855.265	9946.8	0.097	0.097	1.136	H1-1a
17	M40	3/4" rod	0.012	0	31	0.005	47.572		31	1550.496	14313.866	0.179	0.179	2.415	H1-1b*
18	M39	3/4" rod	0.154	0	32	0.012	47.572		5	3164.278	14313.866	0.179	0.179	1.136	H1-1b*
19	M38	3/4" rod	0.188	0	43	0.014	47.572		11	3164.278	14313.866	0.179	0.179	1.136	H1-1b*
20	M37	3/4" rod	0	47.572	43	0	47.572		43	1550.496	14313.866	0.179	0.179	1	H1-1a
21	M26	.625 x 3.5"	0.237	0	36	0.184	0.666	y	36	68522.792	70875	0.923	5.168	1.667	H1-1b
22	M28	.625 x 3.5"	0.278	0	32	0.174	0	y	32	68522.792	70875	0.923	5.168	1.667	H1-1b
23	M27	.625 x 3.5"	0.344	0	31	0.172	0.666	y	31	68522.792	70875	0.923	5.168	1.667	H1-1b
24	M25	.625 x 3.5"	0.32	0	39	0.192	0.666	y	39	68522.792	70875	0.923	5.168	1.667	H1-1b





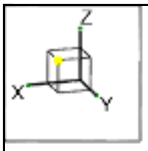
Envelope Only Solution

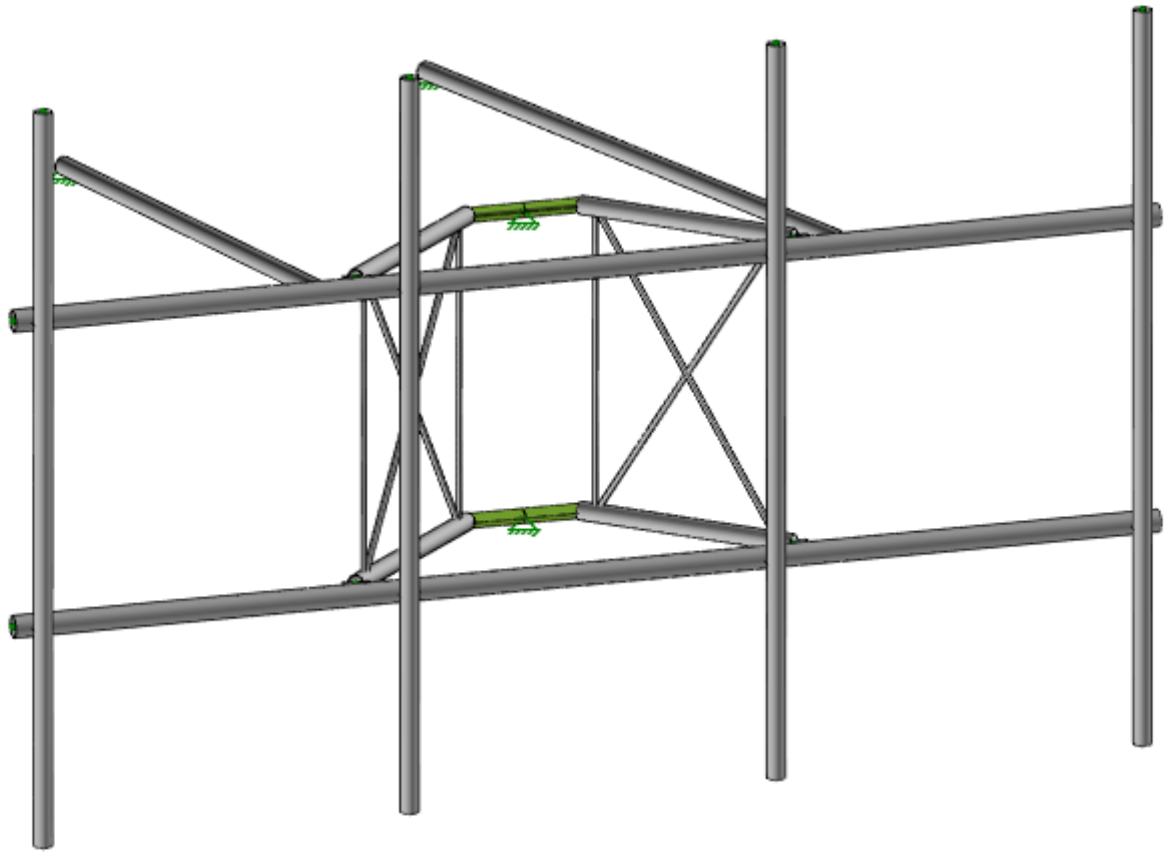
Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	SK-1
AJ		Aug 08, 2022
049.03646 - 2275029		CT11410A - VFA12-HD - 210'.r3d



Member Length (in) Displayed
Envelope Only Solution

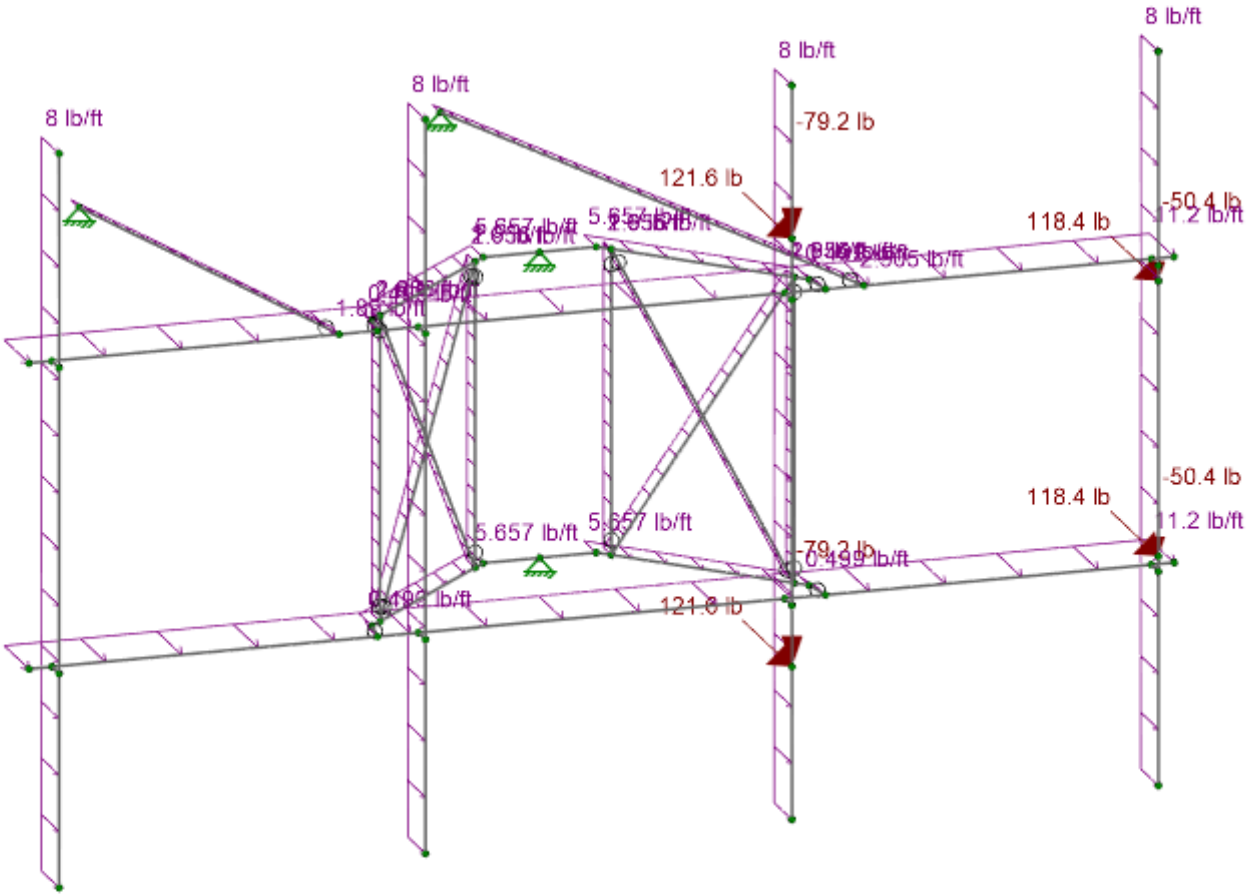
Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	SK-2
AJ		Aug 08, 2022
049.03646 - 2275029		CT11410A - VFA12-HD - 210'.r3d





Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	SK-3
AJ		Aug 08, 2022
049.03646 - 2275029		CT11410A - VFA12-HD - 210'.r3d



Loads: LC 1, DL + WL (NO ICE) 0 Degree
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	SK-4
AJ		Aug 08, 2022
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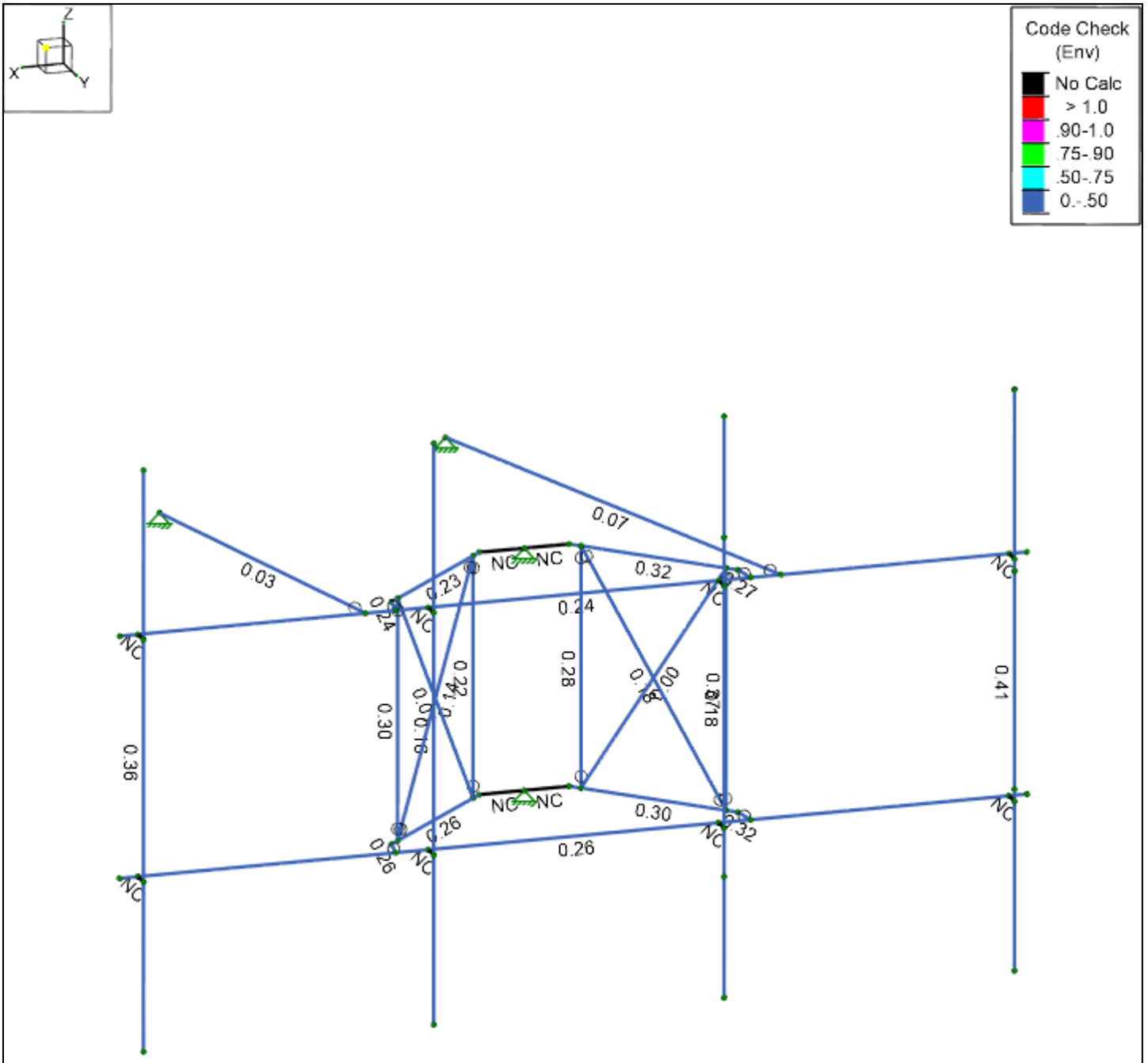
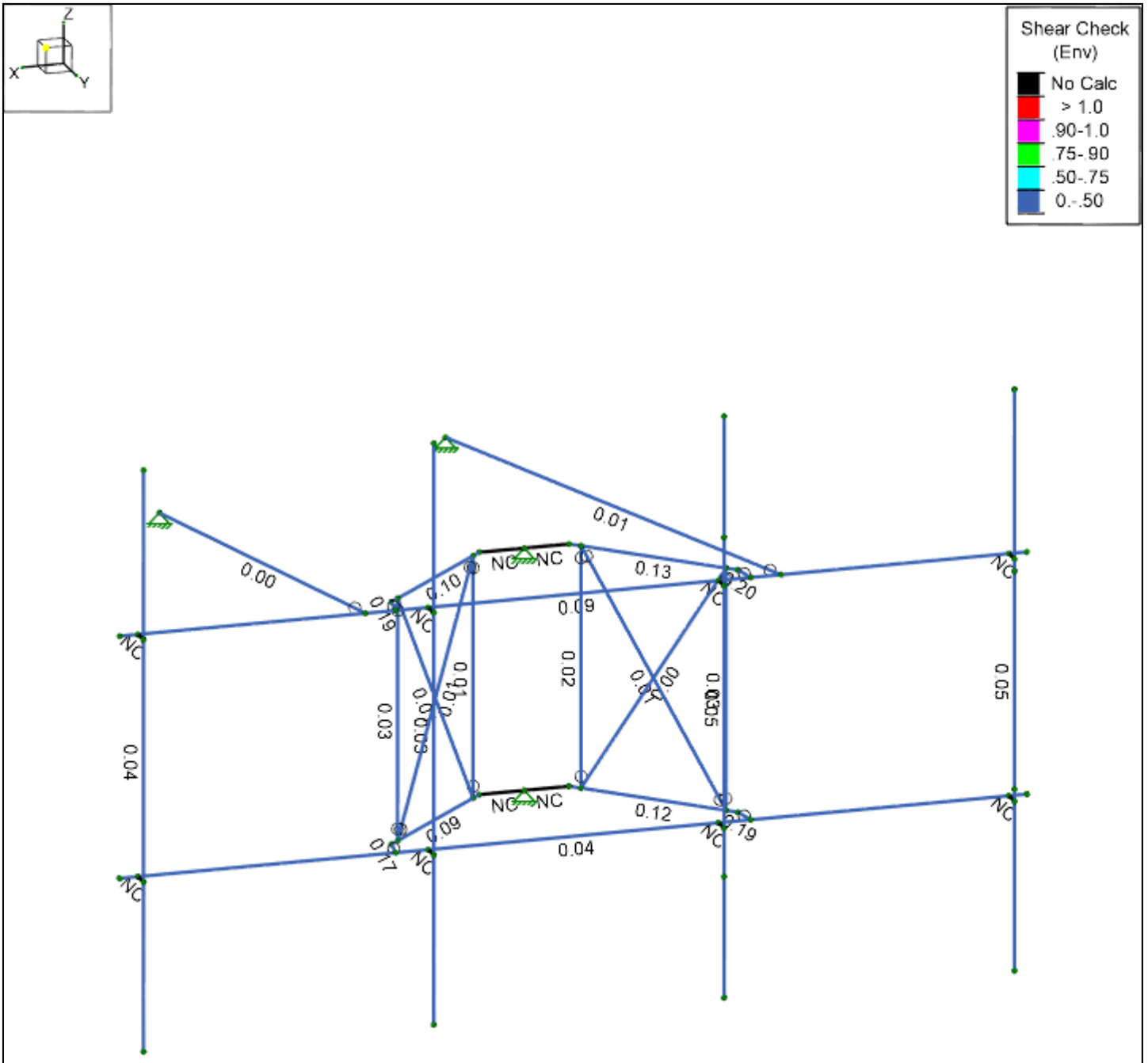


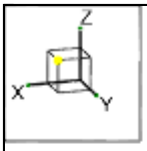
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

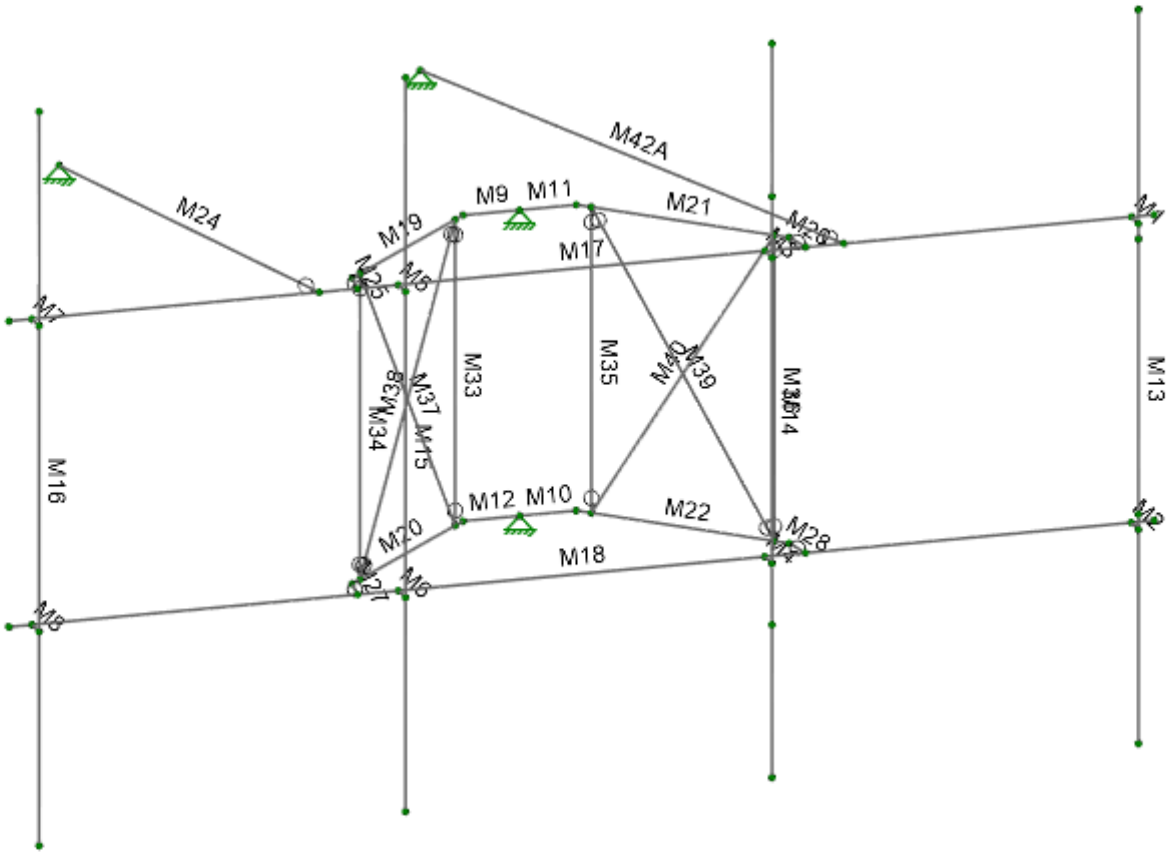
Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	SK-5
AJ		Aug 08, 2022
049.03646 - 2275029		CT11410A - VFA12-HD - 210'.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

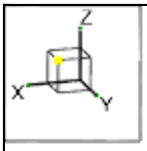
Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	SK-6
AJ		Aug 08, 2022
049.03646 - 2275029		CT11410A - VFA12-HD - 210'.r3d

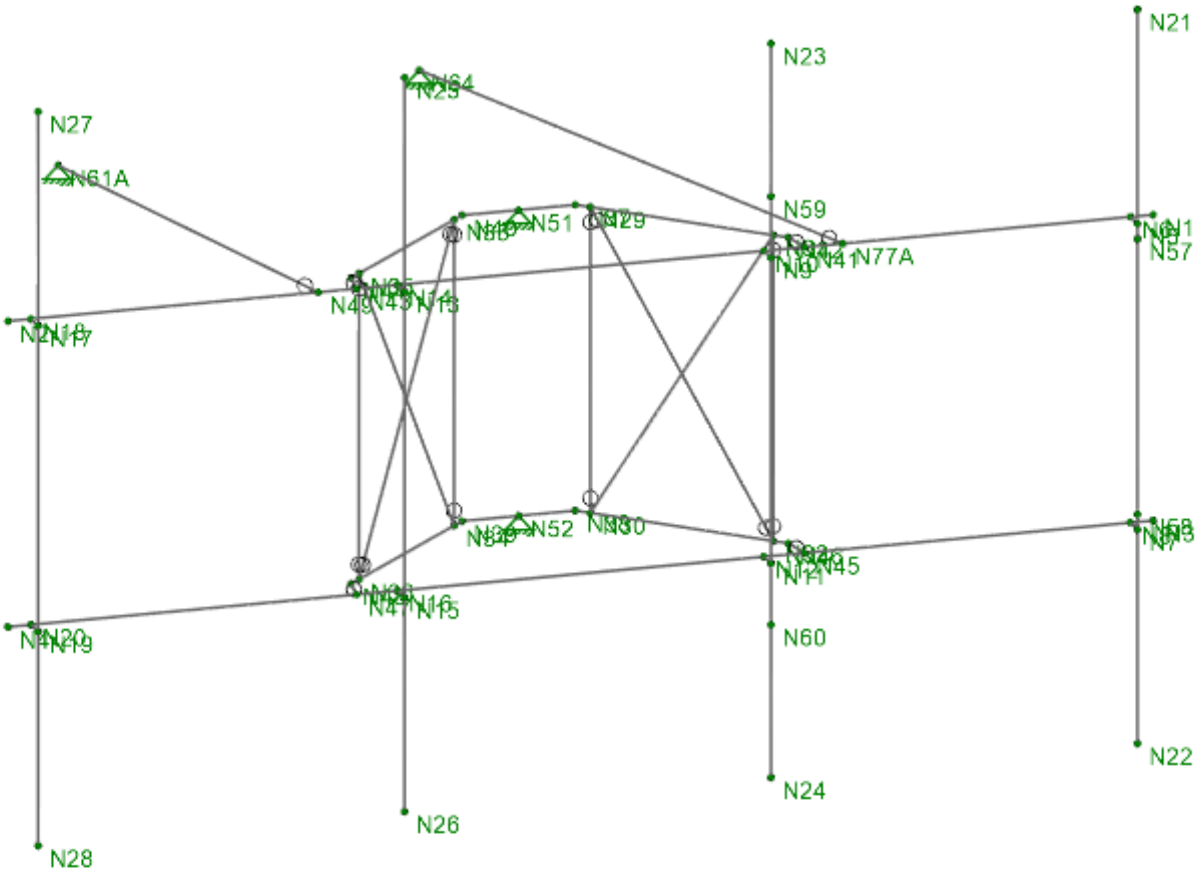




Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	SK-7
AJ		Aug 08, 2022
049.03646 - 2275029		CT11410A - VFA12-HD - 210'.r3d





Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	SK-8
AJ		Aug 08, 2022
049.03646 - 2275029		CT11410A - VFA12-HD - 210'.r3d

Model Settings

Solution

Members

Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in^2)	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes

Wall Panels

Approximate Mesh Size (in)	12
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	No
Maximum Number of Iterations	3

Processor Core Utilization

Single	No
Multiple (Optimum)	Yes
Maximum	No

Axis

Vertical Global Axis

Global Axis corresponding to vertical direction	Z
Convert Existing Data	Yes

Default Member Orientation

Default Global Plane for z-axis	XZ

Plate Axis

Plate Local Axis Orientation	Nodal

Codes

Hot Rolled Steel	AISC 14th (360-10): LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 14th (360-10): LRFD
Cold Formed Steel	AISI NAS-01: ASD
Stiffness Adjustment	Yes (Iterative)
Wood	AF&PA NDS-05/08: ASD
Temperature	< 100F
Concrete	ACI 318-05
Masonry	ACI 530-05: ASD
Aluminum	AA ADM1-05: ASD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): ASD
Stiffness Adjustment	Yes (Iterative)

Concrete

Column Design

Analysis Methodology	Exact Integration Method
Parme Beta Factor	0.65

Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	No

Model Settings (Continued)

List forces which were ignored for design in the Detail Report	Yes

Rebar

Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No

Shear Reinforcement

Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

Seismic

RISA-3D Seismic Load Options

Code	ASCE 7-05
Occupancy Cat	I or II
Drift Cat	Other
Base Elevation (ft)	
Include the weight of the structure in base shear calcs	Yes

Site Parameters

S_1 (g)	1
SD_1 (g)	1
SD_s (g)	1
T_L (sec)	-1

Structure Characteristics

T Z (sec)	
T X (sec)	
C_tX	0.035
C_tExp. Z	0.75
C_tExp. X	0.75
R Z	8.5
R X	8.5
Ω_0Z	1
Ω_0X	1
C_dZ	4
C_dX	4
ρ Z	1
ρ X	1

Project Grid Lines

No Data to Print...

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2
4	A500 Gr.42	29000	11154	0.3	0.65	0.49	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	0.3	0.65	0.49	46	1.2	58	1.1
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.5	60	1.2
7	A529 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2

Member Primary Data

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	M12	N52	N39	RIGID	None	None	LINK	Typical
2	M1	N5	N6	RIGID	None	None	LINK	Typical
3	M2	N7	N8	RIGID	None	None	LINK	Typical
4	M4	N11	N12	RIGID	None	None	LINK	Typical
5	M5	N13	N14	RIGID	None	None	LINK	Typical
6	M6	N15	N16	RIGID	None	None	LINK	Typical
7	M3	N9	N10	RIGID	None	None	LINK	Typical
8	M8	N19	N20	RIGID	None	None	LINK	Typical
9	M9	N40	N51	RIGID	None	None	LINK	Typical
10	M10	N38	N52	RIGID	None	None	LINK	Typical
11	M11	N51	N37	RIGID	None	None	LINK	Typical
12	M7	N17	N18	RIGID	None	None	LINK	Typical
13	M18	N3	N4	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
14	M17	N1	N2	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
15	M15	N25	N26	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
16	M42A	N77A	N64	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
17	M13	N21	N22	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
18	M14	N23	N24	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
19	M16	N27	N28	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
20	M20	N39	N48	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
21	M21	N37	N42	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
22	M22	N38	N46	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
23	M24	N49	N61A	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
24	M19	N40	N44	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
25	M36	N31	N32	5/8 SR	Beam	BAR	A36 Gr.36	Typical
26	M35	N29	N30	5/8 SR	Beam	BAR	A36 Gr.36	Typical
27	M34	N35	N36	5/8 SR	Beam	BAR	A36 Gr.36	Typical
28	M33	N33	N34	5/8 SR	Beam	BAR	A36 Gr.36	Typical
29	M40	N31	N30	3/4" rod	Beam	BAR	A36 Gr.36	Typical
30	M39	N29	N32	3/4" rod	Beam	BAR	A36 Gr.36	Typical
31	M38	N33	N36	3/4" rod	Beam	BAR	A36 Gr.36	Typical
32	M37	N35	N34	3/4" rod	Beam	BAR	A36 Gr.36	Typical
33	M26	N42	N41	.625 x 3.5"	Beam	RECT	A36 Gr.36	Typical
34	M28	N46	N45	.625 x 3.5"	Beam	RECT	A36 Gr.36	Typical
35	M27	N48	N47	.625 x 3.5"	Beam	RECT	A36 Gr.36	Typical
36	M25	N44	N43	.625 x 3.5"	Beam	RECT	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
1	M12				Yes	** NA **	None
2	M1				Yes	** NA **	None
3	M2				Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
4	M4				Yes	** NA **	None
5	M5				Yes	** NA **	None
6	M6				Yes	** NA **	None
7	M3				Yes	** NA **	None
8	M8				Yes	** NA **	None
9	M9				Yes	** NA **	None
10	M10				Yes	** NA **	None
11	M11				Yes	** NA **	None
12	M7				Yes	** NA **	None
13	M18				Yes		None
14	M17				Yes		None
15	M15				Yes		None
16	M42A	BenPIN			Yes		None
17	M13				Yes		None
18	M14				Yes		None
19	M16				Yes		None
20	M20				Yes		None
21	M21				Yes		None
22	M22				Yes		None
23	M24	BenPIN			Yes		None
24	M19				Yes		None
25	M36	BenPIN	BenPIN		Yes		None
26	M35	BenPIN	BenPIN		Yes	Default	None
27	M34	BenPIN	BenPIN		Yes		None
28	M33	BenPIN	BenPIN		Yes		None
29	M40			Tension Only	Yes		None
30	M39	BenPIN	BenPIN		Yes		None
31	M38	BenPIN	BenPIN		Yes		None
32	M37			Tension Only	Yes		None
33	M26		BenPIN		Yes		None
34	M28		BenPIN		Yes		None
35	M27		BenPIN		Yes		None
36	M25		BenPIN		Yes		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	K y-y	K z-z	Function
1	M18	PIPE_2.5	150					Lateral
2	M17	PIPE_2.5	150					Lateral
3	M15	PIPE_2.0	96					Lateral
4	M42A	PIPE_2.0	90.552					Lateral
5	M13	PIPE_2.0	96					Lateral
6	M14	PIPE_2.0	96					Lateral
7	M16	PIPE_2.0	96					Lateral
8	M20	PIPE_2.0	30					Lateral
9	M21	PIPE_2.0	30					Lateral
10	M22	PIPE_2.0	30					Lateral
11	M24	PIPE_2.0	62.839					Lateral
12	M19	PIPE_2.0	30					Lateral
13	M36	5/8 SR	40	33.62	33.62	0.7	0.7	Lateral
14	M35	5/8 SR	40	33.62	33.62	0.7	0.7	Lateral
15	M34	5/8 SR	40	33.62	33.62	0.7	0.7	Lateral
16	M33	5/8 SR	40	33.62	33.62	0.7	0.7	Lateral
17	M40	3/4" rod	47.572					Lateral
18	M39	3/4" rod	47.572			0.7	0.7	Lateral
19	M38	3/4" rod	47.572			0.7	0.7	Lateral
20	M37	3/4" rod	47.572					Lateral
21	M26	.625 x 3.5"	4.568					Lateral
22	M28	.625 x 3.5"	4.568					Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	K y-y	K z-z	Function
23	M27	.625 x 3.5"	4.568					Lateral
24	M25	.625 x 3.5"	4.568					Lateral

Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N1	-75	0	40	
2	N2	75	0	40	
3	N3	-75	0	0	
4	N4	75	0	0	
5	N5	-72	3	40	
6	N6	-72	0	40	
7	N7	-72	3	0	
8	N8	-72	0	0	
9	N9	-24	3	40	
10	N10	-24	0	40	
11	N11	-24	3	0	
12	N12	-24	0	0	
13	N13	24	3	40	
14	N14	24	0	40	
15	N15	24	3	0	
16	N16	24	0	0	
17	N17	72	3	40	
18	N18	72	0	40	
19	N19	72	3	0	
20	N20	72	0	0	
21	N21	-72	3	68	
22	N22	-72	3	-28	
23	N23	-24	3	68	
24	N24	-24	3	-28	
25	N25	24	3	68	
26	N26	24	3	-28	
27	N27	72	3	68	
28	N28	72	3	-28	
29	N29	-8.927223	-24.223102	40	
30	N30	-8.927223	-24.223102	0	
31	N31	-27.135223	-6.015102	40	
32	N32	-27.135223	-6.015102	0	
33	N33	8.927223	-24.223102	40	
34	N34	8.927223	-24.223102	0	
35	N35	27.135223	-6.015102	40	
36	N36	27.135223	-6.015102	0	
37	N37	-7.424621	-25.725704	40	
38	N38	-7.424621	-25.725704	0	
39	N39	7.424621	-25.725704	0	
40	N40	7.424621	-25.725704	40	
41	N41	-29.35	0	40	
42	N42	-28.637825	-4.5125	40	
43	N43	29.35	0	40	
44	N44	28.637825	-4.5125	40	
45	N45	-29.35	0	-0.	
46	N46	-28.637825	-4.5125	0	
47	N47	29.35	0	0.	
48	N48	28.637825	-4.5125	0	
49	N49	34.35	0	39.999996	
50	N51	0	-25.725704	40	
51	N52	0	-25.725704	0	
52	N77A	-34.35	0	39.999996	
53	N64	-6	-86	39.999998	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
54	N57	-72	3	38	
55	N58	-72	3	2	
56	N59	-24	3	48	
57	N60	-24	3	-8	
58	N61A	49.199072	-61.059004	40	

Node Boundary Conditions

	Y [k/in]	X [k/in]	Z [k/in]	Node Label
1	Reaction	Reaction	Reaction	N51
2	Reaction	Reaction	Reaction	N52
3	Reaction	Reaction	Reaction	N64
4	Reaction	Reaction	Reaction	N61A

Basic Load Cases

	BLC Description	Category	Z Gravity	Nodal	Distributed
1	DEAD LOAD	None	-1	4	
2	DEAD LOAD ICE	None		4	24
3	WIND LOAD (NO ICE) FRONT	None		4	24
4	WIND LOAD (NO ICE) SIDE	None		4	24
5	WIND LOAD (ICE) FRONT	None		4	24
6	WIND LOAD (ICE) SIDE	None		4	24
7	LIVE LOAD1	None		1	
8	LIVE LOAD2	None		1	
9	LIVE LOAD3	None			
10	MAINTENANCE LOAD 1	None		1	
11	MAINTENANCE LOAD 2	None		1	
12	MAINTENANCE LOAD 3	None		1	
13	MAINTENANCE LOAD 4	None		1	

Node Loads and Enforced Displacements (BLC 1 : DEAD LOAD)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	Z	-42
2	N58	L	Z	-42
3	N60	L	Z	-66
4	N59	L	Z	-66

Node Loads and Enforced Displacements (BLC 2 : DEAD LOAD ICE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	Z	-90
2	N58	L	Z	-90
3	N60	L	Z	-96
4	N59	L	Z	-96

Node Loads and Enforced Displacements (BLC 3 : WIND LOAD (NO ICE) FRONT)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	Y	74
2	N58	L	Y	74
3	N60	L	Y	76
4	N59	L	Y	76

Node Loads and Enforced Displacements (BLC 4 : WIND LOAD (NO ICE) SIDE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	X	34
2	N58	L	X	34
3	N60	L	X	55
4	N59	L	X	55

Node Loads and Enforced Displacements (BLC 5 : WIND LOAD (ICE) FRONT)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	Y	25
2	N58	L	Y	25
3	N60	L	Y	27
4	N59	L	Y	27

Node Loads and Enforced Displacements (BLC 6 : WIND LOAD (ICE) SIDE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N57	L	X	13
2	N58	L	X	13
3	N60	L	X	20
4	N59	L	X	20

Node Loads and Enforced Displacements (BLC 7 : LIVE LOAD1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N3	L	Z	-250

Node Loads and Enforced Displacements (BLC 8 : LIVE LOAD2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N4	L	Z	-250

Node Loads and Enforced Displacements (BLC 10 : MAINTENANCE LOAD 1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N22	L	Z	-500

Node Loads and Enforced Displacements (BLC 11 : MAINTENANCE LOAD 2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N24	L	Z	-500

Node Loads and Enforced Displacements (BLC 12 : MAINTENANCE LOAD 3)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N26	L	Z	-500

Node Loads and Enforced Displacements (BLC 13 : MAINTENANCE LOAD 4)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N28	L	Z	-500

Member Point Loads

No Data to Print...

Member Distributed Loads (BLC 2 : DEAD LOAD ICE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	Z	-10	-10	0	%100
2	M17	Z	-10	-10	0	%100
3	M24	Z	-9	-9	0	%100
4	M22	Z	-9	-9	0	%100
5	M21	Z	-9	-9	0	%100
6	M20	Z	-9	-9	0	%100
7	M19	Z	-9	-9	0	%100
8	M16	Z	-9	-9	0	%100
9	M15	Z	-9	-9	0	%100
10	M14	Z	-9	-9	0	%100
11	M13	Z	-9	-9	0	%100
12	M42A	Z	-9	-9	0	%100
13	M36	Z	-5	-5	0	%100
14	M35	Z	-5	-5	0	%100
15	M34	Z	-5	-5	0	%100
16	M33	Z	-5	-5	0	%100
17	M40	Z	-6	-6	0	%100
18	M39	Z	-6	-6	0	%100
19	M38	Z	-6	-6	0	%100
20	M37	Z	-6	-6	0	%100
21	M28	Z	-14	-14	0	%100
22	M27	Z	-14	-14	0	%100
23	M26	Z	-14	-14	0	%100
24	M25	Z	-14	-14	0	%100

Member Distributed Loads (BLC 3 : WIND LOAD (NO ICE) FRONT)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	PY	7	7	0	%100
2	M17	PY	7	7	0	%100
3	M24	PY	5	5	0	%100
4	M22	PY	5	5	0	%100
5	M21	PY	5	5	0	%100
6	M20	PY	5	5	0	%100
7	M19	PY	5	5	0	%100
8	M16	PY	5	5	0	%100
9	M15	PY	5	5	0	%100
10	M14	PY	5	5	0	%100
11	M13	PY	5	5	0	%100
12	M42A	PY	5	5	0	%100
13	M36	PY	1	1	0	%100
14	M35	PY	1	1	0	%100
15	M34	PY	1	1	0	%100
16	M33	PY	1	1	0	%100
17	M40	PY	2	2	0	%100
18	M39	PY	2	2	0	%100
19	M38	PY	2	2	0	%100
20	M37	PY	2	2	0	%100
21	M28	PY	2	2	0	%100
22	M27	PY	2	2	0	%100
23	M26	PY	2	2	0	%100
24	M25	PY	2	2	0	%100

Member Distributed Loads (BLC 4 : WIND LOAD (NO ICE) SIDE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	PX	7	7	0	%100
2	M17	PX	7	7	0	%100
3	M24	PX	5	5	0	%100
4	M22	PX	5	5	0	%100
5	M21	PX	5	5	0	%100
6	M20	PX	5	5	0	%100
7	M19	PX	5	5	0	%100
8	M16	PX	5	5	0	%100
9	M15	PX	5	5	0	%100
10	M14	PX	5	5	0	%100
11	M13	PX	5	5	0	%100
12	M42A	PX	5	5	0	%100
13	M36	PX	1	1	0	%100
14	M35	PX	1	1	0	%100
15	M34	PX	1	1	0	%100
16	M33	PX	1	1	0	%100
17	M40	PX	2	2	0	%100
18	M39	PX	2	2	0	%100
19	M38	PX	2	2	0	%100
20	M37	PX	2	2	0	%100
21	M28	PX	2	2	0	%100
22	M27	PX	2	2	0	%100
23	M26	PX	2	2	0	%100
24	M25	PX	2	2	0	%100

Member Distributed Loads (BLC 5 : WIND LOAD (ICE) FRONT)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	PY	5.6	5.6	0	%100
2	M17	PY	5.6	5.6	0	%100
3	M24	PY	5.2	5.2	0	%100
4	M22	PY	5.2	5.2	0	%100
5	M21	PY	5.2	5.2	0	%100
6	M20	PY	5.2	5.2	0	%100
7	M19	PY	5.2	5.2	0	%100
8	M16	PY	5.2	5.2	0	%100
9	M15	PY	5.2	5.2	0	%100
10	M14	PY	5.2	5.2	0	%100
11	M13	PY	5.2	5.2	0	%100
12	M42A	PY	5.2	5.2	0	%100
13	M36	PY	3.7	3.7	0	%100
14	M35	PY	3.7	3.7	0	%100
15	M34	PY	3.7	3.7	0	%100
16	M33	PY	3.7	3.7	0	%100
17	M40	PY	3.8	3.8	0	%100
18	M39	PY	3.8	3.8	0	%100
19	M38	PY	3.8	3.8	0	%100
20	M37	PY	3.8	3.8	0	%100
21	M28	PY	4	4	0	%100
22	M27	PY	4	4	0	%100
23	M26	PY	4	4	0	%100
24	M25	PY	4	4	0	%100

Member Distributed Loads (BLC 6 : WIND LOAD (ICE) SIDE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M18	PX	5.6	5.6	0	%100
2	M17	PX	5.6	5.6	0	%100
3	M24	PX	5.2	5.2	0	%100
4	M22	PX	5.2	5.2	0	%100
5	M21	PX	5.2	5.2	0	%100
6	M20	PX	5.2	5.2	0	%100
7	M19	PX	5.2	5.2	0	%100
8	M16	PX	5.2	5.2	0	%100
9	M15	PX	5.2	5.2	0	%100
10	M14	PX	5.2	5.2	0	%100
11	M13	PX	5.2	5.2	0	%100
12	M42A	PX	5.2	5.2	0	%100
13	M36	PX	3.7	3.7	0	%100
14	M35	PX	3.7	3.7	0	%100
15	M34	PX	3.7	3.7	0	%100
16	M33	PX	3.7	3.7	0	%100
17	M40	PX	3.8	3.8	0	%100
18	M39	PX	3.8	3.8	0	%100
19	M38	PX	3.8	3.8	0	%100
20	M37	PX	3.8	3.8	0	%100
21	M28	PX	4	4	0	%100
22	M27	PX	4	4	0	%100
23	M26	PX	4	4	0	%100
24	M25	PX	4	4	0	%100

Member Area Loads

No Data to Print...

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL + WL (NO ICE) 0 Degree	Yes	Y	1	1.2			3	1.6		
2	DL + WL (NO ICE) 30 Degree	Yes	Y	1	1.2			3	1.386	4	0.8
3	DL + WL (NO ICE) 60 Degree	Yes	Y	1	1.2			3	0.8	4	1.386
4	DL + WL (NO ICE) 90 Degree	Yes	Y	1	1.2					4	1.6
5	DL + WL (NO ICE) 120 Degree	Yes	Y	1	1.2			3	-0.8	4	1.386
6	DL + WL (NO ICE) 150 Degree	Yes	Y	1	1.2			3	-1.386	4	0.8
7	DL + WL (NO ICE) 180 Degree	Yes	Y	1	1.2			3	-1.6		
8	DL + WL (NO ICE) 210 Degree	Yes	Y	1	1.2			3	-1.386	4	-0.8
9	DL + WL (NO ICE) 240 Degree	Yes	Y	1	1.2			3	-0.8	4	-1.386
10	DL + WL (NO ICE) 270 Degree	Yes	Y	1	1.2					4	-1.6
11	DL + WL (NO ICE) 300 Degree	Yes	Y	1	1.2			3	0.8	4	-1.386
12	DL + WL (NO ICE) 330 Degree	Yes	Y	1	1.2			3	1.386	4	-0.8
13	DL + DL ICE + WL (ICE) 0 Degree	Yes	Y	1	1.2	2	1	5	1		
14	DL + DL ICE + WL (ICE) 30 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	0.5
15	DL + DL ICE + WL (ICE) 60 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	0.866
16	DL + DL ICE + WL (ICE) 90 Degree	Yes	Y	1	1.2	2	1			6	1
17	DL + DL ICE + WL (ICE) 120 Degree	Yes	Y	1	1.2	2	1	5	-0.5	6	0.866
18	DL + DL ICE + WL (ICE) 150 Degree	Yes	Y	1	1.2	2	1	5	-0.866	6	0.5
19	DL + DL ICE + WL (ICE) 180 Degree	Yes	Y	1	1.2	2	1	5	-1		
20	DL + DL ICE + WL (ICE) 210 Degree	Yes	Y	1	1.2	2	1	5	-0.866	6	-0.5
21	DL + DL ICE + WL (ICE) 240 Degree	Yes	Y	1	1.2	2	1	5	-0.5	6	-0.866
22	DL + DL ICE + WL (ICE) 270 Degree	Yes	Y	1	1.2	2	1			6	-1
23	DL + DL ICE + WL (ICE) 300 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	-0.866
24	DL + DL ICE + WL (ICE) 330 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	-0.5
25	DEAD LOAD + LIVE LOAD1	Yes	Y	1	1.2					7	1.5
26	DEAD LOAD + LIVE LOAD2	Yes	Y	1	1.2					8	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
27	DEAD LOAD + LIVE LOAD3	Yes	Y	1	1.2					9	1.5
28	DL + MAIN L1+30MPH WL FRONT	Yes	Y	1	1.2	10	1.5	3	0.104		
29	DL + MAIN L2+30MPH WL FRONT	Yes	Y	1	1.2	11	1.5	3	0.104		
30	DL + MAIN L3+30MPH WL FRONT	Yes	Y	1	1.2	12	1.5	3	0.104		
31	DL + MAIN L4+30MPH WL FRONT	Yes	Y	1	1.2	13	1.5	3	0.104		
32	DL + MAIN L1+30MPH WL SIDE	Yes	Y	1	1.2	10	1.5	4	0.104		
33	DL + MAIN L2+30MPH WL SIDE	Yes	Y	1	1.2	11	1.5	4	0.104		
34	DL + MAIN L3+30MPH WL SIDE	Yes	Y	1	1.2	12	1.5	4	0.104		
35	DL + MAIN L4+30MPH WL SIDE	Yes	Y	1	1.2	13	1.5	4	0.104		
36	DL + MAIN L1+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	10	1.5	3	-0.104		
37	DL + MAIN L2+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	11	1.5	3	-0.104		
38	DL + MAIN L3+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	12	1.5	3	-0.104		
39	DL + MAIN L4+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	13	1.5	3	-0.104		
40	DL + MAIN L1+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	10	1.5	4	-0.104		
41	DL + MAIN L2+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	11	1.5	4	-0.104		
42	DL + MAIN L3+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	12	1.5	4	-0.104		
43	DL + MAIN L4+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	13	1.5	4	-0.104		

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N51	max	1455.082	36	397.07	1	1559.921	13	0	43	0	43	0	43
2		min	-979.166	31	-1405.775	39	543.295	6	0	1	0	1	0	1
3	N52	max	1087.595	43	1463.443	19	391.266	19	0	43	0	43	0	43
4		min	-1647.561	32	-134.746	1	102.632	2	0	1	0	1	0	1
5	N64	max	399.585	1	1080.074	7	50.238	13	0	43	0	43	0	43
6		min	-353.223	7	-1222.141	1	15.198	7	0	1	0	1	0	1
7	N61A	max	121.504	11	337.935	5	34.473	18	0	43	0	43	0	43
8		min	-99.228	5	-429.392	11	10.617	35	0	1	0	1	0	1
9	Totals:	max	768.435	10	1170.312	7	2008.81	22						
10		min	-768.435	4	-1170.314	1	710.643	4						

Envelope Node Displacements

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0.021	31	0.25	1	0.037	43	1.884e-3	2	8.52e-4	43	7.577e-3	7
2		min	-0.031	36	-0.262	7	-0.467	32	-1.991e-3	8	-6.448e-3	32	-7.283e-3	1
3	N2	max	0.022	31	0.082	1	0.118	32	1.449e-3	8	5.364e-3	43	2.168e-3	1
4		min	-0.03	36	-0.097	7	-0.382	43	-1.579e-3	2	-1.886e-3	32	-2.512e-3	7
5	N3	max	0.063	28	0.349	1	0.038	43	2.383e-3	2	8.373e-4	43	7.799e-3	7
6		min	-0.048	39	-0.358	7	-0.467	32	-2.575e-3	8	-6.466e-3	32	-7.599e-3	1
7	N4	max	0.062	28	0.06	31	0.118	32	1.101e-3	26	5.388e-3	43	2.378e-3	1
8		min	-0.049	39	-0.087	36	-0.382	43	-1.296e-3	3	-1.886e-3	32	-2.667e-3	7
9	N5	max	0.034	2	0.228	1	0.031	43	1.884e-3	2	8.521e-4	43	7.577e-3	7
10		min	-0.045	8	-0.239	7	-0.446	32	-1.991e-3	8	-6.448e-3	32	-7.283e-3	1
11	N6	max	0.021	31	0.228	1	0.035	43	1.884e-3	2	8.521e-4	43	7.577e-3	7
12		min	-0.031	36	-0.239	7	-0.448	32	-1.991e-3	8	-6.448e-3	32	-7.283e-3	1
13	N7	max	0.078	2	0.327	1	0.031	43	2.383e-3	2	8.373e-4	43	7.799e-3	7
14		min	-0.063	8	-0.334	7	-0.447	32	-2.575e-3	8	-6.466e-3	32	-7.599e-3	1
15	N8	max	0.063	28	0.327	1	0.035	43	2.383e-3	2	8.373e-4	43	7.799e-3	7
16		min	-0.048	39	-0.334	7	-0.448	32	-2.575e-3	8	-6.466e-3	32	-7.599e-3	1
17	N9	max	0.023	31	0.012	7	0.013	31	4.236e-4	4	8.474e-4	39	1.773e-3	8
18		min	-0.033	36	-0.011	1	-0.077	36	-6.724e-4	43	-4.168e-3	28	-1.482e-3	2
19	N10	max	0.021	31	0.012	7	0.015	31	4.236e-4	4	8.474e-4	39	1.773e-3	8
20		min	-0.031	36	-0.011	1	-0.078	36	-6.724e-4	43	-4.168e-3	28	-1.482e-3	2
21	N11	max	0.067	2	0.036	3	0.013	31	1.418e-3	2	8.766e-4	43	3.804e-3	8
22		min	-0.052	8	-0.032	9	-0.077	36	-1.718e-3	8	-4.127e-3	32	-3.79e-3	2
23	N12	max	0.063	28	0.036	3	0.015	31	1.418e-3	2	8.766e-4	43	3.804e-3	8

Envelope Node Displacements (Continued)

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
24		min	-0.048	39	-0.032	9	-0.077	36	-1.718e-3	8	-4.127e-3	32	-3.79e-3	2
25	N13	max	0.02	31	0.01	7	0.034	36	1.003e-3	8	3.267e-3	43	9.996e-4	1
26		min	-0.027	36	-0.009	1	-0.056	31	-1.135e-3	2	-1.696e-3	32	-1.267e-3	7
27	N14	max	0.021	31	0.01	7	0.035	36	1.003e-3	8	3.267e-3	43	9.996e-4	1
28		min	-0.03	36	-0.009	1	-0.056	31	-1.135e-3	2	-1.696e-3	32	-1.267e-3	7
29	N15	max	0.066	32	0.052	8	0.034	36	4.087e-4	10	3.224e-3	43	1.056e-3	43
30		min	-0.052	43	-0.055	2	-0.056	31	-7.519e-4	34	-1.704e-3	32	-1.292e-3	32
31	N16	max	0.062	28	0.052	8	0.036	36	4.087e-4	10	3.224e-3	43	1.056e-3	43
32		min	-0.048	39	-0.055	2	-0.056	31	-7.519e-4	34	-1.704e-3	32	-1.292e-3	32
33	N17	max	0.019	35	0.076	1	0.11	32	1.449e-3	8	5.364e-3	43	2.168e-3	1
34		min	-0.026	40	-0.09	7	-0.366	43	-1.579e-3	2	-1.886e-3	32	-2.511e-3	7
35	N18	max	0.022	31	0.076	1	0.112	32	1.449e-3	8	5.364e-3	43	2.168e-3	1
36		min	-0.03	36	-0.09	7	-0.366	43	-1.579e-3	2	-1.886e-3	32	-2.511e-3	7
37	N19	max	0.066	32	0.057	31	0.11	32	1.101e-3	26	5.388e-3	43	2.378e-3	1
38		min	-0.052	43	-0.084	36	-0.367	43	-1.296e-3	3	-1.886e-3	32	-2.667e-3	7
39	N20	max	0.062	28	0.057	31	0.113	32	1.101e-3	26	5.388e-3	43	2.378e-3	1
40		min	-0.049	39	-0.084	36	-0.366	43	-1.296e-3	3	-1.886e-3	32	-2.667e-3	7
41	N21	max	0.045	31	0.185	1	0.031	43	1.739e-3	2	8.474e-4	39	7.577e-3	7
42		min	-0.213	36	-0.193	7	-0.446	32	-1.846e-3	8	-6.443e-3	28	-7.283e-3	1
43	N22	max	0.243	28	0.393	1	0.031	43	2.528e-3	2	8.481e-4	43	7.799e-3	7
44		min	-0.073	39	-0.406	7	-0.448	32	-2.72e-3	8	-6.347e-3	32	-7.599e-3	1
45	N23	max	0.046	35	0.019	43	0.013	31	5.264e-4	5	8.644e-4	35	1.773e-3	8
46		min	-0.15	40	-0.012	3	-0.077	36	-6.726e-4	43	-4.189e-3	40	-1.482e-3	2
47	N24	max	0.181	32	0.084	2	0.013	31	1.839e-3	1	8.998e-4	43	3.804e-3	8
48		min	-0.075	43	-0.089	8	-0.077	36	-2.136e-3	7	-4.15e-3	32	-3.79e-3	2
49	N25	max	0.111	31	0.026	2	0.034	36	1.148e-3	8	3.259e-3	31	9.996e-4	1
50		min	-0.074	36	-0.021	8	-0.056	31	-1.28e-3	2	-1.691e-3	36	-1.267e-3	7
51	N26	max	0.114	32	0.056	8	0.034	36	4.087e-4	10	3.235e-3	43	1.056e-3	43
52		min	-0.142	43	-0.066	2	-0.056	31	-7.368e-4	34	-1.714e-3	32	-1.292e-3	32
53	N27	max	0.168	35	0.114	2	0.11	32	1.594e-3	8	5.362e-3	39	2.168e-3	1
54		min	-0.077	40	-0.125	8	-0.366	43	-1.725e-3	2	-1.883e-3	28	-2.511e-3	7
55	N28	max	0.119	32	0.076	26	0.11	32	1.101e-3	26	5.291e-3	43	2.378e-3	1
56		min	-0.201	43	-0.105	32	-0.367	43	-1.212e-3	3	-1.897e-3	32	-2.667e-3	7
57	N29	max	0.003	36	0.02	36	0.025	43	-4.037e-4	1	2.83e-3	43	1.158e-3	31
58		min	-0.002	31	-0.014	31	-0.042	32	-1.339e-3	21	-4.054e-3	32	-1.688e-3	36
59	N30	max	0.002	2	0.011	2	0.024	43	3.3e-4	28	2.603e-3	43	2.083e-3	8
60		min	-0.003	8	-0.019	8	-0.037	32	-5.764e-4	38	-3.756e-3	32	-1.495e-3	2
61	N31	max	0.011	35	0.007	7	0.032	31	-2.849e-4	2	1.316e-3	31	2.493e-3	36
62		min	-0.015	40	-0.006	1	-0.077	36	-2.241e-3	39	-2.91e-3	36	-1.71e-3	31
63	N32	max	0.043	2	0.051	2	0.033	31	-7.69e-4	3	1.015e-3	31	3.032e-3	43
64		min	-0.035	8	-0.051	8	-0.071	36	-2.365e-3	41	-3.142e-3	36	-4.183e-3	32
65	N33	max	0.003	36	0.014	31	0.039	32	-5.135e-4	9	2.662e-3	43	1.261e-3	31
66		min	-0.002	31	-0.021	36	-0.028	43	-1.626e-3	16	-4.204e-3	32	-1.81e-3	36
67	N34	max	0.002	2	0.018	8	0.038	32	1.666e-4	39	2.439e-3	43	1.943e-3	8
68		min	-0.003	8	-0.011	2	-0.025	43	-6.976e-4	14	-3.888e-3	32	-1.376e-3	2
69	N35	max	0.008	31	0.005	35	0.053	36	-7.681e-4	9	2.158e-3	31	2.754e-3	36
70		min	-0.012	36	-0.007	40	-0.054	31	-2.585e-3	17	-1.925e-3	36	-2.007e-3	31
71	N36	max	0.039	2	0.046	8	0.053	36	-6.95e-4	8	2.364e-3	31	3.064e-3	43
72		min	-0.031	8	-0.048	2	-0.049	31	-2.488e-3	14	-1.655e-3	36	-4.152e-3	32
73	N37	max	0	1	0.017	36	0.022	43	-5.366e-4	12	3.021e-3	43	1.614e-3	31
74		min	0	20	-0.012	31	-0.034	32	-1.545e-3	17	-4.562e-3	32	-2.344e-3	36
75	N38	max	0	36	0.009	2	0.021	43	2.083e-5	28	2.781e-3	43	2.077e-3	8
76		min	0	31	-0.015	8	-0.031	32	-5.699e-4	13	-4.24e-3	32	-1.267e-3	2
77	N39	max	0	28	0.015	8	0.031	32	2.083e-5	28	2.781e-3	43	2.077e-3	8
78		min	0	39	-0.009	2	-0.021	43	-5.699e-4	13	-4.24e-3	32	-1.267e-3	2
79	N40	max	0	35	0.012	31	0.034	32	-5.366e-4	12	3.021e-3	43	1.614e-3	31
80		min	0	40	-0.017	36	-0.022	43	-1.545e-3	17	-4.562e-3	32	-2.344e-3	36
81	N41	max	0.021	31	0.003	35	0.019	31	5.235e-4	3	6.511e-4	39	2.243e-3	7

Envelope Node Displacements (Continued)

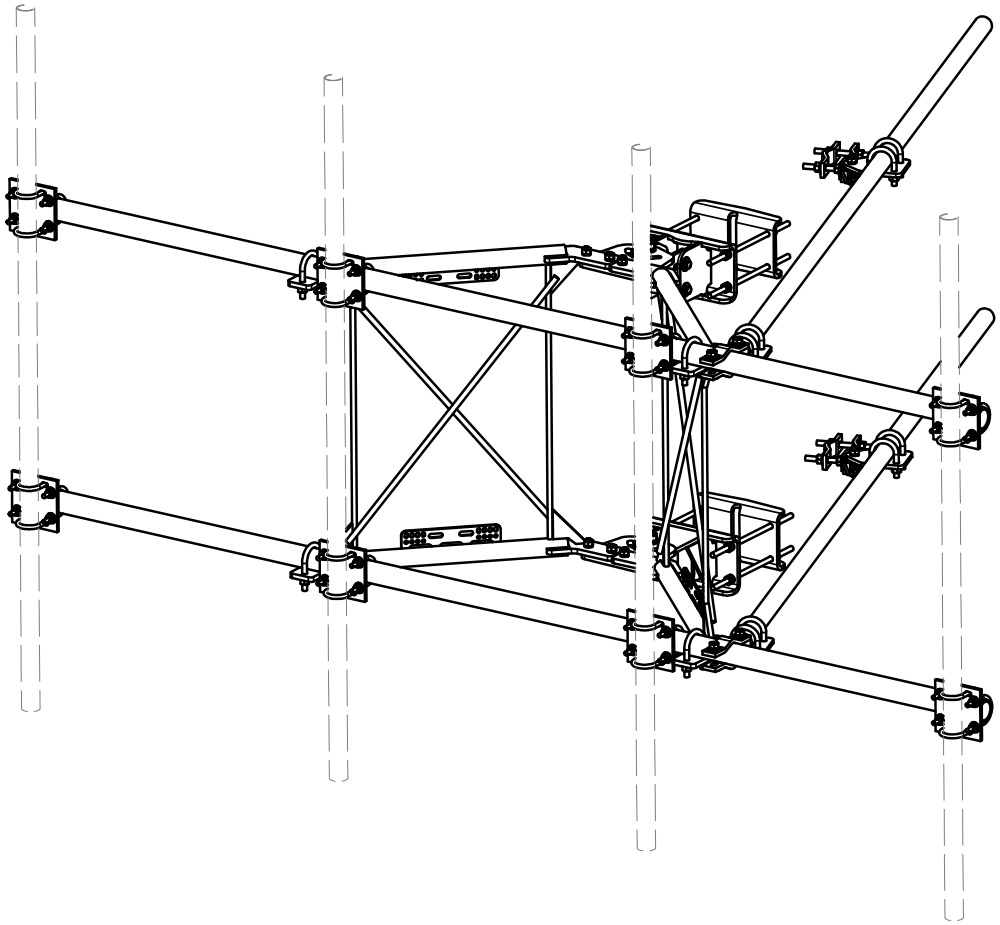
	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
82		min	-0.031	36	-0.004	28	-0.104	36	-7.44e-4	43	-5.525e-3	28	-1.914e-3	1
83	N42	max	0.013	35	0.004	6	0.031	31	-4.518e-4	2	1.22e-3	31	2.609e-3	8
84		min	-0.019	40	-0.004	12	-0.084	36	-2.467e-3	20	-3.265e-3	36	-1.813e-3	2
85	N43	max	0.021	31	0.003	7	0.044	36	1.043e-3	8	4.5e-3	43	1.204e-3	2
86		min	-0.03	36	-0.003	1	-0.077	31	-1.186e-3	2	-1.623e-3	32	-1.521e-3	8
87	N44	max	0.011	31	0.002	39	0.053	36	-8.575e-4	10	2.465e-3	31	2.994e-3	40
88		min	-0.016	36	-0.003	28	-0.059	31	-2.726e-3	17	-1.879e-3	36	-2.196e-3	35
89	N45	max	0.063	28	0.057	2	0.019	31	1.513e-3	2	6.652e-4	43	4.512e-3	8
90		min	-0.048	39	-0.054	8	-0.103	36	-1.815e-3	8	-5.493e-3	32	-4.423e-3	2
91	N46	max	0.046	2	0.055	2	0.031	31	-9.67e-4	5	9.422e-4	43	3.144e-3	43
92		min	-0.036	8	-0.053	8	-0.079	36	-2.785e-3	41	-3.491e-3	36	-4.389e-3	32
93	N47	max	0.062	28	0.049	8	0.045	36	4.752e-4	9	4.469e-3	43	1.018e-3	12
94		min	-0.048	39	-0.054	2	-0.076	31	-7.535e-4	34	-1.619e-3	32	-1.309e-3	36
95	N48	max	0.043	2	0.048	8	0.053	36	-7.972e-4	8	2.666e-3	31	3.213e-3	43
96		min	-0.034	39	-0.052	2	-0.055	31	-2.765e-3	30	-1.633e-3	36	-4.321e-3	32
97	N49	max	0.021	31	0.005	31	0.052	36	1.09e-3	8	5.736e-3	43	1.374e-3	2
98		min	-0.03	36	-0.007	36	-0.103	31	-1.232e-3	2	-1.559e-3	32	-1.707e-3	7
99	N51	max	0	31	0	39	0	6	-5.366e-4	12	3.021e-3	43	1.614e-3	31
100		min	0	36	0	1	0	13	-1.545e-3	17	-4.562e-3	32	-2.344e-3	36
101	N52	max	0	32	0	1	0	2	2.083e-5	28	2.781e-3	43	2.077e-3	8
102		min	0	43	0	19	0	19	-5.699e-4	13	-4.24e-3	32	-1.267e-3	2
103	N77A	max	0.021	31	0.009	2	0.022	31	6.475e-4	3	4.385e-4	43	3.099e-3	7
104		min	-0.031	36	-0.012	8	-0.135	36	-7.99e-4	43	-6.909e-3	32	-2.793e-3	1
105	N64	max	0	7	0	1	0	7	-2.769e-5	28	4.752e-4	43	1.474e-3	10
106		min	0	1	0	7	0	13	-2.27e-3	21	-7.021e-3	32	-1.362e-3	4
107	N57	max	0.038	2	0.232	1	0.031	43	2.072e-3	2	1.085e-3	43	7.588e-3	7
108		min	-0.045	8	-0.243	7	-0.446	32	-2.123e-3	8	-5.299e-3	32	-7.299e-3	1
109	N58	max	0.075	2	0.322	1	0.031	43	2.478e-3	2	1.07e-3	43	7.788e-3	7
110		min	-0.063	8	-0.33	7	-0.447	32	-2.605e-3	8	-5.312e-3	32	-7.583e-3	1
111	N59	max	0.029	31	0.012	8	0.013	31	4.959e-4	5	8.604e-4	35	1.773e-3	8
112		min	-0.066	36	-0.01	2	-0.077	36	-6.726e-4	43	-4.184e-3	40	-1.482e-3	2
113	N60	max	0.098	28	0.048	2	0.013	31	1.778e-3	1	8.959e-4	43	3.804e-3	8
114		min	-0.057	39	-0.047	8	-0.077	36	-2.075e-3	7	-4.146e-3	32	-3.79e-3	2
115	N61A	max	0	5	0	11	0	35	8.915e-4	36	4.953e-3	31	7.591e-4	9
116		min	0	11	0	5	0	18	-3.138e-3	31	-1.211e-3	36	-6.053e-4	3

Envelope AISC 14TH (360-10): LRFD Member Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M18	PIPE_2.5	0.263	45.312	36	0.04	98.438		8	14558.792	50715	3.596	3.596	2.092	H1-1b
2	M17	PIPE_2.5	0.243	45.312	32	0.093	42.188		1	14558.792	50715	3.596	3.596	1.517	H1-1b
3	M15	PIPE_2.0	0.157	28	31	0.03	28		3	14916.096	32130	1.872	1.872	3	H1-1b
4	M42A	PIPE_2.0	0.07	90.552	7	0.005	90.552		16	16233.206	32130	1.872	1.872	1.136	H1-1b*
5	M13	PIPE_2.0	0.411	68	36	0.054	28		40	14916.096	32130	1.872	1.872	3	H1-1b
6	M14	PIPE_2.0	0.182	28	36	0.054	28		2	14916.096	32130	1.872	1.872	3	H1-1b
7	M16	PIPE_2.0	0.364	68	31	0.045	28		31	14916.096	32130	1.872	1.872	3	H1-1b
8	M20	PIPE_2.0	0.262	1.875	32	0.091	28.125		42	29810.292	32130	1.872	1.872	1.493	H1-1b
9	M21	PIPE_2.0	0.318	1.875	40	0.13	0		32	29810.292	32130	1.872	1.872	1.676	H1-1b
10	M22	PIPE_2.0	0.303	2.188	32	0.118	28.125		28	29810.292	32130	1.872	1.872	1.417	H1-1b
11	M24	PIPE_2.0	0.031	31.419	23	0.004	62.839		22	23127.234	32130	1.872	1.872	1.136	H1-1b
12	M19	PIPE_2.0	0.229	0	36	0.102	0		38	29810.292	32130	1.872	1.872	1.329	H1-1b
13	M36	5/8 SR	0.371	25.417	32	0.029	40		32	2855.265	9946.8	0.097	0.097	1	H1-1a
14	M35	5/8 SR	0.278	25.417	28	0.016	40		8	2855.265	9946.8	0.097	0.097	1.136	H1-1a
15	M34	5/8 SR	0.299	25.417	39	0.03	40		32	2855.265	9946.8	0.097	0.097	1.136	H1-1a
16	M33	5/8 SR	0.218	25.417	39	0.015	40		8	2855.265	9946.8	0.097	0.097	1.136	H1-1a
17	M40	3/4" rod	0	47.572	43	0	47.572		43	1550.496	14313.866	0.179	0.179	1	H1-1a
18	M39	3/4" rod	0.18	0	28	0.014	47.572		3	3164.278	14313.866	0.179	0.179	1.136	H1-1b*
19	M38	3/4" rod	0.144	0	39	0.013	47.572		3	3164.278	14313.866	0.179	0.179	1.136	H1-1b*
20	M37	3/4" rod	0.015	0	28	0.007	0		40	1550.496	14313.866	0.179	0.179	2.412	H1-1b*

Envelope AISC 14TH (360-10): LRFD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
21	M26	.625 x 3.5"	0.274	0	28	0.196	0.666	y	28	68522.792	70875	0.923	5.168	1.667	H1-1b
22	M28	.625 x 3.5"	0.322	0	32	0.188	0	y	32	68522.792	70875	0.923	5.168	1.667	H1-1b
23	M27	.625 x 3.5"	0.259	0	39	0.168	4.568	y	39	68522.792	70875	0.923	5.168	1.667	H1-1b
24	M25	.625 x 3.5"	0.241	0	39	0.185	0.666	y	39	68522.792	70875	0.923	5.168	1.667	H1-1b



PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
5	2	X-LCBP4	BENT BACKING PLATE	13 in	19.00	38.01
6	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
7	4	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	23.49
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD		2.58	2.58
9	4	X-TBCA	TIE BACK CLIP ANGLE		2.01	8.02
10	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	14.37
12	8	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	18.90
13	2	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	81.50
14	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	153.87
15	4	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)	18 in	0.40	3.19
20	4	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	4.18
21	4	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	2.79
22	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	8	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	8.00
24	2	G5807	5/8" x 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G5806	5/8" x 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
26	8	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	3.55
27	4	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.08
28	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
29	25	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	1.76
30	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
31	71	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	9.22
32	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
33	16	X-UB1212	1/2" X 2" X 3" X 1-1/4" U-BOLT (HDG.)		0.60	9.56
34	64	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.18
35	64	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.89
36	64	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	4.58
					TOTAL WT. #	738.06

REVISION HISTORY

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WITH TWO STIFF ARMS

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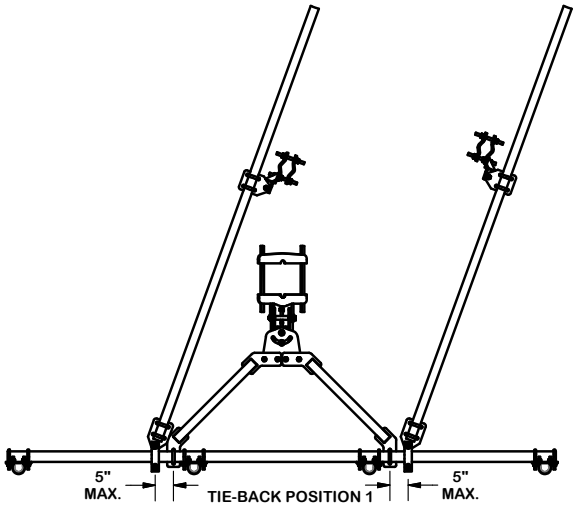
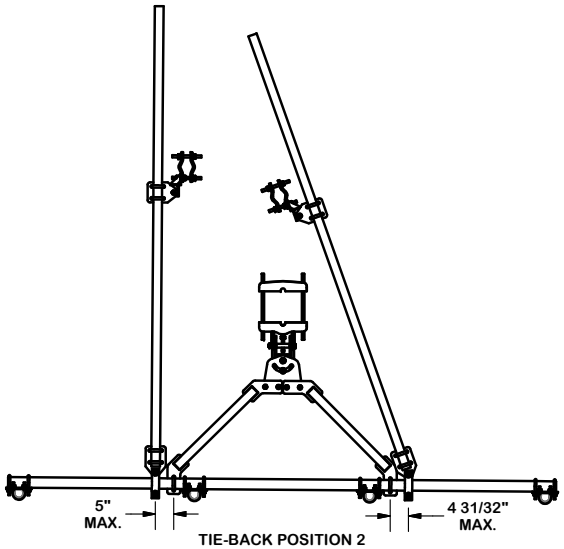
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CEK 1/25/2017		VFA12-HD

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 12/13/2017	VFA12-HD

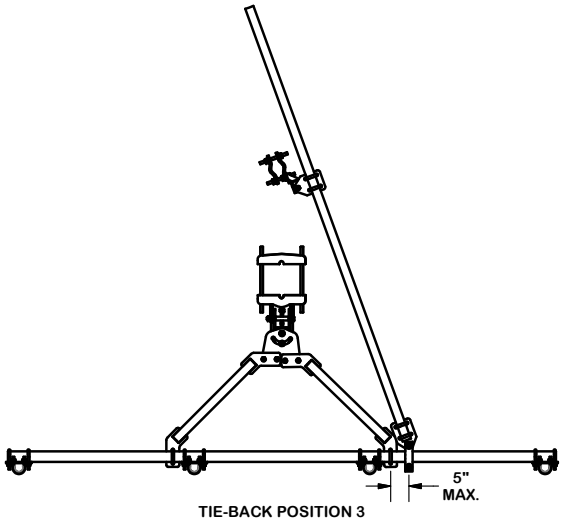
TIE-BACK POSITIONS



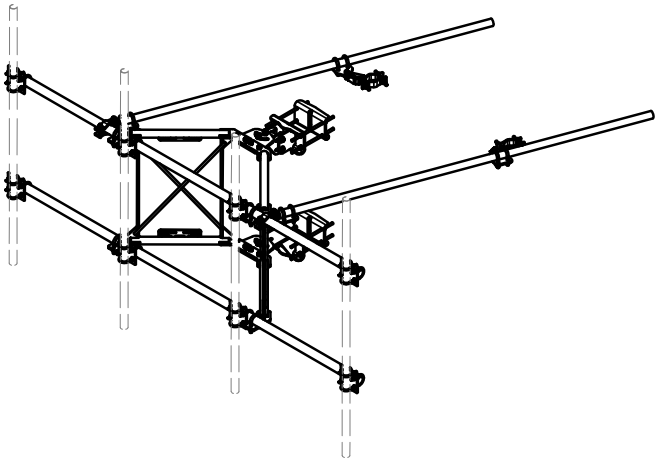
TIE-BACK POSITION 1
-20° / +20° TOP PARALLEL

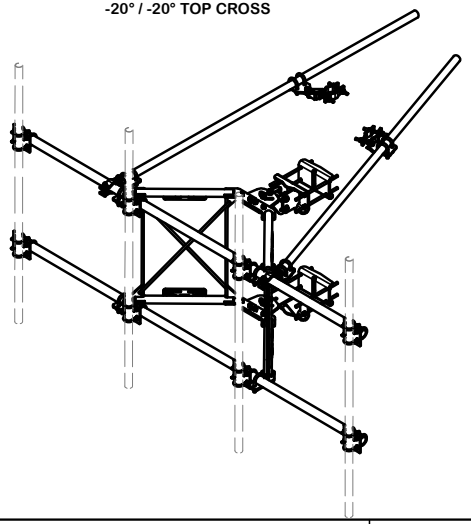


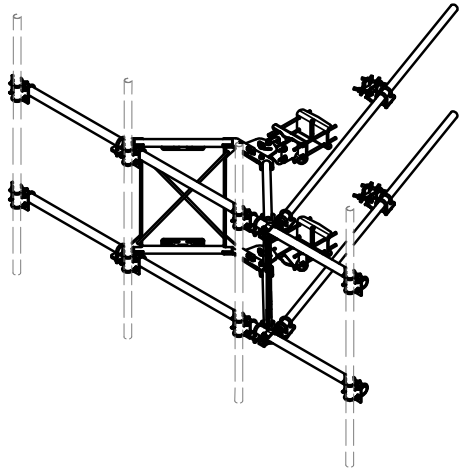
TIE-BACK POSITION 2
-20° / -20° TOP CROSS



TIE-BACK POSITION 3
-20° SAME SIDE STACKED







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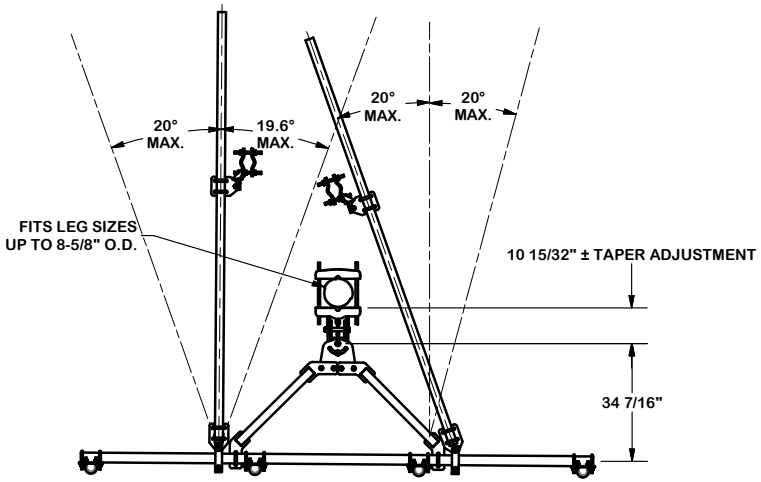
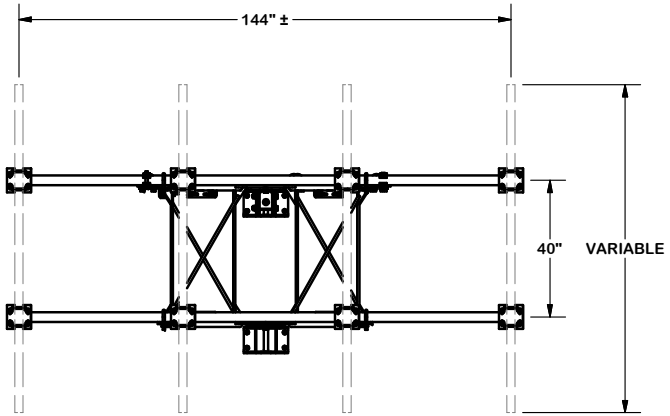
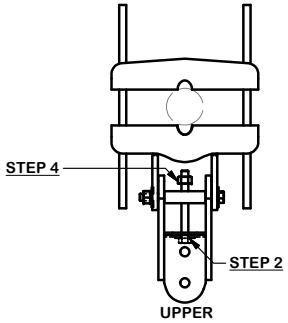
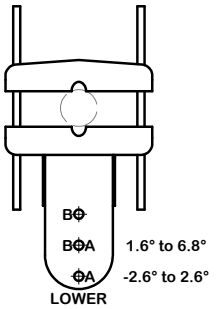


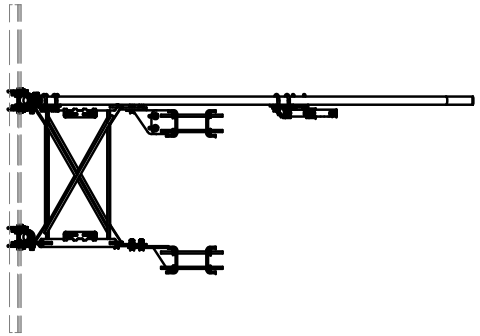


ANGLE CALIBRATING PROCEDURE:

1. MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
   - HOLE A = -2.6° TO 2.6°
   - HOLE B = 1.6° TO 6.8°
2. USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
3. TORQUE LOCKING BOLTS TO 100 ft.-lbs.
4. ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.







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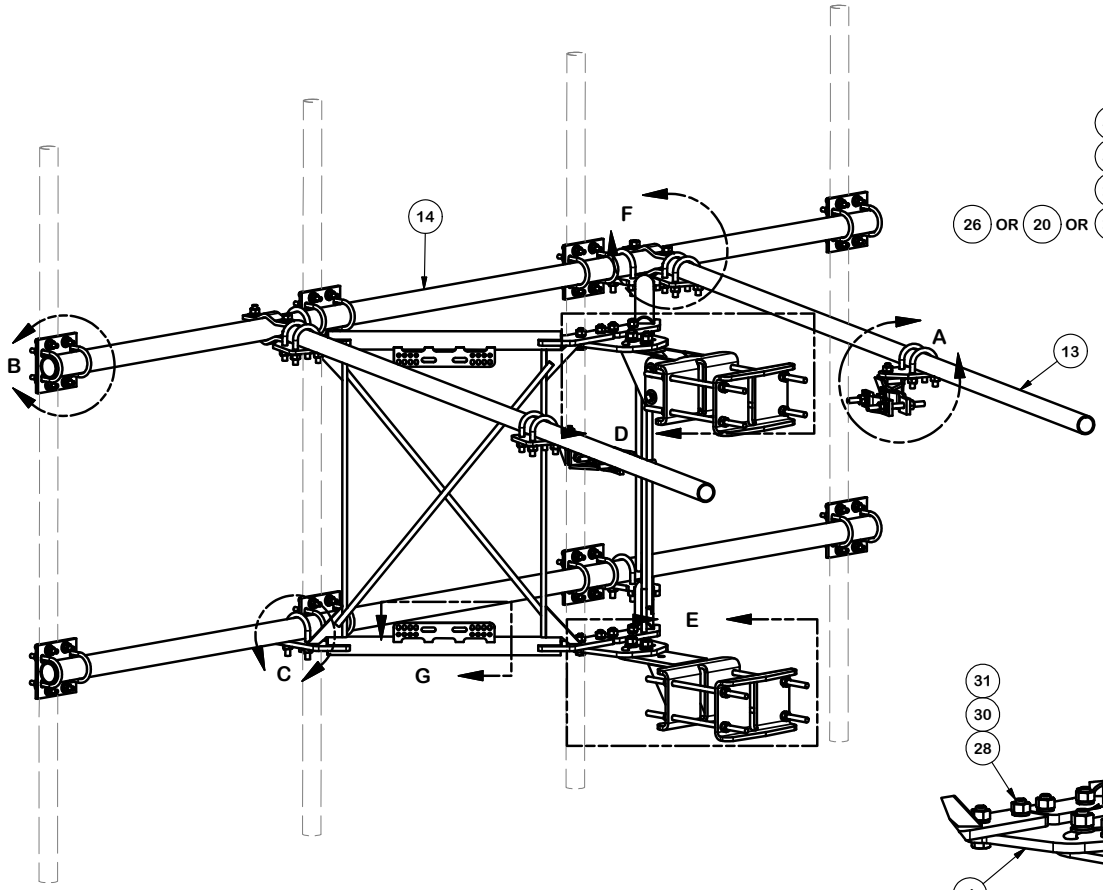
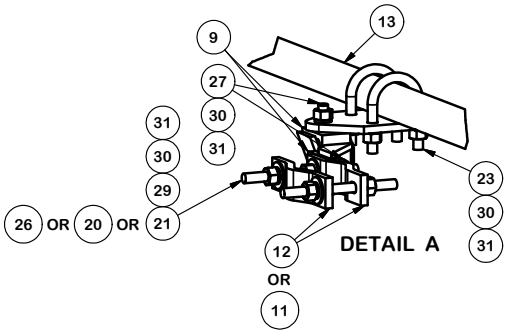
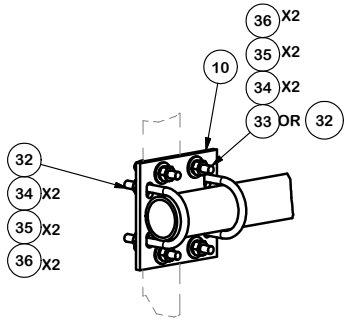
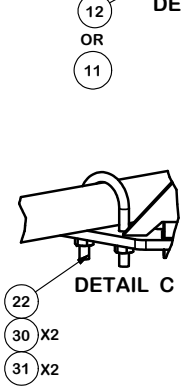
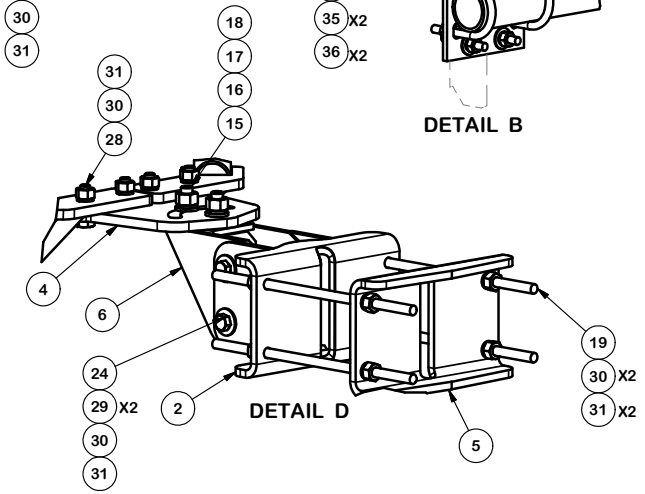
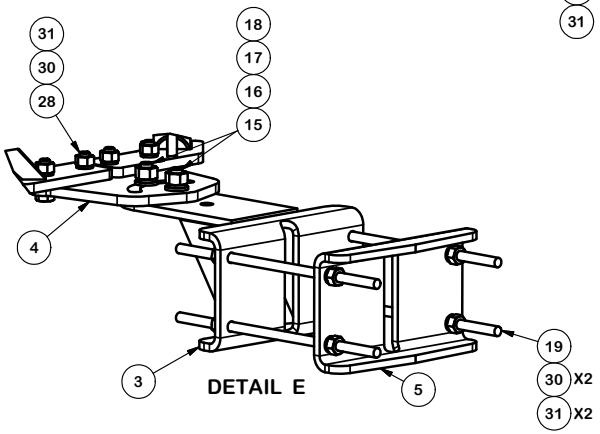


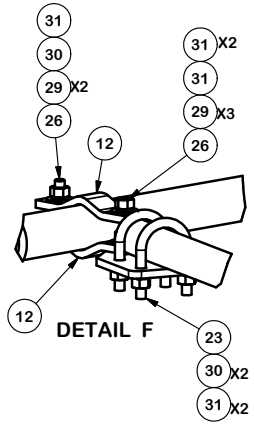








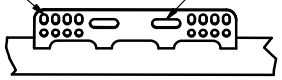




7/16" LUG HOLES

REVIEW CARRIER STANDARDS FOR PROPER SURFACE PREPARTION AND ASSEMBLY OF ELECTRICAL CONNECTIONS

9/16" SLOTTED HOLE FOR EQUIPMENT PIPE U-BOLT



DETAIL G

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
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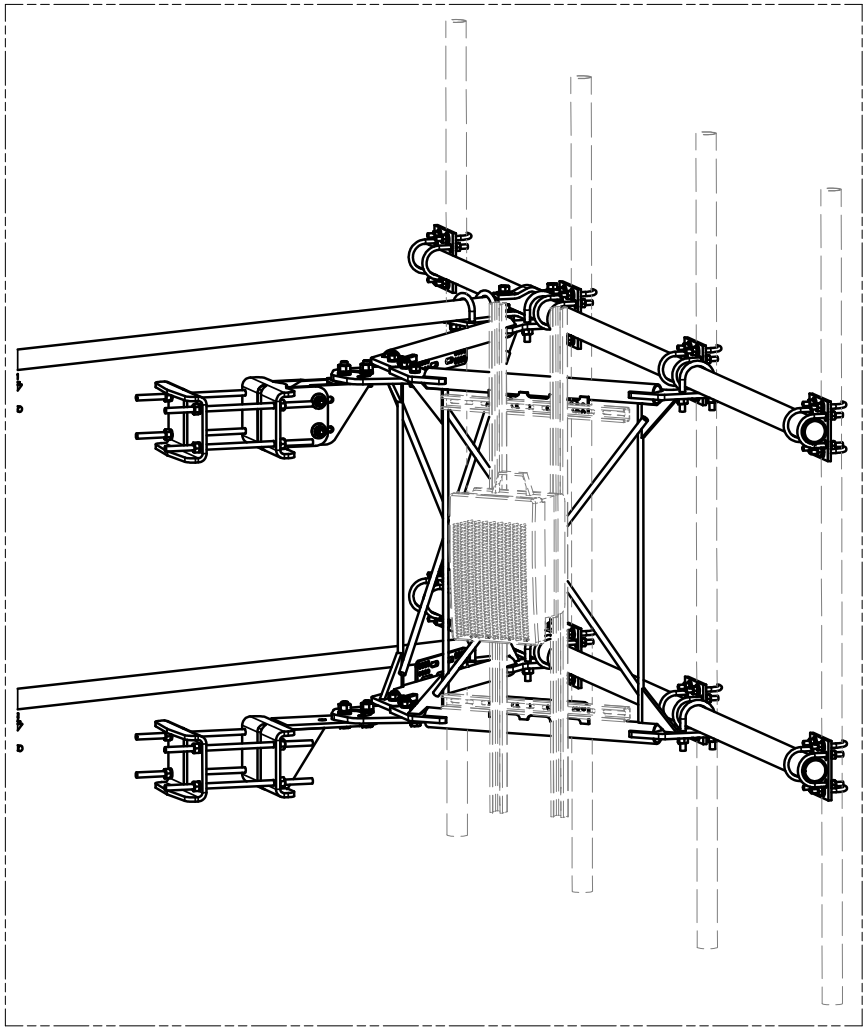
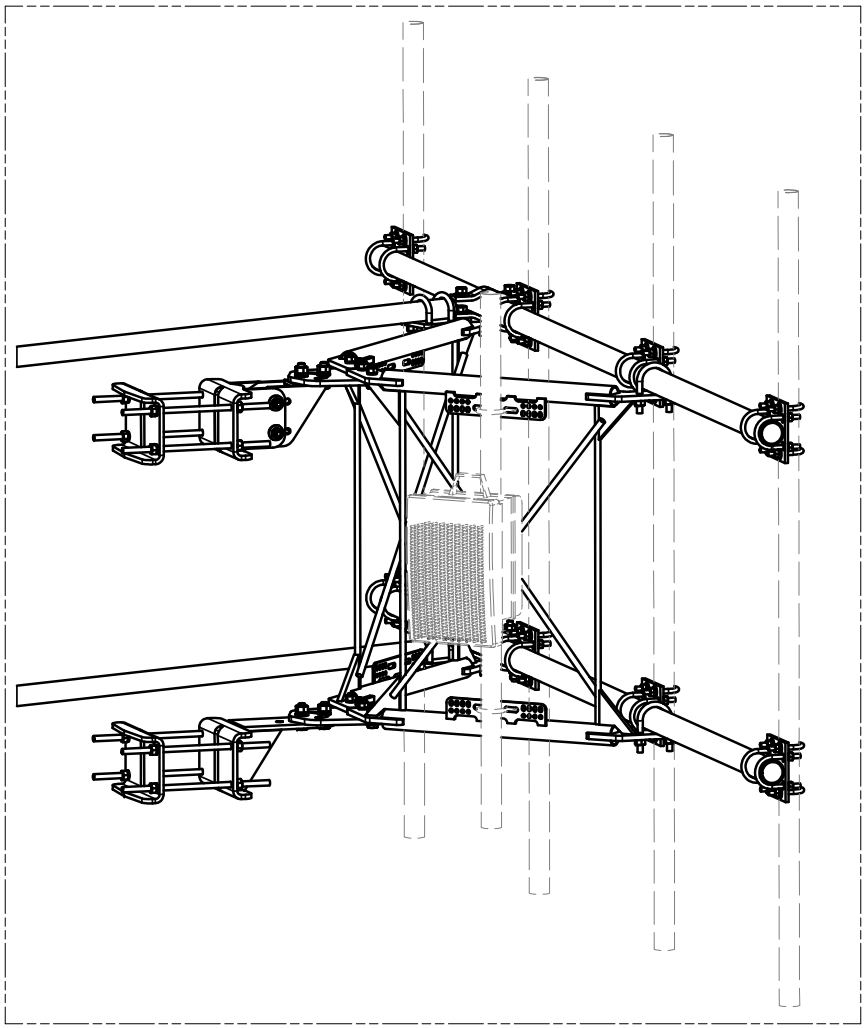


UNISTRUT AND HARDWARE
SOLD SEPARATELY.

REQUIRES 3/8" HARDWARE



EQUIPMENT PIPE AND HARDWARE
SOLD SEPARATELY.

REQUIRES 1/2" HARDWARE
AND 2-3/8" TO 4-1/2" O.D. PIPE

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Exhibit F

Power Density/RF Emissions Report

Fox Hill Telecom

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CT11410A

Stamford / Dwtn
555 E. Main Street
Stamford, CT 06901

September 6, 2022

Fox Hill Telecom Project Number: 210861

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**7.78 %**

Fox Hill Telecom

September 6, 2022

T-MOBILE
35 Griffin Road South
Bloomfield, CT 6009

Emissions Analysis for Site: **CT11410A – Stamford / Dwtn**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **555 E. Main Street, Stamford, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE 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 (μW/cm2). 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.

Population 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 & 700 MHz 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 2500 MHz (BRS) 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 performed for the proposed upgrades to the T-MOBILE antenna facility located at **555 E. Main Street, Stamford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE 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 manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	4	40
LTE / 5G NR	2500 MHz (BRS)	8	20
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	2	60

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Ericsson AIR 32 KRD901146-1_B66A_B2A	210
A	2	Ericsson AIR6419 B41	210
A	3	RFS APXVAALL24_43-U-NA20	203
B	1	Ericsson AIR 32 KRD901146-1_B66A_B2A	210
B	2	Ericsson AIR6419 B41	210
B	3	RFS APXVAALL24_43-U-NA20	203
C	1	Ericsson AIR 32 KRD901146-1_B66A_B2A	210
C	2	Ericsson AIR6419 B41	210
C	3	RFS APXVAALL24_43-U-NA20	203

Table 2: Antenna Data

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

RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Ericsson AIR 32 KRD901146-1_B66A_B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85 / 15.85	9	495	19,037.29	1.65
Antenna A2	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	1.95
Antenna A3	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS)	13.65 / 13.85 / 16.65	6	240	8,373.13	1.13
						Sector A Composite MPE%	**4.73**
Antenna B1	Ericsson AIR 32 KRD901146-1_B66A_B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85 / 15.85	9	495	19,037.29	1.65
Antenna B2	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	1.95
Antenna B3	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS)	13.65 / 13.85 / 16.65	6	240	8,373.13	1.13
						Sector B Composite MPE%	**4.73**
Antenna C1	Ericsson AIR 32 KRD901146-1_B66A_B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85 / 15.85	9	495	19,037.29	1.65
Antenna C2	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	1.95
Antenna C3	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS)	13.65 / 13.85 / 16.65	6	240	8,373.13	1.13
						Sector C Composite MPE%	**4.73**

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
T-MOBILE – Max Per Sector Value	**4.73 %**
AT&T	2.41 %
WinStar Wireless	0.07 %
PageNet	0.14 %
Broadcast Video	0.43 %
Site Total MPE %:	**7.78 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	4.73 %
T-MOBILE Sector B Total:	4.73 %
T-MOBILE Sector C Total:	4.73 %
Site Total:	7.78 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 1900 MHz (PCS) LTE	4	2,307.55	210	7.97	1900 MHz (PCS)	1000	0.80%
T-Mobile 1900 MHz (PCS) GSM	1	576.89	210	0.50	1900 MHz (PCS)	1000	0.05%
T-Mobile 2100 MHz (AWS) LTE	4	2,307.55	210	7.97	2100 MHz (AWS)	1000	0.80%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	210	19.52	2500 MHz (BRS)	1000	1.95%
T-Mobile 600 MHz LTE / 5G NR	2	926.96	203	1.72	600 MHz	400	0.43%
T-Mobile 700 MHz LTE	2	485.32	203	0.90	700 MHz	467	0.19%
T-Mobile 1900 MHz (PCS) LTE	2	2,774.29	203	5.14	1900 MHz (PCS)	1000	0.51%
						Total:	**4.73%**

Table 6: T-MOBILE Maximum Sector MPE Power Values

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 T-MOBILE 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:

T-MOBILE Sector	Power Density Value (%)
Sector A:	4.73 %
Sector B:	4.73 %
Sector C:	4.73 %
T-MOBILE Maximum Total (per sector):	4.73 %
Site Total:	7.78 %
Site Compliance Status:	**COMPLIANT**

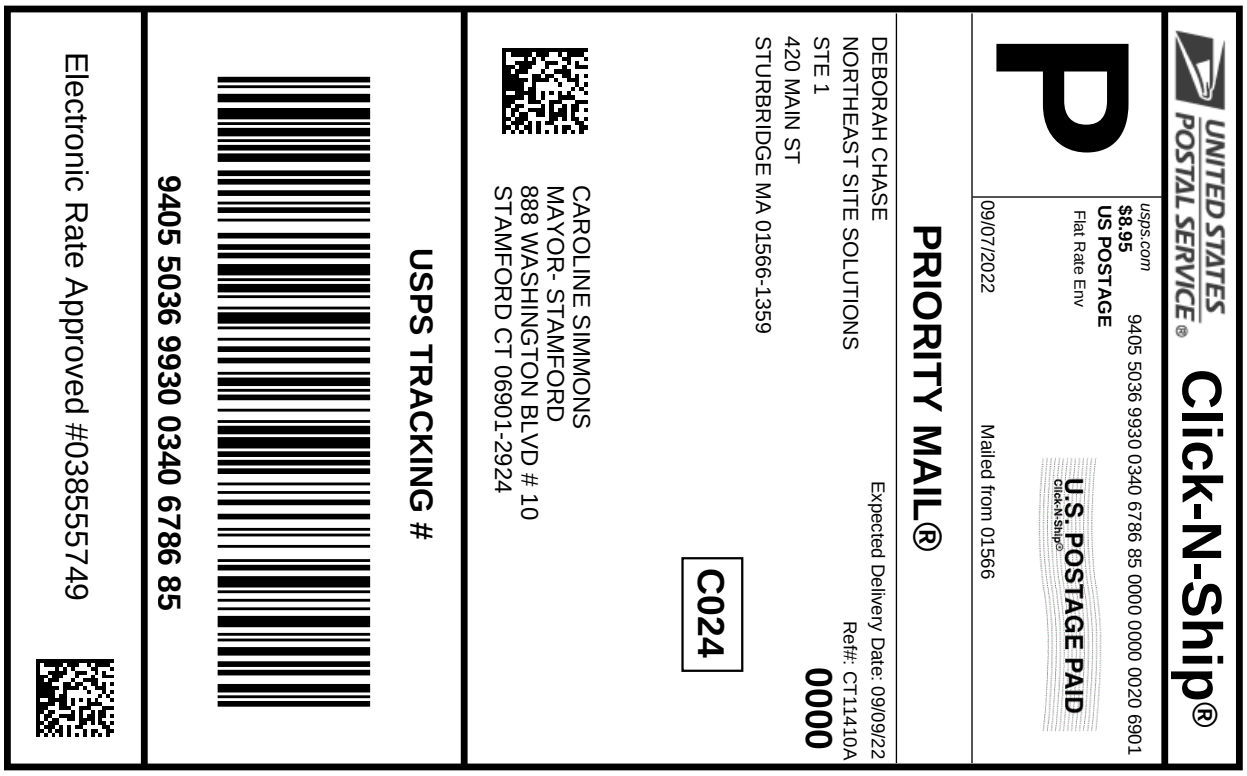
The anticipated composite MPE value for this site assuming all carriers present is **7.78 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

Exhibit G

Recipient Mailings



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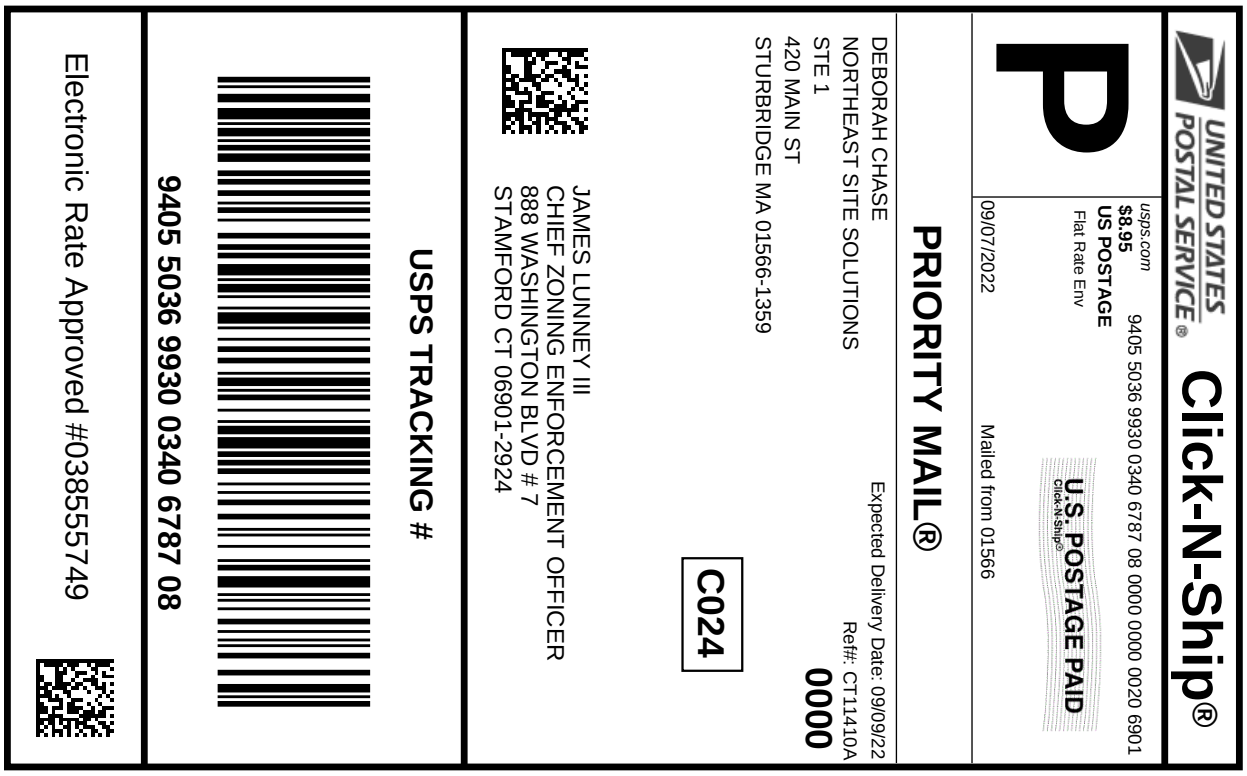

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CHIEF ZONING ENFORCEMENT OFFICER
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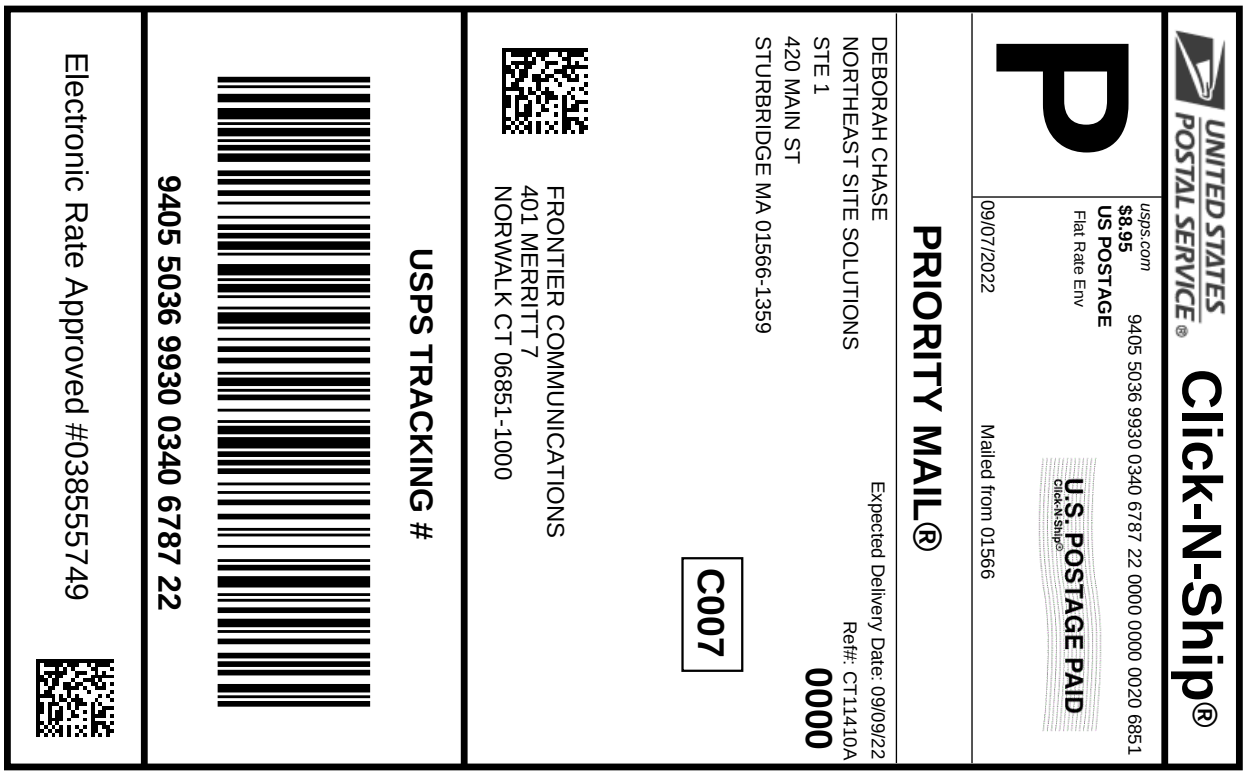

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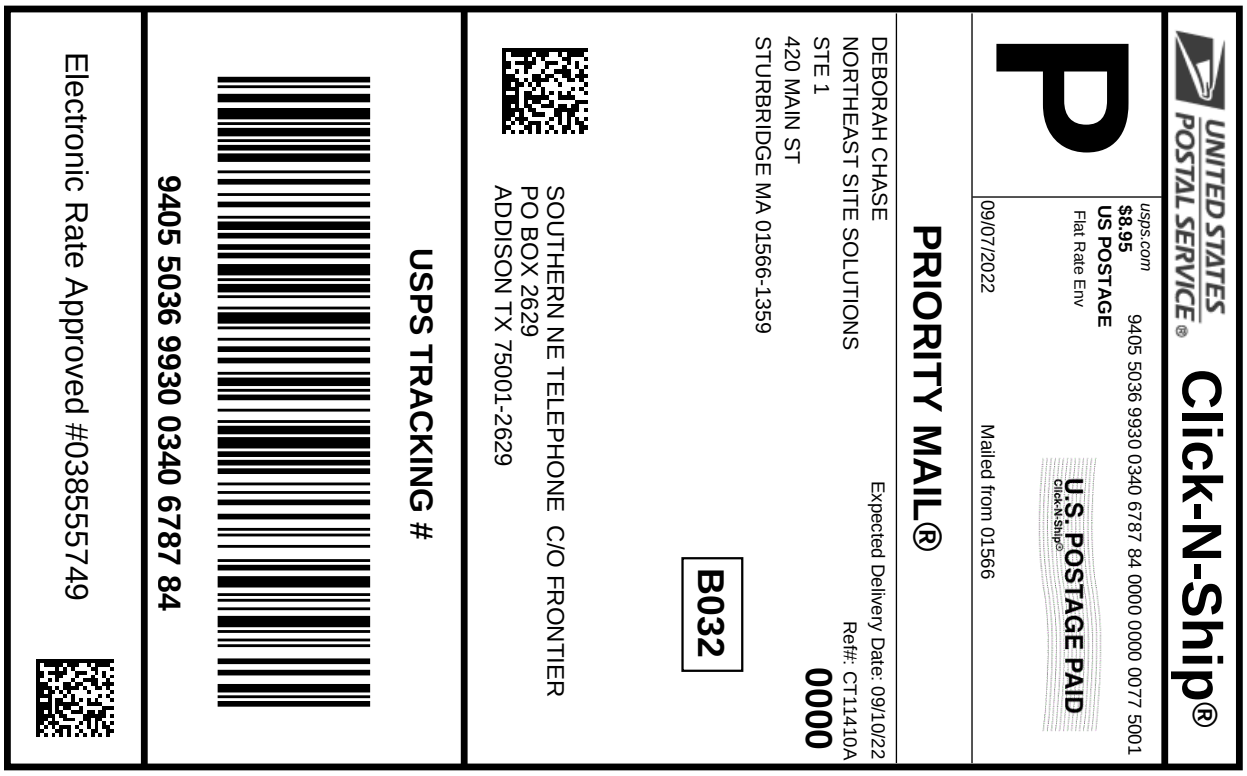

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Ship Date:	09/07/2022
Expected Delivery Date:	09/10/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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NORTHEAST SITE SOLUTIONS
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STURBRIDGE MA 01566-1359
Ref#: CT11410A

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